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To provide oral comments via electronic means, please contact the City Recorder's Office no later than 2:00 p.m. on the day of the meeting. Most regular City Council meetings are streamed live through www.KeizerTV.com and cable-cast on Comcast Channel 23 within the Keizer City limits.

AGENDA

KEIZER CITY COUNCIL
REGULAR SESSION

Monday, August 17, 2026
6:00 PM
Robert L. Simon Council Chambers
930 Chemawa Road NE
Keizer, Oregon

1. **CALL TO ORDER**

2. **ROLL CALL**

3. **FLAG SALUTE**

4. **SPECIAL ORDERS OF BUSINESS**

5. **COMMITTEE REPORTS**

6. **PUBLIC COMMENTS**

   This time is provided for citizens to address the Council on any matters other than those on the agenda scheduled for public hearing.

7. **CONSENT CALENDAR**

   a. **Approval of August 3, 2026 Regular Session Minutes**

   b. **Approval of August 10, 2026 Work Session Minutes**

   c. **Approval of August 10, 2026 Special Session Minutes**

   d. **2025-26 Surplus Property Report**

8. **PUBLIC HEARINGS**

   a. **Comprehensive Plan Map Amendment/Zone Change/Subdivsion Case 2026-05: 5710 Windsor Island Rd N**

9. **ADMINISTRATIVE ACTION**

   a. **Authorization to Apply for OR-DEQ Grant Funding for the Willow Lake Stormwater Realignment Project**

   b. **ORDINANCE - Relating to Recognition of Neighborhood Associations; Amending**

Keizer Code Chapter 2, Article VIII

c. Consider Memorandum of Concern

d. Sunset Internal Oversight Committee

e. Current Legislative Agenda for 2027 Session

f. PRESENTATION - Community Survey

10. OTHER BUSINESS

This time is provided to allow the Mayor, City Council members, or staff an opportunity to bring new or old matters before the Council that are not on tonight's agenda.

11. STAFF UPDATES

12. COUNCIL MEMBER REPORTS

13. AGENDA INPUT

Monday, August 17, 2026 - 6:00 p.m.
City Council Regular Session

Monday, August 24, 2026 - 6:00 p.m.
City Council Work Session — Keizer Event Center Policies and Keizer-Iyo Sister City Association

Tuesday, September 8, 2026 - 6:00 p.m.
City Council Regular Session

Monday, September 14, 2026 - 6:00 p.m.
City Council and Parks and Recreation Advisory Board — Joint Work Session (Parks Tour)

14. ADJOURNMENT

City of Keizer Mission Statement

The City of Keizer is committed to fostering a safe, unified, and economically vibrant community while maintaining fiscal responsibility. By delivering city services in a coordinated, efficient, and cost-effective manner, we strive to provide exceptional value to residents, ensuring sustainability and responsiveness to community needs to enhance the quality of life for all.

MINUTES
KEIZER CITY COUNCIL
Monday, August 3, 2026
Robert L. Simon Council Chambers
930 Chemawa Road NE
Keizer, Oregon

CALL TO ORDER

Mayor Clark called the meeting to order at 6:00 p.m.

ROLL CALL

Roll call was taken as follows:

Present:	**Staff:**
Cathy Clark, Mayor	Adam Brown, City Manager
Shaney Starr, Council President	Tim Wood, Assistant City Manager
Soraida Cross, Council Vice President	Joseph Lindsay, City Attorney
Kyle Juran, Councilor	Keare Blaylock, Public Works Director
Daniel Kohler, Councilor	Andrew Copeland, Police Chief
Marlene Parsons, Councilor	Garrett Klever, Human Resources Director
Lore Christopher, Councilor	Melissa Bisset, City Recorder

FLAG SALUTE

Mayor Clark led the pledge of allegiance.

Council President Starr moved to consider it important that Councilor Cross attend tonight's meeting by Zoom. Councilor Kohler seconded. Motion passed unanimously as follows:
AYES: Clark, Kohler, Starr, Juran, Christopher, and Parsons (6)
NAYS: None (0)
ABSTENTIONS: None (0)
ABSENT: Cross (1)

SPECIAL ORDERS OF BUSINESS

There were no special orders of business.

COMMITTEE REPORTS

Claire Juran, Vice Chair of the Keizer Public Arts Commission, shared about the recent meeting, including recently approved artwork.

Matt Myers, member of the Multi-Modal Safety Committee, shared about the recent meeting. There were comments about the youth regarding e-bike safety.

Robin Barney, Community Diversity Engagement Committee, reported on the Keizer Cultural event.

Rhonda Rich, West Keizer Neighborhood Association (WKNA), introduced the newest board member, Jeff Kelder. Ms. Rich provided the Council with their most recent newsletter and shared about their summer activities and upcoming speakers for their fall meetings. There was a suggestion to clarify that the board meetings would not be at the Event Center, but the general meetings would be. She asked for clarification about the ordinance and thought the intent was to hold the general neighborhood association meetings at the Event Center. The board meetings would be held at neighborhood board members' homes. There would be National Night Out events the following night.

PUBLIC COMMENTS

Mayor Clark acknowledged the written comments for the record.

Will Johnson, Keizer, President of McNary Youth Baseball, shared that he was supportive of Sports Facilities Companies (SFCs) to continue service. He felt that all things considered, they had done well. He commented on the challenges SFCs had experienced. He suggested more communication between all parties. He commented on setting realistic goals. Discussion ensued regarding communication. Council expressed how important the fields were to them.

CONSENT CALENDAR

a. Approval of July 20, 2026 Regular Session Minutes

Council President Starr moved for approval of the Consent Calendar b. and c. Councilor Kohler seconded. Motion passed as follows:
AYES: Clark, Starr, Cross, Juran, Kohler, Christopher, and Parsons (7)
NAYS: None (0)
ABSTENTIONS: None (0)
ABSENT: None (0)

Mayor Clark pulled item a from the Consent Calendar. She explained that the minutes were pulled for a typo, noting that under Public Comment when Dustin Karstetter spoke, the word "distributed" needs to replace "distrusted."

Council President Starr moved for approval of the July 20, 2026 Regular Session Minutes. Councilor Kohler seconded. Motion passed as follows:
AYES: Clark, Starr, Cross, Juran, Kohler, Christopher, and Parsons (7)
NAYS: None (0)
ABSTENTIONS: None (0)
ABSENT: None (0)

b. Approval of July 27, 2026 Joint Work Session Minutes

c. Event Center Fee Waiver - 2026 Scouting America Memorabilia Auction (Ed Harris

Memorial Trade-O-Ree)

PUBLIC HEARINGS

a. ORDER - In the Matter of the Amendment of Rates for Franchise Solid Waste Collection Within the City of Keizer, Effective as of October 1, 2026

Mayor Clark opened the Public Hearing.

City Manager Adam Brown summarized the staff report. It was noted that the fee was per container.

Discussion ensued regarding whether the fee was optional and if there was another option for disposal.

Marcus Gerber, Loren's Sanitation and Greg Dittman, Valley Recycling and Disposal were present to answer questions. Greg Dittman explained that each complex was different and it would be optional. There were comments about the developer determining how the service was provided. There was a question about the difference in costs between Eugene and Keizer.

Councilor Cross expressed her opposition to raising the fee.

Mayor Clark called for public comments and no public comments were made.

With no further testimony, Mayor Clark closed the Public Hearing.

Council President Starr moved that the Keizer City Council adopt Order in the Matter of the Amendment of Rates for Franchise Solid Waste Collection Within the City of Keizer, Effective as of October 1, 2026. Councilor Kohler seconded.

There was a question about what would happen if the rates were not passed.

Motion passed as follows:
AYES: Clark, Kohler, Starr, Juran, and Parsons (5)
NAYS: Cross and Christopher (2)
ABSTENTIONS: None (0)
ABSENT: None (0)

ADMINISTRATIVE ACTION

a. Event Center Fee Waiver - Keizer-Iyo-Salem International Exchange Committee Reception and Classes

Assistant City Manager Tim Wood summarized the staff report. Katsumi “Chuck” Itoh and John Borden, Treasurer of the Keizer-Iyo Sister City Association. Chuck Ito read a letter sharing information about the visit, the events, and the history regarding the request.

Discussion followed regarding the importance of the relationship and having the event hosted in the Keizer Event Center.

Council President Starr moved the City Council approve a waiver of the Event Center use fee of $1,235 for the Keizer-Iyo-Salem International Exchange Committee events on August 20th, August 24th and August 25, 2026. Councilor Kohler seconded. Motion passed unanimously as follows:
AYES: Clark, Cross, Kohler, Starr, Juran, Christopher, and Parsons (7)
NAYS: None (0)
ABSTENTIONS: None (0)
ABSENT: None (0)

b. ORDINANCE - Relating to Recognition of Neighborhood Associations; Amending Keizer Code Chapter 2, Article VIII

City Attorney Joseph Lindsay summarized the staff report. Mr. Lindsay noted that the word "board" in the bylaws could be removed where appropriate. Mr. Lindsay explained that deleting "board" from references to regular meetings and eliminating the distinction between Association and board votes would address the requested changes. Mr. Lindsay briefly commented on proposed language regarding City-required accessibility standards for online documents.

There was a question about if there should be a timeframe for when the minutes should be filed with the city recorder. There was a suggestion to have them filed with the city recorder within a certain timeframe. There was a suggestion for the minutes to be filed with the city recorder within 30 days after adoption. There was concern expressed about the Neighborhood Associations documenting a stated position. City Manager Brown suggested including a notation about including a date in letters for when a position was taken.

There was a request to add the words "and social media pages" after the words "the official website" in section 2-274 (Standards for Recognition 3.b.) and to change the words "the official website" to "any official website". It was noted that websites and social media pages needed to be open to the public and not require friending or joining to access postings.

Under subsection 1.f., it was requested to revise the minutes provision to require that minutes be prepared in a manner compatible with City ADA (Americans with Disabilities Act) requirements, so future changes to accessibility standards would be addressed automatically.

There was discussion about the February 28th deadline for Annual Reports. It was noted that four of the five Neighborhood Associations were okay with the February 28th deadline.

Conversation ensued regarding both the board and association board meetings being open to the public and having votes recorded.

There was a suggestion to have a more generic term for technology other than specifying the "owl".

Revisions to the Ordinance would be brought at a future Council Meeting.

c. ORDINANCE - Relating to Acquisition of Property Interests; Amending Keizer Code Chapter 2, Article VII

City Attorney Joseph Lindsay summarized the staff report. Discussion followed regarding the role of the Keizer Parks and Recreation Advisory Board.

Mayor Clark proposed revisions to modernize the City's property acceptance process by directing park property acquisitions through the Parks and Recreation Advisory Board, non-park property through Planning and Public Works, and routine easements and dedications through an administrative review process. Mayor Clark suggested clarifying the Parks and Recreation Advisory Board's role to focus on whether a proposed acquisition was consistent with the Parks Master Plan and greater park system considerations, rather than determining whether an application was complete. City Attorney Lindsay suggested revising the language accordingly.

There was a suggestion to amend the language under the purchase exception to include language about the steps that would still be in place and considered.

There was discussion on an unused provision related to property acquisitions. City Attorney Lindsay noted that the provision had been included in the Code since 1986 and was not aware of it having been used, while members briefly discussed whether it may have applied to the acquisition of property for Keizer Rapids Park. City Manager Brown provided the recent example of the purchase of the Bailey Road property, noting that it had not gone through the process. Mr. Brown also suggested adding language about the City Manager reviewing the acquisition.

Discussion ensued about removing language that allowed the Council to negotiate property acquisitions directly and replacing it with language authorizing the City Manager or designee to conduct negotiations on the City's behalf. It was agreed that property negotiations should be handled through staff rather than directly by the Council.

Council President Starr moved to adopt an Ordinance No. 2026- Relating to Acquisition of Property Interests; Amending Keizer Code Chapter 2, Article VII as amended. Councilor Kohler seconded. Motion passed unanimously as follows upon first reading:
AYES: Clark, Cross, Kohler, Starr, Juran, Christopher, and Parsons (7)
NAYS: None (0)
ABSTENTIONS: None (0)
ABSENT: None (0)

d. Keizer Sports Fields Management

There was a 10-minute recess at 8:05 p.m. Mayor Clark resumed the meeting at 8:18 p.m.

City Manager Adam Brown summarized the staff report. Discussion followed regarding the management fee, the life expectancy of the turf fields, and the need for beautification of the park. It was noted that the park had been neglected for quite some time. A backup plan using the Parks staff was discussed. There were comments about Sports Facilities Companies (SFCs) having only been on the job for six months. Mr. Brown noted that Sports Facilities Companies had made several concessions, including reducing its management fee and foregoing management fees since April, while requesting the opportunity to recover a portion of those fees if future performance goals were exceeded. Discussion ensued regarding the concessions that SFCs were offering.

It was requested to have a report every other month for a minimum and that alarm bells be raised earlier than in the past. There was a request that the reports include: what's been done, what's been booked, and the financial projections. The importance of communication with community

partners was discussed.

Mr. Brown explained the additional option of Mr. Campbell from Foundation Athletics running the park. It was noted that Clint Holland would also be willing to help.

Mr. Brown noted that Option 2 would provide continuity of operations, allowing SFCs to continue maintenance, repairs, and improvements through the winter while preparing the parks for the 2027 season.

City Manager Adam Brown explained how the funding would work for each operational option, noting that SFCs had proposed reducing its management fee and deferring compensation to help offset costs while allowing the City to recoup its investment. He stated that revenue generated from Keizer Rapids Park would improve the financial outlook under the contract options, although it would reduce contributions to the capital replacement fund. Mr. Brown also noted that additional revenue sources, such as a tourism promotion area or transient lodging tax, could be considered in the future to help fund capital improvements, but those revenues were not included in the current projections. Gratitude was expressed to SFCs for lowering their costs.

The benefit to the local community was discussed.

Council President Starr moved to extend the meeting until the completion of the agenda. Councilor Kohler seconded. Motion passed unanimously as follows:
AYES: Clark, Cross, Kohler, Starr, Juran, Christopher, and Parsons (7)
NAYS: None (0)
ABSTENTIONS: None (0)
ABSENT: None (0)

There were suggestions about other options and back-up plans, including using contractors.

Council President Starr moved that the Keizer City Council direct staff to bring back an amendment to the agreement with Sports Facilities Companies to continue operation of the baseball-softball park and Keizer Rapids Park under Option 2. Councilor Parsons seconded.

Councilor Christopher asked for a friendly amendment to include a backup plan that would outline how the City would take over management of the park in any event that SFC is unable to fulfill their commitments. The mover and seconder agreed.

There was a consensus to have bi-monthly reviews calendared.

It was noted that previous operators had not received any funding.

Motion passed as follows:
AYES: Clark, Cross, Starr, Juran, Christopher, and Parsons (6)
NAYS: Kohler (1)
ABSTENTIONS: None (0)
ABSENT: None (0)

e. Recommendation of Internal Oversight Committee

It was noted that Mayor Clark would not participate in the discussion and vote per the Council Rules of Procedure. Council President Starr called on City Attorney Joseph Lindsay, who summarized the staff report.

Mr. Lindsay explained that, if four Council members voted in support of the proposed amendments, staff could prepare revised language to the Council Rules of Order to provide additional procedural fairness before a Memorandum of Understanding was issued. He suggested adding an opportunity for further process after the Council's vote but before issuance of the memorandum, identifying opportunities to make the procedure less onerous and more fair. Mr. Lindsay also recommended adding Rule 16.2 to include an optional mediation process to encourage resolution before the matter proceeded further.

Council President Starr asked City Attorney Lindsay to provide his recommendation regarding Councilor Kohler's participation in the vote. Mr. Lindsay stated that, for the sake of consistency, it might make sense for Councilor Kohler not to vote because he had not participated in the original vote, but he left the decision to Councilor Kohler.

Councilor Kohler then announced that he would recuse himself from voting on the Memorandum of Concern. Councilor Kohler acknowledged Mayor Clark’s accomplishments and contributions to Keizer. Councilor Kohler expressed concerns regarding comments made during a prior meeting, stating that the remarks were inappropriate and that his goal was to ensure that similar situations did not occur in the future involving elected officials, staff, or committee members. Councilor Kohler expressed a desire to move forward peacefully.

Councilor Juran felt that the process was a clunky and cumbersome way of doing things and felt the rules should be reviewed and revised.

Councilor Christopher agreed, noting that the situation had been difficult for the Council and the community. She stated that the process was new to everyone involved and that the Council relied on the City Attorney’s guidance throughout the process. Councilor Christopher expressed appreciation for having an outside individual involved and reiterated the importance of following appropriate procedures.

Mr. Lindsay explained the process, including the accelerated timeline, noting that the activity happened in the privileged setting of an executive session.

Councilor Cross moved to accept the recommendation of the Internal Oversight Committee and direct the City Attorney to produce a draft memorandum of concern for the Council's consideration at the next general meeting on August 17, 2026. Councilor Juran seconded.

Councilor Juran commented on the challenges of maintaining confidentiality during the process, noting that the restrictions limited what could be shared publicly and created a difficult balance between following the rules and addressing community perceptions.

Councilor Christopher shared that it had been an exceedingly difficult and expensive situation for our City and was sorry that it had to happen. She looked forward to completing the process.

Councilor Kohler reiterated that he was never looking for a pound of flesh.

Councilor Parsons was never in agreement with the process from the onset. She expressed concerns regarding transparency, the release of the recording, adherence to established rules and procedures, and the role of the Internal Oversight Committee in the complaint process. Due to these concerns, Councilor Parsons stated that she would be abstaining from the vote.

It was noted that Councilor Cross did not listen to the executive session, and she didn't attend that meeting.

Council President Starr shared that she hated the process and the horrible things that were said by people because they thought they knew what was written. She asked that the process be reviewed and hoped that the Council and community would do better moving forward. She implored the community to seek understanding by asking questions and having conversations rather than making assumptions about matters they were not part of or did not have access to. She noted that a neutral third party had conducted an independent review and that she could not disregard the guidance provided by the investigator and City Attorney. She expressed hope for reconciliation and encouraged the community to move forward together.

Motion passed as follows:
AYES: Cross, Starr, Juran, and Christopher (4)
NAYS: None (0)
ABSTENTIONS: Parsons (1)
ABSENT: None (0)

Following the voice vote, Council President Starr conducted a roll call vote. The motion carried 4–0, with Councilor Parsons abstaining, Councilor Kohler recused, and Councilor Clark not participating in the discussion or vote.

Mayor Clark thanked the community for their encouragement, support, and grace. She shared that she would continue to work and serve the community.

OTHER BUSINESS

Mayor Clark asked about a video that had been sent to the Council by Councilor Kohler and if they wished for the Council to adopt it. Councilor Kohler commented that the video was educational only. He noted that it was about choosing kindness, working with humility, and doing our best to accomplish all we needed.

STAFF UPDATES

Chief Copeland reported on National Night Out. There had been 30 traffic stops recently related to a distracted driving grant.

Public Works Director Blaylock reported on the Verda project.

City Attorney Joseph Lindsay reported that there was a Comprehensive Plan Zone change for Windsor Island coming up and reminded the Council to be mindful of ex-parte contact.

COUNCIL MEMBER REPORTS

Mayor Clark and the Councilors each reviewed the events and meetings that they had attended, as well as upcoming events.

Councilor Christopher commented on the Thomas Dove Keizur exhibit at the State Capitol.

AGENDA INPUT

Monday, August 10, 2026 - 6:00 p.m.
City Council Work Session - LOC Legislative Policy

Monday, August 17, 2026 - 6:00 p.m.
City Council Regular Session

Monday, August 24, 2026 - 6:00 p.m.
City Council Work Session — Keizer Event Center Policies and Keizer-Iyo Sister City Association

Tuesday, September 8, 2026 - 6:00 p.m.
City Council Regular Session

ADJOURNMENT

Mayor Clark adjourned the meeting at 9:55 p.m.

MAYOR: APPROVED:

_____ _____
Cathy Clark Dawn Wilson, Deputy City Recorder

Minutes approved: _____

MINUTES
KEIZER CITY COUNCIL
Monday, August 10, 2026
Robert L. Simon Council Chambers
930 Chemawa Road NE
Keizer, Oregon

CALL TO ORDER

Mayor Clark called the meeting to order at 6:00 p.m.

ROLL CALL

Roll call was taken as follows:

Present:
Cathy Clark, Mayor
Shaney Starr, Council President
Kyle Juran, Councilor
Daniel Kohler, Councilor
Marlene Parsons, Councilor
Lore Christopher, Councilor

Absent:
Soraida Cross, Council Vice President

Staff:
Adam Brown, City Manager
Tim Wood, Assistant City Manager
Joseph Lindsay, City Attorney
Melissa Bisset, City Recorder

DISCUSSION

a. Legislative Priorities

City Manager Adam Brown spoke about the League of Oregon Cities (LOC) Member Voter Guide and the 2027-28 LOC Legislative Priorities.

Mr. Brown summarized the top seven priorities ranked by the Council.

It was noted that there would be a discussion about water and wastewater at the November Long Range Planning Task Force meeting.

The Council discussed the League of Oregon Cities' legislative priorities. There was consensus to put the shared revenues related to alcohol in the top five priorities. Infrastructure funding was replaced by shared revenue alcohol distribution.

Council identified the top five to submit to the League of Oregon Cities as:

1. Public Meeting's Law Clarity
2. Land Availability and Land Use Streamlining
3. Maintain Local Control of Safe, Modern Right-of-Way
4. Administrative Procedures Act Reform
5. Shared Alcohol Revenue Distribution

The Council also added these additional four policy areas to the city's advocacy, so that if a bill comes up under one of these areas that was consistent with the direction provided in the legislative summary, staff was able to submit timely support without having to wait for or schedule a special council meeting.

1. Infrastructure Funding
2. Support Municipal Cybersecurity Proficiency
3. 2027 Transportation Package
4. Targeting Prevailing Wage Changes

The Council also discussed using the adopted priorities to guide its positions and participation during the upcoming legislative session.

There was a question about whether the City should have a lobbyist in addition to the work of the LOC. Mr. Brown shared that lobbyists could be hired by issue. There were comments about the City testifying in person.

ADJOURNMENT

Mayor Clark adjourned the meeting at 6:50 p.m.

MAYOR: APPROVED:

_____ _____
Cathy Clark Dawn Wilson, Deputy City Recorder

Minutes approved: _____

MINUTES
KEIZER CITY COUNCIL
Monday, August 10, 2026
Public Works/ Planning Conference Room (Executive Session)
Council Chambers (Special Session)
930 Chemawa Road NE
Keizer, Oregon

CALL SPECIAL CALLED SESSION TO ORDER

Mayor Clark called the meeting to order at 7:00 p.m.

ROLL CALL

Roll call was taken as follows:

Present:
Cathy Clark, Mayor
Shaney Starr, Council President
Kyle Juran, Councilor
Daniel Kohler, Councilor
Marlene Parsons, Councilor
Lore Christopher, Councilor

Absent:
Soraida Cross, Council Vice President

Staff:
Adam Brown, City Manager
Tim Wood, Assistant City Manager
Joseph Lindsay, City Attorney
Melissa Bisset, City Recorder

ENTER INTO EXECUTIVE SESSION

a. Pursuant to ORS 192.660 (2) (i) To review and evaluate the employment-related performance of the chief executive officer of any public body, a public officer, employee or staff member who does not

Mayor Clark announced that the Keizer City Council would be meeting in Executive Session pursuant to ORS192.660 (2) (i) To review and evaluate the employment-related performance of the chief executive officer of any public body, a public officer, employee or staff member who does not request an open hearing.

Mayor Clark noted that no decision would be made in the Executive Session.

Mayor Clark announced that at the end of the Executive Session, the City Council would reconvene into the Special Session to take any potential action. It was anticipated that the City Council would return to the open public meeting within 30 minutes of this announcement.

request an open hearing.

RETURN TO COUNCIL CHAMBERS TO TAKE ACTION IN SPECIAL SESSION

The City Council reconvened in Special Session on Monday, August 10, 2026, at 7:33 p.m., following the Executive Session.

Council President Starr moved that the Keizer City Council authorize the mayor to execute a 30-day no-cause contract termination with our municipal judge, Carl Myers, and we thank him for his service. Councilor Kohler seconded. Motion passed as follows:
AYES: Clark, Starr, Kohler, Juran, Christopher, and Parsons (6)
NAYS: None (0)
ABSTENTIONS: None (0)
ABSENT: Cross (1)

ADJOURNMENT

Mayor Clark adjourned the meeting at 7:34 p.m.

MAYOR: APPROVED:

_____ _____
Cathy Clark Dawn Wilson, Deputy City Recorder

Minutes approved: _____

City Council Meeting Date: August 17, 2026

To: Mayor Clark and City Council Members

Thru: Adam J. Brown, City Manager

From: Tim Wood, Assistant City Manager

Subject: Surplus Property Report

Proposed Motion

No action is required, this report is for information purposes only.

I. Summary

City Ordinance 2008-579 provides that staff shall provide a Surplus Property Report to the City Council no later than August 31st each year for the previous fiscal year. Such report shall indicate the surplus items sold or otherwise disposed of, the method of sale and the revenue from sales.

II. Background

A. The last surplus property report was presented at the August 18, 2025 City Council meeting.

III. Current Situation

A. The list of items disposed of during Fiscal year 2025-26 is:

Description	Method of Sale	Revenue from Sale or Trade In
Black and Decker Workmate 400 Workbench	Sold	$ 47.00
Dewalt Tools - Drill, Saw, Flashlights, Fan, Misc	Sold	303.00
Dewalt Bluetooth Radio	Sold	85.00
King Fan Heater	Sold	23.11
Earthwise Lawn Mower	Sold	72.00
Red US General Tool Cart with Misc Tools	Sold	250.00
Hart Tool Chest	Sold	900.00
Milwaukee 1/2 Inch Right Angle Drill Kit	Sold	168.00
Portable Jump Starters and Jack Stands	Sold	70.00
Milwaukee Portable Vacuum	Sold	77.00
Dewalt Sanders and Sanding Discs	Sold	84.00
Milwaukee Tools - Rotary Hammer, Angle Grinder, Multi Tool, Die Grinder	Sold	330.00
Dewalt Tools - Impact Wrench, Cordless Hammer, Angle Grinder, Multi-Tool	Sold	481.00
Dewalt Tools - Impact Driver, Task Light, Circular Saw, Sawzall, ETC	Sold	275.00
Dewalt Compact Blower	Sold	54.00
Dewalt Brushless Leaf Blower	Sold	82.00
Dewalt 15' Pole 8" Chainsaw	Sold	137.00
Black Max Weed Wacker	Sold	40.00
Dewalt Chainsaw	Sold	150.00
Ryobi13 AMP 16" Mower	Sold	124.00
2014 Hyundai Elantra GLS A/T	Sold	4,200.00
2012 Chevrolet Equinox	Sold	3,650.00
2011 Mazda MAZDA3	Sold	4,900.00
2008 Nissan Pathfinder	Sold	4,400.00
2011 Nissan Rogue	Sold	4,500.00
2009 Dodge Charger	Sold	4,750.00
2009 Dodge Charger	Sold	4,750.00
2009 Dodge Charger	Sold	3,000.00
Dannmar MaxJax Portable 2-Post Hydraulic Lifting System	Sold	1,700.00
Scrap Metal	Sold	5,356.38
2004 Ford F-550	Trade-In	6,500.00
2011 Trimble GeoXH Geoexplorer 6000 Series Handheld GNSS Datalogger	Recycled	-
2017 Trimble Tornado R2 Antenna	Recycled	-
Total Revenue from Sale or Trade In		**$ 51,458.49**

IV. Analysis

A. **Strategic Impact** - Not Applicable

B. **Financial** - Proceeds from the sale of surplus property totaled $51,458.49 during Fiscal Year 2025-26.

C. **Timing** - The surplus property report must be provided to City Council no later than August 31st.

D. **Policy/Legal** - City Ordiance 2008-579 provides that staff shall provide a surplus

property report to the City Council.

V. Alternatives

A. No action is required.

VI. Recommendation

No action is recommended.

Attachments

None

City Council Meeting Date: August 17, 2026

To: Mayor Clark and City Council Members

Thru: Adam J. Brown, City Manager

From: Shane Witham, Planning Director

Subject: Comp Plan/Zone Change/Subdivision Case 2026-05: 5710 Windsor Island Rd N

Proposed Motion

I move the City Council direct staff to prepare an ordinance for Council adoption, approving Comprehensive Plan/Zone Change/Subdivision Case 2026-05.

I. Summary

This matter is before the City Council for a public hearing to consider a Comprehensive Plan/Zone Change/Subdivision request for property located at 5710 Windsor Island Rd N. The particulars of this case are found in the City of Keizer Planning Department's Comp Plan/Zone Change/Subdivision Case 2026-05. The subject property is currently zoned Agricultural Industrial and is designated as Special Policy Area on the Comprehensive Plan, due to the Willow Lake Settlement Agreement Area and the boundaries established by that agreement. The applicant is proposing a change in comprehensive plan designation to Low Density Residential and a zone change to Residential Single Family for property that is outside the limits of the modified Willow Lake Settlement Agreement area. The submitted plans and maps delineate this area and request. In addition, the applicant is requesting approval for a 118-lot subdivision which will contain 110 lots for detached homes, along with 8 lots of attached housing. The staff recommendation and subsequent Hearings Officer recommendation both recommend approval of the request with extensive conditions. The Hearings Officer's recommendation also provides supplemental findings and a summary of the testimony received at the July 8, 2026 hearing.

II. Background

A. The subject property is within the area regulated by the Dual Interest Area Agreement and Willow Lake Settlement Agreement. The applicant is requesting a Comprehensive Plan Map Amendment, Zone Change, and Subdivision approval to allow for the development of 118 lots in the area that is outside the area restricted from residential development. Comments were received from the City of Salem regarding the exact location and boundaries, and conditions are recommended which will assure that the proposed residential development is located outside the area identified by the Willow Lake Settlement Agreement as area restricted from

residential development.

B. A public hearing was held before the Keizer Hearings Officer on July 8, 2026, where the Hearings Officer received the staff recommendation along with public testimony at the hearing. The Hearings Officer's recommendation summarizes the testimony received and upholds the staff's proposed conditions of approval. Several comments were received from neighbors in the adjacent McNary Estates Neighborhood. They expressed several concerns not addressed by the review criteria. The applicant and the neighbors met on August 4th to discuss the concerns and it was reported to staff by one of the neighbors (Larry Raaf) that the meeting went well and they were pursuing entering into some sort of private agreement with the developer.

C. One point raised in both the written comments and at the public hearing was related to concerns for the safety of pedestrians and bicyclists traveling from the new development to connecting facilities and transit routes on Lockhaven Drive. Condition #22 of the Hearings Officer decision addresses this connectivity requirement by upholding the original condition identified in the Staff recommendation. However, staff is recommending that Condition #22 be modified in order to better address, not only the connectivity requirements, but also the identified concerns for safety. Staff has discussed this approach with the applicant, and the applicant is generally supportive and sees the importance of providing a safe and accessible route to serve the residents of the new subdivision.

III. Current Situation

A. The public hearing has been set, property posted, and notice published for City Council to consider the Hearings Officer's Recommendation on Comp Plan/Zone Change/Subdivision Case 2026-05 for the property located at 5710 Windsor Island Rd N.

B. The Hearings Officer's recommendation to City Council is for approval of the request with specified conditions. The Hearings Officer's recommendation is attached.

C. Staff is recommending that council accept the Hearings Officer recommendation and approve the applicant's request, with the exception that condition #22 of the Hearings Officer decision be modified. Staff has provided language for the modified condition which is attached. This modification is being made to address the safety concerns expressed at the public hearing and will give some flexibility to the City and the applicant to work toward a solution for pedestrian and bicycle connectivity that can best serve the public, when considering the existing right of way width constraints on Windsor Island Rd N.

D. The following items are attached for Council's Consideration:
   1. application materials
   2. staff recommendation from 7/8/26 hearing
   3. Maps from the 7/8/26 hearing
   4. Exhibits 17-23: comments and information submitted for the 7/8/26
   5. Hearings Officer recommendation to City Council

6. Modified condition #22 (staff recommended)

IV. Analysis

A. **Strategic Impact** - The Strategic Plan identifes revisiting the Willow Lake Settlement agreement as a task to allow for better utilization of lands within the area. In addition, there is an identified need for additional residential land, and this request creates opportunity for additional residential development.

B. **Financial** - There is no direct financial impact to the City.

C. **Timing** - The time for the public hearing before Council has been set, with proper notice provided and posted on the property, and advertised in the newspaper.

D. **Policy/Legal** - The land use process is identified as a Type III land use approval and provides for hearings before the Hearings Officer, who then makes a recommendation to Council. Council holds a public hearing and has the final decision making authority which is accomplished by Ordinance. Appeals of the Council Decision are to the Land Use Board of Appeals (LUBA).

V. Alternatives

A. Direct staff to prepare an ordinance approving Comp Plan/Zone Change/Subdivision Case 2026-05 with conditions as proposed.

B. Direct staff to prepare an ordinance approving Comp Plan/Zone Change/Subdivision Case 2026-05 with conditions as amended by City Council.

C. Direct staff to prepare an ordinance denying Comp Plan/Zone Change/Subdivision Case 2026-05, and identify which applicable review criteria the application has failed to meet.

VI. Recommendation

Staff recommends that Council open the public hearing, receive the staff report and testimony, close the public hearing, deliberate, and direct staff to prepare an ordinance approving the request.

Attachments

1. Application Materials
2. comp plan zone change sub staff reccomendation2026-05 for 7-8-26 Hearing
3. Maps for Hearing - 7-8-26
4. COMMENT S. Kerr (EXH 17)
5. COMMENT M. Kerr (EXH 18)
6. EX 19 PLANS UPDATED- OLSON ORCHARDS -JULY 8, 2026
7. EX 20 - Preliminary Title Report_Snapshot
8. EX 21
9. ApplicantPresentation - EX 22
10. EX 23 - David Philbrick Testimony

11. HO Recommendation to CC
12. Staff Proposed Condition 22 - for City Council Hearing

CITY OF KEIZER
LAND USE APPLICATION

LAND USE APPLICATION TYPE

Annexation $2,157
Comprehensive Plan Amendment $3,006
Conditional use $856
Development Standards Alternative $856
Floodplain $488
Historical Resource $181
Master Plan $3,374
Master Plan Amendment $2,531
Parttion $1,145
Property Line Adjustment $488
Subdivision/PUD/Manf Home Park $3,374
Variance (Minor, Major or Sign) $856
Zone Change $3,006
Zone Change & Comprehensive Plan Amendment $4,110
Other: _____

SUBMITTAL REQUIRMENTS

In addition to this application form, you must submit all required items listed in The Keizer Development Code and at the end of this application. If you are unsure what is required with your application, please contact the Planning Department at (503) 856-3441 or Planning@keizer.org

PROJECT INFORMATION

Project name and address: 5710 Windsor Island Road N Subdivision Development

Brief description of the project – include existing and proposed lots sizes:

The property is currently vacant. The proposed development is for the development of a subdivision on the easterly portion of tax lots 063W340001400 and 063W340001300. The development will include a zone change application and subdivision application.

Application inludes a Zone Change & Comprehensive Plan Amendment and Subvidision

APPLICATION INFORMATION

Name (First and Last or LLC)
Pacific National Development, Inc.

Mailing address
PO 3550
Salem, Oregon 97302

Phone:
503-990-7003
Email:

Applicant's representative
Rhine Cross Group, LLC

Representative's phone & email
541-591-0211 lani@rc-grp.com

SITE INFORMATION

Map and Tax Lot
063W340001400
063W340001300

Site size
36.61 acres

Current zoning
Agricultural Industrial

PROPERTY OWNER INFORMATION *

Name (First and Last or LLC)
Olson Sisters LLC
Ramey Family Trust
8177 Saghalie Drive S
Salem, Oregon 97306
Mailing address

*See signature page for list of additional owners

Phone:

Email:

Doc ID: 74d359fad7401c52cfba2c1be1df8464648137cb

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

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

☐ By checking this box, I consent to the legally binding terms and conditions of this document and I agree that my electronic signature is the legal equivalent of my manual/handwritten signature on this document.

See attached
Signature of Property Owner

Date

Serge Serdsev
Signature of Applicant

13/04/26
Date

TO BE SUBMITTED WITH THE APPLICATION

To complete the application, attached the following:

1. A site plan – show existing and proposed (if applicable)
2. A copy of the latest officially recorded title transfer instrument (deed, warranty deed, or contract) giving the legal description for properties involved
3. A written statement describing how the proposal meets the criteria for the application type.
4. A preliminary tree removal plan (if applicable)
5. A preliminary site draining and grading plans (partitions and subdivisions)
6. Additional information as required in the Keizer Development Code (application type specific)
7. ***After completing, email this form, along with all required application materials to HORNERD@KEIZER.ORG or deliver to Keizer Planning Department. You may call Dina Horner at (503) 856-3442 to pay the application fee.***

HELPFUL LINKS

- Conditional use information sheet
- Floodplain additional information
- Keizer Development Code
- Master Fee Schedule
- Partition information sheet
- Preapplication meeting information
- Property Line Adjustment information sheet
- Site plan example
- Subdivision information sheet
- Tree removal & replacement plan information
- Variance (Minor, Major) information sheet

FOR OFFICE USE ONLY

Date submitted: _____

Date deemed complete: _____

Amount paid/due: _____

Received by: _____

Doc ID: 74d359fad7401c52cfba2c1be7d84646481137cb

Owner 1:
Olson Sisters LLC (063W340001400)

By: _____
Sandra K. Kerr, Trustee of the Kerr Living Trust Dated June 12, 2017, Member

Date: 04 / 11 / 2026

By: Michael A. Kerr
Michael A. Kerr, Trustee of the Kerr Living Trust Dated June 12, 2017, Member

Date: 04 / 11 / 2026

By: _____
Diane E. Ramey, Trustee of the Ramey Family Trust Dated May 9, 2016, Member

Date: 04 / 11 / 2026

By: _____
John L. Ramey, Trustee of the Ramey Family Trust Dated May 9, 2016, Member

Date: 04 / 11 / 2026

Owner 2:
John L. Ramey and Diane E. Ramey, as Trustees of the Ramey Family Trust under Agreement dated May 9, 2016; Karen S. Glaser, Trustee , The Karen S. Glaser Irrevocable Family Protection Trust; and Michael A. Kerr and Sandra K. Kerr, Trustees of the Kerr Living Trust dated June 12, 2017, and any amendments thereto (063W340001300)

By: _____
Diane E. Ramey, Trustee of the Ramey Family Trust Dated May 9, 2016, Member

Date: 04 / 11 / 2026

By: _____
John L. Ramey, Trustee of the Ramey Family Trust Dated May 9, 2016, Member

Date: 04 / 11 / 2026

By: Karen S Glaser
Karen S. Glaser, Trustee , The Karen S. Glaser Irrevocable Family Protection Trust

Date: 04 / 11 / 2026

By: _____
Sandra K. Kerr, Trustee of the Kerr Living Trust Dated June 12, 2017

Date: 04 / 11 / 2026

By: Michael A. Kerr
Michael A. Kerr, Trustee of the Kerr Living Trust Dated June 12, 2017

Date: 04 / 11 / 2026

Doc ID: 74d359fad7401c52cfba2c1be1df6464648137cb

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Document ID	74d359fad7401c52cfba2c1be1df6464648137cb
Audit trail date format	MM / DD / YYYY
Status	Signed

Document History

SENT	**04 / 11 / 2026** 15:18:38 UTC	Sent for signature to Sandra K. Kerr (sandrak.kerr@gmail.com), Michael A. Kerr (mkerr@onlinenw.com), Diane E. Ramey (der@ak.net), John L. Ramey (john@rameyak.com) and Karen S. Glaser (kglaser3@aol.com) from hstevenson@sglaw.com IP: 76.144.148.48
VIEWED	**04 / 11 / 2026** 15:56:39 UTC	Viewed by Diane E. Ramey (der@ak.net) IP: 24.237.72.34
SIGNED	**04 / 11 / 2026** 15:58:53 UTC	Signed by Diane E. Ramey (der@ak.net) IP: 24.237.72.34
VIEWED	**04 / 11 / 2026** 16:18:17 UTC	Viewed by John L. Ramey (john@rameyak.com) IP: 24.237.72.34
SIGNED	**04 / 11 / 2026** 16:18:52 UTC	Signed by John L. Ramey (john@rameyak.com) IP: 24.237.72.34

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File name	Zone_change_and_S...9343-3757_v.2.pdf
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Status	Signed

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SIGNED	**04 / 11 / 2026** 17:22:15 UTC	Signed by Karen S. Glaser (kglaser3@aol.com) IP: 73.162.207.237
COMPLETED	**04 / 11 / 2026** 17:22:15 UTC	The document has been completed.

Signature: Serge Serdsev
Serge Serdsev (Apr 13, 2026 14:40:18 PDT)

Email: pndi@comcast.net

Owner Signed- Zone change and Subdivision Land Use Application 4900-9343-3757 3

Final Audit Report 2026-04-13

Created:	2026-04-13
By:	Lani Hickey (lrhickey@gmail.com)
Status:	Signed
Transaction ID:	CBJCHBCAABAAoxJkkgQ3jnil8SZ4o98bKyWjG3p7wzzt

"Owner Signed- Zone change and Subdivision Land Use Application 4900-9343-3757 3" History

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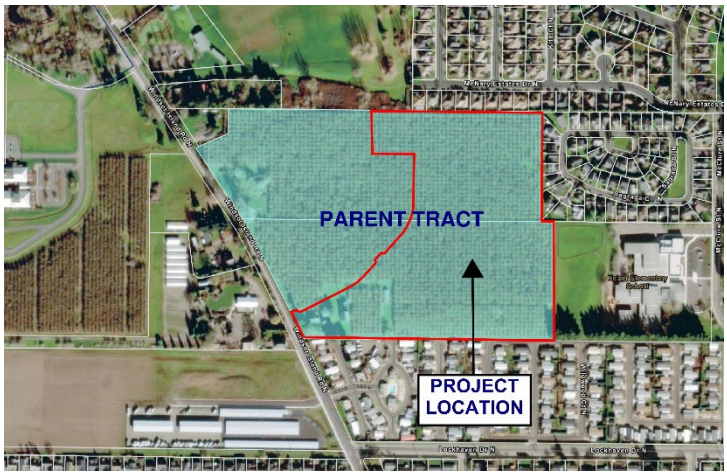
Signer Serge Serdse (pndi@comcast.net) entered name at signing as Serge Serdsev
2026-04-13 - 9:40:16 PM GMT- IP address: 73.25.96.209

Document e-signed by Serge Serdsev (pndi@comcast.net)
Signature Date: 2026-04-13 - 9:40:18 PM GMT - Time Source: server- IP address: 73.25.96.209

Agreement completed.
2026-04-13 - 9:40:18 PM GMT

PACIFIC NATIONAL DEVELOPMENT, INC.
COMPREHENSIVE PLAN AMENDMENT/ZONE CHANGE AND SUBDIVISION
WRITTEN STATEMENT

APPLICANT:
Pacific National Development Inc.
PO Box 3550
Salem, OR 97302



APPLICANT'S REPRESENTATIVE:
Rhine-Cross Group, LLC
P.O. Box 909
Klamath Falls, OR 97601
Phone: 541-851-9405
Email: lani@rc-grp.com

I. EXHIBIT LIST

1. Preliminary Plans
2. Marion County Tax Assessor's Map 06 3W 34
3. City of Keizer Land Use Application Form
4. Parent Tract Deeds
5. Traffic Impact Analysis / Transportation Planning Rule Analysis
6. Preliminary Stormwater Management Report

II. SUBJECT SITE INFORMATION

The subject site (collectively the ***Parent Tract***) is a ±36.72-acre tract addressed as 5710 Windsor Island Road N in Keizer, Oregon. The Parent Tract comprises Tax Lots 1300 and 1400 of Marion County Assessor's Map 06 3W 34; both tax lots are located within the City of Keizer (herein the ***City***) city limits, and the Salem-Keizer Urban Growth Boundary (UGB). A portion of the Parent Tract is a ±22.31-acre tract of land (herein the ***Project Location***) consisting of the eastern portions of Tax Lots 1300 and 1400 of Marion County Assessor's Map 06 3W 34 as depicted on the attached ***Exhibit 1*** (Preliminary Plans) and shown above. The City is presently processing a submitted Property Line Adjustment application that requests the adjustment of the property line between Tax Lot 1300 and Tax Lot 1400 of Marion County Assessor's Map 06 3W 34 to establish the boundaries of the Project Location (outlined in red above) as the lawfully established property lines of "Tract 1" (see Sheet P-04 of ***Exhibit 1***). The ±14.41-acre tract of land consisting of the western portions of Tax Lots 1300 and 1400 of Marion County Assessor's Map 06 3W 34, is depicted on Sheet P-04 of ***Exhibit 1*** as "Tract 2". Herein, that tract of land is referred to as ***the remainder of the Parent Tract***.

Except for an unused, ageing structure on Tax Lot 1300, all structures on the Parent Tract are located on Tax Lot 1400. The Parent Tract has ±1,059 feet of frontage along Windsor Island Road N, a Minor Collector roadway. The eastern portion of the Parent Tract is designated as Special Policy Area Limited Use on the City of Keizer Comprehensive Plan Map, and the western portion of the Parent Tract is designated Special

Policy Area. The entire Parent Tract is zoned "Agricultural Industrial" (IA). Water and sewer utilities are located in Windsor Island Road N abutting the Parent Tract at both the north and southern intersections of the Parent Tract and right-of-way. Access to the Parent Tract is taken from two driveways on Windsor Island Road N, one serving the existing dwelling and communications facility on Tax Lot 1400, and the other previously used to serve the aging structure on Tax Lot 1300.

III. SURROUNDING PROPERTY INFORMATION

Information on surrounding properties is provided in the table below.

DIRECTION	ZONING	COMPREHENSIVE PLAN DESIGNATION	USE
Northwest	Agricultural Industrial	Special Policy Area	Golf Driving Range
North	RS – Odor Improvement Overlay	Low Density Residential - Overlay	Single Family Residential – McNary Estates
East	Limited Density Residential	Medium Density Residential	Single Family Residential – Whispering Pines Planned Unit Development
East	Public	Elementary School	Elementary School
South	Medium Density Residential	Low Density Residential	Single Family Residential – Wildwood Villa Manufactured Home Park
West	Agricultural Industrial	Special Policy Area	Wedding Venue

IV. BACKGROUND INFORMATION:

Prior to 1980, the City of Salem (Salem) built the Willow Lake Wastewater Treatment Plant (the Plant) in what was then an unincorporated portion of Marion County. In 1982, Keizer incorporated and later adopted the Keizer Comprehensive Plan (KCP) as a post-acknowledgment amendment to the Salem Area Comprehensive Plan (SACP). The Plant is presently included within Keizer's city boundaries. Salem continues to operate the Plant, which receives wastewater from both Salem and Keizer, and other portions of both Marion and Polk Counties.

Salem, Keizer, Marion County, and Polk County have each adopted as part of their respective comprehensive plans an element entitled Salem/Keizer Urban Area (Regional) Procedures and Policies (RPP). Provisions of the RPP define certain areas of exclusive geographic jurisdiction as well as certain areas of overlapping jurisdiction or interests known as "Regional Policies." The RPP defines a "Regional Policy" as any policy that the four jurisdictions have concurred with and is identified in each jurisdiction's comprehensive plan as a regional policy. The Willow Lake Wastewater Treatment Plant is among RPP.

Under the RPP, any jurisdiction may initiate a "Regional Planning Action" in order to amend a regional policy; however, the RPP requires that regional planning actions must have "concurrence of all jurisdictions[.]" Further, the RPP requires that regional planning actions "shall be adopted by each jurisdiction with the identical language." The RPP describes a procedure for considering regional planning

actions but specifies that "[if] jurisdictions disagree as to regional planning actions * * * the issue may be resolved through the Salem Keizer Area Plan Advisory Committee [SKAPAC] process."

The SKAPAC process begins with meetings of a subcommittee formed by the affected jurisdictions' staff. If the staff subcommittee cannot resolve the dispute, an elected officials' subcommittee meets. If that subcommittee cannot resolve the dispute, a joint meeting of the governing bodies of all affected jurisdictions is held. If the governing bodies cannot reach unanimous agreement, the proposing jurisdiction may take whatever action it deems appropriate, with appellate standing conferred on the other jurisdictions.

The RPP also defines "Dual Interest Areas," which are geographic areas located within the *exclusive jurisdiction* of one entity where two or more entities have established, by agreement, a means to regulate shared land use interests. The RPP specifies that decisions regarding a Dual Interest Areas Agreement (DIAA) "shall be governed by the terms of such agreement." (Emphasis added) *City of Salem v. City of Keizer*, Luba Nos. 97167-70 (1999).

In 1991, Salem and Keizer entered into a Dual Interest Agreement for the Willow Lake Treatment Plant Area, which identified the facility and the properties (including the Parent Tract) within the Dual Interest Area. The agreement required further studies to be completed by June 30, 1993, and interim controls regulating land divisions and uses within the Dual Interest Area.

In 2001, the parties entered into a substantial amendment to the Dual Interest Agreement confirming the study on the land use policies, replacing the interim regulations with final development regulations, and amending the boundaries of the Dual Interest Area creating the Willow Lake Wastewater Treatment Plant Special Policy Area. This amendment excluded several properties from the Dual Interest Area, including the Project Location and portions of the McNary Estates (Phase 20) Subdivision and Windsor Woods Subdivision.

In 2008, the City interpreted the impact of the Dual Interest Agreement in Case No. 2008-06. The City found that Section III Plan Diagram and Special Land Use Policies Policy 2 (g) requiring restrictions of certain uses within qualifying properties no longer applied to the properties excluded from the Special Policy Area under the 2001 amended agreement, i.e. the "Excluded Properties." It found in relevant part:

> "With the city adopting Ordinance 2001-451 in 2001 this policy is no longer applicable. The ordinance ratified the Dual Interest Area Agreement between the city of Salem that operates the sewer treatment plant and the city of Keizer. By agreement properties within the identified area of concern surrounding the sewer treatment plant are allowed to develop provided that a waiver / easement acknowledging that the odors, noise may be emitted from the sewer treatment is signed and recorded by the property owners of !and within a ½ mile of the plant." Ordinance No. 2008-577, Findings of Fact Pg. 15 of 50.

In sum, the Project Location was once subject to the Dual Interest Agreement for the Willow Lake Treatment Plant Area in 1991. It was removed from the Special Policy Area as an Excluded Area in the 2001 Amendment. Therefore, the SKAPAC process does not apply to the current Application nor do the City's Special Land Use Policies. The Applicant will accept however, as a condition approval, a requirement to record a declaration waiving liability against the Cities of Keizer and Salem regarding odors and noises that may be emitted from the pre-existing sewer treatment facility.

SUMMARY OF APPLICATION:

This Application includes two separate components. First, a consolidated Comprehensive Plan Map Amendment from Special Policy Area Limited Use to Low Density Residential (LDR) is included with a Zone Change from Agricultural-Industrial Zone to Single-Family Residential (RS) – Odor Improvement Zone. Second, a 118-lot subdivision contingent on approval of the Comprehensive Plan Map Amendment and Zone Change. The purpose of this Application narrative statement is to demonstrate compliance of the Comprehensive Plan Map Amendment, Zone Change, and Subdivision (herein the ***Application***) with the applicable provisions of the Keizer Development Code (KDC).

The City is presently processing a submitted Property Line Adjustment application that requests the adjustment of the property line between Tax Lot 1300 and Tax Lot 1400 of Marion County Assessor's Map 06 3W 34 to establish the boundaries of the Project Location as the lawfully established property lines of "Tract 1" (see Sheet P-04 of ***Exhibit 1***). The ±14.41-acre tract of land consisting of the western portions of Tax Lots 1300 and 1400 of Marion County Assessor's Map 06 3W 34, is depicted on Sheet P-04 of ***Exhibit 1*** as "Tract 2". Herein, that tract of land is referred to as ***the remainder of the Parent Tract***.

PARENT TRACT



FINDINGS APPLYING TO THE APPLICABLE CITY OF KEIZER CODE OF ORDINANCES FOR A COMPREHENSIVE PLAN MAP AMENDMENT

The applicable provisions are set out in bold and italics below with Applicant's proposed findings following in plain type.

3.109. - COMPREHENSIVE PLAN MAP AMENDMENTS.

Sec. 3.109.03. - Submittal requirements.

Each application shall be accompanied by a preliminary plat drawn to scale of not less than one inch equals 50 feet, nor more than one inch equals 200 feet, and containing, at a minimum, the following: (2/01)

- ***A. Appropriate identification stating the drawing is a preliminary plan. (2/01)***
- ***B. North point, scale and date. (2/01)***
- ***C. Name and addresses of land owner, applicant, engineer, surveyor, planner, architect or other individuals responsible for the plan. (2/01)***
- ***D. Assessor map and tax lot number of subject property. (2/01)***
- ***E. The property lines and approximate area of the subject property. (2/01)***
- ***F. Dimensions and size in square feet or acres of all proposed parcels. (2/01)***
- ***G. The approximate location of existing streets, easements or rights-of-way adjacent to, or within, the subject property, and existing improvements on the property and important features such as section or political boundary lines. (2/01)***
- ***H. The name, address, and phone number of the applicant, engineer, land surveyor, or person preparing the application. (2/01)***
- ***I. Name of the PUD, subdivision, or manufactured home park. (2/01)***
- ***J. Date the drawing was produced. (2/01)***
- ***K. Vicinity sketch showing location of the proposed land division. (2/01)***
- ***L. Identification of each lot or parcel and block by number. (2/01)***
- ***M. Gross acreage of property being subdivided or partitioned. (2/01)***
- ***N. Direction of drainage and approximate grade of abutting streets. (2/01)***
- ***O. Streets proposed and their names, approximate grade, and radius of curves. (2/01)***
- ***P. Any other legal access to the subdivision, PUD, manufactured home park, or partition other than a public street. (2/01)***
- ***Q. Contour lines at two-foot intervals if ten percent slope or less, five-foot intervals if exceeding ten percent slope, and a statement of the source of contour information. (2/01)***

Proposed Finding: The Applicant has submitted concurrent with this narrative statement Preliminary Plans (***Exhibit 1****)* which include the information required above.

Applicant will review and respond to any incompleteness letter in timely manner; however, the City must evaluate the mandatory criteria based on the evidence in the record. Any lack of information that is not directly needed to substantiate a mandatory approval criterion is not a basis for denial of an application. *See Montgomery, v. City of Dunes City*, 60 OR LUBA 274, 289–90, 2010 WL 381374, at *12.

Sec. 3.109.04. - Criteria for approval.

Comprehensive plan map amendment proposals shall be approved if the applicant provides evidence substantiating the following: (2/01)

- ***A. Compliance is demonstrated with the statewide land use goals that apply to the subject properties or to the proposed land use designation. If the proposed designation on the subject property requires an exception to the goals, the applicable criteria in the LCDC Administrative Rules for the type of exception needed shall also apply. (5/98)***

Proposed Finding: This action will occur entirely within the City limits, and no goal exceptions are required. Compliance with the Statewide Land Use Goals is addressed below:

Goal 1 – Citizen Involvement: This Comprehensive Plan Map Amendment is being processed according to the provisions of the Keizer Development Code (KDC), which includes citizen involvement in the decision-making process. Notice of the public hearing and request for comments will be mailed to surrounding properties and potentially affected parties, and a public process involving a public hearing, deliberation, and ordinance adoption will be followed. Consistent with local requirements, citizens will be given an opportunity to comment and testify before the hearings officer and again before the City Council. The final decision rests with the City Council. This process is consistent with the provision for the opportunity for citizens to be involved in all phases of this planning process as required by this Goal and with implementing administrative rules within Oregon Administrative Rules (OAR). Therefore, the planned map amendment complies with this goal.

Goal 2 – Land Use Planning: The KDC has an established process for all decisions and actions related to this Application, which have been acknowledged by the Land Conservation and Development Commission (LCDC). This change will be reviewed consistent with those procedures outlined in the City of Keizer Comprehensive Plan (Comprehensive Plan) and KDC. Notice will be published in the *Keizer Times*, and public hearings will be conducted before a Hearings Officer, who will then make a recommendation to City Council. A public hearing will also be conducted before the City Council. As such, the planned map amendment is consistent with this statewide planning goal and administrative rules. Therefore, the planned map amendment complies with this goal.

Goal 3 – Agricultural Lands: The purpose of this goal is to protect lands defined as Agricultural Lands for agricultural uses. The Parent Tract is designated as agricultural, though this land is specifically identified within the Comprehensive Plan as being reserved to satisfy Keizer's housing needs (Comprehensive Plan, Chapter III, pg. 9 of 72). Moreover, state definition of "Agricultural lands" excludes lands inside the Urban Growth Boundary (the "***UGB***") as a matter of law. The planned map amendment will not be inconsistent with the this goal or with any implementing administrative rules.

Goal 4 – Forest Land: The intent of this goal is to protect lands that are designated for commercial forest uses. There are no lands designated within the city limits of Keizer that allow commercial forestry. State law excludes land inside the UGB from being "Forest Land" under Goal 4. The planned Comprehensive Plan Map Amendment does not involve any land designated as Forest Land, nor will it impact the use of any forest lands. Therefore, this goal and implementing administrative rules are not applicable to the planned map amendment.

Goal 5 – Open Spaces, Scenic and Historic Areas, and Natural Resources: The intent of the Natural Resources Goal is to protect various natural resources such as wetlands, waterways, big game habitat, etc. The KDC includes a number of policies aimed to protect these natural resources that are within the city. The Parent Tract does not contain any identified open space, scenic areas, or any natural resources such as riparian, wetlands, aggregate, etc. The planned Comprehensive Plan Map Amendment will allow the subdivision planned on the Project Location (Tract 1), which will provide needed housing. This amendment will not affect any of the City's natural resources protection regulations or the lawful use of any properties that are within related overlay zones. Therefore, the planned map amendment will be consistent with this goal and with administrative rules designed to implement this goal.

Goal 6 – Air, Water, and Land Resources Quality: The intent of this goal is to protect the City's air, water, and land resource qualities. The City provides its residents with City water from groundwater sources. The subdivision is planned to be connected to the municipal water system, and the existing well on the Project Location is planned to be abandoned. The subdivision is also planned to be connected to the established sanitary sewer system, thereby reducing the likelihood of groundwater contamination from any failing on-site septic systems. The Comprehensive Plan Map Amendment will result in allowing for the construction of a residential subdivision, as opposed to further development of one of the many uses allowed in the IA zoning district. It should be noted that uses in the IA zoning district may have a greater adverse impact on the air quality of the immediate area, or even Keizer as a whole. The planned Comprehensive Plan Map Amendment to LDR will not impact the quality of air, water, or land resources, and thus complies with this goal and with administrative rules that implement this goal. Therefore, this goal is not applicable to the planned map amendment.

Goal 7 – Areas Subject to Natural Disasters and Hazards: The purpose of this goal is to protect life and property from hazards resulting from flooding, steep slopes, or other natural occurrences. The City has floodplain regulations that govern the placement of structures within identified 100-year floodplains. The Parent Tract is not located within an identified 100-year floodplain, so there are no issues associated with floodplain hazards for the property. There are no identified steep slopes on the Parent Tract. There are no other identified natural hazard areas on the Parent Tract. The planned Comprehensive Plan Map Amendment will not impact this goal or any administrative rules. Therefore, the planned map amendment complies with this goal.

Goal 8 – Recreational Needs: This goal requires the City to identify and plan for the current and future recreation needs of its residents. This land use action will neither reduce nor alter or impact any other identified park or recreation sites. Therefore, the planned map amendment complies with this goal.

Goal 9 – Economic Development: The intent of this goal is to ensure that the City plans for its overall economic vitality during the 20-year planning period. The planned Comprehensive Plan Map Amendment will change the designation of the parent tract from Special Policy Area to LDR, which will result in the creation of a number of construction jobs during the development and future work-from-home opportunities for future residents of subdivision planned on the Project Location and of any future subdivision on the remainder of the Parent Tract. When considered against the existing economic output of the orchard on the Parent Tract, the change will have a marked benefit on economic development in Keizer. Therefore, the planned map amendment complies with this goal.

Goal 10 – Housing: This goal requires the City to plan and provide for the housing needs of its residents. This change will affect ±36.72 acres of land that has historically been zoned for agricultural use but is specifically reserved to serve Keizer's housing needs (Comprehensive Plan, Chapter III, pg. 9 of 72). The result of the land use action will be a 118-lot subdivision on the Project Location (Tract 1), and future housing on ±14.4-acres of residentially zoned land. As such, the planned Comprehensive Plan Map Amendment will have a meaningful positive impact on the City's overall housing inventory. Therefore, the planned map amendment complies with this goal.

Goal 11 – Public Facilities and Services: The intent of this goal is to develop a timely, orderly, and efficient arrangement of public facilities and services necessary to serve the residents of Keizer. The City provides its residents with water and sanitary sewer, has an established street system, and provides administrative, police, and public safety services. The Comprehensive Plan Map Amendment will allow for the development of the Project Location with a planned subdivision. Public facilities and services are available

to serve the site, and the Applicant plans to provide road improvements to ensure adequate transportation facilities. The planned subdivision and future housing on the remainder of the Parent Tract will be served by adequate public facilities. Transportation facilities are discussed below. Therefore, the planned map amendment complies with this goal.

Goal 12 – Transportation: The City has an adopted Transportation System Plan (TSP) that describes the City's transportation systems. This system includes street, transit, bike, and pedestrian systems. Windsor Island Road N is classified as a Minor Collector roadway in the TSP. The Applicant plans to provide street improvements appropriate for the project. As demonstrated by the Transportation Impact Analysis (TIA) and Transportation Planning Rule (TPR) analysis, prepared by Sandow Engineering and included with this Application, the planned map amendment and zone change are consistent with the City's acknowledged TSP and will not result in a significant effect on the transportation system. Further, existing and planned transportation facilities will meet the applicable level of service standards and there are no off-site mitigation or safety improvements found to be warranted for this project. Therefore, the planned map amendment complies with Goal 12.

Goal 13 – Energy Conservation: This goal seeks to maximize the conservation of energy. All new construction requires compliance for review to applicable energy conservation standards. This will be reviewed and regulated through the building permit review and approval process at the time of future improvements and home construction. Therefore, planned map amendment complies with this goal.

Goal 14 – Urbanization: The intent of this goal to provide for an orderly and efficient transition from rural to urban land use. The City has an adopted Comprehensive Plan and development code that comply with this goal. The Parent Tract is within the UGB and within the city limits of the City of Keizer. This change will not result in the need for an extension of urban services to a rural area. Therefore, the planned map amendment complies with this goal.

Goal 15 – Willamette River Greenway: This goal seeks to protect, conserve, and maintain the natural, scenic, historical, agricultural, economic, and recreational qualities of lands adjacent to the Willamette River. While the Willamette River is located along the western flanks of Keizer, the planned map amendment will not impact the Willamette River. Because the Parent Tract is not located within the Willamette River Greenway, the planned map amendment will have no impact on the ability of the City to regulate uses along the river or the Willamette River overlay zone regulations. Therefore, this goal is not applicable to the planned map amendment.

Goal 16 (Estuarine Resources), Goal 17 (Coastal Shorelands), Goal 18 (Beaches and Dunes), and Goal 19 (Ocean Resources) govern areas along the ocean. Since Keizer is not located along the coast, these goals are not applicable to the planned map amendment

Therefore, the planned Comprehensive Plan Map Amendment complies with the Statewide Land Use Goals, and this criterion is met.

B. Consistency with the applicable goals and policies in the comprehensive plan is demonstrated. (5/98)

Proposed Finding: Consistency of the Comprehensive Plan Map change with goals and policies specified in the Keizer Comprehensive Plan is addressed below, and this criterion is met.

CITY OF KEIZER COMPREHENSIVE PLAN

Section III. FINDINGS AND POLICIES

A SIGNIFICANT NATURAL AND CULTURAL FEATURES–

2. GOALS AND POLICIES

a. General Goals

1) Preserve and maintain agricultural lands within the UGB until needed for urban development.

Proposed Finding: The Parent Tract planned is within the boundaries of the city limits of Keizer and is a portion of one of three areas in the City that have an agricultural designation. The purpose of this goal is to protect lands that are designated for agricultural uses until needed for urban development. The City of Keizer's land use inventory is found in the City's Comprehensive Plan (Chapter III, pg. 35 of 72). That information indicates there is a need for additional residential land. Therefore, the planned map amendment will be consistent with this goal.

2) Conserve open space and protect natural, cultural and scenic resources.

