HOPE VILLAGE SOUTH CAMPUS EXPANSION
(CITY FILE #DR/CUP/PUD 20-01)
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(PLANNING COMMISSION MEETING 8-10-20)

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AGENDA
PLANNING COMMISSION
Meeting can be viewed on CTV Channel 5 or YouTube
Monday, August 10, 2020
7:00 PM (Virtual Meeting)

Commissioner John Savory (Chair)

Commissioner Larry Boatright (Vice Chair) | **Commissioner Derrick Mottern**
Commissioner Jeff Mills | **Commissioner Jennifer Trundy**
Commissioner Jason Taylor | **Commissioner Michael Hutchinson**

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1. CALL TO ORDER
a. Invocation and Pledge of Allegiance

2. CITIZEN INPUT ON NON-AGENDA ITEMS –*This is an opportunity for audience members to address the Planning Commission on items not on the agenda. Each person will be given 3 minutes to speak. You are first required to call or email the Recording Secretary at 503-266-0685 or fousel@canbyoregon.gov prior to noon on Monday, August 10, 2020 to request a Zoom Invite so that you may speak. Staff and the Planning Commission will make every effort to respond to questions raised during citizen input before tonight's meeting ends or as quickly as possible thereafter.*

3. MINUTES – TBD

4. NEW BUSINESS – None

5. PUBLIC HEARING – *To testify, you are first required to call or email the Recording Secretary at 503-266-0685 or fousel@canbyoregon.gov prior to noon on Monday, August 10, 2020 to request a Zoom Invite so that you may speak.*

a. To consider a proposed project consisting of 160 new residential units with all associated infrastructure necessary for the expansion of the South Campus of Hope Village **(City File# DR /CUP/PUD 20-01 Hope Village South Campus Expansion).**

b. To consider a partition of a 20.2-acre property into three parcels, and construct three speculative light industrial buildings ranging from 46,800 to 210,600 square feet **(City File # DR 20-02 & PAR 20-02 Baker Center).**

6. FINAL DECISIONS –*These are the final, written versions of previous oral decisions. No public testimony is taken.*
a. **Final Findings for City File # DR 20-02 & PAR 20-02 Baker West.**

7. ITEMS OF INTEREST/REPORT FROM PLANNING STAFF–
a. Next regularly scheduled Planning Commission meeting – Monday, August 24, 2020

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 CATV5 or on YouTube. For a schedule of the playback times, please call 503-263-6287

City of Canby

File #: DR 20-01/CUP 20-01/PUD 20-01/MOD 20-05 – Hope Village South Campus

HEARING DATE: August 10, 2020

STAFF REPORT DATE: PENDING

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

LAND USE APPLICATION

SITE AND DESIGN REVIEW
General Type III

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

■ Applicant Name: Hope Village, Inc./Craig Gingerich, Exec. Dir. Phone: 503-266-9810
Address: 1535 S. Ivy Street Email: ac@hopevillage.org
City/State: Canby, OR Zip: 97013

■ Representative Name: Robert Price, Consultant Phone: 503-807-4009
Address: 3935 NE 72nd Avenue Email: rprice1145@gmail.com
City/State: Portland, OR Zip: 97213-5711

☐ Property Owner Name: Hope Village, Inc. Phone: 503-266-9810
Signature:
Address: 1535 S. Ivy Street Email: ac@hopevillage.org
City/State: Canby, OR Zip: 97013

☐ Property Owner Name: Hope Village, Inc. Phone: (503) 266-9810
Signature: Craig Gingerich
Address: 1535 S Ivy Street Email: craig@hopevillage.org
City/State: Canby, OR Zip: 97013

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, including but not limited to CMC Chapter 16.49 Site and Design Review standards.
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:

Between Fir Street and Ivy Street, south of 13th Avenue and north of 18th Avenue	14 +/- acres	41E04D, TLs 00900, 01000, 01100, 01101, 01400, 01500, 01700
Street Address or Location of Subject Property	Total Size of Property	Assessor Tax Lot Numbers
vacant site with structures on TL 1400	R-2 and C-R	Medium and High Density Residential
Existing Use, Structures, Other Improvements on Site	Zoning	Comp Plan Designation

This is the South Campus Development Area which will be developed with 160 units for senior living.
Describe the Proposed Development or Use of Subject Property

STAFF USE ONLY				
DR/CUP/PUD 20-01	5-27-20	lf		
FILE #	DATE RECEIVED	RECEIVED BY	RECEIPT #	DATE APP COMPLETE

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

LAND USE APPLICATION

Conditional Use Process Type III

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

☒ Applicant Name: Hope Village, Inc./Craig Gingerich, Exec. Dir. Phone: 503-266-9810
Address: 1535 S. Ivy Street Email: ac@hopevillage.org
City/State: Canby, OR Zip: 97013

☒ Representative Name: Robert Price, Consultant Phone: 503-807-4009
Address: 3935 NE 72nd Avenue Email: rprice1145@gmail.com
City/State: Portland, OR Zip: 97213-5711

☒ Property Owner Name: Hope Village, Inc. Phone: 503-266-9810
Signature:
Address: 1535 S. Ivy Street Email: ac@hopevillage.org
City/State: Canby, OR Zip: 97013

☐ Property Owner Name: Hope Village, Inc. Phone: (503) 266-9810
Signature: Craig Gingerich
Address: 1535 S. Ivy Street Email: Craig@hopevillage.org
City/State: Canby, OR Zip: 97013

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, including but not limited to CMC Chapter 16.49 Site and Design Review standards.
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:

Between Fir Street and Ivy Street, south of 13th Avenue and North of 18th Avenue	14 +/- acres	41E04D, TLs 00900, 01000, 01100, 01101, 01400, 01500, 01700
Street Address or Location of Subject Property	Total Size of Property	Assessor Tax Lot Numbers
Site is mostly vacant, with structures on TL1400	R-2 and C-R	Medium and High Denisty Residential
Existing Use, Structures, Other Improvements on Site	Zoning	Comp Plan Designation

Creation of South Campus Development Area, providing approx. 160 residential units for senior living.
Describe the Proposed Development or Use of Subject Property

STAFF USE ONLY				
CUP 20-01	5-27-20	lf		
FILE #	DATE RECEIVED	RECEIVED BY	RECEIPT #	DATE APP COMPLETE

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

CHECKLIST

Conditional Use Process Type III

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 Check	City 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.
☐	☐	One (1) copy of a written statement describing the Conditional Use Permit request, and detailing how your request meets the approval criteria. ***Ask staff for applicable Municipal Code chapters and approval criteria.*** Applicable Code Criteria for this application includes: _____ _____ _____ _____
☐	☐	One copy of either the recorded plat or the recorded deeds or land sales contracts that demonstrates how and when legal property lines were established and where the boundaries of the legal lot(s) of record are located. If the property is a lot or parcel created by plat, a copy of the recorded plat may be obtained from the Clackamas County Surveyor's office. If the property is a legal lot of record created by recorded deed or land sales contract at a time when it was legal to configure property lines by deed or contract, then those recorded deeds may be obtained from the Clackamas County Office of the Clerk, or a Title Company can also assist you in researching and obtaining deeds.
☐	☐	If the development is located in a Hazard ("H") Overlay Zone, submit one (1) copy of an affidavit signed by a licensed professional engineer that the proposed development will not result in significant impacts to fish, wildlife and open space resources of the community. If major site grading is proposed, or removal of any trees having trunks greater than six inches in diameter is proposed, then submit one (1) copy of a grading plan and/or tree-cutting plan.
☐	☐	**Two (2) 11" x 17" paper copies** of the proposed plans, printed to scale no smaller than 1"=50'. 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;
- ☐ Layout of all proposed structures, such as buildings, fences, signs, solid waste collection containers, mailboxes, exterior storage areas, and exterior mechanical and utility equipment;
- ☐ Location of all proposed hardscape, including driveways, parking lots, compact cars and handicapped spaces, loading areas, bicycle paths, bicycle parking, sidewalks, and pedestrian ways;
- ☐ Callouts to identify dimensions and distances between structures and other significant features, including property lines, yards and setbacks, building area, building height, lot area, impervious surface area, lot densities and parking areas;
- ☐ Location of vision clearance areas at all proposed driveways and streets.

☐ **Landscape Plan**

The following general information shall be included on the landscape plan:

- ☐ Layout and dimensions of all proposed areas of landscaping;
- ☐ Proposed irrigation system;
- ☐ Types, sizes, and location of all plants to be used in the landscaping (can be a "palette" of possible plants to be used in specific areas for landscaping);
- ☐ Identification of any non-vegetative ground cover proposed, and dimensions of non-vegetative landscaped areas;
- ☐ Location and description of all existing trees on-site, and identification of each tree proposed for preservation and each tree proposed for removal;
- ☐ Location and description of all existing street trees in the street right-of-way abutting the property, and identification of each street tree proposed for preservation and each tree proposed for removal.

☐ **Elevations Plan** - The following general information shall be included on the elevations plan:

- ☐ Profile elevations of all buildings and other proposed structures;
- ☐ Profile of proposed screening for garbage containers and exterior storage areas;
- ☐ Profile of proposed fencing.

☐ **Sign Plan.**

- ☐ Location and profile drawings of all proposed exterior signage.

☐ **Color and Materials Plan.**

- ☐ Colors and materials proposed for all buildings and other significant structures.

CONDITIONAL USE – TYPE III: 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 set of preliminary plans to the Planning Department.

2. At the time an application is submitted to the City, payment of all 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.

3. Staff will check the application, making sure that it is complete and all fees are paid. Copies of the application materials are also routed to various City/State/County departments, as applicable, for their comments. 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 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.

5. Prior to the public hearing, the City will prepare notice materials for posting on the subject property. Staff will post this material at least ten (10) days before the public hearing.

6. The staff report will be available to all interested parties at least seven (7) days prior to the hearing.

7. 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.

8. The Commission then issues findings of fact which support approval, approval with conditions, or denial of the application. A decision may be appealed to the City Council.

9. If the Planning Commission decision is appealed, City Council holds a public hearing. The staff report is presented and testimony taken, as at the original hearing(s). Unless the City Council decides to hear the appeal de novo, only testimony regarding items already in the record is permitted, and no new information may be entered. In the case of an appeal, the Council may affirm, revise, or reverse the decision of the Planning Commission in all or in part. The Council may also remand the matter back to the hearing body for further consideration.

CONDITIONAL USE PERMIT – TYPE III: STANDARDS AND CRITERIA

Under Section 16.50.010 of the Canby Municipal Code, an application for CONDITIONAL USE PERMIT approval shall be evaluated based on the following standards and criteria:

A. The proposal will be consistent with the policies of the Comprehensive Plan and the requirements of this title and other applicable policies of the city; and

B. The characteristics of the site are suitable for the proposed use considering size, shape, design, location, topography, existence of improvements and natural features; and

C. All required public facilities and services exist to adequately meet the needs of the proposed development; and

D. The proposed use will not alter the character of the surrounding areas in a manner which substantially limits, or precludes the use of surrounding properties for the uses listed as permitted in the zone.

SITE AND DESIGN REVIEW APPLICATION – TYPE III–INSTRUCTIONS

All required application submittals detailed below must also be submitted in electronic format on a CD, flash drive or via email. Required application submittals include the following:

Applicant Check	City 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.
☐	☐	One (1) copy of a written, narrative statement describing the proposed development and detailing how it conforms with the Municipal Code and to the approval criteria, including the applicable Design Review Matrix, 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: _____ _____ _____ _____
☐	☐	Three (3) copies 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.
☐	☐	One (1) copy in written format of the minutes of the neighborhood meeting as 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 copy of either the recorded plat or the recorded deeds or land sales contracts that demonstrates how and when legal property lines were established and where the boundaries of the legal lot(s) of record are located. If the property is a lot or parcel created by plat, a copy of the recorded plat may be obtained from the Clackamas County Surveyor's office. If the property is a legal lot of record created by recorded deed or land sales contract at a time when it was legal to configure property lines by deed or contract, then those recorded deeds may be obtained from the Clackamas County Office of the Clerk, or a Title Company can also assist you in researching and obtaining deeds.
☐	☐	If the development is located in a Hazard ("H") Overlay Zone, submit one (1) copy of an affidavit signed by a licensed professional engineer that the proposed development will not result in

significant impacts to fish, wildlife and open space resources of the community. If major site grading is proposed, or removal of any trees having trunks greater than six inches in diameter is proposed, then submit one (1) copy of a grading plan and/or tree-cutting plan.

Applicant Check ☐ City Check ☐ Two (2) 11" x 17" paper copies of the proposed plans, printed to scale no smaller than 1"=50'. 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;
  - ☐ Layout of all proposed structures, such as buildings, fences, signs, solid waste collection containers, mailboxes, exterior storage areas, and exterior mechanical and utility equipment;
  - ☐ Location of all proposed hardscape, including driveways, parking lots, compact cars and handicapped spaces, loading areas, bicycle paths, bicycle parking, sidewalks, and pedestrian ways;
  - ☐ Callouts to identify dimensions and distances between structures and other significant features, including property lines, yards and setbacks, building area, building height, lot area, impervious surface area, lot densities and parking areas;
  - ☐ Location of vision clearance areas at all proposed driveways and streets.
- ☐ Landscape Plan, with the following general information:
  - ☐ Layout and dimensions of all proposed areas of landscaping;
  - ☐ Proposed irrigation system;
  - ☐ Types, sizes, and location of all plants to be used in the landscaping (can be a "palette" of possible plants to be used in specific areas for landscaping);
  - ☐ Identification of any non-vegetative ground cover proposed, and dimensions of non-vegetative landscaped areas;
  - ☐ Location and description of all existing trees on-site, and identification of each tree proposed for preservation and each tree proposed for removal;
  - ☐ Location and description of all existing street trees in the street right-of-way abutting the property, and identification of each street tree proposed for preservation and each tree proposed for removal.
  - ☐ Elevations Plan

    The following general information shall be included on the elevations plan:
  - ☐ Profile elevations of all buildings and other proposed structures;
  - ☐ Profile of proposed screening for garbage containers and exterior storage areas;
  - ☐ Profile of proposed fencing.

- ☐ Sign Plan.
  - ☐ Location and profile drawings of all proposed exterior signage.
- ☐ Color and Materials Plan.
  - ☐ Colors and materials proposed for all buildings and other significant structures.

☐ ☐ One (1) copy of a completed landscaping calculation form (see page 5)

☐ ☐ One (1) copy of a completed Design Review Matrix (see page 6)

SITE AND DESIGN REVIEW APPLICATION: LANDSCAPING CALCULATION FORM

Site Areas

1. Building area		***- Square footage of building footprints***
2. Parking/hardscape		***- Square footage of all sidewalks, parking, & maneuvering areas***
3. Landscaped area		***- Square footage of all landscaped areas***
4. Total developed area		***- Add lines 1, 2 and 3***
5. Undeveloped area		***- Square footage of any part of the site to be left undeveloped.***
6. Total site area		***- Total square footage of site***

Required Site Landscaping (Code 16.49.080)

7. Percent of landscaping required in Zoning District		***- Fill in the Appropriate Percentage:*** *R-1, R-1.5, R-2 Zones: 30%; C-2, C-M, C-R, M-1, M-2 Zones: 15%; C-1 Zone: 7.5%*
8. Required minimum square footage of landscaping		***- Multiply line 4 and line 7***
9. Proposed square footage of landscaping		***- Fill in value from line 3***

Required Landscaping within a Parking Lot (Code 16.49.120(4))

Note: This section and the next apply only to projects with more than 10 parking spaces or 3,500 square feet of parking area

10. Zone		***- Fill in the Appropriate Zone and Percentage:*** *C-1 Zone: 5%; Core Commercial sub-area of the Downtown Canby Overlay: 10%, except for parking lots with 10 or more spaces and two or more drive aisles: 50 square feet per parking space; All other zones: 15%.*
11. Percent of required landscaping		
12. Area of parking lot & hardscape		*- Fill in area of parking and maneuvering areas plus all paved surface within ten (10) feet of those areas.*
13. Number of vehicle parking spaces		*- For Core Commercial sub-area in the Downtown Canby Overlay only, fill in the total # of parking spaces on-site.*
14. Required square footage of landscaping within 10 feet of parking lot		*- Multiply area of parking lot (line 12) by percent of required landscaping (line 11) -OR- for the CC sub-area in the Downtown Canby Overlay multiply line 13 by 50 square feet.*
15. Proposed square footage of Landscaping within 10 feet of parking lot		*- Calculate the amount of landscaping proposed within 10 feet of all parking and maneuvering areas.*

Parking Lot Tree Calculation

16. Number of parking spaces		*- Total number of vehicle parking spaces*
17. Area of parking lot & hardscape		*- Area from line 12*
18. Number of parking spaces (line 16) divided by 8		*- Round **up** to the nearest whole number*
19. Area of parking lot area (line 17) divided by 2,800		*- Round **up** to the nearest whole number*
20. Number of required trees in parking lot		*- Fill in the **larger** of row 18 and row 19*
21. Number of trees provided within 10 feet of parking lot		*- Fill in the number of proposed trees within 10 feet of parking and maneuvering areas.*

Water supply, fire protection, and private and public utilities (stormwater management, energy, telephone, cable service, etc.) appear to be satisfactory to serve South Campus.

South Campus will be primarily accessed via Ivy Street, and through the existing campus, which is also accessed from Ivy Street. At some point in the future, Ivy Street will become a Canby city street, its jurisdiction transferred from Clackamas County. At the intersection of 18th Avenue and Ivy Street, a round-about is planned as a traffic control measure. However, that cannot happen until the properties on the east side of Ivy Street are fully annexed to the city and development plans are proposed. In anticipation of the future round-about, Hope Village has agreed to dedication of additional right-of-way for Ivy Street and the proposed round-about.

On the westerly side of South Campus, Hope Village is not planning for any new or direct access with Fir Street. However, Hope Village is planning to make frontage improvements to Fir Street with the third of four phases of development, which will encompass the westerly portion of the project site. No other public streets will be impacted by the development of South Campus.

A new east-west street between Ivy and Fir in the vicinity of 18th Avenue will be jointly developed jointly by Hope Village and The Mayberry Group. The final alignment and routing may have yet to be determined, but the conceptual alignment of the street has been understood by Hope Village, The Mayberry Group, and the City of Canby. This new street will intersect on the easterly side with the proposed round-about, but eventually will continue easterly beyond Ivy Street toward several newly developed housing areas.

The goal of the project is to allow Hope Village to develop the "South Campus" with a variety of housing types for future residents. At the present time, Hope Village has a three year backlog of "hopefuls" for available senior housing. Based on the recent Pre-Application Conference, the following regulatory actions will be required:

- A lot consolidation to reduce the current number of lots in the Hope Village site from seven (7) to no more than three (3) or four (4) depending on the phasing plan for the South Campus area. This action will be through Clackamas County and will be carried out after initial land use approval by the Canby Planning Commission;
- A Type III Conditional Use;
- A Type III Major Modification to the approved original PUD on the total Hope Village site;
- A Planned Unit Development for the Hope Village South Campus; and,
- A Type III Site and Design Review of the proposed buildings and structures.

This project will add approximately 160 new units to the Hope Village inventory. Once completed, Hope Village will be able to offer a variety of housing types that are severely needed in the Canby area. The basic project schedule would see the project will have four (4) phases, each to be completed within approximately two (2) years each, depending on market demand. However, a strong market will likely see a schedule that may be compressed and accelerated. In the end, this project will strengthen Hope Village and be a good addition to the City of Canby.

SITE AND DESIGN REVIEW APPLICATION: DESIGN REVIEW MATRIX

Applicants: Please circle the applicable point column to your project and compute the total and percentages at the end of the table.

Table 16.49.040 Site Design Review Menu

As part of Site and Design Review, the following menu shall be used as part of the review. In order to "pass" this table 60% of total possible points shall be earned, 10% of the total possible points must be from LID elements

Design Criteria	Possible Points				
Parking	**0**	**1**	**2**	**3**	**4**
Screening of parking and/or loading facilities from public right-of-way	Not screened	Partially screened	Fully screened	-	-
Parking lot lighting provided	No	Yes	-	-	-
Parking location (behind building is best)	Front	Side	Behind	-	-
Number of parking spaces provided (% of minimum required)	>120%	101-120%	100%	-	-
Screening of Storage Areas and Utility Boxes	**0**	**1**	**2**	**3**	**4**
Trash storage is screened from view by solid wood fence, masonry wall or landscaping.	No	Yes	-	-	-
Trash storage is located away from adjacent property lines.	0 - 10 feet from adjacent property	11 - 25 feet from adjacent property	>25 feet from adjacent property	-	-
Utility equipment, including rooftop equipment, is screened from view.	Not screened	Partially screened	Fully screened	-	-
Access	**0**	**1**	**2**	**3**	**4**
Distance of access to nearest intersection.	≤70 feet	71 - 100 feet	>100 feet	-	-
Pedestrian walkways from public street/sidewalks to building entrances.	One entrance connected.	-	Walkways connecting all public streets/ sidewalks to building entrances.	-	-
Pedestrian walkways from parking lot to building entrance.	No walkways	Walkway next to building only	Walkways connecting all parking areas to building entrances		

Tree Retention	**0**	**1**	**2**	**3**	**4**
Design Criteria	**Possible Points**				
Percentage of trees retained	<10%	10-50%	51-75%	>75%	-
Replacement of trees removed	<50%	≥50%	-	-	-
Signs	**0**	**1**	**2**	**3**	**4**
Dimensional size of sign (% of maximum permitted)	>75%	50-75%	<50%	-	-
Similarity of sign color to building color	Not similar	Somewhat similar	Similar	-	-
Pole sign used	Yes	No	-	-	-
Building Appearance	**0**	**1**	**2**	**3**	**4**
Style (similar to surroundings)	Not similar	Somewhat similar (1 or 2 points possible depending on level of similarity)		-	-
Color (subdued and similar to surroundings is better)	Neither	Similar or subdued	Both	-	-
Material (concrete, wood and brick are best)	Either 1 or 2 points may assigned at the discretion of the Site and Design Review Board				
Size of building (smaller is better)	>20,000 square feet	≤20,000 square feet	-	-	-
Provision of public art (i.e. murals, statues, fountains, decorative bike racks, etc.)	No	-	-	-	Yes
Landscaping	**0**	**1**	**2**	**3**	**4**
Number of non-required trees provided	-	At least one tree per 500 square feet of landscaping.	-	-	-
Amount of grass (less grass is better) (% of total landscaped area)	>50%	25-50%	<25%	-	-
Low Impact Development (LID)	**0**	**1**	**2**	**3**	**4**
Use of pervious paving materials (% of total paved area)	<10%	-	10-50%	51-75%	>75%
Provision of park or open space area	None	-	Open space (Generally not for public use)	-	Park (public or privately owned for public use)

Design Criteria	Possible Points				
Use of drought tolerant species in landscaping (% of total plants)	<25% drought tolerant	-	25-50% drought tolerant	51-75% drought tolerant	>75% drought tolerant
Provision of additional interior parking lot landscaping (% of minimum required)	100%	101-110%	111-120%	>120%	-
Provision of an eco-roof or rooftop garden (% of total roof area)	<10%	-	-	10-50%	>50%
Parking integrated within building footprint (below-grade, structured parking, or tuck-under parking) (% of total on-site parking)	<10%	-	-	10-50%	>50%
Disconnecting downspouts from city stormwater facilities	None	Some downspouts disconnected	All downspouts disconnected	-	-
Shared parking with adjacent uses or public parking structure (% of total required parking spaces)	None	<50%	≥50%	-	-
Provision of rain gardens/bioretention areas for stormwater runoff (% of total landscaped area)	None	-	10-50%	51-75%	>75%
	Total Possible Points = 71, 60%=42.6 points, 10%=7.1 points				

Total Points Earned: _____ (42.6 points required for 60%)

Total LID Points Earned: _____(7.1 required for 10%)

SITE AND DESIGN REVIEW – TYPE III: APPLICATION PROCESS

1. Prior to submitting an application, all applicants are encouraged to request a pre-application meeting with the City -or- the Planning Director may determine that a pre-application meeting is required prior to submitting an application. To schedule a pre-application meeting, an applicant must submit a completed pre-application form and set of preliminary plans to the City Planner, and after receiving the Planner's initials, must then make and take (3) copies of the pre-application materials to the Canby Public Works Department to schedule the pre-application meeting. The amount of the fee for a pre-application meeting is based on whether the application involves a public hearing or not.

2. Prior to submitting an application, applicants may be required to 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 all 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. 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. Staff will post this material 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.

9. The Commission then issues findings of fact which support approval, modification, or denial of the application. A decision may be appealed to the City Council.

10. If an approval or a denial is appealed, City Council holds a public hearing. The staff report is presented and testimony taken, as at the original hearing(s). Unless the City Council decides to hear the appeal de novo, only testimony regarding items already in the record is permitted, and no new information may be entered. In the case of an appeal, the Council may affirm, revise or reverse the action of the Planning Commission in all or in part. The Council may also remand the matter back to the hearing body for further consideration.

11. Prior to construction of the project, a preconstruction meeting is held with the City and all applicable utility and service providers. If required, this meeting must be held and approval of Plan set by all agencies, and payment of Canby System Development Charge (SDC) and construction excise tax to the City before issuance of any building permits for the project(s) by Clackamas County.

SITE AND DESIGN REVIEW – TYPE III: REVIEW CRITERIA *(Code 16.49.040)*

1. The Planning Commission shall, in exercising or performing its powers, duties or functions, determine whether there is compliance with the following A through D, and with Criteria 4, 5, and 6 below:

   A. The proposed site development, including the site plan, architecture, landscaping and graphic design, is in conformance with the standards of this and other applicable City ordinances insofar as the location, height and appearance of the proposed development are involved; and

   B. The proposed design of the development is compatible with the design of other developments in the same general vicinity; and

   C. The location, design, size, color and materials of the exterior of all structures and signs are compatible with the proposed development and appropriate to the design character of other structures in the same vicinity; and

   D. The Planning Commission shall, in making its determination of compliance with subsections B and C above, use the applicable matrix *[pages 8-12]* to determine "compatibility".

2. The Planning Commission shall, in making its determination of compliance with the above requirements, be guided by the objectives and standards set forth in this section. It must be demonstrated that all required public facilities and services are available, or will become available through the development, to adequately meet the needs of the proposed development. If the site and design review plan includes utility facilities or public utility facility, then the City Planner shall determine whether those aspects of the proposed plan comply with applicable standards.

3. The Planning Commission shall, in making its determination of compliance with the requirements set forth, consider the effect of its action on the availability and cost of needed housing. The Planning Commission shall not use the requirements of this section to exclude needed housing types. However, consideration of these factors shall not prevent the Planning Commission from imposing conditions of approval necessary to meet the requirements of this section. The costs of such conditions shall not unduly increase the cost of housing beyond the minimum necessary to achieve the purposes of this ordinance.

4. As part of the site and design review, the property owner may apply for approval to cut trees in addition to those allowed in Chapter 12.32, the City Tree Ordinance. The granting or denial of said application will be based on the criteria in Chapter 12.32. The cutting of trees does not in and of itself constitute change in the appearance of the property which would necessitate application for site and design review.

I. Introduction

As part of the long range overall growth and development of the Hope Village campus, Hope Village is proposing an expansion of approximately 14 acres directly adjacent to the south of the existing campus. The existing campus was planned 1983, the first unit was built in 1997, and encompasses approximately 34 acres. At the present time, the Hope Village campus has 392 units, including the "cottages" on the west side of Fir Street consisting of 12 units and built in 2018. Of these units, 138 are market rate leases for senior citizens, while 100 units are affordable tax credit housing for qualifying seniors over the age of 62. Finally, Marquis Companies manages an additional 154 units. This includes 80 Assisted Living units, 50 rooms for Skilled Nursing and Rehab, with another 24 new rooms for Memory Care currently under construction.

Over recent years, Hope Village has acquired adjacent properties for the purpose of future expansion, until enough additional area has been obtained to make expansion feasible. In cooperation with the developer of the recently purchased McMartin Farm, Hope Village has now obtained additional land directly adjacent to the south to allow for additional units to be added, along with access to public utilities and vehicle access from Ivy Street.

Because the original Hope Village campus was done as a "planned development", this addition of the South Campus area will be done by amending the original planned development to reflect that this added area of the South Campus is part of the whole Hope Village campus. However, the new South Campus expansion will differ from the existing campus in terms of overall building design. The South Campus will become an integral part of the total Hope Village Campus, with internal streets, pathways and trails, and overall landscaping melding the two parts together. It should be noted that the 12 cottage units on the west side of Fir Street were built as a "separate, independent project" and was not included in the original planned development.

In order to reach a goal of a specific number of housing units, i.e., 160 units, the style of housing must change, in part, from the single level and low rise (2 story) housing of the existing campus. The South Campus will be a mix of low rise units as duplexes and mid-rise buildings (3 stories) that have higher massing and larger numbers of units, making use of elevators to provide access to units on the upper floors. This will be a new style of housing for Hope Village.

These mid-rise units will present a marketing challenge for Hope Village in that this new style of housing has not previously been a part of Hope Village. But part of Hope Village's "due diligence" has been to review this style of housing at other senior housing locations and how these units have been marketed, or accepted by potential new residents. The end result is that Hope Village believes this mid-rise style of senior housing will be a positive addition to the Hope Village campus.

Given this new style of senior housing for Hope Village, the South Campus project will be carried out in phases to allow Hope Village to modify its plan as time goes on, based on the cost

of building these mid-rise buildings, and their market appeal. While Hope Village is concerned for the change in housing style and the acceptance by existing residents, the fact is that Hope Village is planning for future residents who may not yet be in the market for senior housing. This South Campus expansion is part of a plan by Hope Village to provide the best possible senior housing to that "upcoming" generation of residents.

By expanding the existing planned development to include the South Campus, Hope Village will maintain an internal street network, as well as utilities, landscaping, pedestrian pathways, and open spaces that will complement the existing campus. The internal streets will be private streets, owned and maintained by Hope Village. Onsite utilities may be a combination of private and public, depending on the requirements of the service providers. And while pedestrian pathways and open spaces will be privately owned by Hope Village, all area residents are invited to make use of these facilities.

Site plans, floor plans, renderings and elevations have been prepared by Pinnacle Architecture, Hope Village's architect for this project. Infrastructure and utilities have been planned by Sisul Engineering based on the various plans. Where the South Campus project and the adjacent single family housing project (Ivy Ridge Estates) being prepared by The Mayberry Group interface, there will be planned setbacks, landscaping, and other design features to insure the two projects will be compatible. To the west, across Fir Street, there will be little interfacing of projects, as Hope Village has no plans to provide direct access to the site via Fir Street, beyond what access is currently available. To the east, across Ivy Street, there is little development along Ivy Street, with most new development occurring further to the east. At some point in time, these vacant (agricultural) properties will develop into some form of housing. However, it would seem that development east of Ivy Street will occur after the Hope Village South Campus project has become a reality – at least in part.

Hope Village has gone to great lengths to insure the proposed combination of low- and mid-rise buildings will become "part" of the Hope Village campus. Where possible, views and vistas will be protected, and there will be no dominating structures beyond the three story mid-rise buildings. This addition of approximately 160 units to the housing inventory of not only Hope Village, but the senior housing sector as a whole, will be a positive for the overall housing market in the region. With a 2-year "waiting list" for Hope Village alone, the demand for senior housing is increasing constantly everywhere. This addition of the South Campus will likely make Hope Village one of **the** "destination" sites for seniors.

One of the issues driving the planning for South Campus is the availability of sanitary sewer. In this area of the city, sanitary sewer is relatively shallow, necessitating some "thoughtful planning" for what portions of South Campus can be serviced at the present time, and what areas must wait for a proposed pump station or other alternative for service collection. The city is planning to construct a sewer pump station at the southerly end of Ivy Street in 2020 or 2021, which will address most of the sanitary sewer collection issue that currently exists in this area of the city. Sisul Engineering has analyzed the needs for sanitary sewer for all of South Campus, and recommends that a specific alternative site plan be the one that Hope Village advocates.

II. Background and Site Information

Hope Village has been in the City of Canby since 1997 when the first unit was built. The current campus covers approximately 34 acres, including the 12 “cottages” built on the west side of Fir Street in 2018. Over the years, the Hope Village campus has developed and matured to the point where it has become one of the pre-eminent senior housing facilities in the region.

Over the past 10 years, Hope Village has been talking with owners of several tax lots within the “South Campus” area. Hope Village has acquired and annexed a total of seven (7) tax lots (properties) under various ownerships, and is now at the point where the agglomeration of properties is large enough to effectively plan for the “South Campus” expansion. Current zoning of the existing Hope Village campus is R-1.5, while zoning on the South Campus site is a combination of R-2 and C-R.

The topography of the 14 acre South Campus site is flat, with elevations ranging from 179 MSL along Ivy Street at the midpoint of the easterly property line there to 169 MSL on Fir Street at the northwesterly corner of the site. Overall, there is little change of topography throughout the site. Because most of the site has been previously farmed, there are few trees except at the margins of the properties. Any such trees are clearly shown on the aerial photograph. Otherwise, vegetation on the site is generally limited to grasses and grains. Some of the tax lots have existing dwellings on them, primarily because these lots were active residences, and may still be active residences until construction on the South Campus project begins, likely in 2021. These existing dwellings, and all structures currently standing on the South Campus site, will be completely removed to make way for the 160 units that Hope Village proposes to develop. There will be no displacement of current residents as they will have plenty of notice from Hope Village

There do not appear to be any natural resources of significant value on the site, including streams, lakes or ponds, wetlands, habitat areas, or the like. This is verified by reviewing the City of Canby Resource Inventory as part of the city’s Comprehensive Plan. Similarly, there is no indication from the Clackamas County resource inventory that any natural resource of significant value is located within the site. However, a natural resource inventory has not been conducted on the site, instead relying on the existing resource inventories of the city and county.

There are several wells on the site, mostly used for domestic purposes but also used for agricultural practices on the properties. While most of the wells may be abandoned once the site development begins, one or more of the wells may be retained by Hope Village for site irrigation purposes. Because the South Campus will be connected to the city water system, there will be no need for domestic wells on the site. Which wells may be retained may depend largely on the location of the well(s) on the site, and the relationship to developed features such as buildings, streets, etc.

Land use and development around the subject site includes:

- North – Hope Village existing campus;
- East - Developing residential area east of Ivy Street;

- West – Existing and developing residential area west of Fir Street;
- South – Developing residential area south and directly adjacent to the southerly boundary of the 14-acre subject site (Riverside Park/Ivy Ridge Estates).

The South Campus area is within the South Canby Development Area as designated by the City of Canby. Development proposed within the South Canby Development Area must, as part of annexation to the city, be reviewed for suitability in terms of initial development and the potential preliminary impacts on facilities and services, including transportation. The seven (7) parcels that comprise the subject site were not annexed at the same time, but the review of the South Canby Development Area encompassed a much larger area than just the seven parcels within the subject site. At the conclusion of review, it was determined that the proposed development would be suitable for the South Canby Development Area. Future reviews for other proposed projects that followed came to the same conclusions. Based on these reviews, the Hope Village project, as well as the Riverside Park/Ivy Ridge Estates residential neighborhood by The Mayberry Group on the McMartin Farm just south of Hope Village's proposed South Campus, and the new residential neighborhood by Stafford Land Company west of Fir Street were "green lighted" to proceed.

III. Chapter 16 of the Municipal Code of the City of Canby

The regulatory requirements for the various applications, reviews and approvals required by the Hope Village South Campus planning and development project are contained within the various subchapters and sections of Chapter 16 of the Canby Municipal Code ("Code"). As previously stated in the **I. Introduction** section of this narrative, there will be at least four (4) land use actions required for this project. These specific applications will be judged against subchapters and sections within Chapter 16, all of which are addressed within this application narrative.

- *Chapter 16.08 – General Provisions*

  16.08.020 – Zoning map

  Comment: The zoning on the subject site, as well as the balance of the Hope Village campus, is illustrated on the city's official zoning map ("Zoning Map of the City of Canby"). As such, the zoning of the various parcels that are a part of the 14-acre South Campus conforms to the zoning represented on the official zoning map, and Hope Village ("Applicant") concurs with these designations. The South Campus development area is comprised of two differently zoned areas of R-2 and C-R. Because the project involves a Planned Unit Development (PUD) approach, the zoning becomes less of an issue in terms of overall development of the site.

  16.08.030 – Zone boundaries

  Comment: Based on discussions with city staff, the boundaries of the various zones represented for the subject site on the city's zoning map are not in question.

  16.08.040 – Zoning of annexed areas

  Comment: All parcels within the 14-acre South Campus area have been relatively recently annexed to the City of Canby. As part of the annexation process, the city's zoning was applied to the area. That zoning is as represented presently on the city's zoning map.

  16.08.070 – Illegally created lots

  Comment: There are no illegally created lots within the South Campus area. Therefore, this subsection will not apply.

  16.08.100 – Height allowances

  Comment: No part of the proposed design of the structures that will be part of the South Campus expansion are exempt from the height allowances allowed by the Code under this subsection. Instead, the height of the structures is in accordance with 16.50.060.A of the Code (see page 23 of this narrative). There are no wireless telecommunications systems facilities on the site.

16.08.110 – Fences

Comment: Fences throughout the South Campus development area will not be used extensively, if at all. Because this is a senior housing community, fences do not represent a feature that serves the best interests of the Hope Village residents. In addition, because this 14-acre development proposal will be a planned unit development ("PUD"), uniformity is a desired feature and it will be uniform throughout the development site that fences will not be a development feature. A fence is planned along the southerly property boundary separating Hope Village's South Campus development area and the proposed Riverside Park/Ivy Ridge Estates single family development directly adjacent to the south. This fence is planned jointly between Hope Village and the developer of Riverside Park/Ivy Ridge Estates.

16.08.115 – Arbors

Comment: While arbors are a nice landscape feature, no arbors have been planned as part of the landscape plan for either the subject site or the existing campus area where revised landscaping is proposed.

16.08.130 – Standard transportation improvements

Comment: Transportation features within the South Campus development area will largely be private facilities developed as part of the PUD. Only improvements to Fir Street, Ivy Street, the Ivy Street Roundabout, and the creation of the new 18th Avenue connecting to Ivy Street will be areas of public improvements. However, the Canby Transportation System Plan (TSP) has not recently been updated and may not contain references to and identification of new facilities. As part of this project, Hope Village intends to be part of the local improvements to the east side of Fir Street, the west side of Ivy Street (however, not including the proposed future roundabout), and a portion of the proposed new 18th Avenue that will serve both Hope Village's South Campus and the initial phases of Riverside Park Ivy Ridge Estates to the south. For the proposed roundabout, Hope Village will dedicate needed additional right-of-way at the northwesterly quadrant of the site of the roundabout. Hope Village's responsibility for these improvements will be in accordance with current city standards.

16.08.150 – Traffic Impact Study (TIS)

Comment: As required of all projects such as the Hope Village South Campus, a TIS was done in accordance with directions received from the city's traffic consultant, DKS Associates. The TIS for this project was done by Lancaster Mobley after initial scoping, then review by DKS. The TIS met the requirements of the city and DKS, and provides information and direction in accordance with the city's TSP for future improvements of local transportation facilities. The TIS prepared by Lancaster Mobley is part of the total application package.

16.08.160 – Safety and Functionality Standards

Comment: As is standard practice for similar projects in the City of Canby, all proposed improvements to transportation facilities will comply with the various safety

and functionality standards set forth in this subsection. These include: adequate street drainage, safe access and clear vision at intersections; adequate public facilities; access onto public streets; adequate frontage improvements; and compliance with mobility standards identified in the TSP, specifically for the South Campus area.

- *Chapter 16.10 – Off-street Parking and Loading*

  Comment: Off-street parking will be needed for this project to add 160 senior living units in the South Campus area of Hope Village. Because this project will be a PUD, and because the project is a senior living project, off-street parking requirements will be managed differently. With the use of designated parking sites within the South Campus, and with each living unit having one (1) enclosed parking space and one (1) additional parking space on the driveway, off-street parking should not be an issue. The plan for the South Campus development area includes 118 available parking spaces in addition to the two (2) individual spaces specifically for each unit. Any on-street parking will be within the private streets will be identified on the site plan(s). The proposed South Campus expansion is not seeking to be an exception to the required standards, but suggest that the entire senior living concept of the South Campus merits consideration for varied standards.

  With regard to loading, such spaces are limited in terms of need. However, we do not have loading spaces at each hybrid building.

  16.10.030 – General Requirements

  Comment: Because the proposed South Campus development involves a type of housing that is not available at other locations within Canby, the actual number of off-street parking spaces has been determined by the applicant and has been reviewed for applicability and suitability by city staff, as in 16.10.030.B.

  The proposed off-street parking within the South Campus area will serve users such as those identified in 16.10.030.E. No other uses for off-street parking are proposed.

  In accordance with 16.10.030.G., parking may be shared among users within the South Campus area, without restrictions or conditions. Parking spaces (118 of them) throughout the South Campus area will be spread among the phases of the project, without regard for property lines. All parking spaces will be connected by virtue of the proposed internal private street network.

  Under 16.10.030.H., the proposed number of parking spaces is based on the use of the entire South Campus area for senior living, and the interconnected nature of the dwelling units, whether within hybrid buildings, cottages, or attached units. The entire South Campus area will be an area that is largely focused on the movement and activities of seniors, with little internal circulation of vehicles anticipated.

16.10.040 – Prohibited near intersections

Comment: As can be seen on the site development plan, no parking, whether on-street or off-street, is proposed within the vision clearance areas of any intersection of streets, public or private.

16.10.050 – Parking standards designated

Comment: As provided in Table 16.10.050, under *Residential Uses*, "Retirement/assisted living" requires 1.0 space per unit. Given that the proposed South Campus development includes 160 units, a total of 320 parking spaces within the configuration of the unit structures are provided, at two (2) parking spaces for each living unit. Further, 118 additional curbside, or on-street, parking spaces are provided for general use. These parking spaces are illustrated on the site development plan.

16.10.060 – Off-street loading facilities

Comment: None of the hybrid buildings will have loading zones or spaces, primarily because such buildings and uses are neither commercial nor industrial.

16.10.070 – Parking lots and access

Comment: There will be no parking lots, per se, within the South Campus area. Each hybrid building will provide covered parking for a limited number of spaces, plus other surface spaces. The individual units will provide one (1) parking space each in a garage and one additional surface space on the driveway for each unit, and there will be "pocket" parking areas in some locations that provide 118 spaces for use by residents and visitors. Driveway access to parking areas with multiple spaces will be similar to driveways for individual units. All driveways will be paved. It is anticipated that most of these pocket parking areas will have no more than four (4) parking spaces each, although there will be two larger parking pockets at each end of the site that will provide more spaces. All parking spaces will be located on or just off the internal private street network. Because the South Campus will have a private internal street network, dimensions of driveways and parking spaces will be as determined by the applicant.

16.10.080 – Street tree plan

Comment: Street trees will be provided along the frontage of the private streets within the South Campus area. The street tree plan will generally meet the requirements of Ordinance 1385, Exhibit B, but may be varied based on the location of driveways, pocket parking areas, location of buildings and structures, visibility, and other factors. Generally, however, street trees will be approximately 30-foot spacing throughout the South Campus area. Street trees will be planted along the westerly side of Ivy Street, the easterly side of Fir Street, and the northerly side of the first (easterly) portion of the new 18th Avenue as it separates from Ivy Street. No existing trees on the site will be preserved for use as street trees.

16.10.100 – Bicycle parking

Comment: Some bicycle parking will be provided throughout the development area. In keeping with the standard listed in Table 16.10.100, for "multi-family residential, seniors or with physical disabilities", 1 space per 5 units in the hybrid buildings will result in 3 spaces per building for the 15 total units in each building. Individual cottages and townhome living units will provide one space for each unit within the garage or covered area.

- *Chapter 16.20 – R-2 High Density Residential Zone*

  Comment: The South Campus site contains a combination of two (2) different zoning districts. They are: R-2 and C-R. The proposed development of the 14-acre South Campus will be entirely "residential", in this case, senior living. The configuration of units will be (a) hybrid three story buildings containing 15 units each; (b) side-by-side attached one-story cottage units; and (c) side-by-side attached townhomes. The project will be phased, in part based on the zoning configuration of the South Campus area. No change of zoning designations is proposed. At the present time, there are seven (7) individual tax lots within the South Campus area. These tax lots will be reconfigured based on the phases, until there are no more than four (4) tax lots within all of the South Campus area. It is Hope Village's plan to have the reconfigured tax lots match the four phases of the proposed project.

  The proposed senior living units are allowed as uses in both the R-2 and C-R zones by virtue of Chapter 16.82 of the Canby Municipal Code. Therefore, the proposed senior housing project in the South Campus area is allowed as a Conditional Use.

- *Chapter 16.24 – C-R Residential/Commercial Zone*

  Comment: There is a relatively small area of C-R zoning on the southeasterly corner of the 14 acre South Campus. This area of C-R zoning was originally placed on properties that fronted on Ivy Street, likely with the thought that a small commercial node could be established there. Because the C-R zone allows residential development, the proposed South Campus development plan will contain all residential housing but no commercial development. As such, the proposed development plan for this small C-R zoned area of the South Campus area conforms to uses allowed for the C-R zone.

- *Chapter 16.21 – Residential Design Standards*

  Comments: The various purposes of the Residential Design Standards as listed under 16.21.010 will be satisfied as part of the design of the housing within the South Campus area. Community livability will be created and enhanced through the attractive design of housing structures and streetscapes. Compatibility will be assured through the continuation of senior housing throughout the Hope Village campus. Local streets, which will be private, have been specifically designed to be an integral part of the campus for senior living where interaction between residents is a goal for Hope Village. Low impact development that manages storm water through the use of on-site features is also a major goal of the overall landscape plan for the entire Hope Village campus, not

just the South Campus area. Through these goals, the South Campus development plan seeks to make this area of Hope Village a part of the overall Hope Village campus, the Southeast Canby Development Area, and benefitting all of the City of Canby.

While the South Campus area will be a mix of townhomes, duplex homes, and larger three story hybrid buildings, these structures will utilize the design features set forth in 16.21.030. A. through G., and 16.21.040. A. and B. While the South Campus development area may not technically be an "infill" project, the design of dwelling structures takes into account the existing design of the existing Hope Village campus. While the First Phase of Riverside Park/Ivy Ridge Estates will be directly adjacent to the south of Hope Village, design considerations have included the relationship between the single family dwellings there, and the senior housing of the South Campus area.

16.21.070 includes multi-family design standards based on a point system. However, since the South Campus will be a senior housing under 16.82 whereby the design might be judged slightly differently than standard multi-family housing in Canby. However, the ultimate design of the South Campus area will measure well against the factors in Table 16.21.070 *Multi-Family Design Menu*, which includes parking, tree retention, building orientation to the streets, screening of storage areas and refuse/recycling storage areas, avoidance of monotonous and incompatible design, use of private open space and landscaping, and general low impact development features and factors.

Using Table 16.21.070 as a matrix by which to judge the value of the design standards, the proposed design of the South Campus area will result in a point total of 47, seven (7) above the threshold minimum. Of these 47 points, 18 are within the Low Impact Development (LID) category, which only requires 10% of the total point score, or five (5) points. The unique design of the South Campus development area results in a very impact-sensitive project that scores very high on the Low Impact Development category. Table 16.21.070 has been included at the end of this narrative illustrating the point values scored for each criterion.

Overall, the South Campus development area sets many of its own design standards that are not in conflict with those standards in this chapter. The goal of the senior housing project is to provide for the residents of not just the South Campus area, but all of the Hope Village campus. By creating a bigger, stronger, and more usable development of the 14 acres in the South Campus area, the ultimate 48 acres of the expanded Hope Village campus will be an asset for all of the City of Canby.