Proposed Finding: The intent of this goal is to protect various natural resources such as wetlands, waterways, big game habitat, etc. The KDC includes provisions aimed at protecting these natural resources that are within the city. The Parent Tract does not contain any historic structures on it nor does it contain any identified historic area. The property does not contain any identified open spaces, scenic areas, or any natural resources such as riparian, wetlands, aggregate, etc. that preclude or constrain its use. The planned map amendment will allow a subdivision on the Project Location (Tract 1), and ±14.41 additional acres of residentially zoned land on the remainder of the Parent Tract to satisfy Keizer's housing needs. The parent tract is near Keizer Rapids Park and Spong's Landing, which are designated as open space. This change will not affect any of the City's natural resource protection regulations or the lawful use of any properties that are within related overlay zones. Therefore, the planned map amendment is consistent with this goal.

3) Maintain and improve the quality of air, water and land resources.

Proposed Finding: The intent of this goal is to protect the City's air, water, and land resource qualities. The City provides its residents with City water from groundwater sources. The subdivision is planned to connect to the municipal water system and no new wells will be drilled. The subdivision is also planned to be connected to the established sanitary sewer system, thereby reducing the likelihood of groundwater contamination. In addition, planned stormwater improvements are designed to capture runoff from the subdivision, preventing water resource contamination from point source discharge. The planned Comprehensive Plan Map Amendment will result in a zone change from Agricultural Industrial (where high intensity uses are permitted) to Single Family Residential (where needed housing will be provided), so it ensure odors will not be produced and will prevent adverse impact on the air quality of both the immediate area or that of Keizer as a whole. Therefore, the planned map will not impact the quality of air, water, or land resources, and thus complies with this goal.

4) Protect life and property from natural disasters and hazards.

Proposed Finding: The purpose of this goal is to protect life and property from hazards resulting from

flooding, steep slopes, or other natural occurrences. The City has floodplain regulations that govern the placement of structures within identified 100-year floodplains. According to Flood Insurance Rate Map (FIRM) #41047C0193G, dated January 19, 2000, the Parent Tract is not located within an identified 100-year floodplain, so there are no issues associated with floodplain hazards. There are no identified steep slopes on the Parent Tract, so there will be no hazards resulting from steep slopes. There are no other identified natural hazard areas on the Parent Tract. Therefore, the planned map amendment is consistent with this goal.

5) Encourage energy conservation.

Proposed Finding: This goal seeks to maximize the conservation of energy. All new construction requires compliance with applicable energy conservation standards. This will be addressed through the building permit and review process. Therefore, the planned map amendment is consistent with this goal.

6) Protect, conserve, enhance and maintain the natural, scenic, historical, economic and recreational qualities of lands along the Willamette River.

Proposed Finding: This goal seeks to protect, conserve, and maintain the natural, scenic, historical, agricultural, economic, and recreational qualities of lands adjacent to the Willamette River. While the Willamette River is located along the western flanks of Keizer, the planned map amendment will not impact the Willamette River. Because the property involved in this Application is not located within the Willamette River Greenway, the planned map amendment will have no impact on the ability of the City to regulate uses along the river or the Willamette River overlay zone regulation. Therefore, the map change is consistent with this goal.

b. Agricultural Lands Policies

1) Encourage agricultural lands within the UGB to continue in agricultural use until such lands are planned for public facilities and other development per the public facilities and urban growth management elements of this plan and with the applicable zone district requirements. The city's one parcel that is designated EFU should be evaluated to determine whether this zone designation is still appropriate or whether it should be re-designated to a more appropriate residential land designation.

Proposed Finding: The purpose of this goal is to protect lands that are designated for agricultural uses until needed for urban development. The Comprehensive Plan identifies a lack of housing in the City of Keizer, including in areas that are fully served by City services. The planned map amendment involves a property that is a portion of one of three areas in Keizer that have an agricultural designation, though it is served by all necessary public utilities, fire protection, and transportation facilities. The planned map amendment will allow for the provision of needed housing, including the subdivision planned on the Project Location (Tract 1). Therefore, the planned map amendment is consistent with this goal.

f. Energy Conservation Policies

4) Encourage renewal and conservation of existing urban

neighborhoods and buildings, and create a multi-centered land use pattern to decrease travel needs. In-filling of passed over vacant land should be encouraged. Emphasis on close locational relationships among developments for living, working, shopping and recreation should be encouraged through planned mixed-use zones.

Proposed Finding: The planned map amendment will allow for the provision of needed housing (including those homesites included in this application) on property held specifically for that purpose. The Parent Tract is directly adjacent to other properties that are designated for and developed with residential uses. Further, it is near the River Road commercial corridor, a number of schools, Keizer Rapids Park, and Spong's Landing. In that regard, the Parent Tract is well situated to provide needed housing to the surrounding area. Therefore, the planned map amendment is consistent with this goal.

B. URBAN GROWTH AND GROWTH MANAGEMENT –
2. GOALS AND POLICIES

Goal (2)(c) Encourage development in areas already served by major public facilities before extending services to unserved areas.

Proposed Finding: The Parent Tract is located within the UGB, and served by necessary public utilities, fire protection services, and transportation facilities. The planned map amendment will allow the housing opportunities in an area that is already served by major public facilities, including water, sanitary sewer, storm drainage, and streets and transit. The Applicant plans to connect the subdivision to public services, including the public street network. Therefore, the planned map amendment is consistent with this goal.

1)Contain urban development within planned urban areas where basic services such as sewers, water facilities, police and fire protection can be efficiently and economically provided.

Proposed Finding: The Parent Tract is located in an urban area that is served by City services. Water lines and sanitary sewer lines are located in the Windsor Island Road N along the Parent Tract frontage and have capacity to serve the site. Police and administration will be provided by the City. Fire service will be provided by the Keizer Fire District. The planned map amendment will allow the planned residential subdivision on the Project Location (Tract 1), and additional residentially zoned land on the remainder of the Parent Tract to satisfy Keizer's Housing Needs and thus meets this policy.

2) Conserve resources by encouraging orderly development of land by adopting efficiency measures that will further allow for the efficient use of urban land.

Proposed Finding: The City has adopted efficiency measures to ensure efficient use of its land supply. Such adopted measures include housing density minimums, housing variety allowances, and lot development standards of residential zones within LDR designated land. As described later in this narrative and demonstrated by supporting documents referenced herein, the residential subdivision planned on the Project Location (Tract 1) supports those efficiency measures implemented by the RS zone. City efficiency measures will ensure the efficient use of urban land by future housing on the remainder of the Parent Tract. In addition, the Parent Tract is located near transit service on Windsor Island Road N and served by existing City services. Therefore, the planned map amendment will allow for the efficient use of

the land, and thus meets this policy.

k) Urban Growth Policy 3: Preserve farmland and open space not needed for urban growth.

Proposed Finding: The planned map amendment will allow land that is within the city limits of Keizer to provide needed housing. Because the Parent Tract is within the city limits of Keizer, it will help the City to meet its projected residential land needs inside the urban area, thereby avoiding the need to place needed residential units on land that is located outside the city limits of Keizer. While the Parent Tract has historically been used for agricultural use, it is not considered as farmland and does not provide open space. Therefore, the planned map amendment does not impact farmland or open space needs of the City. For these reasons, the Application complies with this policy.

4) Make more economical use of local tax dollars in locating facilities and providing services for the benefit of all citizens within the urban growth area.

Proposed Finding: The planned map amendment will allow for the provision of needed housing within the city limits of Keizer. Because water lines and sanitary sewer lines are located adjacent to the Parent Tract and there is sufficient capacity in these facilities to serve the site, City funded service extensions are not necessary. Police and administration will be provided by the City and fire safety services will be provided by the Keizer Fire District. The Application reflects an economical use of City facilities and services because the City has an identified deficit of residential land to meet its future needs and the planned map amendment will help to offset this identified need and so will meet this policy.

9) Maintain an adequate land supply to meet the needs of the city.

Proposed Finding: The Comprehensive Plan identifies a need for additional commercial, institutional, residential, and park land. The Comprehensive Plan identifies agricultural land as being reserved for needed housing and identifies a surplus of industrial land. Agricultural land falls within the category of industrial land, by uses permitted in the implementing zones. The planned map amendment will employ surplus land to satisfy needed residential land, and this is consistent with this policy.

C LAND-USE AND ECONOMIC DEVELOPMENT

4. RESIDENTIAL DEVELOPMENT GOALS, OBJECTIVES AND POLICIES:

a. Goal 1: Provide residential land to meet a range of needed housing types:

Proposed Finding: Lands located to the northeast, east, and south of the Parent Tract are designated Low Density Residential, Medium Density Residential, and Medium High Density Residential. The Project Location is planned to be improved with a residential subdivision, which will provide for an identified needed housing type. The Parent Tract is currently underutilized and designated IA. The Applicant plans to designate the Parent Tract as Low Density Residential to allow for the provision of needed single-family/ownership housing, including a residential subdivision on the Project Location (Tract 1). Therefore, the planned map amendment is consistent with this goal to provide additional residential land to meet needed housing types.

b. Goal 2: Encourage the location of residential development where full urban services, public facilities, and routes of public transportation are available.

Proposed Finding: The Parent Tract is located within the city limits of Keizer and can be fully served by existing urban services including City water, sanitary sewer, transportation, and transit. Therefore, the planned map amendment is consistent with this goal.

1) Objective 2.1 Coordinate new residential development with the provision of an adequate level of services and facilities, as sewers, water, transportation facilities, schools and parks.

Proposed Finding: The Parent Tract is located within the city limits of Keizer and can be fully served by urban services including Keizer Rapids Park and Sprongs Landing Park are two large regional parks in the nearby area. Educational services are provided by the Salem-Keizer School District and Chemeketa Community College. The school district will have an opportunity to review the Application and determine sufficient school capacity exists in the elementary, middle, and high school for new students that will live in the planned subdivision. Therefore, the Application complies with this objective.

c. Goal 3: Stabilize and protect the essential characteristics of residential environments, including natural features.

Proposed Finding: The planned comprehensive plan change will result in the Parent Tract being designated Special Policy Area to LDR, and zone change from IA to RS so the Parent Tract can be used to provide needed housing. New construction on the Parent Tract will comply with standards of the RS zoning district, which include, density, building setbacks, landscaping, building design, parking, and driveway location. Application of those standards will ensure that the amendment minimizes any impacts on the characteristics of the surrounding area. Single-family homes are established in the immediate area and this property, and when housing is provided on the Parent Tract, that housing will not destabilize the surrounding neighborhood. Conversely, if the amendment were not allowed, those heavy agricultural and industrial uses presently allowed on the Parent Tract could destabilize the characteristics this goal seeks to protect. Therefore, the planned map amendment complies with this goal.

1) Objective 3.1: Ensure compatibility among all types of new and existing residential uses, and between residential and non-residential uses.

Proposed Finding: The focus of this objective is to ensure compatibility between uses. In this case, single-family, public, and commercial uses are all located in the surrounding area. The planned map amendment will locate LDR land directly adjacent to existing LDR and Medium High Density Residential land, thereby preventing potential adverse impacts on adjacent land from heavy agricultural and industrial uses on the Parent Tract. New construction on the Parent Tract will comply with standards of the RS zoning district, which include density, building setback, landscaping, building design, parking, and driveway location. Application of those standards will ensure that the amendment prevents adverse impacts on surrounding residential uses. For these reasons, the planned map amendment complies with this objective.

d. Goal 4: Provide and allow for appropriate levels of residential development consistent with comprehensive plan designations.

1) Objective 3.1: Ensure compatibility among all types of new and existing residential uses, and between residential and non-residential uses.

a) Policies 4.1:

(1) Low-Density Residential

(a) Allow single-family and middle housing residential uses as the predominant land use type in low-density residential areas.
(b) Ensure that:

- ***i. Land use is predominately single-family or middle housing residential, with up to 8 units per gross acre.***
- ***ii. A variety of housing types are allowed in this category such as detached, attached duplex, triplex, quadplex, townhouses, cottage cluster housing, and manufactured housing. The zoning and subdivision ordinance will more specifically describe structural types.***
- ***iii. Schools, neighborhood shopping facilities, parks and churches are allowed in this category subject to conditional use criteria to be defined in the zoning ordinance.***

Proposed Finding: The planned LDR designation and zone change from IA to RS will allow for provision of needed housing on the Parent Tract. New construction on the Parent Tract will comply with standards of the RS zoning district, which include, minimum housing density, building setbacks, landscaping, building design, parking, and driveway location. For comparison, under the Parent Tract's current designation, heavy agricultural or industrial are allowed uses, and new housing is not permitted. Therefore, the map change is consistent with this goal within the Comprehensive Plan.

3. SUMMARY OF TOTAL PROJECTED LAND NEED (both residential and employment)

a. The analysis summarized herein and detailed in the EDO/HNA reports (adopted by City Council Order on June 17, 2013) results in a projected need for 370 gross acres of land beyond the current capacity of the city's current boundary.

Figure 11: Projected Total New Land Need City of Keizer, 2033

Category of Land	Gross Acreage Remaining Need
Commercial:	21.6
Industrial:	0
Institutional:	41.8
Residential:	267.6
Parks and Recreation:	43.5
Schools:	10
Total New 20-Year Land Need:	384.5

Source: Johnson Reid LLC (2013)

D. PLAN DIAGRAM AND SPECIAL LAND USE POLICIES

1.FINDINGS

1) The land use plan takes into account the amount of vacant, partially vacant, and re-developable lands as identified in the buildable lands inventory. These are outlined in Figure 12.

Figure 12: Vacant Buildable Summary

Zoning	*Vacant*	*Partially Vac.*	*Redevelopable*	*Total*
Single family	***49***	***143***	***7***	***199***
Multifamily	***5.7***	***-***	***18***	***24***
Urban transition	***9***	***41***	***-***	***51***
Industrial	***17***	***-***	***33***	***50***
Commercial	***9***	***2***	***23***	***42***
Mixed use	***17***	***2***	***23***	***42***

Source: Johnson Reid LLC (2013)

2. GOALS AND POLICIES

1) Provide appropriately designated vacant buildable land in adequate quantities to meet the forecast needs of Keizer to 2033.

Proposed Finding: The Comprehensive Plan incorporates findings of the Housing Needs Analysis (HNA) report adopted by City Council Order on June 17, 2013. The City has not officially adopted a new HNA since 2013, however a draft HNA update was prepared in 2021. That draft 2021 HNA update was never formally adopted. Whereas the adopted 2013 HNA addresses the shortfall of needed residential lands broadly, the draft 2021 HNA update identifies the City has a deficit of land to accommodate development in the low-density plan designation. The Comprehensive Plan indicates that lands devoted to residential uses are insufficient to meet the forecasted need for single-family units and ownership housing. The Parent Tract is located adjacent to existing single-family residential development and near transit service. Sanitary sewer water is able to serve the Parent Tract and there is capacity in the systems to allow the connection of the site to these facilities. City services such as police and administration will be provided. Keizer Rapids Park and Sprongs Landing Park are nearby and provide many recreational opportunities to the public and to future residents of the planned subdivision. The nearby River Road commercial corridor provides ample opportunities for shopping and employment. The planned comprehensive plan map change to LDR will conform with the density provisions of this policy.

C. The plan does not provide adequate areas in appropriate locations for uses allowed in the proposed land use designation and the addition of this property to the inventory of lands so designated is consistent with projected needs for such lands in the comprehensive plan. (5/98)

Proposed Finding: The City of Keizer currently lacks adequate land for single-family residential uses. Amending the current Comprehensive Plan designation for the Parent Tract will provide additional land to meet this need. Further, the Parent Tract is an appropriate area for this need to be met, as it is adjacent to existing properties that are designated and developed with single-family residential uses. The planned amendment will provide for housing on the Project Location (Tract 1) and additional housing opportunities on the remainder of the Parent Tract, helping to address an established need. Therefore, this criterion is met.

D. The plan provides more than the projected need for lands in the existing land use

designation. (5/98)

Proposed Finding: The intent of this criterion is that the changes proposed do not exacerbate existing deficiencies in existing land supplies. The City of Keizer's land use inventory is found in the City's Comprehensive Plan. That information indicates there is a need for additional Residential land. The need for additional Residential land is significantly greater than the need for Agricultural Industrial land. Presently, the Parent Tract is underutilized as agricultural land within city limits of Keizer. Further, if the property were redeveloped with higher intensity Agricultural Industrial uses, this would pose impacts to the surrounding neighborhoods and the abutting elementary school. Therefore, this criterion is met.

E. The proposed land use designation will not allow zones or uses that will destabilize the land use pattern in the vicinity. (5/98)

Proposed Finding: The LDR designation will not allow zones or uses that will destabilize the land use pattern in the vicinity of the planned map amendment. The surrounding lands are developed with a variety of commercial, public, and residential uses. The LDR designation provides for an efficient use of the land and will allow the provision of housing on the Parent Tract. Therefore, this criterion is met.

F. Uses allowed in the proposed designation will not significantly adversely affect existing or planned uses on adjacent lands. (5/98)

Proposed Finding: The Comprehensive Plan Map Amendment will allow the property to be provide needed housing, including the planned 118-lot subdivision on the Project Location (Tract 1). Applicable design standards of the KDC will be adhered to. The subdivision design will be consistent with applicable requirements, so it is not anticipated to adversely affect uses on adjacent lands. The Applicant has submitted a traffic analysis which indicates the change will not have an adverse impact on the city's transportation system (see ***Exhibit 5***). Therefore, this criterion is met.

G. Public facilities and services necessary to support uses allowed in the proposed designation are available or are likely to be available in the near future. (5/98)

Proposed Finding: The Parent Tract will be served by existing public facilities, transportation, and community services. The planned map amendment will allow for the provision of needed housing. Therefore, this criterion is met.

FINDINGS APPLYING TO THE APPLICABLE CITY OF KEIZER CODE OF ORDINANCES FOR A ZONE CHANGE

Sec. 3.110. - ZONE CHANGE.

Sec. 3.110.03. - Submittal requirements.

Each application shall be accompanied by a preliminary plat drawn to scale of not less than one inch equals 50 feet, nor more than one inch equals 200 feet, and containing, at a minimum, the following: (2/01)

A. Appropriate identification stating the drawing is a preliminary plan. (2/01)
B. North point, scale and date. (2/01)

C. Name and addresses of land owner, applicant, engineer, surveyor, planner, architect or other individuals responsible for the plan. (2/01)
D. Assessor map and tax lot number of subject property. (2/01)
E. The property lines and approximate area of the subject property. (2/01)
F. Dimensions and size in square feet or acres of all proposed parcels. (2/01)
G. The approximate location of existing streets, easements or rights-of-way adjacent to, or within, the subject property and existing improvements on the property and important features, such as section, political boundary lines. (2/01)
H. The name, address, and phone number of the applicant, engineer, land surveyor, or person preparing the application. (2/01)
I. Name of the PUD, subdivision, or manufactured home park. (2/01)
J. Date the drawing was produced. (2/01)
K. Vicinity sketch showing location of the proposed land division. (2/01)
L. Identification of each lot or parcel and block by number. (2/01)
M. Gross acreage of property being subdivided or partitioned. (2/01)
N. Direction of drainage and approximate grade of abutting streets. (2/01)
O. Streets proposed and their names, approximate grade, and radius of curves. (2/01)
P. Any other legal access to the subdivision, PUD, manufactured home park, or partition other than a public street. (2/01)
Q. Contour lines at two-foot intervals if ten percent slope or less, five-foot intervals if exceeding ten percent slope, and a statement of the source of contour information. (2/01)

Proposed Finding: All information necessary to determine compliance with the applicable provisions of the KDC is illustrated on the Preliminary Plans (see ***Exhibit 1***). This required item has been submitted.

Sec. 3.110.04. - Criteria for approval.

Zone change proposals shall be approved if the applicant provides evidence substantiating the following: (5/98)

A. The proposed zone is appropriate for the comprehensive plan land use designation on the property and is consistent with the description and policies for the applicable comprehensive plan land use classification. (5/98)

Proposed Finding: Single-Family Residential (RS) zoning is appropriate and consistent with the LDR designation. A description of the applicable policies of the Comprehensive Plan are discussed at length previously. Therefore, this criterion is met.

B. The uses permitted in the proposed zone can be accommodated on the proposed site without exceeding its physical capacity. (5/98)

Proposed Finding: The Project Location is planned to be improved with a residential subdivision providing for future detached and attached homes. The Preliminary Plans (***Exhibit 1***) demonstrate that the subdivision is designed consistent with the provisions of the RS zoning designation and illustrate how the remainder of the Parent Tract can be designed consistent with the provisions of the RS zoning designation in the future. The ground on each of the two properties is relatively flat with no discernable change in elevation. The Parent Tract does not have any unusual features or any apparent physical limitations that

might require special measures or considerations that would prevent or impair residential use in the future. There is an existing wireless telecommunication facility on the Project Location that is planned to remain. At the time of development and as a part of the building permit review and approval process, the future improvements on the Parent Tract will be required to comply with the standards of the KDC. As such, the capacity of the Parent Tract will not be exceeded by the planned subdivision. Therefore, the proposed use can be accommodated on the proposed site without exceeding the physical capacity of the site. Therefore, this criterion is met.

C. Allowed uses in the proposed zone can be established in compliance with the development requirements in this ordinance. (5/98)

Proposed Finding: The KDC outlines specific requirements for property development. These standards govern building design, landscaping, parking, buffering, vision clearance areas, special setbacks, and other applicable development requirements. The Preliminary Plans (***Exhibit 1***) demonstrate the subdivision is designed consistent with the provisions of the RS zoning designation and illustrate how the remainder of the Parent Tract can be designed consistent with the provisions of the RS zoning designation in the future. Housing construction is regulated as a part of the building permit review and approval process, which ensures the development requirements are met. Future development of allowed uses is feasible. Therefore, this criterion is met.

D. Adequate public facilities, services, and transportation networks are in place or are planned to be provided concurrently with the development of the property. (5/98)

Proposed Finding: The intent of the planned zone change and subdivision is to provide needed housing. The Parent Tract is located within an urban area served by City public facilities and services that have sufficient capacity to accommodate the planned subdivision and associated uses permitted in the RS zone. Existing public water and sanitary sewer mains are located within Windsor Island Road N, along the frontage of the Parent Tract at both the northern and southern intersections. The Preliminary Plans demonstrate that adequate public facilities (municipal water, sanitary sewer, and stormwater management systems) can be extended and provided to future lots in accordance with City of Keizer Public Works standards. Additionally, future lots are provided access to the public street system, in accordance with the TSP. Therefore, as demonstrated by the application materials, adequate public facilities, services, and transportation networks are either existing or planned to be installed concurrently with the planned residential subdivision. The criterion is met.

E. For residential zone changes, the criteria listed in the purpose statement for the proposed zone shall be met. (5/98)

Proposed Finding: The zone change to RS is planned to satisfy Keizer's housing needs, and will allow the subdivision planned on the Project Location (Tract 1). This is consistent with the purpose statement of the RS zone which is:

> "The purpose of the RS (Single-Family Residential) Zone is to allow development of single-family and middle housing type homes on individual lots provided with urban services at low urban densities. This zone also allows duplexes, triplexes, quadplexes, townhouses, and cottage cluster housing. Other uses compatible with residential development are also appropriate. These areas are designated as low density residential in the comprehensive plan."

Therefore, this criterion is met.

F. The following additional criteria shall be addressed: (5/98)

1. The supply of vacant land in the proposed zone is inadequate to accommodate the projected rate of development of uses allowed in the zone during the next five years, or the location of the appropriately zoned land is not locationally or physically suited to the particular uses proposed for the subject property or lack site specific amenities required by the proposed use. (5/98)

Proposed Finding: As found in the adopted Housing Needs Analysis, the City of Keizer currently lacks adequate land for single-family residential uses. The planned zone change from IA to RS for the Parent Tract will provide additional land to meet this need in a meaningful way. Under this Application, zone change approval would allow the Applicant to provide residential housing on the Project Location (Tract 1). Additionally, the planned zone change would allow housing opportunities on the remainder of the Parent Tract, which will help to address an established need. Furthermore, the Parent Tract is an adequate area where this need can be met. The Parent Tract presently supports only a single dwelling and an orchard, and is adjacent to properties that are zoned Medium Density Residential, Limited Density Residential, and Single Family Residential, and developed with residential uses. Allowing this zone change will promote an efficient and effective use of the property. Therefore, this has been addressed.

2. The supply of vacant land in the existing zone is adequate, assuming the zone change is granted, to accommodate the projected rate of development of uses allowed in the zone during the next five years. (5/98)

Proposed Finding: The intent of this criterion is that the Zone Changes does not exacerbate existing deficiencies in existing land supplies. The City of Keizer's land use inventory is found in the City's Comprehensive Plan. That information indicates there is a need for additional Residential land; it does not identify a need for agricultural land. The Statewide Planning Goals, which the City's Comprehensive Plan implements, does not require agricultural lands within urban areas. The Parent Tract is currently not being utilized for any purpose other than an orchard and telecommunications facility, this project is a logical approach to helping provide needed housing. Further, the land use inventory identifies a surplus of industrial land. Agricultural production is a permitted use in the Industrial Business Park (IBP) zoning district, and many uses permitted in the IBP and General Industrial (IG) zoning districts are also permitted within the IA zoning district. Therefore, the closest comparative category found within the land use inventory, Industrial Land, is more than adequate to support the projected rate of uses allowed in industrial zoning districts through 2033. Additionally, agricultural production is the lowest intensity use of all uses allowed in the IA zoning district, and establishment of any other allowed use on the Parent Tract would pose impacts to the surrounding neighborhoods and elementary school. Therefore, this has been addressed.

3. The proposed zone, if it allows uses more intensive than other zones appropriate for the land use designation, will not allow uses that would destabilize the land use pattern of the area or significantly adversely affect adjacent properties. (5/98)

Proposed Finding: The planned zone change from IA to RS will not adversely affect adjacent properties given that RS zoning is less intensive than IA zoning. Therefore, it will not destabilize the land use pattern in the vicinity. Rather, it will allow needed housing to be provided on the Parent Tract, housing which will be consistent with the surrounding neighborhood. The planned zone change from IA to RS will result in

an efficient use of the land and will provide for better protections to the residential neighborhood than the current designation of IA. Therefore, this criterion is met.

CONCLUSION

Based on the findings contained in this written statement and supporting documents referenced herein, the Applicant has satisfactorily addressed the applicable criteria for a Comprehensive Plan Map Amendment and Zone Change, and the City can rely upon this information in its approval of the Application.

Project Location



The review criteria for a subdivision are listed in Section 3.108.06 of the KDC. The criteria and findings for the subdivision Application are listed below:

3.108. - SUBDIVISIONS, PLANNED UNIT DEVELOPMENTS, AND MANUFACTURED HOME PARKS

Sec. 3.108.02. - Application and fee.

An application for a subdivision, planned unit development or manufactured home park shall be filed with the city and accompanied by the appropriate fee. It shall be the applicant's responsibility to submit a complete application in accordance with section 3.201.03 and that addresses the review criteria of this section.

Proposed Finding: The Land Use Application Form (***Exhibit 2***) has been signed by the owners of the Parent Tract whose ownership is demonstrated by the deeds included in ***Exhibit 4***. A check made out in the amount of the applicable fees is enclosed with this Application; therefore, these required items have been submitted.

Sec. 3.108.03. - Applicability.

A subdivision (or planned unit development) is required for any land division that creates more than three parcels in a calendar year. A manufactured home park approval is required for establishing such a park.

Proposed Finding: This Application includes a subdivision, as required.

Sec. 3.108.04. - Submittal requirements.

A. Application process. Applications for all subdivisions, planned unit developments, and manufactured home parks shall be submitted on forms provided by the city and accompanied by the appropriate fee. It shall be the applicant's responsibility to submit a complete application, and to assure that it addresses the review criteria of this section.

Proposed Finding: The Land Use Application Form included in ***Exhibit 3*** has been signed by the owners of the Parent Tract whose ownership is demonstrated by the property deeds included in ***Exhibit 4***. A check made out in the amount of the applicable fees is enclosed with this Application. Additionally, the applicable provisions of the KDC—which implements the goals and policies of the City of Keizer Comprehensive Plan—are addressed within this narrative and demonstrated to be met by exhibits included with the Application. Therefore, these required items have been submitted.

B. Submittal material. The following submittal requirements shall apply to all preliminary plan applications for subdivisions, planned unit developments, and manufactured home parks.

1. All applications shall be submitted on forms provided by the city to the city along with the appropriate fee. It shall be the applicant's responsibility to submit a complete application that addresses the review criteria of this section.

Proposed Finding: Land Use Application Form included in ***Exhibit 3*** has been signed by the owners of the Parent Tract whose ownership is demonstrated by the property deeds included in ***Exhibit 4***. A check made out in the amount of the applicable fees is enclosed with this Application; therefore, these required items have been submitted.

2. Submittal requirements. Each application shall be accompanied by a preliminary plat drawn to scale of not less than one inch equals 50 feet, nor more than one inch equals 200 feet, and containing, at a minimum, the following:

a. Appropriate identification stating the drawing is a preliminary plan.
b. North point, scale and date.
c. Name and addresses of land owner, applicant, engineer, surveyor, planner, architect or other individuals responsible for the plan.
d. Assessor map and tax lot number of subject property.
e. The property lines and approximate area of the subject property.
f. Dimensions and size in square feet or acres of all proposed parcels.
g. The approximate location of existing streets, easements or rights-of-way adjacent to, or within, the subject property and existing improvements on the property and important features such as section, political boundary lines.

h. The name, address and phone number of the applicant engineer, land surveyor, or person preparing the application;
i. Name of the PUD, subdivision, or manufactured home park.
j. Date the drawing was produced.
k. Vicinity sketch showing location of the proposed land division.
l. Identification of each lot or parcel and block by number.
m. Gross acreage of property being subdivided or partitioned.
n. Direction of drainage and approximate grade of abutting streets.
o. Streets proposed and their names, approximate grade, and radius of curves.
p. Any other legal access to the subdivision, PUD, manufactured home park, or partition other than a public street.
q. Contour lines at two-foot intervals if ten percent slope or less, five-foot intervals if exceeding ten percent slope, and a statement of the source of contour information.
r. All areas to be offered for public dedication.
s. Future street plan. Applicants for a subdivision, planned unit development, or manufactured home park shall submit, as a part of their application, a future street plan. The future street plan shall show the pattern of existing and future streets from the boundaries of the proposed land division and shall include other parcels within 500 feet of the proposed land division property line. The city may determine future neighborhood street connections. A future street proposal may be modified when subsequent development proposals are submitted.

Proposed Finding: The information necessary to determine compliance with the applicable provisions of the KDC is illustrated on the Preliminary Plans (***Exhibit 1***). This required item has been submitted.

Sec. 3.108.06 – Review criteria

Approval of a subdivision, PUD, or manufactured home park shall require compliance with the following:

A. The proposal shall comply with the applicable development standards in section 2.405 and section 2.3, as appropriate, including provisions for streets and utilities.

Proposed Finding: Section 2.405 of the KDC contains development standards for manufactured home parks and is therefore not applicable to this Application. Section 2.3 contains the standards that guide all development approvals within the City of Keizer. The applicable development standards contained in Section 2.3 that are pertinent to this subdivision review are addressed within this narrative.

B. Each lot shall satisfy the dimensional standards and density standard of the applicable zoning district, unless variance from these standards is approved.

Proposed Finding: Dimensional standards for the RS zoning district are established in KDC 2.102.05. Those relevant to this Application are included in the tables below.

Single-Family Residential Dimensional Standards Table

Dimension	*Single-Family Detached and Duplex*	*Townhouse*
Lot size	*4,000 sq. ft.*	*1,500 sq. ft.*
Average width	*40 feet*	*70 feet [(1)]*
Average Depth	*70 feet*	*70 feet*

(1) The width for townhouses must be a minimum of 20 feet instead of average feet

Single-Family Residential Development Standards Table

Setbacks	*Residential Uses*	*Nonresidential Uses*
Front [(5)]	*10 feet*	*20 feet*
Side	*5 feet [(1)]*	*10 feet*
Rear	*[(2)]*	*20 feet*
Street-side [(3)]	*10 feet*	*20 feet*
Garage Entrance [(4)]	*20 feet*	*20 feet*

(1) Townhouses may have zero-side yard setbacks for interior lot line.
(2) The rear yard setback shall be as follows: 14 feet for a one-story building; 20 feet for a two-story building. The rear yard setback for cottage clusters shall be ten feet.
(3) Setbacks are measured from property lines, not easement lines; however, no structure shall be placed any closer than five feet from the edge of an access easement.
(4)The garage entrance setback shall be measured from the property line or edge of private access easement to the entrance of the garage. The centerline of the driveway shall be measured if the driveway to the garage entrance is not perpendicular to the property line or private access easement. In no case shall a garage be set back less than the minimum front, side, and rear setbacks
(5)The minimum front setback from an access easement shall be ten feet

As shown on the Preliminary Plans (***Exhibit 1***), planned lots meet the type-specific dimensional standards of the RS zoning district. Development standards for the RS zoning district are established in KDC 2.102.06. The Preliminary Plans include a Preliminary Dimensioned Subdivision Plan that illustrates applicable

setbacks of the RS zoning district on each lot, demonstrating that they can be met by future dwellings on each lot.

Per KDC 2.102.06.I, the minimum density in the RS zoning district is 4 units per acre, and the maximum density is 8 units per acre for single-family detached units or 25 units per acre for townhouses. KDC does not include detailed density calculation provisions. The Project Location (Tract 1) is ±22.31-acres, resulting in a minimum required density of 90 units (22.31 × 4 = 89.24), and a maximum allowed density of 179 single-family detached units (22.31 × 25 = 178.48) or 558 townhouses (22.31 × 25 = 557.75). As shown on the Preliminary Plans, 110 lots are planned for single-family detached homes, and 8 lots are planned for townhouses, meeting the density standards of the RS zoning district. Therefore, the applicable standards of the RS zoning district are met, and the subdivision complies with this requirement.

C. Adequate public facilities shall be available and shall serve the existing and newly created parcels.

Proposed Finding: This criterion is implemented through the Application of the public facility improvement requirements of KDC Section 2.301.03. Please refer to the responses to the applicable standards of that section, which are provided later in this narrative. This criterion is met.

D. Rough proportionality. Improvements or dedications required as a condition of development approval, when not voluntarily accepted by the applicant, shall be roughly proportional to the impact of development. Findings in the development approval shall indicate how the required improvements or dedications are roughly proportional to the impact.

Proposed Finding: This requirement is understood. Under ORS 197.831 and ORS 197.796(4) and applicable United States Supreme Court case law interpreting the Fifth Amendment of the United States Constitution, it is the City's obligations to apply reasonable conditions of approval that are roughly proportional to the development's impact on public facilities. No local ordinance can compel a waiver of such rights or change the burden of conforming with state and federal law.

Sec. 2.301.02 – Application of standards.

A. Application. The standards governing development as set forth in section 2.3, the applicable zone district, and/or within section 2.4, as applicable, shall apply to partitions; subdivisions; planned unit developments; commercial and industrial development; public and noncommercial development; single-family dwellings, duplexes and multifamily structures.

B. Phasing. Phasing or delay of improvements may be authorized as allowed by this section. When it is determined by the city that the strict application of the requirements outlined in the table below is impractical or not feasible then consideration may be given for delaying or phasing the required public facilities improvements. Phasing may be considered when:

1. Lack of connecting facilities exists;
2. Any plans that the city may have for future public facilities improvements that may justify phasing or delaying so that the project may be incorporated into the city's improvement plans;
3. Other engineering factors that may justify that the improvements should be delayed exist.

If a delay or phasing is allowed it is not to be considered as a modification of the required improvements or that the improvements are to be eliminated. The property owner shall sign an appropriate agreement with the city in a recordable form that shall obligate the property owner to construct the improvements at the specified time within the agreement. Phasing is authorized only if specifically allowed for in the land use decision or the building permit.

Proposed Finding: This Application does not include phasing.

Sec. 2.301.03 – Public facility improvement requirements

Standards for the provision and utilization of public facilities or services available within the City of Keizer shall apply to all land developments in accordance with the following table. No development permit, including building permit, shall be approved or issued unless the following improvements are provided prior to occupancy or operation, or unless future provision is assured in accordance with subsection 2.310.05.D or 2.310.06.P as applicable.

Public Facilities Improvement Requirements Table

Land Use	*Fire Hydrant*	*Street Improvement*	*Water Hookup (PF-1)*	*Sewer Hookup (PF-6)*	*Storm Drain (PF-7)*	*Streetlights (PF-8)*
Partition, subdivision, PUD, MHP	*PF-2*	*PF-4 and PF-5*	*Yes*	*Yes*	*Yes*	*Yes*

PF-1. An approved potable water supply capable of supplying both domestic water supply and also meeting the required fire flow for fire protection shall be provided prior to the start of combustible construction.
PF-2. Fire hydrants shall meet the requirements as set forth in the Uniform Fire Code.
PF-4. As specified in section 2.310.
PF-5. If a traffic impact analysis (TIA) is required pursuant to section 2.301.04, the city will require improvement (s) as recommended in such TIA, in addition to those specified in the public facilities improvement requirements table as set above.
PF-7. New developments and expansion shall connect into an approved storm drainage system or shall provide on-site storm drainage facilities in a system meeting city approval.
PF-8. Generally, streetlights are not required of partitions but are for subdivisions. Streetlights for other developments will be required on a case-by-case basis.

Proposed Finding: As shown on the Preliminary Plans (***Exhibit 1***), public facility improvements are planned in accordance with the table above, as applicable; therefore, these standards are met.

Sec. 2.301.04. - Traffic impact analysis (TIA).

C. When required. A traffic impact analysis shall be required to be submitted to the city with a development application, when the following conditions apply:
1. The development application involves one or more of the following actions:
a. A change in zoning or a plan amendment designation; or

Proposed Finding: This project involves a change in zoning; therefore, a traffic impact analysis (TIA) has been provided, as required. Please refer to the TIA included in ***Exhibit 5***.

D. Traffic impact analysis requirements.

Proposed Finding: A TIA for this project has been prepared in accordance with the requirements of this subsection, which have been omitted for brevity. Please refer to the TIA included in ***Exhibit 5***.

E. Approval criteria.

Proposed Finding: The TIA included in ***Exhibit 5*** satisfies the approval criteria of this subsection, which have been omitted for brevity. Please refer to the TIA included in ***Exhibit 5***.

Sec. 2.302.03 – Street Standards- General Provisions

A. General Requirement. The location, width, and grade of streets shall be considered in their relation to existing and planned streets, topographical conditions, public convenience and safety, and the proposed use of the land to be served by the streets.

Proposed Finding: This provision is understood and is demonstrated to be met by the Preliminary Plans (***Exhibit 1***).

B. Continuation of Street. Development proposals shall provide for the continuation of, and connection to, existing streets where necessary to promote appropriate traffic circulation in the vicinity of the development. Where necessary to give access or permit a satisfactory future division of land, streets and utilities shall be extended to property boundaries to allow the future extension of streets and infrastructure. A temporary turnaround shall be constructed for stub streets in excess of 150 feet in length. Exemptions from these street extensions can be found in Section 2302.03.B.1 – 5.

Proposed Finding: As shown on the Preliminary Plans (***Exhibit 1***), Mampi Avenue N is planned to stub to the remainder of the Parent Tract. That stub of Mampi Avenue N is not planned to be in excess of 150 feet in length; therefore, a temporary turnaround is not required to be constructed. As planned, the stub of Mampi Avenue N provides for the later continuation of the street onto the remainder of the Parent Tract, satisfying this provision. As noted on the Preliminary Subdivision Plans (***Exhibit 1***), the street network in the manufactured home park to the south of the Project Location (Tract 1) is privately owned. Connectivity of Local public streets to private streets is not required under this provision, nor is it required elsewhere in this code; therefore, this provision does not require connectivity of planned public streets to those southerly private streets.

C. Alignment. All streets other than minor streets or cul-de-sacs, as far as practical, shall be in alignment with existing streets by continuation of the existing centerlines. The staggering of street alignments resulting in "T" intersections shall, wherever practical, leave a minimum distance of 200 feet between the center lines of streets having approximately the same direction and otherwise shall not be less than 100 feet.

Proposed Finding: As shown on the Preliminary Plans (***Exhibit 1***), this project involves a new Local roadway system, wholly interior to the planned subdivision. As shown in Exhibit A, connection to the existing public street network is planned via Windsor Island Road N; a new Local street, Kerr Loop N, intersects Windsor

Island Road N (a Minor Collector roadway) at approximately a 90-degree angle. That intersection is not within 200 feet of any other intersection along the east side of Windsor Island Road N. This provision is satisfied.

D. Future extension of streets. When it appears possible to continue a street, bicycle path and/or pedestrian accessway into a future subdivision, adjacent acreage or area attractors such as schools and shopping centers, streets, bicycle paths and/or pedestrian accessway facilities shall be platted and built to a boundary of the subdivision. The street may be platted without a turnaround unless the Public Works Department finds a turnaround is necessary for reasons of traffic safety. Any street extension exceeding 150 feet in length shall be provided with an approved turnaround as set forth in Section 902.2.2.4 "Dead Ends" of the Uniform Fire Code, 1994 edition.

Proposed Finding: As shown on the Preliminary Plans (***Exhibit 1***), Mampi Avenue N is planned to stub to the remainder of the Parent Tract. That stub of Mampi Avenue N is not planned in excess of 150 feet in length; therefore, a temporary turnaround is not required to be constructed. As planned, the stub of Mampi Avenue N provides for the later continuation of the street onto the remainder of the Parent Tract, satisfying this provision. As noted on the Preliminary Plans (***Exhibit 1***), the street network in the manufactured home park to the south of the Project Location (Tract 1) is privately owned. Connectivity of Local public streets to private streets is not required under this provision, nor is it required elsewhere in this code; therefore, this provision does not require connectivity of planned public streets to those southerly private streets.

E. Intersection angles. Streets shall be laid out to intersect at angles as near to right angles as practical, except where topography requires lesser angles. Intersections of less than 60 degrees shall require special intersection designs. Streets shall have at least 50 feet of tangent adjacent to intersections unless topography requires lesser distances. Intersections that are not at right angles shall have minimum corner radii of 15 feet. Major arterial intersections shall have curb radii of not less than 35 feet. Other street intersections shall have curb radii of not less than 20 feet.

Proposed Finding: As shown on the Preliminary Plans (***Exhibit 1***), the new Local roadway system is planned in accordance with this provision. For more information, please refer to the Preliminary Street Plan included in the Preliminary Plans.

F. Existing Streets. Whenever existing public streets adjacent to or within a tract are of a width less than the street design standards, additional right-of-way shall be provided at the time of subdivision, partitioning, or development.

Proposed Finding: As shown on the Preliminary Plans ***Exhibit 1***, the project includes a new Local roadway system wholly interior to the planned subdivision, and the Parent Tract does not include existing streets. The site does, however, include frontage on Windsor Island Road N, a designated Collector roadway of sub-standard width. As shown on the Preliminary Plans (***Exhibit 1***), this project includes the planned dedication of a ±14-foot-wide section of the Project Location (Tract 1) to Windsor Island Road N to establish the full required width of that public right-of-way. That dedication will be reflected on the final plat for Olson Orchards and will be dedicated upon recordation of that plat. Therefore, this provision is planned to be satisfied, as required.

G. Half-streets may be approved where essential to the reasonable development of an area and when the City finds it to be practical to require the dedication of the other half when the adjoining property is developed. When a ¾ width street can reasonably be developed, as determined the Department of Public Works, a half street will be constructed with an additional 10 feet of pavement on the opposite side of the street from full improvement.

Proposed Finding: This project does not include the dedication of half-streets.

H. Cul-de-sacs. The maximum length shall be 800 feet.

Proposed Finding: As shown on the Preliminary Plans (***Exhibit 1***) **,**Frogley Court N is planned to include a cul-de-sac, which is planned at a length less than 800 feet; therefore, this provision is satisfied.

I. Street names and numbers shall conform to the established standards and procedures in the City.

Proposed Finding: As shown on the Preliminary Plans (***Exhibit 1***), street names conform to the established standards and procedures in the City (City of Keizer, Oregon Code Section. 36-59. - Street naming).

J. Grades shall not exceed 7 percent on arterials, 10 percent on collector streets or 15 percent on any other street. Street grades of 15 percent shall not exceed 200 feet in length. To provide for adequate drainage, all streets shall have a minimum slope of 0.5 percent. On arterials there shall be a tangent of not less than 100 feet between reversed curves.

Proposed Finding: Preliminary Street Plans, Preliminary Cross Sections, and Preliminary Street Profiles are included in the Preliminary Plans (***Exhibit 1***). As shown, these provisions are satisfied by planned streets, as applicable.

K. Frontage Streets. If a development abuts or contains an existing or proposed arterial or collector street, the City may allow frontage streets, or may require reverse frontage lots with suitable depth, screen planting contained in a non-access reservation along the rear or side property line, or such other treatment as may be necessary for adequate protection of residential properties, to afford separation of through and local traffic, and to preserve the capacity and safety of the collector or arterial street.

Proposed Finding: As shown on the Preliminary Plans (***Exhibit 1)***, direct access from Windsor Island Drive N from the new lots is not planned. Further, given the minimum setback standards to which homes on those lots will be subject, as well as the design of the product that is to be located on those lots, neither additional lot depth nor screening plantings are necessary to achieve the separation of local traffic sought under this provision. For more information on the anticipated impacts of the planned subdivision on the existing public roadway system, please refer to the TIA (see ***Exhibit 5***)**.**

L. Alleys shall be provided in commercial and industrial zones unless other permanent provisions for access to off-street parking and loading facilities are provided. The corners of alley intersections shall have radii of not less than 10 feet.

Proposed Finding: This project does not involve commercial or industrial zones; therefore, this provision does not apply.

M. Street Landscaping. Where required as part of the right-of-way design, planting strips shall conform to the following standards:

1. Street trees shall be planted at a ratio of no less than one tree per 30 feet of property frontage. Street trees shall conform with the list of acceptable trees included in the City's Street Tree Ordinance. Installation of street trees shall be included in any improvement agreement covering the installation of public facilities and services on a property.

2. Planting strips shall be planted and maintained in predominantly living groundcover materials with hard surfaces consisting of bricks, pavers, rocks, decorative concrete work, etc., only being included as part of an overall landscape design where living plant material is predominant. In no case shall asphalt be used within the planting strip.

Proposed Finding: The City of Keizer Design Standards – Chapter 300 contain the full list of required design elements for Local Streets. Per that document, street landscaping is not required as part of the right-of-way design for Local streets. Accordingly, and to satisfy applicable provisions of this code for street design and minimum housing density, street landscaping is not planned along the Local roadway system interior to the subdivision. To the extent these provisions are considered to apply to residential lots along Local roadways, it can be applied at the time of new construction permit review for future dwellings on platted lots within the subdivision, pursuant to KDC Section 2.302.03.0.1, that requires location of streetscape trees within lot boundaries, i.e. not in the right-of-way. As shown on the Preliminary Plans (***Exhibit 1***), street landscaping is planned along Windsor Island Drive N, in accordance with these provisions. Therefore, to the extent applicable, these provisions are satisfied.

N. Access control standards. The following access control standards apply to public, industrial, commercial and residential developments, including land divisions. Access shall be managed to maintain an adequate level of service and to maintain the functional classification of roadways as required by the City of Keizer Transportation System Plan. Major roadways, including arterials and collectors, serve as the primary system for moving people and goods within and through the city. Access management is a primary concern on these roads. Local streets and alleys provide access to individual properties. If vehicular access and circulation are not properly designed, these roadways will be unable to accommodate the needs of development and serve their transportation function.

The regulations in this section further the orderly layout and use of land, protect community character, and conserve natural resources by promoting well-designed road and access systems and discouraging the unplanned subdivision of land.

1. Traffic impact analysis requirements. The city or other agency with access jurisdiction may require a traffic study prepared by a qualified professional to determine access, circulation and other transportation requirements. (See also section 2.301.03 (traffic impact analysis).

Proposed Finding: A TIA for this project is included in ***Exhibit 5***, pursuant to the provisions of Section 2.301.04, previously addressed in this narrative. For more information, please refer to the TIA (***Exhibit 5***).

2. The city or other agency with access permit jurisdiction may require the closing or consolidation of existing curb cuts or other vehicle access points, recording of reciprocal access easements (i.e., for shared driveways), development of a frontage street, installation of traffic control devices, and/or other mitigation as a condition of granting

an access permit, to ensure the safe and efficient operation of the street and highway system. Access to and from off-street parking areas shall not permit backing onto a public street.

Proposed Finding: This provision is understood. As shown on the Preliminary Plans (***Exhibit 1***), the existing access to Tax Lot 1400 is planned to be replaced by Kerr Loop N. Any requirements made under this provision are subject to KDC 3.108.06.D. For more information on the safety and efficient operation of the street system as it relates to the planned accesses, please refer to the TIA ***Exhibit 5***.

3. Access options. When vehicle access is required for development (i.e., for off-street parking, delivery, service, drive-through facilities, etc.), access shall be provided by one of the following methods (a minimum of ten feet per lane is required; planned access shall be consistent with adopted public works standards for road construction). These methods are options to the developer/subdivider:

Option 1. Access is from an existing or proposed alley or mid-block lane. If a property has access to an alley or lane, direct access to a public street is not permitted.

Option 2. Access is from a private street or driveway connected to an adjoining property that has direct access to a public street (i.e., shared driveway). A public access easement covering the driveway shall be recorded in this case to ensure access to the closest public street for all users of the private street/drive.

Option 3. Access is from a public street adjacent to the development parcel. If practicable, the owner/developer may be required to close or consolidate an existing access point as a condition of approving a new access. Street accesses shall comply with the access spacing standards in subsection 6 below.

Proposed Finding: As shown on the Preliminary Plans (***Exhibit 1***), access to the subdivision will be provided via Windsor Island Road N; therefore, this provision is satisfied.

4. Subdivisions fronting onto an arterial street. New residential land divisions fronting onto an arterial street shall be required to provide alleys or secondary (local or collector) streets for access to individual lots. When alleys or secondary streets cannot be constructed due to topographic or other physical constraints, access may be provided by consolidating driveways for clusters of two or more lots (e.g., includes flag lots and midblock lanes).

Proposed Finding: The Project Location (Tract 1) does not front an Arterial roadway; therefore, this provision does not apply.

5. Double Frontage Lots. When a lot has frontage onto two or more streets, access shall be provided first from the street with the lowest classification.

Proposed Finding: As shown on the Preliminary Plans (***Exhibit 1***), lots are planned to take access from local roadways; therefore, this standard is met.

6. Access spacing. The following minimum access spacing standards apply to public streets and driveways on arterial streets:

Proposed Finding: The Project Location (Tract 1) does not front an Arterial roadway; therefore, this provision does not apply.

7. Number of access points. For single-family (detached and attached), two-family, and three-family housing types, one street access point is permitted per lot, when alley access cannot otherwise be provided; except that two access points may be permitted for two-family and three-family housing on corner lots (i.e., no more than one access per street), subject to the access spacing standards in subsection 6, above. The number of street access points for multiple family, commercial, industrial, and public/institutional developments shall be minimized to protect the function, safety and operation of the street(s) and sidewalk(s) for all users. Shared access may be required, in conformance with subsection 8 below, in order to maintain the required access spacing, and minimize the number of access points.

Proposed Finding: As shown on the Preliminary Plans (***Exhibit 1***), each lot is planned to have a single access point; therefore, this provision is satisfied.

8. Shared driveways. The number of driveway and private street intersections with public streets shall be minimized by the use of shared driveways with adjoining lots where feasible. The city shall require shared driveways as a condition of land division or site design review, as applicable, for traffic safety and access management purposes in accordance with the following standards:

a. Shared driveways and frontage streets may be required to consolidate access onto a collector or arterial street. When shared driveways or frontage streets are required, they shall be stubbed to adjacent developable parcels to indicate future extension. "Stub" means that a driveway or street temporarily ends at the property line but may be extended in the future as the adjacent parcel develops. "Developable" means that a parcel is either vacant or it is likely to receive additional development (i.e., due to infill or redevelopment potential).

b. Access easements (i.e., for the benefit of affected properties) shall be recorded for all shared driveways, including pathways, at the time of final plat approval or as a condition of site development approval.

c. Exception. Shared driveways are not required when existing development patterns or physical constraints (e.g., topography, parcel configuration, and similar conditions) prevent extending the street/driveway in the future.

Proposed Finding: As shown on the Preliminary Plans (***Exhibit 1***), driveways are not planned and are not anticipated to be required under this provision when applied at the time of building permit review for new dwellings on the planned lots.

9. Street connectivity and formation of blocks required. In order to promote efficient vehicular and pedestrian circulation throughout the city, land divisions and large site developments shall produce complete blocks bounded by a connecting network of public and/or private streets, in accordance with the following standards:

Block length. The maximum block length shall be consistent with 2.310.04 (additional design standards for subdivisions).

Street standards. Public and private streets shall also conform to section 2.302 Street Standards in the City of Keizer Development Code (Table 4.1 Street Design Standards in the TSP).

Exception. Exceptions to the above standards may be granted when blocks are divided by one or more pathway(s), in conformance with the provisions of 2.310.04(C)(2).

Proposed Finding: As shown on the Preliminary Plans (***Exhibit 1***), and as addressed later in this narrative under the related provisions of Section 2.310.04 and Section 2.302, these provisions are satisfied.

10. ***Pedestrian/bicycle accessways. Accessways shall be located to minimize out-of-direction travel by pedestrians and may be designed to accommodate bicycles.***

Proposed Finding: The central location of the planned pedestrian accessway (extending from Kerr Loop N to the abutting property to the east) was selected to minimize out-of-direction travel by pedestrians and is designed to accommodate bicycles. Additionally, it provides a safe and convenient method of access from the subdivision to school on that property to the east. Therefore, this provision is satisfied.

11. ***Streetlights. Streetlights shall be required for public streets serving more than four dwelling units. Streetlights shall be located within a right-of-way or in utility easements. Streetlights are not required along private access easements. Streetlights shall be designed to direct the light down toward the street and sidewalk and as much as practicable away from adjoining homes.***

Proposed Finding: Preliminarily planned locations for streetlights are reflected on Sheet P-08 of the Preliminary Plans (***Exhibit 1***) and planned at a rate of at least one light per four residential lots, within utility easements. Therefore, this provision is satisfied.

O. Trees along Public Streets. Streetscape trees are required along public streets, shall comply with the provisions of Section 2.309, and must be located according to the following provisions:

1. ***Streetscape trees shall be planted within the boundaries of each lot within 10 feet of street improvements.***
2. ***Lots measuring less than 60 feet in width shall be required to plant one streetscape tree. Lots measuring more than 60 feet in width shall be required to plant two streetscape trees.***
3. ***Streetscape trees shall be selected from a list of approved trees.***

Proposed Finding: As evidenced by the Preliminary Plans (***Exhibit 1***), lots and infrastructure are planned in a manner that can accommodate the future planting of streetscape trees within the boundaries of each lot within 10 feet of street improvements. Such plantings will occur at the time of new construction on each lot, in accordance with the above-listed provisions, as applicable.

Sec. 2.302.04 – General Right-of-Way and Improvement Widths

The following standards are general criteria for public streets in the City of Keizer. These standards shall be the minimum requirements for all streets, except where modifications are permitted under subsection 2.302.05.

The street design standards show five different options for local streets. These standards allow the city flexibility in the design of the street network.

Functional Classification	*Number of Lanes*	*Parking*	*Bike Lanes[2]*	*Roadway Width (ft) [3]*	*Sidewalks*	*Right-of-Way Width (ft) [4][5]*	*Maximum Dwelling Units Served*
Major Arterial	*5*	*No[6]*	*Yes*	*50-72*	*Yes*	*84*	*-*
Minor Arterial	*3*	*No[6]*	*Yes*	*36-50*	*Yes*	*72*	*-*
Collector	*2*	*No[6]*	*Yes*	*36-50*	*Yes*	*68*	*-*
Local V	*2*	*Yes*	*No*	*34*	*Yes*	*48*	*-*
Local IV	*2*	*Yes*	*No*	*32*	*Yes*	*46*	*79*
Local III	*2*	*Yes*	*No*	*30*	*Yes*	*44*	*19*
Local II	*2*	*Yes*	*No*	*30*	*Yes*	*42*	*14*
Local I	*2*	*Yes[7]*	*No*	*28*	*Yes[7]*	*35*	*9*

[1] All local street categories have a ten-foot public utility easement on both sides and a five-foot slope and utility easement on collectors and arterials.
[2] Standard bike lane widths are six feet; however, five-foot bike lanes may be approved on a case-by-case basis.
[3] Street improvements and right-of-way widths may be increased on a case-by-case basis as required by the City in accordance with Public Works design standards.
[4] All streets shall have five-foot-wide sidewalks on both sides, unless otherwise noted. Meandering sidewalks may be considered or required on arterials and collectors.
[5] Additional right-of-way may be required at intersections to accommodate additional turning lanes. Right-of-way at intersections shall provide for a minimum 20-foot curb return radius.
[6] Depending on installed improvements.
[7] Parking and sidewalks are required on one side of the street only.

Proposed Finding: As shown on the Preliminary Plans (***Exhibit 1***), the Local roadway system interior to the subdivision is planned in accordance with these standards. As shown, frontage improvements adjacent to Windsor Island Road N conform to the Collector listed above. Therefore, these provisions are satisfied.

Sec. 2.302.06 – Construction Specifications.

Construction specifications for all public and private streets shall comply with the standards of the most recently adopted public works/street standards of the City of Keizer. Construction permits are required by the public works department.

Proposed Finding: This provision is understood. Please refer to the Preliminary Plans (***Exhibit 1***), and responses provided elsewhere in this narrative to related standards, both of which demonstrate compliance with this provision as implemented within the KDC. The Applicant will obtain construction permits, as required.

Sec. 2.302.08 – Private access easements.
A private access easement created as the result of an approved partitioning or subdivision shall conform to standards governing the following:

Proposed Finding: As evidenced by the Preliminary Plans (***Exhibit 1***), private access easements are not planned; therefore, provisions of this subsection are not applicable.

Sec. 2.303 – Off-Street Parking and Loading
The purpose of this section is to provide standards to ensure adequate areas for maneuvering, loading and unloading of vehicles and bicycles for all land uses in the City of Keizer.

Proposed Finding: Off-street parking to serve future dwellings is planned to be provided and will be shown on the associated new construction permit applications. The provisions of this section will be applied at the time such applications are reviewed. The Preliminary Plans (***Exhibit 1***) demonstrate lots are sized adequately to accommodate the future provision of off-street parking; therefore, these provisions can be met by future construction on the planned lots.

Sec. 2.306 – STORMWATER MANAGEMENT

Sec 2.306.02 – Scope

The provisions of this chapter shall apply to all new and redevelopment projects within the incorporated boundary of the City of Keizer, including, but not limited to, all land partitions and subdivisions, planned unit developments, multifamily developments, single-family developments, commercial developments, industrial development, and manufactured home parks. Redevelopment includes reconstruction and/or expansion of structures and/or impervious surfaces. The requirements of this chapter apply regardless of whether a permit is required.

Sec. 2.306.03. - General stormwater management requirements.

Any new development or redevelopment listed in subsection 2.306.02 shall conform to the requirements listed herein, as follows:

- ***A. The requirements will be applied to projects proposed within the city's jurisdiction at land use, design review, and/or the building permit stages of the project.***
- ***B. The stormwater management system plan shall be submitted to and approved by the public works director before construction of any new or redevelopment project, regardless of the size of project.***
- ***C. A design by an Oregon-registered professional engineer is required for stormwater facilities on any projects that create or replace 5,000 square feet or more of impervious surface.***
- ***D. Sites creating or replacing less than 5,000 square feet of impervious surface are generally not required to provide an engineered design unless required by the city due to site-specific conditions.***
- ***E. Plans for the construction of stormwater conveyance, flow control, retention, and treatment facilities for the project shall be designed in accordance with city standards and specifications. The plans shall include all information as necessary for the city to review the adequacy of the storm drainage system design. The criteria and all other requirements for the design of both public and private stormwater flow control, retention, treatment, and conveyance facilities are set forth in the city's design standards.***

F. Stormwater facilities on private property and owned by a private entity shall be required to complete and submit to the city an executed private stormwater maintenance agreement before the facilities are put into operation and the release of any occupancy permits.

G. In the event any part of a development is traversed by any watercourse, channel, stream or creek, gulch or other natural drainage channel, or public stormwater conveyance system, adequate easements for public stormwater conveyance purposes shall be provided to the city. Acceptance of the easement shall not imply maintenance by the city unless maintenance is expressly accepted by the city in the easement.

H. Channel obstructions are not allowed except as approved for the creation of detention or retention facilities approved under the provisions of the design standards. Fences with swing gates may be utilized as approved by the city.

I. For projects requiring an improvement agreement for issuance of a public works construction permit, the developer shall certify in writing that the site is built according to the submitted site drainage and grading plan prior to release of the improvement agreement. The developer shall provide certified elevations to the city.

J. For partitions and other developments not requiring a public works construction permit, any site grading and drainage requirements shall be completed and approved prior to issuance of any building permits.

K. Prior to acceptance of a public storm drainage system by the city, the system shall be inspected by the city. All costs for city inspection shall be borne by the developer.

L. Prior to the city supporting final plat approval for land divisions or building occupancy for site development, the storm drainage system shall be inspected by the city. All costs for city inspection shall be borne by the developer.

Proposed Finding: The above-listed provisions are understood. For more information on stormwater management associated with this project, please refer to the Preliminary Stormwater Management Report included in ***Exhibit 6***.

Sec. 2.306.04. – Preliminary plan required.

A preliminary description of the proposed stormwater management system is required to be submitted with the land use application for all developments listed in section 2.306.02. The preliminary description shall include, at a minimum, the following information:

Proposed Finding: The Preliminary Stormwater Management Report (***Exhibit 6***) and Preliminary Grading and Erosion Control Plans included in ***Exhibit 1*** provide the information required by this section, which has been omitted for brevity. For more information, please refer to ***Exhibit 6*** and ***Exhibit 1***.

Sec. 2.306.05. – Erosion prevention and sediment control.

All activities within the city limits that disturb more than 2,000 square feet of area are subject to the requirements of the current city erosion control ordinance. Any such activity that disturbs less than five acres, either singly or cumulatively as part of a common plan of development or sale, shall be required to submit an erosion and sediment control plan (ESCP) and obtain an erosion control permit from the city.

Projects that disturb five acres or more shall be required to obtain both a city erosion control permit and an NPDES 1200-C General Construction permit from the department of environmental quality.

The criteria and all other requirements for the ESCP are provided in the city's design standards.

Proposed Finding: Grading and Erosion Control Plans are provided in the Preliminary Plans (***Exhibit 1***). The Applicant will obtain City and state permits, as required.

Sec. 2.307 – UTILITY LINES AND FACILITIES

Sec. 2.307.02. – Standards.

A. Impact. The location, design, installation and maintenance of all utility lines and facilities shall be carried out with minimum feasible disturbances of soil and site.

Proposed Finding: This standard is understood and is planned to be met. For more information, please refer to the Preliminary Plans (***Exhibit 1***).

B. Water. All development that has a need for water service shall install water facilities and grant necessary easements pursuant to the requirements of the city.

Proposed Finding: As shown on the Preliminary Plans (***Exhibit 1***), water service is planned to be installed to serve the new lots, as required. Should any easements be required for those water facilities, they will be provided; therefore, this standard is met.

C. Private utilities. All development that has a need for electricity, gas and communications services shall install them pursuant to the requirements of the district or company serving the development. Except where otherwise prohibited by the utility district or company, all such facilities shall be underground.

Proposed Finding: As shown on the Preliminary Plans (***Exhibit 1***), public franchise utility easements are planned to ensure lots can be served by private utilities in conformance with provider requirements. Unless otherwise prohibited, all such facilities are planned to be underground. Therefore, this standard is met.

D. Sanitary sewers. All development that has a need for public/private sanitary sewers shall install the facilities pursuant to the requirements of the city. Installation of such facilities shall be coordinated with the extension of necessary water services and storm drainage facilities.

Proposed Finding: As shown on the Preliminary Plans (***Exhibit 1***), sanitary sewer service is planned to be installed to serve the new lots, as required. As shown, those facilities have been designed in coordination with the planned extension of necessary water services and installation of storm drainage facilities. Therefore, this standard is met.

E. Streetlights. When required, installation of streetlights shall be pursuant to the requirements of the city and the company serving the development.

Proposed Finding: This standard is understood. As shown on the Preliminary Plans (***Exhibit 1***), streetlights are planned to be installed, as required. Future installation of streetlights will be carried out pursuant to the requirements of the City and electricity provider. This standard will be confirmed to be met during the construction permitting process.