- *Chapter 16.42 – Signs*
  Comment: The only signage within the 14 acre South Campus area will be wayfinding signs. There may be a monument sign at the entry off 18th and Ivy Street. Any wayfinding will match the current wayfinding signage for the main campus of Hope Village. This wayfinding will be designed by the project architect, meaning that it is compatible with the style of housing and landscaping for the project. There will be no

commercial signage of any type, nor will any signage conflict with signage within Hope Village or with any city signage. No signage is submitted at this time. However, wayfinding and monument signage, if used, will be submitted to the city as part of the building permit review process.

- *Chapter 16.43 – Outdoor Lighting Standards*
  Comment: The South Campus area will be designed to have outdoor lighting throughout the area. While most lighting will be on the private streets, there will be other outdoor lighting in open space areas and integrated within the landscaped areas as well. Lighting fixtures will either match or be very similar to the existing style of fixtures. The goal of outdoor lighting is not only to provide an element of safety and security, but to add to the overall ambiance of the project. Because lighting will be current in terms of efficiency and energy use, and will attempt to reduce glare, light trespass, and spillover, the outdoor lighting will be an added asset to Hope Village. Where necessary, outdoor lighting will be shielded to protect residents from the potential adverse impact of encroaching light. When the outdoor lighting package has been prepared and submitted, all outdoor lighting will be reviewed and approved by the city as part of the current application package.

  Of course, Hope Village will not install or allow any lighting that would be prohibited in accordance with 16.43.060. To the contrary, all outdoor lighting will comply with the standards set forth in 16.43.070.A. through F. The outdoor lighting fixtures themselves, and any building surface mounted lighting will be in accord with existing lighting within the Hope Village campus. As required by 16.43.110, a lighting plan will be prepared and submitted with the building permit application.

- *Chapter 16.46 – Access Limitations on Project Density*
  Comment: Streets within the South Campus will be private streets with lesser standards than current city standards. These lesser standards are based on the fact that this is a senior living community where residents may own fewer vehicles, drive less overall, and require lesser standards for the well being of the community. However, these streets will meet the standards of the city and fire district. Curbside parking on the internal streets will be limited and will not interfere with movement of vehicles or emergency equipment. Each street will have two accesses, and there will be no cul-de-sacs or “dead-end” streets. Turning radii of all streets and intersections will meet city standards.

  As required by 16.46.020, ingress and egress of all residential facilities will be taken on the street frontage side, as no alleys or other forms of access are proposed. In 16.46.020.A., vision clearance will meet the minimum requirement of 10 feet from street to driveway, and 30 feet from street to street.

  16.46.030, Access connection, sets for the requirements for access spacing. Because the only arterial will be Ivy Street, which itself does not provide direct access to

residential units, and the only collector will be Fir Street, which itself also does not provide direct access to residential units, the only streets will be local and neighborhood streets within the South Campus development area. The requirement of 150 feet for minimum spacing between roadways will be satisfied, as will the minimum spacing of 50 feet between any roadway and any driveway. The minimum spacing of 10 feet between driveways will also be satisfied.

With the creation of 18th Street and its intersection with Ivy Street, which will not provide direct access to any residential units, there will be no specific need for any restricted access, as required in 16.46.035. Similarly, there will be no joint or cross access as identified in 16.46.040.

The number of access points for the South Campus development area will be based on the individual phases of the project. Each phase will have at least two accesses that provide two way access (i.e., in and out), although some phases may have duplicate points of access. Once again, because this will be a senior living community, in and out access will be based on the overall traffic projections for the project. Although an access management plan as identified in 16.46.070.B. has not been prepared, the applicants suggest that such management plan is "built" into the overall plan of development for the entire South Campus. The access management for the project meets the requirements and objectives of 16.46.070.B.1., 2., 3., and 4. Again, because the South Campus is a senior living site, and needs for senior living are different than other residential situations throughout the city, planned access management for the project achieve what is necessary for this senior living project.

16.46.080 and 16.46.090 do not apply because the site is not located on a state highway, nor does it have any direct connection or intersection with any state highway.

- *Chapter 16.49 – Site and Design Review*
  Comment: Because this South Campus project is a senior housing project that will be unique with the City of Canby, the project will achieve the purpose and objectives as set forth in 16.49.010.A. and B. The project will be of high quality design and construction, be unique throughout, include landscaping that will enhance the project itself, as well as the entire Hope Village campus. Certainly, the project is original to the city, and is innovative in its design, especially of the three story hybrid buildings. This project will become an integral part of the southeast Canby area, and will recognize the value of the natural setting and values of the local area.

  The project incorporates Low Impact Development (LID) techniques to manage stormwater through the use of landscaping, vegetation, use of available natural features, and seeks to minimize impervious surfaces as set forth in 16.49.010.B.10.

  Because the South Campus project will include numerous new buildings on the site, the applicant, Hope Village, recognizes that 16.49.030.A. requires site and design review

approval. Once the project is approved, all construction, site development, and landscaping will be done in accordance with approved plans and the various applicable codes (16.49.030.C.). Further, there will be only a fence along the southerly property boundary that will separate the South Campus from Riverside Park/Ivy Ridge Estates, or any other parts of the city. The only fence section proposed will be along the southerly property line separating the South Campus area and the proposed Riverside Park/Ivy Ridge Estates residential subdivision. It should be noted that during the construction process, temporary construction fencing and barriers may be used to provide separation and safety for workers and the general public (16.49.030.D.).

16.49.035, Application for Site and Design Review, requires the applicant to pursue a process through which site and design review will be conducted. In accordance with 16.49.035.B., Hope Village recognizes that a Type III process will be necessary and required. As such, the current application for Site and Design Review is for a Type III process.

16.49.040.B., Criteria and Standards, contains six (6) requirements or standards that must be met in order for any application to be approved.

1. The application and plans prepared for this project, including architecture, site civil engineering, landscaping, and all other graphic design are in conformance with the standards, criteria, and requirements of the Canby Municipal Code, except for those specific items and issues that are the subject of variance application(s) that are part of this application package;

2. The design of the South Campus area of Hope Village is unique, and thus, different from other designs in the city. Because this is a unique area for senior housing in Canby, the design and plan for the South Campus is compatible with the design and use of the balance of the Hope Village campus. This area of southeast Canby is residential in nature, as is the Hope Village campus, so the expansion area of the South Campus is compatible in terms of general land use with other developed and developing areas of the general vicinity;

3. As part of the overall design of the South Campus expansion area, the established character of the existing Hope Village campus will be maintained, with some differences in materials, texture, and colors as a result of updated styles and products. However, while the South Campus development area will be compatible with other areas of southeast Canby in residential terms, the character will definitely be unique to Hope Village and will establish the overall Hope Village campus as being unique to the City of Canby;

4. Because of the concern that Hope Village has for the environment, the City of Canby, and the southeast development area, the extensive use of LID best management practices has been made as part of the overall development plan for the South Campus

area. Hope Village recognizes that the LID best management practices are good for Hope Village and the City of Canby, and will make use of these practices while addressing impervious surfaces, on-site and off-site stormwater management, and the retention of native vegetation and use of new vegetation in the landscaping of the Hope Village campus;

5. The matrix in Table 16.49.040 has been used as part of the design process for the South Campus development area. The design of buildings, landscaping, and civil infrastructure for the South Campus area will meet the required minimum of 60% of the total possible points from the Table in accordance with the requirements set forth in Table 16.49.040 (16.49.040.B.5.a.). Also, as required, at least 10% of the points will come from the list of LID elements in that same Table (16.49.040.B.5.b.). This matrix in 16.49.040 is very similar to the matrix contained in Table 16.21.070 for "Multi-Family Design Menu" which was also calculated. In table 16.49.040 "Site Design Review Menu", the point value is approximately 35, which is less than the required minimum of 60%, or 43 points. However, several of the specific criterions may not be relevant to the proposed project, thereby reducing the possible point total. For example, since there will be no signage within the project area that relates to the issues in the criteria, no points were assigned there. On the other side of the coin, under the "Low Impact Development" category, the project scores at least 16 points, well above the minimum of 10%, or 7 points for this table. However, there may be at least one criterion for which no points have been assigned based on the vague nature of the criterion itself and how it relates to the project design.

The matrix in 16.21.070 is similar to the matrix in 16.49.040, but Hope Village is able to make "matches" for responses, thus scoring a higher point value. While the matrix in 16.49.040 is for "Site Design Review", the matrix in 16.21.070 is for "Multi-Family Design" and the score is higher. Unfortunately, the two matrices do not provide an accurate picture of the design values of the proposed project and may not be fully representative of the overall design value of the project.

6. While the streets within the Hope Village campus, and the South Campus development area are and will continue to be private streets, street lighting will be an integral part of the design for safety and security purposes for all residents and visitors. Where public streets are part of the access to the South Campus area, such as Ivy Street, Fir Street, and the new 18th Avenue to the south of South Campus and also serving Riverside Park, street lighting will be integrated and coordinated with the city and other developers. As required by 16.43.110, a lighting plan will be prepared and submitted with the building permit application.

The design of the South Campus development area certainly achieves compliance with the intent of the standards in the Canby Municipal Code, as demonstrated throughout the application package (16.49.040.D.). Hope Village is proud to have a distinguished team that has participated in this planning and design process.

The South Campus development area contains few trees, since most of the 14 acre area was previously farmed. However, none of those trees will be retained and are not incorporated into the development plan. Many other trees will be new and added to the landscape as part of the site development process over four phases (16.49.040.G.). Based on the proposed Landscaping Plan (LA-1), approximately 460 trees and large shrubs will be planted on the site. On the Landscape Plan (LA-1), the list of trees and large shrubs (T-1 through T-21) to be planted is provided. The Landscape Plan (Sheet LA-1) illustrates the required "street trees" on public rights-of-way. Hope Village proposes a total of 52 street trees along Fir Street, Ivy Street, and the new extension of 18th Avenue. There will be 19 street trees along the site's westerly frontage of Fir Street, 18 street trees along the site's easterly frontage of Ivy Street, and 15 trees along the northerly side of the new 18th Avenue that will be constructed between Hope Village's South Campus and the Riverside Park/Ivy Ridge Estates. This is a total of 52 new street trees. When combined with the (approximately) 460 onsite trees that will be planted, a total of 512 new trees will be planted as part of this project.

In accordance with 16.49.050, Hope Village recognizes that conditions may be placed on the approval of the development plans through the site and design review process. Hoppe Village will work closely with the city in the formulation of any conditions of approval, as well as the implementation of and compliance with any conditions.

16.49.050.B. provides certain types of conditions that may be placed on the approval of the proposed project. With regard to a development schedule (16.49.050.B.1.), Hope Village intends to pursue the project vigorously to completion, depending on the market and available funding. The first of four phases will be commenced virtually immediately upon initial approvals, with the following phases hopefully coming immediately afterward and in succession. The phasing of the total project is illustrated on the Development Plan. It is hoped that all phases can be completed within 8-10 years of start of construction of Phase One.

Because the internal streets and facilities may be entirely private, dedications may continue to be applicable for all utilities and facilities throughout the South Campus area (16.49.050.B.2.). However, where public water, sanitary sewer and stormwater facilities are internal to the South Campus area, but are public facilities, dedications for rights-of-way may be necessary. Hope Village will work closely with service providers and the city on any necessary dedications. On Ivy Street to the east and Fir Street to the west, additional right-of-way dedications will be planned for in accordance with city requirements, and construction of Hope Village's portions of the improvements will be done on a phase-by-phase basis. There will be no dedication of right-of-way for any internal private streets within the project area. Rather than providing construction and maintenance guarantees, Hope Village will build the required improvements for service infrastructure, and will allow for maintenance as may be necessary (16.49.050.B.3.).

It is anticipated that there may be some need for modification of plans as the project moves forward, as usually occurs with projects of this size and complexity. As need for any modifications arise, Hope Village will work closely with the city to define the scope and extent of those modifications, and the impact on the overall project, and the city, as a result of the modifications (16.40.050.B.4.).

Extension of water, sanitary sewer and stormwater facilities, plus right-of-way improvements to Ivy and Fir Streets are the anticipated off-site improvements that will be necessary. As the project moves through the various phases, the necessary and required off-site improvements will be made as part of the construction process for the South Campus development area. Hope Village will be responsible for these off-site improvements as identified in the final approval of the project (16.49.050.B.5.).

Other approvals as may be necessary by other agencies (i.e., Canby Fire, Canby Utility Board, etc.) will be obtained at the appropriate times as required by 16.49.050.B.6.

Access to the South Campus area has been identified as part of the development plan for the project area. These accesses have been identified as part of the traffic study completed by Lancaster Mobley & Associates, and through discussions between Hope Village and the city. These points of access have been determined to be the safest, most convenient, and most useful points of access not only for the South Campus project but for the southeast development area and the City of Canby (16.49.050.B.7.). The private internal street that roughly corresponds to 16th will continue to be a private street with limited access. At the intersection of Fir Street and this internal private street, access will be for “in” only from Fir Street except for emergency and service vehicles. The same applies on the easterly end at Ivy Street.

Hope Village intends to keep the need for screening to a minimum through the use of landscaping and distance between uses. Fencing will be used only when necessary for safety and security. It is not anticipated that any walls, per se, will be necessary. “Visual clutter” such as outdoor storage areas, garbage/recycling areas, mechanical equipment, etc., will be held to an absolute minimum by designing these areas to be “hidden” as part of the building design (16.49.050.B.8.). For the three story hybrid buildings, to the greatest extent, mechanical equipment will be either roof mounted or within the parking area, and protected from casual view of residents and the public in general.

16.49.065, Bicycle and pedestrian facilities, will be provided as part of the phase-by-phase development plan. Because internal streets will be private, sidewalks and bike pathways will be based on the overall plan rather than the strict alignment with the internal streets. Throughout the South Campus area, pedestrian pathways will intertwine with streets, dwelling structures, and open spaces and landscaped areas. Pedestrian pathways will, where appropriate, connect with city facilities in public rights-of-way that bound the South Campus site. These pathways will be hard surfaced and will be appropriate to use by seniors who live in Hope Village. The pathway plan will

connect with the existing system of pathways within the existing campus, providing a comprehensive and useful system of pedestrian movement, primarily for the use and enjoyment of the residents of Hope Village (16.49.065.A., B., and D.).

With regard to landscaping as identified in 16.49.070 and 16.49.080, the landscape design of the entire South Campus area will achieve the intent and purpose of the standards found therein. A portion of the existing Hope Village campus will be redesigned with new and revised landscape features, including trees, to integrate the South Campus with the existing campus, and to upgrade portions of the existing campus to improve the overall physical appearance and character of Hope Village, thus improving the livability of the area. Hope Village has always taken pride in its landscaping, and provides care of its facilities, replacing and upgrading where necessary and desirable. Low impact development (LID) has always been a goal of Hope Village, and the use of specific best management practices (BMPs) is a long running theme of Hope Village's campus, where achieving the goals of preservation, protection, and enhancement of the environment is in keeping with the purpose of the standards set forth in 16.49.080.B.

The Hope Village campus, including the new South Campus development area, achieves the standard of 30% for residential areas. Within Phase One of the project, which includes the C-R zoned area of the site, landscaping is a minimum of 15% based on the use of the three story hybrid buildings. However, over the entire campus, landscaped areas represent 43% of the site (16.49.080.C.). Forty-three percent represents approximately six (6) acres of the 14 acres within the South Campus site given to open space and landscaping area. This is a considerable amount of area for this type of development, proving that Hope Village is concerned for how the South Campus project area will appear and the environment for residents.

LID facilities have always been in use by Hope Village throughout the campus. Because the internal; street network in the South Campus area will be private, all LID facilities are counted towards the minimum landscaping requirement, even though the project exceeds that minimum regardless. With the process of site and design review, this "system" of LID mechanisms will be approved by the city as part of the total process (16.49.080.D.).

The landscape plan (Sheet LA-1) for the project includes some revisions of the existing parking and landscaped area located to the north of the east-west private street that currently represents the southerly boundary of the existing Hope Village campus. A few existing trees may be removed, to be replaced by new trees planted to enhance the area and to define the parking and circulation system that connects the existing campus with the new South Campus development area. These revisions to the landscaping of the campus will, to the greatest extent possible, include existing trees and vegetation in accordance with 16.49.080.E.

During the construction process throughout all the phases, the standards set forth in 16.49.080.F. through P. to the greatest extent possible. While some modifications to these standards may be necessary in specific instances, the intent, purpose, and standards of 16.49.080.F. through P. will be satisfied.

The specifications for tree and plant materials spelled out in 16.49.090 are generally common specifications that has been utilized by Hope Village in all its landscaping to date for the existing campus. These specifications for deciduous trees (A.), coniferous trees (B.), evergreen and deciduous shrubs (C.), ground covers (D.), and lawns (E.) will continue to be utilized by Hope Village in the South Campus development area. A review of the existing campus will show that meeting these specifications has been a practice of Hope Village throughout the campus.

In accordance with 16.49.100, Landscaping installation and maintenance, all landscaping for each phase will be completed prior to occupancy, unless ground conditions, weather, or any other factor generally beyond the control of Hope Village adversely impacts the ability to complete the landscaping in accordance with the standards and the approved plans (A.). Any landscaping that may not be completed prior to occupancy of each individual phase will be completed on a schedule provided to the city, and approved by city staff (B.).

Hope Village is known for the care and maintenance it provides for the overall grounds of the existing campus. Such care and maintenance of the new landscaping in the South Campus development area will continue to follow the current practices of Hope Village for its campus (C.).

With regard to landscape credit referenced in 16.49.110.C., Hope Village will accept any reasonable level of credit the city wishes to grant. None of the existing trees on the South Campus development area will be retained, but because most of the 14-acre area was previously farm ground, there are relatively few trees to begin with, located primarily on the easterly side of the site, adjacent to Ivy Street.

Within the South Campus development area, there will be no parking lots created, except around the three story hybrid buildings. Even then, these are more “parking pockets” than parking lots. Nevertheless, these parking pockets will be landscaped. The parking areas around the hybrid buildings at each end of the site (in phases 1 and 4) are not truly parking lots even though they may contain more than 10 parking spaces. Landscaping of these two specific parking areas is planned to be similar to landscaping around other parking pockets along the internal network of private streets. While 16.49.120.D. requires a threshold of 15% of the parking area be landscaped, the overall computation of required landscaped area for the total South Campus development area will exceed any minimum requirement imposed by the city. However, because this project is a PUD, the standards may be somewhat flexible, yet the general minimum requirements will continue to be met.

16.49.120.E. requires that parking areas of more than 16 spaces be "broken up" into no more than groups of eight (8) contiguous spaces each, with landscaping separating the groupings. Two parking "pockets", one at each "end" of the project area, will have more than eight (8) parking spaces each. Again, while these parking pockets are not parking "lots", the landscaping in and around them meets the intent and purpose of this section of the Code. In addition, the parking pocket along the private street accessing Fir Street has more than eight (8) spaces, but landscaping will help to reduce the scale of this one parking area. Trees included in the landscaping around these parking areas will generally satisfy the requirements of 16.49.120.F. Height of the trees (required to be 40 feet for mature trees) may not be achieved in an effort to provide unobstructed views from the adjacent and surrounding dwelling units. These parking areas (parking pockets) may be landscaped as part of the overall plan, rather than landscaping these parking areas themselves, as required in 16.49.120.G. Where deemed necessary and desirable based on the type of landscaping installed, irrigation may be provided. Hope Village will be retaining some of the existing onsite wells for use for irrigation of the total project site. This should satisfy 16.49.120.H.

16.49.130, revegetation in un-landscaped areas, will not apply because there will be no areas of the South Campus development area that will un-landscaped. In other words, the entire 14-acre area of the South Campus will be landscaped around new buildings and paved areas.

As required in 16.49.150, any new parking areas or paved areas of 2,500 square feet or more will meet the city's requirements for storm drainage. Because new parking areas and paved areas will be part of the overall plan for the South Campus, the entirety of the South Campus, whether in each phase or overall, will meet the city's requirements for storm drainage.

- **Chapter 16.50 – Conditional Uses**

  Comment: The proposed 160-unit development for senior housing on the 14-acre South Campus expansion for Hope Village is an addition to the existing campus, and an expansion of the existing PUD under which the existing 32-acre campus has been previously approved. The review and approval of this project falls within the standards and requirements of a Conditional Use, under Chapter 16.50 of the Canby Municipal Code. As a Conditional Use, it is governed by the various sections of this Chapter, particularly 16.50.010, 16.50.020, 16.50.040, and 16.50.060. These specific sections are addressed below.

  16.50.010 – Authorization to grant or deny conditional uses

  Comment: Hope Village recognizes the authority of the city to review, grant, or deny the application for conditional use permit, as well as the authority to attach conditions to any approval. This section includes four subsections, A., B., C., and D. that must be addressed with specific information and materials that demonstrate compliance.

A. In reviewing the city's comprehensive plan, there are numerous policies throughout that may be appropriate and applicable to this project.

From the **Citizen Involvement Element**:
Goal: To provide the opportunity for citizen involvement throughout the planning process
Response: The required neighborhood meeting, plus the notification to local vicinity property owners, and the public hearing before the Canby Planning Commission provides the opportunity for citizens to input to the process of review of the application(s). Hope Village held a public neighborhood meeting on November 19, 2019, fulfilling this city requirement for citizen involvement. Notices to surrounding property owners and the public hearing to be held before the Canby Planning Commission will complete that process.

From the **Urban Growth Element**:
Policy No. 3: Canby shall discourage the urban development of properties until they have been annexed to the city and provided with all necessary urban services
Response: All parts of the 14-acre South Campus development area are properties that have been annexed to the City of Canby, at which time is was found that necessary urban services and facilities were or could be made available to the site. This availability would allow the future urban development of the subject site for an expansion of the Hope Village campus. Implementation Measure C) supports the proposed development of this annexation.

From the **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
Response: The expansion of the Hope Village campus is part of an orderly development of the South Canby Development Area. Most of this area is designated for residential development at varying levels of density. The South Campus of Hope Village is an orderly and proper growth of Canby, and the design of the South Campus expansion plan provides an efficient and aesthetically pleasing form of growth where the proposed residential development for senior housing is suitably related not only to the existing campus of Hope Village but to the rest of the vicinity which is a growing residential area.

On page 38 of the Comprehensive Plan under ***Residential Development in the Urban Growth Boundary*** it is stated, "*With only minor amendments to the existing wording of the City's Land Development and Planning Ordinance sufficient housing diversity will be achieved. Based on the calculations used in determining the acreages of various land sue designation within the Urban Growth Boundary, the following conclusions have been reached:*

- New developments within low density areas will begin to include duplex and common-wall units. As many as 5 percent of new units are expected to be of this type.
- Planned unit development provisions, particularly those dealing with energy efficiency and other density bonus inducements, will be used in approximately 50 percent of new subdivision and in nearly all where the development contains five or more acres.
- Additional special housing projects for the handicapped and elderly will be developed, primarily because of the past successes of such projects in Canby.

On page 51 under ***Buildable Lands***, it is noted that "*The Canby Urban Growth Boundary contains no property which can be regarded as absolutely 'unbuildable', although some areas pose constraints or limitations to new development*." The South Campus site has been determined to be entirely buildable land, with no constraints. As such, the site is totally developable.

Policy No. 1: Canby shall guide the course of growth ands development so as to separate conflicting or incompatible uses while grouping compatible uses

Response: The area of the Southeast Canby Development Area where Hope Village is located is an area which the city envisions to be entirely residential in the future. The proposed expansion of the South Campus is definitely not a conflicting or incompatible use, but instead, a compatible use with the local residential development in all directions. As development accelerates to the east and south, the grouping of residential uses will become even more apparent. Implementation Measures A), B), C), D), G), and H) support this Policy and apply to the proposed PUD use on the South Campus development area of Hope Village.

Policy No. 2: Canby shall encourage a general increase in the intensity and density of permitted development as a means of minimizing urban sprawl

Response: The continuing development of Hope Village into the South Campus area represents an increase in the intensity of development in this particular vicinity of the city. Also, the provision of 160 additional units for senior living represents an increase in density beyond the single family residential level of the zoning of the site. By and through this intensity and density, there may be a minimization of local urban sprawl through less pressure on the local urban growth boundary. Implementation measures A), C), and D) represent the values of the proposed South Campus expansion. Implementation Measures A) and C) support this Policy and may apply to the Hope Village South Campus project.

Policy No. 3: Canby shall discourage any development which will result in overburdening any of the community's public facilities or services

Response: The proposed project will make use of the local public facilities and services at levels that are within the capacities of those public facilities and services. In

fact, this project will add to the infrastructure network in a positive manner, leading to the opportunity for further growth and development in the local vicinity. Implementation Measures A), B) and C) all contribute to the achieving and success of this Policy.

Policy No. 5: Canby shall utilize the land use map as the basis of zoning and other planning or public facility decisions

Response: This project requires no changes in the city's land use map, but instead, complies fully with the zoning on the land use map. The extension of public infrastructure will be in the best interests of the city and the general public, including the new pump station for sanitary sewer to be located south of the subject site on Ivy Street. Implementation Measure A) supports this Policy, and the proposed project.

Policy No. 6: Canby shall recognize the unique character of certain areas and will utilize the following special requirements, in conjunction with the requirement of the land development and planning ordinance, in guiding the use and development of these unique areas

Response: Although the South Campus development area contains some are that is zoned C-R and has frontage on Ivy Street, it is not within the identified Area of Special Concern "C".

Policy No. 7: Canby shall strive to ensure the efficient and effective provision of infrastructure to serve newly annexed areas

Response: The South Campus area was part of the Southeast Canby Development Area and was required to provide a Development Concept Plan (DCP) that was adopted as part of the annexation process. Since annexation, nothing has changed the DCP for the South Campus site, thus resulting in the hoped for efficient and effective provision of public infrastructure through the site development process.

From the **Environmental Concerns Element**:

Goal:

- **To prevent air, water, land, and noise pollution**
- **To protect lives and property from natural hazards**

Response: The proposed development of the South Campus will utilize the best management practices in the design of the buildings and grounds. While it may be nearly impossible to absolutely "prevent" all types of pollution, the project will seek to reduce any pollution to the minimum possible levels. New design techniques for the buildings and the civil infrastructure will assist in reducing the carbon footprint of the project to the least possible levels, thus keeping any pollution from the site from adversely harming the local, regional, and world environment. Because senior living produces relatively low levels of noise pollution by its very nature, the design of the project and the use of the South Campus area should keep any pollution levels in check and not contribute to increased levels throughout the local vicinity and the City of Canby.

Because there are no identified natural hazard areas within or near the South Campus area, including but not limited to flooding, earth movements, and the like, the proposed development of the South Campus area should not cause increased hazard levels to the residents of Hope Village, the local vicinity, and the City of Canby.

Policy No. 7-R: Canby shall seek to improve the overall scenic and aesthetic qualities of the city.

Response: The development of the South Campus area will be done in a tasteful manner in which the scenic and aesthetic values of the city are maintained and even improved. The new residential structures will blend with the existing campus, and will contribute to the pleasant skyline of the city, while maintaining views and vistas. This policy will be achieved and addressed through implementation measures A), B), and C).

Policy No. 8-R: Canby shall seek to preserve and maintain open space where appropriate and where compatible with other land uses.

Response: Open space is an integral part of the Hope Village campus, and will be a major component of the South Campus development area. Approximately six (6) acres of the 14 acres in the South Campus development area is given to open space and landscaped area. One of the goals of Hope Village is to design a project whereby the residents of Hope Village might enjoy the open space areas, and benefit from the ability to use these open spaces. Open spaces within the Hope Village PUD will be an asset to the local area, and certainly to Hope Village and its residents. Open spaces within Hope Village are also an asset to the local residents and to the City of Canby.

Policy No. 10-R: Canby shall attempt to minimize the adverse impacts of new development on wetlands.

Response: While there are no identified wetlands within the South Campus development area, there may be wetlands nearby in some of the surrounding areas to the west, south and east. Appropriate and proper design of the civil infrastructure, as well as the buildings themselves, should help to reduce the adverse impacts of urban development on local wetlands. Current best management practices in the design of infrastructure and buildings will contribute to the control of any adverse impacts on local wetlands.

From the **Transportation Element:**

Goal: To develop and maintain a transportation system which is safe, convenient and economical.

The growth of Hope Village into the South Campus will include an internal street network that will be connected to the city's network of streets. This internal street network will connect with the Riverside Park residential development to the south, and to Fir Street on the west and Ivy street on the east. Once connected to these improved city streets, the city's overall transportation network will be improved and made safer and more efficient.

Policy No. 1: Canby shall provide the necessary improvement to city streets, and will encourage the county to make the same commitment to local county roads, in an effort to keep pace with growth.

Response: Hope Village supports the City of Canby in this effort, and recognizes the city's Implementation Measures for this Policy.

Policy No. 2: Canby shall work cooperatively with developers to assure that new streets are constructed in a timely fashion to meet the city's growth needs.

Response: Hope Village proposes to make improvements to both Fir and Ivy Streets at the appropriate time according to the phased development schedule for the South Campus project. One of the more important improvement projects, the roundabout at 18th and Ivy Street, is already in the planning stages with Hope Village, and the phased development plan includes additional right-of-way for this roundabout and appropriate right-of-way improvement on the South Campus property. Especially appropriate are Implementation Measures C), D), and E).

Policy No. 4: Canby shall work to provide an adequate sidewalk and pedestrian pathway system to serve all residents.

Response: Hope Village will play a role in achieving this Policy by including a pedestrian pathway network throughout the South Campus that will connect with the existing network in the Hope Village campus. This network will also connect with the surrounding network of pedestrian pathways and sidewalks in order to facilitate pedestrian movement throughout this local vicinity of southeast Canby. This Policy relative to Hope Village is supported by Implementation Measures A), D), and E).

Policy No. 6: Canby shall continue in its efforts to assure that all new developments provide adequate access for emergency response vehicles and for the safety and convenience of the general public.

Response: All streets within the South Campus development area will be reviewed with the fire district to assure that widths and location of parking pockets will not interfere with the movement of emergency and response vehicles. Even though the internal street network will be private, the corner radii and turning areas will be satisfactory for all vehicles. No curbside parking will be allowed at any location on the street network throughout the South Campus development area. Further, the points where the private street network will intersect with the local public streets (i.e., Fir and Ivy Streets and 18th Avenue), will be designed to insure proper and safe access between the private and public networks. Implementation measure C) may especially apply to the South Campus development.

Policy No. 7: Canby shall provide appropriate facilities for bicycles and, if found to be needed, for other slow moving energy efficient vehicles.

Response: It is the intent of Hope Village that the internal street network will be appropriate for bicycles and slower moving vehicles. It is noted that Clackamas County identified Ivy Street as an existing arterial, a truck route and a bicycle route. Whether

those designations will continue with the City of Canby is not known, but Hope Village supports Ivy Street as a bicycle route passing by Hope Village. Hope Village will also support Fir Street as a bicycle route, thus providing good access to the entire Hope Village campus. Implementation measures A), B), C), D), and E) support this Policy.

From the **Public Facilities and Services Element**:

Goal 1: To assure the adequate provision of water services to meet the needs of the residents and property owners of Canby.

Policy No. 1: Canby shall maintain, repair or replace all current water system elements to continue providing an adequate level of water services.
Policy No. 2: Canby shall maintain, repair, replace, and/or expand its water system to meet future adequate water service needs.
Policy No. 3: Canby shall adopt and periodically update a capital improvement program for major water projects and utilize all feasible means to finance needed water system improvements in an equitable manner.

Goal 2: To assure the adequate provision of waste water services to meet the needs of the residents and property owners of Canby.

Policy No. 1: Canby shall maintain, repair or replace all current wastewater system elements to continue providing an adequate level of wastewater services.
Policy No. 2: Canby shall maintain, repair, replace, and/or expand its wastewater system to meet future wastewater service needs.
Policy No. 3: Canby shall adopt and periodically update a capital improvement program for major wastewater projects and utilize all feasible means to finance needed wastewater system improvements in an equitable manner.

Goal 3: To assure the adequate provision of strom drainage services to meet the needs of the residents and property owners of Canby.

Policy No. 1: Canby shall maintain, repair or replace all existing storm drainage system elements to continue providing the current level of storm drainage services.
Policy No. 2: Canby shall maintain, repair, replace, and/or expand its storm drainage system to meet future storm drainage service needs.
Policy No. 3: Canby shall adopt and periodically update a capital improvement program for major storm drainage projects and utilize all feasible means to finance needed storm drainage system improvements in an equitable manner.

Goal 6: To assure the provision of a full range of public facilities and services to meet the needs of the residents and property owners of Canby.

Policy No. 1: Canby shall work closely and cooperate with all entities and agencies providing public facilities and services and ensure that public facilities and services are provided concurrently with future development.
Policy No. 3: Canby shall utilize all feasible means of financing needed public improvements and shall do so in an equitable manner.
Response: Hope Village supports the Goals and Policies of the City of Canby as set forth in the Comprehensive Plan. The addition of the South Campus area will not exert an unreasonable or excessive demand for public facilities and services of the city, including water, sanitary sewer, storm drainage, and the like. Hope Village supports the City of Canby in its efforts to maintain, repair or replace elements of the infrastructure system that will keep the systems at or above current levels in order to provide for the residents and property owners of the city, of which Hope Village is a part.

From the **Economic Element:**
Goal: To diversify and improve the economy of the City of Canby.

Policy No. 3: Canby shall encourage economic programs and projects which will lead to an increase in local employment opportunities.
Response: The growth of Hope Village into the South Campus area will provide temporary construction jobs for a wide range of personnel and skills, although some of this employment may not involve residents of the Canby region. However, there may be jobs available for some Canby residents during the construction process. Once completed, the South Campus development area may provide some jobs for people with specific skill sets. And with the increase of the number of residents within Hope Village, disposable income may be used in the Canby area, to the benefit of the city and its residents.

From the **Housing Element:**
Goal: To provide for the housing needs of the citizens of Canby.

Policy No. 1: Canby shall adopt and implement an urban growth boundary which will adequately provide space for new housing starts to support an increase in population to a total of 20,000 persons.
Response: The Hope Village project in South Campus will provide opportunities for housing for senior living that might not exist elsewhere in Canby. And because the South Campus site is within the city's urban growth boundary, the project will assist the city in achieving this Goal and specific Policy. The project involves 160 housing units for senior living, a critical element in achieving the city's housing goal.

Policy No. 3: Canby shall coordinate the location of higher density housing with the ability of the city to provide utilities, public facilities, and a functional transportation network.
Response: The South Campus expansion of Hope Village is not a higher density issue in itself, but will provide needed housing for seniors, which is a critical element of

the city's housing structure. The South Campus site is a location where utilities, public facilities, and a functional transportation network come together to provide a viable and valuable opportunity to provide needed senior housing. Implementation measures A) and C) support this housing.

From the **Energy Conservation Element:**
Goal: To conserve energy and encourage the use of renewable resources in place of non-renewable resources.

Policy No. 1: Canby shall encourage energy conservation and efficiency measures in construction practices.
Policy No. 5: Canby shall continue to promote energy efficiency and the use of renewable resources.
Response: The design of the buildings in the South Campus development will follow the most up-to-date and best management practices for energy use and efficiency. In terms of construction practices, contractors will use best management practices in the construction of the buildings, and the use of renewable resources will prevail during all design and construction activities. Buildings will be built to meet or exceed all local and state energy practices and goals, and will be part of the energy efficiency program for Hope Village.

16.50.020 – Application for conditional uses
Comment: This section requires that "Application procedures shall be as described in Chapter 16.89." Chapter 16.89 notes that the purpose is to "establish standard decision-making procedures that will enable the City, the applicant, and the public to review applications and participate in the decision-making process in a timely and effective way (16.89.010 – Purpose).

In 16.89.020 – *Description and Summary of Processes*, the various process types are described. Because this application package, particularly the Conditional Use, is a Type III quasi-judicial/legislative procedure, this process will be followed by the city. Table 16.89.020 identifies the Conditional Use as a Type III procedure.

16.50.030 – Public hearing required
16.50.040 – Placing conditions on a permit
Comment: The applicant, Hope Village, fully understands that a public hearing is required for the applications submitted, and that the Canby Planning Commission has the right, as part of the decision, to place specific conditions on the approval of any part of the application package.

16.50.060 – Standards governing conditional uses
A. Building Height – It is stated in this section *"[T]he height limitations of any zone may be exceeded by a conditional use to a maximum height of seventy-five feet; provided that each yard is increased over the yard requirement by the addition of five*

feet for every five feet or fraction thereof of additional height over the maximum height allowed in the zone.". As such, the proposed height of the hybrid buildings, at slightly more than 40 feet (actually 40.4 feet), may be allowed by the Canby Planning Commission as part of the review of the Conditional Use application. Such approval would have to recognize that the applicable yard setbacks would have to be increased by about 5 feet to compensate for the additional height. Also, by the Canby Planning Commission allowing the additional height through the conditional use review, no variance would have to be applied for as part of the total process.

Because the buildings in the South Campus expansion area are neither utility substations nor pump stations, and no signs are involved in the height consideration, sub-items B. and C. of 16.50.060 do not apply.

- **Division V. – Planned Unit Development and Condominium Regulations**
- **Chapter 16.70**

16.70.010 – General provisions

Comment: The proposed Planned Unit Development (PUD) for Hope Village will be a modification of the existing PUD for the total Hope Village campus, now to include the 14-acre South Campus development area. This PUD is not a subdivision nor will any new tax lots be created, but will involve several existing tax lots. As requested by the city, the number of existing tax lots will be reduced through the consolidation of tax lots to a minimum number based on the design of the Hope Village campus and the phasing of the new South Campus area.

16.70.020 – Purpose

Comment: The South Campus development area, becoming part of the greater Hope Village campus, will ". . . . *enable the development of planned unit development in order to permit a degree of flexibility and diversification in the use of land through grouped buildings or large-scale land planning and the arrangements of specific structures and open spaces within such development.*" Hope Village suggests that the plan for the South Campus area, and for the entire campus, is consistent with the purpose stated above, thus meeting the general purpose of the PUD chapter.

16.070.020.B. describes perfectly the intent and purpose of the PUD process for the South Campus area, and for all of the Hope Village campus area. And because the proposed plan for the South Campus area and the modification of the existing facilities on the southerly portion of the existing campus, Hope Village will ". . . . . preserve the natural environment and water quality through the use of Low Impact Development (LID) techniques . . . . ." As noted under the 16.21, Residential Design Standards in addressing Table 16.21.070, Multi-Family Design Menu, the Hope Village plan receives many points for "Low Impact Development", thus being extremely conscious of the value of Low Impact Development. Therefore, Hope Village satisfies, and exceeds, the concept set forth in 16.70.020.C.

- **Chapter 16.72 – Applications**

  Comment: In accordance with this Chapter and its sub-items, the required application procedures of Divisions III and IV, the current application for a PUD meets the current standards (16.72.010). As the owner of all properties involved in these applications, Hope Village has submitted all applications within this consolidated application package (16.72.020). As required by 16.72.030.A., B., and C., all required and necessary information both written and graphic, have been submitted. Therefore, all aspects of this Chapter have been satisfied and fulfilled.

- **Chapter 16.74 – Uses Permitted**

  Comment: As permitted in 16.74.020.A., all uses in the proposed PUD for Hope Village are residential attached units at densities that are blended over the entire PUD of the Hope Village campus. This overall blending of density over the entire Hope Village campus results in a density of approximately 11.5 units per gross acre (48 total acres divided by 552 units). This density remains consistent with the existing density of 11.5 units per gross acre (34 total acres divided by 392 units). There are no "accessory or incidental retail or other nonresidential uses" in the Hope Village PUD (16.74.020.B.). Neither is the project a mobile home subdivision (16.74.020.C.) or a recreational facility (16.74.020.D.).

  16.74.030 does not apply because no zones within the Hope Village campus, or as part of the proposed modified PUD, are part of any zone recognized as a non-residential zone.

- **Chapter 16.76 – Requirements**

  16.76.010 Minimum Requirements

  Comment: Under A., a requirement of 15% of the gross land area shall be devoted to open space. Actual landscaped/open space area within the South Campus, is approximately six (6) acres, or 43% of the total site. This far exceeds the requirement of 15%, or two (2) acres.

  Under B., "*the average area per dwelling unit shall not be less than that allowed within the zoning district, unless alternative lot layout is used pursuant to 16.64.040(B)*." However, 16.64.040(B) is language used for a subdivision in which individual lots are created. No such lot creation will be utilized for this PUD project. Because this PUD project extends over two (2) different zoning districts, the varying "average area per dwelling unit" is unrealistic to apply for this project on a zone-by-zone basis. Hope Village is not so interested in a "bonus" that could be granted under this heading, but in a blending of the zone densities over the entire PUD project area.

  16.76.010.C. seeks to achieve the goals of low impact development through clustering, which is also the goal of Hope Village in designing the layout of the South Campus area. The "hybrid" buildings are clustered in groups of two in four different locations throughout the site as a means of providing a housing situation for seniors that is neither crowded

nor condensed. Instead, open space between these clusters of "hybrid" units achieves a plan whereby the senior residents might move freely among the buildings and experience the feeling of openness and freedom, while having the site work efficiently for stormwater filtration, disposal and management throughout the total site. Because the use of low impact development practices is a goal of Hope Village, those low impact development practices meet or exceed the city's own standards as required under 16.76.010.D.

16.76.020 General Requirements

Comment: Of the eleven (11) specific requirements of this section (A. through K.), only A. and C. should not apply to this PUD proposal because it is a totally private development for senior living and is not a subdivision that creates specific lots for each dwelling unit. No areas such as public parks, schools, or playgrounds are planned for public use other than for the local residents of Hope Village. While the general public is welcome to use the grounds of Hope Village's South Campus for the same purposes as the residents will use them, these grounds are not specifically dedicated to public use.

With regard to length of the hybrid buildings, each three story section of the hybrid buildings is 130 feet in length or less. Three story sections of the hybrid buildings are connected by center "access" sections that are only two stories in height. Fire separation will be constructed between each of the hybrid building's three sections. As such, each hybrid building is actually three separate parts – two three story sections, plus a center two story section in between the two three story sections. Therefore, the buildings are not continuous in length and do not exceed the city's standard.

16.76.020.B.

Comment: All open space with the South Campus area is planned for use by the residents of Hope Village, and the general public provided the public uses the open space in the same manner as the residents use them, and as Hope Village intends them to be used.

16.76.020.C

Comment: This requirement, because it is intended for use with lot-by-lot subdivisions, does not apply to this PUD. However, a general land use plan for the South Campus is a part of this application for PUD approval.

16.76.020.D.

Comment: The types of dwelling units, whether cottages, bungalows, or hybrid multi-story, multi-dwelling unit buildings are well illustrated on the various plans for the project.

16.76.020.E.

Comment: All off-street parking areas are illustrated on the plans. These off-street parking spaces are intended for use by Hope Village residents and guests at Hope

Village. Because all internal streets will be private streets, all off-street parking will also be private.

16.76.020.F.
Comment: Pedestrian pathways are illustrated on the plans. These pathways are intended to be interconnected with existing pathways in the original part of the Hope Village campus, thus providing residents with a full and complete internal walking pathway system. Again, these pathways are open for use by the general public provided they are used in the same manner as Hope Village residents might use them.

16.76.020.G.
Comment: Hope Village intends to develop the South Campus area in four (4) phases, as illustrated on the plans. However, the schedule of development may be impacted by the absorption rates of rental of the units, which, in turn, may be impacted by the general economy. However, given the reputation of Hope Village, the fact that it will be the only senior living project of its type in the Canby area, and that Hope Village currently has an approximate three year waiting list, it is anticipated that the project will proceed in an orderly phase-by-phase progression over time.

16.76.020.H.
Comment: All local utilities for the South Campus development area are shown on the various plans prepared for the project by members of the project team.

16.76.020.I.
Comment: The overall density of the project (South Campus only) is set forth previously in other sections of this narrative report. However, the South Campus will have an overall density of approximately 11.4 units per gross acre. When this is blended with the existing density of the existing campus, overall gross density remains at approximately 11.5 units per gross acre.

16.76.020.J.
Comment: All of the plans prepared for this project, and this application narrative report, contain all of the information needed in order for the Canby Planning Commission to make a unanimous approval of the total application package.

16.76.020.K.
Comment: A Traffic Impact Study (TIS) for this project was required by the city, and had been prepared by Lancaster Mobley & Associates in accordance with a scope that was reviewed and approved by DKS, the city's traffic consultant. This TIS has been submitted and reviewed by DKS, and is part of the total application package for this project.

16.76.030 Standards and Criteria

Comment: All Standards and Criteria (A. though L.) contained in this section are those that apply to the review and approval of the total application package by the Canby Planning Commission. The Planning Commission may make separate findings that the proposed project meets each and every individual Standard and Criteria. While each individual Standard and Criteria is not addressed separately by the applicant, not all individual Standard or Criteria apply to the proposed project. For example, J. and K. refer to "*the conversion of existing residential units to condominiums*, ...", which does not apply to this PUD proposal. On the other hand, F. applies because it states "*Each planned unit development shall be a complete development considering all previous requirements.*" In this case, it can be found that the proposed PUD does, in fact, meet this Standard or Criteria because it is a complete development that meets all requirements.

- **Chapter 16.82 – Special Housing Projects for the Elderly or Handicapped**

16.82.010 Generally

Comment: Hope Village is, itself, a seniors only housing facility that merits consideration for the special requirements it requires to provide for those seniors. The plan for the South Campus development area includes single level dwellings, and hybrid buildings with higher interior ceilings, more windows, elevators and community rooms to afford senior with more opportunities at living experiences similar to apartment characteristics where care of the facilities is of less concern. Because seniors often own fewer vehicles, and may use them less often, parking spaces are fewer but remain near to the dwelling units and closer to the hybrid buildings. Rather than provide large parking lots, as may be a normal practice for apartment living, parking "pockets" are scattered throughout the South Campus area to avoid the expanse of asphalt parking lots. Internal private streets will be controlled by Hope Village to allow for considerably less street side parking and insure a more open transportation opportunity for emergency vehicles and other service providers.

16.82.030 Standards and Criteria for Review

Comment: Because the proposed project requires a Conditional Use, but not a subdivision approval, the requirements for a Conditional Use have been addressed through the standards, requirements, and criteria of 16.50 of the Canby Code. There will be no new division of property, but rather, a consolidation of several tax lots within the entire Hope Village campus, including the 14-acre South Campus development area.

16.82.040 Modification of Standards

Comment: As noted in the section, development standards normally applied to a PUD for senior housing such as the one proposed for Hope Village's South Campus may be modified by the Canby Planning Commission based on a request by Hope Village. The six (6) items that may be modified do not all apply to the application(s) by Hope Village.

16.82.040.A. Increased density . . . . .
Comment: Because the proposed PUD for Hope Village does not plan to increase the permitted density at all throughout the entire Hope Village campus, this standard may not apply. However, some increase in density within the phases of the South Campus may be identified.

16.82.040.B. Decrease the amount of required parking . . . . .
Comment: Overall, parking for the South Campus area is proposed to be less than that required for the site specific zone within each phase. However, each townhome or duplex dwelling unit will provide two off-street parking spaces, while the hybrid buildings will provide slightly less than the required number of parking spaces on a per-unit basis.

It is important to note that numerous parking "pockets" are planned throughout the site to accommodate visitor and resident overflow parking. These parking pockets will allow for more parking than would normally be required. In the end, this project, when combined with the existing PUD of the existing campus, will bring parking requirements closer to that required by the Canby Code.

16.82.040.C. Decrease the area required for outdoor recreation . . . . .
Comment: The outdoor open space and recreation area, including pedestrian pathways, in the South Campus area and those outdoor areas that are proposed for modification within the existing campus area will far exceed the city's requirements for open space and outdoor recreation. Because a senior living area does not require places for organized activities such as volleyball courts or ball fields, the outdoor recreation areas within Hope Village involve more passive activities such as walking. Bicycling may also be an acceptable outdoor recreation area, utilizing the private streets and pedestrian pathways within the total campus.

16.82.040.D. Increase the amount of permitted lot coverage . . . . .
Comment: Through the use of the three story hybrid buildings, lot coverage may actually be reduced somewhat on the premise that each hybrid building in itself covers less total area than the 15 units within the building might cover individually if built as cottage or duplex dwelling units. Part of the idea behind the hybrid buildings is to provide more units usi8ng less land area.

16.82.040.E. Require special emergency access drives . . . . .
Comment: The entire private street system within Hope Village, including the South Campus, will be designed to meet requirements of the fire district and any other service providers. This will include location of fire hydrants and any other emergency and safety improvements, whether in the private streets or anywhere else within the campus. Ultimately, fire access will be provided at the required three (3) fire access points for the site.

16.82.040.F. Impose such special conditions . . . . .

Comment: While it is the Planning Commission's prerogative to impose any special conditions for the health, safety and enjoyment of the senior residents and guests to Hope Village, no specific conditions are apparent or have been highlighted as part of the application process.

16.82.050 Higher than Normal Densities

Comment: Any densities that are higher than normally permitted are blended into the overall PUD for the entire Hope Village Campus. Because Hope Village is totally a senior housing project, it has been found that locational proximity to commercial services is not a high priority for residents. As such, any higher densities should have little to no impact on overall development patterns, or need or demand for commercial services.

16.82.060 Restrictions on Occupancy

Comment: Hope Village supports the idea of restrictions on occupancy of the Hope Village campus because it is intended to be a place for seniors to live. Hope Village has its own set of occupancy rules and restrictions, and those will continue through application to the additional units developed in the South Campus development area.

- **Division VIII. – General Standards**
- **Chapter 16.88 Standards and Procedures: General Text Amendments, Comprehensive Plan Amendments, and Transportation Planning**

16.88.030 Applications and Fees

Comment: This section calls for applications for "conditional use permits and design review", amongst other actions not applicable to Hope Village in this application package. Applications to the City of Canby are made on the city's standard application form, signed by Craig Gingerich, Executive Director of Hope Village, and accompanied by the appropriate fees.

This total application package does not include any requests for zone change, comprehensive plan amendments, or any other requests related to the Canby Municipal Code or the Canby Comprehensive Plan.

16.88.190 Conformance with Transportation System Plan and Transportation Planning Rule

Comment: The Traffic Impact Study (TIS) prepared for this project by Lancaster Mobley after consultation with the city's traffic consultant DKS, reviews and analyzes any and all traffic issues that may relate to the City of Canby Transportation System Plan (TSP) and the State's Transportation Planning Rule (TPR). While this project does not involve a " *. . . . .proposed comprehensive plan amendment, zone change, or land use regulation change . . . . .",* but does request a conditional use permit and a modified planned unit development (PUD), it has been agreed that a TIS be prepared for this project. At the time of this application, the TIS prepared by Lancaster Mobley is under

review by DKS. Any further action relative to the TIS will be reported as part of the completeness review process.

However, this project does not propose any "*change to the functional classification of any existing or planned transportation facility"* as a result of the project, nor any "*changes to standards implementing a functional classification system".* In short, the TIS shows that the site generated traffic will have no significantly adverse impact on any local transportation elements of the TSP. Because this project is a housing project for seniors, it is expected that site generated traffic volumes will be somewhat less than for a similar development where non-seniors might reside. Thus, it is expected that there will be less overall impacts on local traffic as a result.

- **Chapter 16.89 Application and Review Procedure**

  16.89.020 Description and Summary of Processes

  Comment: This application package, including a "Conditional Use Permit" and a "Modification of an Existing PUD", as well as "Site and Design Review" for the hybrid structures will be a Type III Procedure (Quasi-Judicial/Legislative) where such decision(s) "*are made by the Planning Commission after a public hearing, with appeals reviewed by the City Council."*

  According to Table 16.89.020 "*Land Use and Development Application Procedures*", a "Conditional Use Permit" is a Type III process that requires a Notice Radius of 500 feet, but does not require a Neighborhood Meeting. A "Planned Unit Development (Modification)" is a Type III process with a Notice Radius of 200 feet, but requires a Neighborhood Meeting. "Site and Design Review – Type III" is a Type III process with a Notice Radius of 500 feet, and requiring a Neighborhood Meeting. For these applications, the city will complete local public notifications within the notice radius required.

  As required for this total project, a neighborhood meeting was held by Hope Village on November 19, 2019 to brief all those in attendance of the proposed project of expansion.

  16.89.050 Type III Decision

  Comment: As required by 16.89.050.A, a Pre-Application Conference was held on July 16, 2019 at the City of Canby Facilities. Similarly, the required Neighborhood Meeting (16.89.050.B.) was held on November 19, 2019 in the Community Room of Hope Village. A summary of that neighborhood meeting, and the sign in sheet are attached to this application.

  As required in 16.89.050.C., the standard application form for the City of Canby has been completed and signed by Craig Gingerich, Executive Director for Hope Village. The signed application form is accompanied by the appropriate fee(s). Also, as part of the application form is a package including, but not limited to, an application narrative,

architectural drawings and renderings of the proposed new three story hybrid buildings, certain engineering drawings as required by the City of Canby and its related utilities.

The City of Canby will provide notification in accordance with 16.89.050.D.1., and will fulfill the requirements of 16.89.050.2., 3., 4., and 5., while the applicant (Hope Village) will post notice on the property, as required by 16.89.050.D.6.

The city shall be responsible for conduct of the public hearing in accordance with 16.89.050.E., and the decision making process shall be conducted in accordance with 16.89.050.F. Finally, a Notice of Decision shall be completed in accordance with 16.89.050.G.

- **Transportation System Plan**
  Comment: Any issues regarding the Transportation System Plan (TSP) or the Transportation Planning Rule (TPR) should have been raised through the DKSD review of the Lancaster Mobley Traffic Impact Study (TIS). Those issues, raised at the appropriate time and through the TIS process, should have been addressed and settled.

HOPE VILLAGE SOUTH EXPANSION

1535 S. Ivy Street

Canby, OR 97013

PHASE: SITE PLAN REVIEW

CLIENT: HOPE VILLAGE

VICINITY MAP

PROJECT CONTACT INFORMATION

OWNER:
HOPE VILLAGE
1535 S. IVY STREET
CANBY, OREGON 97013
PHONE: (503) 266-9810
CONTACT: CRAIG GINGERICH

ARCHITECT:
PINNACLE ARCHITECTURE, INC
960 SW DISK DRIVE, SUITE 101
BEND, OREGON 97702
PHONE: (541) 388-9897
CONTACT: RYAN CAIN

CIVIL:
SISUL ENGINEERING
375 PORTLAND AVENUE
GLADSTONE, OREGON 97027
PHONE: (503) 657-0188
CONTACT: PATRICK SISUL

STRUCTURAL:
ASHLEY & VANCE ENGINEERING, INC.
33 NW FRANKLIN AVE, SUITE 110
BEND, OREGON 97703
PHONE: (541) 647-1445
CONTACT: JOHN FISCHER

MEP:
SYSTEM DESIGN CONSULTANTS INC.
333 SE SECOND AVE, SUITE 100
PORTLAND, OREGON 97214
PHONE: (503) 248-0227
CONTACT: JEFF DAVIS

PROJECT INFORMATION

DESCRIPTION:
EXPANSION OF EXISTING MULTI-FAMILY SENIOR LIVING COMMUNITY. NEW BUILDINGS TO INCLUDE (4) 3-STORY APARTMENT BUILDINGS WITH A COMMUNITY CENTER AND PARKING STRUCTURE WITH 31 UNITS (HYBRID BUILDING) AND (18) 2-UNIT HOMES (COTTAGE E & COTTAGE F). THERE WILL BE A TOTAL OF 160 DWELLING UNITS AND RELATED SITE IMPROVEMENT AFTER ALL CONSTRUCTION PHASES HAVE COMPLETED.

OCCUPANCY TYPE:
R-2 APARTMENT HOUSES

CONSTRUCTION TYPE:
V-B

ZONING:
SEE ARCHITECTURAL SITE PLAN SHEET AS1.10

BUILDING INFORMATION

BUILDING	NEW
HYBRID BUILDING (31 UNITS EACH):	
(4 BUILDINGS) X 67,270 SF EACH	269,080 SF
COTTAGE E (2 UNITS EACH):	
(10 BUILDINGS) X 4,700 SF EACH	47,000 SF
COTTAGE F (2 UNITS EACH):	
(8 BUILDINGS) X 3,300 SF EACH	26,400 SF
TOTAL (GROSS)	**342,480 SF**
160 UNITS	

DRAWING INDEX

GENERAL
G0.00 COVER

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AS1.10 ARCHITECTURAL SITE PLAN

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C1.1A PHASE 1A PLAN
C1.2 PHASE 2 PLAN
C1.3 PHASE 3 PLAN
C1.4 PHASE 4 PLAN
C2.1 REPLAT
C2.2 SETBACK PLAN
C3.1 PHASE 1 UTILITIES
C3.1A PHASE 1A UTILITIES
C3.2 PHASE 2 UTILITIES
C3.3 PHASE 3 UTILITIES
C3.4 PHASE 4 UTILITIES
C4.1 GRADING PLAN

ARCHITECTURAL
A1.10 FLOOR PLANS- COTTAGE E & COTTAGE F
A1.17 LEVEL 1 FLOOR PLAN- CURVED HYBRID BUILDING (LEFT WING)
A1.18 LEVEL 1 FLOOR PLAN- CURVED HYBRID BUILDING (RIGHT WING)
A1.19 LEVEL 2 FLOOR PLAN- CURVED HYBRID BUILDING (LEFT WING)
A1.20 LEVEL 2 FLOOR PLAN- CURVED HYBRID BUILDING (RIGHT WING)
A2.10 EXTERIOR ELEVATIONS- COTTAGE E & COTTAGE F
A2.17 HYBRID EXTERIOR ELEVATION & RENDERINGS

pinnacle architecture, inc.

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HOPE VILLAGE SOUTH EXPANSION
CLIENT:
HOPE VILLAGE

PROJECT ADDRESS:
1535 S. Ivy Street
Canby, OR 97013

APPROVED FOR	DATE	BY
SITE PLAN REVIEW	05/06/2020	RYAN CAIN

DESCRIPTION	DATE

PROJECT NO: 1910.HVM
DRAWN BY: Author
CHECKED BY: RYAN CAIN

 ORIGINAL SHEET SIZE: 30"x42"

COVER

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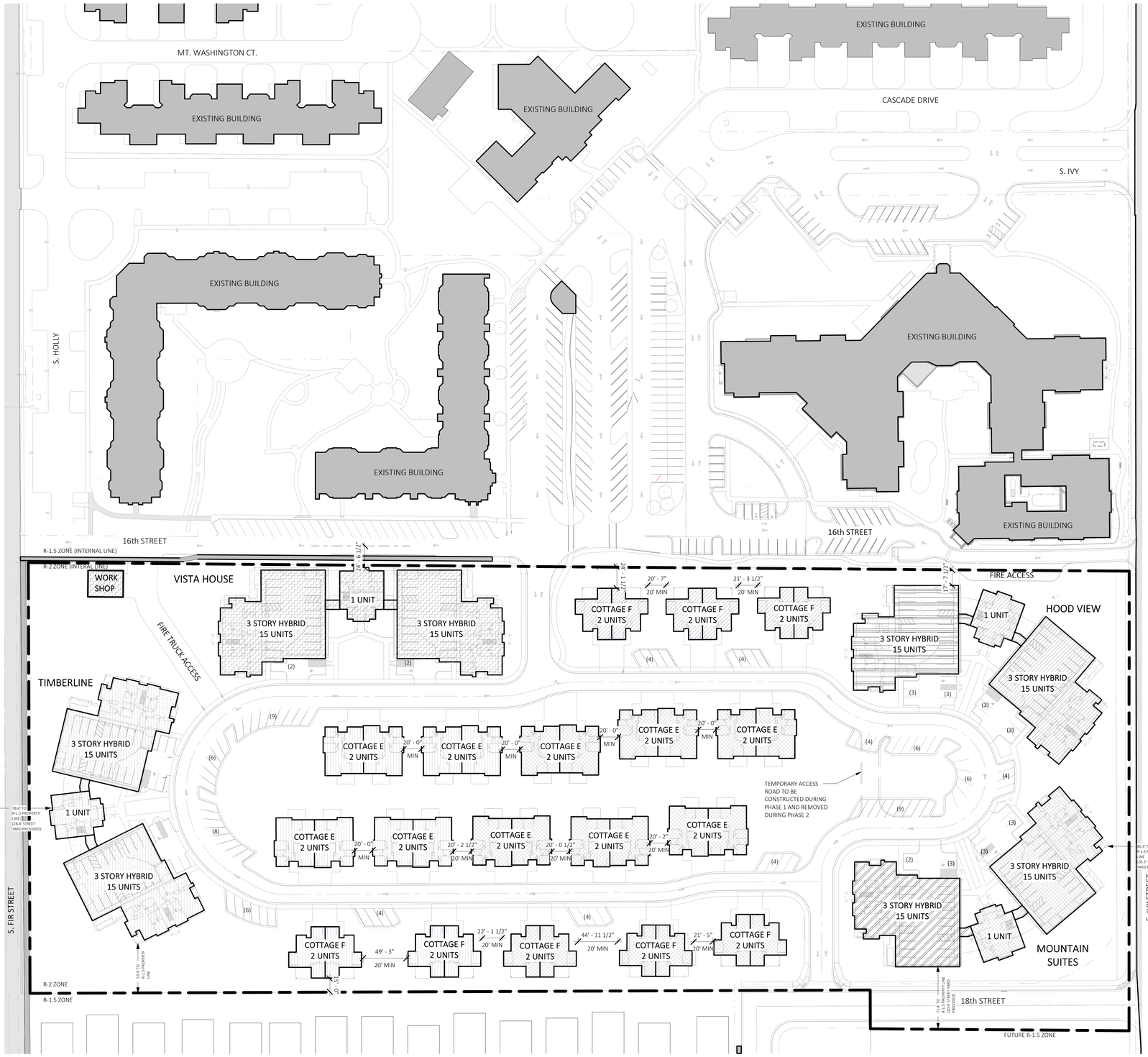

1 SITE PLAN
1" = 50'-0"

CONSTRUCTION PHASING

PHASING #1 28 UNITS CONSTRUCTED
(1) 15-UNIT HYBRID AND CENTER COMPONENT [7,500 SF GARAGE, 22,900 SF UNITS, HYBRID CONNECTOR 6,470 SF] , (3) 2-UNIT COTTAGE F HOMES [3,300 SF], (3) 2-UNIT COTTAGE E HOMES [4,700 SF]
TOTAL GROSS AREA = 60,870 SF

PHASING #1A 15 UNITS CONSTRUCTED
(1) 15-UNIT HYBRID PORTION [7,500 SF GARAGE, 22,900 SF UNITS]
TOTAL GROSS AREA = 30,400 SF
END OF PHASE 1 TOTAL CONSTRUCTED UNITS = 43
TOTAL GROSS AREA = 91,270 SF

PHASING #2 43 UNITS CONSTRUCTED
(1) 31-UNIT HYBRID BUILDING [67,270 SF], (3) 2-UNIT COTTAGE F HOMES [3,300 SF], (3) 2-UNIT COTTAGE E HOMES [4,700 SF]
TOTAL GROSS AREA = 91,270 SF
END OF PHASE 2 TOTAL CONSTRUCTED UNITS = 86
TOTAL GROSS AREA = 182,540 SF

PHASE #3 43 UNITS CONSTRUCTED
(1) 31-UNIT HYBRID BUILDING [67,270 SF], (2) 2-UNIT COTTAGE F HOMES [3,300 SF], (4) 2-UNIT COTTAGE E HOMES [4,700 SF]
TOTAL GROSS AREA = 92,670 SF
END OF PHASE 3 TOTAL CONSTRUCTED UNITS = 129
TOTAL GROSS AREA = 275,210 SF

PHASING #4 31 UNITS CONSTRUCTED
(1) 31-UNIT HYBRID BUILDING [67,270 SF]
TOTAL GROSS AREA = 67,270 SF
END OF PHASE 4 TOTAL CONSTRUCTED UNITS = 160
TOTAL GROSS AREA = 342,480 SF

NEW PARKING COUNT

GARAGE PARKING	100
DRIVEWAY PARKING	71
STREET PARKING	78
TOTAL NEW PARKING	**249 TOTAL (89 OVER)**

UNIT MATRIX

(4) HYBRID BUILDINGS @ 67,270 SF (124 UNITS)
(10) 2-UNIT COTTAGE E HOMES @ 4,700 SF (20 UNITS)
(8) 2-UNIT COTTAGE F HOMES @ 3,300 SF (16 UNITS)

22 BUILDINGS / 160 UNITS
RECREATION SPACE (150SF PER UNIT) = 24,000 SF ALLOWED

ZONING CODE ANALYSIS

ZONE: R-2 HIGH DENSITY RESIDENTIAL

USE: MULTI-FAMILY COMPLEX (160+ UNITS)

DENSITY: MIN. RESIDENTIAL DENSITY 14 UNITS PER ACRE

LOT SIZE: 13.4 ACRES (583,704 SF)

LANDSCAPE AREA: MULTI FAMILY BUILDINGS SHALL PROVIDE 150 SF OF RECREATION SPACE PER DWELLING UNIT.

BUILDING HEIGHT: 35'
CANBY CODE 16.50.060 A CONDITIONAL USE STATES, "THE HEIGHT LIMITATIONS OF ANY ZONE MAY BE EXCEEDED BY A CONDITIONAL USE TO A MAX. HT. OF 75'; PROVIDED THAT EACH YARD IS INCREASED OVER THE YARD REQMT. BY THE ADDITION OF 5' FOR EVERY 5/ OR FRACTION THEREOF ADDITIONAL HT. OVER THE MAX. HT. ALLOWED IN THE ZONE."

SETBACKS:
FROM R-1 OR R1.5 PROPERTY LINE: 42.5'
STREET YARD: 20'
INTERIOR YARD: 7'
REAR YARD: 15'

PARKING REQUIREMENTS: 1 PER UNIT

SOLAR SETBACKS: N/A

BUILDING CODE ANALYSIS

COTTAGES:
BUILDING OCCUPANCY: R-2
CONSTRUCTION TYPE: VB

BUILDING LIMITATION:
BASE ALLOWABLE FLOOR AREA: 7,000 SF PER STORY [BUILDING SPRINKLERED: NFPA 13R]

ALLOWABLE BUILDING HEIGHT: 60', 3 STORIES

PROPOSED BUILDINGS:
TYPE E: AREA = 4,700 SF ; HEIGHT = 20'-9" / 1 STORY
TYPE F:

HYBRID APARTMENTS:
BUILDING OCCUPANCY: R-2 & B
CONSTRUCTION TYPE: VB

BUILDING LIMITATION:
BASE ALLOWABLE FLOOR AREA: 7,000 SF [BUILDING SPRINKLERED: NFPA 13R]

ACTUAL BUILDING AREA:
TYPE E:
TYPE F:

NOTE: REFER TO OVERALL BUILDING FLOOR PLANS FOR REQUIRED FIRE RATINGS AND LOCATIONS.

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ARCHITECTURAL SITE PLAN

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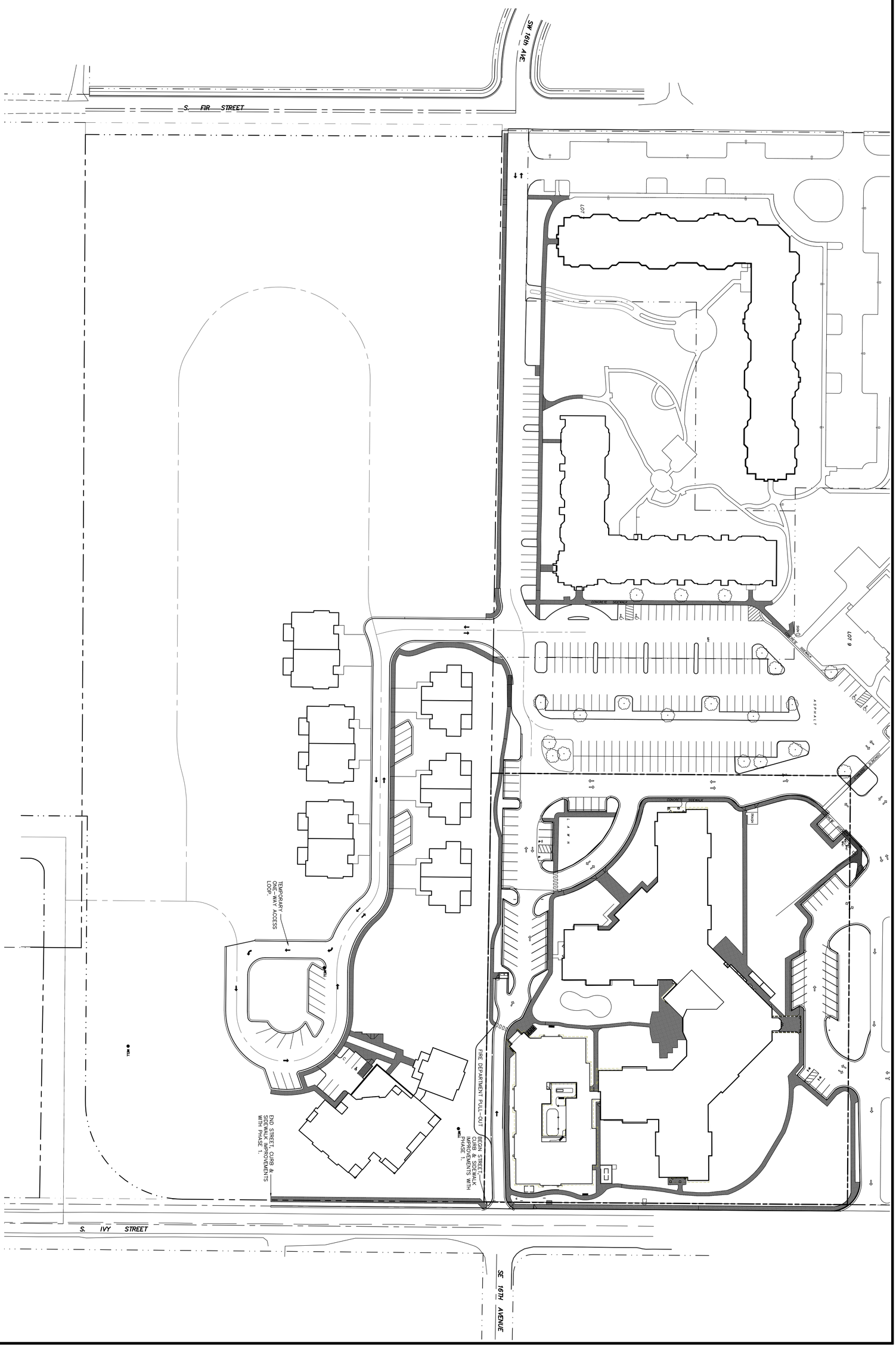

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DRAWING: Civil Site Plan.dwg

DATE MAR., 2020
SCALE 1" = 50'
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OF 13 SHEETS

Phase 1 Plan

Hope Village South Expansion
Hope Village, Inc.

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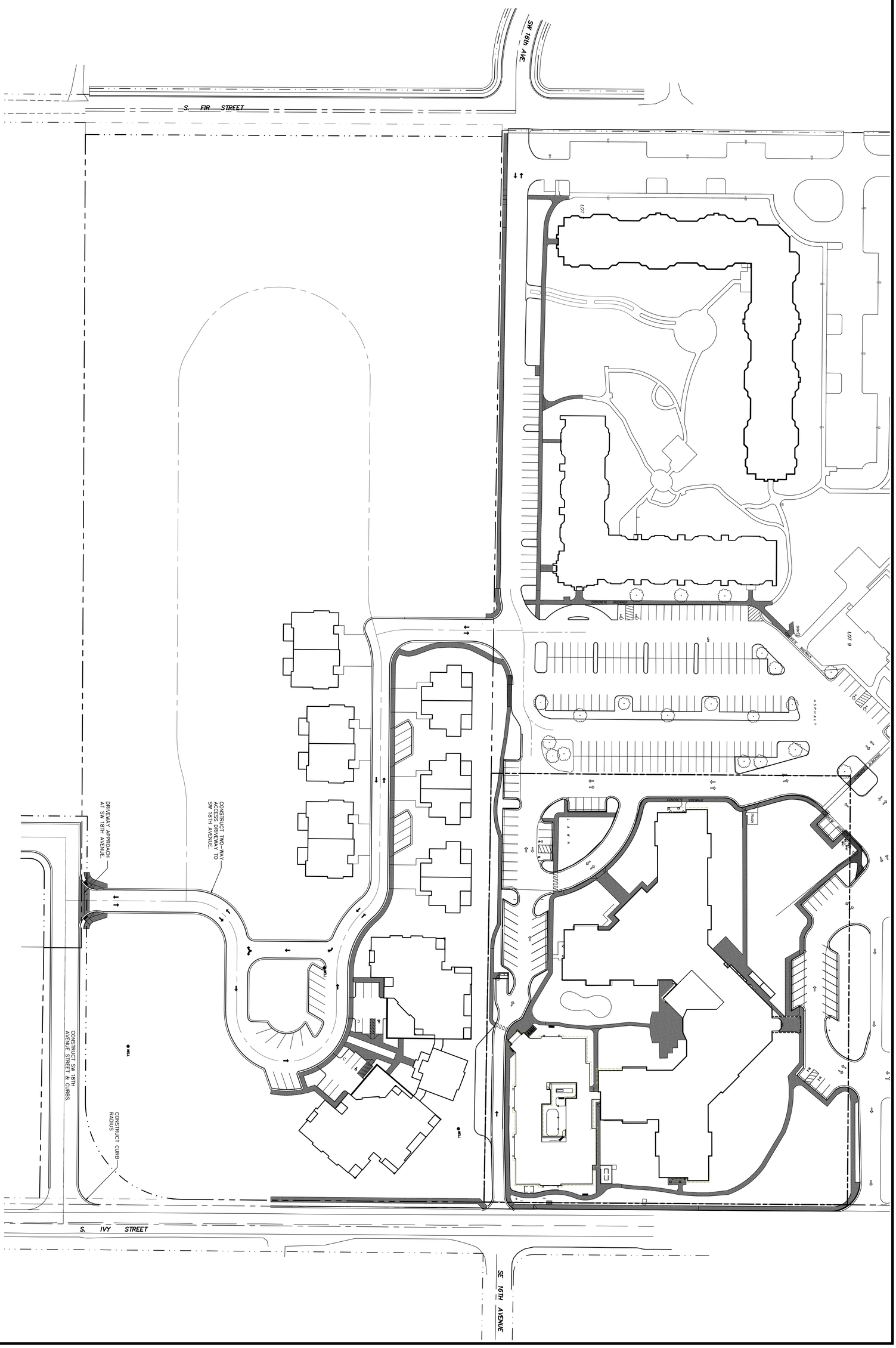

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Phase 1A Plan

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Phase 2 Plan

LOT 9

LOT

ASPHALT

SIGN

MH

TRASH

LAWN

WELL

SW 16th AVE.

S. FIR STREET

SE 16TH AVENUE

S. IVY STREET

COMPLETE ON-SITE ONE-WAY LOOP STREET

CHANGE THIS SECTION OF ROADWAY TO ONE-WAY ONLY CIRCULATION.

REMOVE TEMPORARY ACCESS ROAD IN THIS AREA.

BEGIN NEW STREET, CURB & SIDEWALK IMPROVEMENTS.

COMPLETE ON-SITE ONE-WAY LOOP STREET

END NEW STREET & CURB IMPROVEMENTS.

CONSTRUCT SIDEWALK ALONG SW 18TH AVE.

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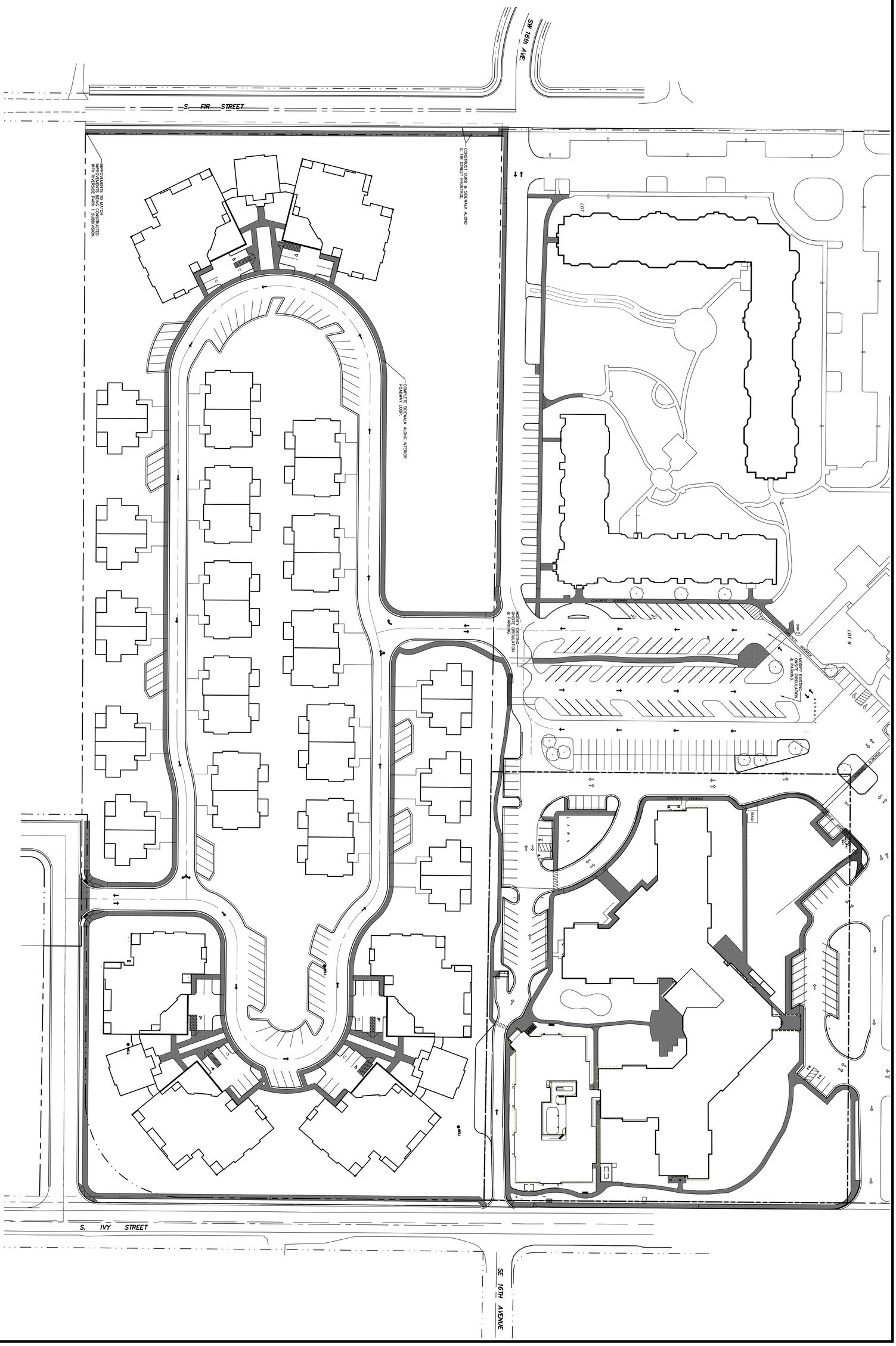

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Phase 3 Plan

Hope Village South Expansion
Hope Village, Inc.

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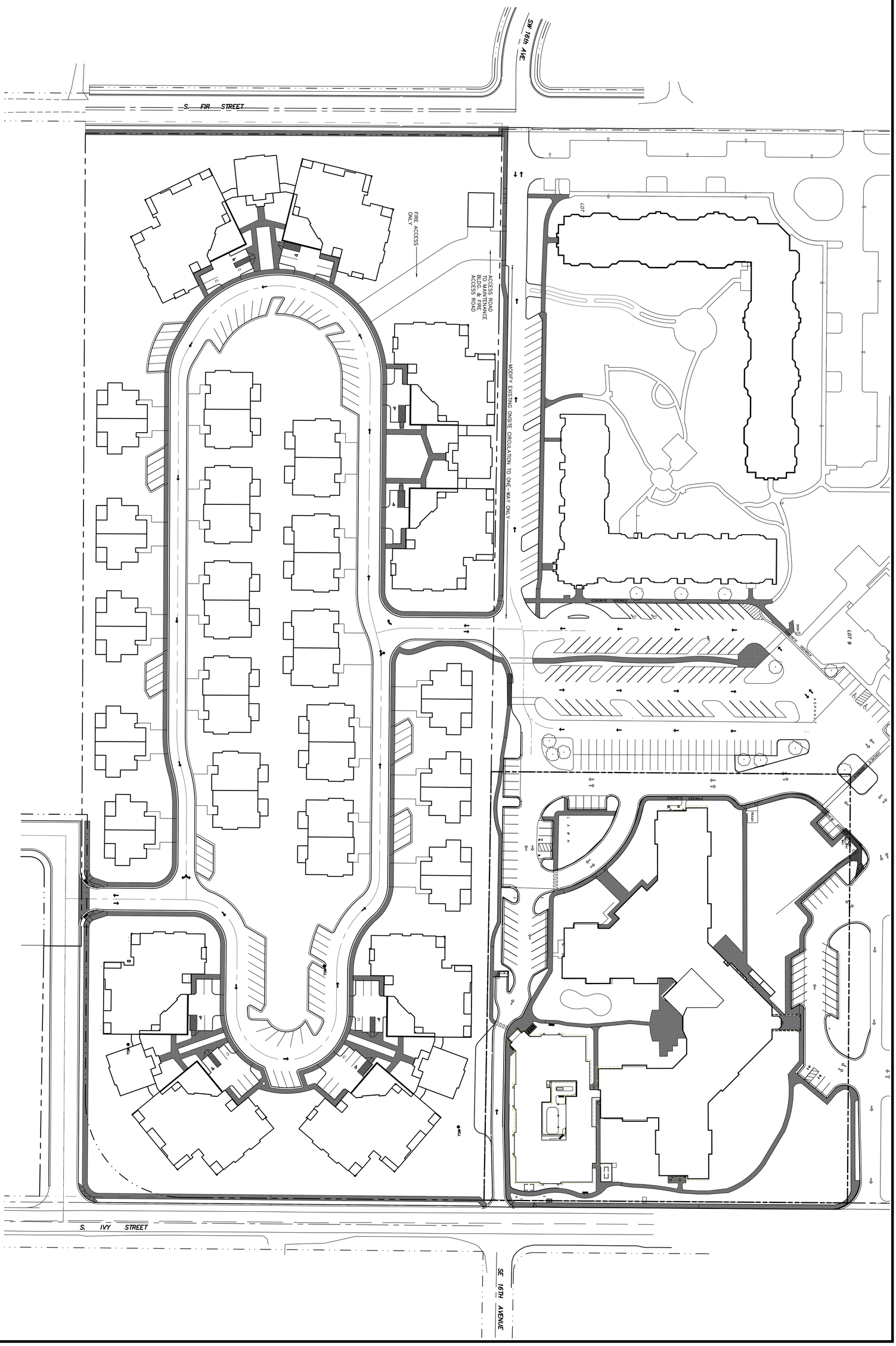

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Phase 4 Plan

Hope Village South Expansion
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Replat

PARCEL 1
4.14 Ac.

PARCEL 2
6.51 Ac.

PARCEL 3
5.84 Ac.

LOT 9

LOT

ASPHALT

SIGN

MH

TRASH

L A W N

SW 16th AVE.

SE 16TH AVENUE

S. FIR STREET

S. IVY STREET

REMOVE LOT LINE BY REPLATTING

CREATE NEW LOT LINE BY PARTITION PLAT

DEDICATE ADDITIONAL RIGHT-OF-WAY FOR S FIR STREET BY PARTITION PLAT.

THIS PORTION OF RIGHT-OF-WAY TO BE DEDICATE BY RIVERSIDE PARK SUBDIVISION, PER AGREEMENT WITH HOPE VILLAGE, INC.

DEDICATE RIGHT-OF-WAY FOR SW 18TH AVENUE BY PARTITION PLAT.

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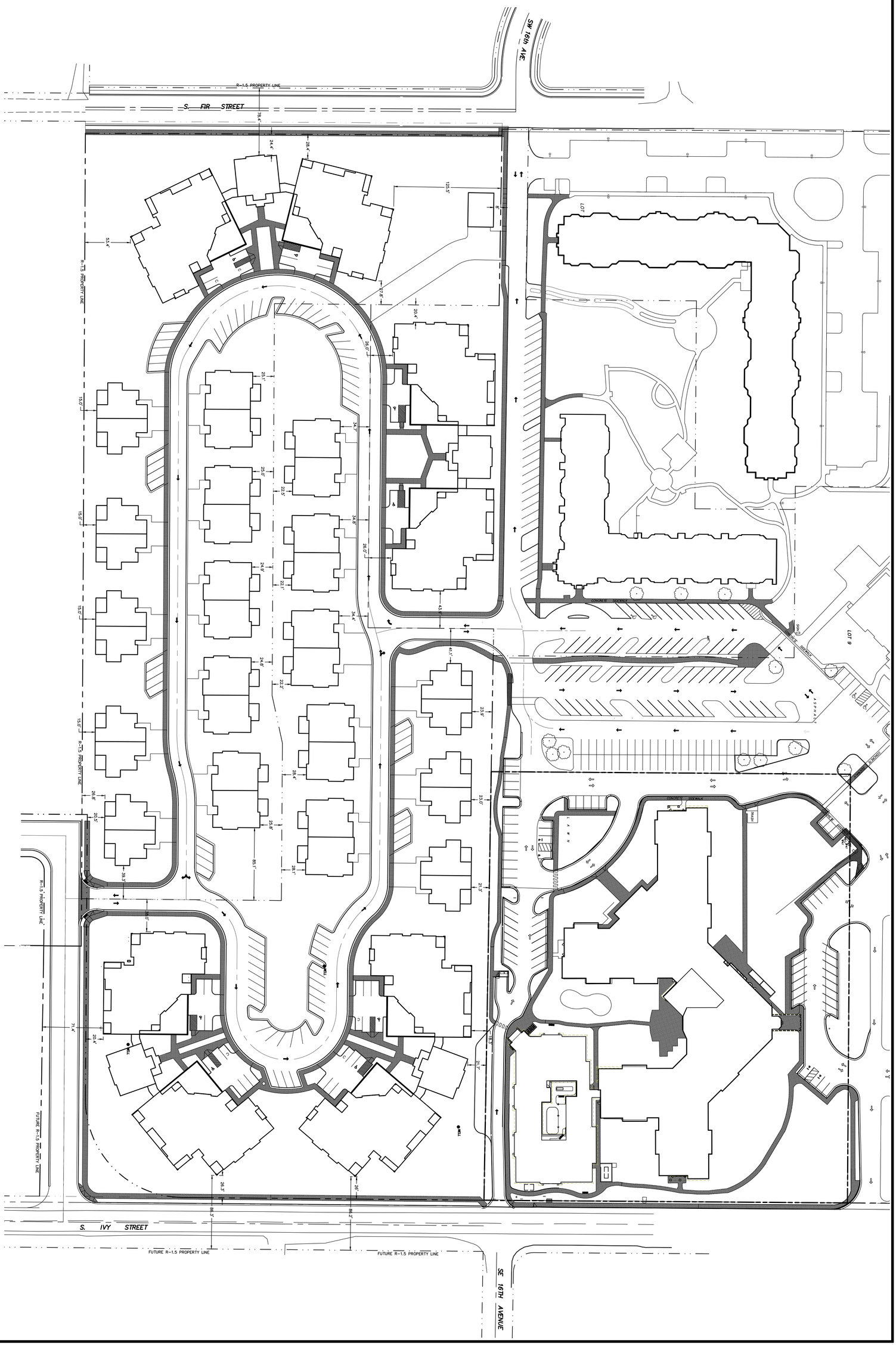
DRAWING Cover Sheet.dwg

DATE	MAR., 2020
SCALE	1" = 50'
DRAWN	PS
JOB	SGL18-073
SHEET	C2.1
OF	13 SHEETS



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Setback Plan

Hope Village South Expansion
Hope Village, Inc.

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Hope Village, Inc.

Phase 1 Utilities

SW 16th AVE.

S. FIR STREET

SE 16TH AVENUE

S. IVY STREET

LOT 9

LOT

ASPHALT

L A W N

TRASH

CONNECT NEW CB TO EXISTING STORM

WATER QUALITY MANHOLE & DRYWELL SUMP

PUBLIC SAN MH
8" IE 168.91 (NW)
8" IE 169.01 (E)

END PUBLIC SAN
8" IE 170.05 (W)
8" IE 170.15 (E)

NEW FIRE HYDRANT

DRYWELL SUMP

PUBLIC SANITARY SEWER MAIN

CONNECT TO PUBLIC SANITARY SEWER BEING INSTALLED BY RIVERSIDE PARK SUBDIVISION.
8" IE 166.28

CONNECT TO EXISTING WATER MAIN

CATCH BASIN AT END OF CURB

W.Q. MANHOLE

DRYWELL SUMP

NEW WATER MAIN

FIRE BACKFLOW VAULT

FIRE & DOMESTIC WATER SERVICES

NEW FIRE HYDRANT

END PHASE 1 PUBLIC WATER IMPROVEMENTS

TEMPORARY END OF WATER LINES.

WATER QUALITY MANHOLE & DRYWELL SUMP

DOMESTIC METER & BACKFLOW VAULT

SEWER LATERAL TO BE INSTALLED WITH SEWER MAIN EXTENSION. (TYPICAL)

END PHASE 1 UNDERGROUND POWER-EXTENSION. TO BE EXTEND SOUTH-BY OTHERS.

END PHASE 1 PUBLIC SANITARY SEWER IMPROVEMENTS TO BE EXTENDED BY OTHERS.

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OF	13 SHEETS

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Hope Village South Expansion
Hope Village, Inc.

Phase 1A Utilities

WATER MAINS TO BE INSTALLED WITH PHASE 1A.

END WATER MAINS & SD WITH PHASE 1A.

CONNECT WATER MAIN TO WATER MAIN TO BE INSTALLED IN RIVERSIDE PARK #2

INSTALL FIRE HYDRANT

WATER MAIN CROSS WITH (4) GATE VALVES

W.Q. MANHOLE

DRYWELL

W.Q. MANHOLE

SW 16th AVE.