F. Easements. Easements shall be provided along property lines as deemed necessary by the city, special districts, and utility companies. Easements for special purpose uses shall be of a width deemed appropriate by the responsible agency. Such easements shall be designated on the final plat of all subdivisions, and on the final plat of all partitions.

Proposed Finding: Required easements are illustrated on the Preliminary Plans (***Exhibit 1***). Easements will be designated on the final plat of Olson Orchards, the planned subdivision. This standard will be met.

Sec. 2.309 – SITE AND LANDSCAPING DESIGN

Sec. 2.309.02 – Scope

C. Tree plan. A tree plan in accordance with section 2.309.04.B.7 is required with all Type II and III applications and the following Type I application: partitioning.

Sec. 2.309.04 – General Provisions.

B. Submittal requirements. A submitted landscaping plan shall include the following:
7. Location, and identification of any trees, both existing and planned consistent with section 2.309.04.C.
a. On the landscaping plan, the existing significant trees identified by their common names, along with the size of such significant trees. Existing significant trees shall include any trees which were removed within the two-year period prior to the date the application was first submitted shall be shown on the landscape plan.
b. Which significant trees are proposed to be removed or have been removed within the past two years.
c. Which significant trees are to be left standing and what steps will be taken to protect and preserve those trees according to current best management practices.
d. Location, size and type of replacement trees proposed to be added, if any.
C. Significant trees. As used herein, significant trees are trees having a height of more than 50 feet and/or having a trunk whose diameter is more than 12 inches diameter at breast height (DBH) (five feet above ground level).
a. The city recognizes that factors such as disease, safety concerns, and site development requirements may require removal of significant trees. Depending on these factors, the removal of significant trees may be appropriate and approved as part of the landscaping plan. Development of the property shall be in conformance with an approved landscaping site plan that is a condition of a land use approval or a building permit. Significant trees removed (including trees removed within the two years prior to the application) must be replaced at the rate of two new trees for each significant tree removed or less if a large tree specimen size is planted. Replacement trees shall be a type that will be at least 12 inches (DBH) when fully mature. At the time of planting, replacement trees shall be planted in accordance with the standards of section 2.309.06. In lieu of an on-site tree replacement plan, an off-site tree mitigation plan consistent with requirements within this section shall be submitted to the community development director for approval. Such off-site location shall be within the public right-of-way, on public property, or on private property if qualifying as a streetscape tree and must be approved by the city. If no suitable off-site location is identified for the immediate installation of replacement trees, a contribution to the city's landscape mitigation fund in the amount equal to the cost of a replacement tree

(including installation) as determined by the city may be made for the city to install replacement trees at a later date, as determined appropriate. Such funds shall be used only for replacement tree planting.

b. The above provisions include and apply to all significant trees located on the subject property or on any adjacent public right-of-way. These requirements shall be applied to both public and private development.

Proposed Finding: Under this Application, the provisions of this section are limited to the requirement for the Applicant to provide a tree plan. A tree plan meeting the above-listed requirements is included in the Preliminary Plans (***Exhibit 1***); therefore, these provisions are satisfied.

2.310 – DEVELOPMENT STANDARDS FOR LAND DIVISIONS

Sec. 2.310.02. – Scope

A. Application. The provisions of this section shall apply to all subdivisions and partitions within the City of Keizer.

Sec. 2.310.03. – Standards for lots or parcels, property line adjustment required.

A. Minimum lot area. Minimum lot area shall conform to the requirements of the zoning district in which the parcels are located.

Proposed Finding: The Preliminary Plans (***Exhibit 1***) include a Preliminary Unit Type Plan and Preliminary Dimensioned Subdivision Plans. As shown, lots planned for single-family dwellings exceed the 4,000-square-foot minimum lot area for single-family dwellings in the RS zoning district, and lots planned for townhouses exceed the 1,500-square-foot minimum lot area for townhouses in the RS zoning district. Therefore, this standard is met.

C. Lot width and depth. The depth of a lot or parcel shall not be more than 3 times the width of the parcel, with the following exceptions:

1. Individual lots for townhouse units shall not be less than 20 feet in width. Lot depth may vary but shall be adequate to provide a minimum of 300 square feet with no dimension less than six feet of semi-private outdoor living space for each unit.

3. Parcels created for public utility uses or in zones where there is no minimum lot area requirement shall be exempt from width to depth ratio provisions.

Proposed Finding: As evidenced by the Preliminary Unit Type Plan and Preliminary Dimensioned Subdivision Plans (***Exhibit 1***), depths of lots planned for single-family dwellings are not more than three times their respective widths. Those lots planned for townhouses are exempt from this requirement, as each lot provides sufficient area for at least 300 square feet of outdoor living space for each unit. No outdoor living space will have a dimension of less than 6 feet. Therefore, this standard is met by lots planned for single-family dwellings and does not apply to lots planned for townhouses.

D. Access. All lots and parcels created after the effective date of this ordinance shall provide a minimum frontage, on an existing or proposed public street, equal to the minimum lot width required by the underlying zone. The following exceptions shall apply:

[…]

Proposed Finding: As evidenced by the Preliminary Unit Type Plan and Preliminary Dimensioned Subdivision Plan (***Exhibit 1***), the frontage of each lot is equal to or in excess of the minimum lot width required within the RS zoning district for the unit type planned. Therefore, this standard is met by all planned lots.

F. Through Lots. Through lots shall be avoided except where essential to provide separation of residential development from major street, adjacent non-residential activities, or to overcome specific development constraints due to topography or lot orientation. Through lots shall be no less than 100 feet in depth. Lots having their access off a private access easement or adjacent to a private access easement shall not be construed as qualifying as through lots. Screening or buffering, pursuant to the provision of Section 2.307, may be required by the City during the review of the land division request.

Proposed Finding: As evidenced by the Preliminary Plans included in (***Exhibit 1***), the subdivision avoids through lots to the greatest practicable extent. Of the 118 planned lots, only one lot (Lot 2) could be considered a through lot. As shown on the Preliminary Dimensioned Subdivision Plan include in ***Exhibit 1***, Lot 2 is planned at a depth of ±160 feet; therefore, this standard is met.

G. Lot Lines. The side lines of lots, as far as practicable, shall run at right angles to the right-of-way line of the street upon which the lots face. The rear lot line shall be no less than 1/2 the dimension of the front lot line.

Proposed Finding: As shown on the Preliminary Dimensioned Subdivision Plans included in ***Exhibit 1***, all side lot lines run at right angles to the right-of-way line of the street upon which the lots face, and no rear lot line is less than half the dimension of the front lot line. Therefore, this standard is met.

H. Utility Easements. Utility easements shall be provided on lot areas where necessary to accommodate public utilities. Such easements shall have a minimum total width as specified in Section 2.302.04 of this Code.

Proposed Finding: As illustrated on the Preliminary Subdivision Plans (***Exhibit 1***) and discussed previously in this narrative in responses provided under Section 2.302.04 and elsewhere, utility easements are planned to accommodate public utilities, as required. Therefore, this standard is met.

Sec. 2.310.04 - Additional Design Standards for Subdivisions

A. Standards for Blocks:

1. General: The length, width, and shape of blocks shall be designed with regard to providing adequate building sites for the use contemplated; consideration of needs for convenient access, circulation, control, and safety of street traffic; and recognition of limitations and opportunities of topography.

Proposed Finding: As evidenced by the Preliminary Plans (***Exhibit 1***) and as addressed in responses provided throughout this narrative, this standard is met.

2. Sizes: Blocks should not exceed 600 feet in length between street lines, except blocks adjacent to arterial streets, or unless the previous adjacent development pattern or

topographical conditions justify a variation. The recommended minimum distance between intersections on arterial streets is 1,800 feet.

Proposed Finding: As shown on the Preliminary Plans (***Exhibit 1***), this standard is met to the greatest practicable extent.

B. Traffic Circulation. The proposed subdivision shall be laid out to provide safe and convenient vehicle, bicycle and pedestrian access to nearby residential areas, transit stops, neighborhood activity centers such as schools and parks, commercial areas, and industrial areas; and to provide safe and convenient traffic circulation. At a minimum, "nearby" is interpreted to mean uses within ¼ mile which can be reasonably expected to be used by pedestrians, and uses within 1 mile of the subdivision boundary which can reasonably be expected to be accessed by bicyclists.

Proposed Finding: As shown on the Preliminary Plans (***Exhibit 1***), subdivision streets will have direct connection to the existing public street system. Additionally, as shown in the Preliminary Plans and as described elsewhere in this narrative, a pedestrian accessway is planned from Kerr Loop N to Keizer to the abutting property to the east; the Keizer Elementary School site. Therefore, the planned improvements allow for safe vehicle, pedestrian, and bicycle access from the lots within the subdivision to nearby attractions, and this standard is met.

C. Connectivity. To achieve the objective in B above, the director may require the following:

1. Stub streets. Where the potential exists for additional residential development on adjacent property.

Proposed Finding: Please refer to the responses previously provided under Section 2.302.03; this provision is satisfied.

2. Pedestrian/bicycle accessways. Public accessways to provide a safe and efficient connection from a residential area to nearby residential areas, transit stops, neighborhood activity centers, including schools, parks, shopping centers, other community services and other commercial and industrial areas when such connections are not available by streets and when a pedestrian must go at least one-quarter of a mile out of his or her way to make that connection using the street system.

Proposed Finding: As shown on the Preliminary Plans (***Exhibit 1***), and as described elsewhere in this narrative, a pedestrian accessway is planned from Kerr Loop N to Keizer to the abutting property to the east; the Keizer Elementary School site. As the Project Location (Tract 1) is bordered by a driving range to the north, Windsor Island Road N to the west, single-family dwellings to the northeast, and a manufactured home park served by private streets to the south, provision of the planned accessway satisfies this provision to the greatest extent practicable.

D. Design standards. Pedestrian/bicycle accessways shall meet the following design standards:

1. Minimum dedicated width: ten feet.

2. Minimum improved width: ten feet.

3. Maximum length: 250 feet. A clear line of vision for the entire length of the accessway shall be required.

4. ***Lighting shall be provided illuminating any walkway exceeding 150 feet in length to a level where the system can be used at night. Lighting shall be included in the lighting district(s) established for the subdivision.***
5. ***The accessway shall be designed to prohibit vehicle traffic.***

Proposed Finding: As shown on the Preliminary Plans (***Exhibit 1***), the pedestrian accessway is planned to have a 10-foot paved width for its entire length, and will be located within a ±20-foot-wide, ±138-foot-long public access easement that runs at a right angle from the property line shared with that easterly property to its point of intersection with Kerr Loop N. As it is less than 150 feet long, lighting is not required for this accessway. Vehicle traffic will be prohibited both by design and by the curb along Kerr Loop N. Therefore, these standards are met.

Sec. 2.310.06 – Improvement Requirements – Subdivision

A. Frontage Improvements. Street improvements to full City Standards shall be required for all public streets on which a proposed subdivision fronts in accordance with Section 2.303 of this Code. Such improvements shall be designed to match with existing improved surfaces for a reasonable distance beyond the frontage of the property. Additional frontage improvements shall include: sidewalks, curbing, storm sewer, sanitary sewer, water lines, other public utilities as necessary, and such other improvements as the City shall determine to be reasonably necessary to serve the development or the immediate neighborhood.

Proposed Finding: As shown on the Preliminary Plans (***Exhibit 1***), and as discussed in greater depth previously in this narrative, appropriate frontage improvements will be constructed according to the provisions of Section 2.3023 and applicable Public Works Design Standards; therefore, this provision will be satisfied.

B. Walkways for Private Streets. Sidewalks shall be required in accordance with applicable provisions in Sections 2.302 and 2.316 only if sidewalks currently exist along the connecting street.

Proposed Finding: This project does not include private streets; therefore, this section is not applicable.

C. Project Streets. All public or private streets within the subdivision shall be constructed as required by the provisions of Section 2.302.

Proposed Finding: As shown on the Preliminary Plans (***Exhibit 1***), and as discussed in depth previously in this narrative, the new public street network within the subdivision is planned to be constructed according to the provisions of Section 2.302 and applicable Public Works Design Standards; therefore, this provision will be satisfied.

D. Monuments. Upon completion of street improvements, centerline monuments shall be established and protected in monument boxes at every street intersection and all points of curvature and points of tangency of street center lines.

Proposed Finding: Appropriate monuments are planned to be placed, as required; therefore, this provision will be satisfied.

E. Benchmarks. Elevation benchmarks shall be set at intervals established by the City Engineer. The benchmarks shall consist of a brass cap set in a curb or other immovable structure.

Proposed Finding: Appropriate benchmarks are planned to be placed, as required; therefore, this provision will be satisfied.

F. Surface Drainage and Storm Sewer System. Drainage facilities shall be provided within the subdivision and to connect the subdivision drainage to drainage-ways or to storm sewers outside the subdivision. Design of drainage within the subdivision shall take into account the capacity and grade necessary to maintain unrestricted flow from areas draining through the subdivision and to allow extension of the system to serve such areas. Drainage shall be designed to avoid impacts on adjacent property.

Proposed Finding: As evidenced by the Preliminary Grading and ESC Plan (***Exhibit 1***), and as detailed within the Preliminary Stormwater Management Report (***Exhibit 6***), stormwater will be maintained on-site and will not have adverse impacts onto adjacent properties.

G. Sanitary Sewers. Sanitary sewer shall be installed to serve the subdivision and to connect the subdivision to existing mains both on and off the property being subdivided.

Proposed Finding: As shown on the Preliminary Subdivision Plans included in (***Exhibit 1***), the existing 8-inch sanitary sewer main in Windsor Island Road N is planned to be extended through the subdivision, with individual connections for each lot. As shown on the Preliminary Composite Utility Plans (***Exhibit 1***), that extension is designed to allow for future connection to serve needed housing on the remainder of the Parent Tract, ultimately connecting the northerly and southerly sewer stubs in Windsor Island Drive N. Therefore, this provision will be satisfied.

H. Water System. Water lines with valves and Fire District approved fire hydrants serving the subdivision and connecting the subdivision to the City mains shall be installed and operating prior to start of combustible construction. The design shall take into account provisions for extension beyond the subdivision to adequately grid the City system and to serve the area within which the development is located when the area is ultimately developed. However, the developer will be responsible for water main sizes necessary to meet minimum fire flow requirements per Uniform Fire Code. The City will not expect the developer to pay for the extra pipe material cost of mains exceeding 8 inches in size.

Proposed Finding: As shown on the Preliminary Plans (***Exhibit 1***), a 12-inch extension of the existing 12-inch water main in Windsor Island Road N is planned to be extended and connected to a new 8-inch main within the subdivision, with individual connections for each lot. As shown on the Preliminary Composite Utility Plans included in ***Exhibit 1***, planned hydrants will connect to a new 8-inch water main serving the subdivision, connecting to the existing main in Windsor Island Road N. The planned water main extension, service connections, and hydrants will ensure safe potable water supply and adequate water flow, and hydrants are provided to ensure fire protection service for each lot in the subdivision. Any existing wells on the Parent Tract are planned to be abandoned in accordance with state requirements. Therefore, this provision will be satisfied.

I. Sidewalks. Sidewalks shall be installed along both sides of each public street and in any pedestrian ways within the subdivision. The City may defer sidewalk construction until the

dwellings or structures fronting the sidewalk are constructed. Any required off-site sidewalks (e.g., pedestrian walkways) or sidewalks fronting public property shall not be deferred.

Proposed Finding: As shown on the Preliminary Plans (***Exhibit 1***), and as described elsewhere in this narrative, the new public street system is planned to include sidewalks. Those sidewalks will be installed at the time dwellings are constructed on each lot within the subdivision. Additionally, as shown in the Preliminary Plans, sidewalk is planned to be installed as part of the Windsor Island Road N frontage improvements. Both that sidewalk and the planned pedestrian accessway (from Kerr Loop N to the abutting property to the east) are planned to be constructed by the Applicant. Therefore, this provision will be satisfied.

J. Streetlights. The installation of streetlights is required at locations determined to be appropriate by the City and shall be of a type required by City standards.

Proposed Finding: As shown on the Preliminary Plans (***Exhibit 1***), and as described elsewhere in this narrative, streetlights are planned to be installed to serve the subdivision. These lights will provide an adequate level of nighttime illumination. Therefore, this provision will be satisfied.

K. Street Signs. The installation of street name signs and traffic control signs is required at locations determined to be appropriate by the city and shall be of a type required by City standards. Each street sign shall display the one hundred block range. Street signs shall be installed prior to obtaining building permits.

Proposed Finding: As shown on the Preliminary Plans (***Exhibit 1***), the provision can be satisfied. Street signs will be installed in accordance with City requirements for sign location, placement, and type. The Applicant anticipates that a condition of approval will be attached to ensure the satisfaction of this provision, as applicable.

L. Public Works Requirements. All facility improvements shall conform to the requirements and specifications of the Keizer Department of Public Works.

Proposed Finding: As shown on the Preliminary Plans (***Exhibit 1***), this provision can be satisfied by later facility improvements, as planned. The Applicant understands this provision and anticipates that a condition of approval will be attached to ensure its satisfaction, as applicable.

M. Curb Cuts. Curb cuts and driveway installations, excluding common drives, are not required of the subdivider, but if installed, shall be according to the City standards.

Proposed Finding: The Applicant does not plan curb cuts and driveway installation with this Application. As noted on the Preliminary Composite Utility Plans (***Exhibit 1***), curb cuts and driveway installations are to be made by the homebuilder; therefore, this provision will be satisfied when regulated through the Public Construction Permit approval process.

N. Street Trees. Street tree planting is mandatory where a planting strip is part of the street design. Plantings shall conform to Section 2.302.03(M).

Proposed Finding: As shown on the Preliminary Plans (***Exhibit 1***), a planter strip is included as part of the planned improvements along Windsor Island Road N, and street trees are planned to be installed within that strip. As shown on the Preliminary Street Tree Plan (***Exhibit 1***), and as previously addressed in this

narrative, planned plantings conform to Section 2.302.03(M); therefore, this provision will be satisfied when regulated through the Public Construction Permit process.

O. Grading & Fills. All grading which results in fills in excess of 3 feet located within the identified building envelope on a subdivision lot or parcel must be engineered.

Proposed Finding: The Applicant understands this requirement is reflective of a State Building Code requirement, and that its inclusion in this code is intended as an advisory, not as a standard or approval criterion for this Application. Should grading result in fills excess of 3-feet of an identified building envelope on a lot, it will be engineered, as required.

P. Financial Requirements. All improvements required under this Section shall be completed to City standards or assured through a performance bond or other instrument acceptable to the City Attorney, prior to the approval of the Final Plat of the subdivision.

Proposed Finding: The Applicant understands this provision and anticipates that a condition of approval will be attached to ensure its satisfaction, as applicable.

Sec. 2.310.07 – Improvement Procedures

Proposed Finding: Section 2.310.07 outlines the standards and processes for the installation of planned improvements. The Applicant understands the requirements of this section and anticipates conditions of approval will be attached to ensure their satisfaction, as applicable.

CONCLUSION

Based on the findings contained in this written statement and supporting documents referenced herein, the Applicant has satisfactorily addressed the applicable criteria for granting a residential subdivision in the RS zoning district, and the City can rely upon this information in its approval of the Application.

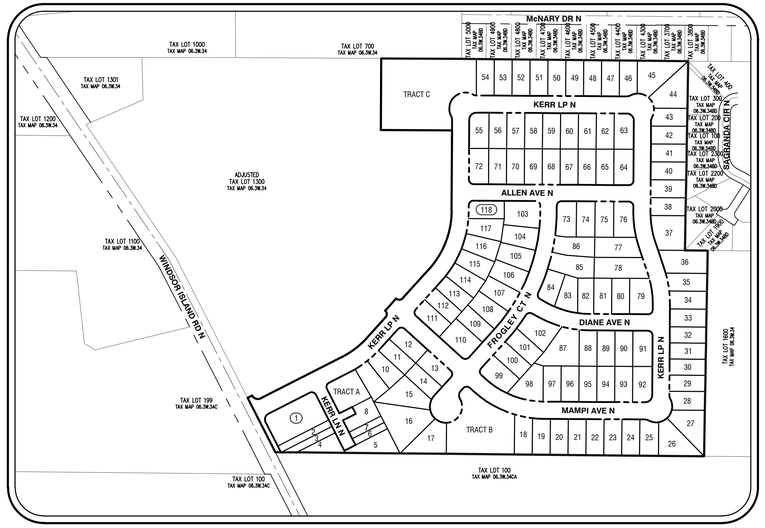
OLSON ORCHARDS

PRELIMINARY SUBDIVISION PLANS

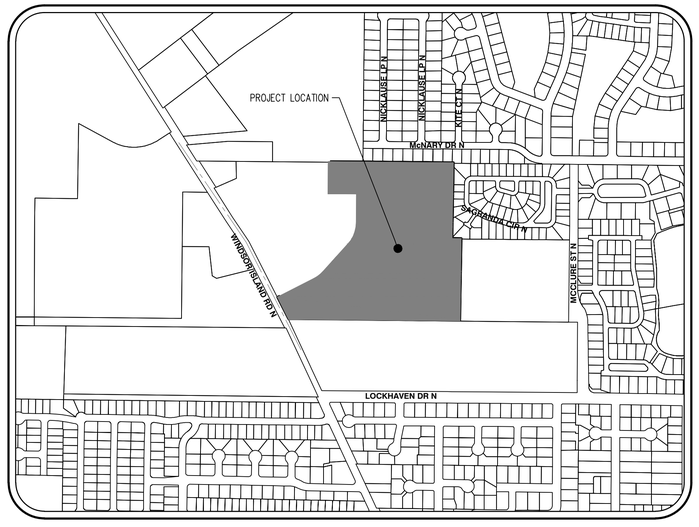
LEGEND

	EXISTING	PROPOSED		EXISTING	PROPOSED
DECIDUOUS TREE			STORM DRAIN CLEAN OUT		
CONIFEROUS TREE			STORM DRAIN CATCH BASIN		
FIRE HYDRANT			STORM DRAIN AREA DRAIN		
WATER BLOWOFF			STORM DRAIN MANHOLE		
WATER METER			GAS METER		
WATER VALVE			GAS VALVE		
DOUBLE CHECK VALVE			GUY WIRE ANCHOR		
AIR RELEASE VALVE			UTILITY POLE		
SANITARY SEWER CLEAN OUT			POWER VAULT	P	P
SANITARY SEWER MANHOLE			POWER JUNCTION BOX		
SIGN			POWER PEDESTAL		
STREET LIGHT			COMMUNICATIONS VAULT	C	C
MAILBOX			COMMUNICATIONS JUNCTION BOX		
			COMMUNICATIONS RISER		

	EXISTING	PROPOSED
RIGHT-OF-WAY LINE		
BOUNDARY LINE		
PROPERTY LINE		
CENTERLINE		
DITCH		
CURB		
EDGE OF PAVEMENT		
GUTTER		
EASEMENT		
FENCE LINE		
GRAVEL EDGE		
POWER LINE	PWR	PWR
OVERHEAD WIRE	OHW	OHW
COMMUNICATIONS LINE	COM	COM
FIBER OPTIC LINE	OFO	OFO
GAS LINE	GAS	GAS
STORM DRAIN LINE	STM	STM
SANITARY SEWER LINE	SAN	SAN
WATER LINE	WAT	WAT
RECLAIMED WATER LINE	NPWAT	NPWAT



SITE MAP
1" = 200'



VICINITY MAP
1" = 500'

SHEET INDEX

P-01 COVER SHEET
P-02 EXISTING CONDITIONS PLAN – WEST
P-03 EXISTING CONDITIONS PLAN – EAST
P-04 PROPERTY LINE ADJUSTMENT
P-05 PRELIMINARY DIMENSIONED SUBDIVISION PLAT
P-06 PRELIMINARY UNIT TYPE PLAN
P-07 PRELIMINARY GRADING & ESC PLAN
P-08 PRELIMINARY COMPOSITE UTILITY PLAN
P-09 PRELIMINARY STREET PLAN
P-10 TYPICAL STREET CROSS SECTIONS
P-11 PRELIMINARY STREET PROFILES
P-12 PRELIMINARY STREET PROFILES
P-13 TREE PRESERVATION AND REMOVAL PLAN
P-14 TREE PRESERVATION AND REMOVAL TABLE
P-15 PRELIMINARY DEMOLITION PLAN
P-16 PRELIMINARY STREET TREE PLAN
P-17 CONCEPTUAL OFF-SITE DEVELOPMENT PLAN

CONTACTS

CITY OF KEIZER
930 CHEMAWA ROAD NE
KEIZER, OR 97303
PH: 503.390.3700

POWER
PORTLAND GENERAL ELECTRIC
4245 KALE STREET NE
SALEM, OR 97305
PH: 800.544.1793

TELEPHONE
CENTURYLINK
1755 22ND STREET SE
SALEM, OR 97302
PH: 800.283.4237

CABLE
COMCAST CABLE
1710 SALEM INDUSTRIAL DRIVE NE
SALEM, OR 97223
PH: 800.934.6489

WATER/SANITARY/ STORM
CITY OF KEIZER PUBLIC WORKS
930 CHEMAWA ROAD NE
KEIZER, OR 97303
PH: 503.390.3700

GAS
NW NATURAL
3087 BROADWAY STREET NE
SALEM, OR 97303
PH: 503.220.2415

CONSULTANT:
RHINE-CROSS GROUP
112 N 5TH ST, SUITE 200, PO BOX 909
KLAMATH FALLS, OR 97601
PH: 541.273.9200

GEOTECHNICAL ENGINEER:
GEOPACIFIC ENGINEERING, INC.
ADDRESS: 14835 SW 72ND AVE.,
PORTLAND, OR 97224
PH: 503.598.8445

APPLICANT:
PACIFIC NATIONAL DEVELOPMENT, INC.
PO BOX 3550
SALEM, OR 97302
PH: 503.990.7003

PROJECT LOCATION:
5710 WINDSOR ISLAND ROAD N
KEIZER, OR 97303

EXISTING LAND USE:
SINGLE FAMILY HOME, CELLULAR COMMUNICATION TOWER, AGRICULTURE FIELD, AND ASSOCIATED AGRICULTURAL BUILDINGS.

HORIZONTAL DATUM:
COORDINATES ARE BASED ON THE OREGON COORDINATE REFERENCE SYSTEM (OCRS) – SALEM ZONE.

VERTICAL DATUM:
ELEVATIONS ARE BASED CITY OF SALEM BENCHMARK 'KSUN' BEING AN ALUMINUM DISK FOUND IN THE SW CORNER OF A CONCRETE VAULT LOCATED ALONG THE NORTHERLY RIGHT-OF-WAY OF SUNSET AVENUE N, 117 FEET WESTERLY, MORE OR LESS, FROM THE INTERSECTION OF SAID SUNSET AVENUE N AND RIVER ROAD NE. ELEVATION = 134.38 FEET (NGVD 29)

PROPERTY DESCRIPTION:
TAX LOT 1400 OF MARION COUNTY TAX MAP 06.3W.34 (AS ADJUSTED)

PROPERTY INFORMATION:
ZONE: AGRICULTURAL INDUSTRIAL (IA)

PROJECT PURPOSE:
RESIDENTIAL SUBDIVISION

PACIFIC NATIONAL DEVELOPMENT
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(503) 990-7003

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KLAMATH FALLS, OREGON 97601
Phone: (541) 851-9405 Fax: (541) 273-9200 admin@rc-grp.com

REGISTERED PROFESSIONAL ENGINEER
55,506PE
Marcus D. Cross
OREGON
JULY 09, 2004
MARCUS D. CROSS
RENEWS: 12-31-2027
02-22-2026

Olson Orchards
Preliminary Subdivision
OREGON
KEIZER

SHEET NAME:
COVER SHEET

DRAWN BY: TDC
CHK'D BY: MDC
DATE: FEBRUARY 2026

REVISIONS:

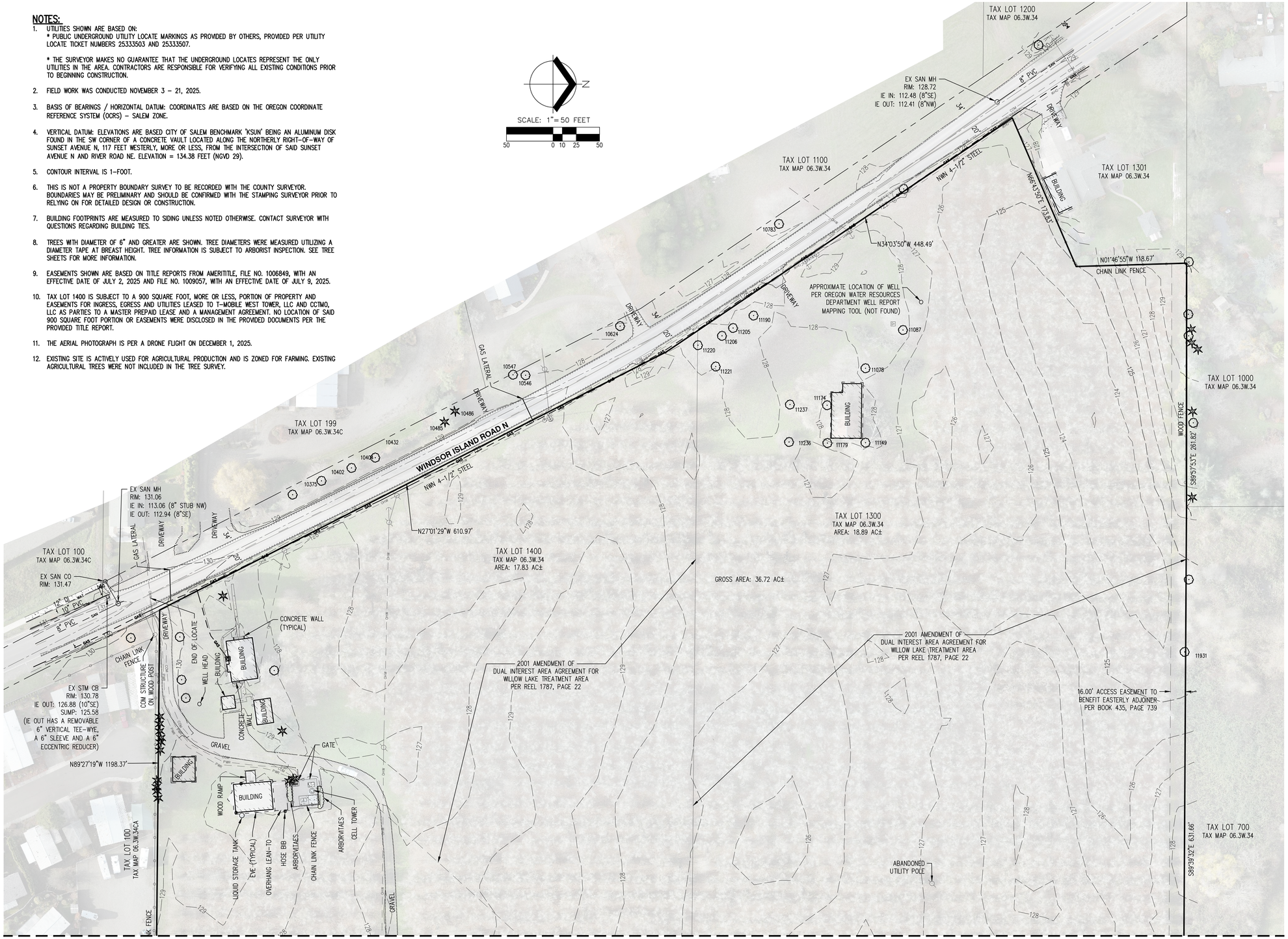
JOB NO.
2494

SHEET NO.
P-01

NOTES:

1. UTILITIES SHOWN ARE BASED ON:
   * PUBLIC UNDERGROUND UTILITY LOCATE MARKINGS AS PROVIDED BY OTHERS, PROVIDED PER UTILITY LOCATE TICKET NUMBERS 25333503 AND 25333507.

   * THE SURVEYOR MAKES NO GUARANTEE THAT THE UNDERGROUND LOCATES REPRESENT THE ONLY UTILITIES IN THE AREA. CONTRACTORS ARE RESPONSIBLE FOR VERIFYING ALL EXISTING CONDITIONS PRIOR TO BEGINNING CONSTRUCTION.
2. FIELD WORK WAS CONDUCTED NOVEMBER 3 – 21, 2025.
3. BASIS OF BEARINGS / HORIZONTAL DATUM: COORDINATES ARE BASED ON THE OREGON COORDINATE REFERENCE SYSTEM (OCRS) – SALEM ZONE.
4. VERTICAL DATUM: ELEVATIONS ARE BASED CITY OF SALEM BENCHMARK 'KSUN' BEING AN ALUMINUM DISK FOUND IN THE SW CORNER OF A CONCRETE VAULT LOCATED ALONG THE NORTHERLY RIGHT-OF-WAY OF SUNSET AVENUE N, 117 FEET WESTERLY, MORE OR LESS, FROM THE INTERSECTION OF SAID SUNSET AVENUE N AND RIVER ROAD NE. ELEVATION = 134.38 FEET (NGVD 29).
5. CONTOUR INTERVAL IS 1-FOOT.
6. THIS IS NOT A PROPERTY BOUNDARY SURVEY TO BE RECORDED WITH THE COUNTY SURVEYOR. BOUNDARIES MAY BE PRELIMINARY AND SHOULD BE CONFIRMED WITH THE STAMPING SURVEYOR PRIOR TO RELYING ON FOR DETAILED DESIGN OR CONSTRUCTION.
7. BUILDING FOOTPRINTS ARE MEASURED TO SIDING UNLESS NOTED OTHERWISE. CONTACT SURVEYOR WITH QUESTIONS REGARDING BUILDING TIES.
8. TREES WITH DIAMETER OF 6" AND GREATER ARE SHOWN. TREE DIAMETERS WERE MEASURED UTILIZING A DIAMETER TAPE AT BREAST HEIGHT. TREE INFORMATION IS SUBJECT TO ARBORIST INSPECTION. SEE TREE SHEETS FOR MORE INFORMATION.
9. EASEMENTS SHOWN ARE BASED ON TITLE REPORTS FROM AMERITITLE, FILE NO. 1006849, WITH AN EFFECTIVE DATE OF JULY 2, 2025 AND FILE NO. 1009057, WITH AN EFFECTIVE DATE OF JULY 9, 2025.
10. TAX LOT 1400 IS SUBJECT TO A 900 SQUARE FOOT, MORE OR LESS, PORTION OF PROPERTY AND EASEMENTS FOR INGRESS, EGRESS AND UTILITIES LEASED TO T-MOBILE WEST TOWER, LLC AND CCTMO, LLC AS PARTIES TO A MASTER PREPAID LEASE AND A MANAGEMENT AGREEMENT. NO LOCATION OF SAID 900 SQUARE FOOT PORTION OR EASEMENTS WERE DISCLOSED IN THE PROVIDED DOCUMENTS PER THE PROVIDED TITLE REPORT.
11. THE AERIAL PHOTOGRAPH IS PER A DRONE FLIGHT ON DECEMBER 1, 2025.
12. EXISTING SITE IS ACTIVELY USED FOR AGRICULTURAL PRODUCTION AND IS ZONED FOR FARMING. EXISTING AGRICULTURAL TREES WERE NOT INCLUDED IN THE TREE SURVEY.



MATCHLINE SEE SHEET P-03

PACIFIC NATIONAL DEVELOPMENT
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R-C RHINE-CROSS GROUP
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REGISTERED PROFESSIONAL ENGINEER
55,506PE
OREGON
JULY 09, 2001
MARCUS D. CROSS
RENEWS: 12-31-2027
02-22-2026

Olson Orchards
Preliminary Subdivision
OREGON
KEIZER

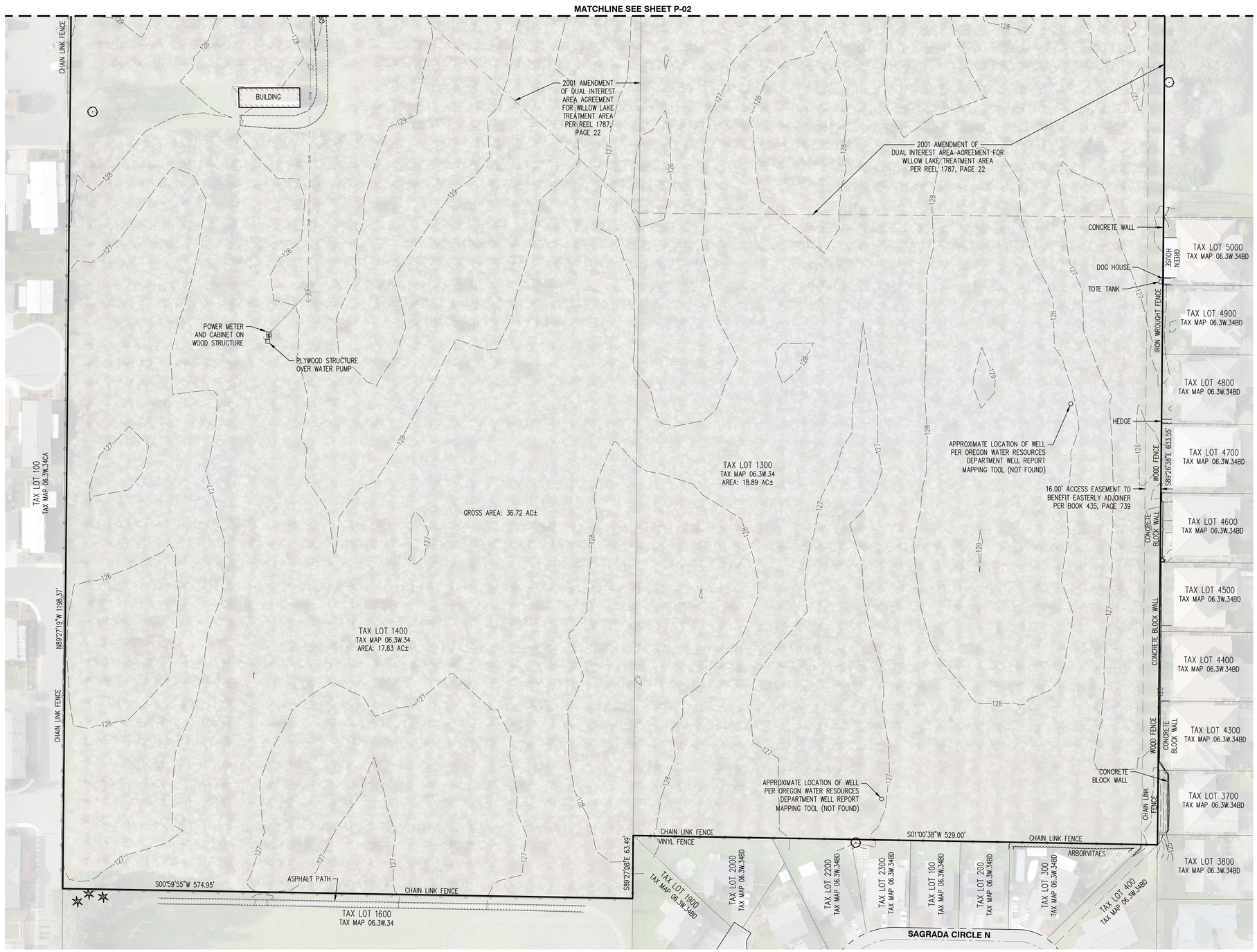
SHEET NAME:
EXISTING CONDITIONS PLAN - WEST

DRAWN BY: TDC
CHK'D BY: MDC
DATE: FEBRUARY 2026

REVISIONS:

JOB NO.
2494

SHEET NO.
P-02



SCALE: 1"=50 FEET

50 0 10 25 50

NOTES:

1. UTILITIES SHOWN ARE BASED ON:
   * PUBLIC UNDERGROUND UTILITY LOCATE MARKINGS AS PROVIDED BY OTHERS, PROVIDED PER UTILITY LOCATE TICKET NUMBERS 25333503 AND 25333507.

   * THE SURVEYOR MAKES NO GUARANTEE THAT THE UNDERGROUND LOCATES REPRESENT THE ONLY UTILITIES IN THE AREA. CONTRACTORS ARE RESPONSIBLE FOR VERIFYING ALL EXISTING CONDITIONS PRIOR TO BEGINNING CONSTRUCTION.
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5. CONTOUR INTERVAL IS 1-FOOT.
6. THIS IS NOT A PROPERTY BOUNDARY SURVEY TO BE RECORDED WITH THE COUNTY SURVEYOR. BOUNDARIES MAY BE PRELIMINARY AND SHOULD BE CONFIRMED WITH THE STAMPING SURVEYOR PRIOR TO RELYING ON FOR DETAILED DESIGN OR CONSTRUCTION.
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8. TREES WITH DIAMETER OF 6" AND GREATER ARE SHOWN. TREE DIAMETERS WERE MEASURED UTILIZING A DIAMETER TAPE AT BREAST HEIGHT. TREE INFORMATION IS SUBJECT TO ARBORIST INSPECTION. SEE TREE SHEETS FOR MORE INFORMATION.
9. EASEMENTS SHOWN ARE BASED ON TITLE REPORTS FROM AMERITITLE, FILE NO. 1006849, WITH AN EFFECTIVE DATE OF JULY 2, 2025 AND FILE NO. 1009057, WITH AN EFFECTIVE DATE OF JULY 9, 2025.
10. TAX LOT 1400 IS SUBJECT TO A 900 SQUARE FOOT, MORE OR LESS, PORTION OF PROPERTY AND EASEMENTS FOR INGRESS, EGRESS AND UTILITIES LEASED TO T-MOBILE WEST TOWER, LLC AND CCTMO, LLC AS PARTIES TO A MASTER PREPAID LEASE AND A MANAGEMENT AGREEMENT. NO LOCATION OF SAID 900 SQUARE FOOT PORTION OR EASEMENTS WERE DISCLOSED IN THE PROVIDED DOCUMENTS PER THE PROVIDED TITLE REPORTS.
11. THE AERIAL PHOTOGRAPH IS PER A DRONE FLIGHT ON DECEMBER 1, 2025.
12. EXISTING SITE IS ACTIVELY USED FOR AGRICULTURAL PRODUCTION AND IS ZONED FOR FARMING. EXISTING AGRICULTURAL TREES WERE NOT INCLUDED IN THE TREE SURVEY.

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JULY 09, 2001
MARCUS D. CROSS
RENEWS: 12-31-2027
02-22-2026

Olson Orchards
Preliminary Subdivision
OREGON
KEIZER

SHEET NAME:
EXISTING CONDITIONS PLAN - EAST

DRAWN BY: TDC
CHK'D BY: MDC
DATE: FEBRUARY 2026

REVISIONS:

JOB NO.
2494

SHEET NO.
P-03

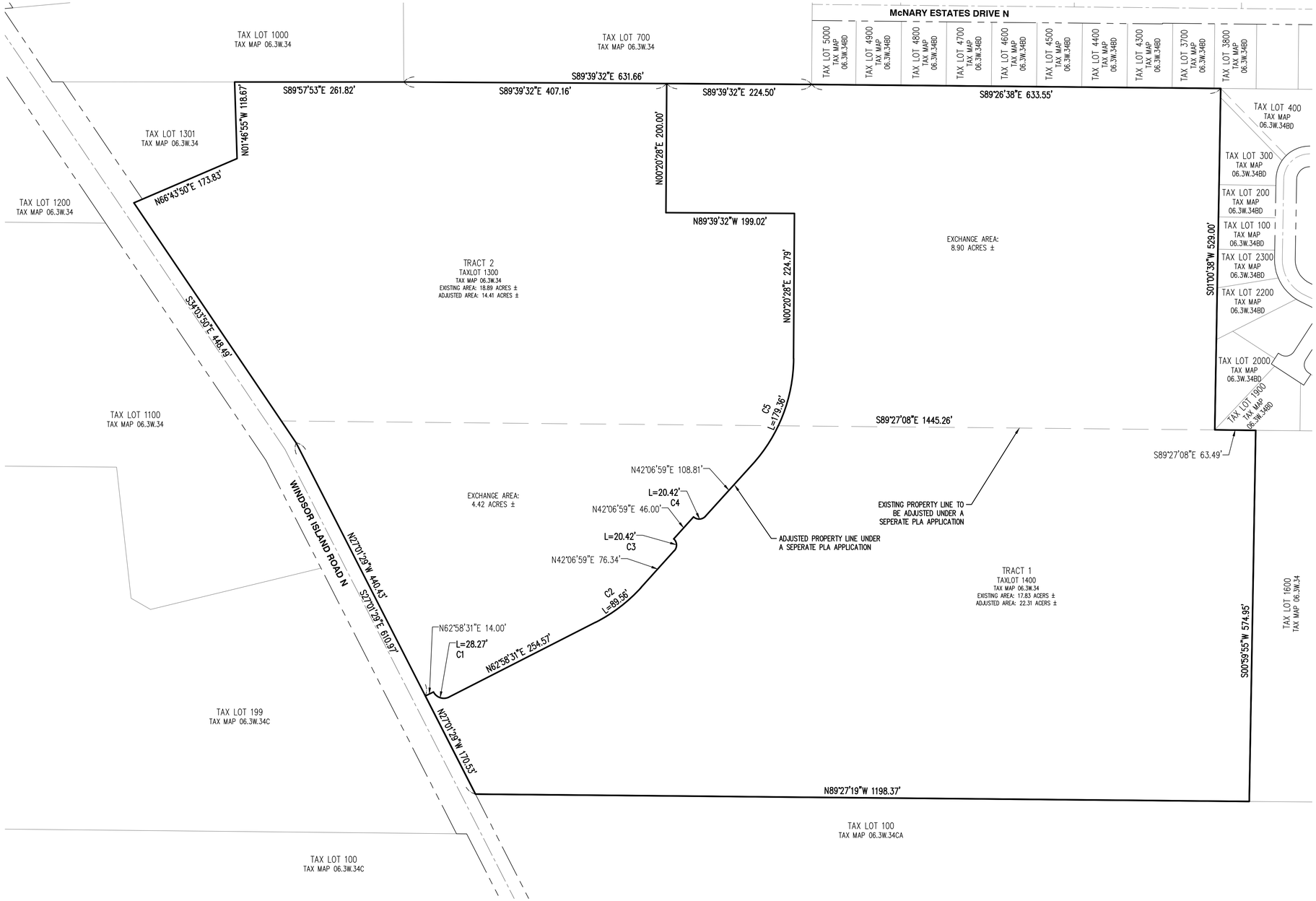
N

SCALE: 1"= 80 FEET

80 0 16 40 80

ORIGINAL PAGE SIZE: 22" x 34"

CURVE TABLE				
CURVE	RADIUS	DELTA	LENGTH	CHORD



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OREGON
JULY 09, 2021
MARCUS D. CROSS

RENEWS: 12-31-2027

02-22-2026

Olson Orchards
Preliminary Subdivision

OREGON

KEIZER

SHEET NAME:

PROPERTY LINE ADJUSTMENT

DRAWN BY: TDC

CHK'D BY: MDC

DATE: FEBRUARY 2026

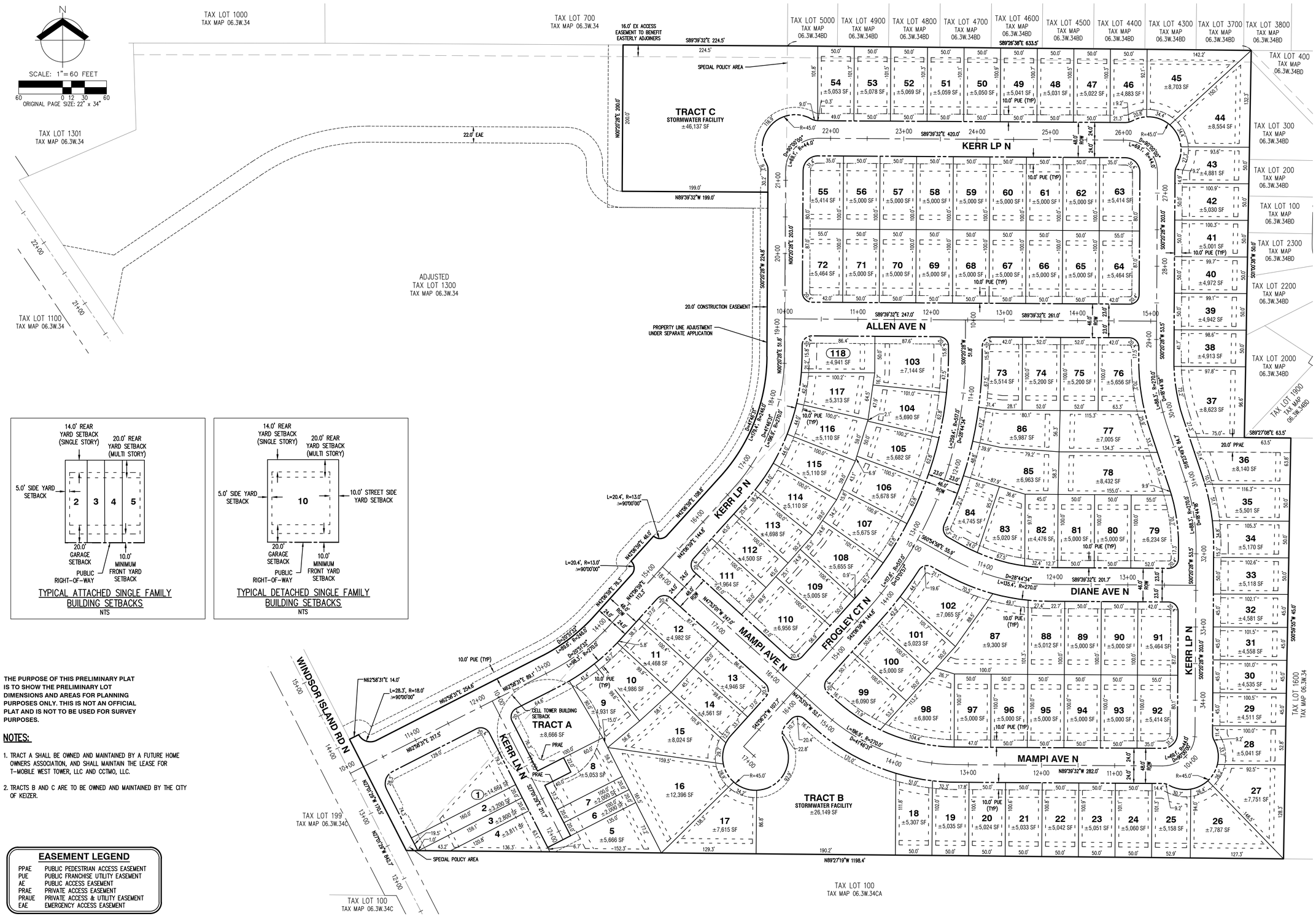
REVISIONS:

JOB NO.

2494

SHEET NO.

P-04



TYPICAL ATTACHED SINGLE FAMILY BUILDING SETBACKS

NTS

TYPICAL DETACHED SINGLE FAMILY BUILDING SETBACKS

NTS

THE PURPOSE OF THIS PRELIMINARY PLAT IS TO SHOW THE PRELIMINARY LOT DIMENSIONS AND AREAS FOR PLANNING PURPOSES ONLY. THIS IS NOT AN OFFICIAL PLAT AND IS NOT TO BE USED FOR SURVEY PURPOSES.

NOTES:

1. TRACT A SHALL BE OWNED AND MAINTAINED BY A FUTURE HOME OWNERS ASSOCIATION, AND SHALL MAINTAIN THE LEASE FOR T-MOBILE WEST TOWER, LLC AND CCTMO, LLC.
2. TRACTS B AND C ARE TO BE OWNED AND MAINTAINED BY THE CITY OF KEIZER.

EASEMENT LEGEND

PPAE	PUBLIC PEDESTRIAN ACCESS EASEMENT
PUE	PUBLIC FRANCHISE UTILITY EASEMENT
AE	PUBLIC ACCESS EASEMENT
PRAE	PRIVATE ACCESS EASEMENT
PRAUE	PRIVATE ACCESS & UTILITY EASEMENT
EAE	EMERGENCY ACCESS EASEMENT

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JULY 09, 2001
MARCUS D. CROSS
RENEWS: 12-31-2027

02-22-2026

Olson Orchards
Preliminary Subdivision

OREGON

KEIZER

SHEET NAME:
PRELIMINARY DIMENSIONED SUBDIVISION PLAT

DRAWN BY: TDC
CHK'D BY: MDC
DATE: FEBRUARY 2026

REVISIONS:

JOB NO.
2494

SHEET NO.
P-05



LOT TYPE AND QUANTITY			
COLOR:	PRODUCT TYPE:	UNITS:	PERCENTAGE OF TOTAL UNITS:
	DETACHED 40' PRODUCT (50'≥ WIDE LOT)	88	74.6%
	DETACHED 35' PRODUCT (45'≥ WIDE LOT)	22	18.6%
	TOWNHOME PRODUCT (20'≥ WIDE LOT)	8	6.8%
TOTAL:		118	

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OREGON
JULY 09, 2004
MARCUS D. CROSS
RENEWS: 12-31-2027

02-22-2026

Olson Orchards
Preliminary Subdivision
KEIZER OREGON

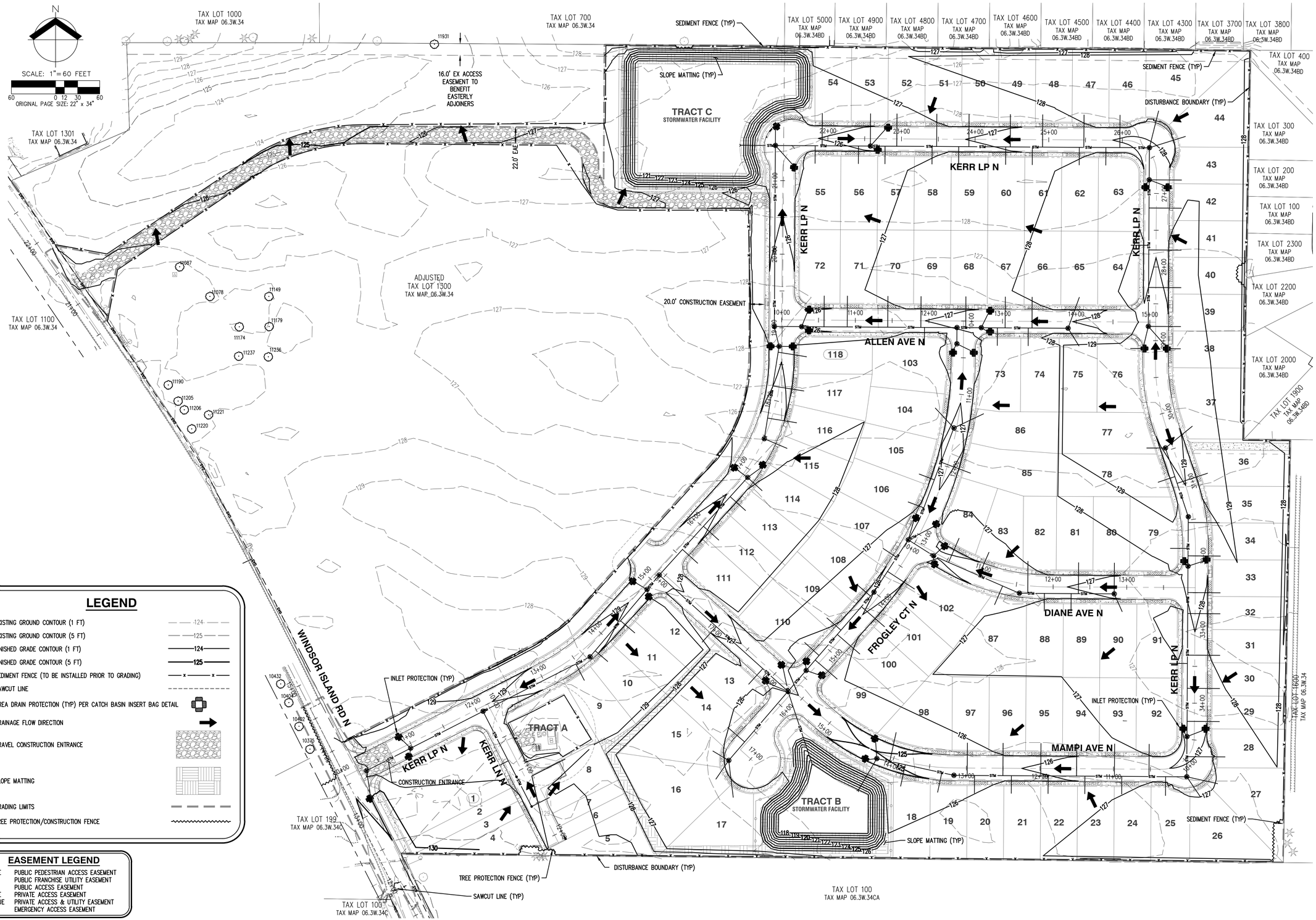
SHEET NAME:
PRELIMINARY UNIT TYPE PLAN

DRAWN BY: TDC
CHK'D BY: MDC
DATE: FEBRUARY 2026

REVISIONS:

JOB NO.
2494

SHEET NO.
P-06



LEGEND

- EXISTING GROUND CONTOUR (1 FT)
- EXISTING GROUND CONTOUR (5 FT)
- FINISHED GRADE CONTOUR (1 FT)
- FINISHED GRADE CONTOUR (5 FT)
- SEDIMENT FENCE (TO BE INSTALLED PRIOR TO GRADING)
- SAWCUT LINE
- AREA DRAIN PROTECTION (TYP) PER CATCH BASIN INSERT BAG DETAIL
- DRAINAGE FLOW DIRECTION
- GRAVEL CONSTRUCTION ENTRANCE
- SLOPE MATTING
- GRADING LIMITS
- TREE PROTECTION/CONSTRUCTION FENCE

EASEMENT LEGEND

PPAE	PUBLIC PEDESTRIAN ACCESS EASEMENT
PUE	PUBLIC FRANCHISE UTILITY EASEMENT
AE	PUBLIC ACCESS EASEMENT
PRAE	PRIVATE ACCESS EASEMENT
PRAUE	PRIVATE ACCESS & UTILITY EASEMENT
EAE	EMERGENCY ACCESS EASEMENT

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JULY 09, 2010
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RENEWS: 12-31-2027
02-22-2026

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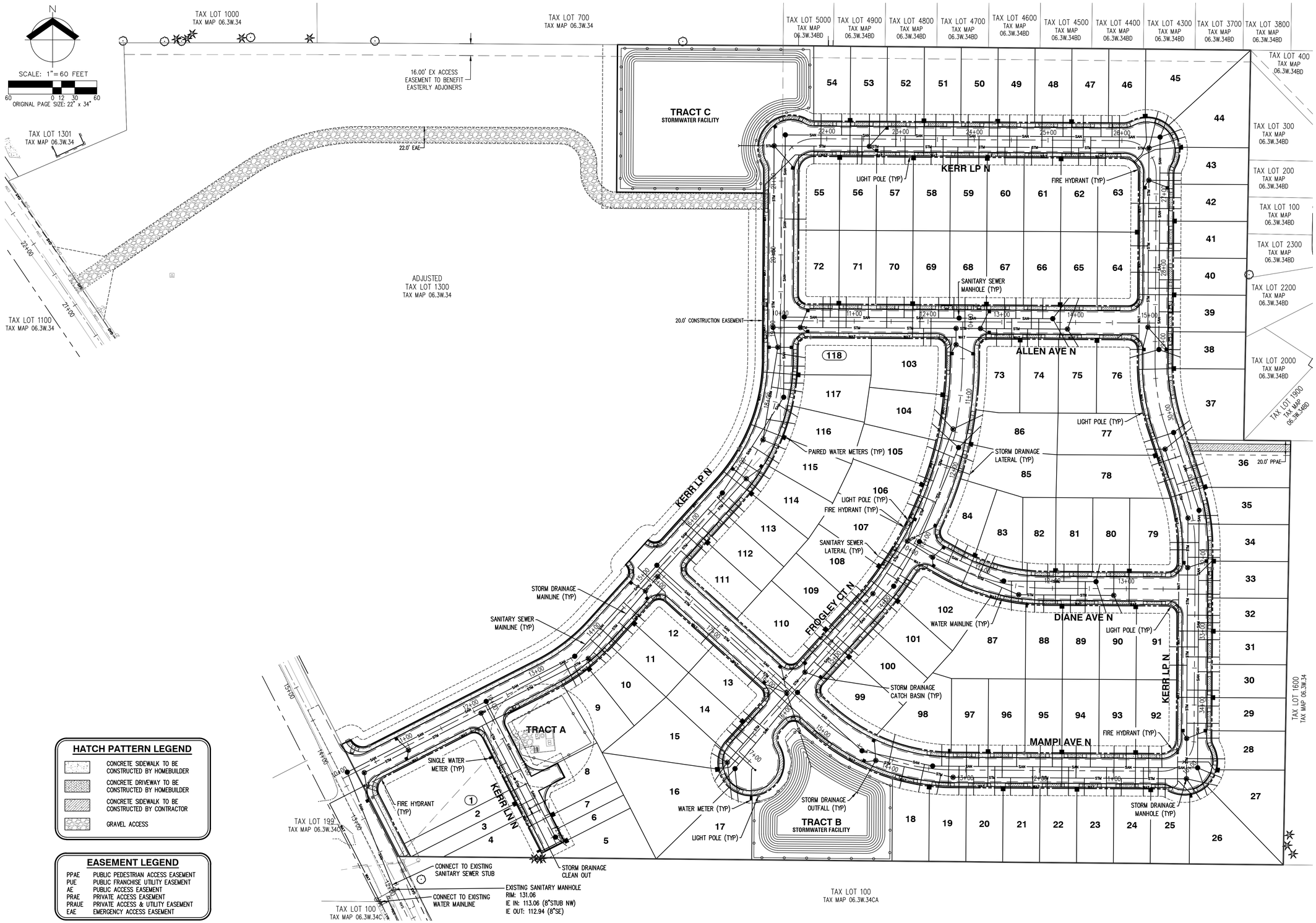
SHEET NAME:
PRELIMINARY GRADING & ESC PLAN

DRAWN BY: TDC
CHK'D BY: MDC
DATE: FEBRUARY 2026

REVISIONS:

JOB NO.
2494

SHEET NO.
P-07



HATCH PATTERN LEGEND

- CONCRETE SIDEWALK TO BE CONSTRUCTED BY HOMEBUILDER
- CONCRETE DRIVEWAY TO BE CONSTRUCTED BY HOMEBUILDER
- CONCRETE SIDEWALK TO BE CONSTRUCTED BY CONTRACTOR
- GRAVEL ACCESS

EASEMENT LEGEND

PPAE	PUBLIC PEDESTRIAN ACCESS EASEMENT
PUE	PUBLIC FRANCHISE UTILITY EASEMENT
AE	PUBLIC ACCESS EASEMENT
PRAE	PRIVATE ACCESS EASEMENT
PRAUE	PRIVATE ACCESS & UTILITY EASEMENT
EAE	EMERGENCY ACCESS EASEMENT

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JULY 09, 2001
MARCUS D. CROSS
RENEWS: 12-31-2027