SE 16TH AVENUE

S. FIR STREET

S. IVY STREET

LOT 9

LOT

ASPHALT

SIGN

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WELL

SD

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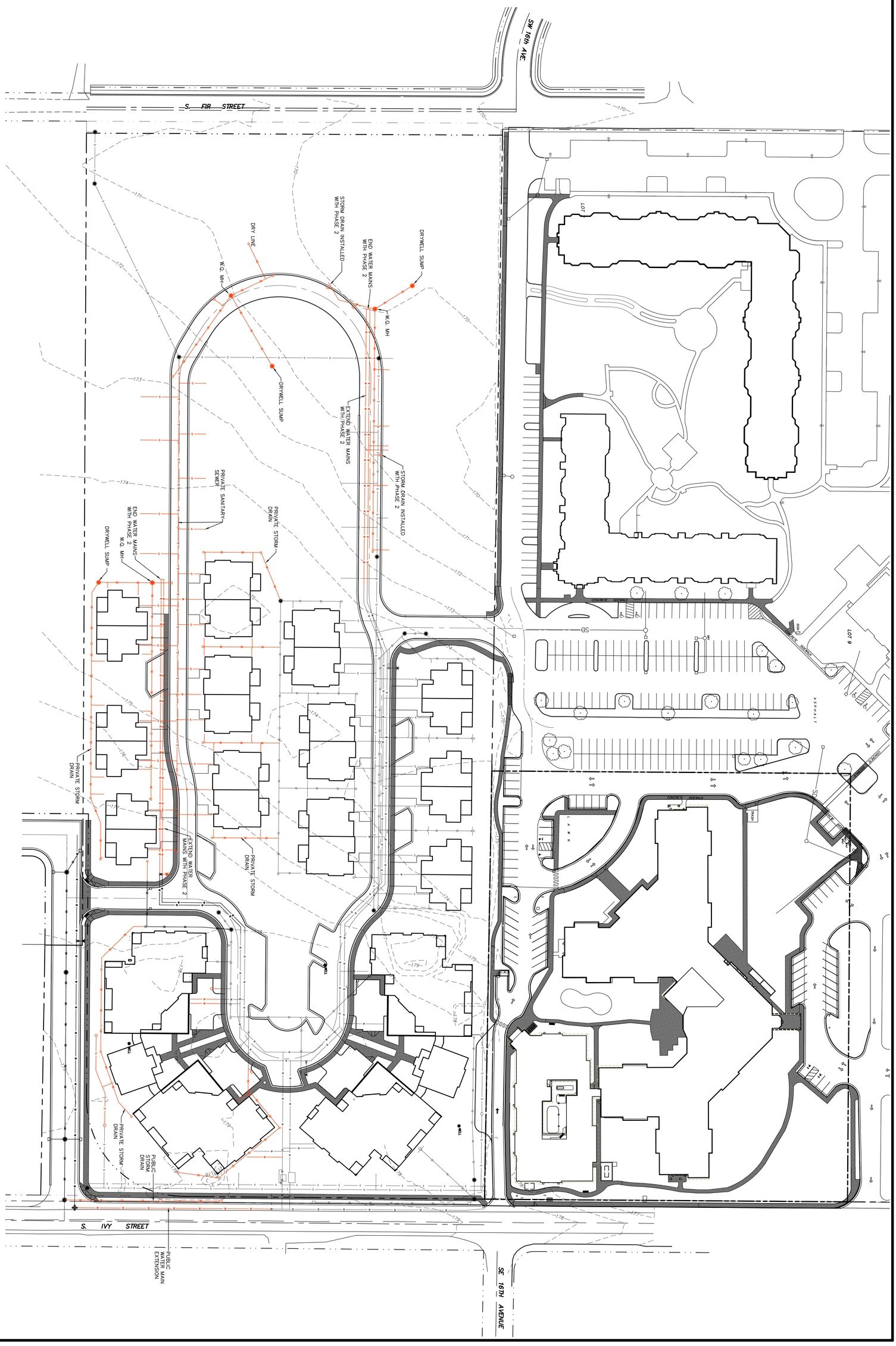

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Phase 2 Utilities

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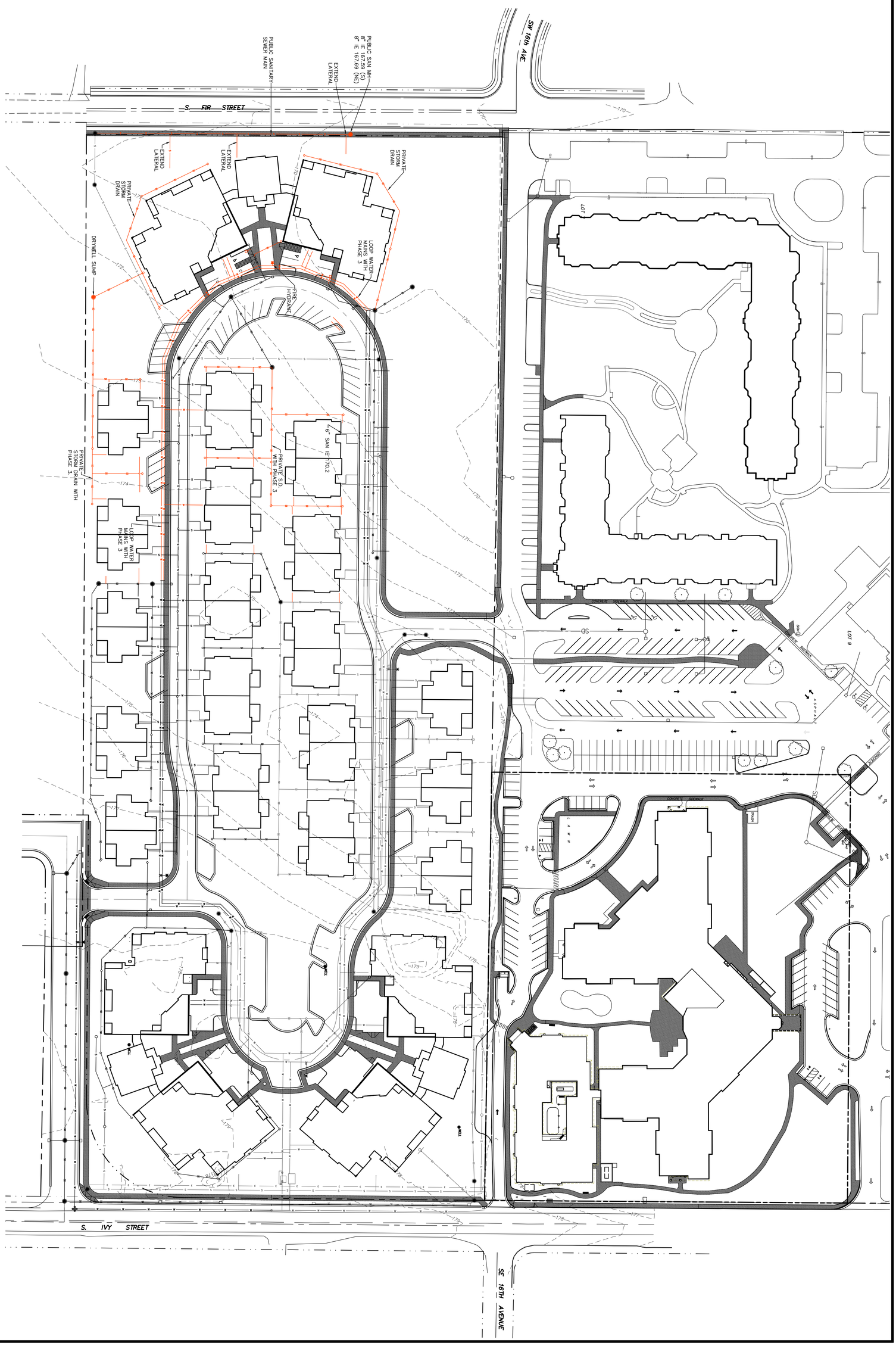

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Phase 3 Utilities

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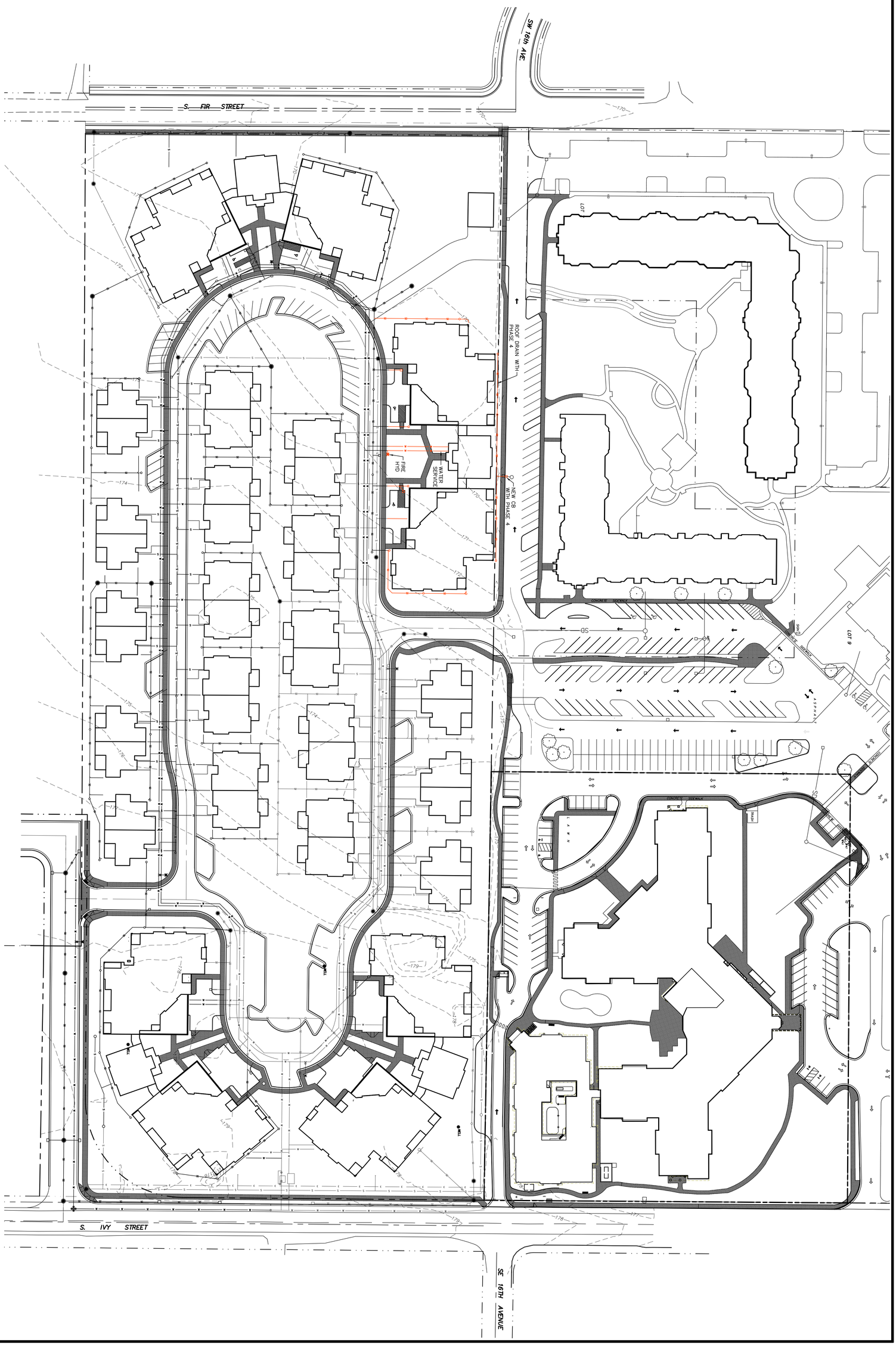

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OF 13 SHEETS

Phase 4 Utilities

Hope Village South Expansion
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Grading Plan

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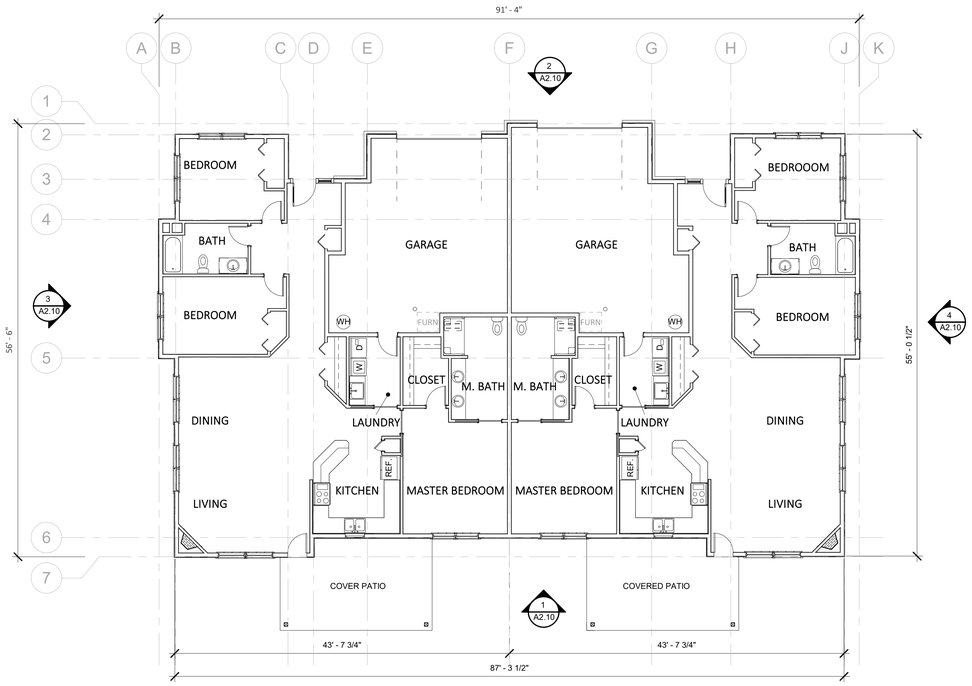
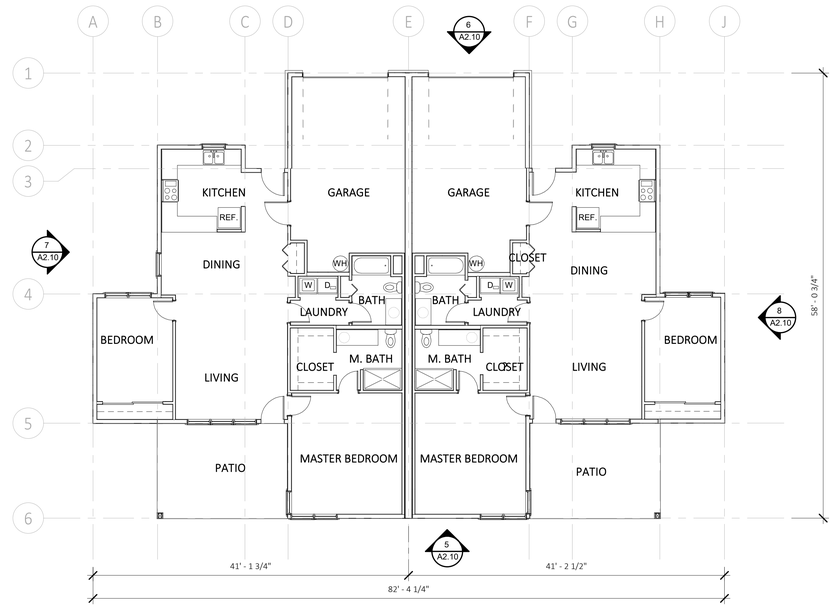


1 FLOOR PLAN- COTTAGE F
1/8" = 1'-0"



2 FLOOR PLAN- COTTAGE E
1/8" = 1'-0"

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REGISTERED ARCHITECT
PETER E. BAER
OREGON
3079
STATE OF OREGON
NOT FOR CONSTRUCTION

HOPE VILLAGE SOUTH EXPANSION

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APPROVED FOR	DATE	BY
SITE PLAN REVIEW	04/03/2020	RYAN CAIN

	DESCRIPTION	DATE
1		

PROJECT NO: 1910.HVM
DRAWN BY: TIFFANY FARLEY
CHECKED BY: RYAN CAIN

 ORIGINAL SHEET SIZE: 30"x42"

FLOOR PLANS - COTTAGE E & COTTAGE F

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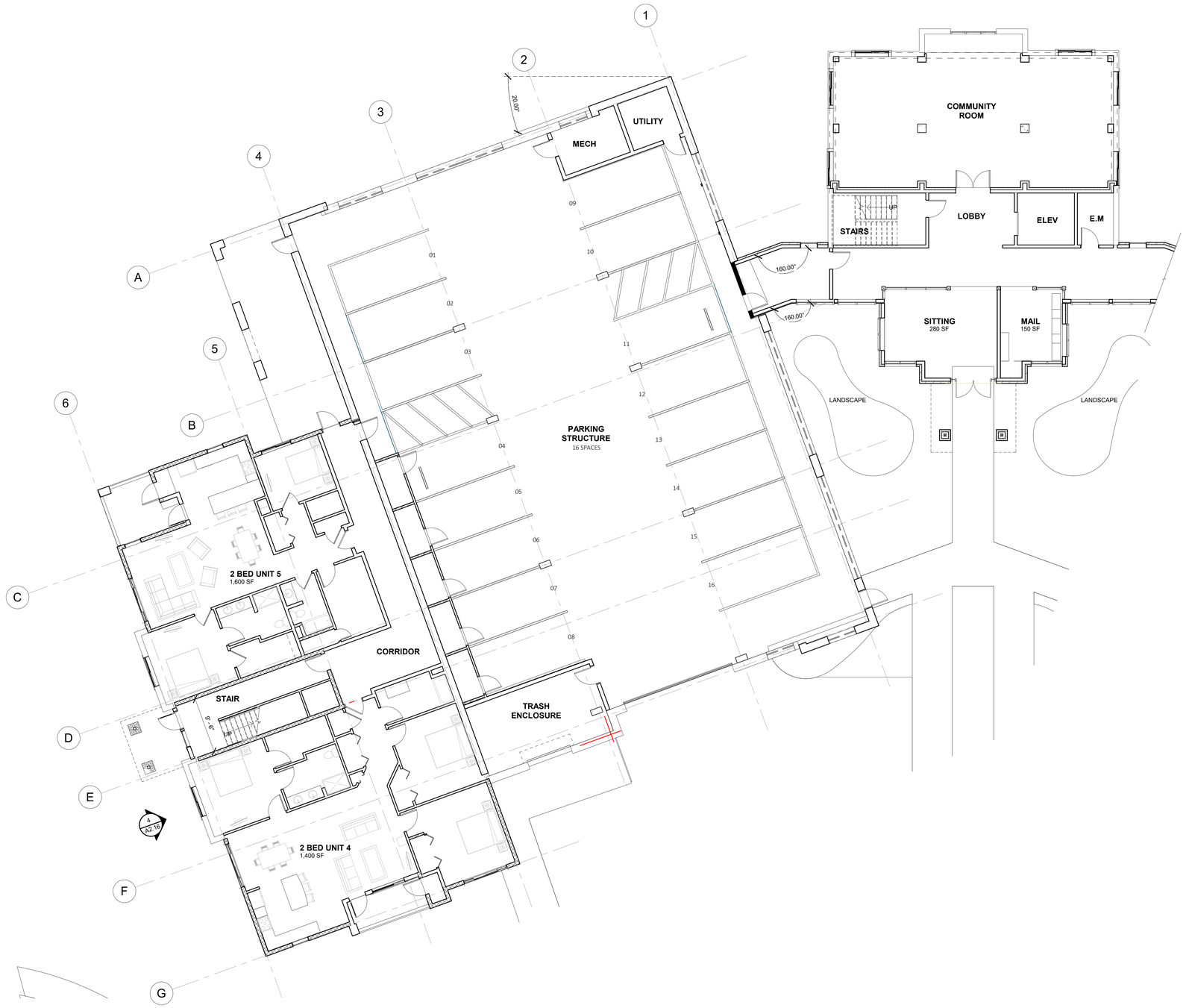
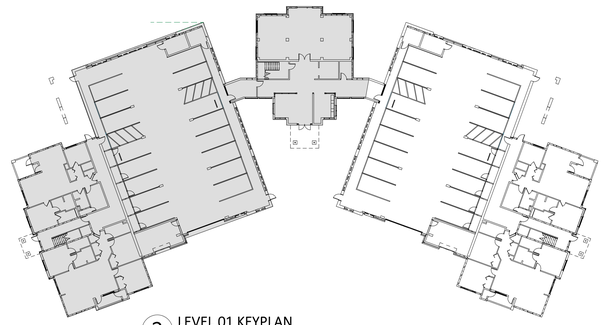


1 LEVEL 1 FLOOR PLAN- CURVED HYBRID BUILDING (LEFT WING)
1/8" = 1'-0"



2 LEVEL 01 KEYPLAN
1/32" = 1'-0"

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LEVEL 1 FLOOR PLAN- CURVED HYBRID BUILDING (LEFT WING)

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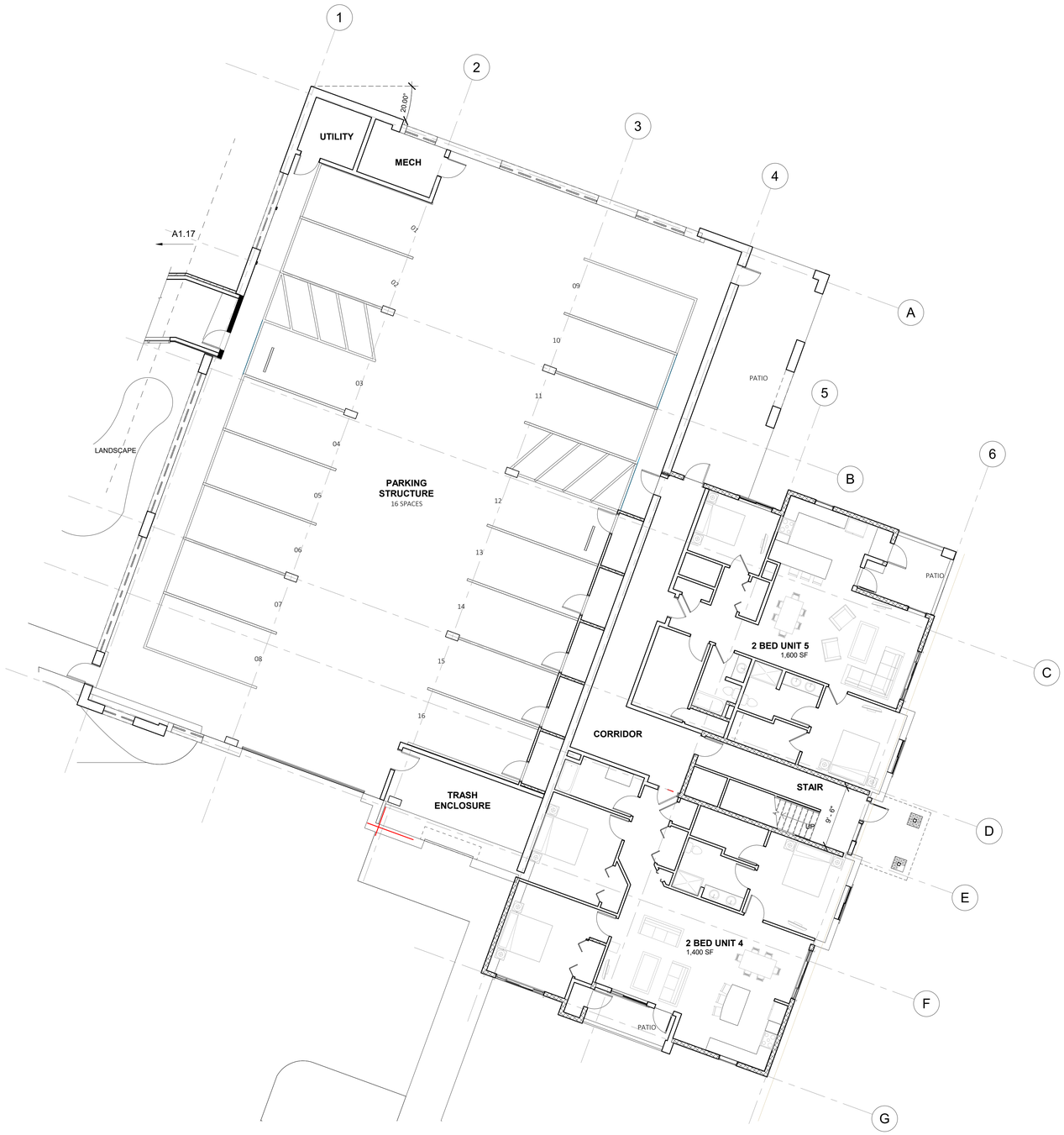
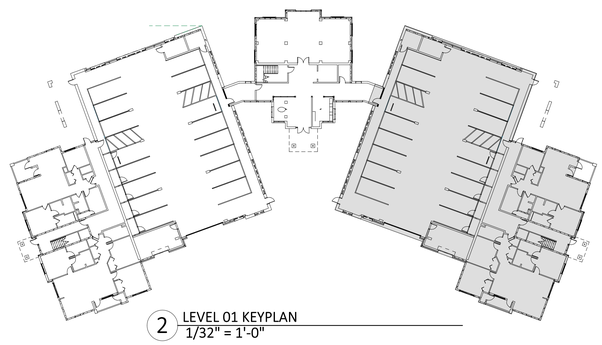


1 LEVEL 1 FLOOR PLAN- CURVED HYBRID BUILDING (RIGHT WING)
1/8" = 1'-0"



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LEVEL 1 FLOOR PLAN- CURVED HYBRID BUILDING (RIGHT WING)

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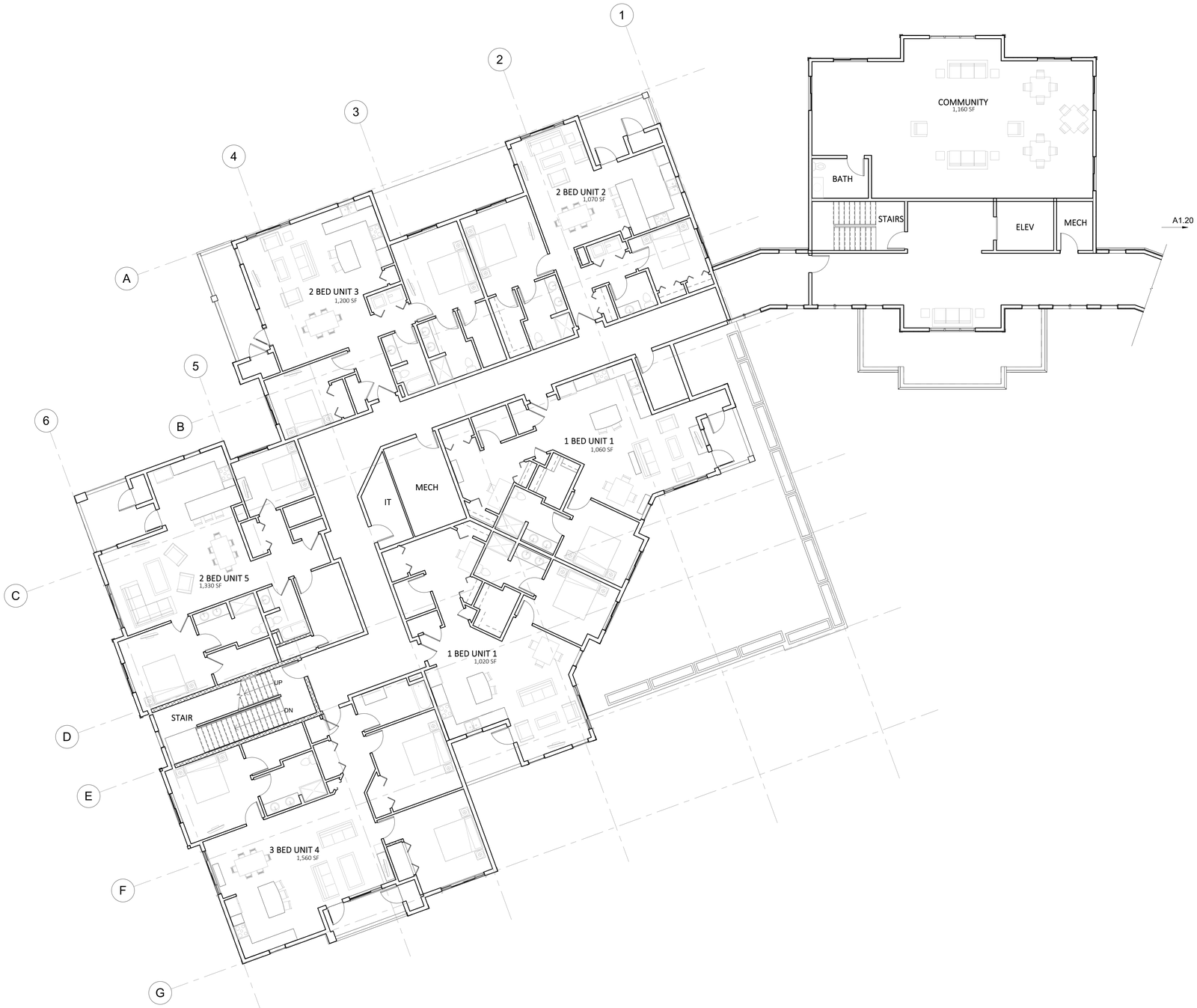
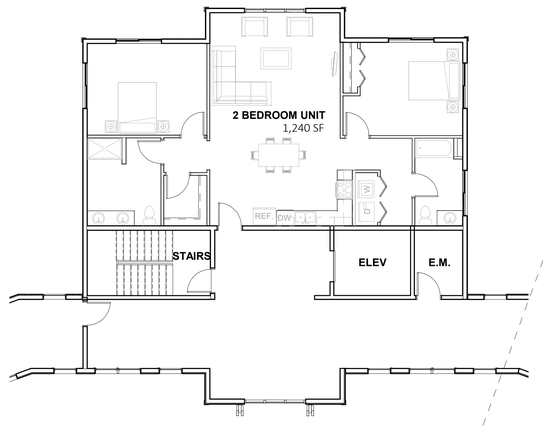
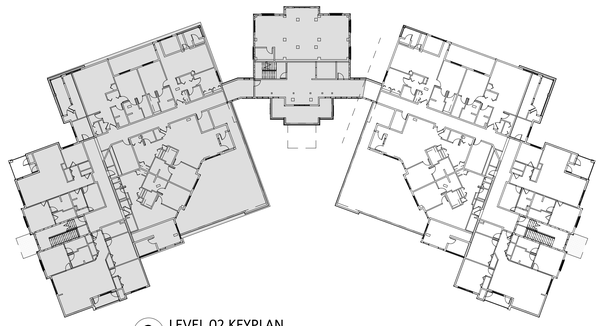


1 LEVEL_02 - HYBRID CURVED LEFT WING (LEVEL 3 SIM)
1/8" = 1'-0"



3 LEVEL_03 HYBRID CURVED CENTER - 2 BEDROOM UNIT
1/8" = 1'-0"



2 LEVEL 02 KEYPLAN
1/32" = 1'-0"

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DRAWN BY: ALYSA EMBREE
CHECKED BY: RYAN CAIN

 ORIGINAL SHEET SIZE: 30"x42"

LEVEL 2 FLOOR PLAN- CURVED HYBRID BUILDING (LEFT WING)

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1 LEVEL_02 - HYBRID CURVED RIGHT WING (LEVEL 3 SIM)
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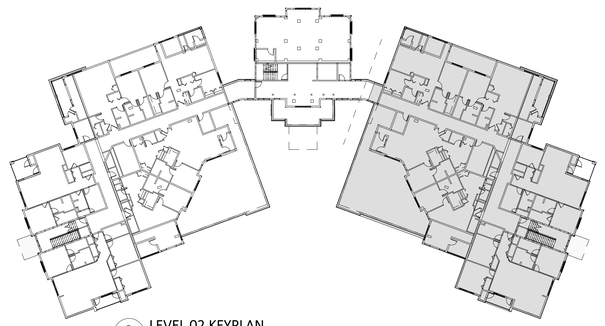

2 LEVEL 02 KEYPLAN
1/32" = 1'-0"

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HOPE VILLAGE SOUTH EXPANSION

CLIENT:
Hope Village

PROJECT ADDRESS:
1535 S. Ivy Street
Canby, OR 97013

APPROVED FOR	DATE	BY
SITE PLAN REVIEW	04/03/2020	RYAN CAIN

	DESCRIPTION	DATE

PROJECT NO: 1910.HVM
DRAWN BY: ALYSA EMBREE
CHECKED BY: RYAN CAIN

 ORIGINAL SHEET SIZE: 30"x42"

LEVEL 2 FLOOR PLAN- CURVED HYBRID BUILDING (RIGHT WING)

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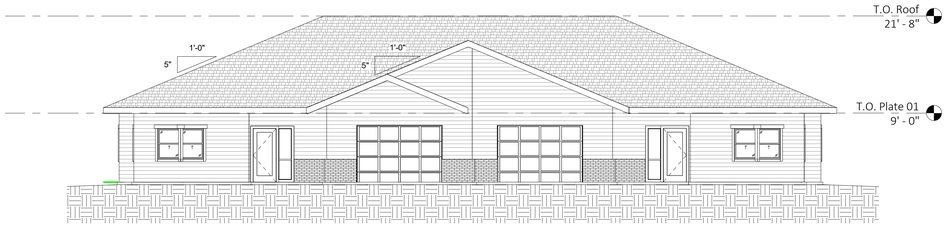

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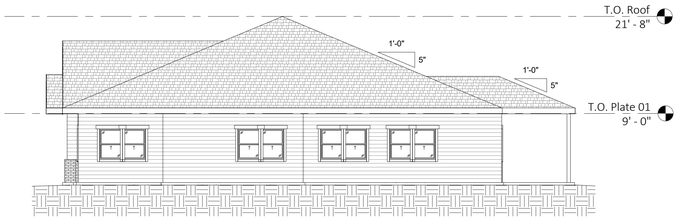

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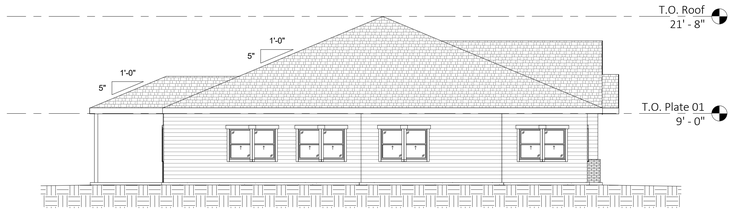

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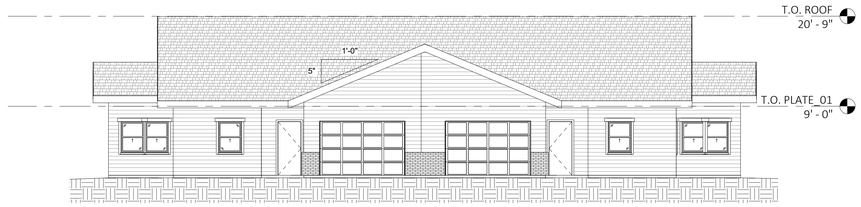
1/8" = 1'-0"

5 COTTAGE E NORTH ELEVATION
1/8" = 1'-0"



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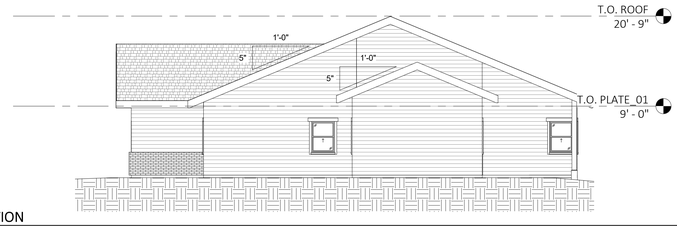

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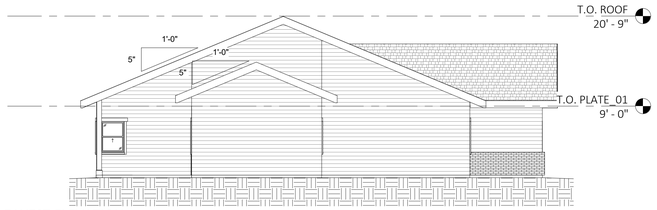

8 COTTAGE E WEST ELEVATION
1/8" = 1'-0"

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HOPE VILLAGE SOUTH EXPANSION

CLIENT:
Hope Village

PROJECT ADDRESS:
1535 S. Ivy Street
Canby, OR 97013

APPROVED FOR	DATE	BY
SITE PLAN REVIEW	04/03/2020	RYAN CAIN

	DESCRIPTION	DATE

PROJECT NO: 1910.HVM
DRAWN BY: TIFFANY FARLEY
CHECKED BY: RYAN CAIN

 ORIGINAL SHEET SIZE: 30"x42"

EXTERIOR ELEVATIONS-
COTTAGE E & COTTAGE F

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1 HYBRID FRONT ELEVATION- LEFT WING
1/8" = 1'-0"

2 HYBRID FRONT ELEVATION- RIGHT WING
1/8" = 1'-0"

3 HYBRID FRONT VIEW

4 HYBRID REAR VIEW

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HOPE VILLAGE SOUTH EXPANSION

CLIENT:
Hope Village

PROJECT ADDRESS:
1535 S. Ivy Street
Canby, OR 97013

APPROVED FOR	DATE	BY
SITE PLAN REVIEW	04/03/2020	RYAN CAIN

	DESCRIPTION	DATE

PROJECT NO: 1910.HVM
DRAWN BY: TIFFANY FARLEY
CHECKED BY: RYAN CAIN

 ORIGINAL SHEET SIZE: 30"x42"

HYBRID EXTERIOR ELEVATION & RENDERINGS

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Hope Village South Expansion

Traffic Impact Analysis

Canby, Oregon

Date:
February 4, 2020

Prepared for:
Hope Village, Inc.

Prepared by:
Jessica Hijar
Daniel Stumpf, PE

LANCASTER
ENGINEERING

321 SW 4th Ave., Suite 400 | Portland, OR 97204 | 503.248.0313 | lancasterengineering.com

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Executive Summary

1. Up to 164 additional dwelling units are planned for the expansion of the South Hope Village senior living community located at 1535 S Ivy Street in Canby, Oregon.

2. The trip generation calculations show that the proposed development of up to 164 units of attached senior housing will generate a total of 33 trips during the morning peak hour, 43 trips during the evening peak hour, and 606 trips during each weekday.

3. Based on a review of the most recent three years of available crash data, no design flaws or crash trends were identified at the study intersections that are indicative of a safety concern.

4. Sight distance at the proposed site access intersection on S Ivy Street was measured to be in excess of 625 feet to the north and 540 feet to the south. Based on the design speed of 55 mph, it is expected that the access will operate safely.

5. Due to insufficient major and minor street volumes, preliminary traffic signal warrants are not met at any of the unsignalized intersections under any of the analysis scenarios.

6. Left-turn lane warrants are not projected to be met at the applicable intersections under year 2022 buildout conditions.

7. Capacity analysis results show the study intersections are projected to operate within Clackamas County's performance standards under all analysis scenarios.

Introduction

An expansion consisting of up to 164 attached senior housing units is proposed for the S Hope Village development located at 1535 S Ivy Street in Canby, Oregon. The proposed expansion will take access to an existing driveway along the north edge of the site and will construct a public roadway at S Ivy Street, which will be called SW 18th Avenue. An aerial image of the site vicinity is shown in Figure 1 on page 2 with the project site highlighted in red.

The purpose of this study is to assess the potential traffic impacts of the proposed expansion and to address the requirements detailed in Chapter 10 of the City of Canby's *Transportation System Plan* [1]. The report will identify the potential increase in traffic and will evaluate the operation of nearby intersections under existing conditions as well as year 2022 traffic conditions, both with and without the addition of site trips associated with the proposed development. A safety analysis will also be conducted that provides a detailed examination of crash history at the study intersections and evaluates the need for left-turn lanes and traffic signals.

Figure 1: Site Vicinity Map

[1] City of Canby, *Canby Transportation System Plan*, 2010.

The scope of work has been coordinated with ODOT Region 1, Clackamas County, and City of Canby's consulting engineer. The report includes safety and capacity analyses at the following intersections:

1. SW 13th Avenue at S Fir Street
2. SW/SE 13th Avenue at S Ivy Street
3. Proposed site access at S Ivy Street
4. SW 16th Avenue at S Fir Street (existing egress access)

Project Area Description

The site is located west of S Ivy Street, east of S Fir Street, and south of SW/SE 16th Avenue in Canby, Oregon. The proposed development will take direct access onto S Ivy Street and will also have access via an existing aisle along the north side of the site. The proposed development will include the construction of new sidewalks on the western edge of S Ivy Street along the property frontage, improving the pedestrian connectivity near the site. Within the site, continuous sidewalks will be provided between each site access and each housing unit. The internal roadways within the site will be low-speed, low-volume facilities which can comfortably be shared by vehicles and bicyclists.

Supporting Transportation Facilities

There are four roadways identified in the study area that are expected to carry trips from the proposed development. The characteristics of these roadways are summarized in Table 1.

Table 1 - Summary of Study Area Roadways

Street Name	Jurisdiction	Classification	Speed (MPH)	Curbs	Side-walks	On-Street Parking	Bike Lanes
SW/SE 13th Avenue	City of Canby/ Clackamas County	Arterial	25	Partial	Partial	Partial	Yes
S Ivy Street	Clackamas County	Arterial	30-50	Partial	Partial	No	Yes
S Fir Street	City of Canby	Local Road	25	Partial	Partial	Partial	No
SW/SE 16th Avenue	City of Canby	Local Road	25	Partial	Partial	Partial	No

SW/SE 13th Avenue is under the jurisdiction of Clackamas County between S Redwood Street and S Mulino Road. SW/SE 16th Avenue is a public roadway west of S Fir Street and east of S Ivy Street.

Study Intersections

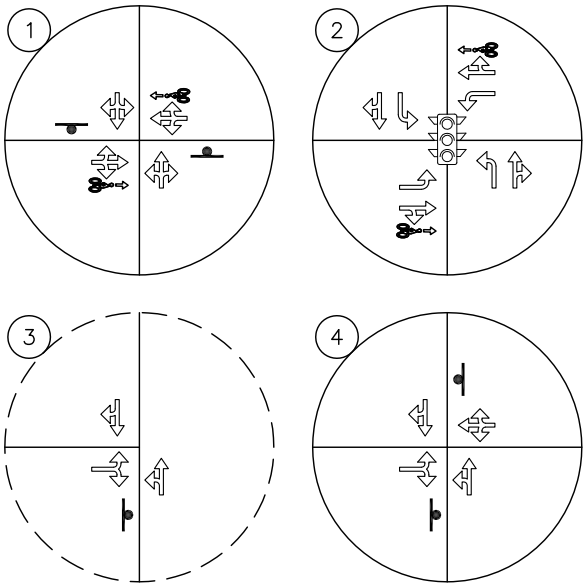
Through coordination with the ODOT, Clackamas County, and the City of Canby, four study intersections were identified for evaluation. The existing and proposed characteristics of these intersections are summarized in Table 2. The existing intersection configurations are shown in Figure 2 on page 5.

Table 2 - Summary of Study Area Intersections

Intersection	Geometry	Control Type	Phasing/Stopped Approaches
SW 13th Avenue at S Fir Street	4-legged	Stop Sign	North- and Southbound Stop-Controlled
SW/SE 13th Avenue at S Ivy Street	4-legged	Signalized	Permissive West- and Eastbound Lefts, Permissive/Protected North- and Southbound Lefts
Site Access at S Ivy Street	3-legged	Stop Sign	Eastbound Stop-Controlled
SW 16th Avenue at S Fir Street	4-legged	Stop Sign	West- and Eastbound Stop-Controlled

LEGEND

- STUDY INTERSECTION (EXISTING)
- STUDY INTERSECTION (PROPOSED)
- STOP SIGN
- TRAFFIC SIGNAL
- BIKE LANE
- PROJECT SITE
- ARTERIAL ROADWAY
- COLLECTOR ROADWAY
- LOCAL ROADWAY



STUDY INTERSECTION CONFIGURATIONS

no scale

FIGURE 2

PAGE 5

Site Trips

Trip Generation

The proposed expansion of the senior living community will include the construction of up to 164 dwelling units, consisting of a mix of duplex and multifamily dwellings. To estimate the number of trips that will be generated by the site, trip rates from the *Trip Generation Manual*[2] were used. Trip rates for Land Use Code 252, *Senior Adult Housing (Attached),* were used to estimate the trip generation based on the number of dwelling units.

The trip generation calculations show that the proposed development will generate a total of 33 trips during the morning peak hour, 43 trips during the evening peak hour, and 606 trips on a typical weekday. The trip generation calculation results are summarized in Table 3.

Table 3 - Trip Generation Summary

Land Use Code	Size	Morning Peak Hour			Evening Peak Hour			Weekday Total
		In	Out	Total	In	Out	Total	
252 – Senior Adult Housing (Attached)	164 units	12	21	33	24	19	43	606

Trip Distribution

The directional distribution of site trips to and from the proposed development was estimated based on the locations of likely trip destinations, locations of major transportation facilities in the site vicinity, and existing travel patterns at the study intersections. Additionally, it was assumed that 75 percent of site trips will use SW 18th Avenue to enter and exit the site, 25 percent of site trips will exit the site via the exit-only driveway at S Fir Street, and 25 percent of site trips will enter the site via the existing ingress driveway at S Ivy Street. The following trip distribution was estimated and used for analysis:

- Approximately 35 percent of site trips will travel to/from the west along SW 13th Avenue.
- Approximately 35 percent of site trips will travel to/from the north along S Ivy Street.
- Approximately 15 percent of site trips will travel to/from the north along S Fir Street.
- Approximately 10 percent of site trips will travel to/from the east along SE 13th Avenue.
- Approximately 5 percent of site trips will travel to/from the south along S Ivy Street.

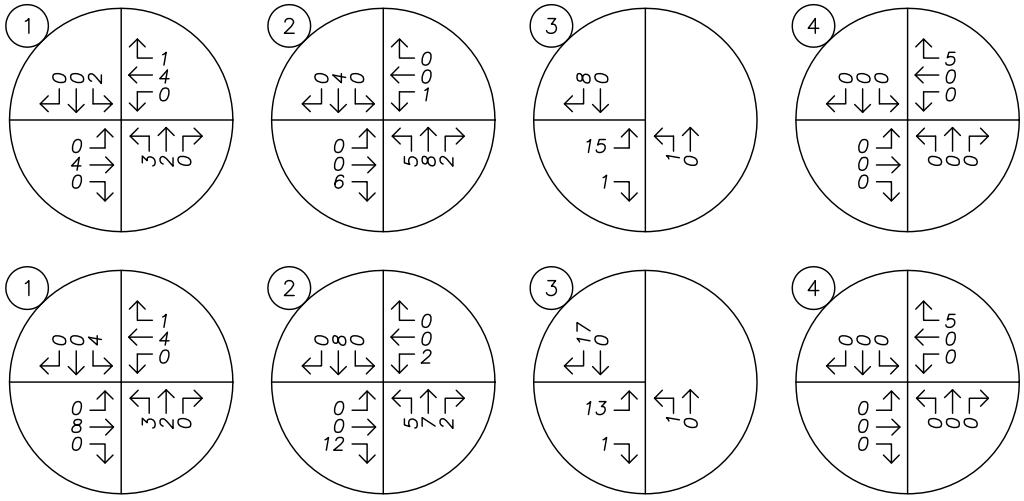
The site trip distribution of the proposed development is shown in Figure 3 on page 7.

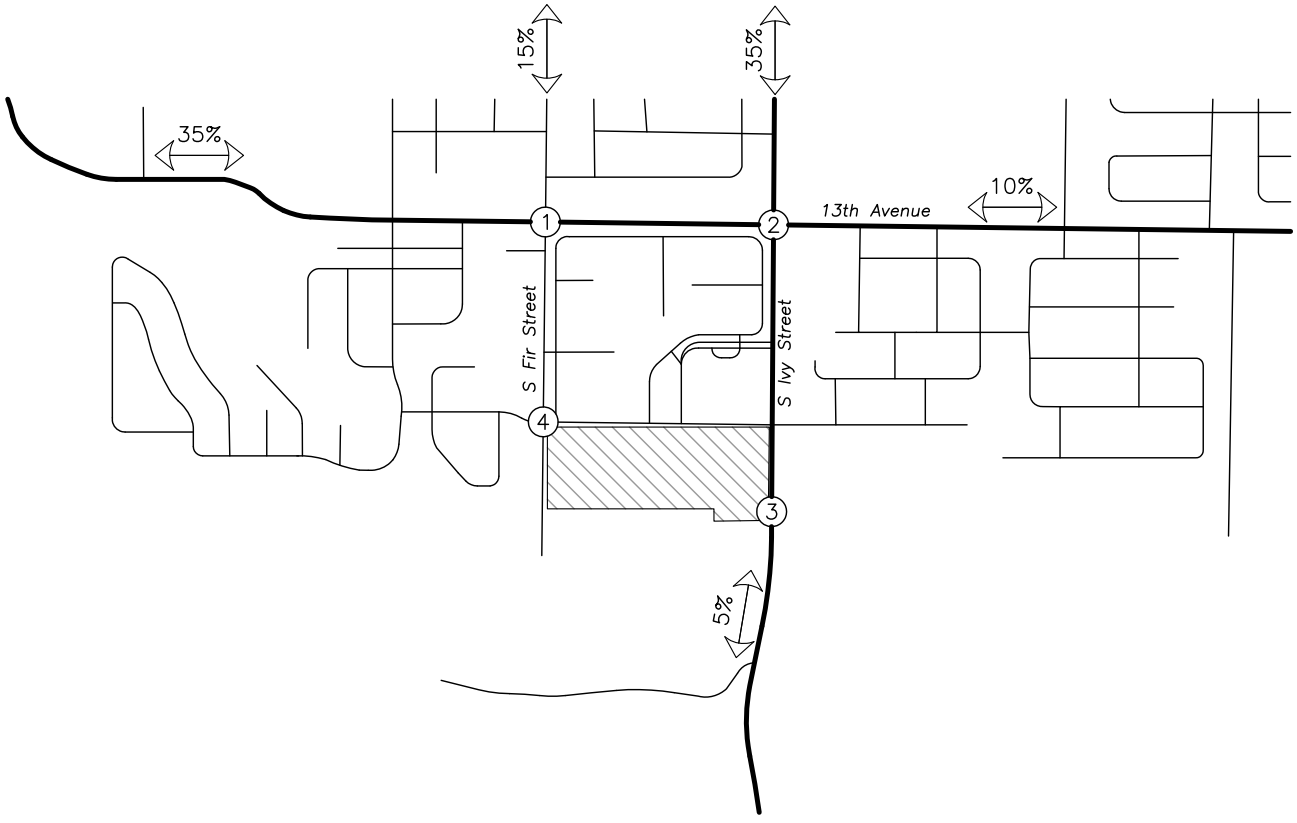
[2] Institute of Transportation Engineers (ITE), *Trip Generation Manual*, 10th Edition, 2017.

LEGEND

XX% PERCENT OF PROJECT TRIPS

TRIP GENERATION			
	IN	OUT	TOTAL
AM	12	21	33
PM	24	19	43





SITE TRIP DISTRIBUTION & ASSIGNMENT
Proposed Development Plan – Site Trips
AM & PM Peak Hours

no scale

FIGURE 3

PAGE 7

Traffic Volumes

Year 2020 Existing Conditions

Traffic counts were conducted at the intersections of S Ivy Street at SW 13th Avenue and S Fir Street at SW 13th Avenue on July 11, 2017, between 7:00 AM and 9:00 AM and between 4:00 PM and 6:00 PM. Each intersection's respective morning and evening peak hours were used for analysis. The traffic volumes at the intersection of S Fir Street at SW 16th Avenue were estimated based on the number of homes the roadway serves and existing trips associated with the senior home facility which may use this access. Additionally, three years of growth were added to the counts in order to project the traffic counts for the current year 2020. The traffic counts were also adjusted to include school traffic associated with Philander Lee Elementary School located north of the intersection of S Ivy Street at 13th Avenue.