02-22-2026

Olson Orchards Preliminary Subdivision

OREGON
KEIZER

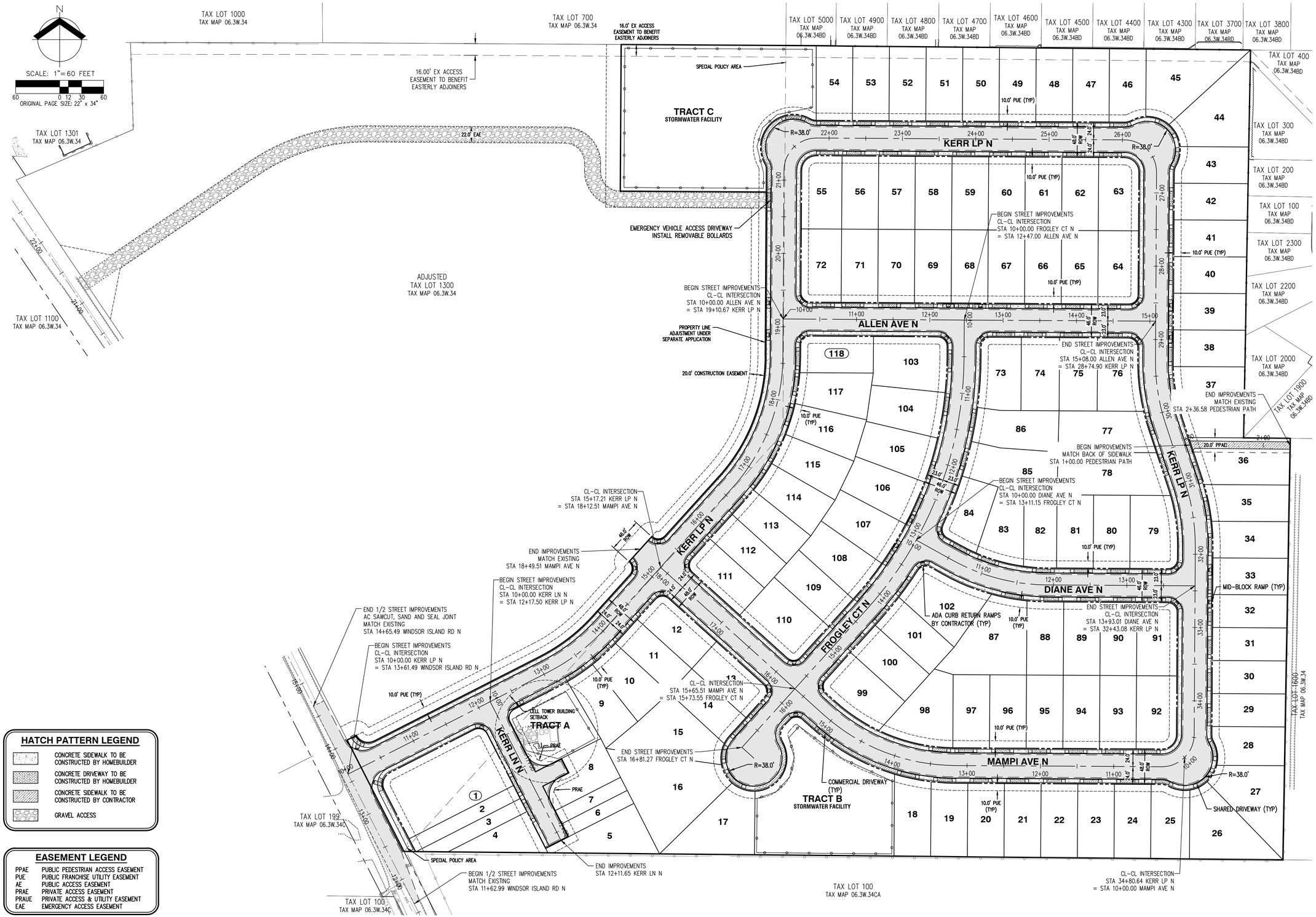
SHEET NAME:
PRELIMINARY COMPOSITE UTILITY PLAN

DRAWN BY: TDC
CHK'D BY: MDC
DATE: FEBRUARY 2026

REVISIONS:

JOB NO.
2494

SHEET NO.
P-08



PACIFIC NATIONAL DEVELOPMENT
P.O. BOX 3550
SALEM, OR 97302
(503) 990-7003

R-C RHINE-CROSS GROUP LLC
RHINE-CROSS GROUP
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Phone: (541) 851-9405 Fax: (541) 273-9200 admin@rc-grp.com

REGISTERED PROFESSIONAL ENGINEER
55,506PE
Marcus D. Cross
OREGON
JULY 09, 2001
MARCUS D. CROSS
RENEWS: 12-31-2027
02-22-2026

Olson Orchards
Preliminary Subdivision
KEIZER OREGON

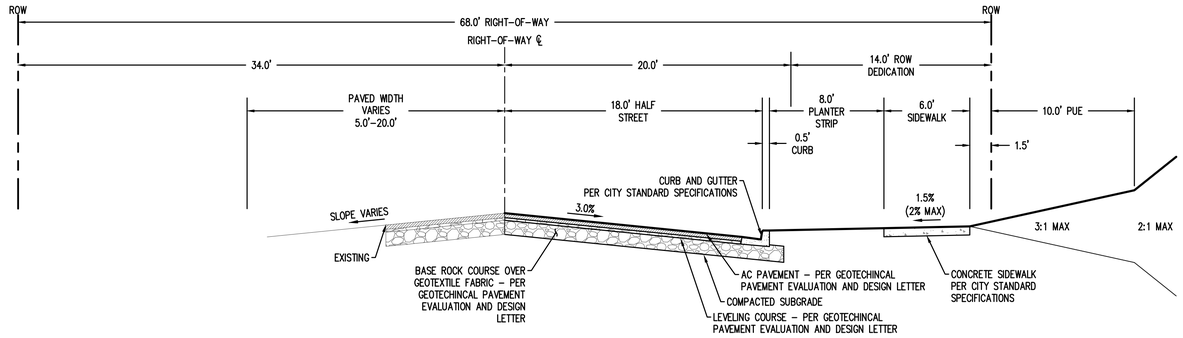
SHEET NAME:
PRELIMINARY STREET PLAN

DRAWN BY: TDC
CHK'D BY: MDC
DATE: FEBRUARY 2026

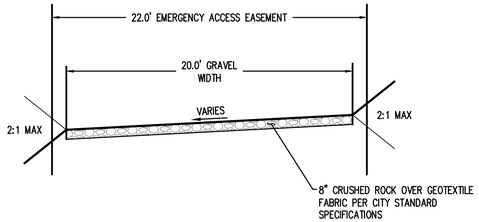
REVISIONS:

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2494

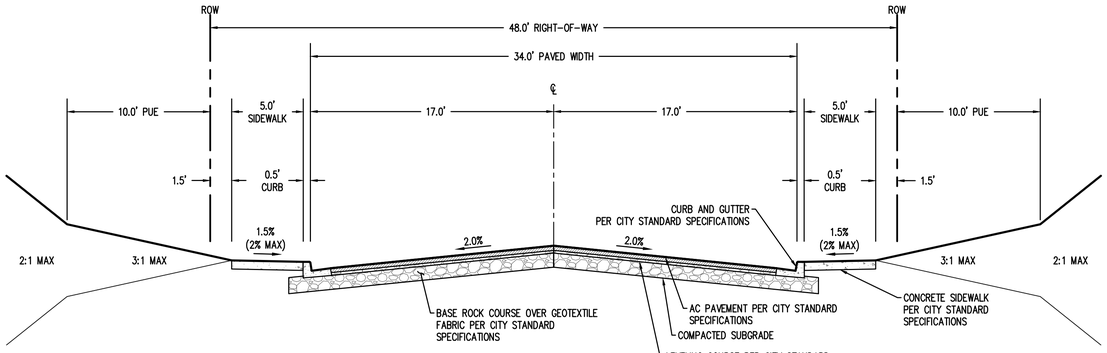
SHEET NO.
P-09



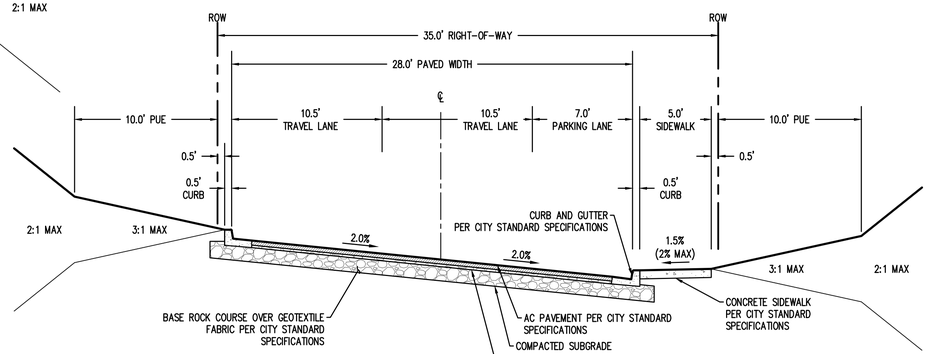
WINDSOR ISLAND RD N HALF STREET
CROSS-SECTION
NOT TO SCALE



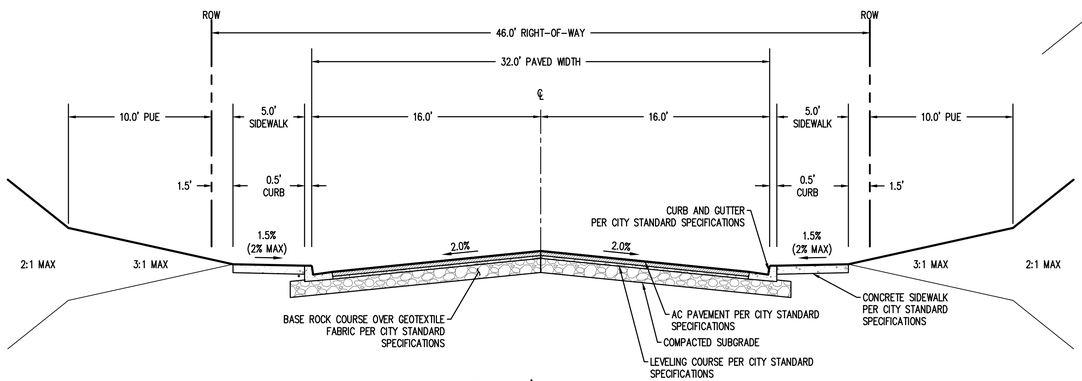
EMERGENCY ACCESS
CROSS-SECTION
(NOT TO SCALE)
EMERGENCY VEHICLE ACCESS



TYPICAL 48' ROW SECTION
LOCAL V
(NOT TO SCALE)
KERR LOOP N
MAMPI AVENUE N (STA: 10+00.00 - 18+12.47)



TYPICAL 35' ROW SECTION
LOCAL I
(NOT TO SCALE)
KERR LANE N



TYPICAL 46' ROW SECTION
LOCAL IV
(NOT TO SCALE)
ALLEN AVENUE N
DIANE AVENUE N
FROGLEY COURT N
MAMPI AVENUE N (STA: 18+12.47 - 18+49.47)

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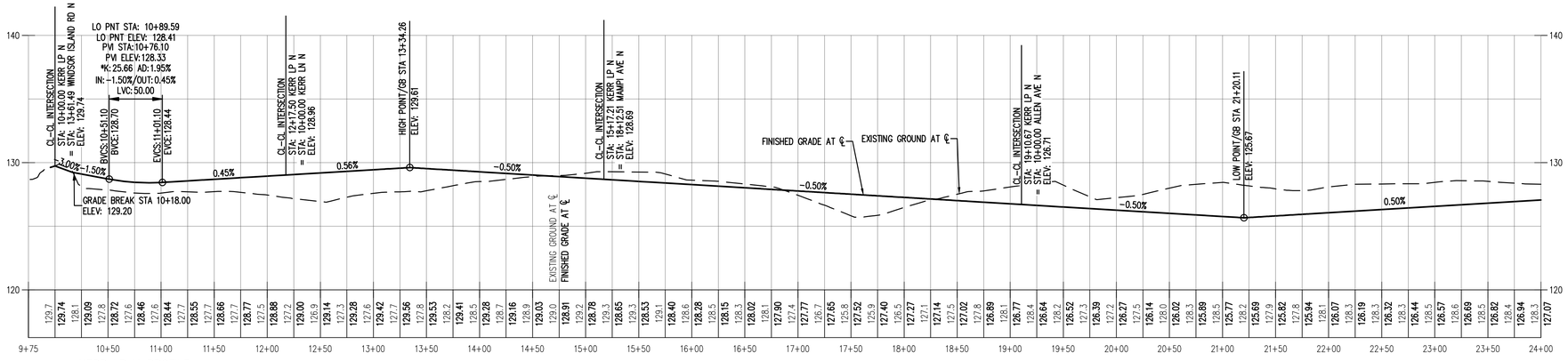
SHEET NAME:
TYPICAL STREET CROSS SECTIONS

DRAWN BY: TDC
CHK'D BY: MDC
DATE: FEBRUARY 2026

REVISIONS:

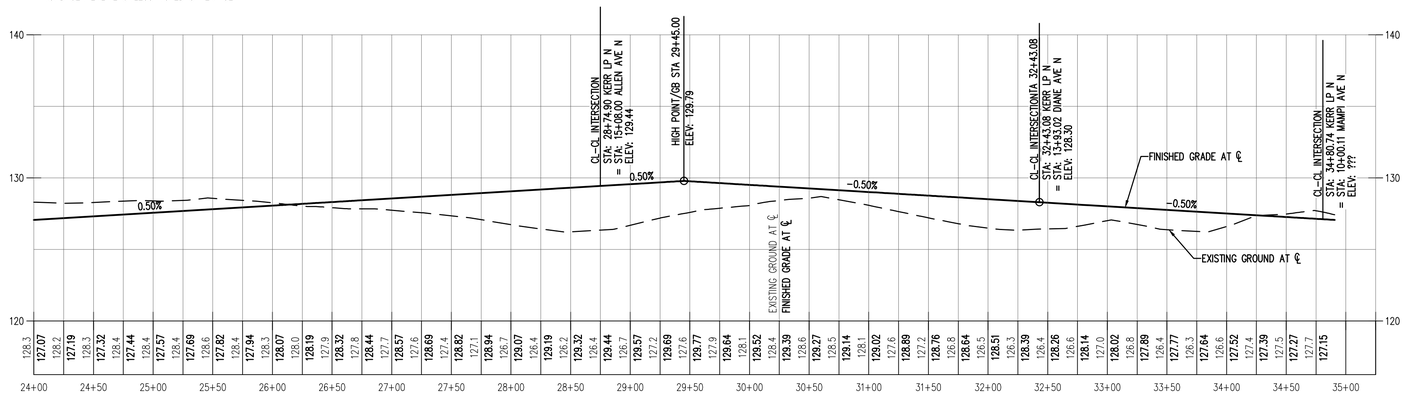
JOB NO.
2494

SHEET NO.
P-10

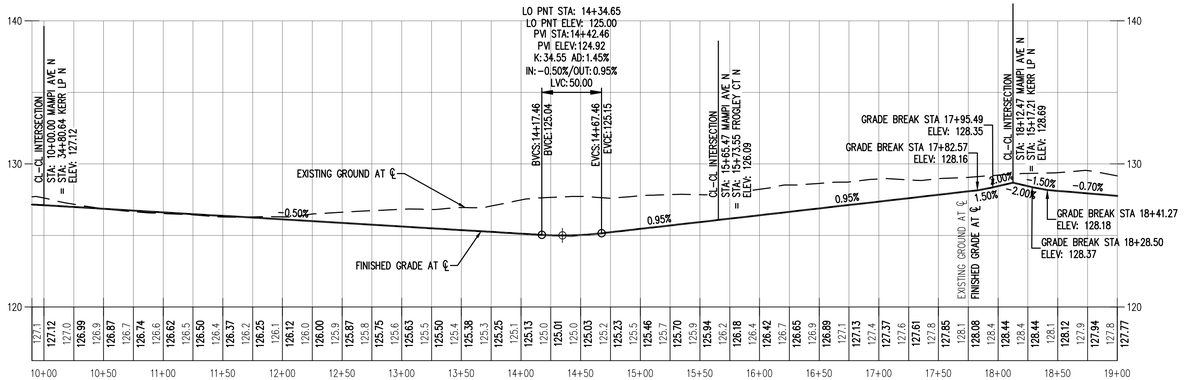


KERR LP N PROFILE
STA: 9+75.00 TO 24+00.00
HORIZ: 1"=60'
VERT: 1"=5'
ALL PROFILE ELEVATIONS BASED ON ROAD CENTERLINE UNLESS NOTED OTHERWISE

* MINIMUM K VALUE LOWERED AT STOP CONTROLLED INTERSECTION (K > 10)



KERR LP N PROFILE
STA: 24+00.00 TO 35+25.00
HORIZ: 1"=60'
VERT: 1"=5'
ALL PROFILE ELEVATIONS BASED ON ROAD CENTERLINE UNLESS NOTED OTHERWISE



MAMPI AVE N PROFILE
STA: 10+00.00 TO 19+00.00
HORIZ: 1"=60'
VERT: 1"=5'
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RENEWS: 12-31-2027

02-22-2026

Olson Orchards
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OREGON
KEIZER

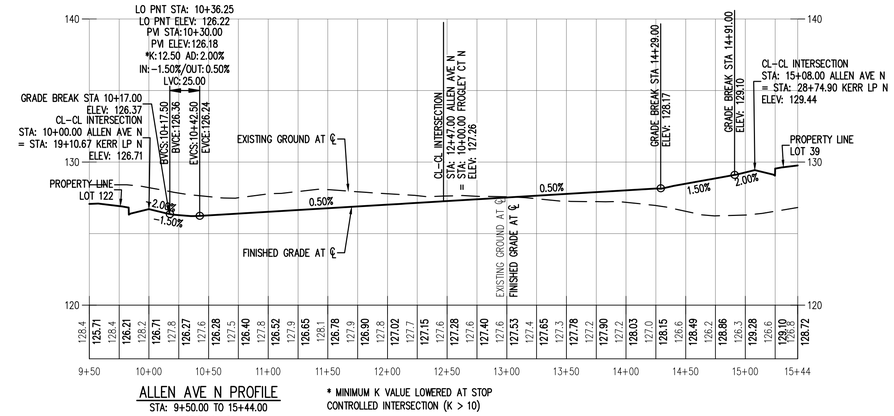
SHEET NAME:
PRELIMINARY STREET PROFILES

DRAWN BY: TDC
CHK'D BY: MDC
DATE: FEBRUARY 2026

REVISIONS:

JOB NO.
2494

SHEET NO.
P-11



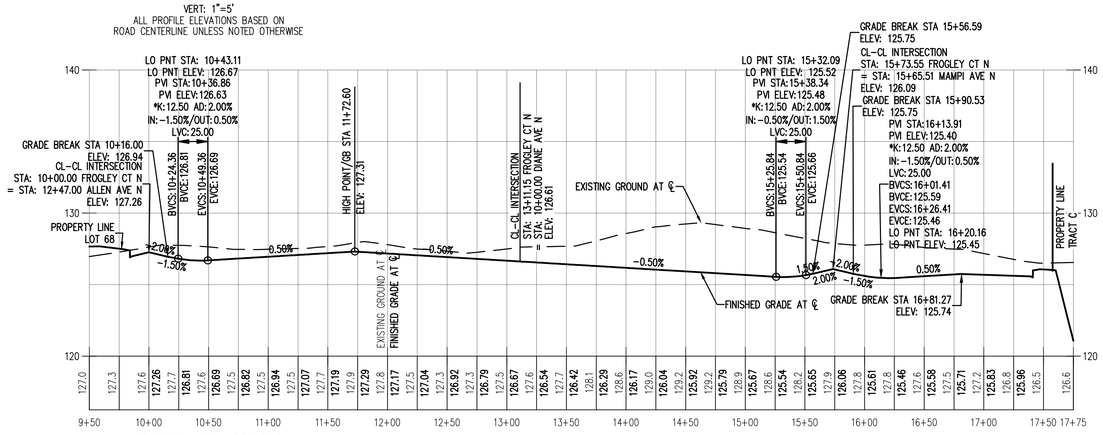
ALLEN AVE N PROFILE

STA: 9+50.00 TO 15+44.00

HORIZ: 1"=60'
VERT: 1"=5'

ALL PROFILE ELEVATIONS BASED ON
ROAD CENTERLINE UNLESS NOTED OTHERWISE

* MINIMUM K VALUE LOWERED AT STOP CONTROLLED INTERSECTION (K > 10)



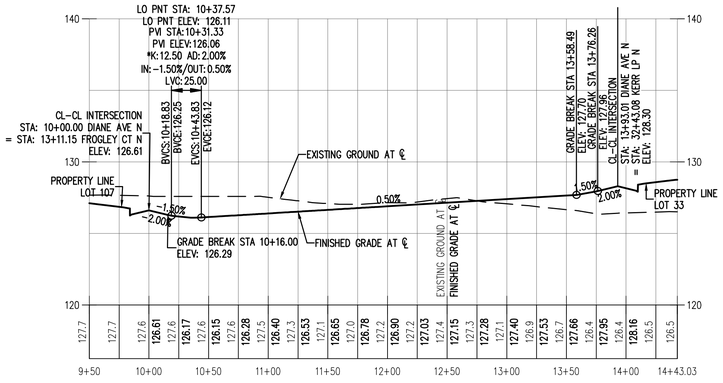
FROGLEY CT N PROFILE

STA: 10+00.00 TO 17+75.00

HORIZ: 1"=60'
VERT: 1"=5'

ALL PROFILE ELEVATIONS BASED ON
ROAD CENTERLINE UNLESS NOTED OTHERWISE

* MINIMUM K VALUE LOWERED AT STOP CONTROLLED INTERSECTION (K > 10)



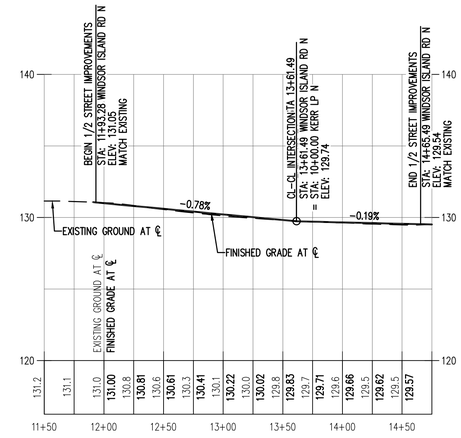
DIANE AVE N PROFILE

STA: 10+00.00 TO 14+43.03

HORIZ: 1"=60'
VERT: 1"=5'

ALL PROFILE ELEVATIONS BASED ON
ROAD CENTERLINE UNLESS NOTED OTHERWISE

* MINIMUM K VALUE LOWERED AT STOP CONTROLLED INTERSECTION (K > 10)

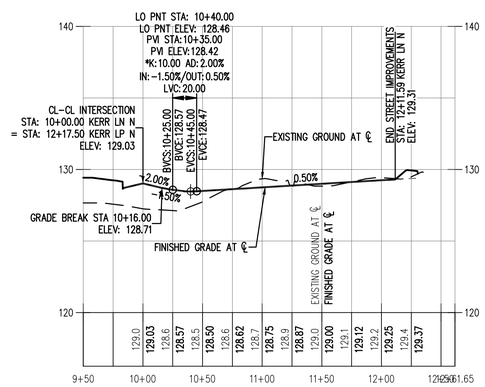


WINDSOR ISLAND RD N PROFILE

STA: 11+50.00 TO 14+75.00

HORIZ: 1"=60'
VERT: 1"=5'

ALL PROFILE ELEVATIONS BASED ON
ROAD CENTERLINE UNLESS NOTED OTHERWISE



KERR LN N PROFILE

STA: 10+00.00 TO 12+61.65

HORIZ: 1"=60'
VERT: 1"=5'

ALL PROFILE ELEVATIONS BASED ON
ROAD CENTERLINE UNLESS NOTED OTHERWISE

* MINIMUM K VALUE LOWERED AT STOP CONTROLLED INTERSECTION (K > 10)

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RENEWS: 12-31-2027

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Olson Orchards
Preliminary Subdivision
OREGON
KEIZER

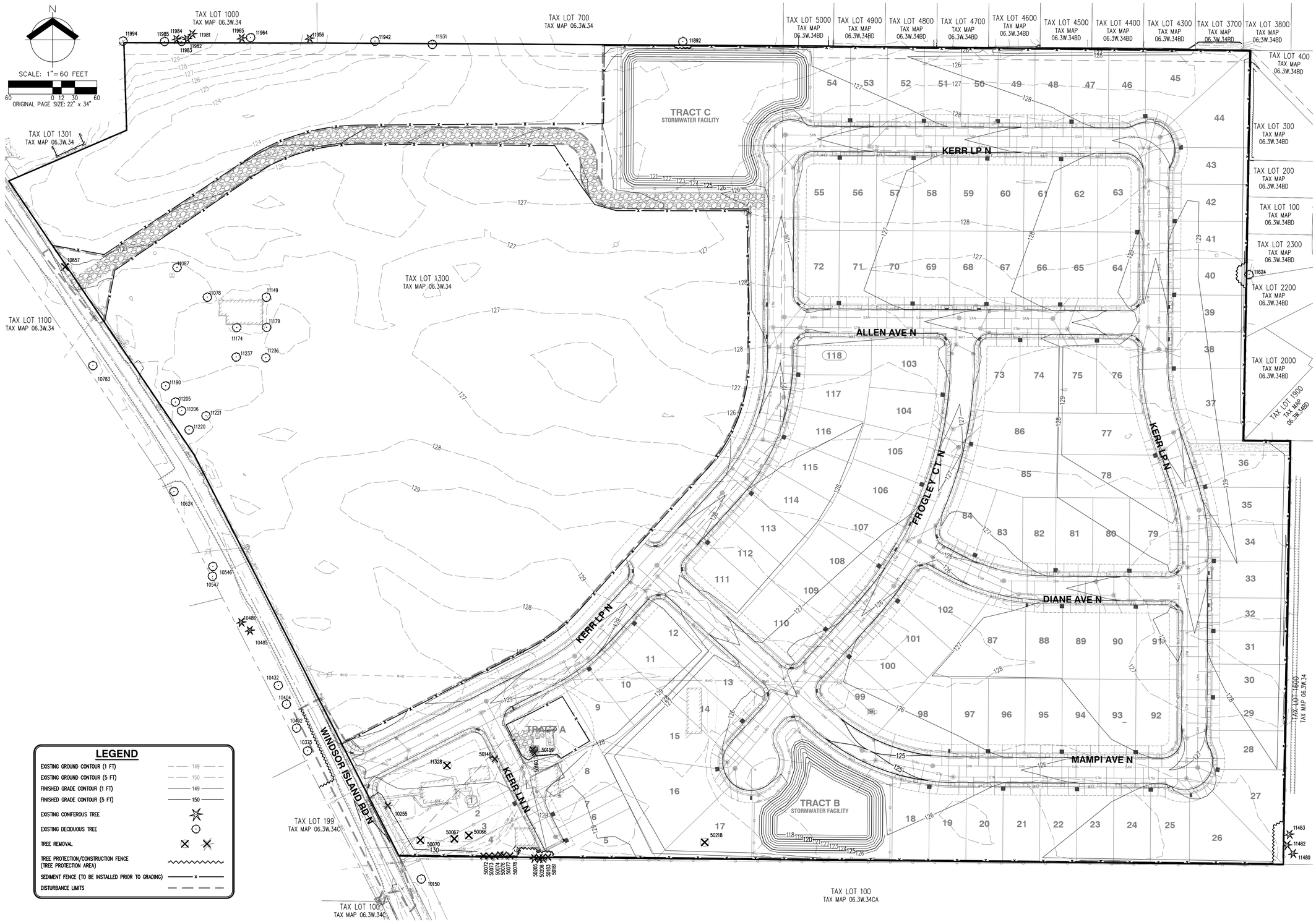
SHEET NAME:
PRELIMINARY STREET PROFILES

DRAWN BY: TDC
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DATE: FEBRUARY 2026

REVISIONS:

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SHEET NO.
P-12



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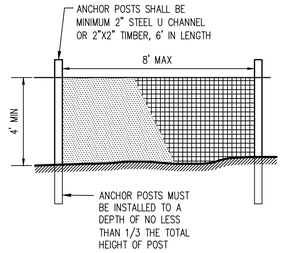
SHEET NAME:
TREE PRESERVATION AND REMOVAL PLAN

DRAWN BY: TDC
CHK'D BY: MDC
DATE: FEBRUARY 2026

REVISIONS:

JOB NO.
2494

SHEET NO.
P-13



NOTES:
1. BLAZE ORANGE PLASTIC MESH FENCE FOR TREE PROTECTION DEVICE OR APPROVED EQUAL.
2. AVOID DAMAGE TO TREE ROOT ZONE. DO NOT DAMAGE OR SEVER LARGE ROOTS WHEN INSTALLING POSTS.
3. DEVICE SHALL BE MAINTAINED THROUGHOUT CONSTRUCTION.

TREE PROTECTION / CONSTRUCTION FENCE

TREE NO.	TYPE	DBH(IN.)	ONSITE/OFFSITE	REMOVE/PRESERVE
10150	DECIDUOUS	28	OFFSITE	PRESERVE
10255	CONIFEROUS	11, 17, 30, 32	OFFSITE	REMOVE
10375	DECIDUOUS	18	OFFSITE	PRESERVE
10402	DECIDUOUS	19	OFFSITE	PRESERVE
10404	DECIDUOUS	15	OFFSITE	PRESERVE
10432	DECIDUOUS	13	OFFSITE	PRESERVE
10485	CONIFEROUS	8	OFFSITE	PRESERVE
10486	CONIFEROUS	22	OFFSITE	PRESERVE
10546	DECIDUOUS	8, 9, 10, 10	OFFSITE	PRESERVE
10547	DECIDUOUS	8, 10	OFFSITE	PRESERVE
10624	DECIDUOUS	95	OFFSITE	PRESERVE
10783	DECIDUOUS	36	OFFSITE	PRESERVE
10857	DECIDUOUS	-	ONSITE	REMOVE
10964	DECIDUOUS	-	OFFSITE	PRESERVE
11078	DECIDUOUS	-	ONSITE	PRESERVE
11087	DECIDUOUS	-	ONSITE	PRESERVE
11149	DECIDUOUS	-	ONSITE	PRESERVE
11174	DECIDUOUS	-	ONSITE	PRESERVE
11179	DECIDUOUS	-	ONSITE	PRESERVE
11190	DECIDUOUS	-	ONSITE	PRESERVE
11205	DECIDUOUS	-	ONSITE	PRESERVE
11206	DECIDUOUS	-	ONSITE	PRESERVE
11220	DECIDUOUS	-	ONSITE	PRESERVE
11221	DECIDUOUS	-	ONSITE	PRESERVE
11236	DECIDUOUS	-	ONSITE	PRESERVE
11237	DECIDUOUS	-	ONSITE	PRESERVE
11328	DECIDUOUS	7, 10	ONSITE	REMOVE
11480	CONIFEROUS	-	OFFSITE	PRESERVE
11482	CONIFEROUS	-	OFFSITE	PRESERVE
11483	CONIFEROUS	-	OFFSITE	PRESERVE
11624	DECIDUOUS	-	OFFSITE	PRESERVE
11892	DECIDUOUS	13	OFFSITE	PRESERVE
11931	DECIDUOUS	8, 10	ONSITE	PRESERVE
11942	DECIDUOUS	20	OFFSITE	PRESERVE
11956	CONIFEROUS	22	OFFSITE	PRESERVE
11964	DECIDUOUS	6, 7	OFFSITE	PRESERVE
11965	CONIFEROUS	20	OFFSITE	PRESERVE
11981	CONIFEROUS	14	OFFSITE	PRESERVE
11982	CONIFEROUS	18	OFFSITE	PRESERVE
11983	DECIDUOUS	8	OFFSITE	PRESERVE
11984	CONIFEROUS	11	OFFSITE	PRESERVE
11985	DECIDUOUS	8	OFFSITE	PRESERVE
11994	DECIDUOUS	6	OFFSITE	PRESERVE
50066	DECIDUOUS	6	ONSITE	REMOVE
50067	DECIDUOUS	38	ONSITE	REMOVE
50070	DECIDUOUS	45	ONSITE	REMOVE
50072	CONIFEROUS	10, 14	ONSITE	REMOVE
50073	CONIFEROUS	18	ONSITE	REMOVE
50074	CONIFEROUS	6	ONSITE	REMOVE
50076	CONIFEROUS	14	ONSITE	REMOVE
50077	CONIFEROUS	24	ONSITE	REMOVE
50078	CONIFEROUS	30	ONSITE	REMOVE
50146	CONIFEROUS	26	ONSITE	REMOVE
50159	CONIFEROUS	6, 6, 6, 10	ONSITE	REMOVE
50160	CONIFEROUS	8	ONSITE	REMOVE
50181	CONIFEROUS	16	ONSITE	REMOVE
50183	CONIFEROUS	14	OFFSITE	PRESERVE
50205	CONIFEROUS	23	OFFSITE	PRESERVE
50206	CONIFEROUS	13	OFFSITE	PRESERVE
50218	DECIDUOUS	32	ONSITE	REMOVE

TOTAL NUMBER OF EXISTING TREES INVENTORIED = 60

TOTAL NUMBER OF EXISTING ONSITE TREES = 29
TOTAL NUMBER OF EXISTING ONSITE TREES TO BE REMOVED = 16
TOTAL NUMBER OF EXISTING ONSITE TREES TO BE PRESERVED = 13

TOTAL NUMBER OF EXISTING OFFSITE TREES = 31
TOTAL NUMBER OF EXISTING OFFSITE TREES TO BE REMOVED = 1
TOTAL NUMBER OF EXISTING OFFSITE TREES TO BE PRESERVED = 30

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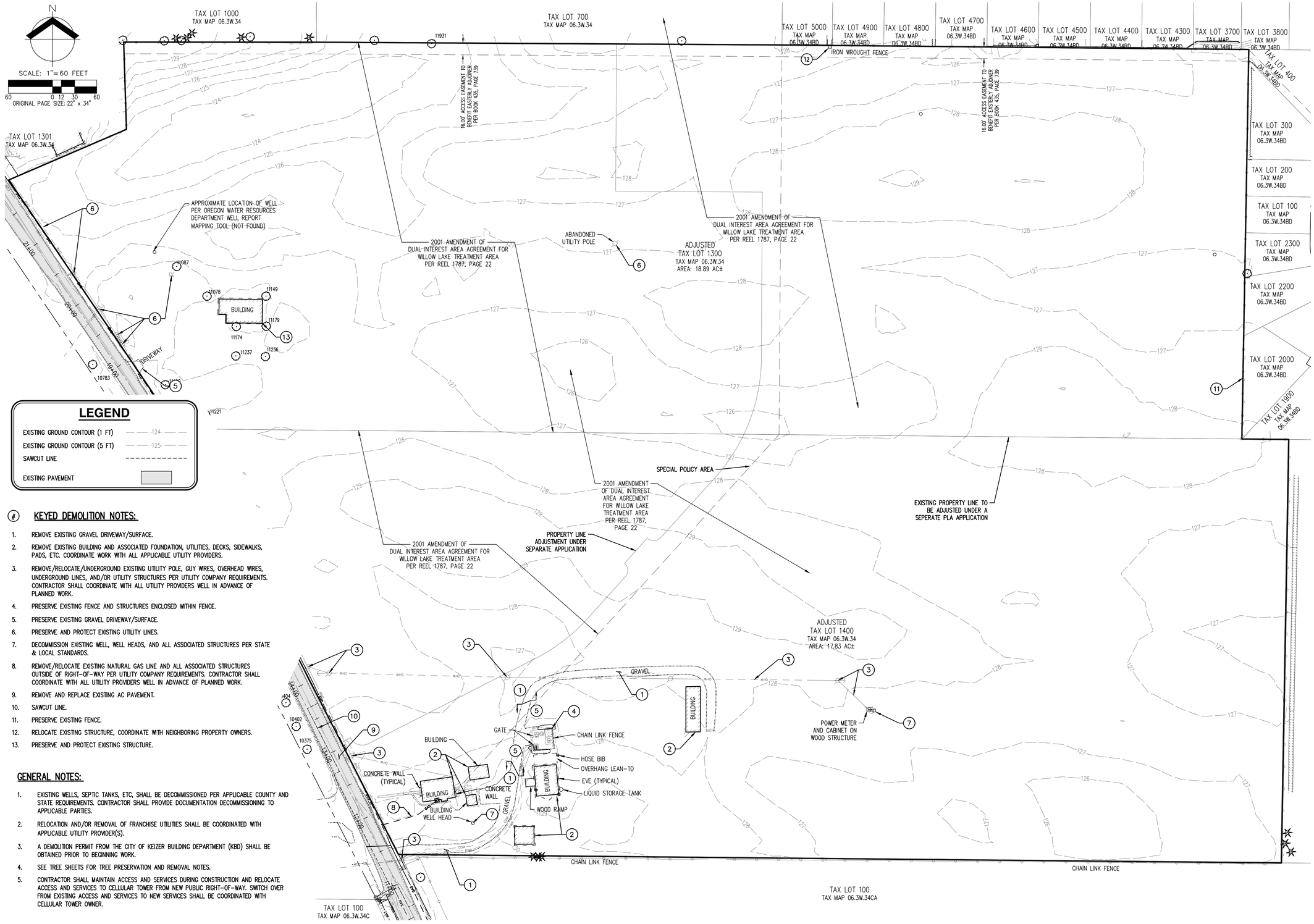
SHEET NAME:
TREE PRESERVATION AND REMOVAL TABLE

DRAWN BY: TDC
CHK'D BY: MDC
DATE: FEBRUARY 2026

REVISIONS:

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SHEET NO.
P-14



LEGEND

- EXISTING GROUND CONTOUR (1 FT) — 124 —
- EXISTING GROUND CONTOUR (5 FT) — 125 —
- SAWCUT LINE
- EXISTING PAVEMENT

(#) KEYED DEMOLITION NOTES:

1. REMOVE EXISTING GRAVEL DRIVEWAY/SURFACE.
2. REMOVE EXISTING BUILDING AND ASSOCIATED FOUNDATION, UTILITIES, DECKS, SIDEWALKS, PADS, ETC. COORDINATE WORK WITH ALL APPLICABLE UTILITY PROVIDERS.
3. REMOVE/RELOCATE/UNDERGROUND EXISTING UTILITY POLE, GUY WIRES, OVERHEAD WIRES, UNDERGROUND LINES, AND/OR UTILITY STRUCTURES PER UTILITY COMPANY REQUIREMENTS. CONTRACTOR SHALL COORDINATE WITH ALL UTILITY PROVIDERS WELL IN ADVANCE OF PLANNED WORK.
4. PRESERVE EXISTING FENCE AND STRUCTURES ENCLOSED WITHIN FENCE.
5. PRESERVE EXISTING GRAVEL DRIVEWAY/SURFACE.
6. PRESERVE AND PROTECT EXISTING UTILITY LINES.
7. DECOMMISSION EXISTING WELL, WELL HEADS, AND ALL ASSOCIATED STRUCTURES PER STATE & LOCAL STANDARDS.
8. REMOVE/RELOCATE EXISTING NATURAL GAS LINE AND ALL ASSOCIATED STRUCTURES OUTSIDE OF RIGHT-OF-WAY PER UTILITY COMPANY REQUIREMENTS. CONTRACTOR SHALL COORDINATE WITH ALL UTILITY PROVIDERS WELL IN ADVANCE OF PLANNED WORK.
9. REMOVE AND REPLACE EXISTING AC PAVEMENT.
10. SAWCUT LINE.
11. PRESERVE EXISTING FENCE.
12. RELOCATE EXISTING STRUCTURE, COORDINATE WITH NEIGHBORING PROPERTY OWNERS.
13. PRESERVE AND PROTECT EXISTING STRUCTURE.

GENERAL NOTES:

1. EXISTING WELLS, SEPTIC TANKS, ETC, SHALL BE DECOMMISSIONED PER APPLICABLE COUNTY AND STATE REQUIREMENTS. CONTRACTOR SHALL PROVIDE DOCUMENTATION DECOMMISSIONING TO APPLICABLE PARTIES.
2. RELOCATION AND/OR REMOVAL OF FRANCHISE UTILITIES SHALL BE COORDINATED WITH APPLICABLE UTILITY PROVIDER(S).
3. A DEMOLITION PERMIT FROM THE CITY OF KEIZER BUILDING DEPARTMENT (KBD) SHALL BE OBTAINED PRIOR TO BEGINNING WORK.
4. SEE TREE SHEETS FOR TREE PRESERVATION AND REMOVAL NOTES.
5. CONTRACTOR SHALL MAINTAIN ACCESS AND SERVICES DURING CONSTRUCTION AND RELOCATE ACCESS AND SERVICES TO CELLULAR TOWER FROM NEW PUBLIC RIGHT-OF-WAY. SWITCH OVER FROM EXISTING ACCESS AND SERVICES TO NEW SERVICES SHALL BE COORDINATED WITH CELLULAR TOWER OWNER.

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KEIZER

SHEET NAME:
PRELIMINARY DEMOLITION PLAN

DRAWN BY: TDC
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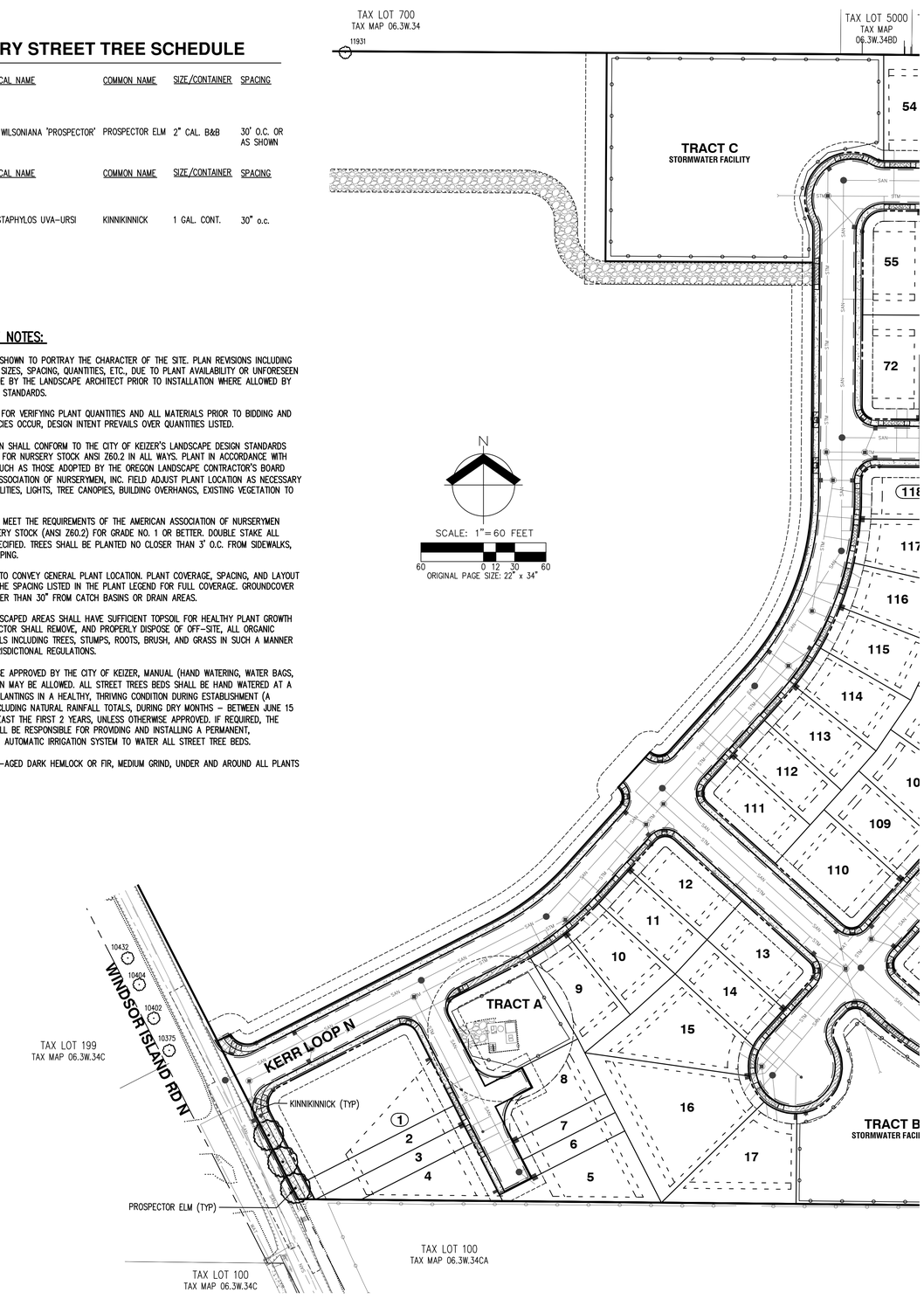
SHEET NO.
P-15

PRELIMINARY STREET TREE SCHEDULE

SYMBOL	QTY	BOTANICAL NAME	COMMON NAME	SIZE/CONTAINER	SPACING
TREES					
	3	ULMUS WILSONIANA 'PROSPECTOR'	PROSPECTOR ELM	2" CAL. B&B	30' O.C. OR AS SHOWN
SYMBOL	QTY	BOTANICAL NAME	COMMON NAME	SIZE/CONTAINER	SPACING
GROUND COVERS					
	177	ARCTOSTAPHYLOS UVA-URSI	KINNIKINNICK	1 GAL. CONT.	30" o.c.

PRELIMINARY LANDSCAPE NOTES:

1. PLANTS AND PLANTINGS ARE SHOWN TO PORTRAY THE CHARACTER OF THE SITE. PLAN REVISIONS INCLUDING CHANGES TO PLANT SPECIES, SIZES, SPACING, QUANTITIES, ETC., DUE TO PLANT AVAILABILITY OR UNFORESEEN SITE CONDITIONS MAY BE MADE BY THE LANDSCAPE ARCHITECT PRIOR TO INSTALLATION WHERE ALLOWED BY THE CITY OF KEIZER'S DESIGN STANDARDS.
2. CONTRACTOR IS RESPONSIBLE FOR VERIFYING PLANT QUANTITIES AND ALL MATERIALS PRIOR TO BIDDING AND CONSTRUCTION. IF DISCREPANCIES OCCUR, DESIGN INTENT PREVAILS OVER QUANTITIES LISTED.
3. ALL PLANTS AND INSTALLATION SHALL CONFORM TO THE CITY OF KEIZER'S LANDSCAPE DESIGN STANDARDS AND TO AMERICAN STANDARD FOR NURSERY STOCK ANSI Z60.2 IN ALL WAYS. PLANT IN ACCORDANCE WITH BEST PRACTICE STANDARDS SUCH AS THOSE ADOPTED BY THE OREGON LANDSCAPE CONTRACTOR'S BOARD (OLCB) AND THE AMERICAN ASSOCIATION OF NURSERYMEN, INC. FIELD ADJUST PLANT LOCATION AS NECESSARY TO AVOID CONFLICTS WITH UTILITIES, LIGHTS, TREE CANOPIES, BUILDING OVERHANGS, EXISTING VEGETATION TO REMAIN, ETC.
4. TREES TO BE PLANTED SHALL MEET THE REQUIREMENTS OF THE AMERICAN ASSOCIATION OF NURSERYMEN (AAN) STANDARDS FOR NURSERY STOCK (ANSI Z60.2) FOR GRADE NO. 1 OR BETTER. DOUBLE STAKE ALL TREES UNLESS OTHERWISE SPECIFIED. TREES SHALL BE PLANTED NO CLOSER THAN 3' O.C. FROM SIDEWALKS, CURBING, OR OTHER HARDSCAPING.
5. HATCHED AREAS ARE MEANT TO CONVEY GENERAL PLANT LOCATION. PLANT COVERAGE, SPACING, AND LAYOUT SHALL BE CONSISTENT WITH THE SPACING LISTED IN THE PLANT LEGEND FOR FULL COVERAGE. GROUNDCOVER SHALL NOT BE PLANTED CLOSER THAN 30" FROM CATCH BASINS OR DRAIN AREAS.
6. SOIL PREPARATION: ALL LANDSCAPED AREAS SHALL HAVE SUFFICIENT TOPSOIL FOR HEALTHY PLANT GROWTH AND ESTABLISHMENT. CONTRACTOR SHALL REMOVE, AND PROPERLY DISPOSE OF OFF-SITE, ALL ORGANIC AND/OR UNSUITABLE MATERIALS INCLUDING TREES, STUMPS, ROOTS, BRUSH, AND GRASS IN SUCH A MANNER TO MEET ALL APPLICABLE JURISDICTIONAL REGULATIONS.
7. IRRIGATION: UNLESS OTHERWISE APPROVED BY THE CITY OF KEIZER, MANUAL (HAND WATERING, WATER BAGS, WATER TRUCK, ETC) IRRIGATION MAY BE ALLOWED. ALL STREET TREES BEDS SHALL BE HAND WATERED AT A RATE TO MAINTAIN ALL THE PLANTINGS IN A HEALTHY, THRIVING CONDITION DURING ESTABLISHMENT (A MINIMUM OF 1" PER WEEK, INCLUDING NATURAL RAINFALL TOTALS, DURING DRY MONTHS – BETWEEN JUNE 15 AND OCTOBER 15), FOR AT LEAST THE FIRST 2 YEARS, UNLESS OTHERWISE APPROVED. IF REQUIRED, THE LANDSCAPE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING AND INSTALLING A PERMANENT, UNDERGROUND 'DESIGN-BUILD' AUTOMATIC IRRIGATION SYSTEM TO WATER ALL STREET TREE BEDS.
8. MULCH: APPLY 3" DEEP WELL-AGED DARK HEMLOCK OR FIR, MEDIUM GRIND, UNDER AND AROUND ALL PLANTS IN PLANTING AREAS.



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REGISTERED PROFESSIONAL ENGINEER
55,506PE
Marcus D. Cross
OREGON
JULY 09, 2004
MARCUS D. CROSS
RENEWS: 12-31-2027
02-22-2026

Olson Orchards
Preliminary Subdivision
KEIZER OREGON

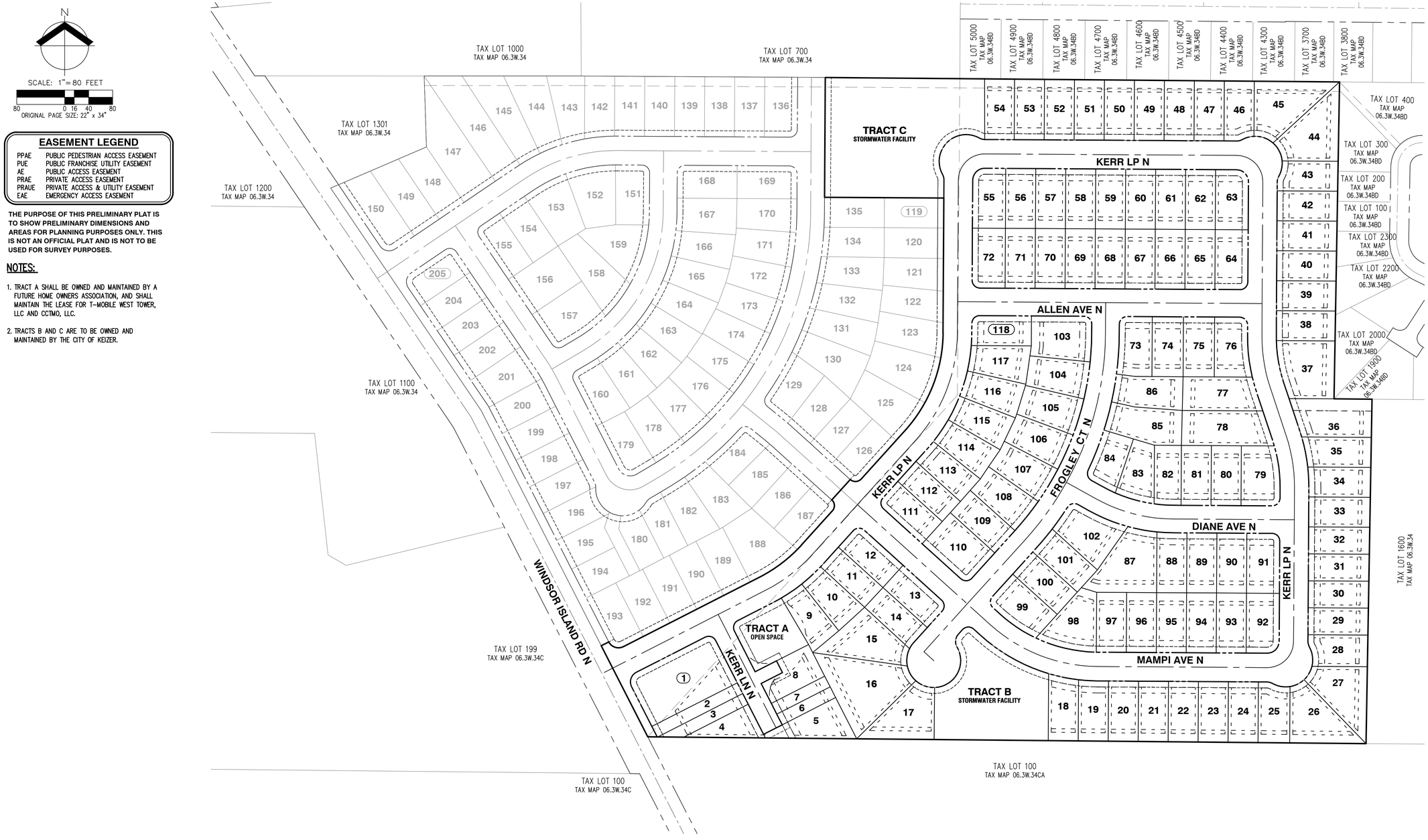
SHEET NAME:
PRELIMINARY
STREET TREE PLAN

DRAWN BY: TDC
CHK'D BY: MDC
DATE: FEBRUARY 2026

REVISIONS:

JOB NO.
2494

SHEET NO.
P-16



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RENEWS: 12-31-2027

02-22-2026

Olson Orchards Preliminary Subdivision

OREGON
KEIZER

SHEET NAME:
CONCEPTUAL OFF-SITE DEVELOPMENT PLAN

DRAWN BY: TDC
CHK'D BY: MDC
DATE: FEBRUARY 2026

REVISIONS:

JOB NO.
2494

SHEET NO.
P-17

Preliminary
Stormwater Report

For:
Olson Orchards
Windsor Island Road
Keizer, Oregon

Applicant:
Pacific National Development, Inc
2332 Saginaw St S
Salem, Oregon 97302



02-27-2026

PRESENTED BY:

R-C
RHINE-CROSS
GROUP

CIVIL ENGINEERING ■ SURVEYING ■ PLANNING
112 N 5th ST – Suite 200 – P.O. BOX 909
KLAMATH FALLS, OR 97601
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Preliminary Stormwater Report
OLSON ORCHARDS
KEIZER, OREGON

1.0 Project Overview and Description

1.1. Size and Location of Project Site

The project site is ±36.72 acres and is located at 5710 Windsor Island Rd N Keizer, Oregon, Tax Lots 1300 and 1400 of Marion County Assessor's Map 6 3W 34.

1.2. Property Scope and Proposed Improvements

The property is planned to be rezoned to RM (Medium Density Residential) from IA (Agricultural Industrial). The proposed development involves demolishing two existing residential homes, building 110 new single family detached homes, and 8 single family attached townhome lots including landscaped areas, utilities, and infrastructure. A cellular communications tower is located on-site and is planned to remain.

An additional 87 single family detached homes are planned for a future phase within the project area. Stormwater lines and treatment facilities have been sized to accommodate this future development.

1.3. Existing Site Conditions

The site currently contains two existing residential homes, a cellular communications tower, and an agricultural orchard. The site is relatively flat, with on-site grades averaging less than 1 percent.

1.4. Green Stormwater Infrastructure to the Maximum Extent Feasible (GSI/MEF)

This project is classified as a large project because it contains over 5,000 square feet of impervious area. As specified in Section 400.1.D.4.a of *City of Keizer Design Standards* (February 2023), any project is required to use GSI to the Maximum Extent Feasible (GSI/MEF) to meet flow control and water quality treatment standards.

Two private facilities will be used to meet the GSI/MEF criteria for the proposed site by utilizing infiltration. These facilities are collecting and infiltrating all of the new impervious surface area and therefore meets the GSI/MEF requirement by using the Engineered Method outlined in section 400.1.D.4.c of *City of Keizer Design Standards*.

1.5 Emergency Overflow Escape Route

Stormwater facilities are designed to manage and infiltrate runoff for events up to the 100-year design storm. In extreme cases, excess stormwater may pond within these facilities and on-site roadways before exiting through northern and southern overland flow paths. This sheet flow enters the local roadway network, which directs the overflow to the Claggett Creek basin via McNary Estates Drive N (North) and Wildwood Ct N / Lockhaven Dr N (South)

2.0 Methodology

2.1 Depth to Groundwater

A geotechnical investigation by GeoPacific was completed on October 21 and 22, 2025. Groundwater was not encountered within any of the test pit explorations to a depth of 15 feet beneath existing site grades.

2.2 Infiltration

Infiltration testing was performed by GeoPacific on October 21 and 22, 2025 in four locations. Testing was performed at depth between ±7 to ±10.0 feet below existing site grades. The subgrade soil encountered within the test hole consisted of poorly graded sand and silty sand. The infiltration testing resulted in test rates varying between ±1.5 to ±8.0 inches per hour. The two highest infiltration areas were selected for pond locations, and a recommended design infiltration rate of ±2.0 inch per hour and ±4.0 (given a safety factor of 2) was selected.

2.3 Soils and Geologic Features

The pre-developed site contains Chehalis Silty Clay Loam and Cloquato Silt Loam, belonging to Hydrologic Soil Groups B, per the Natural Resources Conservation Service (NRCS) Soil Resource Web Survey (Appendix B).

2.4 Hazardous Materials

A Phase 2 environmental report has been prepared by Maul Foster Along, dated September 18, 2025. It reports that residual levels of contaminants remain in soil associated with historical agricultural activities on the property, but they are below the applicable residential use screening criteria indicating no soil remediation is required.

3.0 Analysis

3.1 Computational Methods and Software Used

The Santa Barbara Urban Hydrograph (SBUH) method was used to analyze stormwater runoff from the site. This method uses the NRCS Type 1A 24-hour design storm. HydroCAD 10.0-22 computer software aided in the analysis.

3.2 Design Assumptions

The project is in an "unserved stormwater area" per the *City of Keizer Design Standards*. The design of the stormwater system was analyzed for runoff generated by the water quality design storm event, and the 100-year 24-hour design storm event.

The following 24-hour rainfall intensities were used for the design storm for the recurrence interval:

Table 3-1: Rainfall Intensities

Recurrence Interval (Years)	Total Precipitation Depth (Inches)
Water Quality	1.38
100 year	4.40

The following table outlines the Hydrologic Soil Group rating for the soil type:

Table 3-2: Hydrologic Soil Group Ratings

NRCS Map Unit Identification	NRCS Soil Classification (Percentage of Site)	Hydrologic Soil Group Rating
Ch	Chehalis Silty Clay Loam (14%)	B
Cm	Cloquato Silt Loam (86%)	B

3.3 Hydrology Calculations

Tables 3-3, and 3-4 below summarize the tributary areas to each facility and the calculated elevations within each facility for post-developed peak flow rates of the water quality and 100-year design storm events. Supporting HydroCAD calculations are provided in Appendix C.

3.4 Conveyance Capacity Calculations

The conveyance system will be sized per *City of Keizer Design Standards* Chapter 400.3.C and will be designed to convey the peak flows for the 10-year 24-hour storm event. Conveyance calculations shall be provided with final construction documents.

3.5 Treatment Sizing

Water quality calculations are provided in Appendix C and summarized in Table 3-4 below, which shows that the 100-year design storm event peak elevation is below the overflow elevation for each facility. Therefore, the facility will fully retain and infiltrate the design storm with no release.

Table 3-3: Impervious Area Conveyed to Facility

Subbasin ID	Source (roof, road, other)	Impervious Area (acre)	Facility Ownership (private/public)	Facility Type	Facility Size (square feet)
N	Public hardscape, Roofs, driveways	14.83	Public	Infiltration Pond	39,408
S	Public hardscape, Roofs, driveways	11.31	Public	Infiltration Pond	18,784

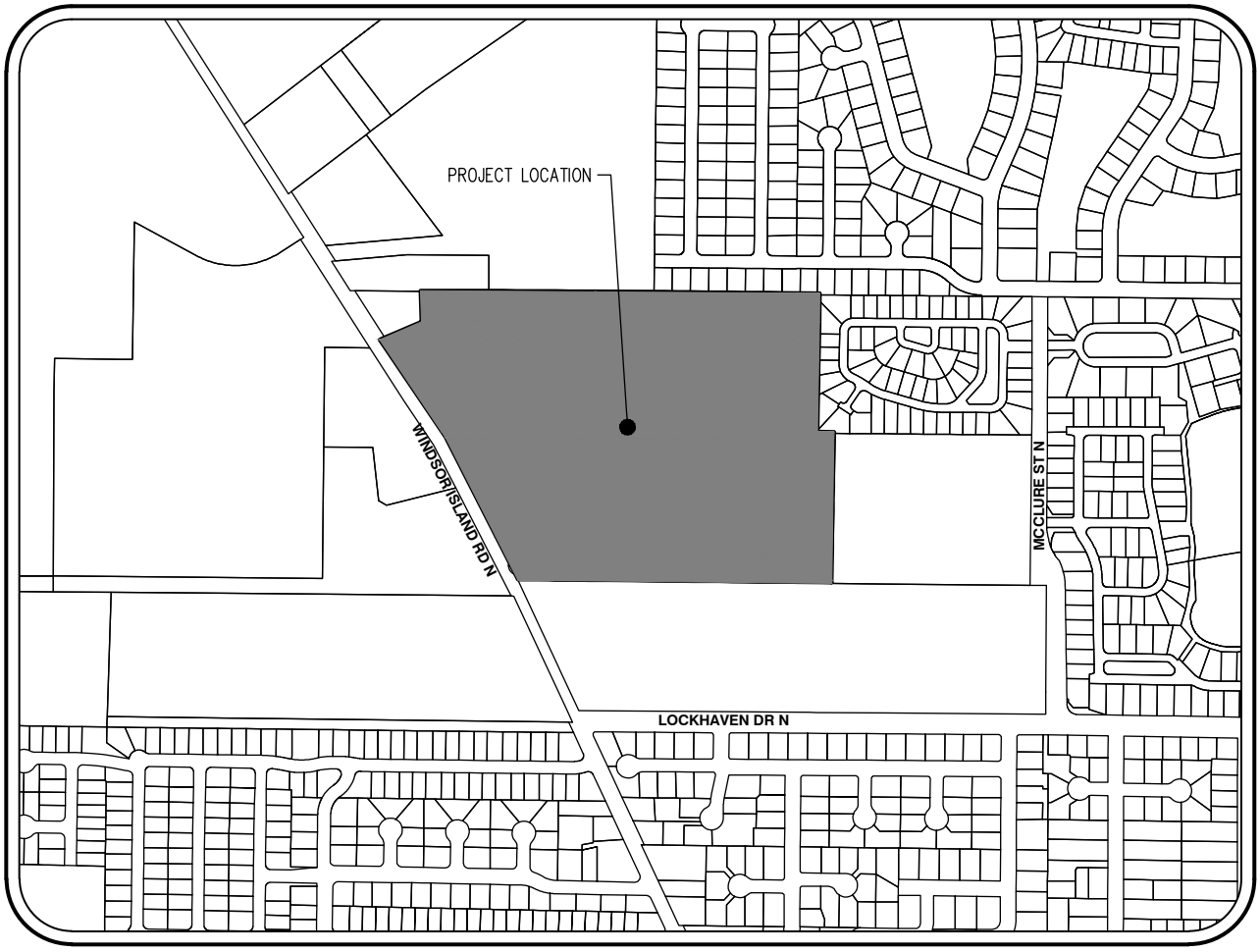
Table 3-4: 100-year Event Summary

Facility ID	Facility Bottom Elevation (feet)	Facility Overflow Elevation (feet)	Facility Peak Elevation (100-Yr Event) (feet)
North Pond (N-S)	121	125.50	124.25
South Pond (S-P)	118	125.50	124.22

3.6 Post-Developed Condition Results

All stormwater from newly created impervious area will be routed through the proposed conveyance network into the proposed stormwater facilities where the stormwater will be retained and infiltrated up to the 100-year storm event. Impervious areas were calculated by summing all hardscape areas within the Right-Of-Way, and an assumed 70% lot area coverage (RS zone coverage maximum including driveways).

Figure 1: Vicinity Map



VICINITY MAP

1" = 500'

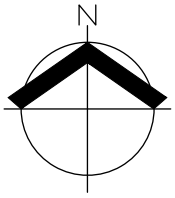
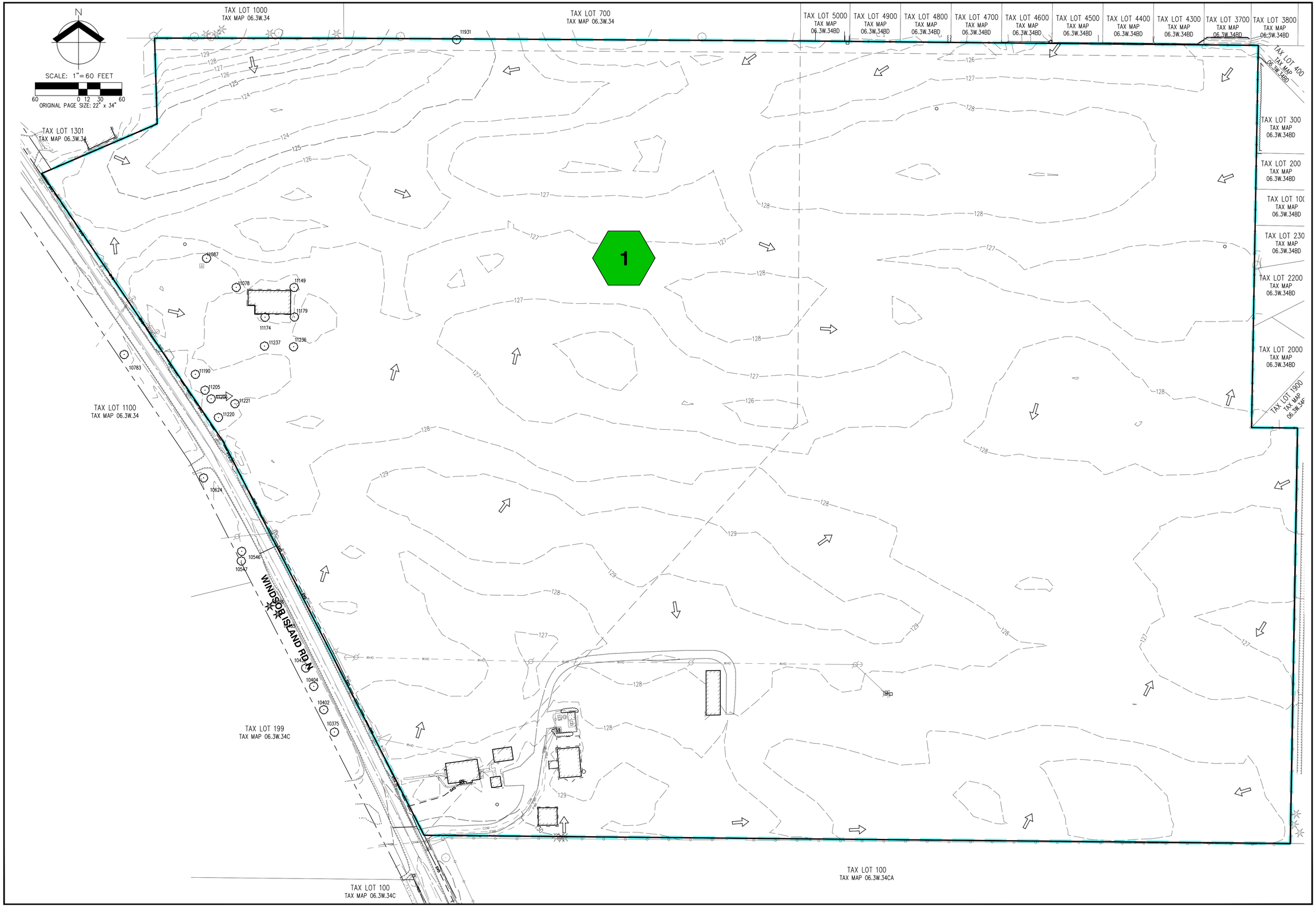


Figure 2: Pre-Developed Basin Map



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Olson Orchards
Preliminary Subdivision
KEIZER OREGON

SHEET NAME:
PRE-DEVELOPED BASIN MAP

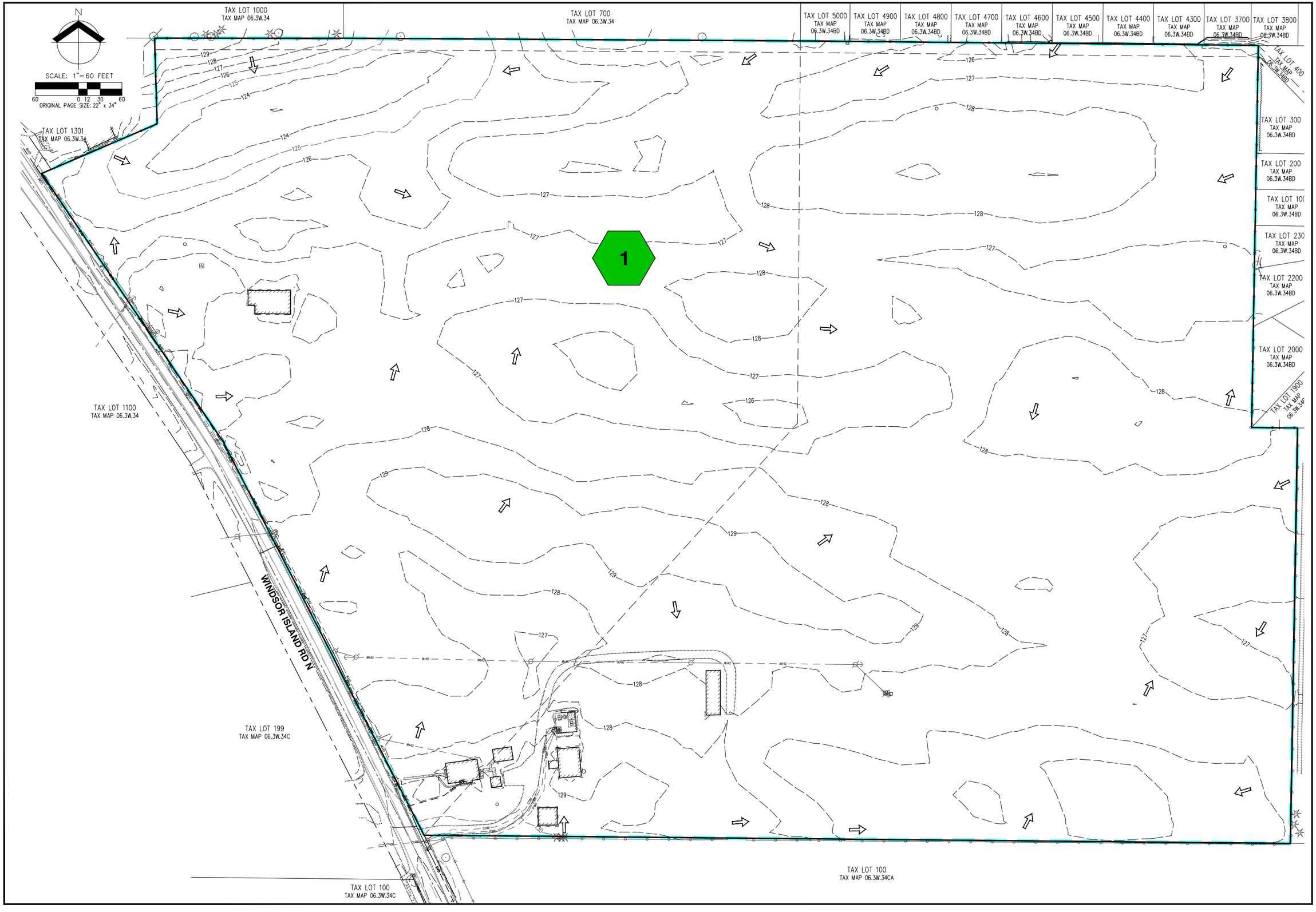
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Figure 3: Post-Developed Basin Map



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Olson Orchards
Preliminary Subdivision
OREGON
KEIZER

SHEET NAME:
PRE-DEVELOPED BASIN MAP

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DATE: FEBRUARY 2026

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SCALE: 1"=60 FEET
60 0 12 30 60
ORIGINAL PAGE SIZE: 22" x 34"

TAX LOT 1000 TAX MAP 06.3W.34
TAX LOT 700 TAX MAP 06.3W.34
TAX LOT 5000 TAX MAP 06.3W.34BD
TAX LOT 4900 TAX MAP 06.3W.34BD
TAX LOT 4800 TAX MAP 06.3W.34BD
TAX LOT 4700 TAX MAP 06.3W.34BD
TAX LOT 4600 TAX MAP 06.3W.34BD
TAX LOT 4500 TAX MAP 06.3W.34BD
TAX LOT 4400 TAX MAP 06.3W.34BD
TAX LOT 4300 TAX MAP 06.3W.34BD
TAX LOT 3700 TAX MAP 06.3W.34BD
TAX LOT 3800 TAX MAP 06.3W.34BD
TAX LOT 400 TAX MAP 06.3W.34BD
TAX LOT 300 TAX MAP 06.3W.34BD
TAX LOT 200 TAX MAP 06.3W.34BD
TAX LOT 100 TAX MAP 06.3W.34BD
TAX LOT 2300 TAX MAP 06.3W.34BD
TAX LOT 2200 TAX MAP 06.3W.34BD
TAX LOT 2000 TAX MAP 06.3W.34BD
TAX LOT 1900 TAX MAP 06.3W.34BD
TAX LOT 1301 TAX MAP 06.3W.34
TAX LOT 1100 TAX MAP 06.3W.34
TAX LOT 199 TAX MAP 06.3W.34C
TAX LOT 100 TAX MAP 06.3W.34C
TAX LOT 100 TAX MAP 06.3W.34CA

TRACT C
STORMWATER FACILITY
N-P
N
S
S-P
TRACT A
TRACT B
STORMWATER FACILITY

KERR LP N
ALLEN AVE N
KERR LP W
DIANE AVE N
PROCLEY CT N
WINDSOR ISLAND RD N

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02-22-2026

Olson Orchards
Preliminary Subdivision
OREGON
KEIZER

SHEET NAME:
POST-DEVELOPED BASIN MAP

DRAWN BY: TDC
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DATE: FEBRUARY 2026

REVISIONS:

JOB NO.
2494

SHEET NO.
B

N

SCALE: 1" = 60 FEET

60 0 12 30 60

ORIGINAL PAGE SIZE: 22" x 34"

TAX LOT 1000
TAX MAP 06.3W.34

TAX LOT 700
TAX MAP 06.3W.34

TAX LOT 5000 TAX MAP 06.3W.34BD
TAX LOT 4900 TAX MAP 06.3W.34BD
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TAX LOT 2000 TAX MAP 06.3W.34BD
TAX LOT 1900 TAX MAP 06.3W.34

TAX LOT 1301
TAX MAP 06.3W.34

TAX LOT 1100
TAX MAP 06.3W.34

TAX LOT 199
TAX MAP 06.3W.34C

TAX LOT 100
TAX MAP 06.3W.34C

TAX LOT 100
TAX MAP 06.3W.34CA

TRACT C
STORMWATER FACILITY

N-P

N

S

S-P

TRACT A

TRACT B
STORMWATER FACILITY

TRACT F
PRIVATE STREET

RAMEY AVE N

SANDRA ST N

ARLENE AVE N + ARLENE ST N

ARLENE ST N

WINDSOR ISLAND RD N

KERR LP N

ALLEN AVE N

PROGLEY CT N

DIANE AVE N

KERR LP N

205

118

119

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02-22-2026

Olson Orchards
Preliminary Subdivision
OREGON
KEIZER

SHEET NAME:
POST-DEVELOPED FUTURE DEVELOPMENT BASIN MAP

DRAWN BY: TDC
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DATE: FEBRUARY 2026

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02/26/2026

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2494

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C

Appendix A: Geotechnical Report

Real-World Geotechnical Solutions
Investigation • Design • Construction Support

Preliminary Geotechnical Engineering Report

Project: Olson Orchards Subdivision
FKA Windsor Island N Subdivision
GeoPacific Project № 25-6877
Revised March 26, 2026

Site: 5710 Windsor Island Road N
Marion County Tax Lots
063W3400 01300 & 01400
Keizer, Oregon

Client: Serge Serdsev
Pacific National Development
P.O. Box 3550
Salem, OR 97302
Email: pndi@comcast.net

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Revised March 26, 2026
Project № 25-6877

Serge Serdsev
National Pacific Development
P.O. Box 3550
Salem, OR 97302
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SUBJECT: PRELIMINARY GEOTECHNICAL ENGINEERING REPORT
OLSON ORCHARDS SUBDIVISION
FKA WINDSOR ISLAND N SUBDIVISION
5710 WINDSOR ISLAND ROAD N
MARION COUNTY TAX LOT 063W3400 01300 & 01400
KEIZER, OREGON

1.0 PROJECT INFORMATION

This report presents the results of a geotechnical engineering study conducted by GeoPacific Engineering, Inc. (GeoPacific) for the above-referenced project. The purpose of our investigation was to evaluate subsurface conditions at the site, assess potential geologic hazards at the property, and to provide geotechnical recommendations for site development. This geotechnical study was performed in accordance with GeoPacific Proposal № P-9234, dated October 7th, 2025, and your subsequent authorization of our proposal and *General Conditions for Geotechnical Services*. This report is considered preliminary pending our review of a finalized grading plan.

2.0 SITE AND PROJECT DESCRIPTION

The subject site is located on the northeast side of Windsor Island Road N, to the north of Lock Haven Drive N, in the City of Keizer, Marion County, Oregon (Figure 1). The property is composed of two Marion County Tax Lots which total approximately 36.61 acres (Figure 2). The southern tax lot, 063W34 1400, contains one existing residence with several barns and outbuildings along with a cell phone tower and is addressed 5170 Windsor Island Road N, Keizer OR. The northern tax lot, 063W34 1300, does not have an existing address or any visible structures onsite. Topography is relatively level to gently sloping to the west at grades of less than 5 percent with elevations in the range of 128 to 133 feet above mean sea level. The property has been used as an agricultural orchard and vegetation consists primarily of hazelnut trees with sparse walnut and apple trees near Windsor Island Road N. Small areas along the exterior and around the existing residence and outbuildings contain grass lawn. The site is bordered by Windsor Island Road N and rural residential properties to the southwest, rural residential properties and an existing golf

course to the northwest, residential subdivisions to the northeast, Keizer Elementary School to the east, and residential subdivisions to the south. The latitude and longitude of the site are 45.007104, -123.044486, and the legal description is the SE ¼ of the NW ¼ of Section 34, T6S, R3W, Willamette Meridian.

From discussion with the development team and our review of the revised preliminary layout, we understand that the southern and eastern portions of the site will be developed to create 118 lots for single family homes, new public streets, water quality facilities, open space, and associated underground utilities. The western portion of the site will remain for future development. A grading plan has not been provided for our review. However, we anticipate that cuts and fills will be on the order of 10 feet or less.

3.0 REGIONAL GEOLOGIC SETTING

Regionally, the subject site lies within the Willamette Valley/Puget Sound lowland, a broad structural depression situated between the Coast Range on the west and the Cascade Range on the east. A series of discontinuous faults subdivide the Willamette Valley into a mosaic of fault-bounded, structural blocks (Yeats et al., 1996). Uplifted structural blocks form bedrock highlands, while down-warped structural blocks form sedimentary basins.

Regional geologic mapping indicates that the site is underlain by Quaternary Age (2.6 million to present) Lower Terrace Deposits and Alluvium associated with the Willamette River and its tributaries. The Lower Terrace Deposits and Alluvium consist of unconsolidated to semi-consolidated clay, silt, sand, and fine to coarse gravel sediments (Baldwin et al., 1955; Price, 1967; Bela, 1981; Brownfield and Schlicker, 1981). The unit is up to 50 feet in thickness with an undulating surface typical of fluvial deposition that displays oxbow lakes, sloughs, meander scars, and abandoned channels (Baldwin et al., 1955; Bela; 1981).

Regional geologic mapping indicates that the Lower Terrace Deposits and Alluvium are underlain by the Columbia River Basalt Group (Baldwin et al, 1955; Brownfield and Schlicker, 1981). The Columbia River Basalt Group is a Miocene age (about 5.3 to 23 million years ago) sequence of lava flows, which cover large areas of Oregon and Washington and portions of western Idaho (Swanson et al., 1979; Hooper, 1982; Wells et al., 1989; Beeson et al., 1991). The Columbia River Basalt Group primarily erupted from vents within the eastern Columbia River Plateau (Swanson et al., 1979; Hooper, 1982; Wells et al., 1989; Beeson et al., 1991). The flows passed through an opening in the Cascade Range into the Willamette Valley and some lava flows extended as far as the Pacific Ocean (Beeson et al., 1979, 1985, 1989a, 1991; Tolan and Beeson, 1984). The basalts are composed of dark gray, dense, finely crystalline rock, and the individual flows are mainly distinguished by chemical composition (Swanson et al., 1979, Schlicker and Finlayson, 1979; Hooper, 1982). The lava flows generally have a lower, fine grained crystalline portion, a middle portion of columnar vertical joints which may be massive and an upper vesicular portion which is often weathered to residual clay (Schicker and Deacon, 1967; Schlicker and Finalyson,1979). Individual basalt flow units typically range from 15 to 150 feet thick, and are sometimes separated by sediments, such as thin baked soil zones, tuff beds or gravel (Schlicker

and Finlayson, 1979). Folding and faulting of the flows after placement has produced broad upland anticlines and valley synclines (Schlicker and Deacon, 1967).

The Columbia River Basalt Group is underlain by Oligocene to Eocene (38 million to 23 million years ago) marine sedimentary rocks consisting of tuffaceous siltstone and sandstone (Baldwin et al., 1955; Bela, 1981; Brownfield and Schlicker, 1981). The unit is divided into an older sandy tuffaceous siltstone up to 1,000 feet thick, with some layers containing pumice fragments, and a younger tuffaceous sandstone, containing glauconite detritus, interbedded with siltstone that is up to 1200 feet in thickness (Baldwin et al., 1955). The tuffaceous material may weather into clay (Baldwin et al., 1955).

4.0 REGIONAL SEISMIC SETTING

At least one major fault zone capable of generating damaging earthquakes is thought to exist in the vicinity of the subject site, the Cascadia Subduction Zone.

4.1 Cascadia Subduction Zone

The Cascadia Subduction Zone is a 680-mile-long zone of active tectonic convergence where oceanic crust of the Juan de Fuca Plate is subducting beneath the North American continent at a rate of 4 cm per year (Goldfinger et al., 1996). A growing body of geologic evidence suggests that prehistoric subduction zone earthquakes have occurred (Atwater, 1992; Carver, 1992; Peterson et al., 1993; Geomatrix Consultants, 1995). This evidence includes: (1) buried tidal marshes recording episodic, sudden subsidence along the coast of northern California, Oregon, and Washington, (2) burial of subsided tidal marshes by tsunami wave deposits, (3) paleoliquefaction features, and (4) geodetic uplift patterns on the Oregon coast. Radiocarbon dates on buried tidal marshes indicate a recurrence interval for major subduction zone earthquakes of 250 to 650 years with the last event occurring 300 years ago (Atwater, 1992; Carver, 1992; Peterson et al., 1993; Geomatrix Consultants, 1995). The inferred seismogenic portion of the plate interface lies approximately along the Oregon Coast at depths of between 20 and 40 kilometers below the surface.

5.0 FIELD EXPLORATION AND SUBSURFACE CONDITIONS

Our subsurface explorations for this report were conducted on October 21st and 22nd, 2025. A total of eighteen exploratory test pits, designated TP-1 through TP-18, were excavated at the site to depths of 10.5 to 15 feet below existing ground surface (bgs) using excavator provided by the client. The locations of the onsite explorations are displayed on Figures 2 and 3.

The explorations were conducted under the full-time observation of a GeoPacific Certified Engineering Geologist. During the explorations, pertinent information, including soil sample depths, stratigraphy, soil engineering characteristics, and groundwater occurrences were recorded. Soils were classified in accordance with the Unified Soil Classification System (USCS). At the completion of each exploration, the test pits were loosely backfilled with onsite soil.

It should be noted that our explorations were located in the field by pacing or taping distances from apparent property corners and other site features shown on the plans provided. As such, the locations of the explorations should be considered approximate.

Summary exploration logs are attached. The stratigraphic contacts shown on the individual test pit logs represent the approximate boundaries between soil types. The actual transitions may be more gradual. The soil and groundwater conditions depicted are only for the specific dates and locations reported, and therefore, are not necessarily representative of other locations and times. Soil and groundwater conditions encountered in the explorations are summarized in the following *Soil Descriptions* section.

5.1 Soil Descriptions

Topsoil Horizon: At the ground surface of all test pit explorations, we observed moderately to highly organic SILT (OL) which was dark brown to black with trace roots and covered by leaf litter. The topsoil layer appeared disturbed by agricultural activity and extended to depths of approximately 6 to 10 inches.

Lower Terrace Deposits and Alluvium of the Willamette River: Beneath the disturbed topsoil horizon in all of our test pits, we observed stiff to very stiff, SILT (ML) to SILT with Sand (ML) which was dark brown, moderately plastic, homogenous, contained trace clay and was generally disturbed to depths of 1 to 2 feet beneath the existing grade. Trace tree roots and small gray tubules, which may be root cast or voids with mineralization from vadose moisture, were observed in the upper 3 to 4 feet of most explorations. The silt to silt with sand generally increased in sand content with depth, grading to Sandy SILT (ML) and Silty SAND (SM). In test pits TP-1, TP-3 through TP-12, and TP-14 through TP-18 the soils transitioned to Poorly Graded SAND (SP) and Poorly Graded SAND with Gravel (SP) at depths ranging from 4 to 11 feet beneath the existing grade. The lower terrace deposits and alluvium sediments extended beyond the 15 feet maximum depth of our explorations. See attached exploration logs for greater detail of individual explorations.

Laboratory testing conducted on representative samples obtained from infiltration testing explorations found moisture contents and percent by weight passing the U.S. No. 200 sieve at the depths indicated in Table 1.

Table 1 – Moisture Content and Percent by Weight Passing the #200 Sieve

Exploration	Depth (ft)	Moisture Content (%)	Passing #200 Sieve (%)
TP-1	7	8.0	9.8
TP-3	8	7.6	19.0
TP-12	9	9.3	25.6
TP-14	10	8.5	9.0

5.2 Shrink-Swell Potential

Silt, silt with sand, sandy silt, silty sand, poorly graded sand, and poorly grade sand with gravel were encountered within the upper 15 feet of our test pit explorations conducted at the site. Based upon the results of our investigation and our local experience with the soil layers in the vicinity of the subject site, the plasticity of the silt soil is moderate, and the shrink-swell potential of that soil type is considered to be low, while the plasticity of the remaining soil types is low and the shrink-swell potential of those soil types is considered to be low.

Special design measures are not considered necessary to minimize the risk of damage to foundations as a result of potential soil expansion at this site. GeoPacific should be contacted for further testing and recommendations if potentially expansive soils are encountered on site.

5.3 Groundwater and Soil Moisture

Soils encountered in our explorations were generally damp to moist. Neither perched groundwater nor static groundwater were encountered at the time of our investigation within our test pit explorations, excavated to maximum depths of 10.5 to 15 feet. Based on our review of available well logs from the *Oregon Water Resources Department, Groundwater Information Mapping tool* (Oregon Water Resources Department, 2026), groundwater has been recorded at the site and in the site vicinity at an approximate depth of 30 feet below the ground surface.

Experience has shown that temporary perched storm-related groundwater conditions often occur within the surface soils over fine-grained native deposits such as those beneath the site, particularly during the wet season. It is anticipated that groundwater conditions will vary depending on the season, local subsurface conditions, changes in site utilization, and other factors. Seeps and springs may exist in areas not explored and may become evident during site grading.

5.4 Infiltration Testing

Soil infiltration testing was performed using the encased falling-head method in test pit explorations TP-1 at a depth of 7 feet, TP-2 at a depth of 8 feet, TP-12 at a depth of 9 feet, and TP-14 at a depth of 10 feet beneath the existing ground surface. The approximate locations of subsurface explorations are presented on Figures 2 and 3. The water level was measured to the nearest 0.01 inch from a fixed point and the change in water level was recorded at regular intervals until three successive measurements showing a consistent infiltration rate were achieved. Table 2 summarizes the results of the infiltration tests. Soils at the test locations were observed and sampled in order to characterize the subsurface profile.

Table 2 - Summary of Infiltration Test Results

Test Location	Depth (feet)	Soil Type	Infiltration Rate (in/hr)
TP-1	7	Poorly Graded SAND (SP)	1.5
TP-3	8	Silty SAND (SM)	4.0
TP-12	9	Silty SAND (SM)	2.0
TP-14	10	Poorly Graded SAND (SP)	8.0

Infiltration rates have been reported without applying a factor of safety. The system designer should apply an appropriate factor of safety for calculations. Adequate separation from the confining layers and groundwater levels should be maintained for stormwater management.

6.0 PRELIMINARY CONCLUSIONS AND RECOMMENDATIONS

Our site investigation indicates that the proposed construction appears to be geotechnically feasible, provided that the recommendations of this report are incorporated into the design and construction phases of the project. Our report is considered preliminary, pending our review of a finalized grading plan and any necessary revisions to our recommendations. The primary geotechnical concerns for the development include:

1) The potential for caving within low plasticity sand layers. Poorly Graded SAND (SP) and Poorly Graded SAND with Gravel (SP) were encountered in test pits TP-1, TP-3 through TP-12, and TP-14 through TP-18 at depths ranging from 4 to 11 feet beneath the existing grade. Caving and collapse of side walls may occur during trench excavation and/or other cut grading, especially during wet weather and winter months with greater possibility of encountering seepage. Adequate shoring should be maintained during trench excavation and is the responsibility of the contractor.

2) The presence of a topsoil layer, disturbed soil in the upper portion of the native soil, and tree root systems. Our explorations for this investigation were performed prior to the removal of the existing orchard and were located within areas between mature trees. A topsoil layer ranging from 6 to 10 inches was observed in all of our test pit explorations. The topsoil layer thickness may vary outside of the vicinity of our explorations.

   Native silt soils encountered beneath the disturbed topsoil layer were generally disturbed to depths of 1 to 2 feet below existing grade. This is assumed to be caused by agricultural activity. After removal of the topsoil layer, underlying disturbed soils should be inspected by the geotechnical engineer. Disturbed soil that is suitable for re-use as engineered fill and does not exceed 1 foot in thickness will need to be ripped, moisture conditioned and compacted prior to fill placement or further grading. Disturbed soil that is suitable for re-use as engineered fill and exceeds 1 foot in thickness will need to be removed and stockpiled to allow the lower portion to be ripped, moisture conditioned and compacted. Disturbed soil that is unsuitable for re-use as engineered fill should be removed from structural areas and areas of fill placement.

Trace roots to depths of 4 feet were observed within our explorations. However, root systems at the base of the trees are anticipated to be more numerous and extend to greater depths. The existing trees within the orchard are arranged in rows and deeper excavation along tree lines may be necessary to remove roots and organic soil sufficiently. Areas of tree removal should be inspected by the geotechnical engineer prior to further site grading.

3) The possibility of undocumented fill. While we did not encounter undocumented fill in our explorations, to depths of 10.5 to 15 feet, the property contains an existing residence and multiple agricultural outbuildings and has been used for agricultural purposes for an extended period of time. It is anticipated that undocumented fill and/or disturbed soils are likely to be encountered in some portions of the site and should be evaluated by the geotechnical engineer if/where encountered.

The following report sections provide recommendations for site development and construction in accordance with the current applicable codes and local standards of practice.

6.1 Site Preparation Recommendations

Areas of proposed buildings, pavements, and areas to receive fill should be cleared of vegetation and any organic and inorganic debris. Inorganic debris should be removed from the site. Organic materials from clearing should either be removed from the site or placed as landscape fill in areas not planned for structures. The final depth of soil removal will be determined on the basis of a site inspection after the stripping/excavation has been performed.

Organic-rich topsoil should then be stripped from construction areas of the site or where engineered fill is to be placed. The estimated average necessary depth of removal of organic soils is 8 inches. Deeper stripping to remove large tree root systems or other organics may be necessary in localized areas. Trace roots to depths of 4 feet were observed within our exploration and root systems at the base of the trees are anticipated to be more numerous and extend to greater depths. The final depth of soil removal will be determined on the basis of a site inspection after the stripping/excavation has been performed. Stripped topsoil should be stockpiled only in designated areas and stripping operations should be observed and documented by the geotechnical engineer or their representative.

In the influence zones of the proposed structures, areas to receive fill, roadways and other settlement-sensitive structures, soft/loose fills, buried topsoil, and subsurface structures (tile drains, basements, driveway and landscaping fill, old utility lines, cisterns, septic leach fields, etc.) should be removed and the excavations backfilled with engineered fill. We recommend that topsoil and undocumented fill be removed from areas of proposed roadways and structures, and areas to receive engineered fill.

Exposed subgrade soils should be evaluated by the geotechnical engineer. For large areas, this evaluation is normally performed by proof-rolling the exposed subgrade with a fully loaded scraper or dump truck. For smaller areas where access is restricted, the subgrade should be evaluated

by probing the soil with a steel probe. Soft/loose soils identified during subgrade preparation should be compacted to a firm and unyielding condition, over-excavated and replaced with engineered fill (as described below) or stabilized with rock prior to placement of engineered fill. The depth of over-excavation, if required, should be evaluated by the geotechnical engineer at the time of construction.

After removal of the topsoil layer, underlying disturbed soils should be inspected by the geotechnical engineer. Disturbed soil that is suitable for re-use as engineered fill and does not exceed 1 foot in thickness will need to be ripped, moisture conditioned and compacted prior to fill placement or further grading. Disturbed soil that is suitable for re-use as engineered fill and exceeds 1 foot in thickness will need to be removed and stockpiled to allow the lower portion to be ripped, moisture conditioned and compacted. Disturbed soil that is unsuitable for re-use as engineered fill should be removed from structural areas and areas of fill placement.

6.2 Engineered Fill

All grading for the proposed construction should be performed as engineered grading in accordance with the applicable building code at the time of construction with the exceptions and additions noted herein. Areas proposed for fill placement should be prepared as described in the *Site Preparation Recommendations* section. Surface soils should then be scarified and recompacted prior to placement of structural fill. Proper test frequency and earthwork documentation usually requires daily observation and testing during stripping, rough grading, and placement of engineered fill. Imported fill material must be approved by the geotechnical engineer prior to being imported to the site. Oversize material greater than 6 inches in size should not be used within 3 feet of foundation footings, and material greater than 12 inches in diameter should not be used in engineered fill.

We anticipate that native soils can be used as engineered fill, provided they are adequately moisture conditioned. Engineered fill should be compacted in horizontal lifts not exceeding 8 inches using standard compaction equipment. We recommend that engineered fill be compacted to at least 95 percent of the maximum dry density determined by ASTM D698 (Standard Proctor) or equivalent. Soils should be moisture conditioned to within two percent of optimum moisture. Field density testing should conform to ASTM D2922 and D3017, or D1556. All engineered fill should be observed and tested by the project geotechnical engineer or his representative. Typically, one density test is performed for at least every 2 vertical feet of fill placed or every 500 yd^3, whichever requires more testing. Because testing is performed on an on-call basis, we recommend that the earthwork contractor be held contractually responsible for test scheduling and frequency.

Site earthwork may be impacted by shallow groundwater, soil moisture and wet weather conditions. Earthwork in wet weather would likely require extensive use of additional crushed aggregate, cement or lime treatment, or other special measures, at considerable additional cost compared to earthwork performed under dry-weather conditions.

6.3 Excavating Conditions and Utility Trench Backfill

We anticipate that onsite soils can generally be excavated using conventional heavy equipment. Potential caving may be encountered during wet weather. Maintenance of safe working conditions, including temporary excavation stability, is the responsibility of the contractor. Actual slope inclinations at the time of construction should be determined based on safety requirements and actual soil and groundwater conditions. All temporary cuts in excess of 4 feet in height should be sloped in accordance with U.S. Occupational Safety and Health Administration (OSHA) regulations (29 CFR Part 1926) or be shored. The existing native sand soils, to a depth of approximately 15 feet bgs, classify as Type C Soil and temporary excavation side slope inclinations as steep as 1.5H:1V may be assumed for planning purposes. This cut slope inclination is applicable to excavations above the water table only.

Shallow, perched groundwater may be encountered at the site and should be anticipated in excavations and utility trenches. Based on our review of available well logs from the *Oregon Water Resources Department, Groundwater Information Mapping tool* (Oregon Water Resources Department, 2026), groundwater has been recorded in the site vicinity at an approximate depth of 30 feet below the ground surface. Vibrations created by traffic and construction equipment may cause some caving and raveling of excavation walls. In such an event, lateral support for the excavation walls should be provided by the contractor to prevent loss of ground support and possible distress to existing or previously constructed structural improvements.

Underground utility pipes should be installed in accordance with the procedures specified in ASTM D2321 and applicable city and county standards. We recommend that structural trench backfill be compacted to at least 95 percent of the maximum dry density obtained by the Standard Proctor (ASTM D698, AASHTO T-99) or equivalent. Initial backfill lift thicknesses for a ¾-0 inch crushed aggregate base may need to be as great as 4 feet to reduce the risk of flattening underlying flexible pipe. Subsequent lift thickness should not exceed 1 foot. If imported granular fill material is used, then the lifts for large vibrating plate-compaction equipment (e.g. hoe compactor attachments) may be up to 2 feet, provided that proper compaction is being achieved and each lift is tested. Use of large vibrating compaction equipment should be carefully monitored near existing structures and improvements due to the potential for vibration-induced damage.

Adequate density testing should be performed during construction to verify that the recommended relative compaction is achieved. Typically, at least one density test is taken for every 4 vertical feet of backfill on each 100-lineal-foot section of trench.

6.4 Erosion Control Considerations

During our field exploration program, we did not observe soil and topographic conditions which are considered highly susceptible to erosion. In our opinion, the primary concern regarding erosion potential will occur during construction in areas that have been stripped of vegetation. Erosion at the site during construction can be minimized by implementing the project erosion control plan, which should include judicious use of straw wattles, fiber rolls, and silt fences. If

used, these erosion control devices should remain in place throughout site preparation and construction.

Erosion and sedimentation of exposed soils can also be minimized by quickly re-vegetating exposed areas of soil, and by staging construction such that large areas of the project site are not denuded and exposed at the same time. Areas of exposed soil requiring immediate and/or temporary protection against exposure should be covered with either mulch or erosion control netting/blankets. Areas of exposed soil requiring permanent stabilization should be seeded with an approved grass seed mixture, or hydroseeded with an approved seed-mulch-fertilizer mixture.

6.5 Wet Weather Earthwork

Soils underlying the site are likely to be moisture sensitive and will be difficult to handle or traverse with construction equipment during periods of wet weather. Earthwork is typically most economical when performed under dry weather conditions. Earthwork performed during the wet-weather season will require expensive measures such as cement treatment or imported granular material to compact areas where fill may be proposed to the recommended engineering specifications. If earthwork is to be performed or fill is to be placed in wet weather or under wet conditions when soil moisture content is difficult to control, the following recommendations should be incorporated into the contract specifications.

- Earthwork should be performed in small areas to minimize exposure to wet weather. Excavation or the removal of unsuitable soils should be followed promptly by the placement and compaction of clean engineered fill. The size and type of construction equipment used may have to be limited to prevent soil disturbance. Under some circumstances, it may be necessary to excavate soils with a backhoe to minimize subgrade disturbance caused by equipment traffic;
- The ground surface within the construction area should be graded to promote run-off of surface water and to prevent the ponding of water;
- Material used as engineered fill should consist of clean, granular soil containing less than 5 percent passing the No. 200 sieve. The fines should be non-plastic. Alternatively, cement treatment of on-site soils may be performed to facilitate wet weather placement;
- The ground surface within the construction area should be sealed by a smooth drum vibratory roller, or equivalent, and under no circumstances should be left uncompacted and exposed to moisture. Soils which become too wet for compaction should be removed and replaced with clean granular materials;
- Excavation and placement of fill should be observed by the geotechnical engineer to verify that all unsuitable materials are removed and suitable compaction and site drainage is achieved; and
- Geotextile silt fences, straw wattles, and fiber rolls should be strategically located to control erosion.

If cement or lime treatment is used to facilitate wet weather construction, GeoPacific should be contacted to provide additional recommendations and field monitoring.

6.6 Structural Foundations

The proposed residential homes will likely be constructed on typical spread foundations with square column footings, continuous strip footings, and crawl spaces. We anticipate wood-framed construction above the foundations with maximum structural loading on column footings and continuous strip footings on the order of 10 to 35 kips, and 2 to 7 kips/foot respectively.

Residential structures may be supported on shallow foundations bearing on competent undisturbed, low expansive native soils and/or engineered fill, appropriately designed and constructed as recommended in this report. For structural areas, after removal of the disturbed topsoil layer, underlying disturbed soils should be inspected by the geotechnical engineer. Disturbed soil that is suitable for re-use as engineered fill and does not exceed 1 foot in thickness will need to be ripped, moisture conditioned and compacted prior to fill placement or further grading. Disturbed soil that is suitable for re-use as engineered fill and exceeds 1 foot in thickness will need to be removed and stockpiled to allow the lower portion to be ripped, moisture conditioned and compacted. We recommend that disturbed topsoil and undocumented fill be removed from areas of proposed roadways and structures, and areas to receive engineered fill.

Foundation design, construction, and setback requirements should conform to the applicable building code at the time of construction. For maximization of bearing strength and protection against frost heave, spread footings should be embedded at a minimum depth of 12 inches below exterior grade except where footing-to-slope setbacks require deeper embedment.

The anticipated allowable soil bearing pressure is 1,500 lbs/ft^2 for footings bearing on competent, low expansivity, native soil and/or engineered fill. A maximum chimney and column load of 40 kips is recommended for the site. The recommended maximum allowable bearing pressure may be increased by 1/3 for short-term transient conditions such as wind and seismic loading. For heavier loads, the geotechnical engineer should be consulted. The coefficient of friction between on-site soil and poured-in-place concrete may be taken as 0.42, which includes no factor of safety. Excavations near structural footings should not extend within a 1H:1V plane projected downward from the bottom edge of footings.

Footing excavations should penetrate through topsoil, undocumented fill, and any loose soil to competent subgrade that is suitable for bearing support. All footing excavations should be trimmed neat, and all loose or softened soil should be removed from the excavation bottom prior to placing reinforcing steel bars. Due to the moisture sensitivity of on-site native soils, foundations constructed during the wet weather season may require over-excavation of footings and backfill with compacted, crushed aggregate.

Our recommendations are for house construction incorporating raised wood floors and conventional spread footing foundations. If living space of the structures incorporate basements, a geotechnical engineer should be consulted to make additional recommendations for retaining

walls, water-proofing, underslab drainage and wall subdrains. After site development, a Final Soil Engineer's Report should either confirm or modify the above recommendations.

6.7 Concrete Slabs-on-Grade

Preparation of areas beneath concrete slab-on-grade floors should be performed as described in the Site *Preparation Recommendations* and *Spread Foundations* sections of this report. Care should be taken during excavation for foundations and floor slabs, to avoid disturbing subgrade soils. If subgrade soils have been adversely impacted by wet weather or otherwise disturbed, the surficial soils should be scarified to a minimum depth of 8 inches, moisture conditioned to within about 3 percent of optimum moisture content and compacted to engineered fill specifications. Alternatively, disturbed soils may be removed, and the removal zone backfilled with additional crushed rock.

For evaluation of the concrete slab-on-grade floors using the beam on elastic foundation method, a modulus of subgrade reaction of 150 kcf (87 pci) should be assumed for the stiff, fine -grained soils anticipated to be present at foundation subgrade elevation following adequate site preparation as described above. This value assumes the concrete slab system is designed and constructed as recommended herein, with a minimum thickness of 8 inches of 1½-0 inch crushed aggregate beneath the slab. The total thickness of crushed aggregate will be dependent on the subgrade conditions at the time of construction and should be verified visually by proof-rolling. Under-slab aggregate should be compacted to at least 95 percent of its maximum dry density as determined by ASTM D698 (Standard Proctor) or equivalent.

In areas where moisture will be detrimental to floor coverings or equipment inside the proposed structure, appropriate vapor barrier and damp-proofing measures should be implemented. Appropriate design professionals should be consulted regarding vapor barrier and damp proofing systems, ventilation, building material selection and mold prevention issues, which are outside GeoPacific's area of expertise.

In the influence zones of proposed concrete slabs, undocumented fills, buried topsoil, and subsurface structures (tile drains, basements, driveway and landscaping fill, old utility lines, cisterns, septic leach fields, etc.) should be removed and the excavations backfilled with engineered fill. . We recommend that disturbed topsoil and undocumented fill be removed from areas of proposed roadways and structures, and areas to receive engineered fill.

6.8 Permanent Below-Grade Foundation Walls

Lateral earth pressures against below-grade foundation retaining walls will depend upon the inclination of any adjacent slopes, type of backfill, degree of wall restraint, method of backfill placement, degree of backfill compaction, drainage provisions, and magnitude and location of any adjacent surcharge loads. At-rest soil pressure is exerted on a retaining wall when it is restrained against rotation. In contrast, active soil pressure will be exerted on a wall if its top is allowed to rotate or yield a distance of roughly 0.001 times its height or greater.

If the subject retaining walls will be free to rotate at the top, they should be designed for an active earth pressure equivalent to that generated by a fluid weighing 35 pcf for level backfill against the wall. For restrained wall, an at-rest equivalent fluid pressure of 55 pcf should be used in design, again assuming level backfill against the wall. These values assume that the recommended drainage provisions are incorporated, hydrostatic pressures are not allowed to develop against the wall, and walls are backfilled with engineered fill. Additional fluid pressures for different sloping conditions are presented on Table 3.

Table 3 - Retaining Wall Pressures

Backslope	Active Pressure (psf)	At Rest (psf)
Level	35	55
3H:1V	45	65
2H:1V	55	75

During a seismic event, lateral earth pressures acting on below-grade structural walls will increase by an incremental amount that corresponds to the earthquake loading. Based on the Mononobe-Okabe equation and peak horizontal accelerations appropriate for the site location, seismic loading should be modeled using the active or at-rest earth pressures recommended above, plus an incremental rectangular-shaped seismic load of magnitude 6.5H, where H is the total height of the wall. Additional seismic loading for different sloping conditions is presented in Table 4.

Table 4 - Seismic Load for Retaining Walls

Backslope	Mononobe Okabe
Level	6.5H
3H:1V	7.5H
2H:1V	9H

We assume relatively level ground surface below the base of the walls. As such, we recommend a passive earth pressure of 320 pcf for use in design, assuming wall footings are cast against competent native soils or engineered fill. If the ground surface slopes down and away from the base of any of the walls, a lower passive earth pressure should be used and GeoPacific should be contacted for additional recommendations.

A coefficient of friction of 0.42 may be assumed along the interface between the base of the wall footing and subgrade soils. The recommended coefficient of friction and passive earth pressure values do not include a safety factor, and an appropriate safety factor should be included in design. The upper 12 inches of soil should be neglected in passive pressure computations unless it is protected by pavement or slabs on grade.

The above recommendations for lateral earth pressures assume that the backfill behind the subsurface walls will consist of properly compacted structural fill, and no adjacent surcharge loading. If the walls will be subjected to the influence of surcharge loading within a horizontal distance equal to or less than the height of the wall, the walls should be designed for the additional

horizontal pressure. For uniform surcharge pressures, a uniformly distributed lateral pressure of 0.3 times the surcharge pressure should be added. Traffic surcharges may be estimated using an additional vertical load of 250 psf (2 feet of additional fill), in accordance with local practice.

The recommended equivalent fluid densities assume a free-draining condition behind the walls so that hydrostatic pressures do not build-up. This can be accomplished by placing a 12 to 18-inch wide zone of sand and gravel containing less than 5 percent passing the No. 200 sieve against the walls. A 3-inch minimum diameter perforated, plastic drain-pipe should be installed at the base of the walls and connected to a suitable discharge point to remove water in this zone of sand and gravel. The drain-pipe should be wrapped in filter fabric (Mirafi 140N or other as approved by the geotechnical engineer) to minimize clogging.

Wall drains are recommended to prevent detrimental effects of surface water runoff on foundations – not to dewater groundwater. Drains should not be expected to eliminate all potential sources of water entering a basement or crawlspace. An adequate grade to a low point outlet drain in the crawlspace is required by code. Underslab drains are sometimes added beneath the slab when placed over soils of low permeability and shallow, perched groundwater.

Water collected from the wall drains should be directed into the local storm drain system or other suitable outlet. A minimum 0.5 percent fall should be maintained throughout the drain and non-perforated pipe outlet. Down spouts and roof drains should not be connected to the wall drains in order to reduce the potential for clogging. The drains should include clean-outs to allow periodic maintenance and inspection. Grades around the proposed structure should be sloped such that surface water drains away from the building.

GeoPacific should be contacted during construction to verify subgrade strength in wall keyway excavations, to verify that backslope soils are in accordance with our assumptions, and to take density tests on the wall backfill materials.

Structures should be located a horizontal distance of at least 1.5H away from the back of the retaining wall, where H is the total height of the wall. GeoPacific should be contacted for additional foundation recommendations where structures are located closer than 1.5H to the top of retaining walls that are not a part of the house foundation. We understand that the structural engineer has determined that house foundation walls can be closer to the pond retaining walls which they have designed.

6.9 Footing and Roof Drains

For preliminary planning purposes, the outside edge of perimeter footings may be provided with a drainage system consisting of 3-inch diameter, slotted, flexible plastic pipe embedded in a minimum of 1 ft^3 per lineal foot of clean, free-draining gravel or 1 ½ inch - ¾ inch drain rock. The drain pipe and surrounding drain rock should be wrapped in non-woven geotextile (Mirafi 140N, or approved equivalent) to minimize the potential for clogging and/or ground loss due to piping. Water collected from the footing drains should be directed into the local storm drain system or other suitable outlet. A minimum 0.5 percent fall should be maintained throughout the drain and

non-perforated pipe outlet. Down spouts and roof drains should not be connected to the foundation drains in order to reduce the potential for clogging. The footing drains should include clean-outs to allow periodic maintenance and inspection. Grades around the proposed structure should be sloped such that surface water drains away from the building.

Footing drains are recommended to prevent detrimental effects of surface water runoff on foundations – not to dewater groundwater. Footing drains should not be expected to eliminate all potential sources of water entering a basement or beneath a slab-on-grade. An adequate grade to a low point outlet drain in the crawlspace, if utilized, is required by code.

6.10 Seismic Design

The Oregon Department of Geology and Mineral Industries (DOGAMI), Oregon HazVu: 2026 Statewide GeoHazards Viewer indicates that the site is in an area where *violent* ground shaking is anticipated during an earthquake. Structures should be designed to resist earthquake loading in accordance with the methodology described in the 2021 International Building Code (IBC) with applicable Oregon Structural Specialty Code (OSSC) revisions (current 2024).

If the fundamental periods of vibration of the proposed structures are equal to or less than 0.5 seconds, the site class is determined to be Site Class D_0 as defined in 2021 International Residential Code (IRC) Table R301.2.2.1.1. The fundamental period of the proposed structures is to be confirmed by a structural engineer. Design values determined for the site using the ASCE Hazards Tool website are summarized in Table 5.

Table 5 - Recommended Earthquake Ground Motion Parameters (ASCE-7-16)

Parameter	Value
Location (Lat, Long), degrees	45.0070, -123.0443
Horizontal Design Response, 2% Probability of Exceedance in 50 years	
Site Modified Peak Ground Acceleration PGA_M	0.472 g
Short Period, S_s	0.838 g
1.0 Sec Period, S_1	0.418 g
Soil Factors for Site Class D:	
F_a	1.165
* F_v	*1.882
$SD_s = 2/3 \times F_a \times S_s$	0.651 g
$*SD_1 = 2/3 \times F_v \times S_1$	*0.524 g
Seismic Design Category	D (D_0 per 2021 IRC)

* The F_v value reported in the above table is a straight-line interpolation of mapped spectral response acceleration at 1-second period, S_1 per Table 1613.2.3(2) of OSSC 2019 with the assumption that Exception 2 of ASCE 7-16 Chapter 11.4.8 is met per the Structural Engineer. If Exception 2 is not met, and the long-period site coefficient (F_v) is required for design, GeoPacific Engineering can be consulted to provide a site-specific procedure as per ASCE 7-16, Chapter 21.

6.11 Soil Liquefaction

Soil liquefaction is a phenomenon wherein saturated soil deposits temporarily lose strength and behave as a liquid in response to ground shaking caused by strong earthquakes. Soil liquefaction is generally limited to loose sands and granular soils located below the water table, and fine-grained soils with a plasticity index less than 15. According to the Oregon Department of Geology and Mineral Industries (DOGAMI), Oregon HazVu: 2026 Statewide GeoHazards Viewer the site is mapped in an area of *high* susceptibility to liquefaction during an earthquake.

The subsurface profile observed within our subsurface explorations, which extended to a maximum depth of 15 feet bgs, indicated that the site is underlain by silt, silty sand, and poorly graded sand sedimentary soil. Neither perched nor static groundwater was not encountered at the time of our investigation within our test pit explorations which extended to a maximum depth of 15 feet below existing ground surface. Based on our review of available well logs from the *Oregon Water Resources Department, Groundwater Information Mapping tool* (Oregon Water Resources Department, 2026), groundwater has been recorded at the property and in the site vicinity at an approximate depth of 30 feet below the ground surface.

For construction of single-family structures, special design or construction measures are not required by code to mitigate the effects of liquefaction. However, GeoPacific may be consulted to perform further study of seismic hazards on the site if desired. If multi-family residential, high occupancy, or critical structures were to be incorporated into plans for site development, further study and evaluation of seismic hazards would be required by code to more fully evaluate the potential adverse effects due to liquefaction. We anticipate that our additional explorations on the site for the purpose of evaluating seismic hazards would include at least two cone penetrometer tests.

7.0 CLOSING AND LIMITATIONS

We have prepared this report for the owner and their consultants for use in design of this project only. This report should be provided in its entirety to prospective contractors for bidding and estimating purposes; however, the conclusions and interpretations presented in this report should not be construed as a warranty of the subsurface conditions. Experience has shown that soil and groundwater conditions can vary significantly over small distances. Inconsistent conditions can occur between explorations that may not be detected by a geotechnical study. If, during future site operations, subsurface conditions are encountered which vary appreciably from those described herein, GeoPacific should be notified for review of the recommendations of this report, and revision of such if necessary.

Sufficient geotechnical monitoring, testing and consultation should be provided during construction to confirm that the conditions encountered are consistent with those indicated by explorations. The checklist attached to this report outlines recommended geotechnical observations and testing for the project. Recommendations for design changes will be provided should conditions revealed during construction differ from those anticipated, and to verify that the geotechnical aspects of construction comply with the contract plans and specifications.

This report should not be relied upon by third parties unless a reliance letter has been issued by GeoPacific specifically to that third party, otherwise the third party should rely upon their own due diligence and geotechnical studies only. Foundations, wood floors and slab-on-grade performance should be evaluated in accordance with ASCE Guidelines for the Evaluation and Repair of Residential Foundations (ASCE Texas Chapter, 2009) when exceeding L/100 for overall tilting and L/360 for overall deflection across the length of the home, unless superseded by the builder's warranty guidelines. Localized deflections may exceed these tolerances due to other factors such as built-in uneveness.

Within the limitations of scope, schedule and budget, GeoPacific attempted to execute these services in accordance with generally accepted professional principles and practices in the fields of geotechnical engineering and engineering geology at the time the report was prepared. No warranty, expressed or implied, is made. The scope of our work did not include environmental assessments or evaluations regarding the presence or absence of wetlands or hazardous or toxic substances in the soil, surface water, or groundwater at this site.

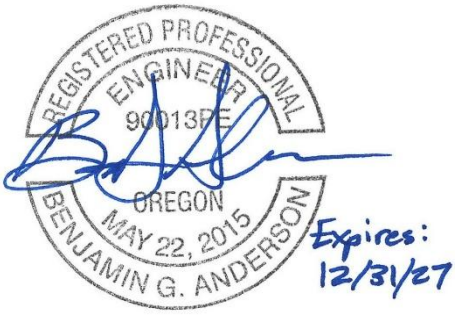
We appreciate this opportunity to be of service.

Sincerely,
GEOPACIFIC ENGINEERING, INC.



Expires: January 1st, 2027

Michael T. Baker, C.E.G.
Staff Engineering Geologist



Benjamin G. Anderson, P.E., G.E.
Associate Geotechnical Engineer

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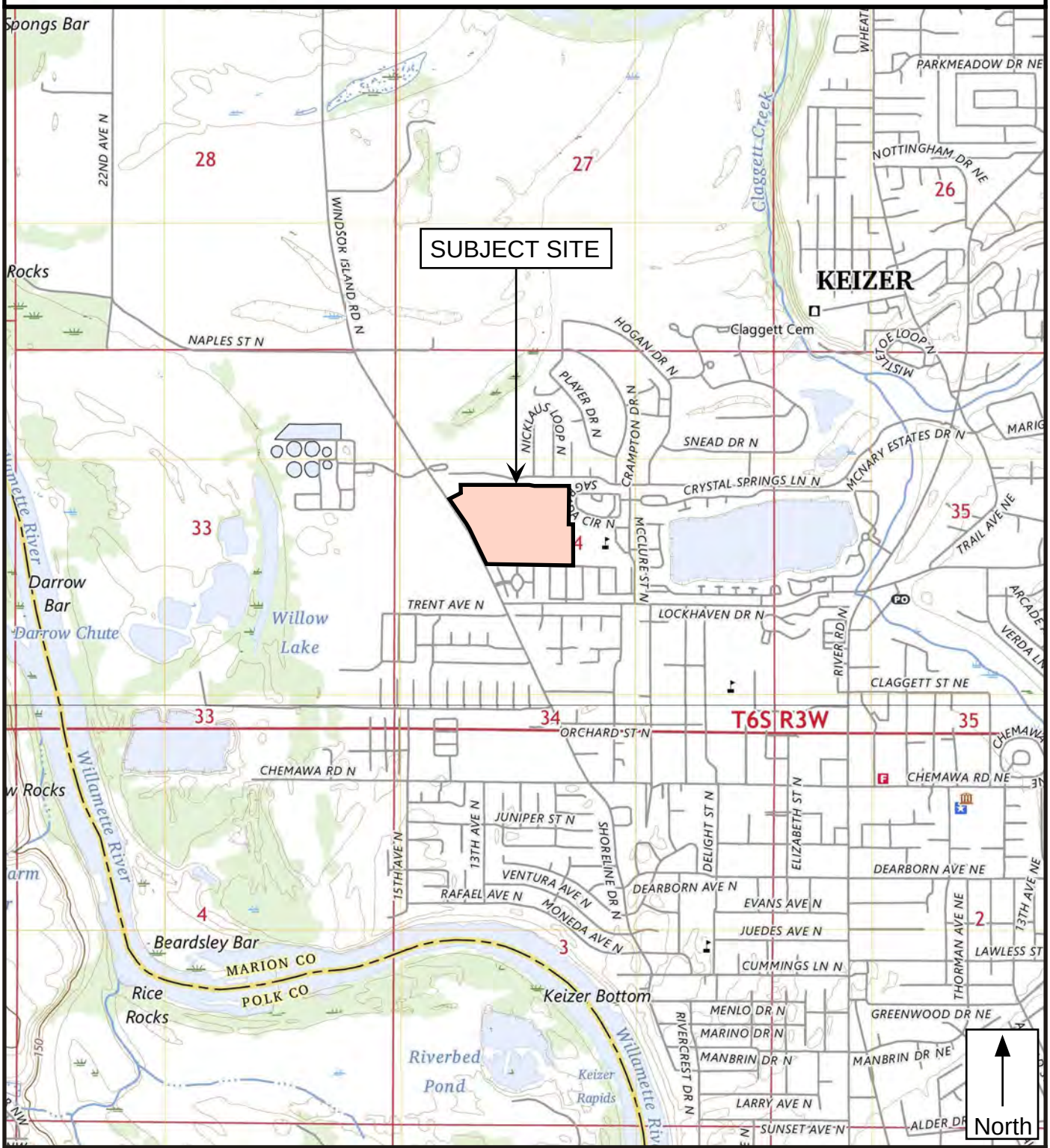
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FIGURES

GEOPACIFIC
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Phone: 503-598-8445

VICINITY MAP



Legend

Approximate Scale 1 in = 2,000 ft

Drawn by: MTB
Date: 3.26.2026

Base Maps: U.S. Geological Survey 7.5 minute Topographic Map Series, Mission Bottom & Salem West, Oregon Quadrangle, 2024

Project:	Project No. 25-6877	FIGURE 1
Olson Orchards Subdivision Keizer, Oregon		



Legend

Date 3.26.2026

Note: Location of all geotechnical information is approximate.

TP-1
Test Pit Designation, and Approximate Location

Site Boundary

SCALE
0 150' 300'
1 IN = 150 FT

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SITE AERIAL AND EXPLORATION LOCATIONS

Project: Olson Orchards Subdivision, Keizer, Oregon	Project No. 25-6877	Drawn By: MTB	FIGURE 2



LOT TYPE AND QUANTITY			
COLOR:	PRODUCT TYPE:	UNITS:	PERCENTAGE OF TOTAL UNITS:
	DETACHED 40' PRODUCT (50'≥ WIDE LOT)	88	74.6%
	DETACHED 35' PRODUCT (45'≥ WIDE LOT)	22	18.6%
	TOWNHOME PRODUCT (20'≥ WIDE LOT)	8	6.8%
TOTAL:		118	

Base image provided by Rhine-Cross Group, Dated February 2026

Legend

Date 3.26.2026

Note: Location of all geotechnical information is approximate.

TP-1

Test Pit Designation and Approximate Location

SCALE

0 150' 300'

1 IN = 150 FT

North

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Portland, Oregon 97224
Tel: (503) 598-8445

SITE PLAN AND EXPLORATION LOCATIONS

Project: Olson Orchards Subdivision
Keizer, Oregon

Project No. 25-6877

Drawn By: MTB

FIGURE 3

EXPLORATION LOGS

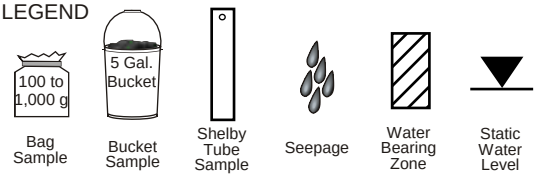
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Tel: (503) 598-8445

TEST PIT LOG

Project: Olson Orchards Subdivision Keizer, Oregon	Project No. 25-6877	Test Pit No. **TP-1**

Depth (ft)	Pocket Penetrometer (tons/ft²)	Sample Type	Moisture Content (%)	Water Bearing Zone	Material Description
					Moderately to Highly Organic SILT (OL), dark brown to black, moist (Disturbed Topsoil)
1	4.5				SILT(ML), trace clay, trace sand, brown, moderately plastic, slightly disturbed to 2 feet depth, tubules and root cast with gray mineralization, trace roots to 4 feet depth, homogenous, micaceous, damp, stiff to very stiff (Lower Terrace Deposits and Alluvium of the Willamette River)
2	4.5				
3	4.5				Grades to moist
4	4.5				
5					
6					
7		100 to 1,000 g	8.0		Poorly Graded SAND (SP), trace silt, brown, fine-grained, low plasticity to non-plastic, medium dense, damp (Lower Terrace Deposits and Alluvium of the Willamette River)
8					[Percent Passing #200 = 9.8]
9					[Stand Pipe Infiltration at 7ft = 1.5 inches per hour]
10					
11					
12					
13					Test Pit Terminated at 13 Feet
14					Neither Groundwater Seepage nor Groundwater was Encountered
15					
16					
17					

LEGEND



Bucket Type: Rock Teeth
Bucket Size: 2 Feet
Excavator: Cat 305E CR
Contractor: Pacific National Develop.

Date Excavated: 10.21.2025
Logged By: MTB
Surface Elevation: 128 Feet
Surface Conditions: Leaves

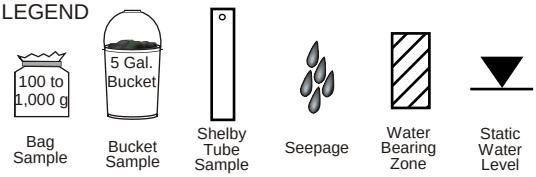
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Tel: (503) 598-8445

TEST PIT LOG

Project: Olson Orchards Subdivision Keizer, Oregon	Project No. 25-6877	Test Pit No. **TP-2**

Depth (ft)	Pocket Penetrometer (tons/ft²)	Sample Type	Moisture Content (%)	Water Bearing Zone	Material Description
					Moderately to Highly Organic SILT (OL), dark brown to black, moist (Disturbed Topsoil)
1	3.0				SILT(ML), trace clay, trace sand, brown, moderately plastic, slightly disturbed to 2 feet depth, tubules and root cast with gray mineralization, trace roots to 4 feet depth, homogenous, micaceous, damp, stiff to very stiff (Lower Terrace Deposits and Alluvium of the Willamette River)
2	4.5				
3	3.5				Grades to moist
4	4.5				
5					
6					
7					
8					Grades to SILT with Sand to Sandy SILT, low plasticity, stiff, damp to moist
9					
10					
11					Test Pit Terminated at 11 Feet Neither Groundwater Seepage nor Groundwater was Encountered
12					
13					
14					
15					
16					
17					

LEGEND



Bucket Type: Rock Teeth
Bucket Size: 2 Feet
Excavator: Cat 305E CR
Contractor: Pacific National Develop.

Date Excavated: 10.21.2025
Logged By: MTB
Surface Elevation: 128 Feet
Surface Conditions: Leaves

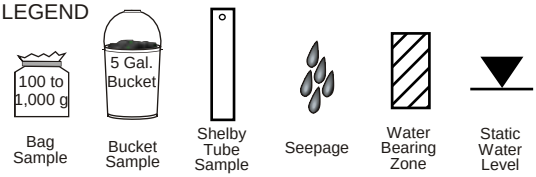
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TEST PIT LOG

Project: Olson Orchards Subdivision Keizer, Oregon	Project No. 25-6877	Test Pit No. **TP-3**

Depth (ft)	Pocket Penetrometer (tons/ft²)	Sample Type	Moisture Content (%)	Water Bearing Zone	Material Description
0					Moderately to Highly Organic SILT (OL), dark brown to black, moist (Disturbed Topsoil)
1	4.5				SILT(ML), trace clay, trace sand, brown, moderately plastic, slightly disturbed to 1.5 feet depth, tubules and root cast with gray mineralization, trace roots to 4 feet depth, homogenous, micaceous, damp, stiff to very stiff (Lower Terrace Deposits and Alluvium of the Willamette River)
2	4.5				
3	4.5				Grades to SILT with Sand
4	4.5				
5					
6					
7					Silty SAND (SM), light brown, fine-grained, low plasticity, medium dense, damp (Lower Terrace Deposits and Alluvium of the Willamette River)
8		100 to 1,000 g	7.6		Poorly Graded SAND with Silt (SP-SM), light brown, fine-grained, low plasticity to non-plastic, medium dense, damp (Lower Terrace Deposits and Alluvium of the Willamette River) [Percent Passing #200 = 19.0] [Stand Pipe Infiltration at 8ft = 4.0 inches per hour]
9					
10					
11					
12					
13					Poorly Graded SAND with Gravel (SP), trace silt, light brown, fine-grained, non-plastic, well rounded gravel, medium dense, damp (Lower Terrace Deposits and Alluvium of the Willamette River)
14					Test Pit Terminated at 13 Feet Neither Groundwater Seepage nor Groundwater was Encountered
15					
16					
17					

LEGEND



Bucket Type: Rock Teeth
Bucket Size: 2 Feet
Excavator: Cat 305E CR
Contractor: Pacific National Develop.

Date Excavated: 10.21.2025
Logged By: MTB
Surface Elevation: 131 Feet
Surface Conditions: Leaves

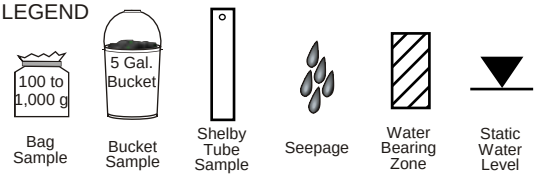
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Tel: (503) 598-8445

TEST PIT LOG

Project: Olson Orchards Subdivision Keizer, Oregon	Project No. 25-6877	Test Pit No. **TP-4**

Depth (ft)	Pocket Penetrometer (tons/ft²)	Sample Type	Moisture Content (%)	Water Bearing Zone	Material Description
1	4.5				Moderately to Highly Organic SILT (OL), dark brown to black, moist (Disturbed Topsoil)
2	4.5				SILT(ML), trace clay, trace sand, brown, moderately plastic, slightly disturbed to 1.5 feet depth, tubules and root cast with gray mineralization, trace roots to 4 feet depth, homogenous, micaceous, damp to moist, stiff to very stiff (Lower Terrace Deposits and Alluvium of the Willamette River)
3	4.5				Grades to SILT with Sand, low plasticity
4	4.5				
5					
6					
7					Poorly Graded SAND (SP), trace silt, light brown, fine-grained, non-plastic, medium dense, damp (Lower Terrace Deposits and Alluvium of the Willamette River)
8					
9					
10					Poorly Graded SAND with Gravel (SP), trace silt, light brown, fine-grained, non-plastic, well rounded gravel, medium dense, damp (Lower Terrace Deposits and Alluvium of the Willamette River)
11					
12					Test Pit Terminated at 10.5 Feet Neither Groundwater Seepage nor Groundwater was Encountered
13					
14					
15					
16					
17					

LEGEND



Bucket Type: Rock Teeth
Bucket Size: 2 Feet
Excavator: Cat 305E CR
Contractor: Pacific National Develop.