In addition to the turning movement counts at the study intersections, 24-hour vehicle counts were collected during a typical weekday on S Ivy Street near SE 16th Avenue. The year 2020 existing traffic volumes during the morning and evening peak hours are shown in Figure 4 on page 9.

Year 2022 Background Conditions

To provide analysis of the impact of the proposed development on nearby transportation facilities, an estimate of future volumes is required. A compounded growth rate of two percent per year was applied to the 2020 traffic volumes over a two-year period in order to estimate the year 2022 background traffic volumes.

In addition to the background growth, trips associated with nearby developments that have been approved but are not currently built out were included as in-process trips. This includes Beck Subdivision and the Riverside Park, a modern farmhouse community consisting of 31 single-family lots, to be located directly south of the project site on S Ivy Street. The Riverside Park development anticipated to have a similar trip distribution to the proposed development.

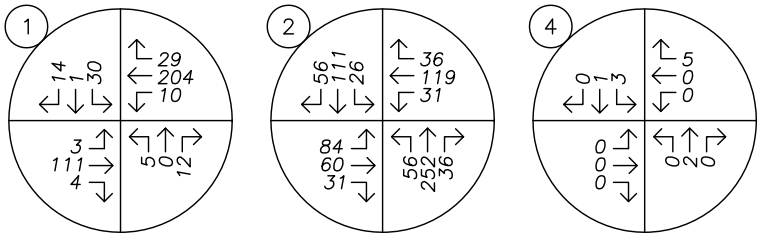
The year 2022 background traffic volumes during the morning and evening peak hours are shown in Figure 5 on page 10. Supporting figures and calculations for approved in-process trips are available in the appendix to this report.

Year 2022 Buildout Conditions

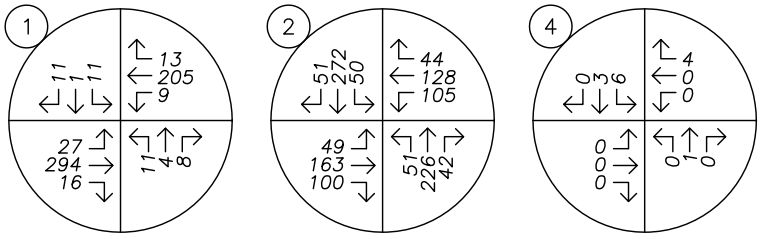
The trips to be generated by the proposed development, quantified earlier within the *Site Trips* section, were added to the year 2022 background traffic volumes in order to obtain the year 2022 traffic volumes with the full buildout and occupancy of the proposed development.

The year 2022 buildout traffic volumes during the morning and evening peak hours are shown in Figure 6 on page 11.

AM PEAK HOUR



PM PEAK HOUR



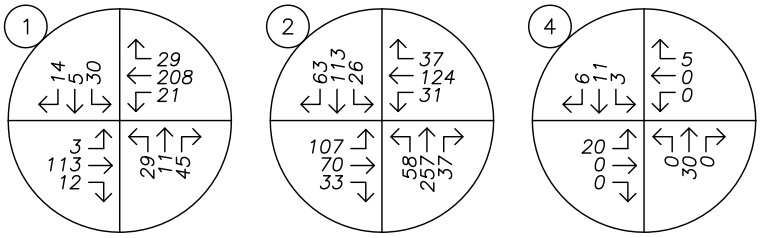
TRAFFIC VOLUMES
Year 2020 Existing Conditions
AM & PM Peak Hours

no scale

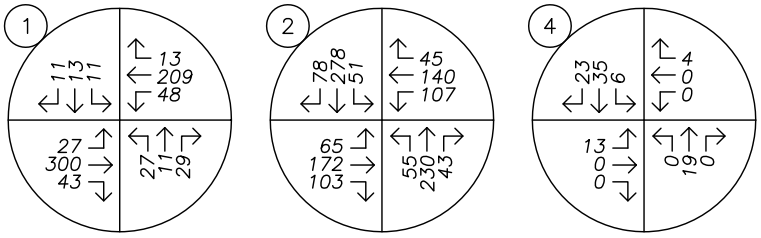
FIGURE 4

PAGE 9

AM PEAK HOUR



PM PEAK HOUR



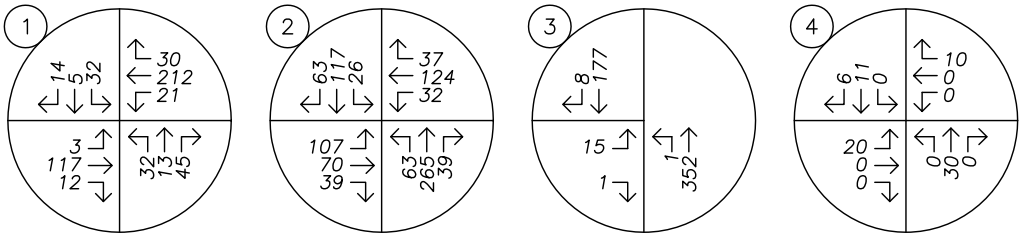
TRAFFIC VOLUMES
Year 2022 Background Conditions
AM & PM Peak Hours

no scale

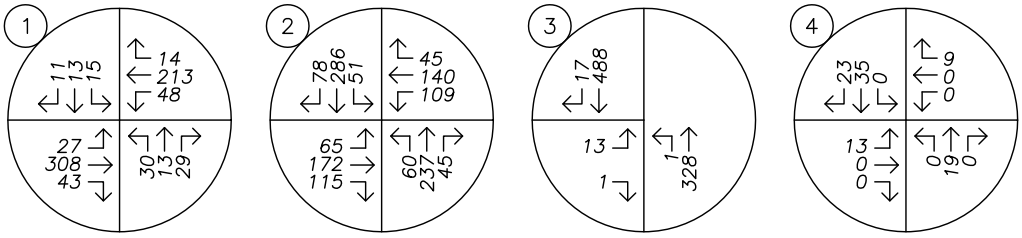
FIGURE 5

PAGE 10

AM PEAK HOUR



PM PEAK HOUR



TRAFFIC VOLUMES
Year 2022 Buildout Conditions
AM & PM Peak Hours

no scale

FIGURE 6

Safety Analysis

Crash Data Analysis

Using data obtained from the ODOT's Crash Analysis and Reporting Unit, a review of the most recent available three years of crash history (January 2015 to December 2017) at the study intersections was performed. The crash data was evaluated based on the number of crashes, the type of collisions, the severity of the collisions, and the resulting crash rate for the intersection. Crash rates provide the ability to compare safety risks at different intersections by accounting for both the number of crashes that have occurred during the study period and the number of vehicles that typically travel through the intersection. Crash rates were calculated using the common assumption that traffic counted during the evening peak hour represents approximately 10 percent of the annual average daily traffic (AADT) at the intersection. Crash rates in excess of 1.0 crashes per million entering vehicles (CMEV) may be indicative of design deficiencies and therefore require a need for further investigation and possible mitigation.

With regard to crash severity, ODOT classifies crashes in the following categories:

- Property Damage Only (*PDO*);
- Possible Injury – Complaint of Pain (*Injury C*);
- Non-Incapacitating Injury (*Injury B*);
- Incapacitating Injury – Bleeding, Broken Bones (*Injury A*); and
- Fatality or Fatal Injury.

Table 4 provides a summary of crash types while Table 5 summarizes crash severities and rates for each of the study intersections. Based on a review of the crash data, all study intersections do not show any signs of design flaws or a need for mitigation. Detailed ODOT crash reports are included in the technical appendix to this report.

Table 4 - Crash Type Summary

Intersection	Crash Type								
	Rear End	Turn	Angle	Fixed Object	Back	Head	Ped	Bike	Total
SW 13th Avenue at S Fir Street	0	0	0	0	0	0	0	0	0
SW/SE 13th Avenue at S Ivy Street	0	1	2	0	0	0	0	0	3

Table 5 - Crash Severity and Rate Summary

Intersection	Crash Severity					Total	AADT	Crash Rate
	PDO	C	B	A	Fatal			
SW 13th Avenue at S Fir Street	0	0	0	0	0	0	5,720	0.00
SW/SE 13th Avenue at S Ivy Street	2	1	0	0	0	3	12,200	0.22

Sight Distance

Sight distance was measured along S Ivy Street and evaluated in accordance with the methodologies provided in *A Policy on Geometric Design of Highways and Streets*[3].

Intersection sight distance is an operational measure, intended to provide sufficient line of sight along the major-street approach so that a driver can enter the roadway without impeding the flow of through traffic. For intersection sight distance, the driver's eye is assumed to be 15 feet from the near edge of the nearest traveled way of the intersecting street and at a height of 3.5 feet above the minor-street approach pavement. The oncoming vehicle driver's eye height along the major-street approach is assumed to be 3.5 feet above the cross-street pavement.

Stopping sight distance is considered the minimum requirement to ensure safe operation of a roadway or intersection. This distance allows the driver of a vehicle on the major-street approach to react and come to a complete stop, if necessary, to avoid a collision. As long as the available intersection sight distance for an entering or crossing vehicle is at least equal to the appropriate stopping sight distance for the major road, then drivers have sufficient sight distance to anticipate and avoid collisions.

Based on Section 250.1.2.c.2 in the *Clackamas County Roadway Standards*, the design speed of the roadway is equal to the existing posted regulatory speed plus 5 mph. For S Ivy Street in the vicinity of the proposed site access, the posted speed limit is 50 mph and therefore the design speed of the roadway is equal to 55 mph. For a design speed of 55 mph, there is a recommended intersection sight distance of 610 feet and a required stopping sight distance of 495 feet.

Based on the current site plan, SW 18th Avenue is located approximately 520 feet south of the existing fire access on S Ivy Street, measured centerline to centerline. Sight distance was measured to be in excess of 625 feet to the north, which exceeds the intersection sight distance standard of 610 feet. Sight distance was measured to be 540 feet to the south, limited by the horizontal curve in the roadway, which is adequate stopping sight distance for vehicles traveling up to 58 mph. Accordingly, it is expected that the intersection will operate safely.

It should be noted that the City of Canby plans to take full jurisdiction of S Ivy Street by the year 2021, with plans to lower the speed limit to 40 mph. The required intersection sight distance for a design speed of 45

[3] American Association of State Highway and Transportation Officials (AASHTO), *A Policy on Geometric design of Highways and Streets*, 7th Edition, 2018

mph is 500 feet. With the lower speed limit on S Ivy Street, the intersection sight distance requirement will be met in both directions.

Preliminary Traffic Signal Warrants

Preliminary traffic signal warrants were examined for all unsignalized study intersections based on the methodologies in the *Manual on Uniform Traffic Control Devices* (MUTCD), published by the Federal Highway Administration in 2009. This includes the site access intersection on S Ivy Street, the intersection of SW 13th Avenue at S Fir Street, and the intersection of SW 16th Avenue at S Fir Street. Warrant 1, *Eight Hour Vehicular Volumes,* was evaluated based on the common assumption that traffic counted during the evening peak hour represents ten percent of the average daily traffic (ADT) and that the 8th highest hour is 5.65 percent of the daily volume.

Due to insufficient major and minor street volumes, traffic signal warrants are not projected to be met at any of the applicable study intersections. Detailed information on the traffic signal warrant analysis is included in the attached appendix.

Left-turn Lane Warrants

A left-turn refuge lane is primarily a safety consideration for the major street, removing left-turning vehicles from the through traffic stream. The left-turn lane warrants examined used the methodology outlined in the National Cooperative Highway Research Program Report 457, published by the Transportation Research Board in 2001. These turn-lane warrants are evaluated based on the number of left-turning vehicles, the number of advancing and opposing vehicles, and the roadway travel speed.

Left-turn lane warrants were examined for northbound left at the site access intersection along S Ivy Street and the westbound left at the intersection of S Fir Street at SW 13th Avenue. Traffic volumes were used from the year 2022 buildout conditions during both the morning and evening peak hour. Left-turn lane warrants are not projected to be met during any of the analysis scenarios.

Operational Analysis

Capacity Analysis

To determine the operational impacts related to the proposed 164-unit expansion to S Hope Village, a capacity analysis was conducted. The analysis was conducted using the signalized and unsignalized intersection analysis methodologies in the *Highway Capacity Manual (HCM)*[4] published by the Transportation Research Board. Level of service (LOS) can range from A, which indicates little or no delay, to F, which indicates a significant amount of congestion and delay. The volume to capacity (v/c) ratio is a measure that compares the traffic volumes (demand) against the available capacity of an intersection, with v/c ratios above 1.0 indicating that an intersection is operating above capacity.

The Clackamas County Comprehensive Plan specifies a v/c target of 0.90 for road segments and unsignalized intersections and a minimum LOS of E for the signalized and roundabout intersections.

Table 6 show the results of the capacity analysis. Detailed LOS descriptions are included in the appendix to this report.

Table 6 - Intersection Operational Analysis Summary

	Morning Peak Hour			Evening Peak Hour		
	Delay	LOS	V/C	Delay	LOS	V/C
SW 13th Avenue at S Fir Street						
Year 2020 Existing Conditions	12	B	0.09	14	B	0.06
Year 2022 Background Conditions	13	B	0.15	17	C	0.19
Year 2022 Buildout Conditions	13	B	0.16	18	C	0.22
SW/SE 13th Avenue at S Ivy Street						
Year 2020 Existing Conditions	11	B	0.44	13	B	0.51
Year 2022 Background Conditions	11	B	0.46	13	B	0.54
Year 2022 Buildout Conditions	11	B	0.47	14	B	0.55
Site Access at S Ivy Street						
Year 2022 Buildout Conditions	13	B	0.04	17	C	0.05
SW 16th Avenue at S Fir Street						
Year 2020 Existing Conditions	8	A	0.01	8	A	0.01
Year 2022 Background Conditions	9	A	0.02	9	A	0.02
Year 2022 Buildout Conditions	9	A	0.02	9	A	0.02

Based on the results of the capacity analysis, all study intersections are projected to operate within the performance standards for the City of Canby and Clackamas County.

[4] Transportation Research Board, *Highway Capacity Manual, 6th Edition, 2016.*

Conclusions

The proposed attached senior housing development consisting of up to 164 units in Canby, Oregon, is not anticipated to significantly change the existing performance or safety of the surrounding transportation system. Notable findings and/or recommendations are summarized below.

- Based on a review of the most recent three years of available crash data, no design flaws or crash trends were identified at the study intersections that are indicative of a saftey concern.

- Sight distance at the proposed site access intersection on S Ivy Street was measured to be in excess of 625 feet to the north and 540 feet to the south. Based on the design speed of 55 mph, it is expected that the access will operate safely.

- Due to insufficient major and minor street volumes, preliminary traffic signal warrants are not met at any of the unsignalized intersections under any of the analysis scenarios.

- Left-turn lane warrants are not projected to be met at the applicable intersections under year 2022 buildout conditions.

- Capacity analysis results show the study intersections are projected to operate within Clackamas County's performance standards under all analysis scenarios.

Based on the detailed analysis, the surrounding transportation system can safely support the proposed 164-unit expansion to the S Hope Village senior housing development. No mitigations are required or recommended.

Appendix

TRIP GENERATION CALCULATIONS

Land Use: Senior Adult Housing - Attached
Land Use Code: 252
Setting/Location: General Urban/Suburban
Variable: Dwelling Units
Variable Value: 164

AM PEAK HOUR

Trip Rate: 0.20

	Enter	Exit	Total
Directional Distribution	35%	65%	
Trip Ends	**12**	**21**	**33**

PM PEAK HOUR

Trip Rate: 0.26

	Enter	Exit	Total
Directional Distribution	55%	45%	
Trip Ends	**24**	**19**	**43**

WEEKDAY

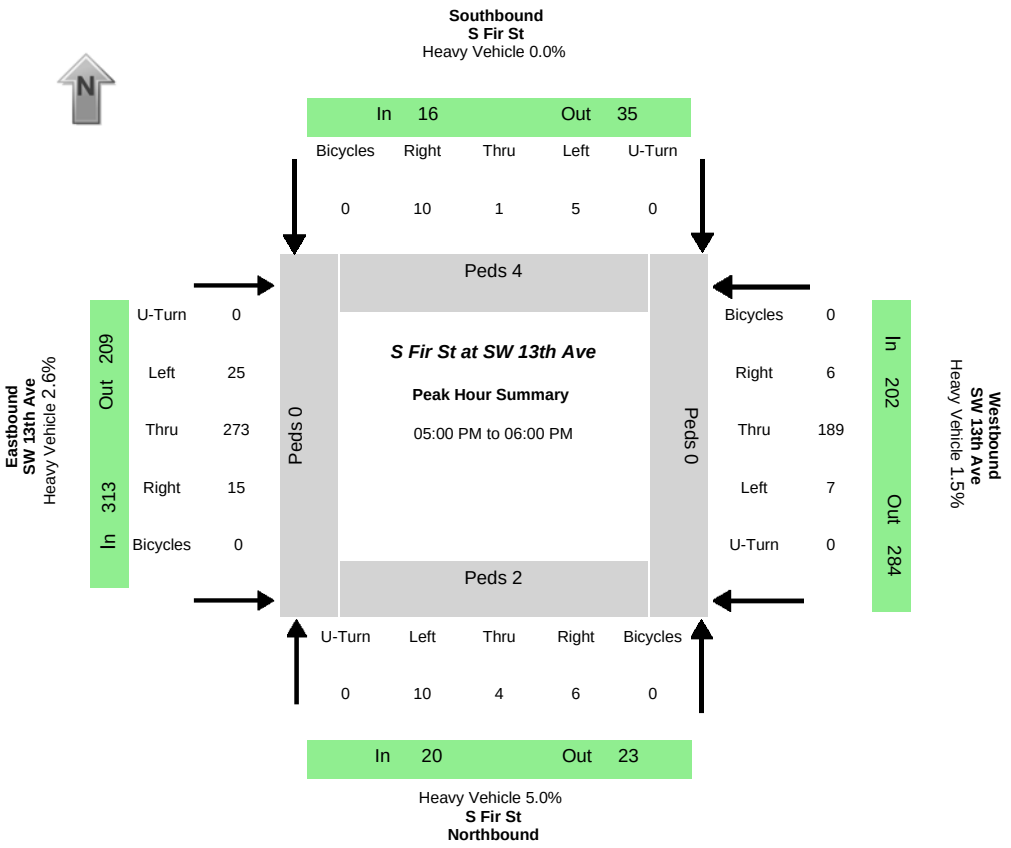
Trip Rate: 3.7

	Enter	Exit	Total
Directional Distribution	50%	50%	
Trip Ends	**303**	**303**	**606**

Source: TRIP GENERATION, Tenth Edition

K-D-N
KEY DATA NETWORK

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

Northbound				Southbound				Eastbound				Westbound				
Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	**Sum**
0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0

PHV - Pedestrians

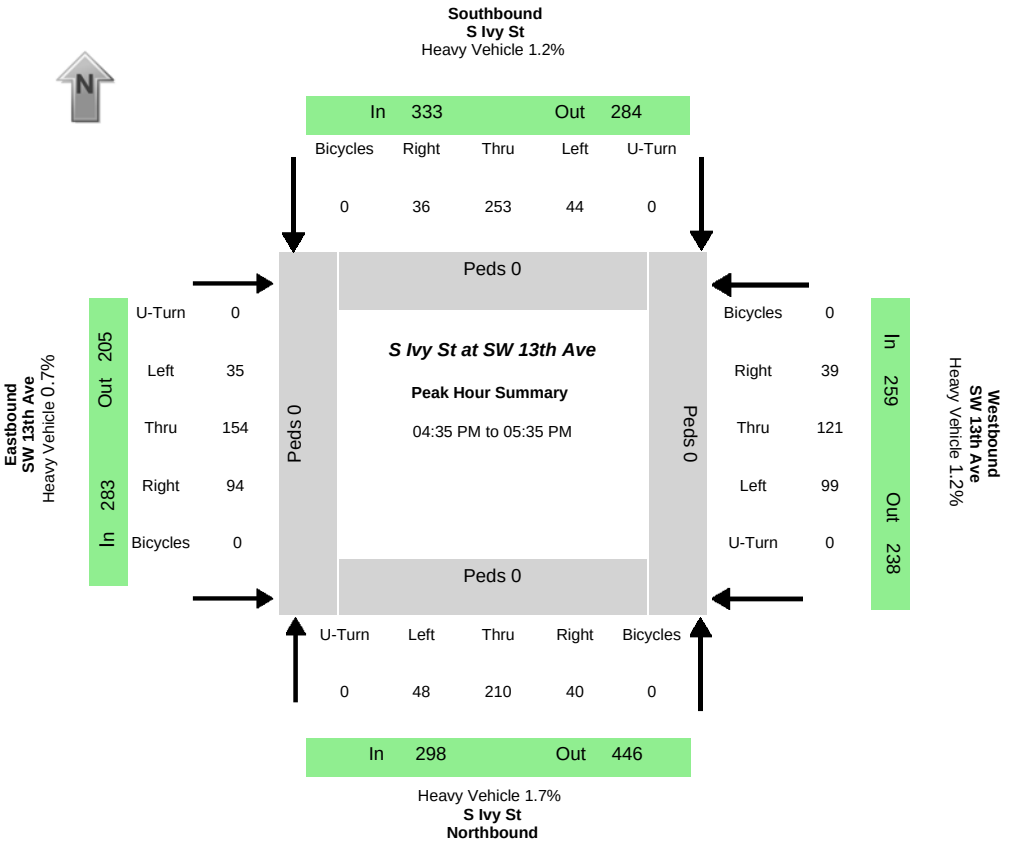
in Crosswalk				
NB	SB	EB	WB	**Sum**
2	4	0	0	6

All Vehicle Volumes

	Northbound S Fir St				Southbound S Fir St				Eastbound SW 13th Ave				Westbound SW 13th Ave				15 Min	1 HR
Time	Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	Sum	Sum
04:00:00 PM	2	0	0	0	1	0	2	0	3	23	3		3	16	2	0		
04:05:00 PM	0	0	1	0	3	0	0	0	1	19	2		0	17	2	0		
04:10:00 PM	2	0	0	0	0	1	1	0	4	18	1		0	14	2	0	143	
04:15:00 PM	0	0	1	0	1	1	2	0	1	30	0		1	21	1	0	147	
04:20:00 PM	3	0	0	0	0	0	1	0	0	20	2		2	16	0	0	146	
04:25:00 PM	2	0	0	0	0	0	0	0	0	19	1		0	15	1	0	141	
04:30:00 PM	2	1	0	0	0	0	1	0	2	15	0		0	6	1	0	110	
04:35:00 PM	1	0	0	0	0	0	1	0	3	23	1		2	15	0	0	112	
04:40:00 PM	0	0	0	0	0	0	3	0	0	26	1		1	15	1	0	121	
04:45:00 PM	4	0	1	0	1	1	2	0	3	23	1		1	16	0	0	146	
04:50:00 PM	1	0	0	0	0	0	1	0	3	17	1		0	18	0	0	141	
04:55:00 PM	2	0	0	0	1	0	1	0	1	16	0		1	10	0	0	126	531
05:00:00 PM	2	1	0	0	1	1	0	0	2	28	4		0	19	0	0	131	534
05:05:00 PM	0	0	0	0	1	0	1	0	0	17	1		0	13	0	0	123	522
05:10:00 PM	0	0	0	0	0	0	0	0	2	23	2		1	14	2	0	135	523
05:15:00 PM	0	1	0	0	1	0	1	0	2	23	1		1	19	1	0	127	514
05:20:00 PM	0	0	1	0	0	0	1	0	3	32	0		2	19	0	0	152	528
05:25:00 PM	0	0	1	0	0	0	0	0	0	15	1		0	16	0	0	141	523
05:30:00 PM	4	0	0	0	1	0	3	0	3	22	1		0	17	1	0	143	547
05:35:00 PM	0	2	0	0	0	0	1	0	1	22	1		0	14	0	0	126	542
05:40:00 PM	2	0	1	0	0	0	2	0	4	21	1		2	19	1	0	146	548
05:45:00 PM	2	0	1	0	0	0	1	0	5	18	1		1	14	1	0	138	539
05:50:00 PM	0	0	1	0	0	0	0	0	1	32	0		0	10	0	0	141	542
05:55:00 PM	0	0	1	0	1	0	0	0	2	20	2		0	15	0	0	129	551

K-D-N
KEY DATA NETWORK

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%

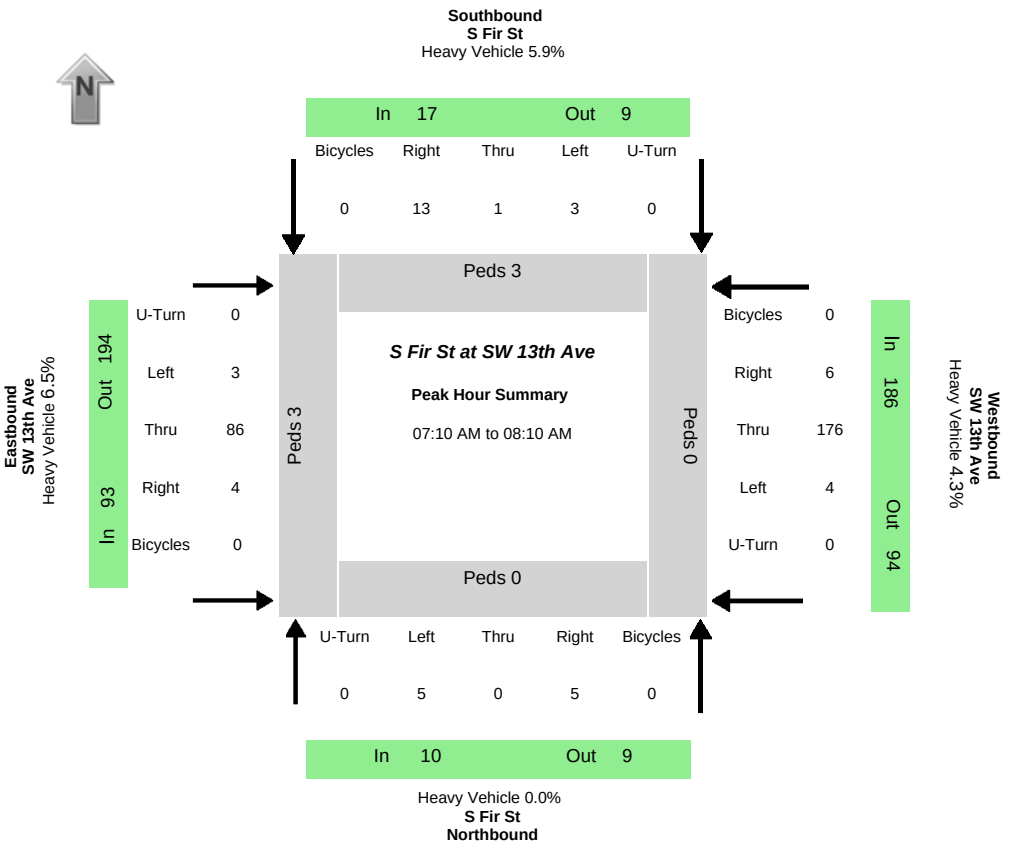
PHV- Bicycles																	PHV - Pedestrians					
Northbound				**Southbound**				**Eastbound**				**Westbound**					in Crosswalk				
Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	**Sum**	NB	SB	EB	WB	**Sum**
0	0	0	0	0	0	0	0	0	0	0		0	0	0		0	0	0	0	0	0

All Vehicle Volumes

	Northbound S Ivy St				**Southbound** S Ivy St				**Eastbound** SW 13th Ave				**Westbound** SW 13th Ave				15 Min	1 HR
Time	Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	Sum	Sum
04:00:00 PM	6	17	3	0	0	15	7	0	3	12	6		8	11	6			
04:05:00 PM	9	23	7	0	4	18	4	0	2	13	11		12	12	5			
04:10:00 PM	1	12	5	0	0	11	1	0	1	10	5		8	15	2		285	
04:15:00 PM	7	25	4	0	3	13	2	0	2	21	8		8	11	3		298	
04:20:00 PM	4	28	6	0	6	18	3	0	0	16	5		8	10	1		283	
04:25:00 PM	5	20	5	0	0	22	3	0	1	10	2		12	10	2		304	
04:30:00 PM	1	18	4	0	0	18	1	0	0	13	2		12	5	3		274	
04:35:00 PM	1	17	3	0	0	21	5	0	0	18	7		9	13	7		270	
04:40:00 PM	2	15	1	0	3	17	3	0	1	9	9		6	8	1		253	
04:45:00 PM	9	16	7	0	3	31	2	0	6	13	5		6	10	3		287	
04:50:00 PM	3	19	2	0	4	20	3	0	5	13	5		11	8	4		283	
04:55:00 PM	4	16	4	0	4	25	2	0	2	10	3		12	6	4		300	1142
05:00:00 PM	8	18	5	0	5	25	3	0	6	12	6		12	7	6		302	1161
05:05:00 PM	6	17	4	0	5	20	2	0	4	12	11		10	9	2		307	1143
05:10:00 PM	2	23	3	0	6	13	1	0	2	11	10		9	8	2		305	1162
05:15:00 PM	3	20	4	0	4	18	5	0	3	11	11		6	20	1		298	1161
05:20:00 PM	5	14	2	0	4	19	6	0	3	22	10		6	10	1		298	1158
05:25:00 PM	1	21	3	0	3	22	2	0	1	11	8		4	12	4		300	1158
05:30:00 PM	4	14	2	0	3	22	2	0	2	12	9		8	10	4		286	1173
05:35:00 PM	4	17	4	0	5	14	2	0	3	10	9		12	9	3		276	1164
05:40:00 PM	5	9	3	0	1	17	3	0	6	9	5		10	11	4		267	1172
05:45:00 PM	4	16	5	0	5	16	0	0	2	10	6		10	12	3		264	1150
05:50:00 PM	0	14	7	0	9	15	0	0	4	21	9		10	11	2		274	1155
05:55:00 PM	3	12	4	0	2	13	1	0	0	8	8		4	12	2		260	1132

K-D-N
KEY DATA NETWORK

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



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

Percent Heavy Vehicles

0.0%	0.0%	0.0%	0.0%	33.3%	0.0%	0.0%	0.0%	0.0%	7.0%	0.0%	0.0%	0.0%	4.0%	16.7%	0.0%	0.0%	5.9%	6.5%	4.3%	0.0%	11.1%	3.6%	7.4%

PHV- Bicycles

Northbound				Southbound				Eastbound				Westbound				
Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	Sum
0	0	0	0	0	0	0	0	0	0	0		0	0	0		0

PHV - Pedestrians

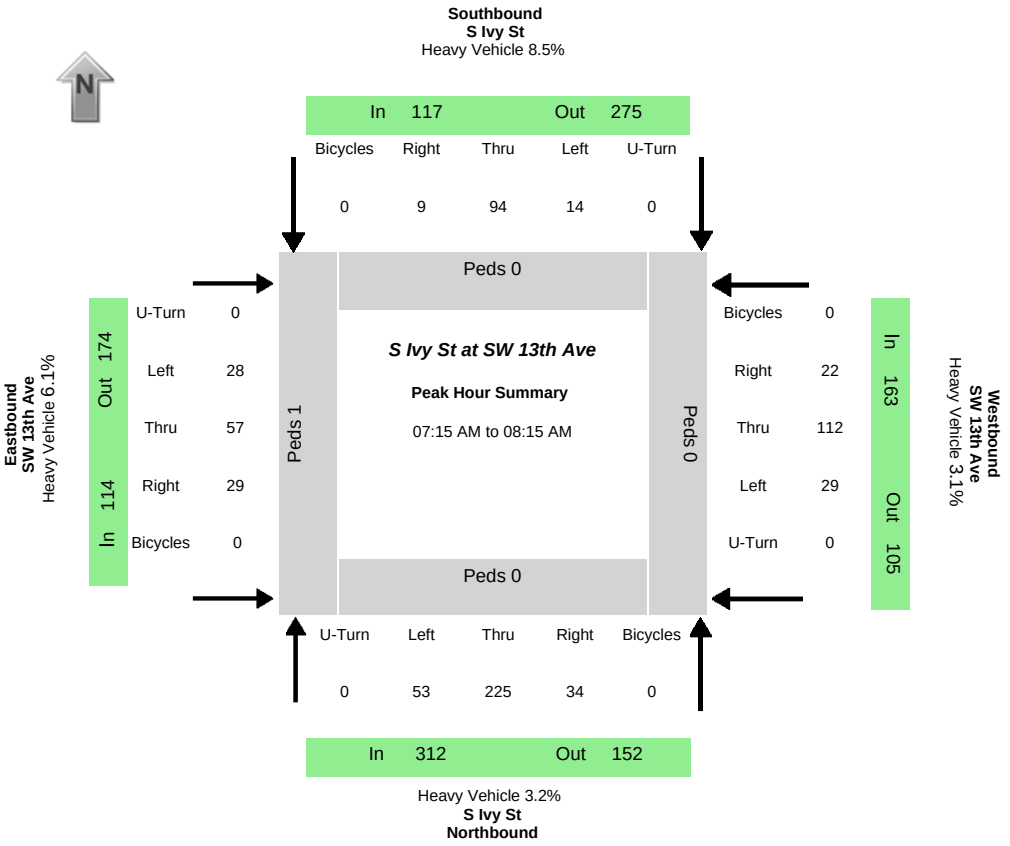
in Crosswalk				
NB	SB	EB	WB	Sum
0	3	3	0	6

All Vehicle Volumes

	Northbound S Fir St				Southbound S Fir St				Eastbound SW 13th Ave				Westbound SW 13th Ave				15 Min	1 HR
Time	Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	Sum	Sum
07:00:00 AM	0	0	0	0	0	0	1	0	0	3	1		1	7	2			
07:05:00 AM	0	0	0	0	0	0	2	0	0	8	0		0	9	0			
07:10:00 AM	1	0	0	0	0	0	2	0	0	3	1		0	15	0		56	
07:15:00 AM	1	0	0	0	0	0	0	0	0	7	0		0	12	0		61	
07:20:00 AM	0	0	0	0	0	0	2	0	0	7	0		0	22	0		73	
07:25:00 AM	0	0	1	0	1	0	0	0	0	11	1		0	10	1		76	
07:30:00 AM	0	0	2	0	1	0	2	0	0	8	1		1	15	0		86	
07:35:00 AM	0	0	1	0	0	0	1	0	0	5	0		0	14	1		77	
07:40:00 AM	0	0	0	0	1	0	0	0	1	5	0		0	23	1		83	
07:45:00 AM	0	0	1	0	0	0	3	0	1	7	0		1	15	0		81	
07:50:00 AM	1	0	0	0	0	0	1	0	0	9	0		0	14	1		85	
07:55:00 AM	1	0	0	0	0	0	1	0	1	9	1		1	13	1		82	297
08:00:00 AM	0	0	0	0	0	0	0	0	0	9	0		1	13	0		77	305
08:05:00 AM	1	0	0	0	0	1	1	0	0	6	0		0	10	1		71	306
08:10:00 AM	0	0	1	0	0	0	1	0	0	5	0		0	10	0		60	301
08:15:00 AM	0	0	0	0	0	0	2	0	0	11	0		0	8	0		58	302
08:20:00 AM	2	0	0	0	0	0	1	0	0	6	0		0	10	0		57	290
08:25:00 AM	0	0	0	0	0	0	1	0	1	7	1		1	15	0		66	291
08:30:00 AM	1	0	0	0	1	1	0	0	2	6	1		0	8	0		65	281
08:35:00 AM	2	0	2	0	1	0	1	0	1	1	1		0	8	0		63	276
08:40:00 AM	2	0	0	0	0	0	2	0	0	11	2		0	13	0		67	275
08:45:00 AM	1	0	2	0	1	0	1	0	0	13	0		0	17	0		82	282
08:50:00 AM	0	0	0	0	0	0	0	0	1	10	0		1	13	0		90	281
08:55:00 AM	1	0	0	0	0	1	0	0	1	12	0		1	14	0		90	283

K-D-N
KEY DATA NETWORK

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	1	0	1

All Vehicle Volumes

	Northbound S Ivy St				**Southbound** S Ivy St				**Eastbound** SW 13th Ave				**Westbound** SW 13th Ave				15 Min	1 HR
Time	Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	Sum	Sum
07:00:00 AM	0	17	2	0	0	11	0	0	1	0	1		2	7	3			
07:05:00 AM	1	20	4	0	2	7	0	0	3	6	1		6	8	3			
07:10:00 AM	6	7	2	0	0	4	0	0	0	1	0		0	9	0		134	
07:15:00 AM	5	18	2	0	0	5	1	0	0	8	0		2	12	1		144	
07:20:00 AM	7	19	3	0	0	7	0	0	0	4	7		4	13	3		150	
07:25:00 AM	3	16	3	0	1	3	0	0	2	6	3		4	5	1		168	
07:30:00 AM	1	22	4	0	2	12	1	0	2	4	5		1	15	1		184	
07:35:00 AM	1	15	3	0	0	9	0	0	4	4	2		3	10	1		169	
07:40:00 AM	4	18	1	0	1	5	1	0	4	1	0		0	15	2		174	
07:45:00 AM	9	29	3	0	0	8	1	0	2	5	1		3	6	1		172	
07:50:00 AM	8	18	3	0	2	11	2	0	6	5	1		1	5	2		184	
07:55:00 AM	1	22	1	0	2	9	2	0	3	5	1		5	10	3		196	672
08:00:00 AM	4	18	1	0	1	7	1	0	1	8	3		3	12	3		190	690
08:05:00 AM	6	18	5	0	3	7	0	0	2	3	0		2	4	2		178	681
08:10:00 AM	4	12	5	0	2	11	0	0	2	4	6		1	5	2		168	706
08:15:00 AM	5	5	2	0	0	6	0	0	0	4	2		2	2	2		136	682
08:20:00 AM	2	12	7	0	2	10	0	0	2	4	1		4	8	2		138	669
08:25:00 AM	5	13	2	0	2	8	1	0	2	1	4		3	8	2		135	673
08:30:00 AM	4	17	3	0	1	11	1	0	3	4	2		2	4	3		160	658
08:35:00 AM	3	14	2	0	1	9	0	0	2	1	0		3	6	2		149	649
08:40:00 AM	3	13	3	0	0	4	0	0	4	6	3		4	11	3		152	651
08:45:00 AM	6	13	4	0	2	15	0	0	3	5	5		2	13	2		167	653
08:50:00 AM	5	17	3	0	0	6	1	0	1	7	4		2	7	1		178	643
08:55:00 AM	3	19	1	0	4	12	2	0	0	6	3		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
	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
	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
	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
	2	2	0	0	0	0	0	0	0	0	0	0	0	0	4
04:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
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
	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
	0	7	0	0	0	0	0	0	0	0	0	0	0	0	7
06:00	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2
06:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:30	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2
06:45	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
	0	4	0	0	0	0	0	0	0	0	0	0	0	1	5
07:00	0	0	2	0	0	0	0	0	0	0	0	0	0	0	2
07:15	0	0	3	0	0	0	0	0	0	0	0	0	0	0	3
07:30	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
07:45	0	1	2	0	0	0	0	0	0	0	0	0	0	0	3
	0	2	7	0	0	0	0	0	0	0	0	0	0	0	9
08:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:15	0	4	0	0	0	0	0	0	0	0	0	0	0	0	4
08:30	0	2	1	1	0	0	0	0	0	0	0	0	0	0	4
08:45	0	6	0	0	1	0	0	0	0	0	0	0	0	0	7
	0	12	1	1	1	0	0	0	0	0	0	0	0	0	15
09:00	0	6	0	0	0	0	0	0	0	0	0	0	0	0	6
09:15	0	7	2	0	0	0	0	0	0	0	0	0	0	0	9
09:30	0	4	1	0	1	0	0	0	0	0	0	0	0	0	6
09:45	0	1	0	0	1	0	0	0	0	0	0	0	0	0	2
	0	18	3	0	2	0	0	0	0	0	0	0	0	0	23
10:00	0	6	1	0	1	0	0	0	0	0	0	0	0	0	8
10:15	0	4	0	0	0	0	0	0	0	0	0	0	0	0	4
10:30	0	2	0	0	1	0	0	0	0	0	0	0	0	0	3
10:45	0	4	0	0	0	0	0	0	0	0	0	0	0	0	4
	0	16	1	0	2	0	0	0	0	0	0	0	0	0	19
11:00	0	5	1	0	0	0	0	0	0	0	0	0	0	0	6
11:15	0	5	2	0	1	0	0	0	0	0	0	0	0	0	8
11:30	0	3	0	0	0	0	0	0	0	0	0	0	0	1	4
11:45	0	7	0	0	1	0	0	0	0	0	0	0	0	0	8
	0	20	3	0	2	0	0	0	0	0	0	0	0	1	26
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
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
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%	

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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
	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
	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
	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
	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
04:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
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
	1	1	0	0	0	0	0	0	0	0	0	0	0	1	3
05:00	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2
05:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
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
	0	2	2	0	0	0	0	0	0	0	0	0	0	0	4
06:00	0	2	1	0	0	0	0	0	0	0	0	0	0	0	3
06:15	0	4	0	0	0	0	0	0	0	0	0	0	0	0	4
06:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:45	0	6	1	0	0	0	0	0	0	0	0	0	0	1	8
	0	12	2	0	0	0	0	0	0	0	0	0	0	1	15
07:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15	1	2	1	0	0	1	0	0	0	0	0	0	0	0	5
07:30	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2
07:45	0	2	1	0	0	0	0	0	0	0	0	0	0	0	3
	1	6	2	0	0	1	0	0	0	0	0	0	0	0	10
08:00	0	5	1	0	0	0	0	0	0	0	0	0	0	0	6
08:15	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2
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
	0	17	1	0	1	0	0	0	0	0	0	0	0	0	19
09:00	1	3	1	0	0	0	0	0	0	0	0	0	0	0	5
09:15	0	2	2	0	0	0	0	0	0	0	0	0	0	0	4
09:30	0	2	1	0	1	0	0	0	0	0	0	0	0	0	4
09:45	0	6	1	0	0	0	0	0	0	0	0	0	0	0	7
	1	13	5	0	1	0	0	0	0	0	0	0	0	0	20
10:00	0	7	0	0	0	0	0	0	0	0	0	0	0	0	7
10:15	0	4	1	0	0	0	0	0	0	0	0	0	0	0	5
10:30	0	3	3	0	1	0	0	0	0	0	0	0	0	0	7
10:45	0	7	2	0	0	0	0	0	0	0	0	0	0	2	11
	0	21	6	0	1	0	0	0	0	0	0	0	0	2	30
11:00	0	9	2	0	0	0	0	0	0	0	0	0	0	0	11
11:15	0	6	1	0	0	0	0	0	0	0	0	0	0	0	7
11:30	0	6	1	0	0	0	0	0	0	0	0	0	0	1	8
11:45	0	2	1	0	0	0	0	0	0	0	0	0	0	0	3
	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	13:00	15:00	15:00												13:00		
Vol.	24	2	1												25		

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
07/13/17	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	14:00	16:00													14:00		
Vol.	31	1													31		

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
07/13/17	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
K-D-N.com
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%	

KEY DATA NETWORK
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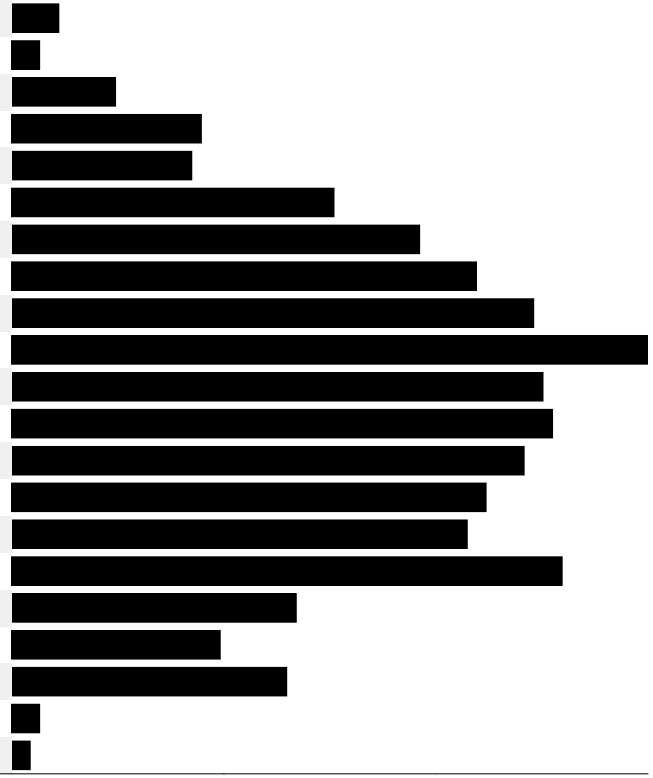
503-804-3294

Fir St south of 13th

Date Start: 7/12/2017

Latitude: 0' 0.0000 Undefined
Longitude: 0' 0.0000 Undefined

Start Time	7/13/2017 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



CITY OF CANBY, CLACKAMAS COUNTY

SW 13TH AVE at FIR ST, City of Canby, Clackamas County, 01/01/2015 to 12/31/2017

SER# / INVEST / RD DPT / UNLOC?	S P E D	A L C	D R U G S	M J I N V	S C H L	W O R K	DATE / DAY / TIME / LAT	CLASS / DIST / FROM / LONG	CITY STREET / FIRST STREET / SECOND STREET / LRS	RD CHAR / DIRECT / LOCTN	INT-TYPE (MEDIAN) / LEGS (#LANES)	INT-REL / TRAF- / CONTL	OFFRD / RNDBT / DRVWY	WTHR / SURF / LIGHT	CRASH / COLL / SVRTY	V#	SPCL USE / TRLR QTY / OWNER / TYPE	MOVE / FROM / TO	P#	PRTC TYPE	INJ SVRTY	A G E	S E X	LICNS RES	PED LOC	ERROR	ACT	EVENT	CAUSE

CITY OF CANBY, CLACKAMAS COUNTY

SW 13TH AVE at IVY ST, City of Canby, Clackamas County, 01/01/2015 to 12/31/2017

1 - 3 of 3 Crash records shown.