Date Excavated: 10.21.2025
Logged By: MTB
Surface Elevation: 131 Feet
Surface Conditions: Leaves

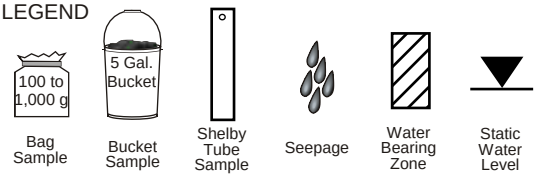
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Portland, Oregon 97224
Tel: (503) 598-8445

TEST PIT LOG

Project: Olson Orchards Subdivision Keizer, Oregon	Project No. 25-6877	Test Pit No. **TP-5**

Depth (ft)	Pocket Penetrometer (tons/ft²)	Sample Type	Moisture Content (%)	Water Bearing Zone	Material Description
					Moderately to Highly Organic SILT (OL), dark brown to black, moist (Disturbed Topsoil)
1	4.5				SILT with Sand (ML), trace clay, brown, moderately plastic, slightly disturbed to 1.5 feet depth, tubules and root cast with gray mineralization, trace roots to 4 feet depth, homogenous, micaceous, damp, stiff to very stiff (Lower Terrace Deposits and Alluvium of the Willamette River)
2	4.5				
3	4.5				Grades to moist
4	4.5				
5					Grades to Sandy SILT, low plasticity, stiff, damp to moist
6					
7					
8					
9					
10					Poorly Graded SAND (SP), trace silt, light brown, fine-grained, non-plastic, medium dense, dry to damp (Lower Terrace Deposits and Alluvium of the Willamette River)
11					Test Pit Terminated at 10.5 Feet Neither Groundwater Seepage nor Groundwater was Encountered
12					
13					
14					
15					
16					
17					

LEGEND



Bucket Type: Rock Teeth	Date Excavated: 10.21.2025
Bucket Size: 2 Feet	Logged By: MTB
Excavator: Cat 305E CR	Surface Elevation: 131 Feet
Contractor: Pacific National Develop.	Surface Conditions: Leaves

GEOPACIFIC
14835 SW 72nd Avenue
Portland, Oregon 97224
Tel: (503) 598-8445

TEST PIT LOG

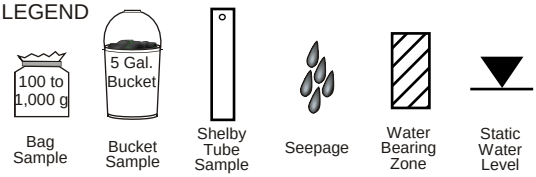
Project: Olson Orchards Subdivision
Keizer, Oregon

Project No. 25-6877

Test Pit No. **TP-6**

Depth (ft)	Pocket Penetrometer (tons/ft²)	Sample Type	Moisture Content (%)	Water Bearing Zone	Material Description
					Moderately to Highly Organic SILT (OL), dark brown to black, moist (Disturbed Topsoil)
1	4.5				SILT with Sand (ML), trace clay, brown, moderately plastic, slightly disturbed to 1.5 feet depth, tubules and root cast with gray mineralization, trace roots to 4 feet depth, homogenous, micaceous, damp, stiff to very stiff (Lower Terrace Deposits and Alluvium of the Willamette River)
2	4.0				
3	4.5				Grades to moist
4	4.5				
5					Grades to Sandy SILT, low plasticity, stiff, damp to moist
6					
7					
8					
9					
10					Poorly Graded SAND (SP), trace silt, light brown, fine-grained, non-plastic, medium dense, dry to damp (Lower Terrace Deposits and Alluvium of the Willamette River)
11					Test Pit Terminated at 10.5 Feet
12					Neither Groundwater Seepage nor Groundwater was Encountered
13					
14					
15					
16					
17					

LEGEND



Bucket Type: Rock Teeth
Bucket Size: 2 Feet
Excavator: Cat 305E CR
Contractor: Pacific National Develop.

Date Excavated: 10.21.2025
Logged By: MTB
Surface Elevation: 132 Feet
Surface Conditions: Leaves

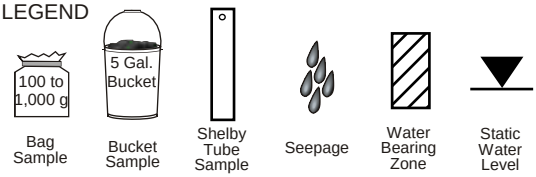
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Tel: (503) 598-8445

TEST PIT LOG

Project: Olson Orchards Subdivision Keizer, Oregon	Project No. 25-6877	Test Pit No. **TP-7**

Depth (ft)	Pocket Penetrometer (tons/ft²)	Sample Type	Moisture Content (%)	Water Bearing Zone	Material Description
					Moderately to Highly Organic SILT (OL), dark brown to black, moist (Disturbed Topsoil)
1	4.5				SILT with Sand (ML), trace clay, brown, moderately plastic, slightly disturbed to 1.5 feet depth, tubules and root cast with gray mineralization, homogenous, micaceous, damp to moist, stiff to very stiff (Lower Terrace Deposits and Alluvium of the Willamette River)
2	4.5				
3	4.5				Grades to Sandy SILT, low plasticity
4	4.0				
5					Poorly Graded SAND (SP), trace silt, light brown, fine-grained, non-plastic, medium dense, damp (Lower Terrace Deposits and Alluvium of the Willamette River)
6					
7					
8					
9					Poorly Graded SAND with Gravel (SP), trace silt, light brown, fine-grained, non-plastic, well rounded gravel, medium dense, dry to damp (Lower Terrace Deposits and Alluvium of the Willamette River)
10					
11					Test Pit Terminated at 10.5 Feet
12					Neither Groundwater Seepage nor Groundwater was Encountered
13					
14					
15					
16					
17					

LEGEND



Bucket Type: Rock Teeth
Bucket Size: 2 Feet
Excavator: Cat 305E CR
Contractor: Pacific National Develop.

Date Excavated: 10.21.2025
Logged By: MTB
Surface Elevation: 131 Feet
Surface Conditions: Leaves

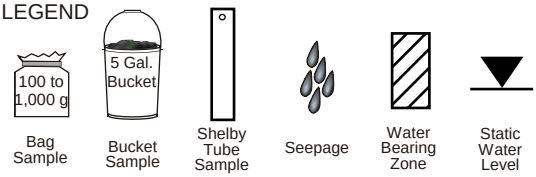
GEOPACIFIC
14835 SW 72nd Avenue
Portland, Oregon 97224
Tel: (503) 598-8445

TEST PIT LOG

Project: Olson Orchards Subdivision Keizer, Oregon	Project No. 25-6877	Test Pit No. **TP-8**

Depth (ft)	Pocket Penetrometer (tons/ft²)	Sample Type	Moisture Content (%)	Water Bearing Zone	Material Description
					Moderately to Highly Organic SILT (OL), dark brown to black, moist (Disturbed Topsoil)
1	4.5				SILT(ML), trace clay, trace sand, brown, moderately plastic, slightly disturbed to 1.5 feet depth, tubules and root cast with gray mineralization, trace roots to 4 feet depth, homogenous, micaceous, damp to moist, stiff to very stiff (Lower Terrace Deposits and Alluvium of the Willamette River)
2	4.5				
3	4.5				Grades to SILT with Sand, low plasticity
4	4.5				
5					
6					Grades to Sandy SILT
7					
8					Poorly Graded SAND (SP), trace silt, light brown, fine-grained, non-plastic, medium dense, damp (Lower Terrace Deposits and Alluvium of the Willamette River)
9					
10					Poorly Graded SAND with Gravel (SP), trace silt, light brown, fine-grained, non-plastic, well rounded gravel, medium dense, damp (Lower Terrace Deposits and Alluvium of the Willamette River)
11					
12					Test Pit Terminated at 10.5 Feet Neither Groundwater Seepage nor Groundwater was Encountered
13					
14					
15					
16					
17					

LEGEND



Bucket Type: Rock Teeth	Date Excavated: 10.21.2025
Bucket Size: 2 Feet	Logged By: MTB
Excavator: Cat 305E CR	Surface Elevation: 131 Feet
Contractor: Pacific National Develop.	Surface Conditions: Leaves

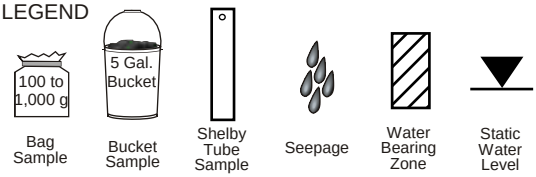
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TEST PIT LOG

Project: Olson Orchards Subdivision Keizer, Oregon	Project No. 25-6877	Test Pit No. **TP-9**

Depth (ft)	Pocket Penetrometer (tons/ft²)	Sample Type	Moisture Content (%)	Water Bearing Zone	Material Description
					Moderately to Highly Organic SILT (OL), dark brown to black, moist (Disturbed Topsoil)
1	3.0				SILT(ML), trace clay, trace sand, brown, moderately plastic, slightly disturbed to 1.5 feet depth, tubules and root cast with gray mineralization, trace roots to 4 feet depth, homogenous, micaceous, damp, stiff to very stiff (Lower Terrace Deposits and Alluvium of the Willamette River)
2	4.5				
3	4.5				
4	4.5				Grades to SILT with Sand, low plasticity, moist
5					
6					
7					Grades to Sandy SILT
8					
9					Poorly Graded SAND (SP), trace silt, light brown, fine-grained, non-plastic, medium dense, damp (Lower Terrace Deposits and Alluvium of the Willamette River)
10					Poorly Graded SAND with Gravel (SP), trace silt, light brown, fine-grained, non-plastic, well rounded gravel, medium dense, damp (Lower Terrace Deposits and Alluvium of the Willamette River)
11					
12					Test Pit Terminated at 10.5 Feet Neither Groundwater Seepage nor Groundwater was Encountered
13					
14					
15					
16					
17					

LEGEND



Bucket Type: Rock Teeth
Bucket Size: 2 Feet
Excavator: Cat 305E CR
Contractor: Pacific National Develop.

Date Excavated: 10.21.2025
Logged By: MTB
Surface Elevation: 131 Feet
Surface Conditions: Leaves

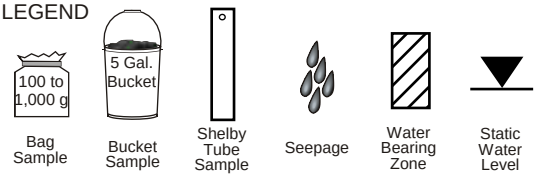
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TEST PIT LOG

Project: Olson Orchards Subdivision Keizer, Oregon	Project No. 25-6877	Test Pit No. **TP-10**

Depth (ft)	Pocket Penetrometer (tons/ft²)	Sample Type	Moisture Content (%)	Water Bearing Zone	Material Description
					Moderately to Highly Organic SILT (OL), dark brown to black, moist (Disturbed Topsoil)
1	4.5				SILT(ML), trace clay, trace sand, brown, moderately plastic, slightly disturbed to 1.75 feet depth, tubules and root cast with gray mineralization, trace roots to 3 feet depth, homogenous, micaceous, damp, stiff to very stiff (Lower Terrace Deposits and Alluvium of the Willamette River)
2	4.5				
3	4.5				Grades to SILT with Sand, low plasticity, moist
4	4.5				
5					
6					
7					Grades to Sandy SILT
8					Silty SAND (SM), light brown, fine-grained, low plasticity, medium dense, damp (Lower Terrace Deposits and Alluvium of the Willamette River)
9					Poorly Graded SAND (SP), trace silt, light brown, fine-grained, non-plastic, medium dense, damp (Lower Terrace Deposits and Alluvium of the Willamette River)
10					Poorly Graded SAND with Gravel (SP), trace silt, light brown, fine-grained, non-plastic, well rounded gravel, medium dense, damp (Lower Terrace Deposits and Alluvium of the Willamette River)
11					Test Pit Terminated at 11 Feet Neither Groundwater Seepage nor Groundwater was Encountered
12					
13					
14					
15					
16					
17					

LEGEND



Bucket Type: Rock Teeth
Bucket Size: 2 Feet
Excavator: Cat 305E CR
Contractor: Pacific National Develop.

Date Excavated: 10.21.2025
Logged By: MTB
Surface Elevation: 131 Feet
Surface Conditions: Leaves

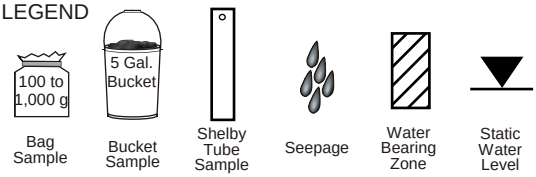
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Tel: (503) 598-8445

TEST PIT LOG

Project: Olson Orchards Subdivision Keizer, Oregon	Project No. 25-6877	Test Pit No. **TP-11**

Depth (ft)	Pocket Penetrometer (tons/ft²)	Sample Type	Moisture Content (%)	Water Bearing Zone	Material Description
					Moderately to Highly Organic SILT (OL), dark brown to black, moist (Disturbed Topsoil)
1	4.5				SILT(ML), trace clay, trace sand, brown, moderately plastic, slightly disturbed to 1.75 feet depth, tubules and root cast with gray mineralization, trace roots to 3 feet depth, homogenous, micaceous, damp, stiff to very stiff (Lower Terrace Deposits and Alluvium of the Willamette River)
2	4.5				
3	4.5				
4	4.5				
5					
6					Grades to SILT with Sand, low plasticity, moist
7					Grades to Sandy SILT, dry to damp
8					Silty SAND (SM), light brown, fine-grained, low plasticity, medium dense, damp (Lower Terrace Deposits and Alluvium of the Willamette River)
9					Poorly Graded SAND (SP), trace silt, light brown, fine-grained, non-plastic, medium dense, damp (Lower Terrace Deposits and Alluvium of the Willamette River)
10					Poorly Graded SAND with Gravel (SP), trace silt, light brown, fine-grained, non-plastic, well rounded gravel, medium dense, damp (Lower Terrace Deposits and Alluvium of the Willamette River)
11					Test Pit Terminated at 10.5 Feet Neither Groundwater Seepage nor Groundwater was Encountered
12					
13					
14					
15					
16					
17					

LEGEND



Bucket Type: Rock Teeth
Bucket Size: 2 Feet
Excavator: Cat 305E CR
Contractor: Pacific National Develop.

Date Excavated: 10.21.2025
Logged By: MTB
Surface Elevation: 130 Feet
Surface Conditions: Leaves

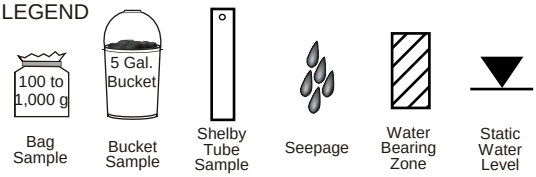
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TEST PIT LOG

Project: Olson Orchards Subdivision Keizer, Oregon	Project No. 25-6877	Test Pit No. **TP-12**

Depth (ft)	Pocket Penetrometer (tons/ft²)	Sample Type	Moisture Content (%)	Water Bearing Zone	Material Description
					Moderately to Highly Organic SILT (OL), dark brown to black, moist (Disturbed Topsoil)
1	4.5				SILT(ML), trace clay, trace sand, brown, moderately plastic, slightly disturbed to 2 feet depth, tubules and root cast with gray mineralization, trace roots to 4 feet depth, homogenous, micaceous, damp to moist, stiff to very stiff (Lower Terrace Deposits and Alluvium of the Willamette River)
2	4.5				
3	4.5				
4	4.5				Grades to SILT with Sand
5					
6					Silty SAND (SM), light brown, fine-grained, low plasticity, medium dense, damp (Lower Terrace Deposits and Alluvium of the Willamette River)
7					
8					
9		100 to 1,000 g	9.3		[Percent Passing #200 = 25.6] [Stand Pipe Infiltration at 9ft = 2.0 inches per hour]
10					
11					Poorly Graded SAND (SP), trace silt, brown, fine-grained, low plasticity to non-plastic, medium dense, damp (Lower Terrace Deposits and Alluvium of the Willamette River)
12					
13					Poorly Graded SAND with GRAVEL (SP-GP), trace silt, light brown, fine-grained, non-plastic, well rounded gravel, medium dense, damp (Lower Terrace Deposits and Alluvium of the Willamette River)
14					
15					Test Pit Terminated at 15 Feet Neither Groundwater Seepage nor Groundwater was Encountered
16					
17					

LEGEND



Bucket Type: Rock Teeth	Date Excavated: 10.22.2025
Bucket Size: 2 Feet	Logged By: MTB
Excavator: Cat 305E CR	Surface Elevation: 132 Feet
Contractor: Pacific National Develop.	Surface Conditions: Leaves

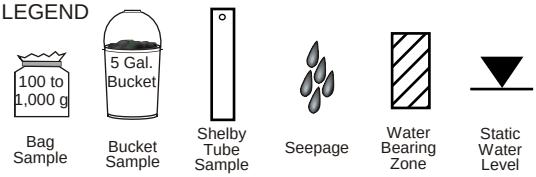
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TEST PIT LOG

Project: Olson Orchards Subdivision Keizer, Oregon	Project No. 25-6877	Test Pit No. **TP-13**

Depth (ft)	Pocket Penetrometer (tons/ft²)	Sample Type	Moisture Content (%)	Water Bearing Zone	Material Description
					Moderately to Highly Organic SILT (OL), dark brown to black, moist (Disturbed Topsoil)
1	4.5				SILT(ML), trace clay, trace sand, brown, moderately plastic, slightly disturbed to 1.5 feet depth, tubules and root cast with gray mineralization, trace roots to 3 feet depth, homogenous, micaceous, damp to moist, stiff to very stiff (Lower Terrace Deposits and Alluvium of the Willamette River)
2	4.5				
3	4.5				
4	4.5				
5					Grades to SILT with Sand
6					
7					Grades to Sandy SILT
8					
9					Silty SAND (SM), light brown, fine-grained, low plasticity, medium dense, damp (Lower Terrace Deposits and Alluvium of the Willamette River)
10					
11					Test Pit Terminated at 11 Feet Neither Groundwater Seepage nor Groundwater was Encountered
12					
13					
14					
15					
16					
17					

LEGEND



Bucket Type: Rock Teeth	Date Excavated: 10.22.2025
Bucket Size: 2 Feet	Logged By: MTB
Excavator: Cat 305E CR	Surface Elevation: 132 Feet
Contractor: Pacific National Develop.	Surface Conditions: Leaves

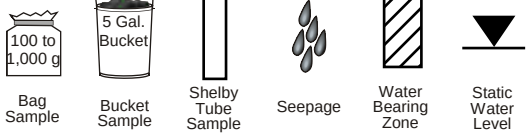
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TEST PIT LOG

Project: Olson Orchards Subdivision Keizer, Oregon	Project No. 25-6877	Test Pit No. **TP-14**

Depth (ft)	Pocket Penetrometer (tons/ft²)	Sample Type	Moisture Content (%)	Water Bearing Zone	Material Description
					Moderately to Highly Organic SILT (OL), dark brown to black, moist (Disturbed Topsoil)
1	4.5				SILT with Sand (ML), trace clay, brown, moderately plastic, slightly disturbed to 1 foot depth, tubules and root cast with gray mineralization, trace roots to 3 feet depth, homogenous, micaceous, damp to moist, stiff to very stiff (Lower Terrace Deposits and Alluvium of the Willamette River)
2	4.5				
3	4.5				
4	4.5				Grades to SILT with Sand
5					
6					Silty SAND (SM), light brown, fine-grained, low plasticity, medium dense, damp (Lower Terrace Deposits and Alluvium of the Willamette River)
7					
8					
9					
10		100 to 1,000 g	8.5		Poorly Graded SAND (SP), trace silt, brown, fine-grained, low plasticity to non-plastic, medium dense, damp (Lower Terrace Deposits and Alluvium of the Willamette River) [Percent Passing #200 = 9.0] [Stand Pipe Infiltration at 10ft = 8.0 inches per hour]
11					
12					
13					
14					Poorly Graded SAND with GRAVEL (SP-GP), trace silt, light brown, fine-grained, non-plastic, well rounded gravel, medium dense, damp (Lower Terrace Deposits and Alluvium of the Willamette River)
15					Test Pit Terminated at 15 Feet Neither Groundwater Seepage nor Groundwater was Encountered
16					
17					

LEGEND



Bucket Type: Rock Teeth
Bucket Size: 2 Feet
Excavator: Cat 305E CR
Contractor: Pacific National Develop.

Date Excavated: 10.22.2025
Logged By: MTB
Surface Elevation: 132 Feet
Surface Conditions: Leaves

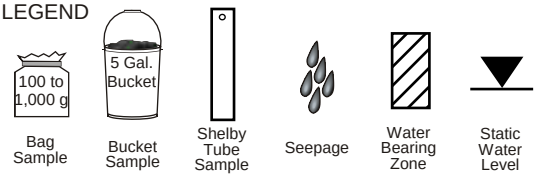
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TEST PIT LOG

Project: Olson Orchards Subdivision Keizer, Oregon	Project No. 25-6877	Test Pit No. **TP-15**

Depth (ft)	Pocket Penetrometer (tons/ft²)	Sample Type	Moisture Content (%)	Water Bearing Zone	Material Description
					Moderately to Highly Organic SILT (OL), dark brown to black, moist (Disturbed Topsoil)
1	4.5				SILT(ML), trace clay, trace sand, brown, moderately plastic, slightly disturbed to 1 feet depth, tubules and root cast with gray mineralization, trace roots to 3 feet depth, homogenous, micaceous, damp to moist, stiff to very stiff (Lower Terrace Deposits and Alluvium of the Willamette River)
2	4.5				
3	4.5				
4	4.5				Grades to SILT with Sand
5					
6					Grades to Sandy SILT
7					
8					Silty SAND (SM), light brown, fine-grained, low plasticity, medium dense, damp (Lower Terrace Deposits and Alluvium of the Willamette River)
9					Poorly Graded SAND (SP), trace silt, brown, fine-grained, low plasticity to non-plastic, medium dense, damp (Lower Terrace Deposits and Alluvium of the Willamette River)
10					
11					Test Pit Terminated at 11 Feet Neither Groundwater Seepage nor Groundwater was Encountered
12					
13					
14					
15					
16					
17					

LEGEND



Bucket Type: Rock Teeth
Bucket Size: 2 Feet
Excavator: Cat 305E CR
Contractor: Pacific National Develop.

Date Excavated: 10.22.2025
Logged By: MTB
Surface Elevation: 131 Feet
Surface Conditions: Leaves

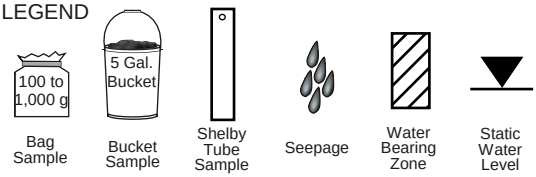
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TEST PIT LOG

Project: Olson Orchards Subdivision Keizer, Oregon	Project No. 25-6877	Test Pit No. **TP-16**

Depth (ft)	Pocket Penetrometer (tons/ft²)	Sample Type	Moisture Content (%)	Water Bearing Zone	Material Description
					Moderately to Highly Organic SILT (OL), dark brown to black, moist (Disturbed Topsoil)
1	4.5				SILT(ML), trace clay, trace sand, brown, moderately plastic, slightly disturbed to 1 feet depth, tubules and root cast with gray mineralization, trace roots to 3 feet depth, homogenous, micaceous, damp to moist, stiff to very stiff (Lower Terrace Deposits and Alluvium of the Willamette River)
2	4.5				
3	4.5				
4	4.5				
5					Grades to SILT with Sand
6					Grades to Sandy SILT
7					
8					Silty SAND (SM), light brown, fine-grained, low plasticity, medium dense, damp (Lower Terrace Deposits and Alluvium of the Willamette River)
9					
10					Poorly Graded SAND (SP), trace silt, brown, fine-grained, low plasticity to non-plastic, medium dense, damp (Lower Terrace Deposits and Alluvium of the Willamette River)
11					
12					Test Pit Terminated at 11.5 Feet Neither Groundwater Seepage nor Groundwater was Encountered
13					
14					
15					
16					
17					

LEGEND



Bucket Type: Rock Teeth
Bucket Size: 2 Feet
Excavator: Cat 305E CR
Contractor: Pacific National Develop.

Date Excavated: 10.22.2025
Logged By: MTB
Surface Elevation: 131 Feet
Surface Conditions: Leaves

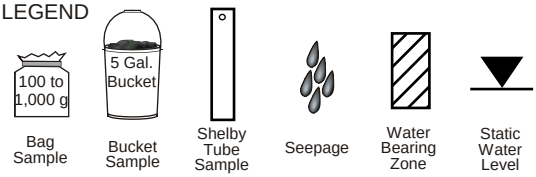
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TEST PIT LOG

Project: Olson Orchards Subdivision Keizer, Oregon	Project No. 25-6877	Test Pit No. **TP-17**

Depth (ft)	Pocket Penetrometer (tons/ft²)	Sample Type	Moisture Content (%)	Water Bearing Zone	Material Description
					Moderately to Highly Organic SILT (OL), dark brown to black, moist (Disturbed Topsoil)
1	4.5				SILT with Sand (ML), brown, moderately plastic, slightly disturbed to 1 feet depth, trace roots to 3 feet depth, friable to 3 feet depth, homogenous, micaceous, damp to moist, stiff to very stiff (Lower Terrace Deposits and Alluvium of the Willamette River)
2	4.5				
3	4.5				
4	4.5				Grades to trace clay, tubules and root cast with gray mineralization
5					
6					
7					Grades to Sandy SILT
8					
9					Silty SAND (SM), light brown, fine-grained, low plasticity, medium dense, damp (Lower Terrace Deposits and Alluvium of the Willamette River)
10					Poorly Graded SAND (SP), trace silt, brown, fine-grained, low plasticity to non-plastic, medium dense, damp (Lower Terrace Deposits and Alluvium of the Willamette River)
11					Poorly Graded SAND with Gravel (SP), trace silt, light brown, fine-grained, non-plastic, well rounded gravel, medium dense, damp (Lower Terrace Deposits and Alluvium of the Willamette River)
12					Test Pit Terminated at 11.5 Feet Neither Groundwater Seepage nor Groundwater was Encountered
13					
14					
15					
16					
17					

LEGEND



Bucket Type: Rock Teeth
Bucket Size: 2 Feet
Excavator: Cat 305E CR
Contractor: Pacific National Develop.

Date Excavated: 10.22.2025
Logged By: MTB
Surface Elevation: 130 Feet
Surface Conditions: Leaves

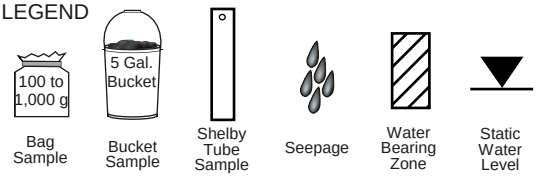
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Tel: (503) 598-8445

TEST PIT LOG

Project: Olson Orchards Subdivision Keizer, Oregon	Project No. 25-6877	Test Pit No. **TP-18**

Depth (ft)	Pocket Penetrometer (tons/ft²)	Sample Type	Moisture Content (%)	Water Bearing Zone	Material Description
					Moderately to Highly Organic SILT (OL), dark brown to black, moist (Disturbed Topsoil)
1	4.5				SILT with Sand (ML), trace clay, brown, moderately plastic, slightly disturbed to 1 feet depth, tubules and root cast with gray mineralization, trace roots to 3 feet depth, friable to 3 feet depth, homogenous, micaceous, damp to moist, stiff to very stiff (Lower Terrace Deposits and Alluvium of the Willamette River)
2	4.5				
3	4.5				
4	4.5				
5					Grades to Sandy SILT
6					Silty SAND (SM), light brown, fine-grained, low plasticity, medium dense, damp (Lower Terrace Deposits and Alluvium of the Willamette River)
7					
8					
9					Poorly Graded SAND (SP), trace silt, brown, fine-grained, low plasticity to non-plastic, medium dense, damp (Lower Terrace Deposits and Alluvium of the Willamette River)
10					
11					
12					Test Pit Terminated at 11.5 Feet Neither Groundwater Seepage nor Groundwater was Encountered
13					
14					
15					
16					
17					

LEGEND



Bucket Type: Rock Teeth
Bucket Size: 2 Feet
Excavator: Cat 305E CR
Contractor: Pacific National Develop.

Date Excavated: 10.22.2025
Logged By: MTB
Surface Elevation: 131 Feet
Surface Conditions: Leaves

LABORATORY RESULTS

Project Name:	Olson Orchards Subdivision	Project #:	25-6877
Date Sampled:	10.21/22.25	Date Tested:	10.27.25
Sampled By:	MTB	Tested By:	ALL

Moisture Content

Sample ID:	S25-132
Exploration & Depth:	**TP-1 7FT**
Tare #:	64
Tare (g):	978.0
Tare + Wet (g):	1829.3
Tare + Dry (g):	1766.5
Moisture (%):	8.0

#200 Wet Sieve

Sample ID:	S25-132
Exploration & Depth:	**TP-1 7FT**
Tare #:	64
Tare (g):	978.0
Tare + Prewash (g):	1766.5
Tare + Washed (g):	1688.9
Passing #200 (%):	9.8

Moisture Content

Sample ID:	S25-133
Exploration & Depth:	**TP-3 8FT**
Tare #:	46
Tare (g):	1012.9
Tare + Wet (g):	1936.9
Tare + Dry (g):	1871.8
Moisture (%):	7.6

#200 Wet Sieve

Sample ID:	S25-133
Exploration & Depth:	**TP-3 8FT**
Tare #:	46
Tare (g):	1012.9
Tare + Prewash (g):	1871.8
Tare + Washed (g):	1708.6
Passing #200 (%):	19.0

Moisture Content

Sample ID:	S25-134
Exploration & Depth:	**TP-12 9FT**
Tare #:	D
Tare (g):	537.4
Tare + Wet (g):	1039.1
Tare + Dry (g):	996.5
Moisture (%):	9.3

#200 Wet Sieve

Sample ID:	S25-134
Exploration & Depth:	**TP-12 9FT**
Tare #:	D
Tare (g):	537.4
Tare + Prewash (g):	996.5
Tare + Washed (g):	879.1
Passing #200 (%):	25.6

Moisture Content

Sample ID:	S25-135
Exploration & Depth:	**TP-14 10FT**
Tare #:	C
Tare (g):	537.0
Tare + Wet (g):	1242.3
Tare + Dry (g):	1186.9
Moisture (%):	8.5

#200 Wet Sieve

Sample ID:	S25-135
Exploration & Depth:	**TP-14 10FT**
Tare #:	C
Tare (g):	537.0
Tare + Prewash (g):	1186.9
Tare + Washed (g):	1128.7
Passing #200 (%):	9.0

SITE RESEARCH

U.S. Geological Survey - Earthquake Hazards Program

Unified Hazard Tool

Please do not use this tool to obtain ground motion parameter values for the design code reference documents covered by the U.S. Seismic Design Maps web tools (e.g., the International Building Code and the ASCE 7 or 41 Standard). The values returned by the two applications are not identical.

Please also see the new USGS Earthquake Hazard Toolbox for access to the most recent NSHMs for the conterminous U.S. and Hawaii.

Input

Edition

Dynamic: Conterminous U.S. 2014 (…

Spectral Period

Peak Ground Acceleration

Latitude

Decimal degrees

45.007

Time Horizon

Return period in years

2475

Longitude

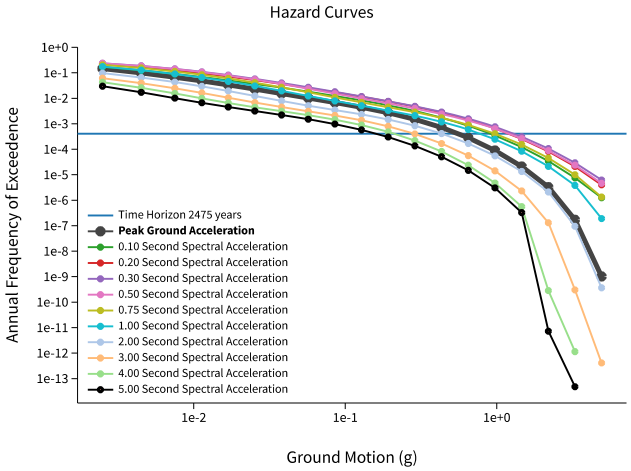
Decimal degrees, negative values for western longitudes

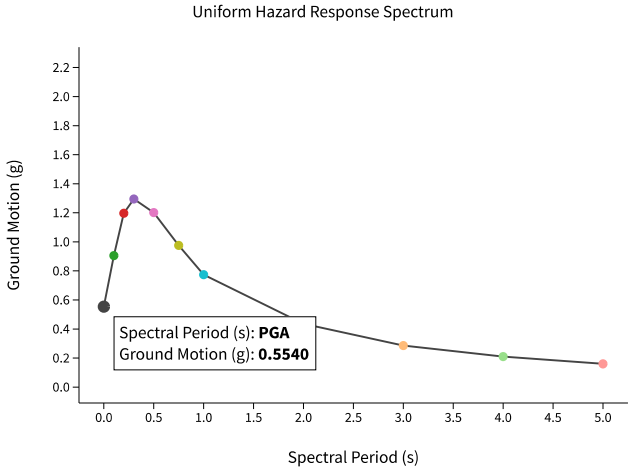
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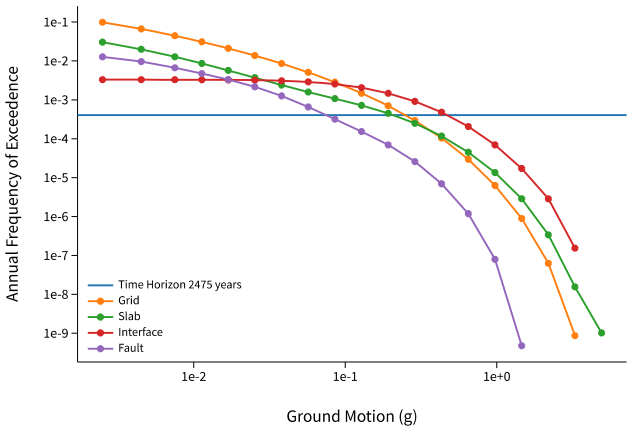
Site Class

259 m/s (Site class D)

Hazard Curve





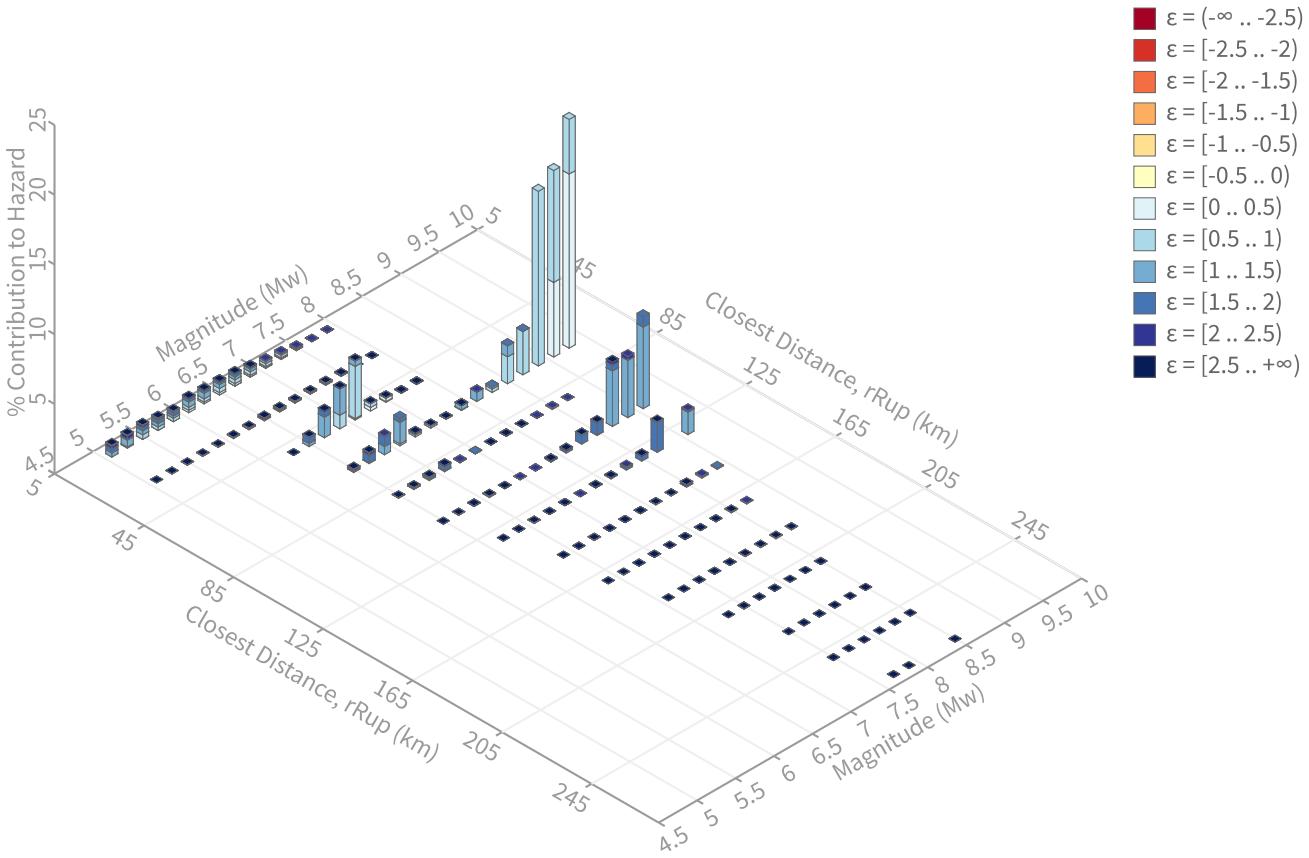


View Raw Data

Deaggregation

Component

Total



Summary statistics for, Deaggregation: Total

Deaggregation targets

Return period: 2475 yrs
Exceedance rate: 0.0004040404 yr^{-1}
PGA ground motion: 0.55404782 g

Recovered targets

Return period: 2450.8461 yrs
Exceedance rate: 0.00040802236 yr^{-1}

Totals

Binned: 100 %
Residual: 0 %
Trace: 0.45 %

Mean (over all sources)

m: 8.32
r: 66.8 km
ε_0: 0.97 σ

Mode (largest m-r bin)

m: 9.34
r: 60.57 km
ε_0: 0.34 σ
Contribution: 16.39 %

Mode (largest m-r-ε_0 bin)

m: 8.86
r: 60.54 km
ε_0: 0.69 σ
Contribution: 12.51 %

Discretization

r: min = 0.0, max = 1000.0, Δ = 20.0 km
m: min = 4.4, max = 9.4, Δ = 0.2
ε: min = -3.0, max = 3.0, Δ = 0.5 σ

Epsilon keys

ε0: [-∞ .. -2.5)
ε1: [-2.5 .. -2.0)
ε2: [-2.0 .. -1.5)
ε3: [-1.5 .. -1.0)
ε4: [-1.0 .. -0.5)
ε5: [-0.5 .. 0.0)
ε6: [0.0 .. 0.5)
ε7: [0.5 .. 1.0)
ε8: [1.0 .. 1.5)
ε9: [1.5 .. 2.0)
ε10: [2.0 .. 2.5)
ε11: [2.5 .. +∞]

Deaggregation Contributors

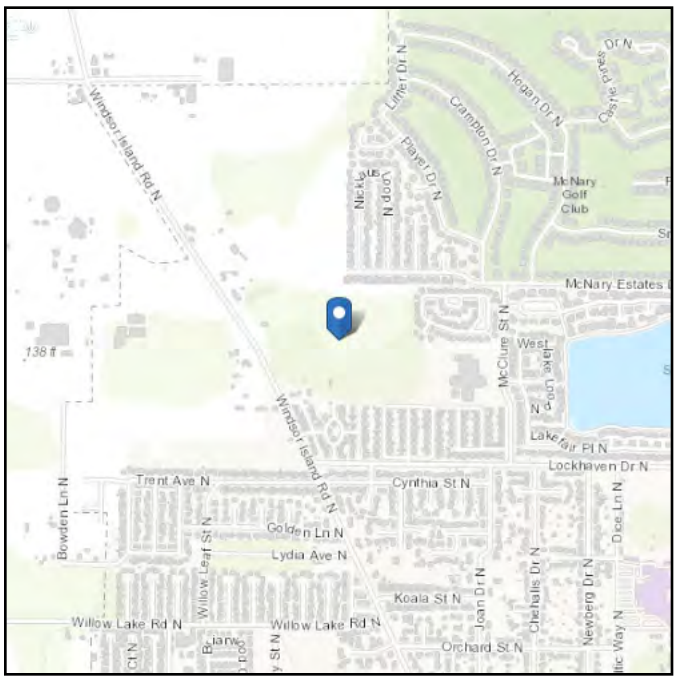
Source Set ↳ Source	Type	r	m	ε_0	lon	lat	az	%
sub0_ch_bot.in Cascadia Megathrust - whole CSZ Characteristic	Interface	60.57	9.10	0.52	123.702°W	45.000°N	269.37	40.08 40.08
sub0_ch_mid.in Cascadia Megathrust - whole CSZ Characteristic	Interface	109.39	8.92	1.39	124.356°W	44.742°N	254.58	14.57 14.57
coastalOR_deep.in	Slab							7.98
coastalOR_deep.in	Slab							6.55
sub0_ch_top.in Cascadia Megathrust - whole CSZ Characteristic	Interface	120.52	8.83	1.58	124.561°W	45.000°N	270.16	3.72 3.72
sub2_ch_bot.in Cascadia Megathrust - Goldfinger Case C Characteristic	Interface	60.34	8.73	0.77	123.702°W	45.000°N	269.37	3.65 3.65
WUSmap_2014_fixSm.ch.in (opt)	Grid							1.88
noPuget_2014_fixSm.ch.in (opt)	Grid							1.88
WUSmap_2014_fixSm.gr.in (opt)	Grid							1.86
noPuget_2014_fixSm.gr.in (opt)	Grid							1.86
sub1_ch_bot.in Cascadia Megathrust - Goldfinger Case B Characteristic	Interface	60.05	8.86	0.68	123.702°W	45.000°N	269.37	1.83 1.83
sub1_GRb0_bot.in Cascadia floater over southern zone - Goldfinger Case B	Interface	63.63	8.47	0.99	123.702°W	45.000°N	269.37	1.64 1.64
sub1_GRb1_bot.in Cascadia floater over southern zone - Goldfinger Case B	Interface	64.23	8.35	1.07	123.702°W	45.000°N	269.37	1.24 1.24

ASCE Hazards Report

Address:
No Address at This Location

Standard: ASCE/SEI 7-16
Risk Category: II
Soil Class: D - Stiff Soil

Latitude: 45.007019
Longitude: -123.044252
Elevation: 129.43392138926066 ft (NAVD 88)





Seismic

Site Soil Class: D - Stiff Soil

Results:

S_S :	0.838	S_{D1} :	N/A
S_1 :	0.418	T_L :	16
F_a :	1.165	PGA :	0.39
F_v :	N/A	PGA_M :	0.472
S_{MS} :	0.976	F_{PGA} :	1.21
S_{M1} :	N/A	I_e :	1
S_{DS} :	0.651	C_v :	1.219

Ground motion hazard analysis may be required. See ASCE/SEI 7-16 Section 11.4.8.

Data Accessed: Mon Dec 08 2025

Date Source: USGS Seismic Design Maps

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STATE OF OREGON
WATER SUPPLY WELL REPORT
(as required by ORS 537.765 & OAR 690-205-0210)

MARI 68060

8/14/2018

WELL I.D. LABEL# L 131076
START CARD # 215621
ORIGINAL LOG #

(1) LAND OWNER

Owner Well I.D.
First Name MARK Last Name FRIESEN
Company FRIESEN, JUDY
Address 6010 WINDSOR ISLAND RD N
City KEIZER State OR Zip 97303

(2) TYPE OF WORK

☒ New Well ☐ Deepening ☐ Conversion ☐ Alteration (complete 2a & 10) ☐ Abandonment(complete 5a)

(2a) PRE-ALTERATION

	Dia	+	From	To	Gauge	Stl	Plstc	Wld	Thrd
Casing:									

	Material	From	To	Amt	sacks/lbs
Seal:					

(3) DRILL METHOD

☒ Rotary Air ☐ Rotary Mud ☐ Cable ☐ Auger ☐ Cable Mud
☐ Reverse Rotary ☐ Other

(4) PROPOSED USE

☒ Domestic ☐ Irrigation ☐ Community
☐ Industrial/ Commericial ☐ Livestock ☐ Dewatering
☐ Thermal ☐ Injection ☐ Other

(5) BORE HOLE CONSTRUCTION

Special Standard ☐ (Attach copy)
Depth of Completed Well 100.00 ft.

BORE HOLE

Dia	From	To
10	0	22
6	22	100

SEAL

Material	From	To	Amt	sacks/lbs
Bentonite Chips	0	22	15	S
		Calculated	9.78	
		Calculated		

How was seal placed: Method ☐ A ☐ B ☐ C ☐ D ☐ E
☒ Other POURED AND PROBED
Backfill placed from ft. to ft. Material
Filter pack from ft. to ft. Material Size
Explosives used: ☐ Yes Type Amount

(5a) ABANDONMENT USING UNHYDRATED BENTONITE

Proposed Amount Actual Amount

(6) CASING/LINER

Casing	Liner	Dia	+	From	To	Gauge	Stl	Plstc	Wld	Thrd
●	○	6	☒	1	100	.250	●	○	☒	☐
○	○		☐				○	○	☐	☐
○	○		☐				○	○	☐	☐
○	○		☐				○	○	☐	☐
○	○		☐				○	○	☐	☐

Shoe ☒ Inside ☐ Outside ☐ Other Location of shoe(s) 100
Temp casing ☒ Yes Dia 10 From + ☐ 0 To 6

(7) PERFORATIONS/SCREENS

Perforations Method
Screens Type Material

Perf/ Screen	Casing/ Screen Liner	Dia	From	To	Scrn/slot width	Slot length	# of slots	Tele/ pipe size

(8) WELL TESTS: Minimum testing time is 1 hour

○ Pump ○ Bailer ◉ Air ○ Flowing Artesian

Yield gal/min	Drawdown	Drill stem/Pump depth	Duration (hr)
40		98	1

Temperature 55 °F Lab analysis ☐ Yes By
Water quality concerns? ☐ Yes (describe below) TDS amount 164 ppm

From	To	Description	Amount	Units

(9) LOCATION OF WELL (legal description)

County MARION Twp 6.00 S N/S Range 3.00 W E/W WM
Sec 34 SW 1/4 of the NW 1/4 Tax Lot 1000
Tax Map Number Lot
Lat ° ' " or DMS or DD
Long ° ' " or DMS or DD
◉ Street address of well ○ Nearest address
6010 WINDSOR ISLAND RD N

(10) STATIC WATER LEVEL

	Date	SWL(psi)	+	SWL(ft)
Existing Well / Pre-Alteration			☐	
Completed Well	8/9/2018		☐	30

Flowing Artesian? ☐ Dry Hole? ☐

WATER BEARING ZONES Depth water was first found 40.00

SWL Date	From	To	Est Flow	SWL(psi)	+	SWL(ft)
8/8/2018	40	70	20		☐	30
8/9/2018	70	100	40		☐	30
					☐	
					☐	
					☐	

(11) WELL LOG

Ground Elevation

Material	From	To
Clay brown sticky	0	10
Clay brown firm sandy	10	18
Gravel coarse sandy some clay	18	22
Gravel coarse sandy brown & black	22	70
Gravel & sand blk. loose	70	94
Clay blue gravel soft	94	96
Gravel crs. & pea, clay firm blue & brwn	96	100

Date Started 8/8/2018 Completed 8/9/2018

(unbonded) Water Well Constructor Certification

I certify that the work I performed on the construction, deepening, alteration, or abandonment of this well is in compliance with Oregon water supply well construction standards. Materials used and information reported above are true to the best of my knowledge and belief.

License Number Date

Signed

(bonded) Water Well Constructor Certification

I accept responsibility for the construction, deepening, alteration, or abandonment work performed on this well during the construction dates reported above. All work performed during this time is in compliance with Oregon water supply well construction standards. This report is true to the best of my knowledge and belief.

License Number 1394 Date 8/14/2018

Signed EUGENE MACK (E-filed)

Contact Info (optional) Mack Drilling Company, Inc.

ORIGINAL - WATER RESOURCES DEPARTMENT

THIS REPORT MUST BE SUBMITTED TO THE WATER RESOURCES DEPARTMENT WITHIN 30 DAYS OF COMPLETION OF WORK Form Version

STATE OF OREGON
WATER SUPPLY WELL REPORT
(as required by ORS 537.765 & OAR 690-205-0210)

MARI 70054

WELL I.D. LABEL# L 140518
START CARD # 1053960
ORIGINAL LOG #

(1) LAND OWNER
Owner Well I.D. 1
First Name Keith Last Name Olson
Company
Address 5405 Hazelgreen RD NE
City Salem State OR Zip 97305

(2) TYPE OF WORK
[X] New Well [ ] Deepening [ ] Conversion [ ] Alteration (complete 2a & 10) [ ] Abandonment(complete 5a)

(2a) PRE-ALTERATION
	Dia	+	From	To	Gauge	Stl	Plstc	Wld	Thrd
Casing:									

	Material	From	To	Amt	sacks/lbs
Seal:					

(3) DRILL METHOD
[X] Rotary Air [ ] Rotary Mud [ ] Cable [ ] Auger [ ] Cable Mud
[ ] Reverse Rotary [ ] Other

(4) PROPOSED USE
[X] Domestic [ ] Irrigation [ ] Community
[ ] Industrial/ Commericial [ ] Livestock [ ] Dewatering
[ ] Thermal [ ] Injection [ ] Other

(5) BORE HOLE CONSTRUCTION
Special Standard [ ] (Attach copy)
Depth of Completed Well 88 ft.

BORE HOLE

Dia	From	To
10	0	19
6	19	88

SEAL

Material	From	To	Amt	sacks/lbs
Bentonite Chips	0	19	12.5	S
		Calculated	9	
		Calculated		

How was seal placed: Method [ ] A [ ] B [ ] C [ ] D [ ] E
[X] Other Poured and Probed
Backfill placed from 88 ft. to 100 ft. Material Gravel
Filter pack from ft. to ft. Material Size
Explosives used: [ ] Yes Type Amount

(5a) ABANDONMENT USING UNHYDRATED BENTONITE
Proposed Amount Pounds Actual Amount Pounds

(6) CASING/LINER
Casing	Liner	Dia	+	From	To	Gauge	Stl	Plstc	Wld	Thrd
●		6	X	1.5	88	250	●		X	

Shoe [X] Inside [ ] Outside [ ] Other Location of shoe(s) 88
Temp casing [ ] Yes Dia From To

(7) PERFORATIONS/SCREENS
Perforations Method OPEN BOTTOM
Screens Type Material

Perf/Screen	Casing/Liner	Screen Dia	From	To	Scrn/slot width	Slot length	# of slots	Tele/pipe size

(8) WELL TESTS: Minimum testing time is 1 hour
( ) Pump ( ) Bailer (●) Air ( ) Flowing Artesian

Yield gal/min	Drawdown	Drill stem/Pump depth	Duration (hr)
35		85	1

Temperature 56 °F Lab analysis [ ] Yes By
Water quality concerns? [ ] Yes (describe below) TDS amount 169

From	To	Description	Amount	Units

(9) LOCATION OF WELL (legal description)
County MARION Twp 6 S N/S Range 3 W E/W WM
Sec 34 NE 1/4 of the SW 1/4 Tax Lot
Tax Map Number Lot
Lat ° ' " or 45.0055635 DMS or DD
Long ° ' " or -123.0456827 DMS or DD
(●) Street address of well ( ) Nearest address
5710 Windsor Island RD N Salem OR,97303

(10) STATIC WATER LEVEL

	Date	SWL(psi)	+	SWL(ft)
Existing Well / Pre-Alteration				
Completed Well	09-19-2021			30.5

Flowing Artesian? [ ] Dry Hole? [ ]

WATER BEARING ZONES Depth water was first found 50

SWL Date	From	To	Est Flow	SWL(psi)	+	SWL(ft)
09-19-2021	50	60	18			30.5
09-19-2021	60	88	35			30.5

(11) WELL LOG
Ground Elevation

Material	From	To
Top soil	0	2
Clay silty firm	2	15
Sandy loam brownW/rocks	15	20
Sand brown med grained W/rocks	20	25
Gravel multi color med to large W/cobbles and sand	25	88
brown and grey med grained		
Siltstone grey firm	88	100
NOTE; pulled casing back to 88 ft let hole fill in		
with gravel from 100 to 88ft tabbed off casing on		
back side of well for safty measure 6 inches below		
groundl!		

RECEIVED
SEP 27 2021
OWRD

Date Started 09-18-2021 Completed 09-19-2021

(unbonded) Water Well Constructor Certification
I certify that the work I performed on the construction, deepening, alteration, or abandonment of this well is in compliance with Oregon water supply well construction standards. Materials used and information reported above are true to the best of my knowledge and belief.
License Number 1725 Date 09-19-2021
Signed Doug C. Reynolds

(bonded) Water Well Constructor Certification
I accept responsibility for the construction, deepening, alteration, or abandonment work performed on this well during the construction dates reported above. All work performed during this time is in compliance with Oregon water supply well construction standards. This report is true to the best of my knowledge and belief.
License Number 1725 Date 09-19-2021
Signed Doug C. Reynolds
Contact Info (optional)

ORIGINAL - WATER RESOURCES DEPARTMENT
THIS REPORT MUST BE SUBMITTED TO THE WATER RESOURCES DEPARTMENT WITHIN 30 DAYS OF COMPLETION OF WORK Form Version 6-4-2021

PHOTOGRAPHIC LOG





TEST PIT TP-1







TEST PIT TP-2







TEST PIT TP-3







TEST PIT TP-4







TEST PIT TP-5







TEST PIT TP-6







TEST PIT TP-7







TEST PIT TP-8







TEST PIT TP-9







TEST PIT TP-10







PIT TP-11







TEST PIT TP-12







TEST PIT TP-13







TEST PIT TP-14







TEST PIT TP-15







TEST PIT TP-16







TEST PIT TP-17







TEST PIT TP-18



Appendix B: NRCS Soil Resource Web Survey Results

United States Department of Agriculture

NRCS

Natural Resources Conservation Service

A product of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local participants

Custom Soil Resource Report for Marion County Area, Oregon



Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (https://offices.sc.egov.usda.gov/locator/app?agency=nrcs) or your NRCS State Soil Scientist (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

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Soil Qualities and Features.....15
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How Soil Surveys Are Made

Soil surveys are made to provide information about the soils and miscellaneous areas in a specific area. They include a description of the soils and miscellaneous areas and their location on the landscape and tables that show soil properties and limitations affecting various uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They observed and described many soil profiles. A soil profile is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed or from the surface down to bedrock. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

Currently, soils are mapped according to the boundaries of major land resource areas (MLRAs). MLRAs are geographically associated land resource units that share common characteristics related to physiography, geology, climate, water resources, soils, biological resources, and land uses (USDA, 2006). Soil survey areas typically consist of parts of one or more MLRA.

The soils and miscellaneous areas in a survey area occur in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept, or model, of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil

scientists classified and named the soils in the survey area, they compared the individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

The objective of soil mapping is not to delineate pure map unit components; the objective is to separate the landscape into landforms or landform segments that have similar use and management requirements. Each map unit is defined by a unique combination of soil components and/or miscellaneous areas in predictable proportions. Some components may be highly contrasting to the other components of the map unit. The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The delineation of such landforms and landform segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, onsite investigation is needed to define and locate the soils and miscellaneous areas.

Soil scientists make many field observations in the process of producing a soil map. The frequency of observation is dependent upon several factors, including scale of mapping, intensity of mapping, design of map units, complexity of the landscape, and experience of the soil scientist. Observations are made to test and refine the soil-landscape model and predictions and to verify the classification of the soils at specific locations. Once the soil-landscape model is refined, a significantly smaller number of measurements of individual soil properties are made and recorded. These measurements may include field measurements, such as those for color, depth to bedrock, and texture, and laboratory measurements, such as those for content of sand, silt, clay, salt, and other components. Properties of each soil typically vary from one point to another across the landscape.

Observations for map unit components are aggregated to develop ranges of characteristics for the components. The aggregated values are presented. Direct measurements do not exist for every property presented for every map unit component. Values for some properties are estimated from combinations of other properties.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

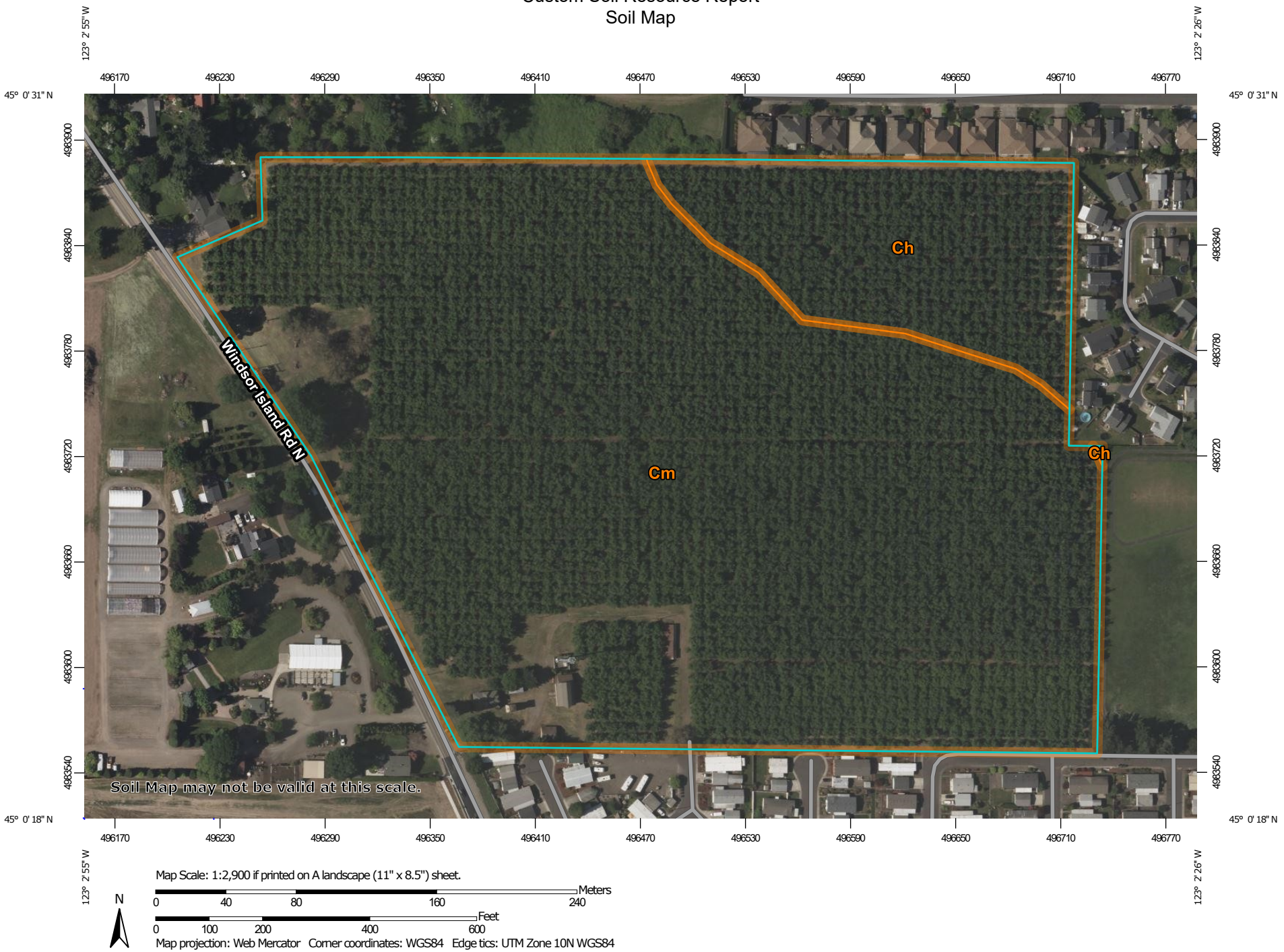
After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and

identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

Soil Map

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.

Custom Soil Resource Report
Soil Map



MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:20,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Marion County Area, Oregon
Survey Area Data: Version 23, Sep 10, 2025

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: May 17, 2023—Jun 3, 2023

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
Ch	Chehalis silty clay loam	5.2	14.2%
Cm	Cloquato silt loam	31.5	85.8%
Totals for Area of Interest		**36.7**	**100.0%**

Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however,

onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

Marion County Area, Oregon

Ch—Chehalis silty clay loam

Map Unit Setting

National map unit symbol: 24ny
Elevation: 100 to 650 feet
Mean annual precipitation: 40 to 45 inches
Mean annual air temperature: 52 to 54 degrees F
Frost-free period: 200 to 210 days
Farmland classification: All areas are prime farmland

Map Unit Composition

Chehalis and similar soils: 85 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Chehalis

Setting

Landform: Flood plains
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Alluvium

Typical profile

H1 - 0 to 9 inches: silty clay loam
H2 - 9 to 80 inches: silty clay loam

Properties and qualities

Slope: 0 to 3 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.57 to 1.98 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: Rare
Frequency of ponding: None
Available water supply, 0 to 60 inches: High (about 11.5 inches)

Interpretive groups

Land capability classification (irrigated): 1
Land capability classification (nonirrigated): 1
Hydrologic Soil Group: B
Ecological site: F002XC003OR - Low Flood Plain Group
Forage suitability group: Well drained < 15% Slopes (G002XY002OR)
Other vegetative classification: Well drained < 15% Slopes (G002XY002OR)
Hydric soil rating: No

Cm—Cloquato silt loam

Map Unit Setting

National map unit symbol: 24p1
Elevation: 100 to 650 feet
Mean annual precipitation: 40 to 45 inches
Mean annual air temperature: 52 to 54 degrees F
Frost-free period: 200 to 210 days
Farmland classification: All areas are prime farmland

Map Unit Composition

Cloquato and similar soils: 85 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Cloquato

Setting

Landform: Flood plains
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Alluvium

Typical profile

H1 - 0 to 9 inches: silt loam
H2 - 9 to 41 inches: silt loam
H3 - 41 to 83 inches: silt loam

Properties and qualities

Slope: 0 to 3 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.57 to 1.98 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: Occasional
Frequency of ponding: None
Available water supply, 0 to 60 inches: High (about 10.9 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2w
Hydrologic Soil Group: B
Ecological site: F002XC003OR - Low Flood Plain Group
Forage suitability group: Well drained < 15% Slopes (G002XY002OR)
Other vegetative classification: Well drained < 15% Slopes (G002XY002OR)
Hydric soil rating: No

Soil Information for All Uses

Soil Properties and Qualities

The Soil Properties and Qualities section includes various soil properties and qualities displayed as thematic maps with a summary table for the soil map units in the selected area of interest. A single value or rating for each map unit is generated by aggregating the interpretive ratings of individual map unit components. This aggregation process is defined for each property or quality.

Soil Qualities and Features

Soil qualities are behavior and performance attributes that are not directly measured, but are inferred from observations of dynamic conditions and from soil properties. Example soil qualities include natural drainage, and frost action. Soil features are attributes that are not directly part of the soil. Example soil features include slope and depth to restrictive layer. These features can greatly impact the use and management of the soil.

Hydrologic Soil Group

Hydrologic soil groups are based on estimates of runoff potential. Soils are assigned to one of four groups according to the rate of water infiltration when the soils are not protected by vegetation, are thoroughly wet, and receive precipitation from long-duration storms.

The soils in the United States are assigned to four groups (A, B, C, and D) and three dual classes (A/D, B/D, and C/D). The groups are defined as follows:

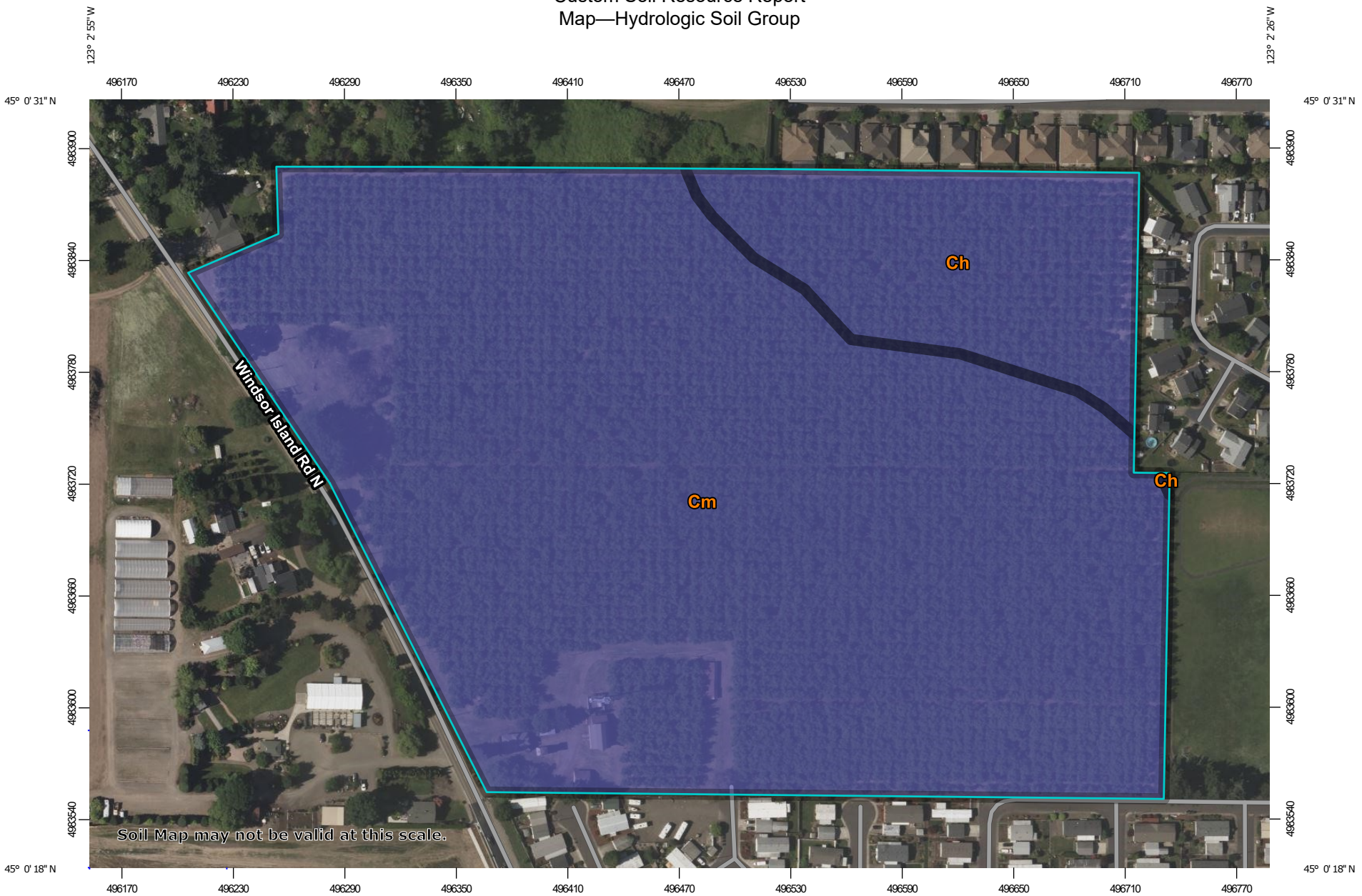
Group A. Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

Group B. Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

Group C. Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

If a soil is assigned to a dual hydrologic group (A/D, B/D, or C/D), the first letter is for drained areas and the second is for undrained areas. Only the soils that in their natural condition are in group D are assigned to dual classes.



Map Scale: 1:2,900 if printed on A landscape (11" x 8.5") sheet.

N

Meters: 0 40 80 160 240

Feet: 0 100 200 400 600

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 10N WGS84

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils

Soil Rating Polygons
- A
- A/D
- B
- B/D
- C
- C/D
- D
- Not rated or not available

Soil Rating Lines
- A
- A/D
- B
- B/D
- C
- C/D
- D
- Not rated or not available

Soil Rating Points
- A
- A/D
- B
- B/D
- C
- C/D
- D
- Not rated or not available

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:20,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Marion County Area, Oregon
Survey Area Data: Version 23, Sep 10, 2025

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: May 17, 2023—Jun 3, 2023

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Table—Hydrologic Soil Group

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
Ch	Chehalis silty clay loam	B	5.2	14.2%
Cm	Cloquato silt loam	B	31.5	85.8%
Totals for Area of Interest			**36.7**	**100.0%**

Rating Options—Hydrologic Soil Group

Aggregation Method: Dominant Condition

Component Percent Cutoff: None Specified

Tie-break Rule: Higher

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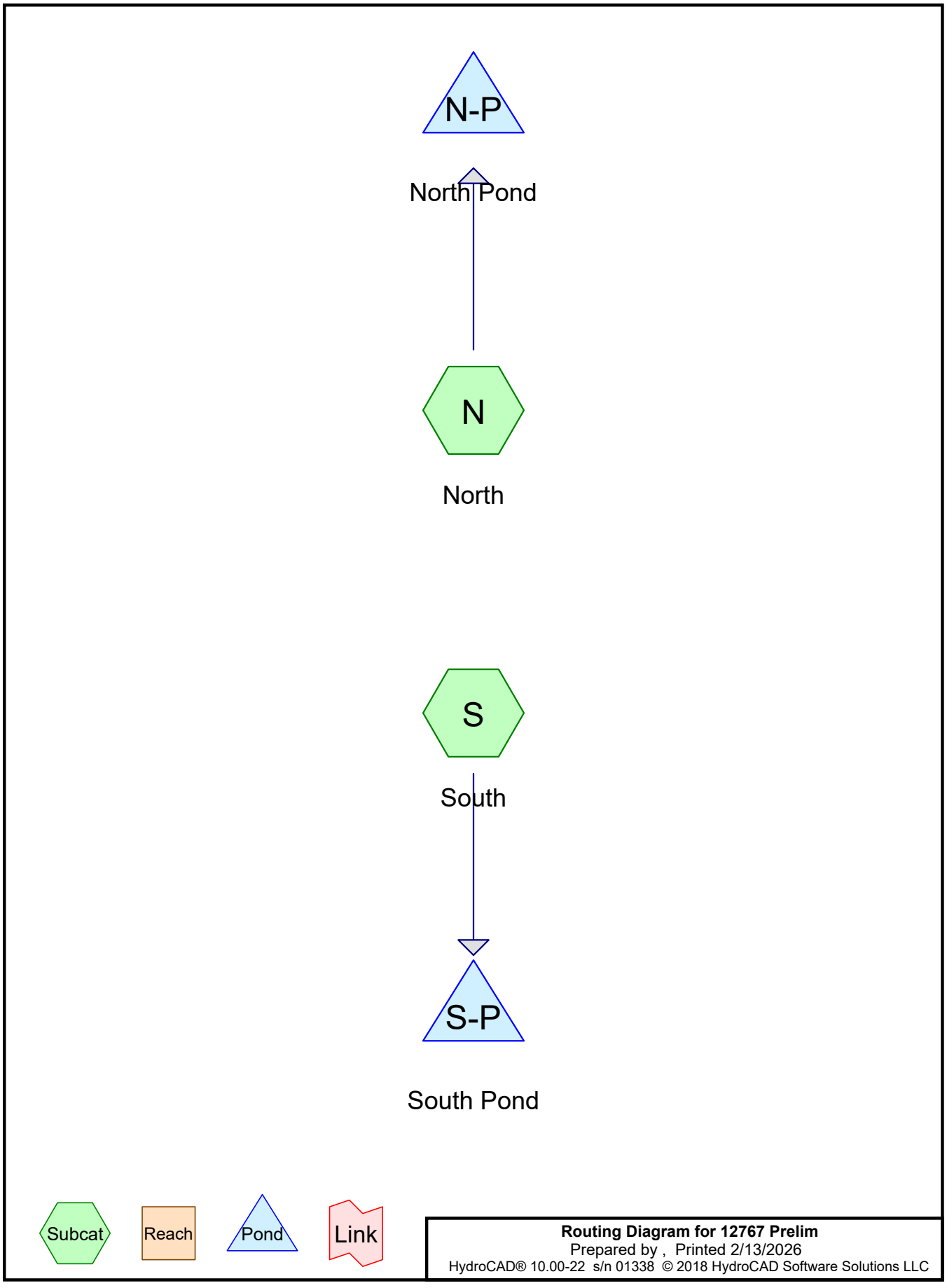
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Appendix C: HydroCAD Analysis


N-P
North Pond
N
North
S
South
S-P
South Pond
Subcat
Reach
Pond
Link
Routing Diagram for 12767 Prelim
Prepared by , Printed 2/13/2026
HydroCAD® 10.00-22 s/n 01338 © 2018 HydroCAD Software Solutions LLC

Area Listing (all nodes)

Area (sq-ft)	CN	Description (subcatchment-numbers)
267,153	98	ROAD (N, S)
794,317	98	ROOFS (N, S)
77,580	98	SIDEWALK (N, S)
1,139,050	**98**	**TOTAL AREA**

Time span=0.00-72.00 hrs, dt=0.10 hrs, 721 points
Runoff by SBUH method, Split Pervious/Imperv.
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

SubcatchmentN: North Runoff Area=14.838 ac 100.00% Impervious Runoff Depth=4.16"
Tc=5.0 min CN=0/98 Runoff=15.38 cfs 224,293 cf

SubcatchmentS: South Runoff Area=11.311 ac 100.00% Impervious Runoff Depth=4.16"
Tc=5.0 min CN=0/98 Runoff=11.73 cfs 170,979 cf

Pond N-P: North Pond Peak Elev=124.25' Storage=102,046 cf Inflow=15.38 cfs 224,293 cf
Discarded=1.64 cfs 224,294 cf Primary=0.00 cfs 0 cf Outflow=1.64 cfs 224,294 cf

Pond S-P: South Pond Peak Elev=124.22' Storage=71,882 cf Inflow=11.73 cfs 170,979 cf
Discarded=1.52 cfs 170,975 cf Primary=0.00 cfs 0 cf Outflow=1.52 cfs 170,975 cf

Total Runoff Area = 1,139,050 sf Runoff Volume = 395,272 cf Average Runoff Depth = 4.16"
0.00% Pervious = 0 sf 100.00% Impervious = 1,139,050 sf

Summary for Subcatchment N: North

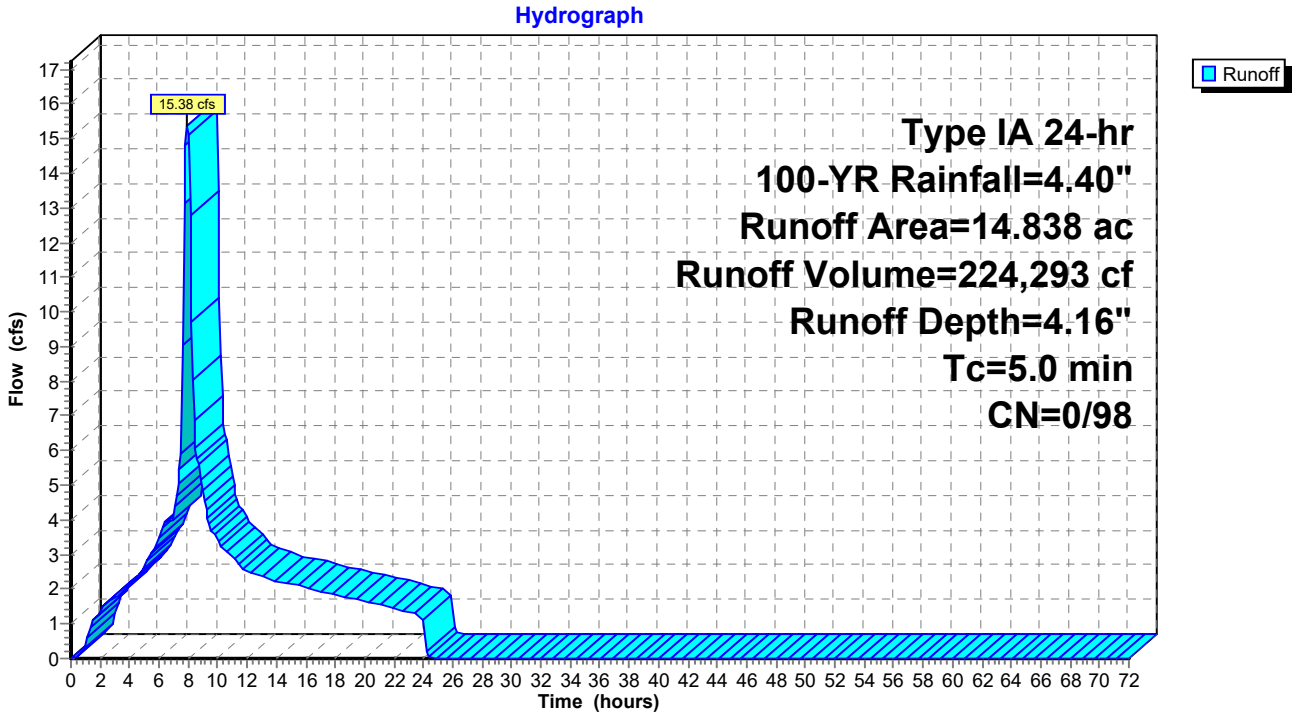
Runoff = 15.38 cfs @ 7.92 hrs, Volume= 224,293 cf, Depth= 4.16"

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-72.00 hrs, dt= 0.10 hrs
Type IA 24-hr 100-YR Rainfall=4.40"

	Area (ac)	CN	Description
*	3.755	98	ROAD
*	9.989	98	ROOFS
*	1.094	98	SIDEWALK
	14.838	98	Weighted Average
	14.838		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Subcatchment N: North



Summary for Subcatchment S: South

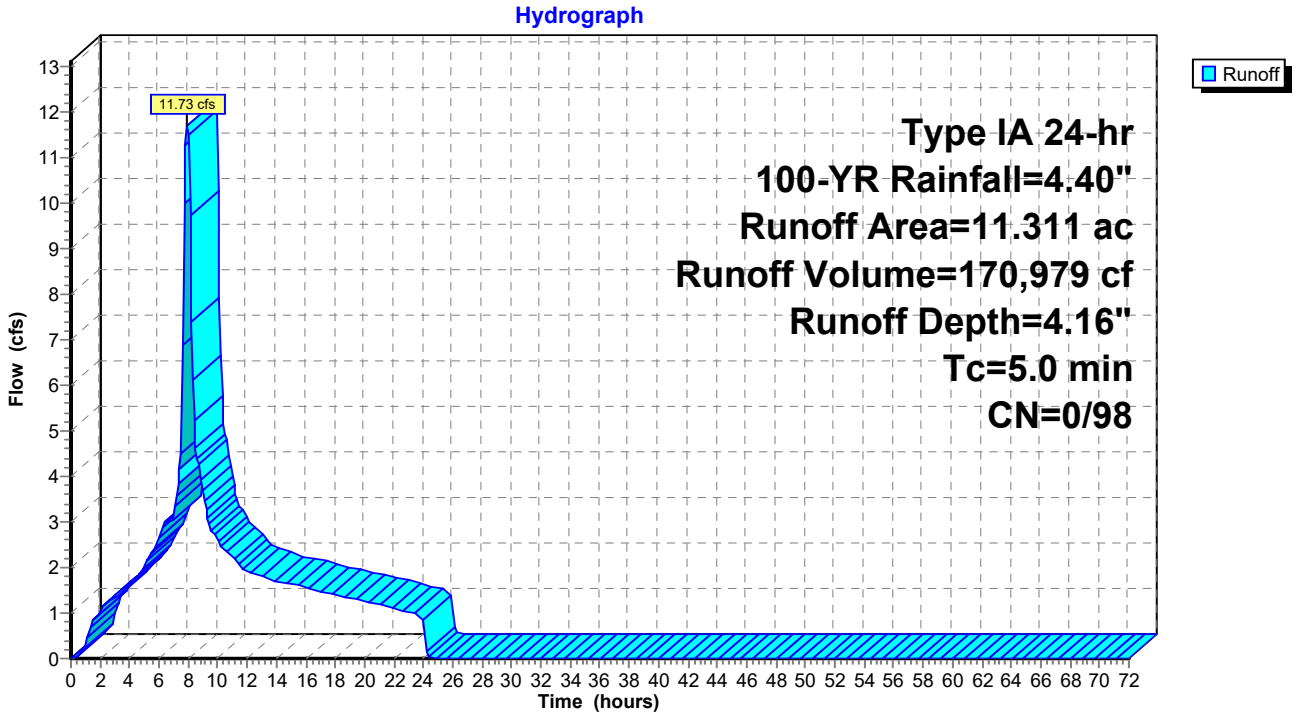
Runoff = 11.73 cfs @ 7.92 hrs, Volume= 170,979 cf, Depth= 4.16"

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-72.00 hrs, dt= 0.10 hrs
Type IA 24-hr 100-YR Rainfall=4.40"

	Area (ac)	CN	Description
*	2.378	98	ROAD
*	8.246	98	ROOFS
*	0.687	98	SIDEWALK
	11.311	98	Weighted Average
	11.311		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Subcatchment S: South



Summary for Pond N-P: North Pond

Inflow Area = 646,343 sf,100.00% Impervious, Inflow Depth = 4.16" for 100-YR event
Inflow = 15.38 cfs @ 7.92 hrs, Volume= 224,293 cf
Outflow = 1.64 cfs @ 20.03 hrs, Volume= 224,294 cf, Atten= 89%, Lag= 726.7 min
Discarded = 1.64 cfs @ 20.03 hrs, Volume= 224,294 cf
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.10 hrs / 2
Peak Elev= 124.25' @ 20.03 hrs Surf.Area= 35,163 sf Storage= 102,046 cf

Plug-Flow detention time= 664.9 min calculated for 223,983 cf (100% of inflow)
Center-of-Mass det. time= 665.6 min (1,325.7 - 660.1)

Volume	Invert	Avail.Storage	Storage Description
#1	121.00'	167,300 cf	**Custom Stage Data (Pyramidal)** Listed below (Recalc)

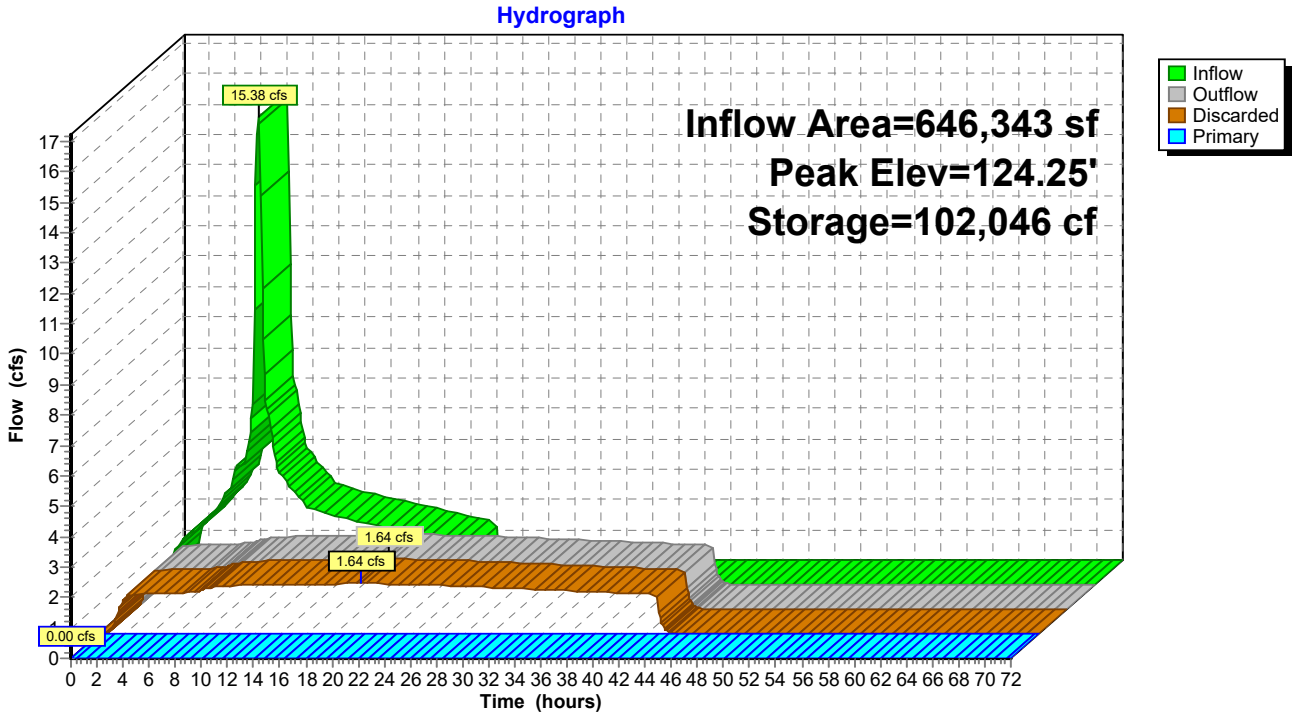
Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
121.00	27,752	0.0	0	0	27,752
122.00	29,970	100.0	28,854	28,854	30,072
123.00	32,245	100.0	31,101	59,954	32,454
124.00	34,576	100.0	33,404	93,358	34,897
125.00	36,963	100.0	35,763	129,121	37,400
126.00	39,408	100.0	38,179	167,300	39,967

Device	Routing	Invert	Outlet Devices
#1	Discarded	121.00'	**2.000 in/hr Exfiltration over Wetted area**
#2	Primary	125.50'	**20.0' long Sharp-Crested Overflow Structure** 2 End Contraction(s)

Discarded OutFlow Max=1.64 cfs @ 20.03 hrs HW=124.25' (Free Discharge)
↑—**1=Exfiltration** (Exfiltration Controls 1.64 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=121.00' (Free Discharge)
↑—**2=Sharp-Crested Overflow Structure** (Controls 0.00 cfs)

Pond N-P: North Pond



Summary for Pond S-P: South Pond

Inflow Area = 492,707 sf,100.00% Impervious, Inflow Depth = 4.16" for 100-YR event
Inflow = 11.73 cfs @ 7.92 hrs, Volume= 170,979 cf
Outflow = 1.52 cfs @ 16.57 hrs, Volume= 170,975 cf, Atten= 87%, Lag= 519.1 min
Discarded = 1.52 cfs @ 16.57 hrs, Volume= 170,975 cf
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.10 hrs / 2
Peak Elev= 124.22' @ 16.57 hrs Surf.Area= 15,957 sf Storage= 71,882 cf

Plug-Flow detention time= 579.8 min calculated for 170,975 cf (100% of inflow)
Center-of-Mass det. time= 579.5 min (1,239.6 - 660.1)

Volume	Invert	Avail.Storage	Storage Description
#1	118.00'	102,740 cf	**Custom Stage Data (Pyramidal)** Listed below (Recalc)

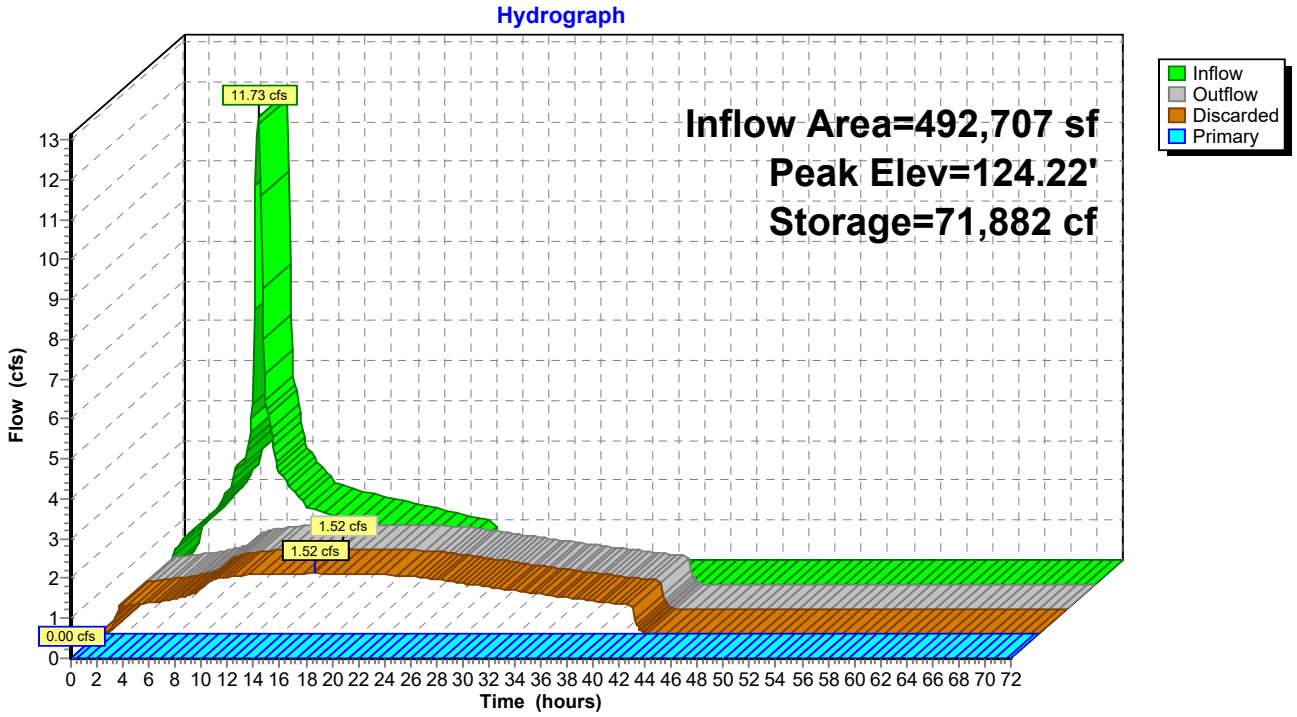
Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
118.00	7,587	0.0	0	0	7,587
119.00	8,746	100.0	8,160	8,160	8,801
120.00	9,979	100.0	9,356	17,515	10,093
121.00	11,292	100.0	10,629	28,144	11,469
122.00	12,679	100.0	11,979	40,123	12,924
123.00	14,120	100.0	13,393	53,516	14,437
124.00	15,618	100.0	14,863	68,379	16,013
125.00	17,173	100.0	16,389	84,768	17,650
126.00	18,784	100.0	17,972	102,740	19,348

Device	Routing	Invert	Outlet Devices
#1	Discarded	118.00'	**4.000 in/hr Exfiltration over Wetted area**
#2	Primary	125.50'	**20.0' long Sharp-Crested Overflow Structure** 2 End Contraction(s)

Discarded OutFlow Max=1.52 cfs @ 16.57 hrs HW=124.22' (Free Discharge)
↑—**1=Exfiltration** (Exfiltration Controls 1.52 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=118.00' (Free Discharge)
↑—**2=Sharp-Crested Overflow Structure** (Controls 0.00 cfs)

Pond S-P: South Pond



Time span=0.00-72.00 hrs, dt=0.10 hrs, 721 points
Runoff by SBUH method, Split Pervious/Imperv.
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

SubcatchmentN: North Runoff Area=14.838 ac 100.00% Impervious Runoff Depth=1.16"
Tc=5.0 min CN=0/98 Runoff=4.45 cfs 62,592 cf

SubcatchmentS: South Runoff Area=11.311 ac 100.00% Impervious Runoff Depth=1.16"
Tc=5.0 min CN=0/98 Runoff=3.39 cfs 47,714 cf

Pond N-P: North Pond Peak Elev=121.32' Storage=8,933 cf Inflow=4.45 cfs 62,592 cf
Discarded=1.32 cfs 62,595 cf Primary=0.00 cfs 0 cf Outflow=1.32 cfs 62,595 cf

Pond S-P: South Pond Peak Elev=119.04' Storage=8,500 cf Inflow=3.39 cfs 47,714 cf
Discarded=0.82 cfs 47,713 cf Primary=0.00 cfs 0 cf Outflow=0.82 cfs 47,713 cf

Total Runoff Area = 1,139,050 sf Runoff Volume = 110,307 cf Average Runoff Depth = 1.16"
0.00% Pervious = 0 sf 100.00% Impervious = 1,139,050 sf

Summary for Subcatchment N: North

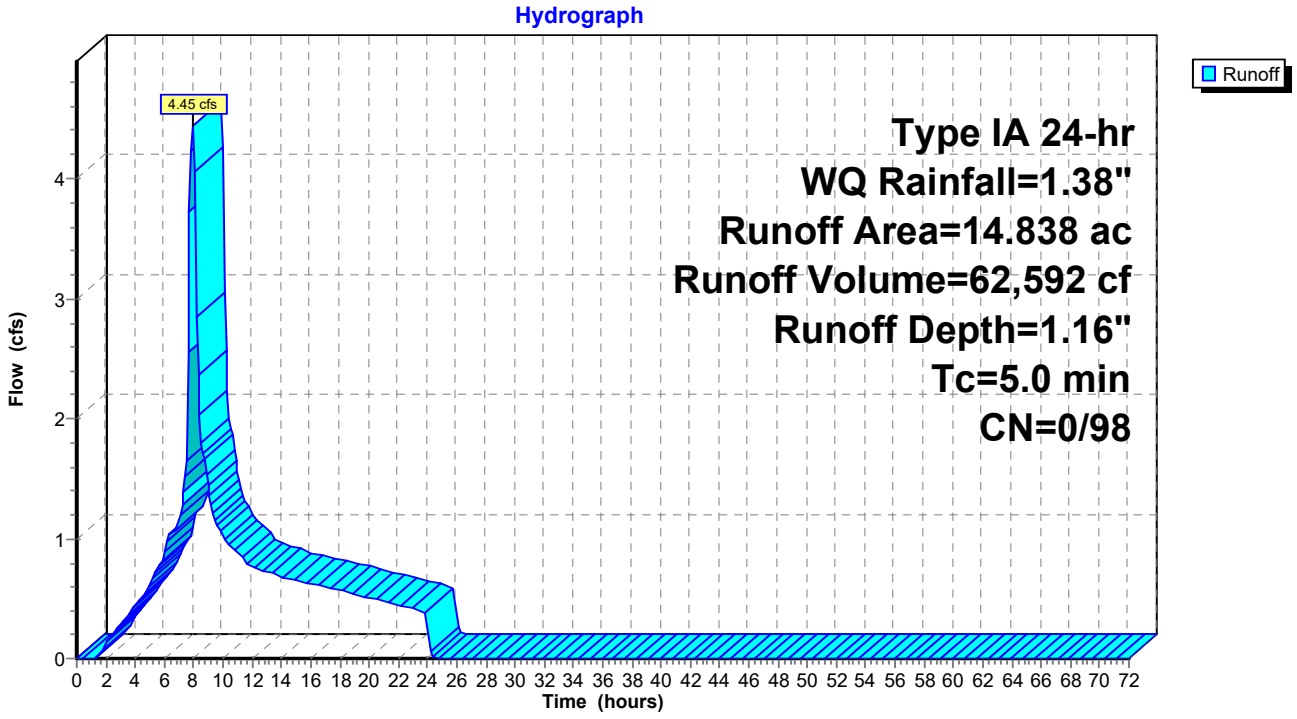
Runoff = 4.45 cfs @ 7.93 hrs, Volume= 62,592 cf, Depth= 1.16"

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-72.00 hrs, dt= 0.10 hrs
Type IA 24-hr WQ Rainfall=1.38"

	Area (ac)	CN	Description
*	3.755	98	ROAD
*	9.989	98	ROOFS
*	1.094	98	SIDEWALK
	14.838	98	Weighted Average
	14.838		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Subcatchment N: North



Summary for Subcatchment S: South

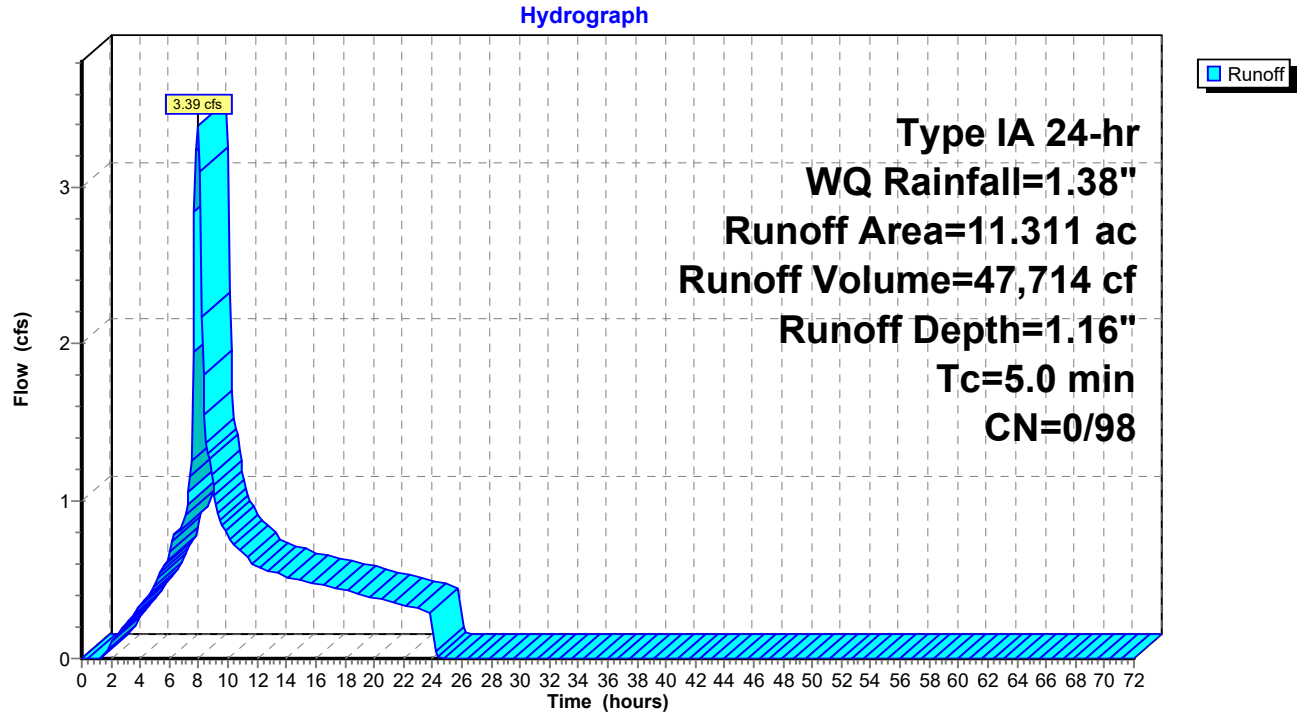
Runoff = 3.39 cfs @ 7.93 hrs, Volume= 47,714 cf, Depth= 1.16"

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-72.00 hrs, dt= 0.10 hrs
Type IA 24-hr WQ Rainfall=1.38"

	Area (ac)	CN	Description
*	2.378	98	ROAD
*	8.246	98	ROOFS
*	0.687	98	SIDEWALK
	11.311	98	Weighted Average
	11.311		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Subcatchment S: South



Summary for Pond N-P: North Pond

Inflow Area = 646,343 sf,100.00% Impervious, Inflow Depth = 1.16" for WQ event
Inflow = 4.45 cfs @ 7.93 hrs, Volume= 62,592 cf
Outflow = 1.32 cfs @ 9.15 hrs, Volume= 62,595 cf, Atten= 70%, Lag= 73.0 min
Discarded = 1.32 cfs @ 9.15 hrs, Volume= 62,595 cf
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.10 hrs / 2
Peak Elev= 121.32' @ 9.15 hrs Surf.Area= 28,448 sf Storage= 8,933 cf

Plug-Flow detention time= 46.3 min calculated for 62,508 cf (100% of inflow)
Center-of-Mass det. time= 46.4 min (745.1 - 698.8)

Volume	Invert	Avail.Storage	Storage Description
#1	121.00'	167,300 cf	**Custom Stage Data (Pyramidal)** Listed below (Recalc)

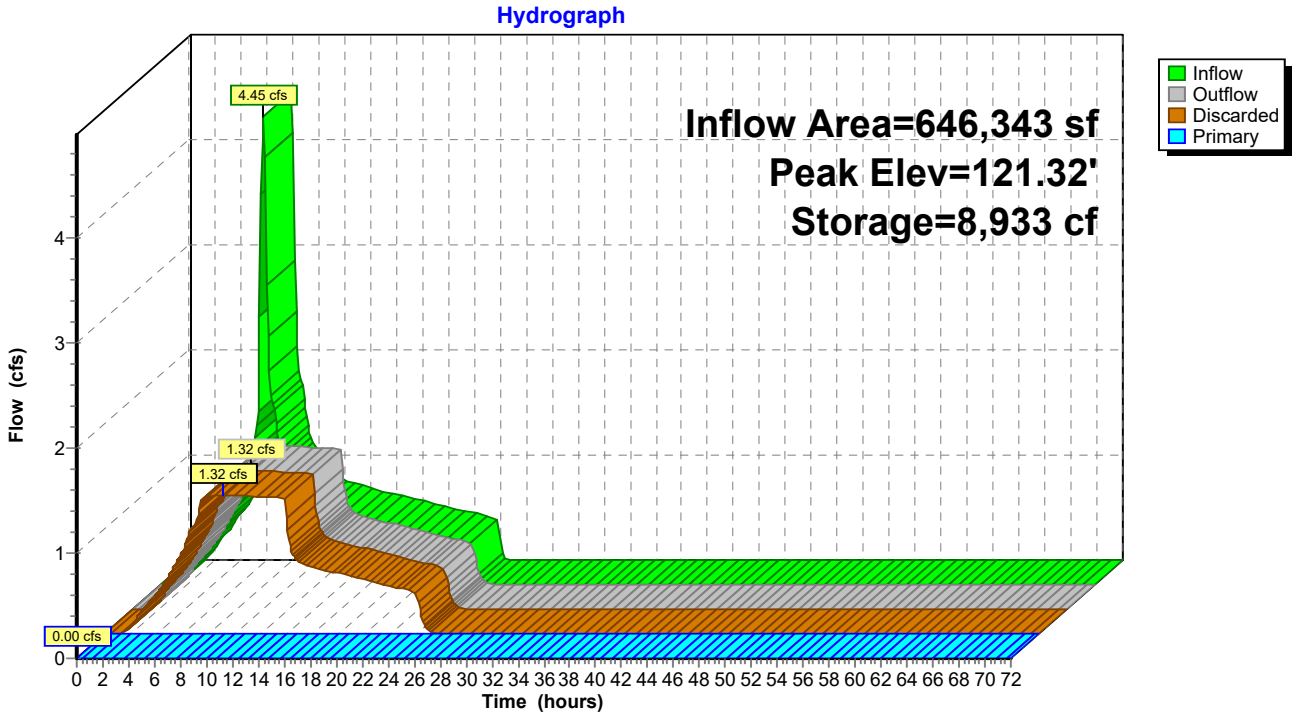
Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
121.00	27,752	0.0	0	0	27,752
122.00	29,970	100.0	28,854	28,854	30,072
123.00	32,245	100.0	31,101	59,954	32,454
124.00	34,576	100.0	33,404	93,358	34,897
125.00	36,963	100.0	35,763	129,121	37,400
126.00	39,408	100.0	38,179	167,300	39,967

Device	Routing	Invert	Outlet Devices
#1	Discarded	121.00'	**2.000 in/hr Exfiltration over Wetted area**
#2	Primary	125.50'	**20.0' long Sharp-Crested Overflow Structure** 2 End Contraction(s)

Discarded OutFlow Max=1.32 cfs @ 9.15 hrs HW=121.32' (Free Discharge)
↑—**1=Exfiltration** (Exfiltration Controls 1.32 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=121.00' (Free Discharge)
↑—**2=Sharp-Crested Overflow Structure** (Controls 0.00 cfs)

Pond N-P: North Pond



Summary for Pond S-P: South Pond

Inflow Area = 492,707 sf,100.00% Impervious, Inflow Depth = 1.16" for WQ event
Inflow = 3.39 cfs @ 7.93 hrs, Volume= 47,714 cf
Outflow = 0.82 cfs @ 9.82 hrs, Volume= 47,713 cf, Atten= 76%, Lag= 113.2 min
Discarded = 0.82 cfs @ 9.82 hrs, Volume= 47,713 cf
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.10 hrs / 2
Peak Elev= 119.04' @ 9.82 hrs Surf.Area= 8,792 sf Storage= 8,500 cf

Plug-Flow detention time= 83.9 min calculated for 47,647 cf (100% of inflow)
Center-of-Mass det. time= 83.9 min (782.6 - 698.8)

Volume	Invert	Avail.Storage	Storage Description
#1	118.00'	102,740 cf	**Custom Stage Data (Pyramidal)** Listed below (Recalc)

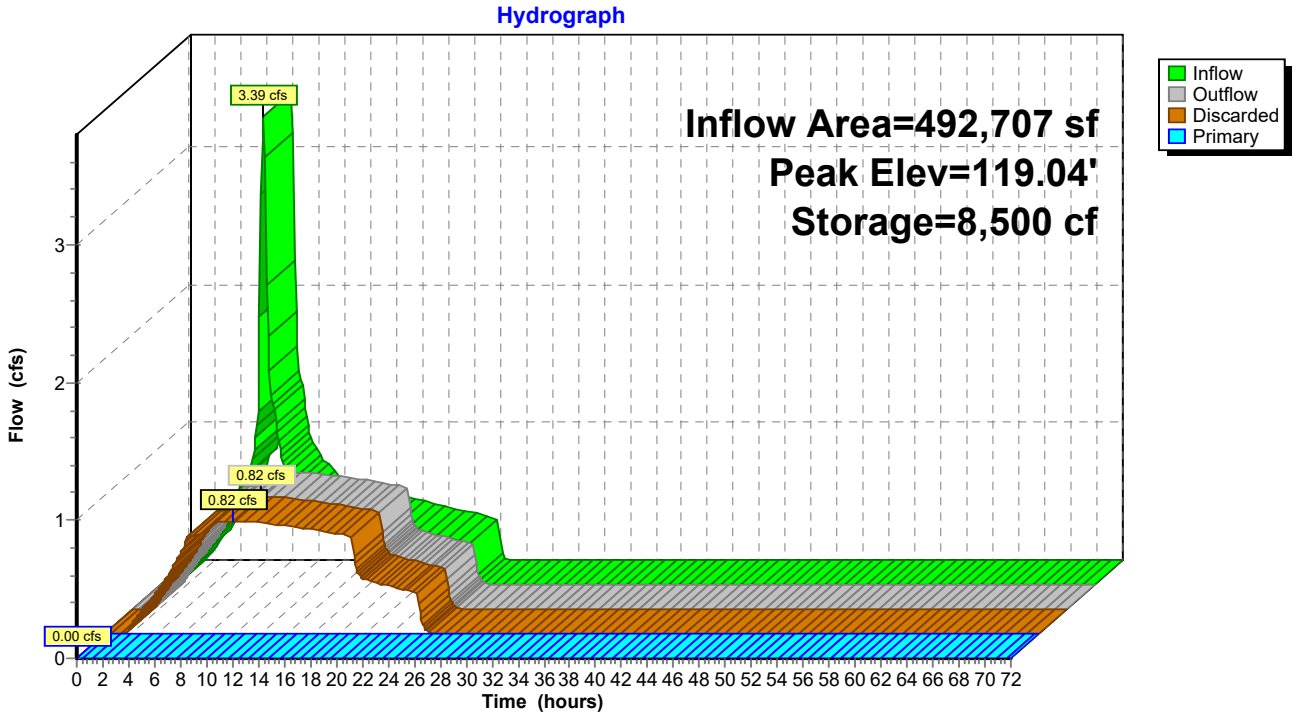
Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
118.00	7,587	0.0	0	0	7,587
119.00	8,746	100.0	8,160	8,160	8,801
120.00	9,979	100.0	9,356	17,515	10,093
121.00	11,292	100.0	10,629	28,144	11,469
122.00	12,679	100.0	11,979	40,123	12,924
123.00	14,120	100.0	13,393	53,516	14,437
124.00	15,618	100.0	14,863	68,379	16,013
125.00	17,173	100.0	16,389	84,768	17,650
126.00	18,784	100.0	17,972	102,740	19,348

Device	Routing	Invert	Outlet Devices
#1	Discarded	118.00'	**4.000 in/hr Exfiltration over Wetted area**
#2	Primary	125.50'	**20.0' long Sharp-Crested Overflow Structure** 2 End Contraction(s)

Discarded OutFlow Max=0.82 cfs @ 9.82 hrs HW=119.04' (Free Discharge)
↑—**1=Exfiltration** (Exfiltration Controls 0.82 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=118.00' (Free Discharge)
↑—**2=Sharp-Crested Overflow Structure** (Controls 0.00 cfs)

Pond S-P: South Pond



TRAFFIC IMPACT ANALYSIS
TRANSPORTATION PLANNING RULE ANALYSIS

OLSON ORCHARDS SUBDIVISION

TRAFFIC IMPACT ANALYSIS
TRANSPORTATION PLANNING RULE ANALYSIS

Keizer, OR

December 12, 2025

Update March 31, 2026

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SANDOW ENGINEERING

TRAFFIC IMPACT ANALYSIS
TRANSPORTATION PLANNING RULE ANALYSIS
OLSON ORCHARDS SUBDIVISION



Keizer, Oregon

December 12, 2025

March 31, 2026 Update

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project # 6249

EXECUTIVE SUMMARY

This report provides the Transportation Planning Rule Analysis (TPRA) and a Traffic Impact Analysis (TIA) for the proposed Comprehensive Plan Amendment/Zone Change and a residential subdivision proposed off Windsor Island Road in Keizer, Oregon. The development site is comprised of Tax Lots 1300 and 1400 of Assessor's Map 06-3W-34, located along the east side of Windsor Island Road north of Lockhaven Drive. The entire site is approximately 36.46 acres and is occupied by one single-family residence and a filbert farm.

The site is currently zoned Agricultural Industrial (AI). The applicant will be rezoning the property to Residential Single Family (RS). The proposed zone change triggers an evaluation as per Oregon Administrative Rule OAR 660-012-0060- the Transportation Planning Rule and Keizer Development Code Section 3.111.05.

The development proposal is the construction of 110 single-family detached lots and 8 single-family attached lots. Access to the site will be via a new street connection to Windsor Island Road. The development proposal triggers a Traffic Impact Analysis as per the Keizer Development Code Section 2.301.04.

The following report recommendations are based on the information and analysis documented in this report.

FINDINGS

- The addition of development trips does not trigger any intersections to not meet the LOS or v/c standards.
- The addition of development traffic does not substantially increase queuing conditions.
- The crash rates and patterns do not warrant safety improvements.
- There is no off-site mitigation needed for this development.
- TPR findings are demonstrated to be met.

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1.0 BACKGROUND

1.1 SITE INFORMATION

The development site is comprised of Tax Lots 1300 and 1400 of Assessor's Map 06-3W-34. The site is located along the east side of Windsor Island Road, north of Lockhaven Drive. The entire site is approximately 36.46 acres and is occupied by one single-family residence and a filbert farm. The site is currently zoned Agricultural Industrial (AI). The applicant will be rezoning the property to Residential Single Family (RS).

The development proposal is for Phase 1 of the overall site plan, which includes 110 single-family detached lots and 8 single family attached lots. Access to the site will be via a new public street connection to Windsor Island Road. Figure 1 illustrates the site location and vicinity map. Appendix A contains the site plan.

1.2 ANALYSIS SCOPE

TRAFFIC IMPACT ANALYSIS

The development proposal of 110 single-family detached lots and 8 single-family attached lots triggers an evaluation of impacts as per the Keizer Development Code Section 2.301.04 during the AM and PM peak hours at the time of development completion, estimated at year 2027, and for 5 years beyond the completion (year 2032). Appendix B contains the scope of work.

An intersection analysis was performed for the adjacent intersections at the following locations:

- Windsor Island Road at Lockhaven Drive
- Lockhaven Drive at River Road
- Windsor Island Road at Site Access

The operational analysis was performed at the study area intersections for the weekday AM peak period (7:00-9:00 AM) and PM peak period (4:00-6:00 PM). The operational analysis is performed for the following conditions:

- Existing conditions, year 2026
- Year of completion, year 2027, with and without the proposed development
- Five-year planning horizon, the year 2032, with and without the proposed development

TRANSPORTATION PLANNING RULE ANALYSIS

The proposed zone change triggers an evaluation consistent with the Transportation Planning Rule criteria (TPR), Oregon Administrative Rule (OAR) 660-012-0060, and Keizer Development Code Section 3.111.05. This evaluation considers the impacts from the "reasonable worst-case" development potential at the end of the City's Transportation System Plan planning horizon. The currently adopted Transportation System Plan has a planning horizon year of year 2031. The City is

currently updating its TSP, however the TSP update is not complete. Therefore, the year 2031 planning horizon is applicable. Appendix B contains the scope of work.

Based on the level of trips generated by the reasonable worst-case development potential, the following intersections are evaluated:

- Windsor Island Road at Lockhaven Drive
- Lockhaven Drive at River Road
- Windsor Island Road at Chemawa Road
- Chemawa Road at River Road
- Lockhaven Drive at Chemawa Road
- Windsor Island Road at Site Access

The City's Transportation System Plan evaluated AM and PM peak-hour conditions. Therefore, to be consistent with the TSP, the analysis is completed for the AM peak period (7:00-9:00 AM) and the PM peak period (4:00-6:00 PM) for the year 2031 conditions.



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Figure 1: Site Location and Vicinity Map

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2.0 EXISTING ROADWAY CONDITIONS

2.1 STREET NETWORK

Streets included within the study are Windsor Island Road, Lockhaven Drive, Chemawa Road, and River Road. The roadway characteristics within the study area are included in Table 1.

TABLE 1: ROADWAY CHARACTERISTICS WITHIN STUDY AREA

Characteristic	Windsor Island Road	Lockhaven Drive	Chemawa Road	River Road
Jurisdiction	City	City	City	City
Functional Classification	Collector	Major/Minor Arterial	Minor Arterial	Major Arterial
Lanes per Direction	1	1	1	2
Center Left Turn lane	None	Yes	Yes	Yes
Restrictions in the Median	None	None	None	None
Bikes Lanes Present	Intermittent	Yes	Yes	North of Chemawa
Sidewalks Present	Intermittent	Yes	Yes	Yes
Transit Route	South of Lockhaven	Yes	East of Windsor	Yes
On-Street Parking	None	None	None	None

2.2 STUDY INTERSECTIONS

The following intersections are included in the study area. Figure 2 illustrates the study area intersection geometry and access control.

- Windsor Island Road at Lockhaven Drive
- Lockhaven Drive at River Road
- Windsor Island Road at Chemawa Road
- Chemawa Road at River Road
- Lockhaven Drive at Chemawa Road

Windsor Island Road at Lockhaven Drive: This is a 3-legged stop-controlled intersection with the stop on the westbound/Lockhaven Rd approach. This intersection is one lane in each direction with a separate westbound left turn lane. There are bike lanes and ADA ramps on all approaches.

Windsor Island Road at Chemawa Road: This is a 4-legged all-way stop-controlled intersection. There is one lane in each direction. ADA ramps are provided on all corners.

Lockhaven Drive at River Road: This is a 4-legged signalized intersection. The Lockhaven Drive approaches have one travel lane. The eastbound approach has separate left and right turn pockets. The westbound approach has a left and left-through lane and a separate signalized right turn slip lane. The River Road approaches have 2 lanes in each direction with separate left turn pockets and a separate northbound right turn pocket. The intersection operates as split phasing for the eastbound and westbound approached. There are marked crosswalks on all approaches.

Chemawa Road at River Road: This is a 4-legged signalized intersection. The Chemawa Road approaches are 1 lane in each direction with separate left and right turn pockets. The River Road approaches are one lane in each direction with separate left turn pockets. There are marked crosswalks on all approaches.

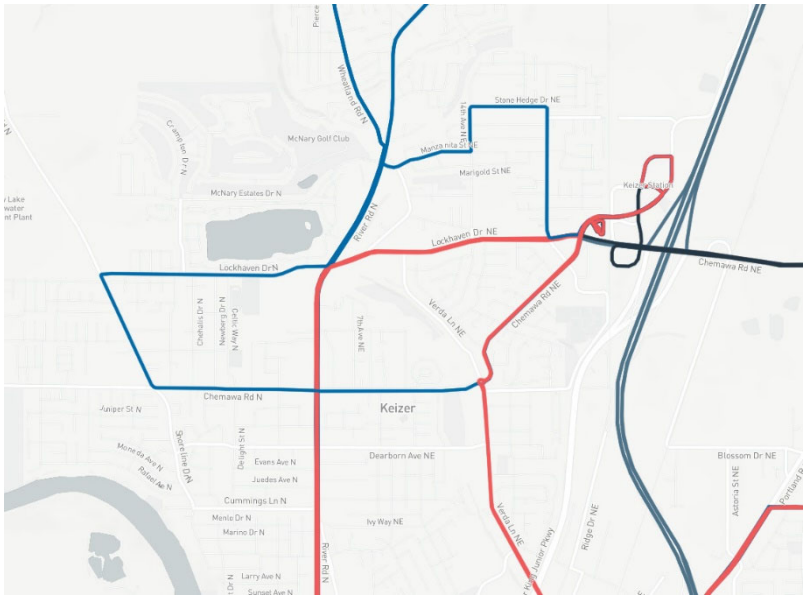
Lockhaven Drive at Chemawa Drive: This is a 4-legged signalized intersection. Lockhaven Drive is two lanes in each direction with dual eastbound left turn pockets and a single westbound left turn pocket. The northbound approach has a left turn pocket and dual right turn pockets. The southbound approach has dual left turn pockets and a separate right turn pocket. There are marked crosswalks on all approaches.

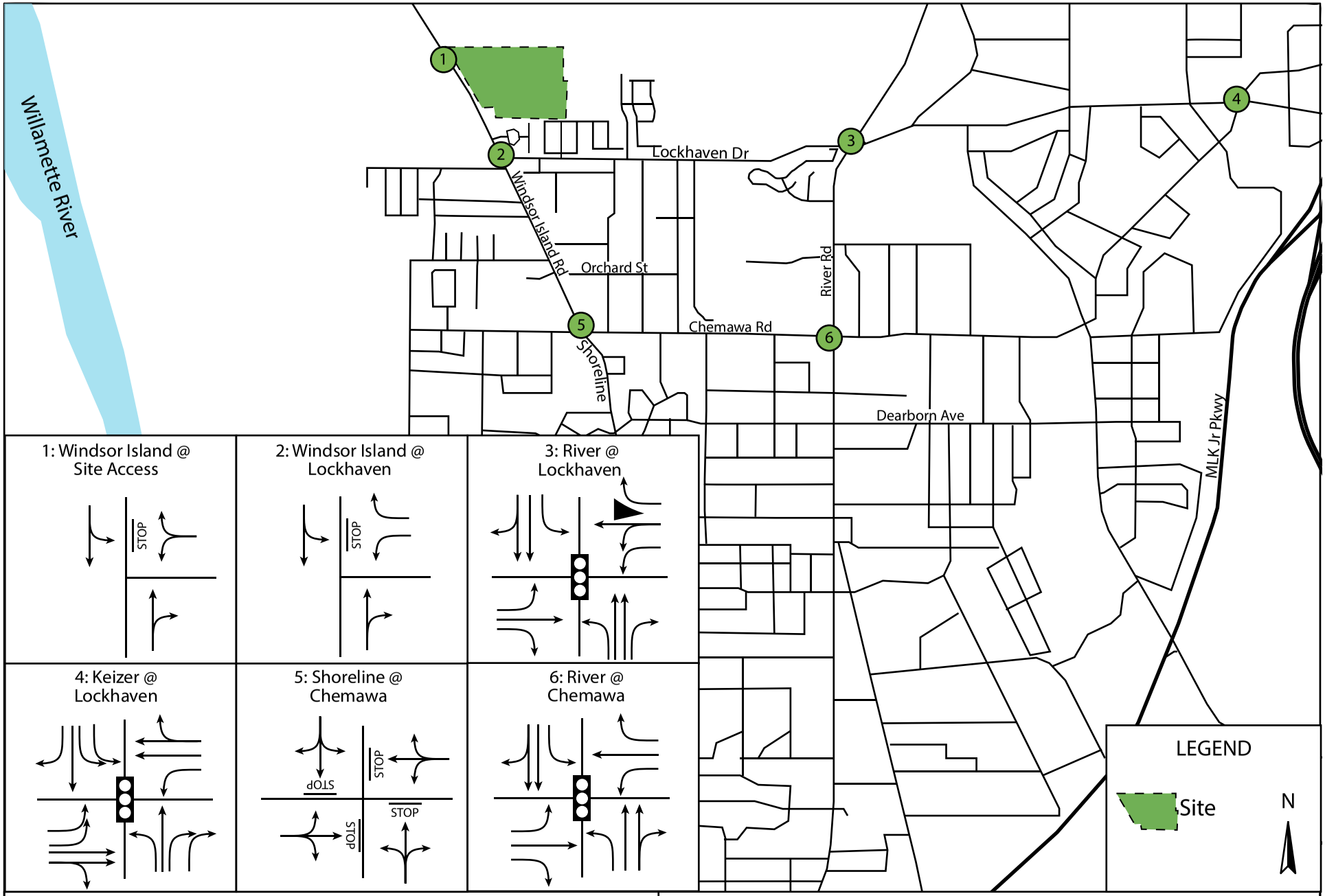
2.3 TRANSIT

Transit is provided within the study area by Cherriots. Service is provided in the area via:

- **Route 14:** This route provides service along Lockhaven Dr, Windsor Island Road, and Chemawa Road. Service is provided on weekdays from 6:00 AM to 9:00 PM at 30-minute intervals.
- **Route 19:** This route provides service along River Road and Lockhaven Drive west of River Road. Service is provided on weekdays from 6:30 AM to 11:30 PM at 30-minute intervals.

Transit Routes





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Figure 2: Intersection Control and Lane Configuration

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3.0 CRASH ANALYSIS

A crash evaluation was performed for the study area intersections. The analysis investigates crash data available for the most recent 5 years, 1/1/2019-12/31/2023. The 2024 data is preliminary. Therefore, the 2024 data is used when evaluating crash patterns, but not used in the crash rate calculations. The crash analysis follows the Critical Crash Rate methodology outlined in ODOT's Analysis Procedures Manual to determine the crash rate in crashes per million entering vehicles and the type of crashes that occurred. However, there are not enough data points to perform the critical crash rate calculation. Therefore, the crash rates are compared to the Statewide 90th Percentile crash rates. If the crash rate exceeds the 90th Percentile crash rates, the intersection is further evaluated for possible mitigation measures. The crash data is provided in Appendix C. The crash rates are provided in Table 2, and Table 3 summarizes the crash data.

TABLE 2: INTERSECTION CRASH RATE

Location	Intersection Type	Number of Crashes	AADT	Crash Rate*	90th % Crash Rate*	
Windsor Island at Lockhaven Road	Stop Control	2	7,750	0.14	0.293	Under
Windsor Island at Chemawa Road	Stop Control	2	8,000	0.14	0.293	Under
Lockhaven Road at River Road	Signal	15	36,500	0.23	0.860	Under
River Road at Chemawa Road	Signal	17	35,000	0.27	0.860	Under
Lockhaven Road at Chemawa Road	Signal	18	37,500	0.26	0.860	Under

***(crashes/million entering vehicles)**

As demonstrated in Table 2, all study area intersections have crash rates lower than the Statewide 90th Percentile Crash Rates.

TABLE 3: INTERSECTION CRASH PATTERNS

Location	Number of Crashes	Types of Crashes						Severity		
		Head	Rear	Side	Turn	Other	Ped/ Bike	PDO	Injury	Fatal
Windsor Island at Lockhaven Road	2	0	0	0	2	0	0	1	1	0
Windsor Island at Chemawa Road	2	0	1	0	0	1	0	0	2	0
Lockhaven Road at River Road	15	0	6	2	1	5	1	5	10	0
River Road at Chemawa Road	17	0	7	0	4	4	2	7	10	0
Lockhaven Road at Chemawa Road	18	0	4	2	9	3	0	6	12	0

There was 1 reported crash involving a pedestrian, occurring at the River Road at Chemawa Road intersection. This crash occurred on Thursday, 11/04/2023, at approximately 5 AM. The pedestrian was in the crosswalk. The vehicle was on Chemawa Road traveling eastbound. The error/cause of the crash was assigned to the vehicle for disregarding the traffic signal. There are no geometrical or operational issues that contributed to this crash.

There was 1 reported crash involving a bicycle, occurring at the River Road at Chemawa Road intersection. This crash occurred on Tuesday, 12/10/2019, at approximately 5 PM. The bicyclist was in the crosswalk, traveling eastbound. The vehicle was on Chemawa Road, making an eastbound right turn. The error/cause of the crash is noted as the bicycle in the crosswalk during the “don’t walk” indication, and not visible due to the time of day. There are no geometrical or operational issues that contributed to this crash.

There was 1 reported crash involving a bicycle, occurring at the River Road at Lockhaven Road intersection. This crash occurred on Friday, 10/20/2023, at approximately 5 AM. The bicyclist was traveling southbound illegally in the roadway. The vehicle made a northbound right turn. The error/cause of the crash is noted as the bicyclist being illegally in the roadway, not visible, and disregarding the traffic signal. There are no geometrical or operational issues that contributed to this crash.

At the intersection of Lockhaven Road at Chemawa Road, half of the crashes were turn movement crashes. There is no dominant pattern of crashes.

4.0 DEVELOPMENT TRIP GENERATION AND DISTRIBUTION

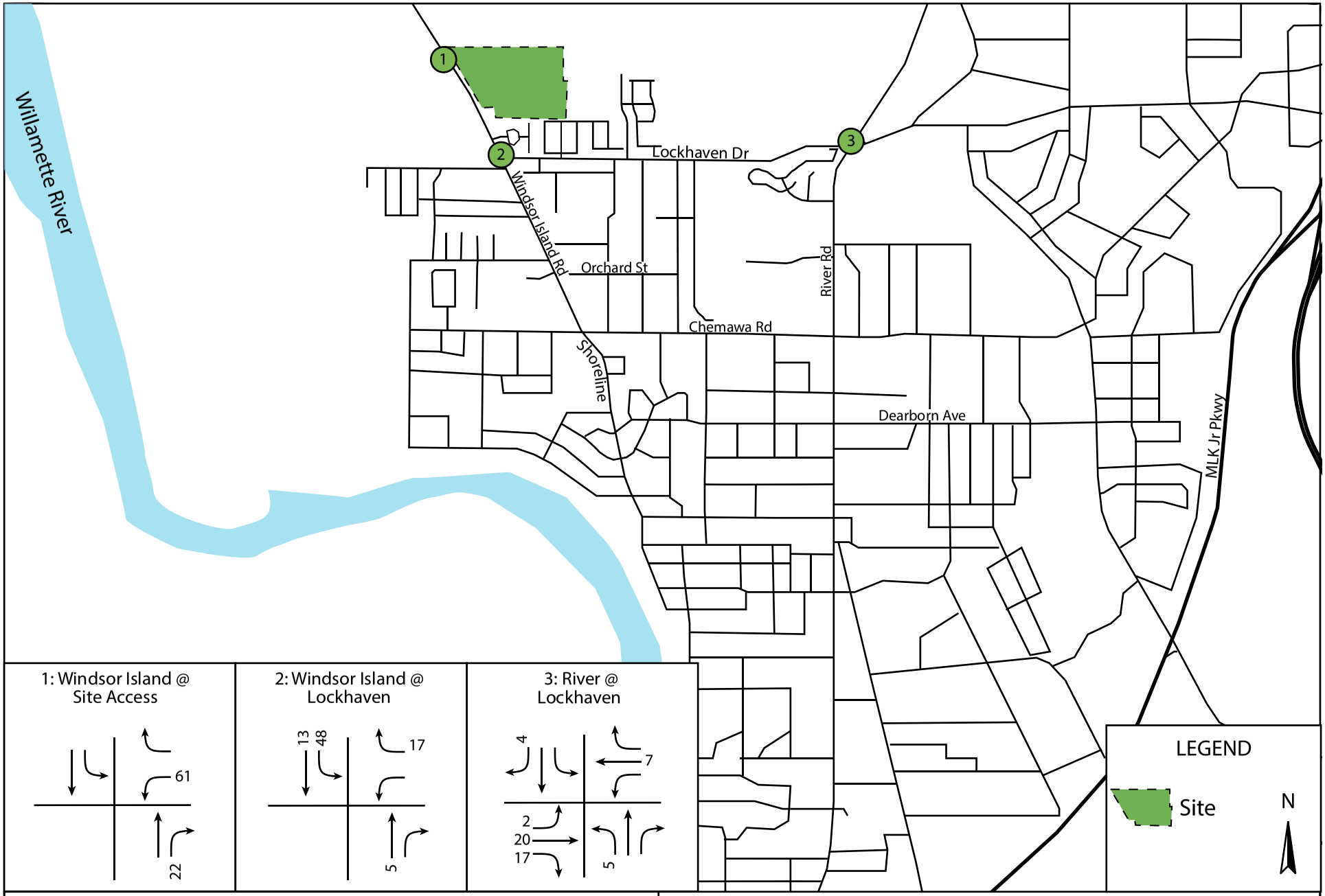
The development proposal is phase 1 of the overall site plan and includes 110 single-family detached lots and 8 single family attached lots. The development trips are estimated using the ITE Trip Generation Manual, 11th edition. The trips are estimated using land use code 210-Single Family Detached Housing and 215-Single Family Attached Housing. Table 4 provides the trip estimates.