SER# / INVEST / RD DPT / UNLOC?	S P E D	A L C	D M R U G	J N S	I H V	C L	S W O R K	DATE / DAY / TIME / LAT	CLASS / DIST / FROM / LONG	CITY STREET / FIRST STREET / SECOND STREET / LRS	RD CHAR / DIRECT / LOCTN	INT-TYPE (MEDIAN) / LEGS (#LANES)	INT-REL / TRAF- / CONTL	OFFRD / RNDBT / DRVWY	WTHR / SURF / LIGHT	CRASH / COLL / SVRTY	V#	SPCL USE / TRLR QTY / OWNER / TYPE	MOVE / FROM / TO	P#	PRTC TYPE	INJ SVRTY	A G E	S E X	LICNS RES	PED LOC	ERROR	ACT EVENT	CAUSE
04418	Y	Y	N					09/25/2016	16	S IVY ST	INTER	CROSS	N	N	CLR	ANGL-OTH	01	NONE 0	STRGHT										30,04
CITY								SU	0	SW 13TH AVE	CN		TRF SIGNAL	N	DRY	ANGL		PRVTE	N -S								000	00
N								6P			03	0		N	DAY	INJ		PSNGR CAR		01	DRVR	INJC	20	F	OR-Y		050,020	000	30,04
N								45 15 7.77	-122 41 13.03																OR<25				
																	02	NONE 0	STRGHT										
																		PRVTE	W -E									000	00
																		PSNGR CAR		01	DRVR	NONE	25	F	OR-Y		000	000	00
																									OR<25				
05026	N	N	N		N	N		10/31/2016	16	S IVY ST	INTER	CROSS	N	N	CLR	O-1 L-TURN	01	NONE 9	STRGHT										04,08
CITY								MO	0	SW 13TH AVE	CN		TRF SIGNAL	N	DRY	TURN		N/A	N -S								000	00
N								5P			03	0		N	DUSK	PDO		PSNGR CAR		01	DRVR	NONE	00	Unk	UNK		000	000	00
N								45 15 7.77	-122 41 13.03																UNK				
																	02	NONE 9	TURN-L										
																		N/A	S -W									000	00
																		PSNGR CAR		01	DRVR	NONE	00	Unk	UNK		000	000	00
																									UNK				
05548	N	N	N		N	N		12/23/2017	16	S IVY ST	INTER	CROSS	N	N	CLD	ANGL-OTH	01	NONE 9	STRGHT										04
NONE								SA	0	SW 13TH AVE	CN		TRF SIGNAL	N	DRY	ANGL		N/A	N -S								000	00
N								2P			03	0		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	00	Unk	UNK		000	000	00
N								45 15 7.77	-122 41 13.03																UNK				
																	02	NONE 9	STRGHT										
																		N/A	W -E									000	00
																		PSNGR CAR		01	DRVR	NONE	00	Unk	UNK		000	000	00
																									UNK				

Traffic Signal Warrant Analysis

Project: 19170 - South Hope Village
Date: 2/4/2020
Scenario: Year 2022 Buildout Conditions

Major Street:	13th Avenue	Minor Street:	S Fir Street
Number of Lanes:	1	Number of Lanes:	1
PM Peak Hour Volumes:	653	PM Peak Hour Volumes:	72

Warrant Used:

X — 100 percent of standard warrants used

_____ — 70 percent of standard warrants used due to 85th percentile speed in excess of 40 mph or isolated community with population less than 10,000.

Number of Lanes for Moving Traffic on Each Approach:		ADT on Major St. (total of both approaches)		ADT on Minor St. (higher-volume approach)	
WARRANT 1, CONDITION A		100%	70%	100%	70%
Major St.	Minor St.	Warrants	Warrants	Warrants	Warrants
1	1	8,850	6,200	2,650	1,850
2 or more	1	10,600	7,400	2,650	1,850
2 or more	2 or more	10,600	7,400	3,550	2,500
1	2 or more	8,850	6,200	3,550	2,500
WARRANT 1, CONDITION B					
1	1	13,300	9,300	1,350	950
2 or more	1	15,900	11,100	1,350	950
2 or more	2 or more	15,900	11,100	1,750	1,250
1	2 or more	13,300	9,300	1,750	1,250

Note: ADT volumes assume 8th highest hour is 5.6% of the daily volume

	Approach Volumes	Minimum Volumes	Is Signal Warrant Met?
Warrant 1			
Condition A: Minimum Vehicular Volume			
Major Street	6,530	8,850	
Minor Street*	720	2,650	**No**
Condition B: Interruption of Continuous Traffic			
Major Street	6,530	13,300	
Minor Street*	720	1,350	**No**
Combination Warrant			
Major Street	6,530	10,640	
Minor Street*	720	2,120	**No**

* Minor street right-turning traffic volumes reduced by 25%.

Traffic Signal Warrant Analysis

Project: 19170 - South Hope Village
Date: 2/4/2020
Scenario: Year 2022 Buildout Conditions

Major Street:	S Ivy Street	Minor Street:	SW 18th Avenue
Number of Lanes:	1	Number of Lanes:	1
PM Peak Hour Volumes:	834	PM Peak Hour Volumes:	14

Warrant Used:

X — 100 percent of standard warrants used

_____ — 70 percent of standard warrants used due to 85th percentile speed in excess of 40 mph or isolated community with population less than 10,000.

Number of Lanes for Moving Traffic on Each Approach:		ADT on Major St. (total of both approaches)		ADT on Minor St. (higher-volume approach)	
WARRANT 1, CONDITION A		100%	70%	100%	70%
Major St.	Minor St.	Warrants	Warrants	Warrants	Warrants
1	1	8,850	6,200	2,650	1,850
2 or more	1	10,600	7,400	2,650	1,850
2 or more	2 or more	10,600	7,400	3,550	2,500
1	2 or more	8,850	6,200	3,550	2,500
WARRANT 1, CONDITION B					
1	1	13,300	9,300	1,350	950
2 or more	1	15,900	11,100	1,350	950
2 or more	2 or more	15,900	11,100	1,750	1,250
1	2 or more	13,300	9,300	1,750	1,250

Note: ADT volumes assume 8th highest hour is 5.6% of the daily volume

	Approach Volumes	Minimum Volumes	Is Signal Warrant Met?
Warrant 1			
Condition A: Minimum Vehicular Volume			
Major Street	8,340	8,850	
Minor Street*	140	2,650	**No**
Condition B: Interruption of Continuous Traffic			
Major Street	8,340	13,300	
Minor Street*	140	1,350	**No**
Combination Warrant			
Major Street	8,340	10,640	
Minor Street*	140	2,120	**No**

* Minor street right-turning traffic volumes reduced by 25%.

Traffic Signal Warrant Analysis

Project: 19170 - South Hope Village
Date: 2/4/2020
Scenario: Year 2022 Buildout Conditions

Major Street:	S Fir Street	Minor Street:	16th Avenue
Number of Lanes:	1	Number of Lanes:	1
PM Peak Hour Volumes:	77	PM Peak Hour Volumes:	13

Warrant Used:

X — 100 percent of standard warrants used

_____ — 70 percent of standard warrants used due to 85th percentile speed in excess of 40 mph or isolated community with population less than 10,000.

Number of Lanes for Moving Traffic on Each Approach:		ADT on Major St. (total of both approaches)		ADT on Minor St. (higher-volume approach)	
WARRANT 1, CONDITION A		100%	70%	100%	70%
Major St.	Minor St.	Warrants	Warrants	Warrants	Warrants
1	1	8,850	6,200	2,650	1,850
2 or more	1	10,600	7,400	2,650	1,850
2 or more	2 or more	10,600	7,400	3,550	2,500
1	2 or more	8,850	6,200	3,550	2,500
WARRANT 1, CONDITION B					
1	1	13,300	9,300	1,350	950
2 or more	1	15,900	11,100	1,350	950
2 or more	2 or more	15,900	11,100	1,750	1,250
1	2 or more	13,300	9,300	1,750	1,250

Note: ADT volumes assume 8th highest hour is 5.6% of the daily volume

	Approach Volumes	Minimum Volumes	Is Signal Warrant Met?
Warrant 1			
Condition A: Minimum Vehicular Volume			
Major Street	770	8,850	
Minor Street*	130	2,650	**No**
Condition B: Interruption of Continuous Traffic			
Major Street	770	13,300	
Minor Street*	130	1,350	**No**
Combination Warrant			
Major Street	770	10,640	
Minor Street*	130	2,120	**No**

* Minor street right-turning traffic volumes reduced by 25%.

Left-Turn Lane Warrant Analysis

Project: 19170 - South Hope Village
Intersection: Fir Street at 13th Avenue
Date: 2/4/2020
Scenario: 2022 Buildout PM Peak Hour

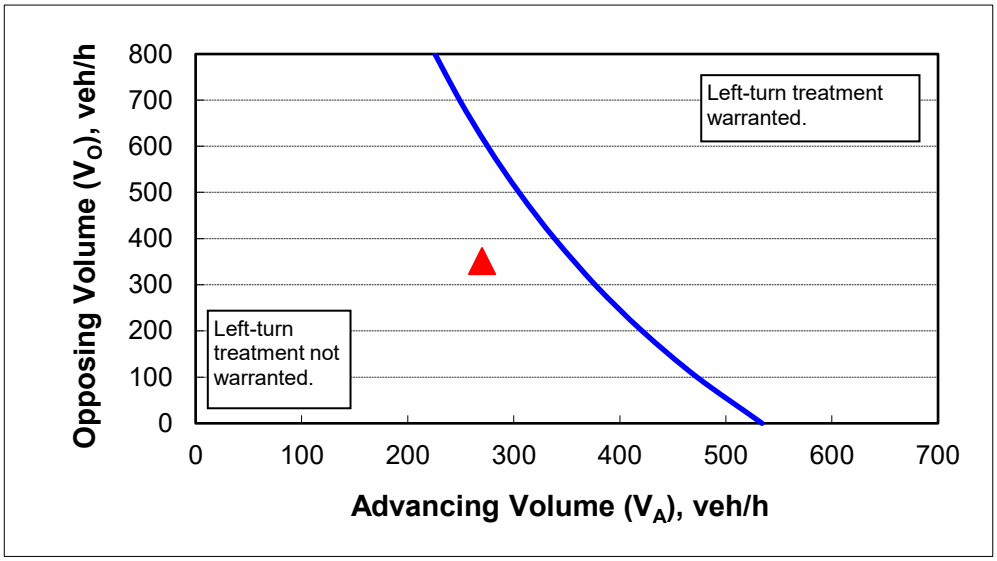
2-lane roadway (English)

INPUT

Variable	Value
85th percentile speed, mph:	25
Left-turns in advancing volume (V_A), veh/hr:	48
Advancing volume (V_A), veh/h:	270
Opposing volume (V_O), veh/h:	351

OUTPUT

Variable	Value
Limiting advancing volume (V_A), veh/h:	357
Guidance for determining the need for a major-road left-turn bay:	
Left-turn treatment NOT warranted.	



CALIBRATION CONSTANTS (2-Lane Roadway)

Variable	Value
Average time for making left-turn, s:	3.0
Critical headway, s:	5.0
Average time for left-turn vehicle to clear the advancing lane, s:	1.9

Left-Turn Lane Warrant Analysis

Project: 19170 - South Hope Village
Intersection: Fir Street at 13th Avenue
Date: 2/4/2020
Scenario: 2022 Buildout PM Peak Hour

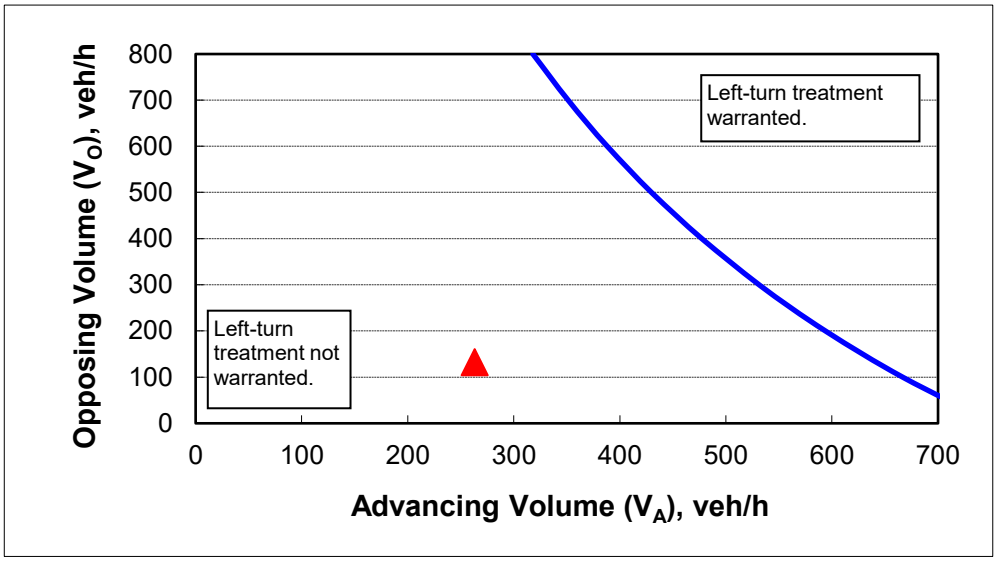
2-lane roadway (English)

INPUT

Variable	Value
85th percentile speed, mph:	25
Left-turns in advancing volume (V_A), veh/hr:	21
Advancing volume (V_A), veh/h:	263
Opposing volume (V_O), veh/h:	132

OUTPUT

Variable	Value
Limiting advancing volume (V_A), veh/h:	642
Guidance for determining the need for a major-road left-turn bay:	
Left-turn treatment NOT warranted.	



CALIBRATION CONSTANTS (2-Lane Roadway)

Variable	Value
Average time for making left-turn, s:	3.0
Critical headway, s:	5.0
Average time for left-turn vehicle to clear the advancing lane, s:	1.9

Left-Turn Lane Warrant Analysis

Project: 19170 - South Hope Village
Intersection: Ivy Street at site access
Date: 2/4/2020
Scenario: 2022 Buildout PM Peak Hour

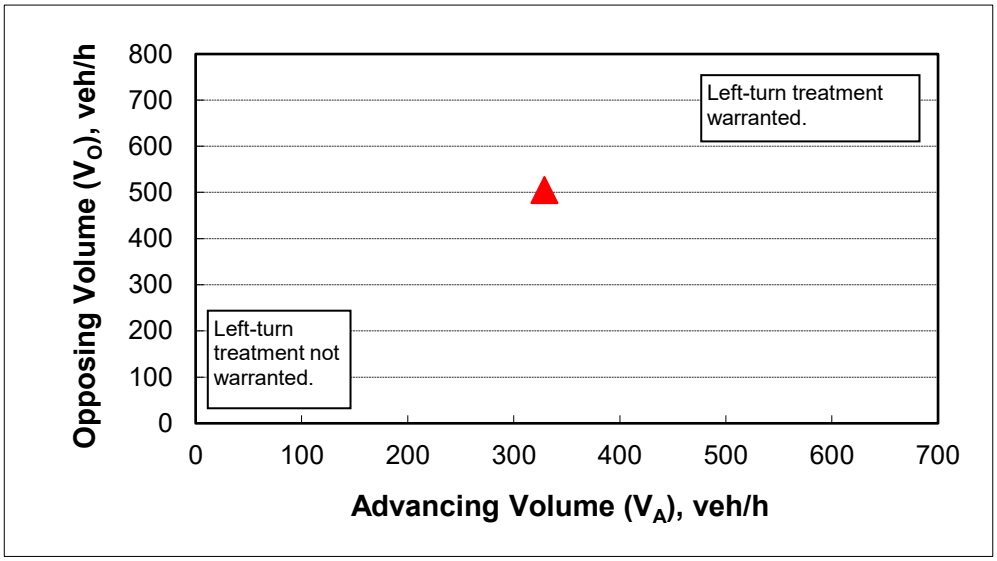
2-lane roadway (English)

INPUT

Variable	Value
85th percentile speed, mph:	50
Left-turns in advancing volume (V_A), veh/hr:	1
Advancing volume (V_A), veh/h:	329
Opposing volume (V_O), veh/h:	505

OUTPUT

Variable	Value
Limiting advancing volume (V_A), veh/h:	1556
Guidance for determining the need for a major-road left-turn bay:	
Left-turn treatment NOT warranted.	



CALIBRATION CONSTANTS (2-Lane Roadway)

Variable	Value
Average time for making left-turn, s:	3.0
Critical headway, s:	5.0
Average time for left-turn vehicle to clear the advancing lane, s:	1.9

Left-Turn Lane Warrant Analysis

Project: 19170 - South Hope Village
Intersection: Ivy Street at site access
Date: 2/4/2020
Scenario: 2022 Buildout PM Peak Hour

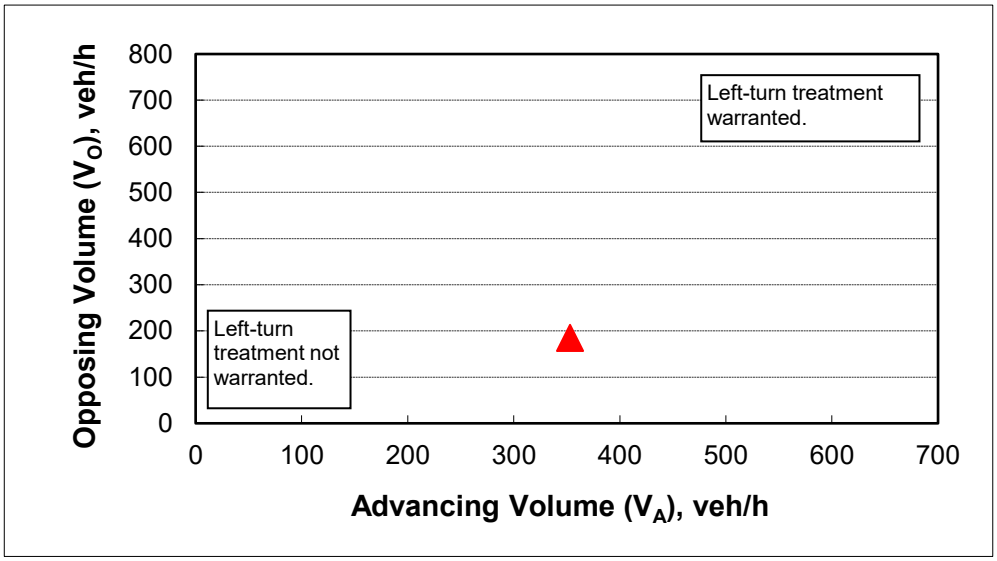
2-lane roadway (English)

INPUT

Variable	Value
85th percentile speed, mph:	50
Left-turns in advancing volume (V_A), veh/hr:	1
Advancing volume (V_A), veh/h:	353
Opposing volume (V_O), veh/h:	185

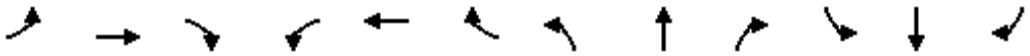
OUTPUT

Variable	Value
Limiting advancing volume (V_A), veh/h:	2276
Guidance for determining the need for a major-road left-turn bay:	
Left-turn treatment NOT warranted.	



CALIBRATION CONSTANTS (2-Lane Roadway)

Variable	Value
Average time for making left-turn, s:	3.0
Critical headway, s:	5.0
Average time for left-turn vehicle to clear the advancing lane, s:	1.9



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	3	111	4	10	204	29	5	0	12	30	1	14
Future Volume (vph)	3	111	4	10	204	29	5	0	12	30	1	14
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt		0.996			0.984			0.908			0.958	
Flt Protected		0.999			0.998			0.984			0.968	
Satd. Flow (prot)	0	1767	0	0	1794	0	0	1698	0	0	1662	0
Flt Permitted		0.999			0.998			0.984			0.968	
Satd. Flow (perm)	0	1767	0	0	1794	0	0	1698	0	0	1662	0
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		287			1311			862			294	
Travel Time (s)		7.8			35.8			23.5			8.0	
Confl. Peds. (#/hr)	3					3						3
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Heavy Vehicles (%)	7%	7%	7%	4%	4%	4%	0%	0%	0%	6%	6%	6%
Adj. Flow (vph)	3	125	4	11	229	33	6	0	13	34	1	16
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	132	0	0	273	0	0	19	0	0	51	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Free			Free			Stop			Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 30.1%		ICU Level of Service A	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	1.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	3	111	4	10	204	29	5	0	12	30	1	14
Future Vol, veh/h	3	111	4	10	204	29	5	0	12	30	1	14
Conflicting Peds, #/hr	3	0	0	0	0	3	0	0	0	0	0	3
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, %	7	7	7	4	4	4	0	0	0	6	6	6
Mvmt Flow	3	125	4	11	229	33	6	0	13	34	1	16

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	265	0	0	129	0	0	412	420	127	411	406	252
Stage 1	-	-	-	-	-	-	133	133	-	271	271	-
Stage 2	-	-	-	-	-	-	279	287	-	140	135	-
Critical Hdwy	4.17	-	-	4.14	-	-	7.1	6.5	6.2	7.16	6.56	6.26
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.16	5.56	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.16	5.56	-
Follow-up Hdwy	2.263	-	-	2.236	-	-	3.5	4	3.3	3.554	4.054	3.354
Pot Cap-1 Maneuver	1271	-	-	1444	-	-	554	528	929	544	528	777
Stage 1	-	-	-	-	-	-	875	790	-	726	678	-
Stage 2	-	-	-	-	-	-	732	678	-	854	777	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1267	-	-	1444	-	-	535	520	929	530	520	773
Mov Cap-2 Maneuver	-	-	-	-	-	-	535	520	-	530	520	-
Stage 1	-	-	-	-	-	-	872	788	-	722	670	-
Stage 2	-	-	-	-	-	-	707	670	-	839	775	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.2	0.3	9.8	11.7
HCM LOS			A	B

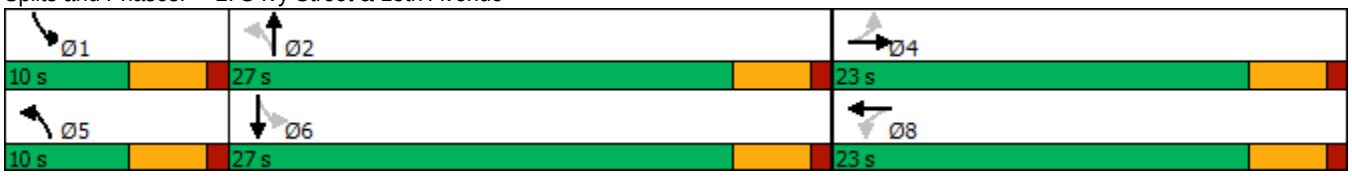
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	764	1267	-	-	1444	-	-	587
HCM Lane V/C Ratio	0.025	0.003	-	-	0.008	-	-	0.086
HCM Control Delay (s)	9.8	7.8	0	-	7.5	0	-	11.7
HCM Lane LOS	A	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	-	0.3

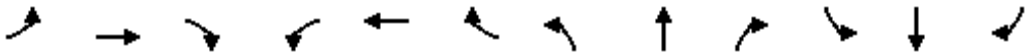
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	84	60	31	31	119	36	56	252	36	26	111	56
Future Volume (vph)	84	60	31	31	119	36	56	252	36	26	111	56
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Storage Length (ft)	175		0	200		0	240		0	245		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.950			0.965			0.981			0.950	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1568	1568	0	1614	1640	0	1614	1667	0	1525	1525	0
Flt Permitted	0.649			0.692			0.607			0.567		
Satd. Flow (perm)	1071	1568	0	1176	1640	0	1031	1667	0	910	1525	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		34			26			14			48	
Link Speed (mph)		25			25			40			40	
Link Distance (ft)		1311			472			2070			353	
Travel Time (s)		35.8			12.9			35.3			6.0	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	6%	6%	6%	3%	3%	3%	3%	3%	3%	9%	9%	9%
Adj. Flow (vph)	93	67	34	34	132	40	62	280	40	29	123	62
Shared Lane Traffic (%)												
Lane Group Flow (vph)	93	101	0	34	172	0	62	320	0	29	185	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100		20	100	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		4			8		5	2		1	6	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	22.5	22.5		22.5	22.5		9.5	22.5		9.5	22.5	
Total Split (s)	23.0	23.0		23.0	23.0		10.0	27.0		10.0	27.0	
Total Split (%)	38.3%	38.3%		38.3%	38.3%		16.7%	45.0%		16.7%	45.0%	
Maximum Green (s)	18.5	18.5		18.5	18.5		5.5	22.5		5.5	22.5	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		None	Min		None	Min	
Walk Time (s)	7.0	7.0		7.0	7.0			7.0			7.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0			11.0			11.0	
Pedestrian Calls (#/hr)	0	0		0	0			0			0	
Act Effct Green (s)	9.3	9.3		9.3	9.3		17.5	18.0		16.7	16.3	
Actuated g/C Ratio	0.27	0.27		0.27	0.27		0.51	0.52		0.48	0.47	
v/c Ratio	0.32	0.23		0.11	0.37		0.10	0.37		0.05	0.25	
Control Delay	15.9	10.4		13.2	13.2		5.9	9.6		5.8	9.0	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	15.9	10.4		13.2	13.2		5.9	9.6		5.8	9.0	
LOS	B	B		B	B		A	A		A	A	
Approach Delay		13.1			13.2			9.0			8.6	
Approach LOS		B			B			A			A	

Intersection Summary			
Area Type:	Other		
Cycle Length: 60			
Actuated Cycle Length: 34.5			
Natural Cycle: 55			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.37			
Intersection Signal Delay: 10.6		Intersection LOS: B	
Intersection Capacity Utilization 50.2%		ICU Level of Service A	
Analysis Period (min) 15			

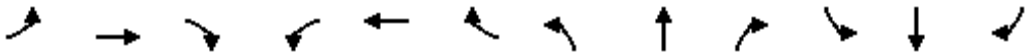
Splits and Phases: 2: S Ivy Street & 13th Avenue





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	84	60	31	31	119	36	56	252	36	26	111	56
Future Volume (vph)	84	60	31	31	119	36	56	252	36	26	111	56
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		4.5	4.5		4.5	4.5	
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	0.97		1.00	0.98		1.00	0.95	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1568	1568		1614	1640		1614	1667		1525	1525	
Flt Permitted	0.65	1.00		0.69	1.00		0.61	1.00		0.57	1.00	
Satd. Flow (perm)	1071	1568		1175	1640		1031	1667		910	1525	
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)	93	67	34	34	132	40	62	280	40	29	123	62
RTOR Reduction (vph)	0	27	0	0	21	0	0	8	0	0	28	0
Lane Group Flow (vph)	93	74	0	34	151	0	62	312	0	29	157	0
Heavy Vehicles (%)	6%	6%	6%	3%	3%	3%	3%	3%	3%	9%	9%	9%
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)	7.8	7.8		7.8	7.8		18.4	16.8		16.6	15.9	
Effective Green, g (s)	7.8	7.8		7.8	7.8		18.4	16.8		16.6	15.9	
Actuated g/C Ratio	0.20	0.20		0.20	0.20		0.47	0.43		0.43	0.41	
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	215	315		236	329		512	721		400	624	
v/s Ratio Prot		0.05			c0.09		c0.00	c0.19		0.00	0.10	
v/s Ratio Perm	0.09			0.03			0.05			0.03		
v/c Ratio	0.43	0.23		0.14	0.46		0.12	0.43		0.07	0.25	
Uniform Delay, d1	13.6	13.0		12.8	13.6		5.6	7.7		6.5	7.5	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	1.4	0.4		0.3	1.0		0.1	0.4		0.1	0.2	
Delay (s)	15.0	13.4		13.0	14.7		5.7	8.1		6.6	7.7	
Level of Service	B	B		B	B		A	A		A	A	
Approach Delay (s)		14.1			14.4			7.7			7.6	
Approach LOS		B			B			A			A	

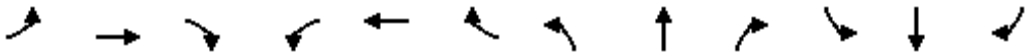
Intersection Summary			
HCM 2000 Control Delay	10.3	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.44		
Actuated Cycle Length (s)	38.8	Sum of lost time (s)	13.5
Intersection Capacity Utilization	50.2%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	84	60	31	31	119	36	56	252	36	26	111	56
Future Volume (veh/h)	84	60	31	31	119	36	56	252	36	26	111	56
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1668	1668	1668	1709	1709	1709	1709	1709	1709	1627	1627	1627
Adj Flow Rate, veh/h	93	67	34	34	132	40	62	280	40	29	123	62
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	6	6	6	3	3	3	3	3	3	9	9	9
Cap, veh/h	403	256	130	462	309	94	505	414	59	392	257	130
Arrive On Green	0.25	0.25	0.25	0.25	0.25	0.25	0.07	0.28	0.28	0.04	0.25	0.25
Sat Flow, veh/h	1082	1043	529	1182	1259	381	1628	1463	209	1550	1020	514
Grp Volume(v), veh/h	93	0	101	34	0	172	62	0	320	29	0	185
Grp Sat Flow(s),veh/h/ln	1082	0	1573	1182	0	1640	1628	0	1671	1550	0	1535
Q Serve(g_s), s	2.5	0.0	1.6	0.7	0.0	2.7	0.8	0.0	5.3	0.4	0.0	3.2
Cycle Q Clear(g_c), s	5.2	0.0	1.6	2.3	0.0	2.7	0.8	0.0	5.3	0.4	0.0	3.2
Prop In Lane	1.00		0.34	1.00		0.23	1.00		0.13	1.00		0.34
Lane Grp Cap(c), veh/h	403	0	387	462	0	403	505	0	473	392	0	387
V/C Ratio(X)	0.23	0.00	0.26	0.07	0.00	0.43	0.12	0.00	0.68	0.07	0.00	0.48
Avail Cap(c_a), veh/h	782	0	938	876	0	979	685	0	1213	612	0	1114
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	12.0	0.0	9.4	10.4	0.0	9.9	7.7	0.0	9.9	8.3	0.0	9.9
Incr Delay (d2), s/veh	0.3	0.0	0.4	0.1	0.0	0.7	0.1	0.0	1.7	0.1	0.0	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	0.0	0.5	0.2	0.0	0.8	0.2	0.0	1.3	0.1	0.0	0.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	12.3	0.0	9.8	10.4	0.0	10.6	7.8	0.0	11.5	8.4	0.0	10.8
LnGrp LOS	B	A	A	B	A	B	A	A	B	A	A	B
Approach Vol, veh/h		194			206			382			214	
Approach Delay, s/veh		11.0			10.5			10.9			10.5	
Approach LOS		B			B			B			B	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	5.6	13.3		12.1	6.6	12.3		12.1				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	5.5	22.5		18.5	5.5	22.5		18.5				
Max Q Clear Time (g_c+I1), s	2.4	7.3		7.2	2.8	5.2		4.7				
Green Ext Time (p_c), s	0.0	1.5		0.7	0.0	0.8		0.9				

Intersection Summary			
HCM 6th Ctrl Delay		10.8	
HCM 6th LOS		B	



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	0	0	5	0	2	0	3	1	0
Future Volume (vph)	0	0	0	0	0	5	0	2	0	3	1	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt					0.865							
Flt Protected											0.964	
Satd. Flow (prot)	0	1863	0	0	1611	0	0	1863	0	0	1796	0
Flt Permitted											0.964	
Satd. Flow (perm)	0	1863	0	0	1611	0	0	1863	0	0	1796	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		274			296			244			180	
Travel Time (s)		6.2			6.7			5.5			4.1	
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
Adj. Flow (vph)	0	0	0	0	0	5	0	2	0	3	1	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	5	0	0	2	0	0	4	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Free			Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 13.3%		ICU Level of Service A	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	5.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	0	0	0	0	5	0	2	0	3	1	0
Future Vol, veh/h	0	0	0	0	0	5	0	2	0	3	1	0
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	0	0	0	0	0	5	0	2	0	3	1	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	12	9	1	9	9	2	1	0	0	2	0	0
Stage 1	7	7	-	2	2	-	-	-	-	-	-	-
Stage 2	5	2	-	7	7	-	-	-	-	-	-	-
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	1005	886	1084	1010	886	1082	1622	-	-	1620	-	-
Stage 1	1015	890	-	1021	894	-	-	-	-	-	-	-
Stage 2	1017	894	-	1015	890	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	998	884	1084	1008	884	1082	1622	-	-	1620	-	-
Mov Cap-2 Maneuver	998	884	-	1008	884	-	-	-	-	-	-	-
Stage 1	1015	888	-	1021	894	-	-	-	-	-	-	-
Stage 2	1012	894	-	1013	888	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	8.3	0	5.4
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1622	-	-	-	1082	1620	-	-
HCM Lane V/C Ratio	-	-	-	-	0.005	0.002	-	-
HCM Control Delay (s)	0	-	-	0	8.3	7.2	0	-
HCM Lane LOS	A	-	-	A	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	-	0	0	-	-

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	27	294	16	9	205	13	11	4	8	11	1	11
Future Volume (vph)	27	294	16	9	205	13	11	4	8	11	1	11
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt		0.993			0.992			0.951			0.935	
Flt Protected		0.996			0.998			0.977			0.977	
Satd. Flow (prot)	0	1824	0	0	1844	0	0	1681	0	0	1736	0
Flt Permitted		0.996			0.998			0.977			0.977	
Satd. Flow (perm)	0	1824	0	0	1844	0	0	1681	0	0	1736	0
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		287			1311			862			294	
Travel Time (s)		7.8			35.8			23.5			8.0	
Confl. Peds. (#/hr)	4		2	2		4						
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	3%	3%	3%	2%	2%	2%	5%	5%	5%	0%	0%	0%
Adj. Flow (vph)	30	323	18	10	225	14	12	4	9	12	1	12
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	371	0	0	249	0	0	25	0	0	25	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Free			Free			Stop			Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 37.2%		ICU Level of Service A	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	1.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	27	294	16	9	205	13	11	4	8	11	1	11
Future Vol, veh/h	27	294	16	9	205	13	11	4	8	11	1	11
Conflicting Peds, #/hr	4	0	2	2	0	4	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, %	3	3	3	2	2	2	5	5	5	0	0	0
Mvmt Flow	30	323	18	10	225	14	12	4	9	12	1	12

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	243	0	0	343	0	0	653	657	334	655	659	236
Stage 1	-	-	-	-	-	-	394	394	-	256	256	-
Stage 2	-	-	-	-	-	-	259	263	-	399	403	-
Critical Hdwy	4.13	-	-	4.12	-	-	7.15	6.55	6.25	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.15	5.55	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.15	5.55	-	6.1	5.5	-
Follow-up Hdwy	2.227	-	-	2.218	-	-	3.545	4.045	3.345	3.5	4	3.3
Pot Cap-1 Maneuver	1317	-	-	1216	-	-	376	381	701	382	386	808
Stage 1	-	-	-	-	-	-	625	600	-	753	699	-
Stage 2	-	-	-	-	-	-	739	685	-	631	603	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1312	-	-	1214	-	-	358	365	700	362	369	805
Mov Cap-2 Maneuver	-	-	-	-	-	-	358	365	-	362	369	-
Stage 1	-	-	-	-	-	-	606	582	-	729	689	-
Stage 2	-	-	-	-	-	-	719	675	-	601	585	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.6	0.3	13.8	12.7
HCM LOS			B	B

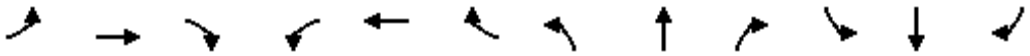
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	433	1312	-	-	1214	-	-	492
HCM Lane V/C Ratio	0.058	0.023	-	-	0.008	-	-	0.051
HCM Control Delay (s)	13.8	7.8	0	-	8	0	-	12.7
HCM Lane LOS	B	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0.2	0.1	-	-	0	-	-	0.2

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	49	163	100	105	128	44	51	226	42	50	272	51
Future Volume (vph)	49	163	100	105	128	44	51	226	42	50	272	51
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Storage Length (ft)	175		0	200		0	240		0	245		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.943			0.961			0.976			0.976	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1646	1634	0	1646	1665	0	1630	1675	0	1646	1691	0
Flt Permitted	0.644			0.549			0.496			0.572		
Satd. Flow (perm)	1116	1634	0	951	1665	0	851	1675	0	991	1691	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		53			30			18			18	
Link Speed (mph)		25			25			40			40	
Link Distance (ft)		1311			472			2070			353	
Travel Time (s)		35.8			12.9			35.3			6.0	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	2%	2%	2%	1%	1%	1%
Adj. Flow (vph)	51	170	104	109	133	46	53	235	44	52	283	53
Shared Lane Traffic (%)												
Lane Group Flow (vph)	51	274	0	109	179	0	53	279	0	52	336	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100		20	100	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		4			8		5	2		1	6	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	22.5	22.5		22.5	22.5		9.5	22.5		9.5	22.5	
Total Split (s)	23.0	23.0		23.0	23.0		10.0	27.0		10.0	27.0	
Total Split (%)	38.3%	38.3%		38.3%	38.3%		16.7%	45.0%		16.7%	45.0%	
Maximum Green (s)	18.5	18.5		18.5	18.5		5.5	22.5		5.5	22.5	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		None	Min		None	Min	
Walk Time (s)	7.0	7.0		7.0	7.0			7.0			7.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0			11.0			11.0	
Pedestrian Calls (#/hr)	0	0		0	0			0			0	
Act Effct Green (s)	11.6	11.6		11.6	11.6		16.1	14.5		16.1	14.5	
Actuated g/C Ratio	0.30	0.30		0.30	0.30		0.41	0.37		0.41	0.37	
v/c Ratio	0.15	0.53		0.39	0.35		0.11	0.44		0.10	0.53	
Control Delay	14.3	15.1		18.2	13.2		6.9	13.1		6.8	14.4	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	14.3	15.1		18.2	13.2		6.9	13.1		6.8	14.4	
LOS	B	B		B	B		A	B		A	B	
Approach Delay		14.9			15.1			12.1			13.4	
Approach LOS		B			B			B			B	

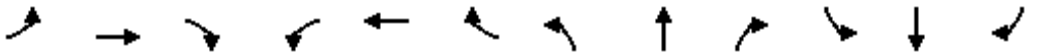
Intersection Summary			
Area Type:	Other		
Cycle Length: 60			
Actuated Cycle Length: 39.1			
Natural Cycle: 55			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.53			
Intersection Signal Delay: 13.8		Intersection LOS: B	
Intersection Capacity Utilization 60.3%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 2: S Ivy Street & 13th Avenue



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	49	163	100	105	128	44	51	226	42	50	272	51
Future Volume (vph)	49	163	100	105	128	44	51	226	42	50	272	51
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		4.5	4.5		4.5	4.5	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.94		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)	1646	1634		1646	1666		1630	1675		1646	1692	
Flt Permitted	0.64	1.00		0.55	1.00		0.50	1.00		0.57	1.00	
Satd. Flow (perm)	1117	1634		952	1666		850	1675		991	1692	
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)	51	170	104	109	133	46	53	235	44	52	283	53
RTOR Reduction (vph)	0	38	0	0	22	0	0	12	0	0	12	0
Lane Group Flow (vph)	51	236	0	109	157	0	53	267	0	52	324	0
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	2%	2%	2%	1%	1%	1%
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)	11.6	11.6		11.6	11.6		16.1	14.5		16.1	14.5	
Effective Green, g (s)	11.6	11.6		11.6	11.6		16.1	14.5		16.1	14.5	
Actuated g/C Ratio	0.28	0.28		0.28	0.28		0.39	0.35		0.39	0.35	
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	314	460		268	469		362	589		412	595	
v/s Ratio Prot		c0.14			0.09		c0.01	0.16		0.00	c0.19	
v/s Ratio Perm	0.05			0.11			0.05			0.04		
v/c Ratio	0.16	0.51		0.41	0.34		0.15	0.45		0.13	0.55	
Uniform Delay, d1	11.1	12.4		12.0	11.7		7.9	10.3		7.9	10.7	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.2	1.0		1.0	0.4		0.2	0.6		0.1	1.0	
Delay (s)	11.4	13.4		13.0	12.2		8.1	10.9		8.0	11.7	
Level of Service	B	B		B	B		A	B		A	B	
Approach Delay (s)		13.1			12.5			10.4			11.2	
Approach LOS		B			B			B			B	

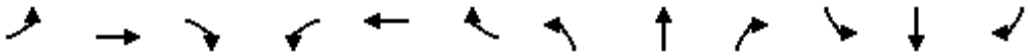
Intersection Summary			
HCM 2000 Control Delay	11.8	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.51		
Actuated Cycle Length (s)	41.2	Sum of lost time (s)	13.5
Intersection Capacity Utilization	60.3%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	49	163	100	105	128	44	51	226	42	50	272	51
Future Volume (veh/h)	49	163	100	105	128	44	51	226	42	50	272	51
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1736	1736	1736	1736	1736	1736	1723	1723	1723	1736	1736	1736
Adj Flow Rate, veh/h	51	170	104	109	133	46	53	235	44	52	283	53
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	1	1	1	1	1	1	2	2	2	1	1	1
Cap, veh/h	448	316	193	369	386	134	372	387	73	414	389	73
Arrive On Green	0.31	0.31	0.31	0.31	0.31	0.31	0.06	0.27	0.27	0.06	0.27	0.27
Sat Flow, veh/h	1119	1008	617	1026	1233	426	1641	1411	264	1654	1422	266
Grp Volume(v), veh/h	51	0	274	109	0	179	53	0	279	52	0	336
Grp Sat Flow(s),veh/h/ln	1119	0	1625	1026	0	1660	1641	0	1675	1654	0	1688
Q Serve(g_s), s	1.4	0.0	5.3	3.7	0.0	3.1	0.8	0.0	5.5	0.8	0.0	6.8
Cycle Q Clear(g_c), s	4.5	0.0	5.3	9.0	0.0	3.1	0.8	0.0	5.5	0.8	0.0	6.8
Prop In Lane	1.00		0.38	1.00		0.26	1.00		0.16	1.00		0.16
Lane Grp Cap(c), veh/h	448	0	509	369	0	520	372	0	460	414	0	462
V/C Ratio(X)	0.11	0.00	0.54	0.30	0.00	0.34	0.14	0.00	0.61	0.13	0.00	0.73
Avail Cap(c_a), veh/h	644	0	794	548	0	811	518	0	995	563	0	1003
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	11.8	0.0	10.7	14.5	0.0	10.0	9.4	0.0	12.0	9.2	0.0	12.5
Incr Delay (d2), s/veh	0.1	0.0	0.9	0.4	0.0	0.4	0.2	0.0	1.3	0.1	0.0	2.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.0	1.6	0.8	0.0	1.0	0.2	0.0	1.6	0.2	0.0	2.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	11.9	0.0	11.6	14.9	0.0	10.4	9.6	0.0	13.3	9.3	0.0	14.7
LnGrp LOS	B	A	B	B	A	B	A	A	B	A	A	B
Approach Vol, veh/h		325			288			332			388	
Approach Delay, s/veh		11.7			12.1			12.7			14.0	
Approach LOS		B			B			B			B	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	6.6	14.9		16.4	6.6	14.9		16.4				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	5.5	22.5		18.5	5.5	22.5		18.5				
Max Q Clear Time (g_c+I1), s	2.8	7.5		7.3	2.8	8.8		11.0				
Green Ext Time (p_c), s	0.0	1.3		1.4	0.0	1.5		0.9				

Intersection Summary												
HCM 6th Ctrl Delay			12.7									
HCM 6th LOS			B									



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	0	0	4	0	1	0	6	3	0
Future Volume (vph)	0	0	0	0	0	4	0	1	0	6	3	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt					0.865							
Flt Protected											0.966	
Satd. Flow (prot)	0	1863	0	0	1611	0	0	1863	0	0	1799	0
Flt Permitted											0.966	
Satd. Flow (perm)	0	1863	0	0	1611	0	0	1863	0	0	1799	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		288			304			249			189	
Travel Time (s)		6.5			6.9			5.7			4.3	
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
Adj. Flow (vph)	0	0	0	0	0	4	0	1	0	7	3	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	4	0	0	1	0	0	10	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Free			Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 15.5%		ICU Level of Service A	
Analysis Period (min) 15			

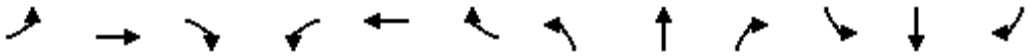
Intersection	
Int Delay, s/veh	5.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	0	0	0	0	4	0	1	0	6	3	0
Future Vol, veh/h	0	0	0	0	0	4	0	1	0	6	3	0
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	0	0	0	0	0	4	0	1	0	7	3	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	20	18	3	18	18	1	3	0	0	1	0	0
Stage 1	17	17	-	1	1	-	-	-	-	-	-	-
Stage 2	3	1	-	17	17	-	-	-	-	-	-	-
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	993	876	1081	996	876	1084	1619	-	-	1622	-	-
Stage 1	1002	881	-	1022	895	-	-	-	-	-	-	-
Stage 2	1020	895	-	1002	881	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	986	872	1081	993	872	1084	1619	-	-	1622	-	-
Mov Cap-2 Maneuver	986	872	-	993	872	-	-	-	-	-	-	-
Stage 1	1002	877	-	1022	895	-	-	-	-	-	-	-
Stage 2	1016	895	-	998	877	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	8.3	0	4.8
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1619	-	-	-	1084	1622	-	-
HCM Lane V/C Ratio	-	-	-	-	0.004	0.004	-	-
HCM Control Delay (s)	0	-	-	0	8.3	7.2	0	-
HCM Lane LOS	A	-	-	A	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	-	0	0	-	-



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	3	113	12	21	208	29	29	11	45	30	5	14
Future Volume (vph)	3	113	12	21	208	29	29	11	45	30	5	14
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt		0.988			0.985			0.928			0.961	
Flt Protected		0.999			0.996			0.983			0.971	
Satd. Flow (prot)	0	1753	0	0	1792	0	0	1733	0	0	1673	0
Flt Permitted		0.999			0.996			0.983			0.971	
Satd. Flow (perm)	0	1753	0	0	1792	0	0	1733	0	0	1673	0
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		287			1311			862			294	
Travel Time (s)		7.8			35.8			23.5			8.0	
Confl. Peds. (#/hr)	3					3						3
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Heavy Vehicles (%)	7%	7%	7%	4%	4%	4%	0%	0%	0%	6%	6%	6%
Adj. Flow (vph)	3	127	13	24	234	33	33	12	51	34	6	16
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	143	0	0	291	0	0	96	0	0	56	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Free			Free			Stop			Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 35.9%		ICU Level of Service A	
Analysis Period (min) 15			

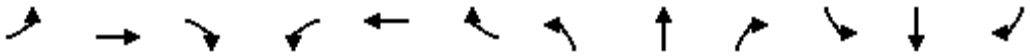
Intersection	
Int Delay, s/veh	3.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	3	113	12	21	208	29	29	11	45	30	5	14
Future Vol, veh/h	3	113	12	21	208	29	29	11	45	30	5	14
Conflicting Peds, #/hr	3	0	0	0	0	3	0	0	0	0	0	3
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, %	7	7	7	4	4	4	0	0	0	6	6	6
Mvmt Flow	3	127	13	24	234	33	33	12	51	34	6	16

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	270	0	0	140	0	0	453	458	134	473	448	257
Stage 1	-	-	-	-	-	-	140	140	-	302	302	-
Stage 2	-	-	-	-	-	-	313	318	-	171	146	-
Critical Hdwy	4.17	-	-	4.14	-	-	7.1	6.5	6.2	7.16	6.56	6.26
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.16	5.56	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.16	5.56	-
Follow-up Hdwy	2.263	-	-	2.236	-	-	3.5	4	3.3	3.554	4.054	3.354
Pot Cap-1 Maneuver	1265	-	-	1431	-	-	520	502	920	495	500	772
Stage 1	-	-	-	-	-	-	868	785	-	699	657	-
Stage 2	-	-	-	-	-	-	702	657	-	822	769	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1261	-	-	1431	-	-	495	489	920	449	487	768
Mov Cap-2 Maneuver	-	-	-	-	-	-	495	489	-	449	487	-
Stage 1	-	-	-	-	-	-	865	783	-	695	642	-
Stage 2	-	-	-	-	-	-	666	642	-	762	767	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.2	0.6	11.4	12.8
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	654	1261	-	-	1431	-	-	514
HCM Lane V/C Ratio	0.146	0.003	-	-	0.016	-	-	0.107
HCM Control Delay (s)	11.4	7.9	0	-	7.6	0	-	12.8
HCM Lane LOS	B	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0.5	0	-	-	0.1	-	-	0.4

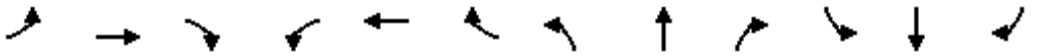


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	107	70	33	31	124	37	58	257	37	26	113	63
Future Volume (vph)	107	70	33	31	124	37	58	257	37	26	113	63
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Storage Length (ft)	175		0	200		0	240		0	245		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor											0.99	
Frt		0.952			0.966			0.981			0.946	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1568	1572	0	1614	1641	0	1614	1667	0	1525	1507	0
Flt Permitted	0.644			0.683			0.602			0.563		
Satd. Flow (perm)	1063	1572	0	1160	1641	0	1023	1667	0	904	1507	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		37			26			13			52	
Link Speed (mph)		25			25			40			40	
Link Distance (ft)		1311			472			2070			353	
Travel Time (s)		35.8			12.9			35.3			6.0	
Confl. Peds. (#/hr)												1
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	6%	6%	6%	3%	3%	3%	3%	3%	3%	9%	9%	9%
Adj. Flow (vph)	119	78	37	34	138	41	64	286	41	29	126	70
Shared Lane Traffic (%)												
Lane Group Flow (vph)	119	115	0	34	179	0	64	327	0	29	196	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100		20	100	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
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		
Detector Phase	4	4		8	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	22.5	22.5		22.5	22.5		9.5	22.5		9.5	22.5	
Total Split (s)	24.0	24.0		24.0	24.0		10.0	26.0		10.0	26.0	
Total Split (%)	40.0%	40.0%		40.0%	40.0%		16.7%	43.3%		16.7%	43.3%	
Maximum Green (s)	19.5	19.5		19.5	19.5		5.5	21.5		5.5	21.5	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		None	Min		None	Min	
Walk Time (s)	7.0	7.0		7.0	7.0			7.0			7.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0			11.0			11.0	
Pedestrian Calls (#/hr)	0	0		0	0			0			0	
Act Effct Green (s)	10.4	10.4		10.4	10.4		18.1	18.7		17.3	17.0	
Actuated g/C Ratio	0.29	0.29		0.29	0.29		0.50	0.52		0.48	0.47	
v/c Ratio	0.39	0.24		0.10	0.36		0.10	0.38		0.05	0.27	
Control Delay	16.7	10.3		12.8	12.8		6.7	10.6		6.5	9.7	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	16.7	10.3		12.8	12.8		6.7	10.6		6.5	9.7	
LOS	B	B		B	B		A	B		A	A	
Approach Delay		13.5			12.8			9.9			9.3	
Approach LOS		B			B			A			A	

Intersection Summary			
Area Type:	Other		
Cycle Length: 60			
Actuated Cycle Length: 36.2			
Natural Cycle: 55			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.39			
Intersection Signal Delay: 11.2		Intersection LOS: B	
Intersection Capacity Utilization 52.3%		ICU Level of Service A	
Analysis Period (min) 15			

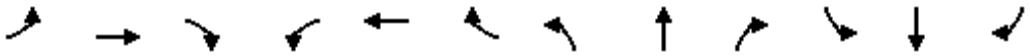
Splits and Phases: 2: S Ivy Street & 13th Avenue



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	107	70	33	31	124	37	58	257	37	26	113	63
Future Volume (vph)	107	70	33	31	124	37	58	257	37	26	113	63
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		4.5	4.5		4.5	4.5	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	0.99	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.95		1.00	0.97		1.00	0.98		1.00	0.95	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1568	1571		1614	1641		1614	1667		1525	1508	
Flt Permitted	0.64	1.00		0.68	1.00		0.60	1.00		0.56	1.00	
Satd. Flow (perm)	1064	1571		1160	1641		1022	1667		904	1508	
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)	119	78	37	34	138	41	64	286	41	29	126	70
RTOR Reduction (vph)	0	29	0	0	20	0	0	7	0	0	31	0
Lane Group Flow (vph)	119	86	0	34	159	0	64	320	0	29	165	0
Confl. Peds. (#/hr)												1
Heavy Vehicles (%)	6%	6%	6%	3%	3%	3%	3%	3%	3%	9%	9%	9%
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)	8.8	8.8		8.8	8.8		19.0	17.4		17.2	16.5	
Effective Green, g (s)	8.8	8.8		8.8	8.8		19.0	17.4		17.2	16.5	
Actuated g/C Ratio	0.22	0.22		0.22	0.22		0.47	0.43		0.43	0.41	
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	231	342		252	357		504	717		395	615	
v/s Ratio Prot		0.05			0.10		c0.01	c0.19		0.00	0.11	
v/s Ratio Perm	c0.11			0.03			0.05			0.03		
v/c Ratio	0.52	0.25		0.13	0.44		0.13	0.45		0.07	0.27	
Uniform Delay, d1	13.9	13.1		12.7	13.7		5.9	8.1		6.8	7.9	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	1.9	0.4		0.2	0.9		0.1	0.4		0.1	0.2	
Delay (s)	15.9	13.5		13.0	14.6		6.0	8.5		6.9	8.2	
Level of Service	B	B		B	B		A	A		A	A	
Approach Delay (s)		14.7			14.3			8.1			8.0	
Approach LOS		B			B			A			A	

Intersection Summary			
HCM 2000 Control Delay	10.8	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.46		
Actuated Cycle Length (s)	40.4	Sum of lost time (s)	13.5
Intersection Capacity Utilization	52.3%	ICU Level of Service	A
Analysis Period (min)	15		

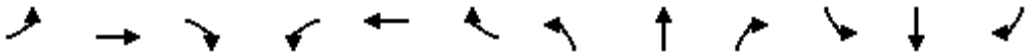
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	107	70	33	31	124	37	58	257	37	26	113	63
Future Volume (veh/h)	107	70	33	31	124	37	58	257	37	26	113	63
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1668	1668	1668	1709	1709	1709	1709	1709	1709	1627	1627	1627
Adj Flow Rate, veh/h	119	78	37	34	138	41	64	286	41	29	126	70
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	6	6	6	3	3	3	3	3	3	9	9	9
Cap, veh/h	416	292	138	470	345	102	479	412	59	372	245	136
Arrive On Green	0.27	0.27	0.27	0.27	0.27	0.27	0.07	0.28	0.28	0.04	0.25	0.25
Sat Flow, veh/h	1075	1069	507	1167	1265	376	1628	1462	210	1550	982	546
Grp Volume(v), veh/h	119	0	115	34	0	179	64	0	327	29	0	196
Grp Sat Flow(s),veh/h/ln	1075	0	1577	1167	0	1641	1628	0	1671	1550	0	1528
Q Serve(g_s), s	3.3	0.0	1.9	0.8	0.0	2.9	0.9	0.0	5.7	0.4	0.0	3.6
Cycle Q Clear(g_c), s	6.3	0.0	1.9	2.7	0.0	2.9	0.9	0.0	5.7	0.4	0.0	3.6
Prop In Lane	1.00		0.32	1.00		0.23	1.00		0.13	1.00		0.36
Lane Grp Cap(c), veh/h	416	0	430	470	0	447	479	0	471	372	0	382
V/C Ratio(X)	0.29	0.00	0.27	0.07	0.00	0.40	0.13	0.00	0.69	0.08	0.00	0.51
Avail Cap(c_a), veh/h	760	0	934	844	0	973	642	0	1092	576	0	998
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	12.3	0.0	9.4	10.4	0.0	9.8	8.2	0.0	10.6	8.9	0.0	10.6
Incr Delay (d2), s/veh	0.4	0.0	0.3	0.1	0.0	0.6	0.1	0.0	1.8	0.1	0.0	1.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	0.0	0.5	0.2	0.0	0.9	0.2	0.0	1.5	0.1	0.0	0.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	12.7	0.0	9.7	10.5	0.0	10.4	8.3	0.0	12.4	9.0	0.0	11.7
LnGrp LOS	B	A	A	B	A	B	A	A	B	A	A	B
Approach Vol, veh/h		234			213			391			225	
Approach Delay, s/veh		11.2			10.4			11.7			11.3	
Approach LOS		B			B			B			B	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	5.7	13.8		13.5	6.7	12.7		13.5				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	5.5	21.5		19.5	5.5	21.5		19.5				
Max Q Clear Time (g_c+I1), s	2.4	7.7		8.3	2.9	5.6		4.9				
Green Ext Time (p_c), s	0.0	1.5		0.8	0.0	0.9		1.0				

Intersection Summary			
HCM 6th Ctrl Delay		11.3	
HCM 6th LOS		B	



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	20	0	0	0	0	5	0	30	0	3	11	6
Future Volume (vph)	20	0	0	0	0	5	0	30	0	3	11	6
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt					0.865						0.957	
Flt Protected		0.950									0.993	
Satd. Flow (prot)	0	1770	0	0	1611	0	0	1863	0	0	1770	0
Flt Permitted		0.950									0.993	
Satd. Flow (perm)	0	1770	0	0	1611	0	0	1863	0	0	1770	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		326			351			278			205	
Travel Time (s)		7.4			8.0			6.3			4.7	
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
Adj. Flow (vph)	22	0	0	0	0	5	0	33	0	3	12	7
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	22	0	0	5	0	0	33	0	0	22	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Free			Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 18.1%		ICU Level of Service A	
Analysis Period (min) 15			

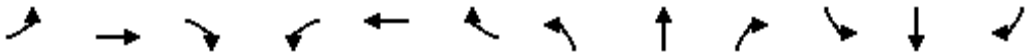
Intersection	
Int Delay, s/veh	3.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	20	0	0	0	0	5	0	30	0	3	11	6
Future Vol, veh/h	20	0	0	0	0	5	0	30	0	3	11	6
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	22	0	0	0	0	5	0	33	0	3	12	7

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	58	55	16	55	58	33	19	0	0	33	0	0
Stage 1	22	22	-	33	33	-	-	-	-	-	-	-
Stage 2	36	33	-	22	25	-	-	-	-	-	-	-
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	939	836	1063	943	833	1041	1597	-	-	1579	-	-
Stage 1	996	877	-	983	868	-	-	-	-	-	-	-
Stage 2	980	868	-	996	874	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	932	834	1063	941	831	1041	1597	-	-	1579	-	-
Mov Cap-2 Maneuver	932	834	-	941	831	-	-	-	-	-	-	-
Stage 1	996	875	-	983	868	-	-	-	-	-	-	-
Stage 2	975	868	-	994	872	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	9	8.5	0	1.1
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1597	-	-	932	1041	1579	-	-
HCM Lane V/C Ratio	-	-	-	0.023	0.005	0.002	-	-
HCM Control Delay (s)	0	-	-	9	8.5	7.3	0	-
HCM Lane LOS	A	-	-	A	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0	0	-	-



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	27	300	43	48	209	13	27	11	29	11	13	11
Future Volume (vph)	27	300	43	48	209	13	27	11	29	11	13	11
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt		0.984			0.994			0.942			0.957	
Flt Protected		0.996			0.991			0.980			0.984	
Satd. Flow (prot)	0	1808	0	0	1835	0	0	1670	0	0	1789	0
Flt Permitted		0.996			0.991			0.980			0.984	
Satd. Flow (perm)	0	1808	0	0	1835	0	0	1670	0	0	1789	0
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		287			1311			862			294	
Travel Time (s)		7.8			35.8			23.5			8.0	
Confl. Peds. (#/hr)	4		2	2		4						
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	3%	3%	3%	2%	2%	2%	5%	5%	5%	0%	0%	0%
Adj. Flow (vph)	30	330	47	53	230	14	30	12	32	12	14	12
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	407	0	0	297	0	0	74	0	0	38	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Free			Free			Stop			Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 38.7%		ICU Level of Service A	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	3.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	27	300	43	48	209	13	27	11	29	11	13	11
Future Vol, veh/h	27	300	43	48	209	13	27	11	29	11	13	11
Conflicting Peds, #/hr	4	0	2	2	0	4	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, %	3	3	3	2	2	2	5	5	5	0	0	0
Mvmt Flow	30	330	47	53	230	14	30	12	32	12	14	12

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	248	0	0	379	0	0	772	770	356	783	786	241
Stage 1	-	-	-	-	-	-	416	416	-	347	347	-
Stage 2	-	-	-	-	-	-	356	354	-	436	439	-
Critical Hdwy	4.13	-	-	4.12	-	-	7.15	6.55	6.25	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.15	5.55	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.15	5.55	-	6.1	5.5	-
Follow-up Hdwy	2.227	-	-	2.218	-	-	3.545	4.045	3.345	3.5	4	3.3
Pot Cap-1 Maneuver	1312	-	-	1179	-	-	313	328	681	314	326	803
Stage 1	-	-	-	-	-	-	608	587	-	673	638	-
Stage 2	-	-	-	-	-	-	655	625	-	603	582	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1307	-	-	1177	-	-	279	300	680	272	298	800
Mov Cap-2 Maneuver	-	-	-	-	-	-	279	300	-	272	298	-
Stage 1	-	-	-	-	-	-	589	569	-	651	602	-
Stage 2	-	-	-	-	-	-	597	590	-	546	564	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.6	1.5	16.7	16.3
HCM LOS			C	C

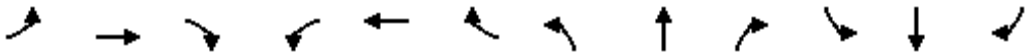
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	380	1307	-	-	1177	-	-	358
HCM Lane V/C Ratio	0.194	0.023	-	-	0.045	-	-	0.107
HCM Control Delay (s)	16.7	7.8	0	-	8.2	0	-	16.3
HCM Lane LOS	C	A	A	-	A	A	-	C
HCM 95th %tile Q(veh)	0.7	0.1	-	-	0.1	-	-	0.4

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	65	172	103	107	140	45	55	230	43	51	278	78
Future Volume (vph)	65	172	103	107	140	45	55	230	43	51	278	78
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Storage Length (ft)	175		0	200		0	240		0	245		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.944			0.963			0.976			0.967	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1646	1636	0	1646	1669	0	1630	1675	0	1646	1675	0
Flt Permitted	0.636			0.530			0.445			0.559		
Satd. Flow (perm)	1102	1636	0	918	1669	0	763	1675	0	969	1675	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		53			29			18			26	
Link Speed (mph)		25			25			40			40	
Link Distance (ft)		1311			472			2070			353	
Travel Time (s)		35.8			12.9			35.3			6.0	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	2%	2%	2%	1%	1%	1%
Adj. Flow (vph)	68	179	107	111	146	47	57	240	45	53	290	81
Shared Lane Traffic (%)												
Lane Group Flow (vph)	68	286	0	111	193	0	57	285	0	53	371	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100		20	100	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		4			8		5	2		1	6	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	22.5	22.5		22.5	22.5		9.5	22.5		9.5	22.5	
Total Split (s)	24.0	24.0		24.0	24.0		10.0	26.0		10.0	26.0	
Total Split (%)	40.0%	40.0%		40.0%	40.0%		16.7%	43.3%		16.7%	43.3%	
Maximum Green (s)	19.5	19.5		19.5	19.5		5.5	21.5		5.5	21.5	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		None	Min		None	Min	
Walk Time (s)	7.0	7.0		7.0	7.0			7.0			7.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0			11.0			11.0	
Pedestrian Calls (#/hr)	0	0		0	0			0			0	
Act Effct Green (s)	12.3	12.3		12.3	12.3		16.4	14.8		16.4	14.8	
Actuated g/C Ratio	0.31	0.31		0.31	0.31		0.41	0.37		0.41	0.37	
v/c Ratio	0.20	0.53		0.40	0.36		0.13	0.45		0.11	0.59	
Control Delay	14.6	15.1		18.4	13.3		7.5	13.7		7.3	15.8	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	14.6	15.1		18.4	13.3		7.5	13.7		7.3	15.8	
LOS	B	B		B	B		A	B		A	B	
Approach Delay		15.0			15.2			12.6			14.7	
Approach LOS		B			B			B			B	

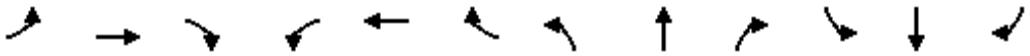
Intersection Summary			
Area Type:	Other		
Cycle Length: 60			
Actuated Cycle Length: 40.2			
Natural Cycle: 55			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.59			
Intersection Signal Delay: 14.4		Intersection LOS: B	
Intersection Capacity Utilization 63.3%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 2: S Ivy Street & 13th Avenue



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	65	172	103	107	140	45	55	230	43	51	278	78
Future Volume (vph)	65	172	103	107	140	45	55	230	43	51	278	78
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		4.5	4.5		4.5	4.5	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.94		1.00	0.96		1.00	0.98		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)	1646	1635		1646	1669		1630	1675		1646	1676	
Flt Permitted	0.64	1.00		0.53	1.00		0.45	1.00		0.56	1.00	
Satd. Flow (perm)	1102	1635		918	1669		764	1675		969	1676	
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)	68	179	107	111	146	47	57	240	45	53	290	81
RTOR Reduction (vph)	0	38	0	0	21	0	0	12	0	0	17	0
Lane Group Flow (vph)	68	248	0	111	172	0	57	273	0	53	354	0
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	2%	2%	2%	1%	1%	1%
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)	12.3	12.3		12.3	12.3		16.4	14.8		16.4	14.8	
Effective Green, g (s)	12.3	12.3		12.3	12.3		16.4	14.8		16.4	14.8	
Actuated g/C Ratio	0.29	0.29		0.29	0.29		0.39	0.35		0.39	0.35	
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	321	476		267	486		329	587		402	587	
v/s Ratio Prot		c0.15			0.10		c0.01	0.16		0.00	c0.21	
v/s Ratio Perm	0.06			0.12			0.06			0.05		
v/c Ratio	0.21	0.52		0.42	0.35		0.17	0.47		0.13	0.60	
Uniform Delay, d1	11.3	12.5		12.1	11.8		8.3	10.6		8.2	11.3	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.3	1.0		1.1	0.4		0.3	0.6		0.1	1.8	
Delay (s)	11.6	13.5		13.1	12.3		8.5	11.2		8.3	13.0	
Level of Service	B	B		B	B		A	B		A	B	
Approach Delay (s)		13.2			12.6			10.8			12.4	
Approach LOS		B			B			B			B	

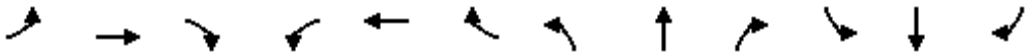
Intersection Summary			
HCM 2000 Control Delay	12.2	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.54		
Actuated Cycle Length (s)	42.2	Sum of lost time (s)	13.5
Intersection Capacity Utilization	63.3%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	65	172	103	107	140	45	55	230	43	51	278	78
Future Volume (veh/h)	65	172	103	107	140	45	55	230	43	51	278	78
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1736	1736	1736	1736	1736	1736	1723	1723	1723	1736	1736	1736
Adj Flow Rate, veh/h	68	179	107	111	146	47	57	240	45	53	290	81
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	1	1	1	1	1	1	2	2	2	1	1	1
Cap, veh/h	431	325	194	354	402	129	355	414	78	420	380	106
Arrive On Green	0.32	0.32	0.32	0.32	0.32	0.32	0.06	0.29	0.29	0.06	0.29	0.29
Sat Flow, veh/h	1105	1018	609	1015	1258	405	1641	1411	264	1654	1306	365
Grp Volume(v), veh/h	68	0	286	111	0	193	57	0	285	53	0	371
Grp Sat Flow(s),veh/h/ln	1105	0	1627	1015	0	1663	1641	0	1675	1654	0	1671
Q Serve(g_s), s	2.1	0.0	5.9	4.1	0.0	3.6	1.0	0.0	5.9	0.9	0.0	8.2
Cycle Q Clear(g_c), s	5.7	0.0	5.9	10.0	0.0	3.6	1.0	0.0	5.9	0.9	0.0	8.2
Prop In Lane	1.00		0.37	1.00		0.24	1.00		0.16	1.00		0.22
Lane Grp Cap(c), veh/h	431	0	519	354	0	531	355	0	492	420	0	486
V/C Ratio(X)	0.16	0.00	0.55	0.31	0.00	0.36	0.16	0.00	0.58	0.13	0.00	0.76
Avail Cap(c_a), veh/h	608	0	780	516	0	797	481	0	885	552	0	883
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	12.9	0.0	11.4	15.6	0.0	10.7	9.8	0.0	12.2	9.4	0.0	13.2
Incr Delay (d2), s/veh	0.2	0.0	0.9	0.5	0.0	0.4	0.2	0.0	1.1	0.1	0.0	2.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	0.0	1.9	0.9	0.0	1.2	0.3	0.0	1.7	0.2	0.0	2.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	13.0	0.0	12.4	16.1	0.0	11.1	10.0	0.0	13.3	9.6	0.0	15.7
LnGrp LOS	B	A	B	B	A	B	B	A	B	A	A	B
Approach Vol, veh/h		354			304			342			424	
Approach Delay, s/veh		12.5			12.9			12.8			14.9	
Approach LOS		B			B			B			B	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	6.8	16.4		17.5	6.9	16.3		17.5				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	5.5	21.5		19.5	5.5	21.5		19.5				
Max Q Clear Time (g_c+I1), s	2.9	7.9		7.9	3.0	10.2		12.0				
Green Ext Time (p_c), s	0.0	1.2		1.6	0.0	1.6		1.0				

Intersection Summary												
HCM 6th Ctrl Delay			13.4									
HCM 6th LOS			B									



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	13	0	0	0	0	4	0	19	0	6	35	23
Future Volume (vph)	13	0	0	0	0	4	0	19	0	6	35	23
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt					0.865						0.952	
Flt Protected		0.950									0.995	
Satd. Flow (prot)	0	1770	0	0	1611	0	0	1863	0	0	1764	0
Flt Permitted		0.950									0.995	
Satd. Flow (perm)	0	1770	0	0	1611	0	0	1863	0	0	1764	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		248			344			235			216	
Travel Time (s)		5.6			7.8			5.3			4.9	
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
Adj. Flow (vph)	14	0	0	0	0	4	0	21	0	7	38	25
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	14	0	0	4	0	0	21	0	0	70	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Free			Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 22.6%		ICU Level of Service A	
Analysis Period (min) 15			

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	13	0	0	0	0	4	0	19	0	6	35	23
Future Vol, veh/h	13	0	0	0	0	4	0	19	0	6	35	23
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	14	0	0	0	0	4	0	21	0	7	38	25

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	88	86	51	86	98	21	63	0	0	21	0	0
Stage 1	65	65	-	21	21	-	-	-	-	-	-	-
Stage 2	23	21	-	65	77	-	-	-	-	-	-	-
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	897	804	1017	900	792	1056	1540	-	-	1595	-	-
Stage 1	946	841	-	998	878	-	-	-	-	-	-	-
Stage 2	995	878	-	946	831	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	890	800	1017	896	788	1056	1540	-	-	1595	-	-
Mov Cap-2 Maneuver	890	800	-	896	788	-	-	-	-	-	-	-
Stage 1	946	837	-	998	878	-	-	-	-	-	-	-
Stage 2	991	878	-	941	827	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	9.1	8.4	0	0.7
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1540	-	-	890	1056	1595	-	-
HCM Lane V/C Ratio	-	-	-	0.016	0.004	0.004	-	-
HCM Control Delay (s)	0	-	-	9.1	8.4	7.3	0	-
HCM Lane LOS	A	-	-	A	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0	0	0	-	-

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	3	117	12	21	212	30	32	13	45	32	5	14
Future Volume (vph)	3	117	12	21	212	30	32	13	45	32	5	14
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt		0.988			0.984			0.932			0.963	
Flt Protected		0.999			0.996			0.983			0.970	
Satd. Flow (prot)	0	1753	0	0	1791	0	0	1741	0	0	1674	0
Flt Permitted		0.999			0.996			0.983			0.970	
Satd. Flow (perm)	0	1753	0	0	1791	0	0	1741	0	0	1674	0
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		287			1311			862			294	
Travel Time (s)		7.8			35.8			23.5			8.0	
Confl. Peds. (#/hr)	3					3						3
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Heavy Vehicles (%)	7%	7%	7%	4%	4%	4%	0%	0%	0%	6%	6%	6%
Adj. Flow (vph)	3	131	13	24	238	34	36	15	51	36	6	16
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	147	0	0	296	0	0	102	0	0	58	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Free			Free			Stop			Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 36.4%		ICU Level of Service A	
Analysis Period (min) 15			

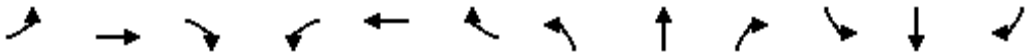
Intersection	
Int Delay, s/veh	3.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	3	117	12	21	212	30	32	13	45	32	5	14
Future Vol, veh/h	3	117	12	21	212	30	32	13	45	32	5	14
Conflicting Peds, #/hr	3	0	0	0	0	3	0	0	0	0	0	3
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, %	7	7	7	4	4	4	0	0	0	6	6	6
Mvmt Flow	3	131	13	24	238	34	36	15	51	36	6	16

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	275	0	0	144	0	0	461	467	138	483	456	261
Stage 1	-	-	-	-	-	-	144	144	-	306	306	-
Stage 2	-	-	-	-	-	-	317	323	-	177	150	-
Critical Hdwy	4.17	-	-	4.14	-	-	7.1	6.5	6.2	7.16	6.56	6.26
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.16	5.56	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.16	5.56	-
Follow-up Hdwy	2.263	-	-	2.236	-	-	3.5	4	3.3	3.554	4.054	3.354
Pot Cap-1 Maneuver	1260	-	-	1426	-	-	514	496	916	487	495	768
Stage 1	-	-	-	-	-	-	864	782	-	695	654	-
Stage 2	-	-	-	-	-	-	698	654	-	816	766	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1256	-	-	1426	-	-	489	483	916	440	482	764
Mov Cap-2 Maneuver	-	-	-	-	-	-	489	483	-	440	482	-
Stage 1	-	-	-	-	-	-	861	780	-	691	639	-
Stage 2	-	-	-	-	-	-	662	639	-	754	764	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.2	0.6	11.7	13.1
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	636	1256	-	-	1426	-	-	503
HCM Lane V/C Ratio	0.159	0.003	-	-	0.017	-	-	0.114
HCM Control Delay (s)	11.7	7.9	0	-	7.6	0	-	13.1
HCM Lane LOS	B	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0.6	0	-	-	0.1	-	-	0.4

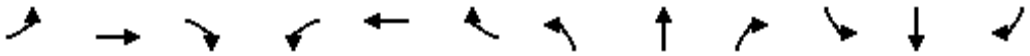


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	107	70	39	32	124	37	63	265	39	26	117	63
Future Volume (vph)	107	70	39	32	124	37	63	265	39	26	117	63
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Storage Length (ft)	175		0	200		0	240		0	245		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor											0.99	
Frt		0.947			0.966			0.981			0.947	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1568	1563	0	1614	1641	0	1614	1667	0	1525	1509	0
Flt Permitted	0.644			0.679			0.600			0.558		
Satd. Flow (perm)	1063	1563	0	1154	1641	0	1019	1667	0	896	1509	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		43			26			14			50	
Link Speed (mph)		25			25			40			40	
Link Distance (ft)		1311			472			2002			353	
Travel Time (s)		35.8			12.9			34.1			6.0	
Confl. Peds. (#/hr)												1
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	6%	6%	6%	3%	3%	3%	3%	3%	3%	9%	9%	9%
Adj. Flow (vph)	119	78	43	36	138	41	70	294	43	29	130	70
Shared Lane Traffic (%)												
Lane Group Flow (vph)	119	121	0	36	179	0	70	337	0	29	200	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100		20	100	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
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		
Detector Phase	4	4		8	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	22.5	22.5		22.5	22.5		9.5	22.5		9.5	22.5	
Total Split (s)	24.0	24.0		24.0	24.0		10.0	26.0		10.0	26.0	
Total Split (%)	40.0%	40.0%		40.0%	40.0%		16.7%	43.3%		16.7%	43.3%	
Maximum Green (s)	19.5	19.5		19.5	19.5		5.5	21.5		5.5	21.5	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		None	Min		None	Min	
Walk Time (s)	7.0	7.0		7.0	7.0			7.0			7.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0			11.0			11.0	
Pedestrian Calls (#/hr)	0	0		0	0			0			0	
Act Effct Green (s)	10.5	10.5		10.5	10.5		18.3	18.8		17.5	17.1	
Actuated g/C Ratio	0.29	0.29		0.29	0.29		0.50	0.52		0.48	0.47	
v/c Ratio	0.39	0.25		0.11	0.36		0.11	0.39		0.05	0.27	
Control Delay	16.7	10.1		12.9	12.8		6.8	10.6		6.5	9.9	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	16.7	10.1		12.9	12.8		6.8	10.6		6.5	9.9	
LOS	B	B		B	B		A	B		A	A	
Approach Delay		13.4			12.8			10.0			9.5	
Approach LOS		B			B			A			A	

Intersection Summary			
Area Type:	Other		
Cycle Length: 60			
Actuated Cycle Length: 36.4			
Natural Cycle: 55			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.39			
Intersection Signal Delay: 11.2		Intersection LOS: B	
Intersection Capacity Utilization 52.8%		ICU Level of Service A	
Analysis Period (min) 15			

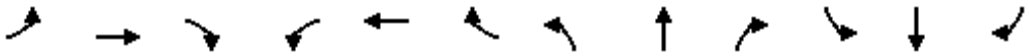
Splits and Phases: 2: S Ivy Street & 13th Avenue



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	107	70	39	32	124	37	63	265	39	26	117	63
Future Volume (vph)	107	70	39	32	124	37	63	265	39	26	117	63
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		4.5	4.5		4.5	4.5	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	0.99	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.95		1.00	0.97		1.00	0.98		1.00	0.95	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1568	1563		1614	1641		1614	1667		1525	1510	
Flt Permitted	0.64	1.00		0.68	1.00		0.60	1.00		0.56	1.00	
Satd. Flow (perm)	1064	1563		1154	1641		1019	1667		896	1510	
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)	119	78	43	36	138	41	70	294	43	29	130	70
RTOR Reduction (vph)	0	34	0	0	20	0	0	8	0	0	29	0
Lane Group Flow (vph)	119	87	0	36	159	0	70	329	0	29	171	0
Confl. Peds. (#/hr)												1
Heavy Vehicles (%)	6%	6%	6%	3%	3%	3%	3%	3%	3%	9%	9%	9%
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)	8.8	8.8		8.8	8.8		19.2	17.6		17.4	16.7	
Effective Green, g (s)	8.8	8.8		8.8	8.8		19.2	17.6		17.4	16.7	
Actuated g/C Ratio	0.22	0.22		0.22	0.22		0.47	0.43		0.43	0.41	
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	230	338		250	355		505	722		394	621	
v/s Ratio Prot		0.06			0.10		c0.01	c0.20		0.00	0.11	
v/s Ratio Perm	c0.11			0.03			0.06			0.03		
v/c Ratio	0.52	0.26		0.14	0.45		0.14	0.46		0.07	0.27	
Uniform Delay, d1	14.0	13.2		12.9	13.8		5.9	8.1		6.8	7.9	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	2.0	0.4		0.3	0.9		0.1	0.5		0.1	0.2	
Delay (s)	16.0	13.6		13.1	14.7		6.0	8.6		6.8	8.2	
Level of Service	B	B		B	B		A	A		A	A	
Approach Delay (s)		14.8			14.4			8.1			8.0	
Approach LOS		B			B			A			A	

Intersection Summary			
HCM 2000 Control Delay	10.8	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.47		
Actuated Cycle Length (s)	40.6	Sum of lost time (s)	13.5
Intersection Capacity Utilization	52.8%	ICU Level of Service	A
Analysis Period (min)	15		

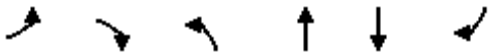
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	107	70	39	32	124	37	63	265	39	26	117	63
Future Volume (veh/h)	107	70	39	32	124	37	63	265	39	26	117	63
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1668	1668	1668	1709	1709	1709	1709	1709	1709	1627	1627	1627
Adj Flow Rate, veh/h	119	78	43	36	138	41	70	294	43	29	130	70
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	6	6	6	3	3	3	3	3	3	9	9	9
Cap, veh/h	413	276	152	462	345	103	481	419	61	368	249	134
Arrive On Green	0.27	0.27	0.27	0.27	0.27	0.27	0.07	0.29	0.29	0.04	0.25	0.25
Sat Flow, veh/h	1075	1011	557	1161	1265	376	1628	1458	213	1550	994	535
Grp Volume(v), veh/h	119	0	121	36	0	179	70	0	337	29	0	200
Grp Sat Flow(s),veh/h/ln	1075	0	1568	1161	0	1641	1628	0	1671	1550	0	1530
Q Serve(g_s), s	3.4	0.0	2.0	0.8	0.0	3.0	1.0	0.0	6.0	0.5	0.0	3.8
Cycle Q Clear(g_c), s	6.4	0.0	2.0	2.9	0.0	3.0	1.0	0.0	6.0	0.5	0.0	3.8
Prop In Lane	1.00		0.36	1.00		0.23	1.00		0.13	1.00		0.35
Lane Grp Cap(c), veh/h	413	0	428	462	0	448	481	0	480	368	0	384
V/C Ratio(X)	0.29	0.00	0.28	0.08	0.00	0.40	0.15	0.00	0.70	0.08	0.00	0.52
Avail Cap(c_a), veh/h	749	0	917	824	0	960	633	0	1077	569	0	986
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	12.5	0.0	9.6	10.7	0.0	9.9	8.2	0.0	10.6	9.0	0.0	10.8
Incr Delay (d2), s/veh	0.4	0.0	0.4	0.1	0.0	0.6	0.1	0.0	1.9	0.1	0.0	1.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	0.0	0.6	0.2	0.0	0.9	0.2	0.0	1.6	0.1	0.0	0.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	12.9	0.0	9.9	10.8	0.0	10.5	8.4	0.0	12.5	9.1	0.0	11.9
LnGrp LOS	B	A	A	B	A	B	A	A	B	A	A	B
Approach Vol, veh/h		240			215			407			229	
Approach Delay, s/veh		11.4			10.5			11.8			11.5	
Approach LOS		B			B			B			B	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	5.7	14.1		13.6	6.9	12.9		13.6				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	5.5	21.5		19.5	5.5	21.5		19.5				
Max Q Clear Time (g_c+I1), s	2.5	8.0		8.4	3.0	5.8		5.0				
Green Ext Time (p_c), s	0.0	1.5		0.9	0.0	0.9		1.0				

Intersection Summary			
HCM 6th Ctrl Delay		11.4	
HCM 6th LOS		B	



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	15	1	1	352	177	8
Future Volume (vph)	15	1	1	352	177	8
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.992				0.994	
Flt Protected	0.955					
Satd. Flow (prot)	1625	0	0	1716	1705	0
Flt Permitted	0.955					
Satd. Flow (perm)	1625	0	0	1716	1705	0
Link Speed (mph)	30			40	40	
Link Distance (ft)	469			307	2002	
Travel Time (s)	10.7			5.2	34.1	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	16	1	1	383	192	9
Shared Lane Traffic (%)						
Lane Group Flow (vph)	17	0	0	384	201	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.11	1.11	1.11	1.11	1.11	1.11
Turning Speed (mph)	15	9	15			9
Sign Control	Stop			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 31.0%		ICU Level of Service A	
Analysis Period (min) 15			

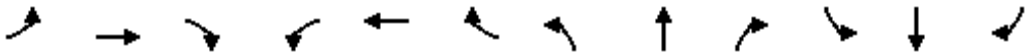
Intersection	
Int Delay, s/veh	0.4

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	15	1	1	352	177	8
Future Vol, veh/h	15	1	1	352	177	8
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	16	1	1	383	192	9

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	582	197	201	0	-	0
Stage 1	197	-	-	-	-	-
Stage 2	385	-	-	-	-	-
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	475	844	1371	-	-	-
Stage 1	836	-	-	-	-	-
Stage 2	688	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	475	844	1371	-	-	-
Mov Cap-2 Maneuver	475	-	-	-	-	-
Stage 1	835	-	-	-	-	-
Stage 2	688	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	12.6	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1371	-	488	-	-
HCM Lane V/C Ratio	0.001	-	0.036	-	-
HCM Control Delay (s)	7.6	0	12.6	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	20	0	0	0	0	10	0	30	0	0	11	6
Future Volume (vph)	20	0	0	0	0	10	0	30	0	0	11	6
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt					0.865						0.950	
Flt Protected		0.950										
Satd. Flow (prot)	0	1770	0	0	1611	0	0	1863	0	0	1770	0
Flt Permitted		0.950										
Satd. Flow (perm)	0	1770	0	0	1611	0	0	1863	0	0	1770	0
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		343			329			284			231	
Travel Time (s)		9.4			9.0			7.7			6.3	
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
Adj. Flow (vph)	22	0	0	0	0	11	0	33	0	0	12	7
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	22	0	0	11	0	0	33	0	0	19	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Free			Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 17.8%		ICU Level of Service A	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	3.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	20	0	0	0	0	10	0	30	0	0	11	6
Future Vol, veh/h	20	0	0	0	0	10	0	30	0	0	11	6
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	22	0	0	0	0	11	0	33	0	0	12	7

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	55	49	16	49	52	33	19	0	-	-	-	0
Stage 1	16	16	-	33	33	-	-	-	-	-	-	-
Stage 2	39	33	-	16	19	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	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	-	-	-	-	-
Pot Cap-1 Maneuver	943	843	1063	951	839	1041	1597	-	0	0	-	-
Stage 1	1004	882	-	983	868	-	-	-	0	0	-	-
Stage 2	976	868	-	1004	880	-	-	-	0	0	-	-
Platoon blocked, %								-			-	-
Mov Cap-1 Maneuver	934	843	1063	951	839	1041	1597	-	-	-	-	-
Mov Cap-2 Maneuver	934	843	-	951	839	-	-	-	-	-	-	-
Stage 1	1004	882	-	983	868	-	-	-	-	-	-	-
Stage 2	966	868	-	1004	880	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	8.9	8.5	0	0
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	WBLn1	SBT	SBR
Capacity (veh/h)	1597	-	934	1041	-	-
HCM Lane V/C Ratio	-	-	0.023	0.01	-	-
HCM Control Delay (s)	0	-	8.9	8.5	-	-
HCM Lane LOS	A	-	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0.1	0	-	-

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	27	308	43	48	213	14	30	13	29	15	13	11
Future Volume (vph)	27	308	43	48	213	14	30	13	29	15	13	11
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt		0.985			0.993			0.945			0.961	
Flt Protected		0.996			0.991			0.980			0.981	
Satd. Flow (prot)	0	1810	0	0	1833	0	0	1676	0	0	1791	0
Flt Permitted		0.996			0.991			0.980			0.981	
Satd. Flow (perm)	0	1810	0	0	1833	0	0	1676	0	0	1791	0
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		287			1311			862			294	
Travel Time (s)		7.8			35.8			23.5			8.0	
Confl. Peds. (#/hr)	4		2	2		4						
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	3%	3%	3%	2%	2%	2%	5%	5%	5%	0%	0%	0%
Adj. Flow (vph)	30	338	47	53	234	15	33	14	32	16	14	12
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	415	0	0	302	0	0	79	0	0	42	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Free			Free			Stop			Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 39.0%		ICU Level of Service A	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	3.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	27	308	43	48	213	14	30	13	29	15	13	11
Future Vol, veh/h	27	308	43	48	213	14	30	13	29	15	13	11
Conflicting Peds, #/hr	4	0	2	2	0	4	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, %	3	3	3	2	2	2	5	5	5	0	0	0
Mvmt Flow	30	338	47	53	234	15	33	14	32	16	14	12

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	253	0	0	387	0	0	785	783	364	797	799	246
Stage 1	-	-	-	-	-	-	424	424	-	352	352	-
Stage 2	-	-	-	-	-	-	361	359	-	445	447	-
Critical Hdwy	4.13	-	-	4.12	-	-	7.15	6.55	6.25	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.15	5.55	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.15	5.55	-	6.1	5.5	-
Follow-up Hdwy	2.227	-	-	2.218	-	-	3.545	4.045	3.345	3.5	4	3.3
Pot Cap-1 Maneuver	1306	-	-	1171	-	-	307	322	674	307	321	798
Stage 1	-	-	-	-	-	-	602	582	-	669	635	-
Stage 2	-	-	-	-	-	-	651	622	-	596	577	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1301	-	-	1169	-	-	273	294	673	263	293	795
Mov Cap-2 Maneuver	-	-	-	-	-	-	273	294	-	263	293	-
Stage 1	-	-	-	-	-	-	583	563	-	646	599	-
Stage 2	-	-	-	-	-	-	593	587	-	537	559	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.6	1.4	17.6	17.2
HCM LOS			C	C

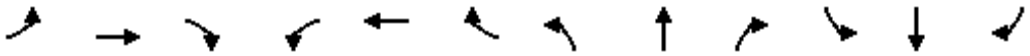
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	365	1301	-	-	1169	-	-	338
HCM Lane V/C Ratio	0.217	0.023	-	-	0.045	-	-	0.127
HCM Control Delay (s)	17.6	7.8	0	-	8.2	0	-	17.2
HCM Lane LOS	C	A	A	-	A	A	-	C
HCM 95th %tile Q(veh)	0.8	0.1	-	-	0.1	-	-	0.4

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	65	172	115	109	140	45	60	237	45	51	286	78
Future Volume (vph)	65	172	115	109	140	45	60	237	45	51	286	78
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Storage Length (ft)	175		0	200		0	240		0	245		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.940			0.963			0.976			0.968	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1646	1629	0	1646	1669	0	1630	1675	0	1646	1677	0
Flt Permitted	0.636			0.494			0.403			0.580		
Satd. Flow (perm)	1102	1629	0	856	1669	0	691	1675	0	1005	1677	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		60			29			18			25	
Link Speed (mph)		25			25			40			40	
Link Distance (ft)		1311			472			1872			353	
Travel Time (s)		35.8			12.9			31.9			6.0	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	2%	2%	2%	1%	1%	1%
Adj. Flow (vph)	68	179	120	114	146	47	63	247	47	53	298	81
Shared Lane Traffic (%)												
Lane Group Flow (vph)	68	299	0	114	193	0	63	294	0	53	379	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11	1.11
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100		20	100	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		4			8		5	2		1	6	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	22.5	22.5		22.5	22.5		9.5	22.5		9.5	22.5	
Total Split (s)	24.0	24.0		24.0	24.0		10.0	26.0		10.0	26.0	
Total Split (%)	40.0%	40.0%		40.0%	40.0%		16.7%	43.3%		16.7%	43.3%	
Maximum Green (s)	19.5	19.5		19.5	19.5		5.5	21.5		5.5	21.5	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		None	Min		None	Min	
Walk Time (s)	7.0	7.0		7.0	7.0			7.0			7.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0			11.0			11.0	
Pedestrian Calls (#/hr)	0	0		0	0			0			0	
Act Effct Green (s)	12.5	12.5		12.5	12.5		18.3	16.6		17.4	14.8	
Actuated g/C Ratio	0.29	0.29		0.29	0.29		0.43	0.39		0.41	0.35	
v/c Ratio	0.21	0.57		0.45	0.38		0.14	0.44		0.10	0.63	
Control Delay	15.7	16.7		21.5	14.4		7.4	13.2		7.1	18.1	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	15.7	16.7		21.5	14.4		7.4	13.2		7.1	18.1	
LOS	B	B		C	B		A	B		A	B	
Approach Delay		16.5			17.1			12.2			16.7	
Approach LOS		B			B			B			B	

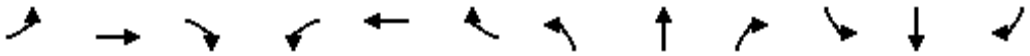
Intersection Summary			
Area Type:	Other		
Cycle Length: 60			
Actuated Cycle Length: 42.4			
Natural Cycle: 55			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.63			
Intersection Signal Delay: 15.6		Intersection LOS: B	
Intersection Capacity Utilization 64.7%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 2: S Ivy Street & 13th Avenue



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	65	172	115	109	140	45	60	237	45	51	286	78
Future Volume (vph)	65	172	115	109	140	45	60	237	45	51	286	78
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		4.5	4.5		4.5	4.5	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.94		1.00	0.96		1.00	0.98		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)	1646	1628		1646	1669		1630	1675		1646	1677	
Flt Permitted	0.64	1.00		0.49	1.00		0.40	1.00		0.58	1.00	
Satd. Flow (perm)	1102	1628		855	1669		692	1675		1005	1677	
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)	68	179	120	114	146	47	62	247	47	53	298	81
RTOR Reduction (vph)	0	43	0	0	21	0	0	11	0	0	16	0
Lane Group Flow (vph)	68	256	0	114	172	0	63	283	0	53	363	0
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	2%	2%	2%	1%	1%	1%
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)	12.5	12.5		12.5	12.5		19.2	16.6		17.2	15.6	
Effective Green, g (s)	12.5	12.5		12.5	12.5		19.2	16.6		17.2	15.6	
Actuated g/C Ratio	0.28	0.28		0.28	0.28		0.43	0.38		0.39	0.35	
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	311	460		241	472		355	629		414	591	
v/s Ratio Prot		c0.16			0.10		c0.01	0.17		0.00	c0.22	
v/s Ratio Perm	0.06			0.13			0.07			0.05		
v/c Ratio	0.22	0.56		0.47	0.36		0.18	0.45		0.13	0.61	
Uniform Delay, d1	12.1	13.5		13.1	12.7		7.6	10.4		8.5	11.8	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.4	1.5		1.5	0.5		0.2	0.5		0.1	1.9	
Delay (s)	12.5	15.0		14.6	13.2		7.8	10.9		8.7	13.7	
Level of Service	B	B		B	B		A	B		A	B	
Approach Delay (s)		14.5			13.7			10.3			13.1	
Approach LOS		B			B			B			B	

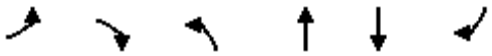
Intersection Summary			
HCM 2000 Control Delay	12.9	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.55		
Actuated Cycle Length (s)	44.2	Sum of lost time (s)	13.5
Intersection Capacity Utilization	64.7%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	65	172	115	109	140	45	60	237	45	51	286	78
Future Volume (veh/h)	65	172	115	109	140	45	60	237	45	51	286	78
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1736	1736	1736	1736	1736	1736	1723	1723	1723	1736	1736	1736
Adj Flow Rate, veh/h	68	179	120	114	146	47	62	247	47	53	298	81
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	1	1	1	1	1	1	2	2	2	1	1	1
Cap, veh/h	434	317	212	345	411	132	349	420	80	412	384	104
Arrive On Green	0.33	0.33	0.33	0.33	0.33	0.33	0.06	0.30	0.30	0.05	0.29	0.29
Sat Flow, veh/h	1105	969	650	1003	1258	405	1641	1407	268	1654	1315	357
Grp Volume(v), veh/h	68	0	299	114	0	193	62	0	294	53	0	379
Grp Sat Flow(s),veh/h/ln	1105	0	1619	1003	0	1663	1641	0	1675	1654	0	1672
Q Serve(g_s), s	2.1	0.0	6.4	4.5	0.0	3.7	1.1	0.0	6.3	0.9	0.0	8.8
Cycle Q Clear(g_c), s	5.8	0.0	6.4	10.9	0.0	3.7	1.1	0.0	6.3	0.9	0.0	8.8
Prop In Lane	1.00		0.40	1.00		0.24	1.00		0.16	1.00		0.21
Lane Grp Cap(c), veh/h	434	0	529	345	0	544	349	0	500	412	0	489
V/C Ratio(X)	0.16	0.00	0.56	0.33	0.00	0.35	0.18	0.00	0.59	0.13	0.00	0.78
Avail Cap(c_a), veh/h	583	0	748	481	0	768	463	0	852	536	0	851
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	13.0	0.0	11.7	16.2	0.0	10.8	10.1	0.0	12.6	9.8	0.0	13.7
Incr Delay (d2), s/veh	0.2	0.0	0.9	0.6	0.0	0.4	0.2	0.0	1.1	0.1	0.0	2.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	0.0	2.1	1.0	0.0	1.2	0.3	0.0	1.9	0.3	0.0	2.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	13.2	0.0	12.7	16.8	0.0	11.2	10.4	0.0	13.7	9.9	0.0	16.4
LnGrp LOS	B	A	B	B	A	B	B	A	B	A	A	B
Approach Vol, veh/h		367			307			356			432	
Approach Delay, s/veh		12.8			13.3			13.1			15.6	
Approach LOS		B			B			B			B	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	6.8	17.1		18.3	7.1	16.8		18.3				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	5.5	21.5		19.5	5.5	21.5		19.5				
Max Q Clear Time (g_c+I1), s	2.9	8.3		8.4	3.1	10.8		12.9				
Green Ext Time (p_c), s	0.0	1.3		1.6	0.0	1.6		0.9				

Intersection Summary												
HCM 6th Ctrl Delay			13.8									
HCM 6th LOS			B									



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	13	1	1	328	488	17
Future Volume (vph)	13	1	1	328	488	17
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.991				0.996	
Flt Protected	0.955					
Satd. Flow (prot)	1624	0	0	1716	1709	0
Flt Permitted	0.955					
Satd. Flow (perm)	1624	0	0	1716	1709	0
Link Speed (mph)	25			50	50	
Link Distance (ft)	562			198	1872	
Travel Time (s)	15.3			2.7	25.5	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	14	1	1	357	530	18
Shared Lane Traffic (%)						
Lane Group Flow (vph)	15	0	0	358	548	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.11	1.11	1.11	1.11	1.11	1.11
Turning Speed (mph)	15	9	15			9
Sign Control	Stop			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 39.0%		ICU Level of Service A	
Analysis Period (min) 15			

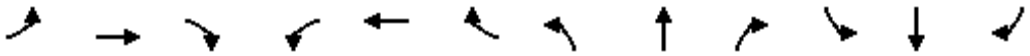
Intersection	
Int Delay, s/veh	0.3

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	13	1	1	328	488	17
Future Vol, veh/h	13	1	1	328	488	17
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	1	1	357	530	18

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	898	539	548	0	-	0
Stage 1	539	-	-	-	-	-
Stage 2	359	-	-	-	-	-
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	310	542	1021	-	-	-
Stage 1	585	-	-	-	-	-
Stage 2	707	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	310	542	1021	-	-	-
Mov Cap-2 Maneuver	310	-	-	-	-	-
Stage 1	584	-	-	-	-	-
Stage 2	707	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	16.8	0	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1021	-	320	-	-
HCM Lane V/C Ratio	0.001	-	0.048	-	-
HCM Control Delay (s)	8.5	0	16.8	-	-
HCM Lane LOS	A	A	C	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	13	0	0	0	0	9	0	19	0	0	35	23
Future Volume (vph)	13	0	0	0	0	9	0	19	0	0	35	23
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt					0.865						0.946	
Flt Protected		0.950										
Satd. Flow (prot)	0	1770	0	0	1611	0	0	1863	0	0	1762	0
Flt Permitted		0.950										
Satd. Flow (perm)	0	1770	0	0	1611	0	0	1863	0	0	1762	0
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		272			292			268			236	
Travel Time (s)		7.4			8.0			7.3			6.4	
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
Adj. Flow (vph)	14	0	0	0	0	10	0	21	0	0	38	25
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	14	0	0	10	0	0	21	0	0	63	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Free			Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 17.4%		ICU Level of Service A	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	1.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	13	0	0	0	0	9	0	19	0	0	35	23
Future Vol, veh/h	13	0	0	0	0	9	0	19	0	0	35	23
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	14	0	0	0	0	10	0	21	0	0	38	25

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	77	72	51	72	84	21	63	0	-	-	-	0
Stage 1	51	51	-	21	21	-	-	-	-	-	-	-
Stage 2	26	21	-	51	63	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	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	-	-	-	-	-
Pot Cap-1 Maneuver	912	818	1017	919	806	1056	1540	-	0	0	-	-
Stage 1	962	852	-	998	878	-	-	-	0	0	-	-
Stage 2	992	878	-	962	842	-	-	-	0	0	-	-
Platoon blocked, %								-			-	-
Mov Cap-1 Maneuver	904	818	1017	919	806	1056	1540	-	-	-	-	-
Mov Cap-2 Maneuver	904	818	-	919	806	-	-	-	-	-	-	-
Stage 1	962	852	-	998	878	-	-	-	-	-	-	-
Stage 2	983	878	-	962	842	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	9	8.4	0	0
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	WBLn1	SBT	SBR
Capacity (veh/h)	1540	-	904	1056	-	-
HCM Lane V/C Ratio	-	-	0.016	0.009	-	-
HCM Control Delay (s)	0	-	9	8.4	-	-
HCM Lane LOS	A	-	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0	0	-	-

NEIGHBORHOOD MEETING Hope Village South Expansion

(November 19, 2019 7PM)

	Name	Address	Phone
1	Doc Hickman	CASCADE 201	503-509-1668
2	BRENDA MOOTI	#105	503-266-9837
3	Gayle Collins	CDH & MDW Com. Mgr	503-841-2508
4	TOM MARCOLETTE O'BRIEN	1104	266-4144
5	Tom & Juanita Bifud	435 Pacific Crest.	503-656-6063
6	Vie Anderson	HV Row 8	
7	Ruby Scruggs	HV Row 7	
8	Curt Hovland	HV Row 4	
9	Dale & Susan Williamson	#1005	503-263-3729
10	Patricia Ruston	430 SW Pacific Crest	971-227-3838
11	Darlene Kauffman	1441 S Ivy #102	
12	Kristin Oakes	Hubbard, OR	
13	Norm Lind	H. Village	
14	MARTIN MEISKERS	1490 S. IVY STR	503-592-9090
15	Lou Colvin		
16	SKIP PALMA	21943 S. HWY 99E Canby	503-460-7896
17	Dale Ruston	H.V.	503-263-2151
18	Tom Scott	1893 S FIR ST	503-266-5488
19	Mark Yoder		
20	Judy Feeney	HV - Row 1	503-576-0368

NEIGHBORHOOD MEETING Hope Village South Expansion

(November 19, 2019 7PM)

Name	Address	Phone
Bob & Donna Nielsen	Unit 405	503-631-2280
Donnie Carter	Cascade - 220	503.267.2415
Sylvia Fisher	Hope Assisted living 231	253-307-5606
Bill & Sharon Stutzman	1441 S Joy #711	503-341-3793
Wayne Tiusanen	400 Pacific Crest	503 263-2912
Elsie M Stanton	Cascad - 205	9716404-2286
Carol Booker	#207 Cottages	503 866 1546
Freeda Peters	#804	503-801-1927
Judy Nygard	#611	503 780-8427
Bob Nichols	#206	503-266-5843
Delores Ellis	#204C	503-592-9064
Marsha Larson	#505	503-266-2500
Georgia Deets	#208	503-266-0425
Marylee Dobbs	#110	425-530-2929
Vic Anderson	811	503-975-4930

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NEIGHBORHOOD MEETING Hope Village South Expansion

(November 19, 2019 7PM)

Name	Address	Phone
Paul Urlie	1441 S Ivy #607	503 266 2152
Sara Urlie	"	"
Arline Herr	" #609	503 651 4377
Karen Joy	" #1103	503 266-7074
Mary Bullen	" 1705	503-266-6665
Rod Rogers	" 512	503-341-5024
Dan Williams	Marquis ASL	503-577-9682
Del Thomas	1441 S Ivy #810	503-266-5359
Georgia Thomas	1441 S Ivy #810	" " "
Jan Bullen	1527 Pine - Silverton	503-873-0626
Ron Krause	Hv # 1302	(503) 312-1906
Dale Shatto		
Gloria Kraft	1441 South Ivy #308	503 266-3327
53- Arnold Colens	1441 S Ivy #605	503-266-7398

NEIGHBORHOOD MEETING Hope Village South Expansion

(November 19, 2019 7PM)

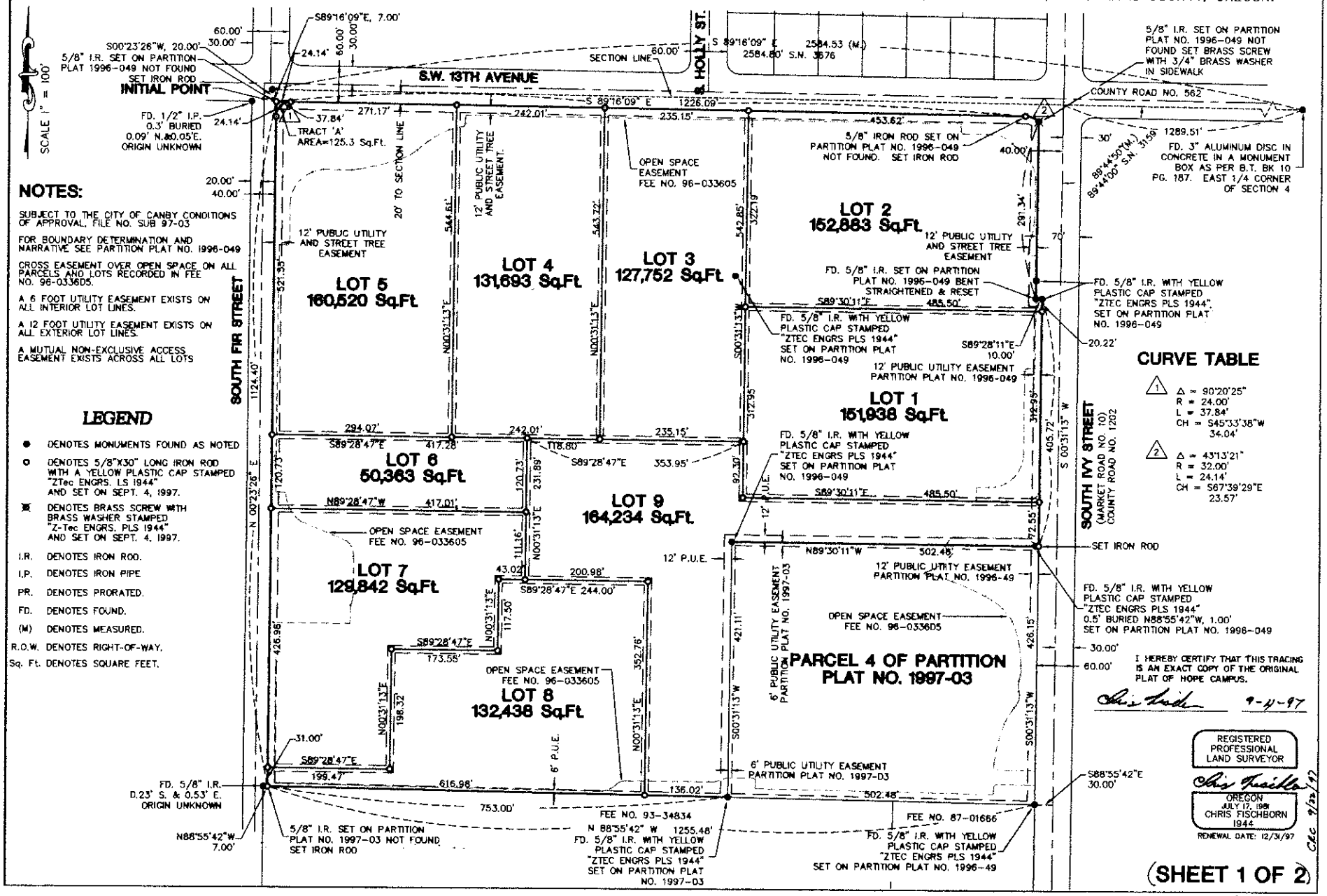
Name	Address	Phone
Gary & Linda Swinney	Cottages 420	503 380 1148
GERRY SNAVELY	C H 506	
Ronald Berg	Hope Village	503-266-9625
Vern & Dar Hopper	#910	503-266-3222
Dick Bennett	# 210	503 266-1935
Lois Johnson	# 207	
Allen & Katherine Holt	1225 S. FIR ST	503 266 8774
Ken Brisky	1441 Ivy	503-750-2075
Carol Brisky	Hope Village	" " "
65- [illegible]	306	503-204-5073
STAFF		
Craig Gingerich	HV Executive Director	
Frank Howard	Facilities Director	
Tina Schimpf	Marketing coordinator	
Rebecca Safronchik	Administrative Coordinator	
HV South Team		
Pat Sisul		
Ryan Cain		
Bob Price		
Briana Manfrass		
Randy Sauer		

ZTec ENGINEERS INC.
3737 S.E. 8TH AVENUE, PORTLAND, OREGON 97202
PH: (503) 235-8795 FAX: (503) 233-7889
SURVEYED: FEBRUARY 9, 1996

"HOPE CAMPUS"

BK: 109 PG: 17

BEING A REPLAT OF PARCEL 2 OF PARTITION PLAT 1996-49 AND A REPLAT OF PARCEL 3 OF PARTITION PLAT 1997-03 ALL LOCATED IN THE S.E. 1/4 OF SEC. 4, T.4S, R.1E., W.M., CITY OF CANBY, CLACKAMAS COUNTY, OREGON.



NOTES:

SUBJECT TO THE CITY OF CANBY CONDITIONS OF APPROVAL, FILE NO. SUB 97-03

FOR BOUNDARY DETERMINATION AND NARRATIVE SEE PARTITION PLAT NO. 1996-049

CROSS EASEMENT OVER OPEN SPACE ON ALL PARCELS AND LOTS RECORDED IN FEE NO. 96-033605.

A 6 FOOT UTILITY EASEMENT EXISTS ON ALL INTERIOR LOT LINES.

A 12 FOOT UTILITY EASEMENT EXISTS ON ALL EXTERIOR LOT LINES.

A MUTUAL NON-EXCLUSIVE ACCESS EASEMENT EXISTS ACROSS ALL LOTS

LEGEND

- ● DENOTES MONUMENTS FOUND AS NOTED
- o DENOTES 5/8"X30" LONG IRON ROD WITH A YELLOW PLASTIC CAP STAMPED "ZTec ENGRS. LS 1944" AND SET ON SEPT. 4, 1997.
- ⊠ DENOTES BRASS SCREW WITH BRASS WASHER STAMPED "Z-Tec ENGRS. PLS 1944" AND SET ON SEPT. 4, 1997.

I.R. DENOTES IRON ROD.
I.P. DENOTES IRON PIPE
PR. DENOTES PRORATED.
FD. DENOTES FOUND.
(M) DENOTES MEASURED.
R.O.W. DENOTES RIGHT-OF-WAY.
Sq. Ft. DENOTES SQUARE FEET.

CURVE TABLE

1	90°20'25"	24.00'	37.84'	S45°33'38"W 34.04'
2	43°13'21"	32.00'	24.14'	S67°39'29"E 23.57'

I HEREBY CERTIFY THAT THIS TRACING IS AN EXACT COPY OF THE ORIGINAL PLAT OF HOPE CAMPUS.

9-4-97

REGISTERED PROFESSIONAL LAND SURVEYOR
OREGON JULY 17, 1981 CHRIS FISCHBORN 1944
RENEWAL DATE: 12/31/97

Exc. 9/22/97

(SHEET 1 OF 2)

3345

"HOPE CAMPUS"

BK: 109 Pg: 17

BEING A REPLAT OF PARCEL 2 OF PARTITION PLAT 1996-49 AND A REPLAT OF PARCEL 3 OF PARTITION PLAT 1997-03, ALL LOCATED IN THE S.E. 1/4 OF SEC. 4, T.4S., R.1E., W.M., CITY OF CANBY, CLACKAMAS COUNTY, OREGON

ZTec ENGINEERS INC.

3737 S.E. 8TH AVENUE, PORTLAND, OREGON 97202
PH: (503) 235-8795 FAX: (503) 233-7889

DATE SURVEYED: JANUARY 1997

SURVEYOR'S CERTIFICATE:

I, CHRIS FISCHBORN, HEREBY CERTIFY THAT I HAVE CORRECTLY SURVEYED AND MARKED WITH PROPER MONUMENTS, THE LANDS REPRESENTED ON THE ATTACHED MAP TO BE KNOWN HENCEFORTH AS HOPE CAMPUS LOCATED IN THE SOUTHEAST ONE-QUARTER OF SECTION 4, TOWNSHIP 4 SOUTH, RANGE 1 EAST OF THE WILLAMETTE MERIDIAN, IN THE CITY OF CANBY, CLACKAMAS COUNTY, OREGON AND BEING ALL OF PARCEL 3 OF PARTITION PLAT NO. 1997-03 AND ALL OF PARCEL 2 OF PARTITION PLAT NO. 1996-49 AS RECORDED IN CLACKAMAS COUNTY RECORD OF PLATS. THAT AT THE INITIAL POINT OF SAID SURVEY I FOUND A 5/8 INCH IRON ROD, WITH A YELLOW PLASTIC CAP STAMPED ZTEC ENGRS P.L.S. 1944" AS SET BY THIS SURVEYOR ON PARTITION PLAT NO. 1996-49. SAID POINT BEING SOUTH 00°23'26" WEST ALONG THE WESTERLY LINE OF THE SOUTHEAST ONE-QUARTER OF SAID SECTION 4 A DISTANCE OF 20.00 FEET TO A POINT ON THE SOUTHERLY RIGHT-OF-WAY LINE EXTENDED, OF SOUTHWEST 13TH AVENUE; THENCE SOUTH 89°16'09" EAST ALONG SAID EXTENDED SOUTHERLY RIGHT-OF-WAY LINE A DISTANCE OF 7.00 FEET FROM THE CENTER OF SAID SECTION 4.

THENCE FROM SAID INITIAL POINT, SOUTH 89°16'09" EAST ALONG THE SOUTHERLY RIGHT-OF-WAY LINE OF SAID SOUTHWEST 13TH AVENUE A DISTANCE OF 1,226.09 FEET TO A POINT OF CURVE; THENCE ALONG A 32.00 FOOT RADIUS CURVE TO THE RIGHT, THROUGH A CENTRAL ANGLE OF 43°13'21" AN ARC DISTANCE OF 24.14 FEET (THE LONG CHORD OF SAID CURVE BEARS SOUTH 67°39'29" EAST A DISTANCE OF 23.57 FEET) TO A POINT ON THE WESTERLY RIGHT-OF-WAY LINE OF SOUTH IVY STREET; THENCE SOUTH 00°31'13" WEST ALONG SAID WESTERLY RIGHT-OF-WAY LINE A DISTANCE OF 291.34 FEET TO AN ANGLE POINT IN SAID WESTERLY RIGHT-OF-WAY LINE; THENCE SOUTH 89°26'47" EAST, A DISTANCE OF 10.00 FEET TO AN ANGLE POINT IN SAID RIGHT-OF-WAY LINE; THENCE SOUTH 00°31'13" WEST ALONG SAID RIGHT-OF-WAY LINE A DISTANCE OF 405.72 FEET TO THE NORTHEAST CORNER OF PARCEL 4 OF PARTITION PLAT NO. 1997-03; THENCE NORTH 89°30'11" WEST ALONG THE NORTHERLY LINE OF SAID PARCEL 4 A DISTANCE OF 502.46 FEET TO THE NORTHWEST CORNER OF SAID PARCEL 4; THENCE SOUTH 00°31'13" WEST ALONG THE WESTERLY LINE OF SAID PARCEL 4 A DISTANCE OF 421.11 FEET TO THE SOUTHERLY SOUTHEAST CORNER OF PARCEL 3 OF SAID PARTITION PLAT NO. 1997-03; THENCE NORTH 88°55'42" WEST ALONG THE SOUTHERLY LINE OF SAID PARCEL 3 A DISTANCE OF 753.00 FEET TO THE SOUTHWEST CORNER OF SAID PARCEL 3; THENCE NORTH 00°23'26" EAST ALONG THE WESTERLY LINE OF SAID PARCEL 3 A DISTANCE OF 1,124.40 FEET TO THE INITIAL POINT.

SAID PARCEL OF LAND CONTAINS AN AREA OF 27.59 ACRES MORE OR LESS.

DECLARATION:

KNOW ALL PEOPLE BY THESE PRESENTS THAT, HOUSING AND OUTREACH PROJECT FOR THE ELDERLY, INC., AN OREGON CORPORATION WITH ROBERT E. KAUFFMAN, AS PRESIDENT, THE OWNER OF THE LAND REPRESENTED ON THE ATTACHED MAP, DO HEREBY MAKE, ESTABLISH AND DECLARE THE ANNEXED MAP OF "HOPE CAMPUS" AS DESCRIBED IN THE ACCOMPANYING SURVEYOR'S CERTIFICATE, TO BE A TRUE AND CORRECT MAP AND PLAT THEREOF, ALL LOTS AND TRACTS BEING OF THE DIMENSIONS SHOWN, AND THEY DO HEREBY GRANT ALL PUBLIC EASEMENTS SHOWN OR NOTED ON SAID MAP, AND OTHER PRIVATE EASEMENTS ARE AS SHOWN AND NOTED. TRACT 'A' IS HEREBY DEDICATED TO THE CITY OF CANBY FOR STREET RIGHT OF WAY. THIS PLAT IS SUBJECT TO THE CITY OF CANBY CONDITIONS OF APPROVAL, FILE NO. SUB 97-03.

Robert E Kauffman
ROBERT E. KAUFFMAN
PRESIDENT - H.O.P.E. INC.

ACKNOWLEDGMENT:

STATE OF OREGON
S.S.
COUNTY OF CLACKAMAS

BE IT REMEMBERED, THAT ON THIS 15th DAY OF September 1997, BEFORE ME THE UNDERSIGNED, A NOTARY OF PUBLIC IN AND FOR THE STATE OF OREGON, PERSONALLY DID APPEAR ROBERT E. KAUFFMAN, PRESIDENT OF "H.O.P.E., INC." AND AFTER BEING FIRST DULY SWORN, DID ACKNOWLEDGE TO ME THAT HE IS THE IDENTICAL PERSON NAMED IN THE FOREGOING DOCUMENT AND THAT HE EXECUTED THE FOREGOING DOCUMENT FREELY AND VOLUNTARILY, IN TESTIMONY WHEREOF I HAVE HEREUNTO SET MY HAND AND AFFIXED MY OFFICIAL SEAL, THE DAY AND YEAR FIRST IN THIS CERTIFICATE WRITTEN.

NOTARY PUBLIC FOR THE STATE OF OREGON

MY COMMISSION EXPIRES: 9-17-97

OFFICIAL SEAL
NOTARY PUBLIC - OREGON
MY COMMISSION EXPIRES SEPT. 17, 1997

APPROVALS:

APPROVED THIS 8TH DAY OF [redacted] Sept 1997.
CITY OF CANBY PLANNING COMMISSION
BY ______
CHAIRMAN

APPROVED THIS 28TH DAY OF August 1997.
CITY OF CANBY
BY James S. Wheeler

APPROVED THIS 10th DAY OF September 1997.
CITY OF CANBY SURVEYOR
BY ______

APPROVED THIS 22ND DAY OF SEPTEMBER 1997.
CLACKAMAS COUNTY
BOARD OF COMMISSIONERS
BY: Judie Hammerstad

APPROVED THIS 22nd DAY OF SEPT. 1997.
CLACKAMAS COUNTY SURVEYOR FOR COMPLIANCE WITH O.R.S. 209.250 ONLY
B. CHARLES PETERSON COUNTY SURVEYOR
BY ______
DEPUTY

APPROVED THIS 17th DAY OF September 1997.
CLACKAMAS COUNTY ROAD DEPARTMENT
BY Frank Imeshod

NARRATIVE:

PURPOSE OF SURVEY: TO SUBDIVIDE PARCEL 2 OF PARTITION PLAT NO. 1996-049, AND PARCEL 3 OF PARTITION PLAT NO. 1997-03 INTO 9 LOTS.

BASIS OF BEARINGS: PARTITION PLAT NO. 1996-049 AS SHOWN.

ALL MONUMENTS SET IN PARTITION PLAT NO. 1996-049 AND PARTITION PLAT NO. 1997-03 WERE FOUND AND HELD TO ESTABLISH THE BOUNDARIES OF ALL PARCELS.

THERE ARE NO GEODETIC MONUMENTS WITHIN ONE-HALF MILE OF THE BOUNDARY OF THIS SUBDIVISION.

STATE OF OREGON
S.S.
CLACKAMAS COUNTY

I DO HEREBY CERTIFY THAT THE ATTACHED SUBDIVISION PLAT WAS RECEIVED FOR RECORD ON THE 24th DAY OF September 1997, AT 2:21 O'CLOCK P.M. CLACKAMAS COUNTY RECORDS.

CLACKAMAS COUNTY CLERK John Kauffman
BY ______
DEPUTY

ALL TAXES, FEES, ASSESSMENTS AND OTHER CHARGES AS PROVIDED BY O.R.S. 92-095 HAVE BEEN PAID THRU 6-30-98

CERTIFIED September 23 1997.

BY: ______ ______
DEPUTY CLACKAMAS COUNTY ASSESSOR AND TAX COLLECTOR

BY: ______
DEPUTY

REGISTERED PROFESSIONAL LAND SURVEYOR
OREGON
JULY 17, 1981
CHRIS FISCHBORN
1944
RENEWAL DATE: 12/31/97

I HEREBY CERTIFY THAT THIS TRACING IS AN EXACT COPY OF THE ORIGINAL PLAT OF "HOPE CAMPUS."

CHRIS FISCHBORN, P.L.S. 1944 — 9-4-97 DATE

(SHEET 2 OF 2)

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

PRE-APPLICATION SUMMARY

August 14, 2019

Robert Price, Consultant
Planning and Development Services
3935 N.E. 72nd Avenue
Portland, OR 97213-5711

Craig Gingerich, Executive Director
Hope Village Inc.
1535 S. Ivy Street
Canby, OR 97013

Subject: Pre-Application Conference Summary Notes for the Hope Village South Campus

Dear Mr. Price and Mr. Gingerich,

Thank you for attending the Pre-Application (Pre-App) conference held on July 16, 2019. We are pleased to provide you with the following summary notes prepared in response to your proposal.

Comments prepared by staff are reflective of the proposal as discussed at the Pre-App conference. A copy of your proposal was also sent to other members of staff who did not attend the Pre-App conference, but may provide comments separate from this summary. Please feel free to contact anyone who provided comments. Contact names, telephone numbers and e-mail addresses are listed herein.

Following every Pre-App conference, staff understands that there may be changes to the plan or use considered. If these changes effectively re-design the site plan or involve a change to a use not discussed, please be advised that such a change could require different land use application(s) than were identified by staff at the Pre-App or herein. It is also possible that different issues or concerns may arise from such change. In these cases, we encourage applicants to request a second Pre-App conference for staff to consider the change and provide revised comments accordingly.

In part, the Pre-App conference is intended to assist you in preparing plans and materials for staff to determine your application(s) to be deemed "complete" as described in Section 16.89.080 of the Canby Land & Development Planning Ordinance. For your application(s) to be deemed complete on the first review, you must provide everything required as identified on the Application Checklist(s) found within the appropriate Land Use Application, in addition to any materials or special studies identified in the summery notes hereto. If you have questions as to the applicability of any item on the Application Checklist(s), or within this summary, please contact me directly.

On behalf of the staff who attended the Pre-App, we thank you for sharing your proposal with us. If we can be of further assistance, please do not hesitate to call.

Sincerely,

Sandy Freund, AICP
Senior Planner
(503) 266-0775

PRE-APPLICATION CONFERENCE

SUMMARY NOTES

Prepared for

Hope Village South Campus

PRA 19-06

The following pre-application summary notes have been prepared by Planning staff in order to assist you with the application submittal process. All applicable standards, guidelines and policies of the Canby Land Development & Planning Ordinance, Comprehensive Plan, Transportation System Plan, and the Public Works Design Standards identified herein are available for review on the City's web site at: https://canbyoregon.gov/. Copies of these documents are also available for review at the City's Development Services Department.

The following is intended to identify applicable code sections, requirements and key issues for your proposed development application. Items checked are considered to be relevant to your proposed development.

PRE-APPLICATION CONFERENCE DATE: July 16, 2019

PROJECT INFORMATION:

Project Name:	Hope Village South – Campus Extension
Project Description:	To develop Hope Village South Campus, providing approximately 150 senior housing units. Building types will vary from duplexes and cottage homes, to 3-story, low rise buildings with elevator access; as well as open space, pedestrian walkways, and on-site parking.
Property Owner(s):	S.T.J. 1, LLC – Tom Scott
Project Site Address:	130 SW 2nd Avenue – Suite 103, Canby, OR 97013
Tax Lot Number(s):	41E04D 00900, 01000, 01101, 01100, 01400, 01500, and 01700
Site Size:	±14 acres
Zoning:	R-2 and C-R
Comp. Plan Designation:	HDR – High Density Residential and Residential Commercial

APPLICANT INFORMATION:

Applicant(s):	Hope Village Inc. Attn: Craig Gingerich, Exec. Director 1535 S. Ivy Street Canby, OR 97013	Robert Price, Consultant 3935 NE 72nd Avenue Portland, OR 97213-5711 503-807-4009
Phone / Email:	503-266-9810 / ac@hopevillage.or	rprice1145@gmail.com

SECTION 16.89.080 (APPLICATION REQUIREMENTS AND COMPLETENESS):

The completeness process is governed by Section 16.89 of the Canby Land Development and Planning Ordinance. The applicant is encouraged to contact staff to ask any questions or request clarification of any items found on the land use application checklists related to the proposed project.

LAND USE APPLICATION(S) AND FEES:

Based on the plans and materials provided, the identified applications for your proposal, and related fees are as follows:

Lot Consolidation (Clackamas County process)	County fees (TBD)	*Discount for Multiple Applications	Application fees w/discount applied
Conditional Use (Type III)	$ 2,080	$ 580	$ 1,560
Major Modification to the approved PUD (Type III)	$ 110	$ 27.50	$ 82.50
Planned Unit Development (PUD)	$ 1,600	$ 400	$ 1,200
Site and Design Review Application (Type III)	$5,600 (over 8-acres) max amt.	-0-	$ 5,600
Total Fees	$ 9,390.00	$ 1,007.50	**$ 8,532.50**

*Multiple application discount = 25% off each lower cost application

CLASSIFICATION OF APPLICATIONS:

Applications are subject to the procedure (Type) specified in Table 16.89.020 *Land Use and Development Application Procedures.* When an applicant submits more than one complete application for a given proposal, and the applications are subject to different procedure types, all the applications will be subject to the procedure type which requires the broadest notice and opportunity to participate.

SECTION 16.89.050 (B) and (D) (NEIGHBORHOOD MEETINGS and PUBLIC NOTICE):

A Neighborhood meeting is required for all Type III land use applications. The Neighborhood Association for the proposed project is: SW Canby Neighborhood Association. Please Contact the Chairperson: Jackie Jones, jacqjones@msn.com, to make meeting arrangements.

Note: The City provides public hearing *courtesy* notice to all residents of Hope Village for projects within a 500-foot radius of Hope Village. The applicant is responsible for providing public hearing notices to all property owners and/or occupants of property within a 500-foot radius of the subject project site. (16.49.070 (1.b).

APPLICATION SUBMITTAL:

Your application narrative will need to explain how and why the proposed application(s) will meet the approval standards and criteria for the proposed project. Approval standards and criteria in effect at the time an application is received will control. Approval standards and criteria are subject to change.

In order for your application(s) to be deemed "complete", a written response is necessary, supported by substantial evidence in response to all applicable approval standards and criteria.

Please note: Applicant's written response should address each criterion. If response to criterion is "Not Applicable", please explain why the criterion is not applicable.

The following Sections of the *Canby Land Development and Planning Ordinance* are subject to your proposed development project. Please review when preparing your land use application(s) written and plan information, as well as application narrative for the formal application submittal.

APPLICABLE CODE SECTIONS / PLANNING DOCUMENTS:

Chapter	Section
16.08 *General Provisions*	16.08.110 - *Fences* (H) 16.08.130 - *Standard Transportation Improvements* (A)(1)(g) 16.08.150 - *Traffic Impact Study (TIS)* 16.08.160 - *Safety and Functionality Standards*
16.10 *Off-Street Parking and Loading*	16.10.030 *General Requirements* (H)(1) 16.10.050 – *Parking Standards designated* (c)(d)
16.20 R-2 *High Density Residential*	16.20.030 – *Development Standards* – all that apply 16.20.030 – *Development Standards* also see (F.4)
16.21 *Residential Design Standards*	16.21.030 *Single Family and two-family dwelling design menu* (B) 16.21.060 *Applicability & review procedure for multi-family dwellings.* 16.21.070 *Multi-Family Design Standards* (A)(B)(C) 16.21.070 *Multi-Family Design Menu* all as applicable
16.24 Residential – Commercial zone	16.24.010 *Uses Permitted outright* (A) 16.24.020 *Conditional Uses* (A) (B) 16.24.030 *Development Standards* (A-F)
16.46 *Access Limitations on Project Density*	16.46.010 – *Number of Units in Residential Development* (B)(2)(3) 16.46.030 – *Access Connection* – as applicable 16.46.060 – *Amount of Access points*
16.49.030 *Site and Design Review*	16.49.030 (A)(1) (B. exemptions (8) two-family dwellings as applicable to duplexes) 16.49.035 – *Application for Site and Design Review* (B)
16.50 *Conditional Use*	16.50.010, 16.50.020 and 16.50.040 (M)

16.70 – 16.76 *Planned Unit Development*	16.76.020 *General Requirements* (A-K); 16.76.030 *Standards and Criteria* (A-L) 16.76.040 *Exceptions* (A)[potential for exceeding the 120-ft., as listed in R-2-16.20.030 (D)(4)]
16.82 *Special Housing Projects for the Elderly or Handicapped*	16.82.010 *Generally* (B) 16.82.030 *Standards and Criteria for review* 16.82.040 *Modification of Standards* (B)
16.88 *General Standards and Procedures*	16.88.030 *Application and Fees*
16.89 *Application and Review Procedures*	16.89.050 *Type III Decision* (A – H) 16.89.090 *Modifications* (C) *Major Modification* and (D)
Transportation System Plan (2010)	As applicable

KEY ISSUES/CONSIDERATIONS:

Staff has identified the following key development and/or procedural issues that you should be aware of as you prepare your formal application for submittal. The identification of these issues or considerations here does not preclude the future identification of other key issues or considerations:

1. **Lot Consolidation**: In order to process the proposed project as a PUD on one (1) tax lot, a Lot Consolidation of all seven subject parcels must be completed. Please contact the Clackamas County Surveyor to determine the correct procedure to follow.

2. **Modification of existing PUD / Density:** Because the minimum density cannot be achieved for the proposed development of Hope Village South Campus; and the original PUD contained excess density, thus exceeding the minimum density requirements, both projects need to be combined into one PUD in order to meet the minimum density within all zoning districts that encompass the project site. The overall density shall be calculated as an aggregate of the different zoning districts which make up the entire project site. Modification should address the transferring of the excess density not used in the original PUD over to Hope Village South in order to meet the minimum density requirements.

3. **Zoning development standards:** Residential development in the C-R zone shall conform to the development standards of the R-1.5 zone. The proposed density, as submitted in pre-application materials for each proposed zone has been accurately calculated, however, each zoning district on its own does not meet the minimum density requirement, thus necessitating a major modification to the approved PUD in order to incorporate the entire project site as one site to achieve minimum density requirements. Proposed Zone #2 is short of meeting minimum density by approximately 12 units. Similarly, Zone #3 is short by approximately 15 units for the *high density* development yielding approximately 156 gross units for HV South.

4. **Phasing Plan and Access:** Please provide a *Phasing Plan* (and/or *Master Plan)* that identifies each phase of the overall PUD, as well as number of units and housing type per said phase, location, street improvements, buffer and landscape areas, open space area(s), as well as timelines for project completeness (month/year or both if known) of approximate construction for said phase. Applicant may consider entering into a Development Agreement in order to capture the above information with more specificity as necessary. Please consult City Attorney and individual attorney(s) for creation of such an instrument to be carried forward by both parties accordingly.

5. **Access Standards:** Section 16.46.010 (B) (1) (2): The number of access points to the development is dependent upon the overall number of units within HV South Campus. Additionally, any portion of the subject properties adjacent to public right-of-way must complete half-street improvements in accordance with City Engineer specifications as well as to the Public Works Design Standards.
6. **Building Length**: Proposed multi-story buildings may exceed 120-feet in length as proposed. Please see Section 16.76.040 *Exceptions* (A) on how to address this in your narrative. Will not need a Variance application.

Other Considerations

7. **Traffic Impact Analysis (TIA)**. An updated TIA will be required, and thus will require a deposit of $600-$800 for scope of work. The SW Canby Development Concept Plan Traffic Study may be utilized to potentially reduce the scope of work necessary. It is recommended the scope of work be started as soon as possible.
8. **Roundabout:** In order to plan for sufficient right-of-way to accommodate the eventual roundabout at SW 18th Avenue and S. Ivy Street, there will be a condition of approval for land dedication for said roundabout. Said land dedication will occur at the design stage and/or when moving toward construction of the Zone 3 component of Hope Village South Campus.
9. **Fire Safety.** Be sure to contact Canby Fire District, for all fire safety requirements applicable to new residential subdivision. Matt English 503-266-5851, menglsih@canbyfire.org.
10. **Continued Coordination:** Please do not hesitate to contact staff as you continue to refine your proposal. We are happy to answer questions and review the development proposal prior to formal application submittal.

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

LAND USE APPLICATION

Pre-Application Conference

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

☐ Applicant Name: Hope Village Inc., Craig Gingerich, Exec. Dir. Phone: 503-266-9810
Address: 1535 S. Ivy Street Email: ac@hopevillage.org
City/State: Canby, OR Zip: 97013

☒ Representative Name: Robert Price, Consultant Phone: 503-807-4009
Address: 3935 NE 72nd Avenue Email: rprice1145@gmail.com
City/State: Portland, OR Zip: 97213-5711

☐ Property Owner Name(s)*: see attached sheets for individual signatures 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:

Adjacent to S. Ivy Street on the east, just south of Hope Village campus		T4S, R1E, Section 4D; TLs 900, 1000, 1100, 1101, 1400 and portion of 1700
Street Address or Location of Subject Property	Total Size of Property	Assessor Tax Lot Numbers
Mostly vacant, with some structures on TL 1400	R-1.5, R-2, and C-R	Medium and High Density Residential
Existing Use, Structures, Other Improvements on Site	Zoning	Comp Plan Designation

Brief description of proposed development or use

This 14 acre site will be developed into Hope Village's South Campus, with approximately 150 senior housing units. It will be done as an expansion of the original Planned Development (PD) completed for the original Hope Village campus. All internal streets will be private. Internal untilities and facilities will also be private to the greatest extent possible. There will be open spaces, pedestrian walkways, onsite parking for residents, and an integration of the South Campus into the existing 32-acre campus. Building types will vary from duplexes and cottages to 3-story low rise buildings using elevators for access to upper floors.

STAFF USE ONLY				
FILE #	DATE RECEIVED	RECEIVED BY	RECEIPT #	DATE APP COMPLETE

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

PRE-APPLICATION CONFERENCE

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

Pre-Application Conferences are designed to provide applicants the opportunity to present land use development proposals to City staff prior to the actual land use application process. This advance discussion allows applicants an opportunity to ask questions about the applicable city codes, required permits, hearing and noticing and estimated processing timelines. The Pre-Application Conference also allows City staff an opportunity to review preliminary plans, and to provide comments to applicants regarding the project and design. This feedback early in the planning process can help applicants avoid major plan revisions that are more cumbersome to change after an actual application submittal.

Applicants should keep in mind that, due to the preliminary nature of information discussed during Pre-Application Conferences; City staff reserves the right to determine permitting requirements upon receipt of an official application. Information obtained during a Pre-Application Conference is subject to subsequent changes in the Canby Comprehensive Plan, Canby Municipal Code, and/or any other applicable regulations. A Pre-Application Conference does not "vest" (lock in any fees or development requirements) a project in any way.

Once your pre-application has been submitted, it will be reviewed by the Planning Department. You will be notified of any changes and returned to the Planner for approval. The Office Specialist at Public Works will contact you to set up your pre-application conference. At this conference representatives from the following City departments and public agencies will be in attendance: Public Works, water, telephone, cable, gas, electric, Clackamas County (if needed), Canby Fire District, Oregon Department of Transportation (if needed), Planning, Engineering, and Parks.

Applicant Check	City Check	
☐	☐	Submit one copy of your proposed pre-application submittal, addressing the minimum pre- application requirements listed below, to the Planner for review and comments.
☐	☐	Once you have made any needed changes per the Planning Department, submit two (2) paper copies of this application packet to the Planning Department
☐	☐	Submit an electronic copy of the complete application packet to the Planning Department
☐	☐	Payment of appropriate fees – cash or check only. Refer to the city's Master Fee Schedule.
☐	☐	Narrative – A detailed narrative description of your proposal and any specific questions you want the City to respond to at the Pre-Application Conference.

☐ ☐ Site/Plot Plan drawn to scale showing:

- ☐ Property lines (legal lot of record boundaries)
- ☐ Lot area
- ☐ Impervious surface area
- ☐ Location and size of all proposed hardscape, including driveways, parking lots, compact cars and handicapped spaces, loading areas, bicycle paths, bicycle parking, sidewalks, and pedestrian ways
- ☐ Location, size, & heights of existing and proposed structures
- ☐ Proposed elevations
- ☐ Distances between structures and other significant features, including property lines, yards and setbacks, building area,
- ☐ Layout of all proposed structures, such as buildings, fences, signs, solid waste collection containers, mailboxes, exterior storage areas, and exterior mechanical and utility equipment
- ☐ Significant tree locations (all trees over 6 inches)
- ☐ Location and dimensions of easements
- ☐ Location of utilities – storm, sanitary sewers and water (including size of service and street location)
- ☐ 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
- ☐ Existing and proposed driveway widths
- ☐ Location of any forested/wetland area, water bodies, or other significant natural features
- ☐ Location of and distance to fire hydrant(s)
- ☐ Location and profile drawings of all proposed exterior signage

☐ ☐ Slope map (if area is over 25% slope)

Nonresidential Projects Wastewater Information

***Businesses are required to complete an Environmental Survey from the City of Canby Public Works Department prior to receiving a business license.*

Do you plan on discharging anything other than domestic waste? ☐Yes ☐No

Will you be discharging any wastes that were produced during an industrial process or the manufacturing of a product? ☐Yes ☐No

Are you proposed to have floor drains that will be connected to sanitary sewer? ☐Yes ☐No

CURRAN-McLEOD, INC.
CONSULTING ENGINEERS
6655 S.W. HAMPTON STREET, SUITE 210
PORTLAND, OREGON 97223

July 6, 2020

MEMORANDUM

TO: Ms. Sandy Freund
City of Canby

FROM: Hassan Ibrahim, P.E.
Curran-McLeod, Inc.

RE: **CITY OF CANBY**
HOPE VILLAGE SOUTH CAMPUS EXTENSION
PRELIMINARY REVIEW

We have reviewed the submitted preliminary plans submitted on this project and have the following comments:

1. S. Ivy Street is a County arterial street, the existing right-of-way width of 60' is adequate for completing the half street improvements. The half street improvements shall be built to City Standards with a 46–foot paved street width, 6-foot curb tight concrete sidewalk. An asphalt tapers at the rate of 10:1 shall be constructed to match existing asphalt surface at both ends of the street. The improvements shall also include curbs, 6-foot wide sidewalks, streetlights and utilities in conformance with section 2.207 of the City of Canby Public Works Design Standards revised in December 2019. A 12-foot public utility easement abutting the right of way will also be required.

2. S. Fir Street is a county road and is in the process of being transferred to the City. This roadway is classified as a local street as per the City Transportation System Plan TSP), the existing right-of-way is 40 feet wide (20 feet on each side of the centerline). Additional right-of-way dedication of 7 feet along the entire site frontage of this development is adequate and meets City local standards (this right of way dedication matches what was dedicated as part of Beck Pond development). The developer shall construct half street improvements with curbs, 4.5-foot wide planter strip with street trees from City approved tree list, 6-foot wide concrete sidewalks, utilities as required and streetlights. The half street improvements shall be built to City Standards with the curb placed at 18-foot from the centerline right-of-way to match the east side of the roadway in conformance with section 2.207 of the City of Canby Public Works Design Standards revised in December 2019. An asphalt tapers at the rate of 10:1 shall be constructed to match existing asphalt surface at both ends of the street. A 12-foot public utility easement abutting the right of way will also be required.

PHONE: (503) 684-3478 E-MAIL: cmi@curran-mcleod.com FAX: (503) 624-8247

3. Adequate right of way dedication shall be dedicated at the intersection of S. Ivy Street and SE 18th Avenue. The right of way dedication shall have a 92-foot radius measured from the centerline x centerline of the intersection.

4. The Traffic Impact Study prepared by Lancaster Engineering, dated February 4, 2020 doesn't require any off-site mitigations as a result of this development.

5. The common driveway shall have a commercial driveway approach using 6" minimum concrete thickness with reinforcements over 4" min of crushed rock base and constructed in conformance with the most current ADA guidelines.

6. All street names and traffic signs pertaining to the intersection with S. Ivy Street shall be installed by the developer as part of this development.

7. An erosion control and a grading permit will be required from the City of Canby prior to any on-site disturbance.

8. The gravity sanitary sewer on S. Ivy Street along the site frontage was extended as part of S. Ivy Street pump station plan so that the force main from the Ivy pump station can be connected to this gravity system.

9. Sanitary sewer can be extended from S. Fir Street to serve this site.

10. A final drainage report shall be submitted with the final construction plans meeting Chapter 4 of the City of Canby Public Works Design Standards revised in December 2019.

Should you have any questions or need additional information, please let me know.

RECEIVED
By Canby Planning at 2:51 pm, Jul 16, 2020

DirectLink

Date 7-16-2020

Comments from DirectLink Hope Village South Campus:

DirectLink services will become available through the development. We are serving this property and its tenants via fiber optic cable(s) and conduit system(s). The Developer/ Owner are required to provide utility trenches for placing the underground communications facilities from the hand-hole in front of your property. DirectLink will try to design following the power joint trench as much as possible to minimize the trenching; however, additional trenches may be required if power feed from a different location. DirectLInk will supply the conduit and fiber optic cable for the joint trench work.

In order for us to deploy our fiber optic network within the Hope Village South Campus, we will need assistance from you. We would like to run a fiber optic cable to each unit from a distribution housing set at each building. The fiber will be housed in an 8.5mm micro tube that can be installed by a qualified electrician that we can provide training too. We will need a spot inside each unit to install our ONT/smart panel housing. We will supply the ONT/smart panel housing and we ask that you supply and wire up a duplex 110 outlet per panel. We also would like to assist in the inside wire placement design in each unit and would like to discuss DirectLink supplying some of the CAT5 cabling to go along with the design. All CAT 5 cabling would be home run back to the ONT/smart panel housing per unit. Because of the complexity of the process please call Eric Kehler at 503-266-8223 to setup a meeting at your convenience.

DirectLink does not charge for a development fee.

Contact Information:

Engineering Manager	Eric Kehler	503-266-8223
Construction Inspector	Matt Downs	503-266-8252
Customer care center		503-266-8111
Open trench hotline		**503-266-8242**

Laney Fouse

From: Cory Hansen <cory.hansen@kahutwasteservices.com>
Sent: Tuesday, June 30, 2020 5:24 AM
To: Sandy Freund
Subject: Request for Comment/Conditions of Approval for Hope Village South Campus Expansion: DR 20-01/CUP 20-01 / PUD 20-01 - Email #1

Sandy, This is Cory Hansen with Canby Disposal. Regarding the Hope Village South campus extension project, I would only ask that the developer/builder please at least consult us on the final architectural plans to make sure there is room and adequate clearance to properly service this campus when it's finished.
Thank you.

--
Cory Hansen
General Manager
(503) 539-8527