TABLE 4: DEVELOPMENT TRIP GENERATION

Land Use Code	Units	Rate	Trips	In	Out
Daily					
210-Single Family Detached	110	Ln(T)=0.92ln(x)+2.68	1,157	578 (50%)	579 (50%)
215-Single Family Attached	8	T=6.53(x)+3.25	55	28 (50%)	27 (50%)
Total	118		1,212	606	606
AM Peak Hour					
210-Single Family Detached	110	Ln(T)=0.91ln(x)+0.12	79	21 (25%)	58 (75%)
215-Single Family Attached	8	0.47	4	1 (25%)	3 (75%)
Total	118		83	22	61
PM Peak Hour					
210-Single Family Detached	110	Ln(T)=0.94ln(x)+0.27	105	65 (63%)	40 (37%)
215-Single Family Attached	8	0.51	4	2 (57%)	2 (43%)
Total	118		109	67	42

The trips are distributed on the system based on the existing travel patterns in the area and the reasonable origins and destinations. Figure 3 illustrates the trip distribution during the AM peak hour. Figure 4 illustrates the trip distribution during the PM peak hour. The trips are distributed on the system as follows:

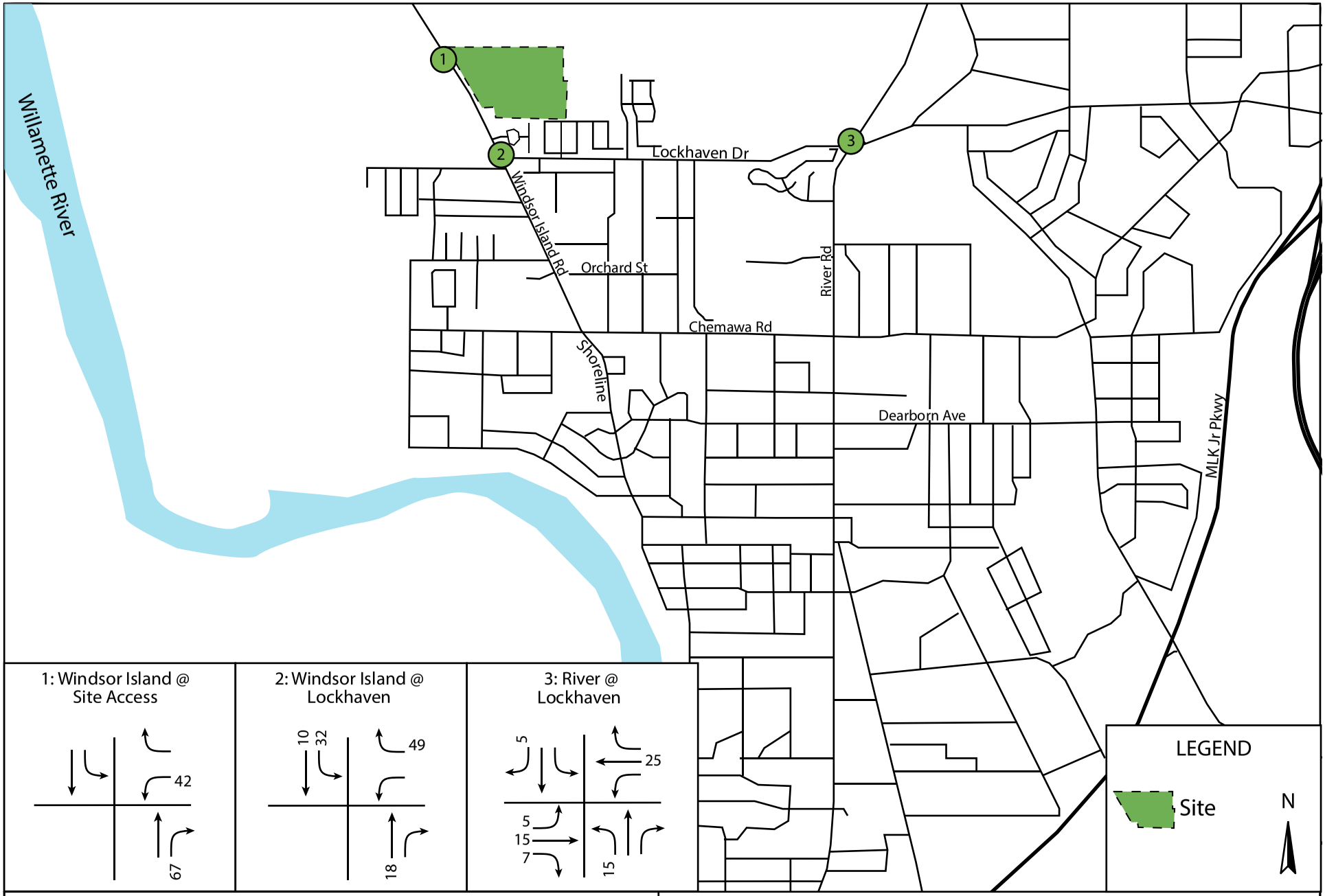
- 23% to/from south on Windsor Road
- 27% to/from south on River Road
- 5% to/from north on River Road
- 33% to/from east on Lockhaven east of Chemawa
- 12% internal to study area to schools, retail, etc.



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Figure 3: AM Development Trip Distribution

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Figure 4: PM Development Trip Distribution

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5.0 BACKGROUND TRAFFIC VOLUMES

5.1 INTERSECTION COUNTS

Recent traffic counts were collected in November 2025 at the study intersections from 7:00-9:00 AM and 4:00-6:00 PM. The peak hours of the system are 7:30-8:30 AM and 4:00-5:00 PM.

The traffic volumes are included in Appendix D.

5.2 SEASONAL ADJUSTMENT

Traffic volumes taken outside of peak travel season are adjusted to reflect peak season flows. The counts for this study were collected during a normal school day and during normal commute times, which reflect typical peak volumes in an urban environment. Therefore, no further adjustments are necessary.

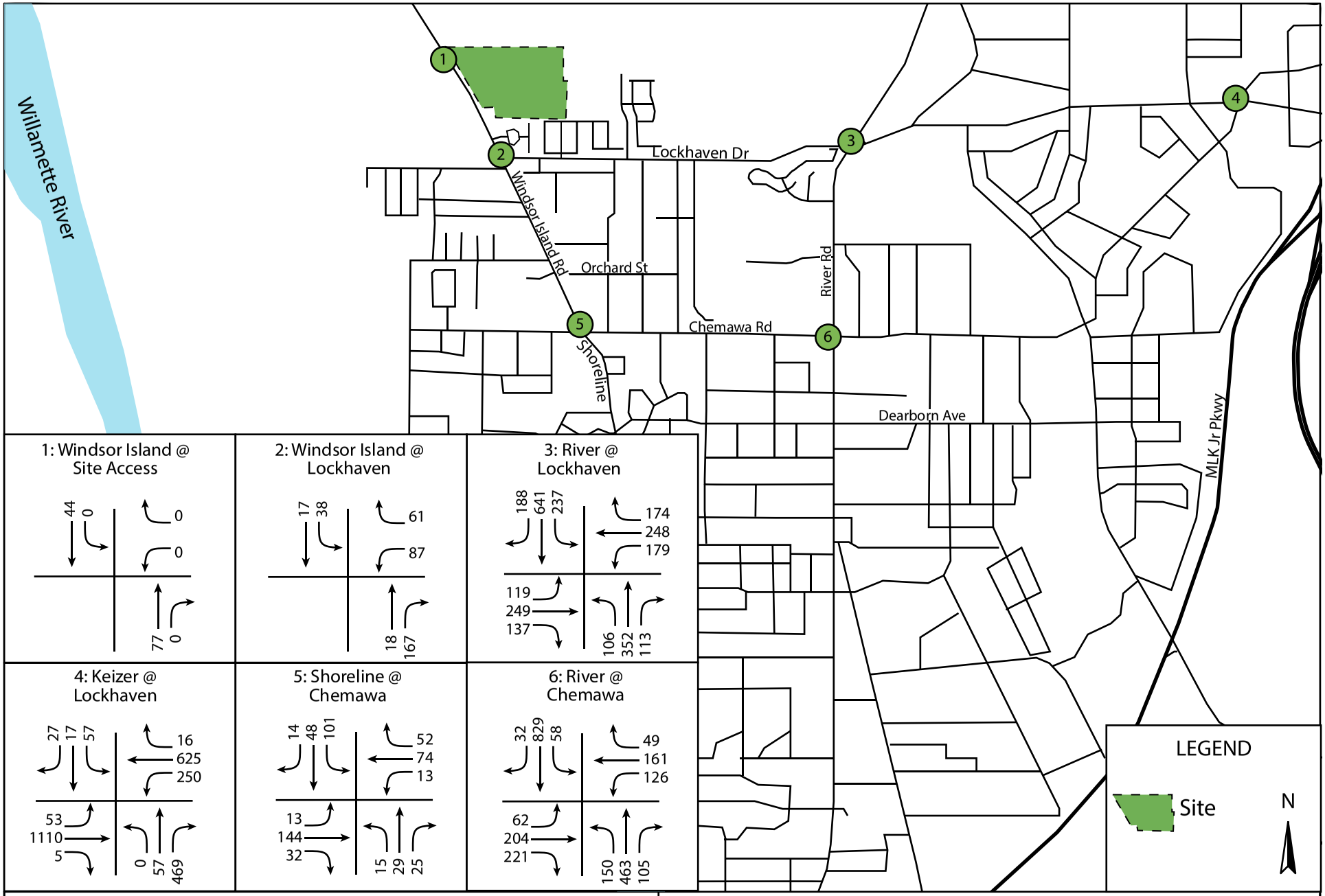
5.3 FUTURE YEAR BACKGROUND VOLUMES

The proposed site development is projected to be completed by the year 2027. Consistent with the traffic impact analysis criteria, the intersections were evaluated for the year of completion, the year 2027, and a 5-year planning horizon, the year 2032. An annual growth rate was applied to account for naturally occurring traffic increases between the count year and the future analysis year. The SKATS Model data illustrates an annual growth rate of 0.6% to 1% within the study area. A 1% annual growth rate is applied to the year 2025 counts to estimate the year 2027 and year 2032 volumes.

5.4 FINAL TRAFFIC VOLUMES

The existing traffic volumes were adjusted according to the methodology described above. Appendix D provides the traffic volume calculations. The development trips are added to the background traffic volume to represent the build conditions. The traffic volumes are provided in the following figures:

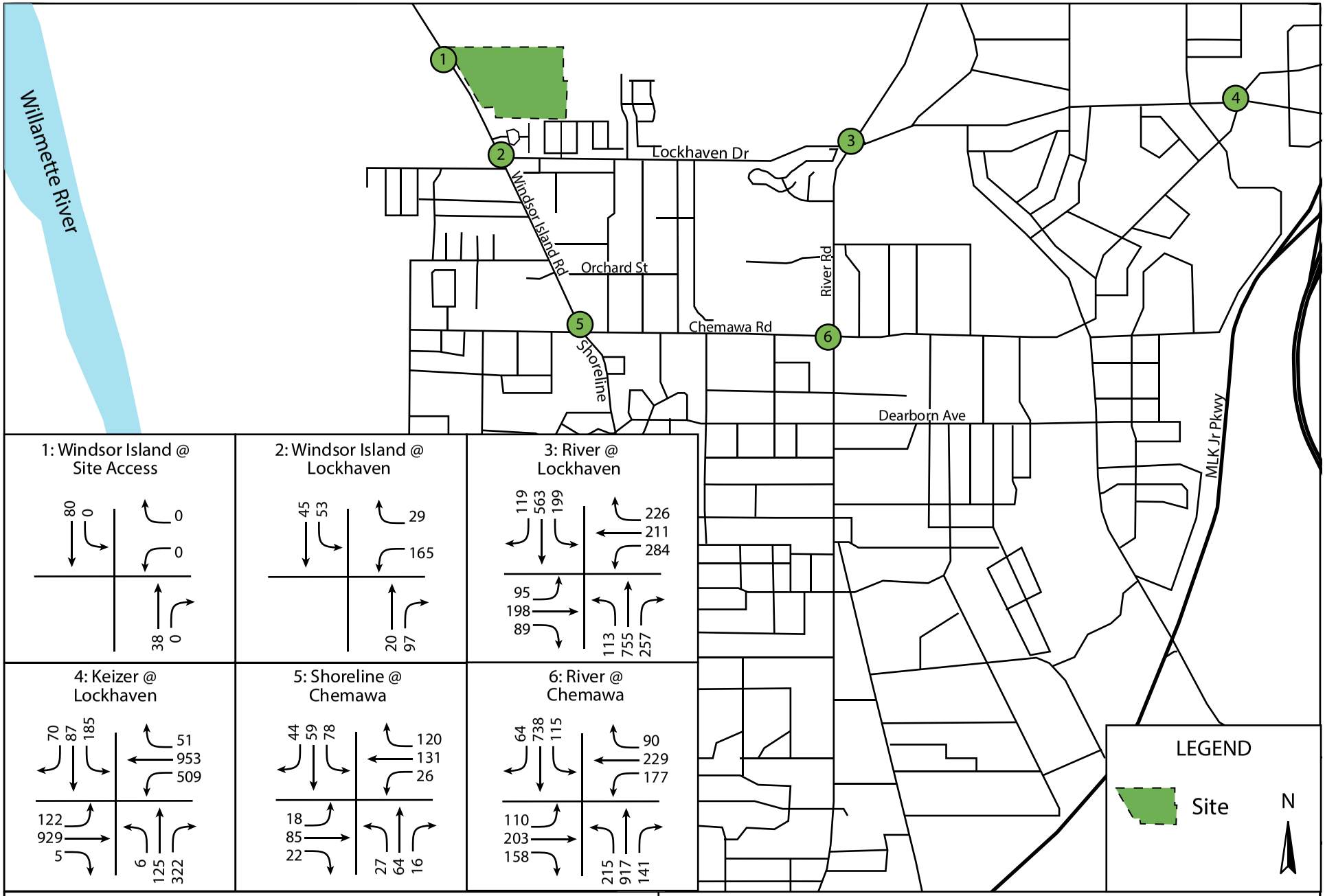
- Figure 5- Year 2026 AM Peak Hour
- Figure 6- Year 2026 PM Peak Hour
- Figure 7- Year 2027 AM Peak Hour Background
- Figure 8- Year 2027 PM Peak Hour Background
- Figure 9- Year 2032 AM Peak Hour Background
- Figure 10- Year 2032 PM Peak Hour Background
- Figure 11- Year 2027 AM Peak Hour with Development
- Figure 12- Year 2027 PM Peak Hour with Development
- Figure 13- Year 2032 AM Peak Hour with Development
- Figure 14- Year 2032 PM Peak Hour with Development



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Figure 5: Year 2025 AM Peak Hour Existing Traffic Volumes

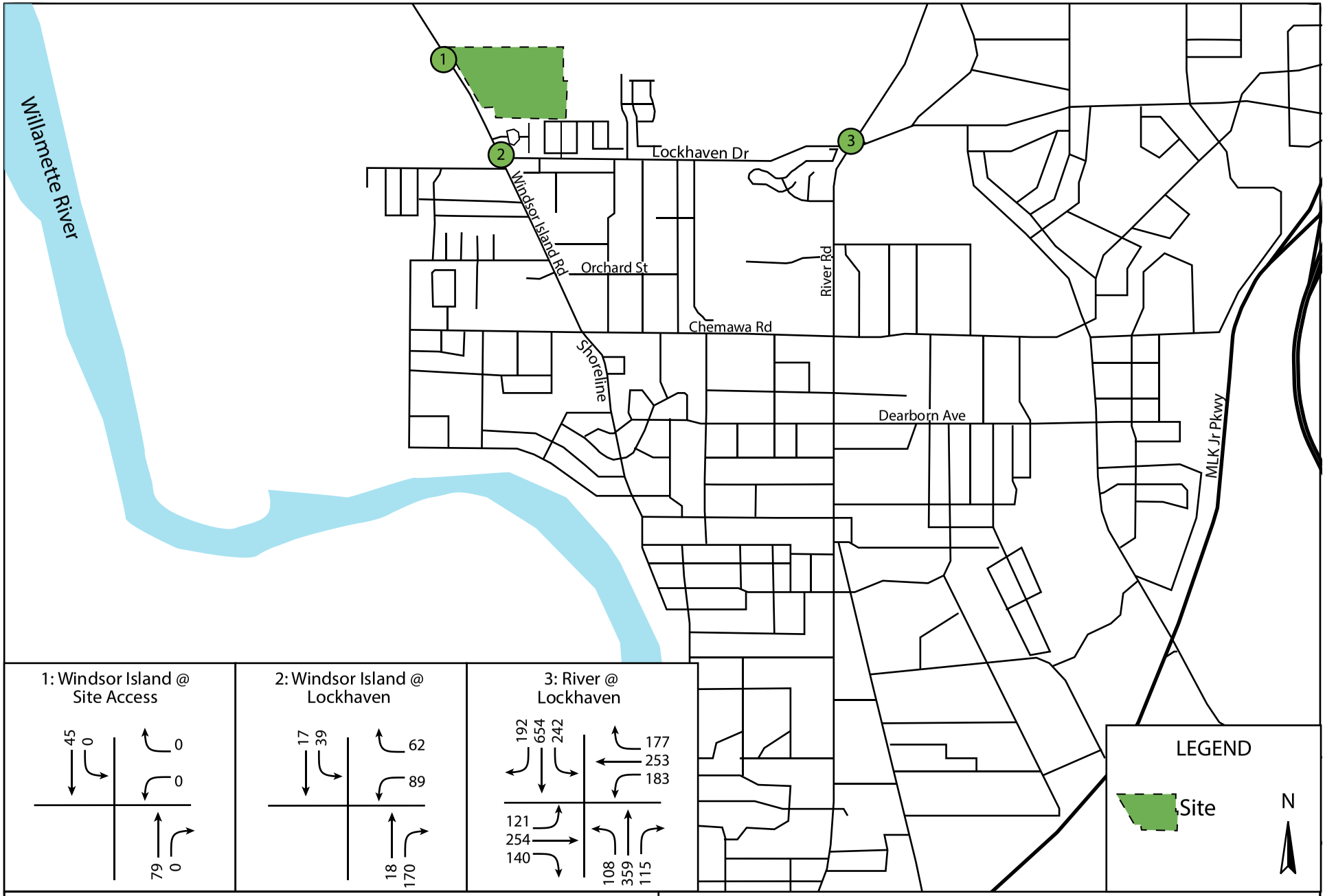
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Figure 6: Year 2025 PM Peak Hour Existing Traffic Volumes

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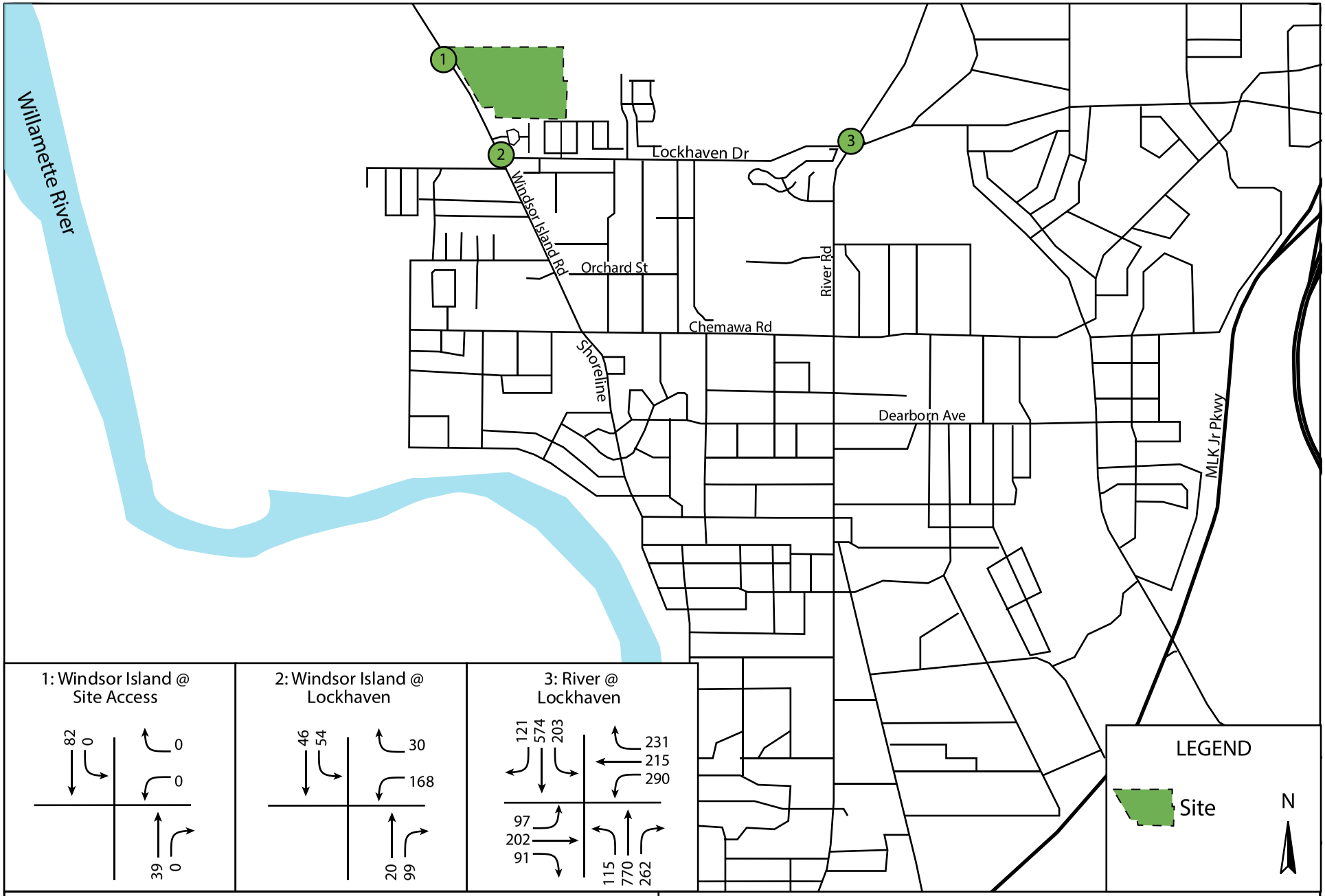


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Figure 7: Year 2027 AM Background Traffic Volumes

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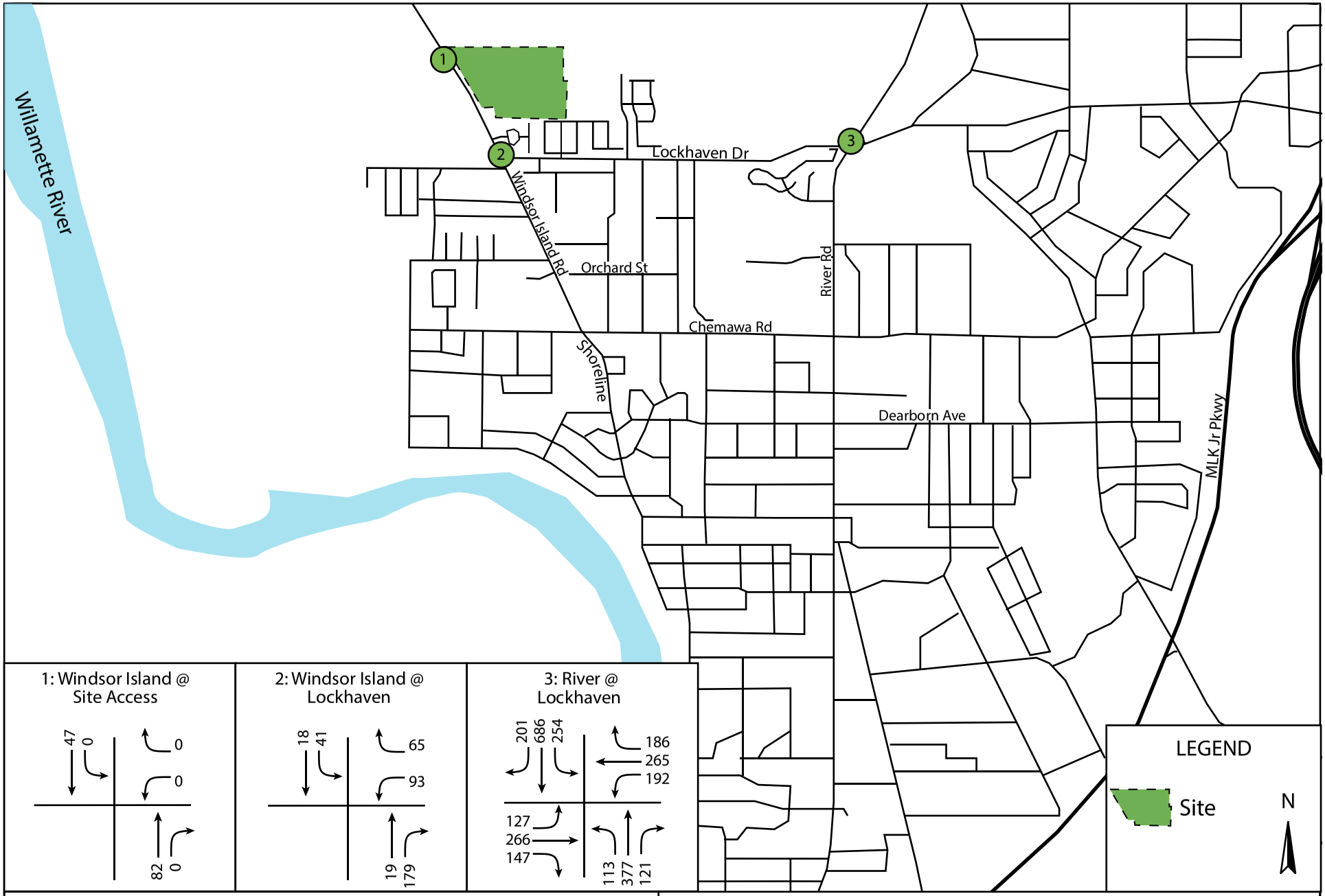
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Figure 8: Year 2027 PM Background Traffic Volumes

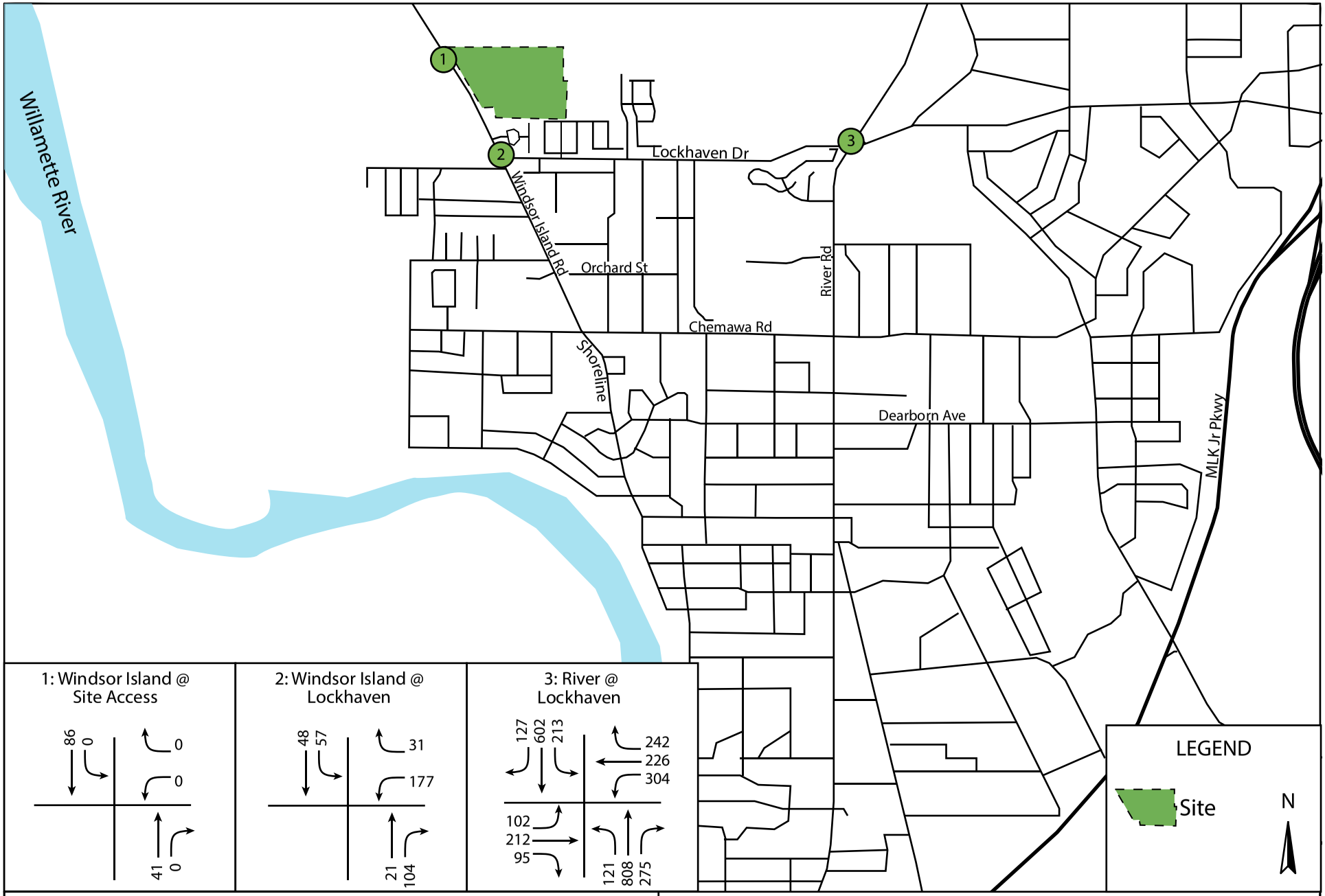
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Figure 9: Year 2032 AM Background Traffic Volumes

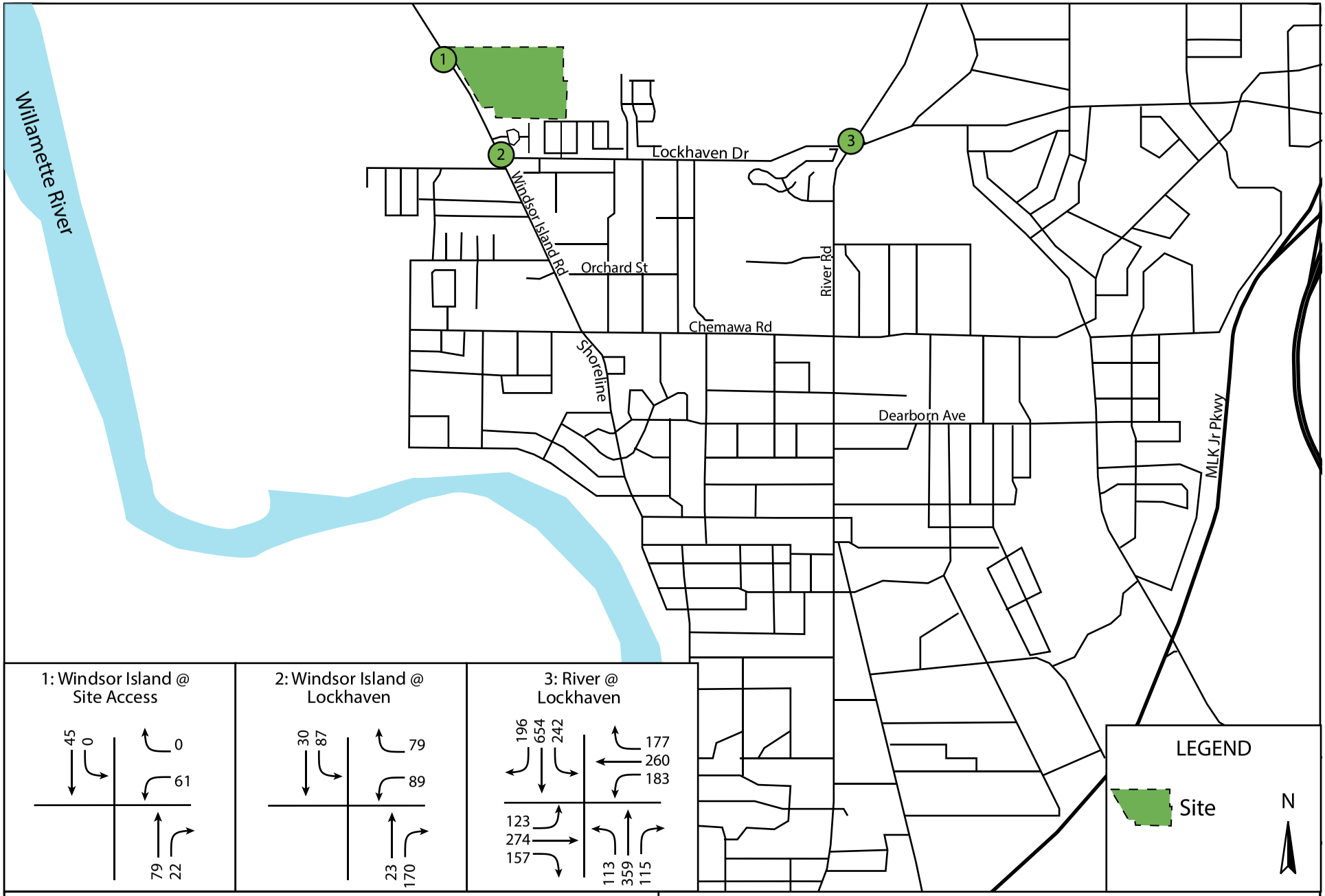
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Figure 10: Year 2032 PM Background Traffic Volumes

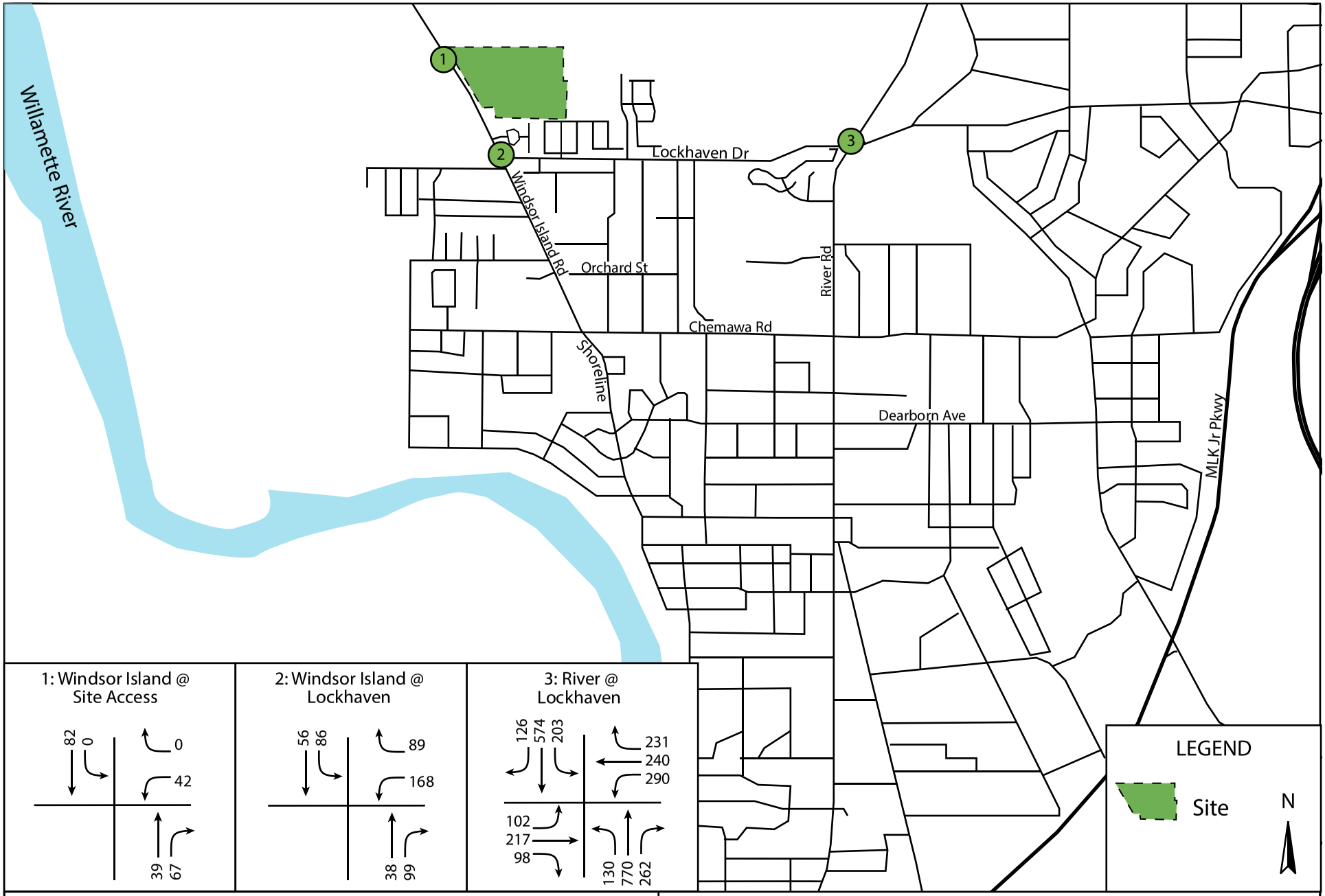
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Figure 11: Year 2027 AM Peak Hour With Development

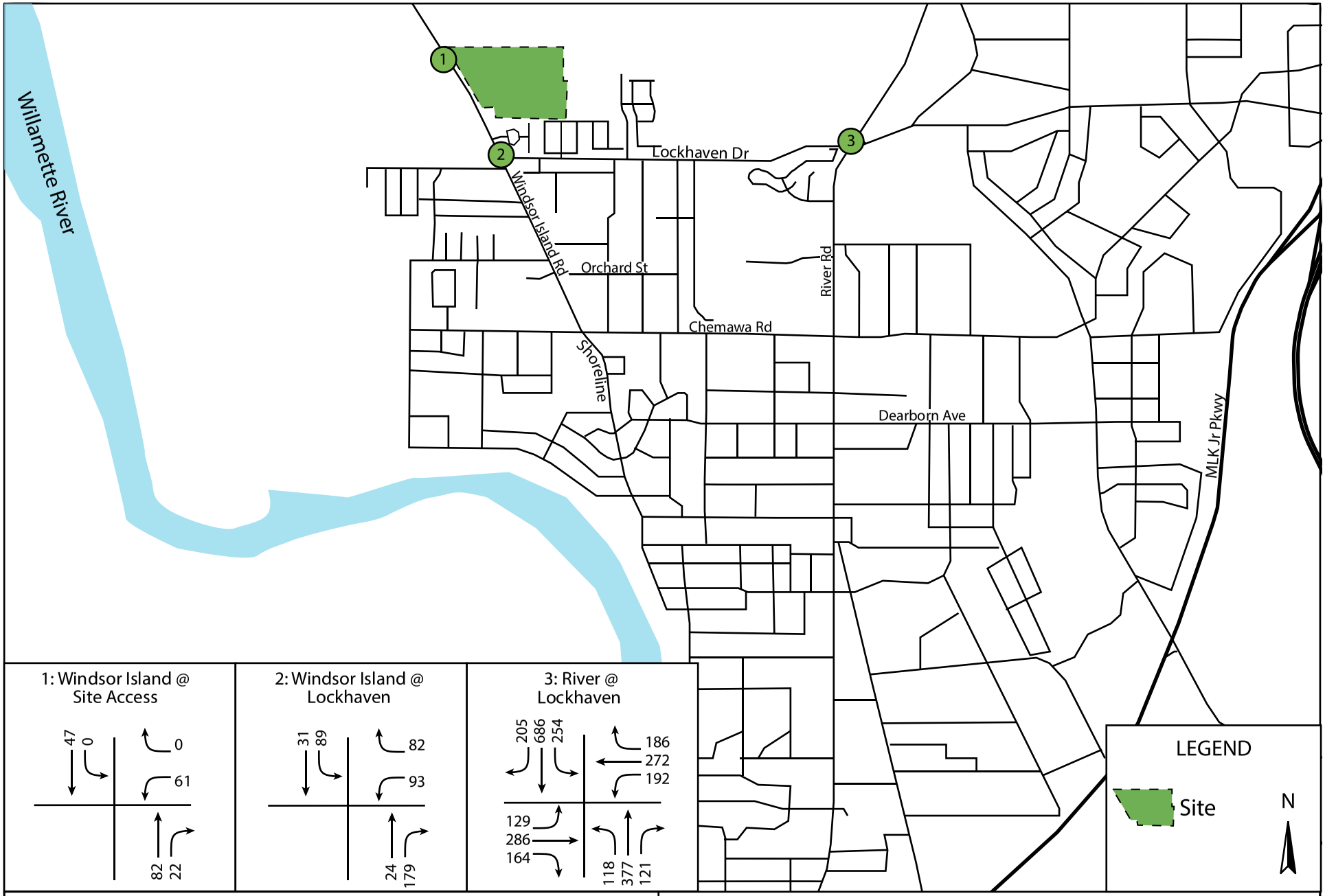
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Figure 12: Year 2027 PM Peak Hour With Development

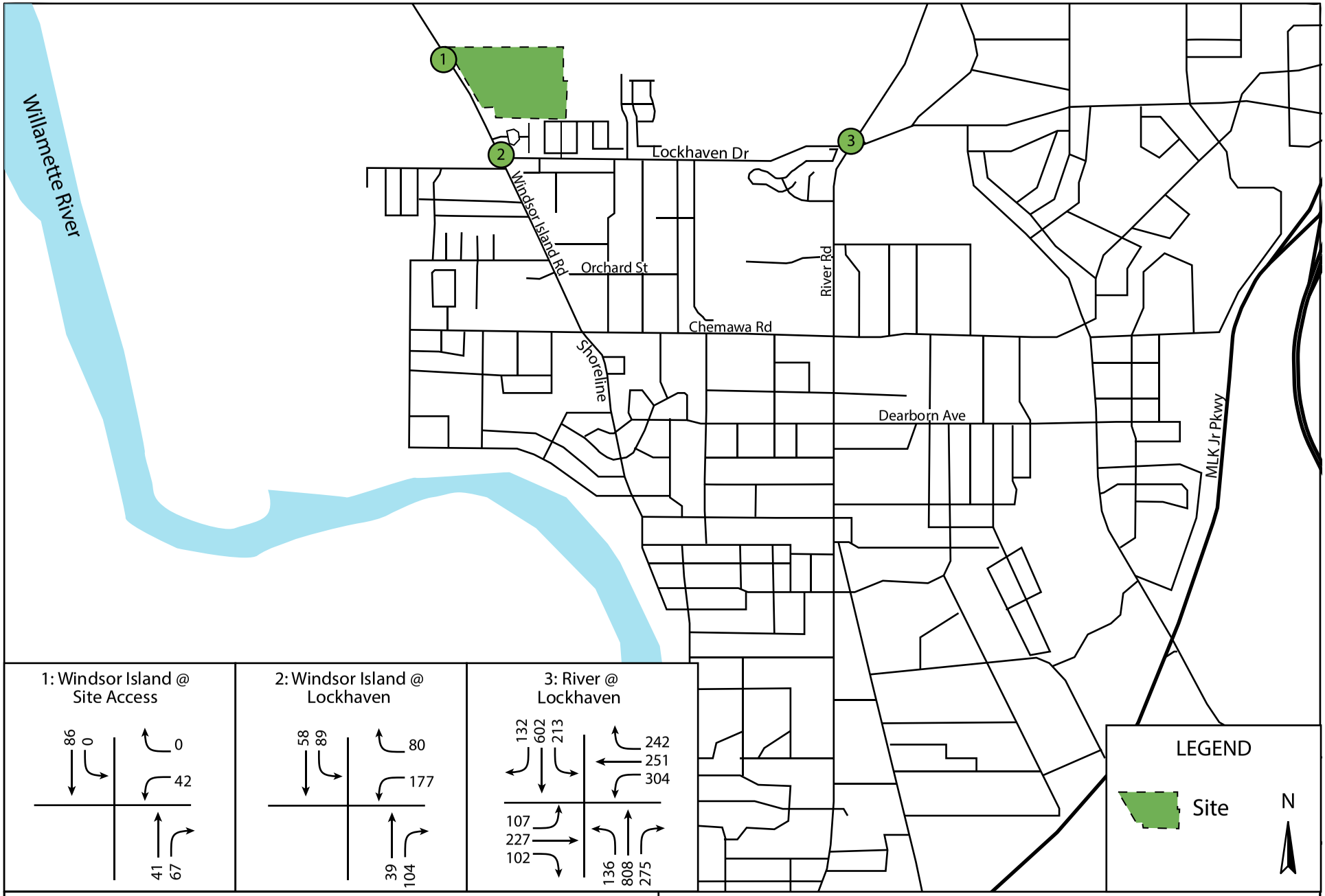
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Figure 13: Year 2032 AM Peak Hour With Development

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Figure 14: Year 2032 PM Peak Hour With Development

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6.0 INTERSECTION ANALYSIS

6.1 PERFORMANCE MEASURES

The City of Keizer uses the Level of Service (LOS) and Volume to Capacity (v/c) standards for intersections under the City's jurisdiction. The LOS standard is based on the Highway Capacity Manual (HCM) defined level of service (LOS). LOS is a concept developed to quantify the degree of comfort (including such elements as travel time, number of stops, total amount of stopped delay, and impediments caused by other vehicles) afforded to drivers as they travel through an intersection or along a roadway segment. It was developed to quantify the quality of service of transportation facilities.

LOS is based on average delay, defined as the average total elapsed time from when a vehicle stops at the end of a queue until the vehicle departs from the stop line. Average delay is measured in seconds per vehicle per hour and is then translated into a grade or "level of service" for each intersection. LOS ranges from A to F, with A indicating the most desirable condition and F indicating the most unsatisfactory condition. The LOS criteria, as defined by the Highway Capacity Manual (HCM 7) for signalized intersections, are provided in Table 5. Keizer has a standard of LOS D for unsignalized intersections and LOS E for signalized intersections.

TABLE 5: HCM LEVEL OF SERVICE FOR INTERSECTIONS

	Stopped Delay Per Vehicle (Seconds per Vehicle)	
	Unsignalized Intersections	**Signalized Intersections**
A	≤ 10.0	≤ 10
B	> 10.0 and ≤ 15.0	> 10 and ≤ 20
C	> 15.0 and ≤ 25.0	> 20 and ≤ 35
D	> 25.0 and ≤ 35.0	> 35 and ≤ 55
E	> 35.0 and ≤ 50.0	> 55 and ≤ 80
F	> 50.0	> 80

Volume-to-capacity (v/c) ratio describes the capability of an intersection to meet the volume demand based on the maximum number of vehicles that can be served within the peak hour. The City of Keizer uses a v/c ratio for intersections of two arterial roadways. Table 6 provides the standards for the study intersections.

TABLE 6: INTERSECTION STANDARDS

Intersection	Unsignalized Intersections
Windsor at Lockhaven	LOS E
Lockhaven at River	v/c 1.00
Windsor at Chemawa	LOS E
Chemawa at River	v/c 0.95
Lockhaven at Chemawa	v/c 1.0
Windsor at Site Access	LOS E

6.2 INTERSECTION ANALYSIS RESULTS- DEVELOPMENT PROPOSAL

A performance analysis was conducted for the studied intersections for the Years 2026, 2027, and 2032 conditions during the AM and PM peak hours. The intersection evaluation was performed using Synchro 12, utilizing the HCM 7 methodology. The results are shown in Table 7 for the AM peak hour and Table 8 for the PM peak hour. The SYNCHRO outputs are provided in Appendix E.

TABLE 7: INTERSECTION PERFORMANCE: WEEKDAY AM PEAK HOUR-DEVELOPMENT PROPOSAL

Intersection	Mobility Standard	2026 Background	2027 Background	2027 Build	2032 Background	2032 Build
Windsor Island Road at Lockhaven Drive	LOS E	B	B	B	B	B
Lockhaven Drive at River Road	v/c 1.00	0.73	0.74	0.77	0.78	0.80
Windsor Island Road at Site Access	LOS E	n/a	n/a	B	n/a	B

As illustrated in Table 7, all intersections will meet the applicable mobility standards with the addition of development trips for the AM Peak Hour.

TABLE 8: INTERSECTION PERFORMANCE: WEEKDAY PM PEAK HOUR-DEVELOPMENT PROPOSAL

Intersection	Mobility Standard	2026 Background	2027 Background	2027 Build	2032 Background	2032 Build
Windsor Island Road at Lockhaven Drive	LOS E	B	B	B	B	B
Lockhaven Drive at River Road	v/c 1.00	0.69	0.70	0.71	0.73	0.75
Windsor Island Road at Site Access	LOS E	n/a	n/a	B	n/a	B

As illustrated in Table 8, all intersections will meet the applicable mobility standards with the addition of development trips for the PM Peak Hour.

7.0 QUEUE ANALYSIS- DEVELOPMENT PROPOSAL

A queuing analysis was conducted for the studied intersections. The queuing analysis was performed using SimTraffic, a microsimulation software tool that uses the HCM-defined criteria to estimate the queuing of vehicles within the study area. The average and 95th percentile queuing results are illustrated in Table 9 for the AM peak hour and Table 10 for the PM peak hour. All results are rounded to 25 feet to represent the total number of vehicles in the queue, as one vehicle typically occupies 25 feet of space. The SimTraffic outputs are provided in Appendix F.

TABLE 9: INTERSECTION QUEUING: WEEKDAY AM PEAK HOUR-DEVELOPMENT PROPOSAL

Intersection			Available Storage (Feet)	2026 Background (Feet)		2027 Background (Feet)		2027 Build (Feet)		2032 Background (Feet)		2032 Build (Feet)	
				95th	Average	95th	Average	95th	Average	95th	Average	95th	Average
River Road at Lockhaven	EB	L	275	125	50	125	50	125	50	125	50	100	50
	EB	T	500	250	150	250	150	250	150	250	150	200	125
	EB	R	300	100	50	75	50	100	50	100	50	75	50
	WB	L	290	275	125	300	125	275	125	325	150	325	150
	WB	LT	825	375	225	400	250	375	225	425	250	400	250
	WB	R	175	250	100	275	125	250	125	275	125	275	150
	NB	L	325	300	150	350	200	300	175	350	200	350	250
	NB	T	775	325	150	625	250	625	250	650	300	650	425
	NB	R	260	25	25	25	25	25	25	25	25	25	50
	SB	L	350	300	275	275	275	300	275	275	275	275	275
	SB	T	550	825	650	725	675	775	675	750	675	725	675
	SB	TR	550	875	550	925	550	900	550	900	525	900	525
Windsor at Lockhaven	WB	L	500	50	25	50	25	75	25	50	25	75	50
	WB	R	500	50	25	50	25	50	25	50	25	50	25
	NB	TR	100	25	25	25	25	25	25	25	25	25	25
	SB	LT	225	50	25	50	25	100	25	50	25	50	25
Windsor at Site Access	WB	LR	150	N/A	N/A	N/A	N/A	50	25	N/A	N/A	50	25

As demonstrated in Table 9, the addition of development traffic does not substantially increase the queuing conditions at the studied intersections.

TABLE 10: INTERSECTION QUEUING: WEEKDAY PM PEAK HOUR-DEVELOPMENT PROPOSAL

Intersection			Available Storage (Feet)	2026 Background (Feet)		2027 Background (Feet)		2027 Build (Feet)		2032 Background (Feet)		2032 Build (Feet)	
				95th	Average	95th	Average	95th	Average	95th	Average	95th	Average
River Road at Lockhaven	EB	L	275	100	50	100	50	125	50	100	50	100	50
	EB	T	500	175	100	175	100	250	125	200	125	225	125
	EB	R	300	75	50	75	50	125	50	75	50	75	50
	WB	L	290	300	150	300	150	325	150	350	175	375	150
	WB	LT	825	375	225	375	225	425	225	425	250	475	225
	WB	R	175	275	125	275	150	250	150	275	150	275	150
	NB	L	325	350	200	300	175	350	250	350	250	350	250
	NB	T	775	475	250	475	325	525	425	775	425	825	425
	NB	R	260	75	25	75	25	50	50	175	50	125	50
	SB	L	350	300	275	275	275	300	275	350	275	300	275
	SB	T	550	775	625	725	675	775	675	875	625	875	625
	SB	TR	550	875	500	900	525	900	550	850	500	900	500
Windsor at Lockhaven	WB	L	500	75	50	50	25	50	50	75	50	75	50
	WB	R	500	25	25	25	25	50	25	25	25	25	25
	NB	TR	100	25	25	25	0	25	25	25	0	25	25
	SB	LT	225	50	25	50	25	75	25	50	25	50	25
Windsor at Site Access	WB	LR	150	N/A	N/A	N/A	N/A	50	25	N/A	N/A	50	25

As demonstrated in Table 10, the addition of development traffic does not substantially increase the queuing conditions at the studied intersections.

8.0 ACCESS CONNECTION EVALUATION

The development proposal includes a new street connection to Windsor Island Road, located approximately 440 feet north of the driveway to Wildwood Villa. The following provides the evaluation of the new street connection.

Level of Service

The new street connection is projected to operate at LOS B for the stopped/westbound approach and LOS A for the movements into the site on Windsor Island Road. There are no delay issues anticipated at this new street connection.

Queuing

The westbound approach at the new street connection is anticipated to have a queue length of 50 feet, again depicting that there are no delay issues. There is no anticipated queue for the northbound or southbound approaches.

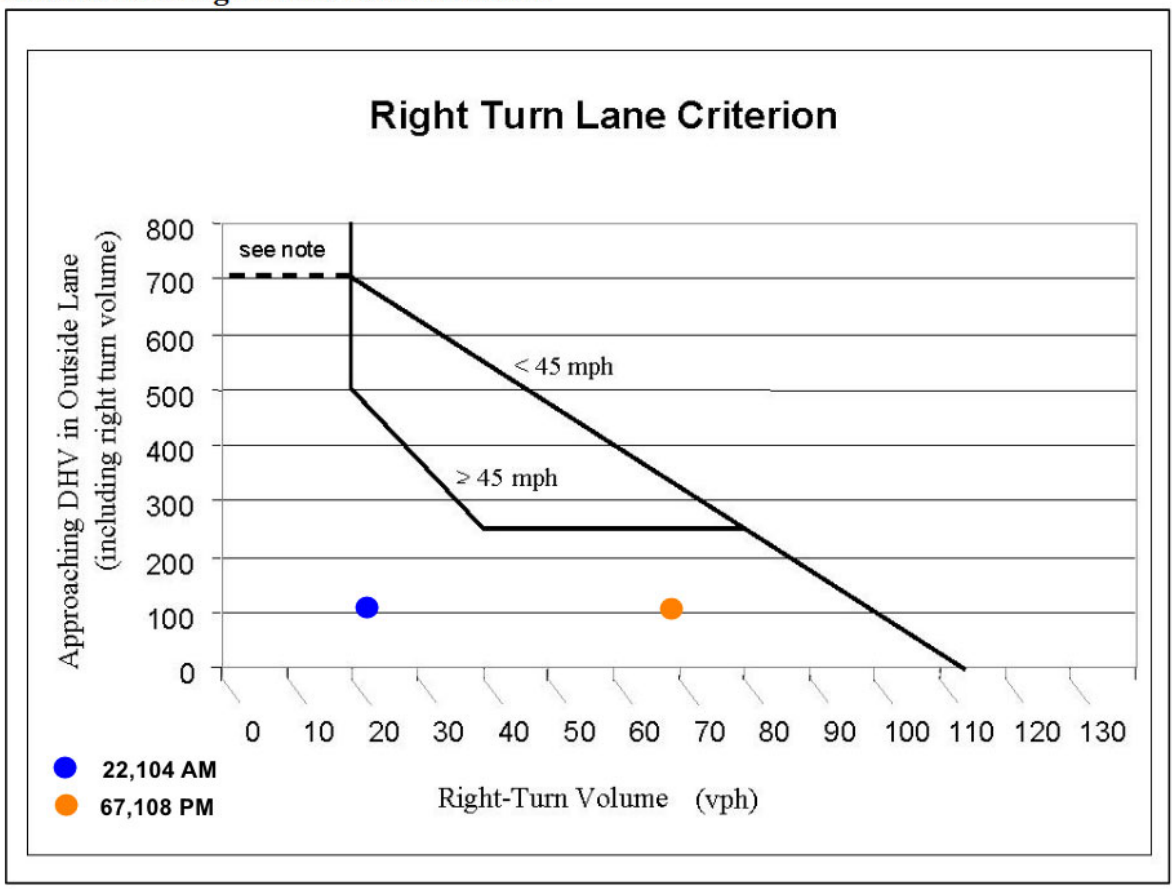
Turn Pocket Evaluation

The new street connection was evaluated for the need for turn pockets on Windsor Drive using the criteria found within ODOT's Analysis Procedures Manual (APM). The turn pocket assessment considers traffic volumes as the initial threshold. The evaluation is performed for the current development proposal of 116 single family homes.

As per the APM, the minimum threshold for warranting a left-turn pocket is a left-turning volume of 10 peak hour vehicles. The new street connection is anticipated to have 5 or fewer left turns in the AM or the PM peak hours. The minimum threshold volume is not met.

The right turn pocket criteria are based on the total volume in the eastbound lane, the number of vehicles turning right, and the speed. The posted speed is 45 mph. For the year 2032, there are 22 right turns and 104 approaching vehicles during the AM peak hour, and 67 right turns and 108 approaching vehicles during the PM peak hour. As illustrated in the graph below, the minimum volume thresholds for warranting a right turn pocket are not met.

Exhibit 12-2 Right Turn Lane Criterion



Note: If there is no right turn lane, a shoulder needs to be provided. If this intersection is in a rural area and is a connection to a public street, a right turn lane is needed.

Sight Distance

Sight distances are classified by the stopping sight distance (SSD) for the major roadway and departure/intersection sight distance (ISD) for the site accesses. The stopping sight distance is the length of roadway needed for a vehicle traveling at the design speed to safely stop for a stationary object in the roadway. The required sight distance allows a driver to perceive and react to an object 2 feet high on the roadway visible from a driver's eye height of 3.5 feet above the ground. The departure sight distance (ISD) is a measure of the length of visibility of the roadway given to a stopped driver on a minor road approach. The distance provides time to perceive and react to gaps in traffic. For this calculation, it is assumed that the driver's eye is 3.5 feet above the ground and that the object to be seen is 3.5 feet above the ground of the intersecting road.

The standards for evaluating SSD and ISD follow the methodology in the AASHTO's *A Policy on Geometric Design of Highways and Streets* (2018). As per the AASHTO methodology, intersections and driveways should, at a minimum, meet the SSD requirements. However, it is desirable to achieve the ISD whenever possible.

Stopping sight distance is based on the speed of the major roadway. Windsor Island Road has a posted speed of 45 mph. As per AASHTO, the SSD is 360 feet. The available stopping sight distance exceeds this distance. The SSD requirements are met.

The departure sight distance is evaluated for a left turn maneuver. Therefore, the intersection site distance calculations are based on Case B1 of the AASHTO manual. Again, the speed used was 45 mph, resulting in an ISD of 500 feet for this approach. The available ISD exceeds this distance. The ISD requirements are met.

9.0 TRANSPORTATION PLANNING RULE ANALYSIS

The applicant is seeking rezoning of the entire site from Agricultural Industrial (AI) to Residential Single Family (RS). The zone change triggers Transportation Planning Rule Analysis, as per OAR 660-012-0060. To be consistent with TPR findings, the traffic generated by the proposed zoning needs to be found not have a significant effect on the adjacent transportation system. This is achieved by first determining if the proposed zoning will have a higher impact on the surrounding transportation system than the existing zoning. This is done by evaluating a reasonable "worst-case" development scenario for the existing and the proposed land use. If the proposed zoning has a higher trip generation, then an evaluation of the impacts on the transportation system is required. The following demonstrates the "reasonable worst-case" development scenario for the existing and proposed zoning.

The impacts from the proposed zoning are to be evaluated at the end of the City's Transportation System Plan planning horizon- year 2031.

9.1 EXISTING ZONING DEVELOPMENT PROPOSAL

The existing zoning is Agricultural Industrial (AI). As per Section 2.115 of the Keizer Code of Ordinances, the following uses are allowed within the AI zone and could reasonably likely be developed.

- Farm Uses
- Wholesale and retail nurseries

The ITE Trip Generation Manual, 11th ed, is used for estimating the trip generation. The ITE manuals do not have a trip rate for farm uses. However, the nursery would have a higher trip rate, providing the worst-case development scenario. Land Use 818- Nursery (Wholesale) and 817- Nursery (Garden Center) are the most closely related ITE Land Uses. According to the ITE manuals, nurseries typically have approximately 5,000 sf primary building with the rest of the site as greenhouses and outside storage. The greenhouses and storage areas are not included in the trip generation calculation. Table 11 below provides the PM Peak Hour trip generation estimate for the existing zoning.

TABLE 11: PM PEAK HOUR TRIP GENERATION- EXISTING ZONING

ITE Code	Size	Rate	Trips
818- Nursery (Wholesale)	5 ksf	5.24	26
817- Nursery (Garden Center)	5 ksf	6.94	35

The reasonable worst-case development scenario of the existing zoning is projected to generate 35 PM peak hour trips.

9.2 PROPOSED ZONING DEVELOPMENT POTENTIAL

The proposed zoning is Residential Single Family (RS). As per Section 2.102 of the Keizer Code, the maximum density allowed is:

- 8 units/acre- single-family detached
- 25 units/acre- townhouses

While townhouses can have 25 units/acre within Keizer, typical development within Keizer is 18-20 units/acre. Twenty units per acre is a reasonable development assumption.

The ITE Trip Generation Manual, 11th ed, is used for estimating the trip generation. Land use codes 210- Single Family Detached Housing, 215- Single Family Attached Housing, and 220- Multi-Family Housing (low-rise) are the most closely matched land uses. Table 12 below provides the PM Peak Hour trip generation for the proposed zoning.

TABLE 12: PM PEAK HOUR TRIP GENERATION- PROPOSED ZONING

ITE Code	Size	Rate	Trips	In	Out
210- Single Family Detached	364 Units	Ln(T)=0.94ln(x)+0.27	335	221	124
215- Single Family Attached	729 Units	=0.60(x)-3.93	433	256	177

The reasonable worst-case development scenario of the proposed zoning is projected to generate 433 PM peak hour trips.

As demonstrated above, the proposed zoning will generate more trips than the existing zoning. Therefore, TPR analysis is required.

The AM peak hour trips are illustrated in Table 13 below.

TABLE 13: AM PEAK HOUR TRIP GENERATION- PROPOSED ZONING

ITE Code	Size	Rate	Trips	In	Out
215- Single Family Attached	729 Units	T=0.52(x)-5.70	373	93	280

9.3 TRAFFIC VOLUMES

The development trips from the worst-case development potential are distributed on the street network based on the existing travel patterns, with modifications for reasonable ongoing destinations. Figure 15 illustrates the development trips for the AM peak hour. Figure 16 illustrates the development trips for the PM peak hour.

The traffic evaluation is to be prepared for the end of the City's Transportation System Plan's Planning Horizon, year 2031. The annual growth rate, described in Section 5.3, is calculated at 1.0% per year. This growth rate is applied to the year 2025 traffic volumes to estimate the year 2031 background traffic volumes.

The trips from the worst-case development potential are added to the year 2031 background volumes to represent conditions with the worst-case development of the proposed zone change. Figures 17 and 18 provide the year 2031 AM and PM peak hour background traffic volumes. Figures 19 and 20 provide the year 2031 AM and PM peak hour traffic volumes with the maximum potential of the proposed zoning.

9.4 INTERSECTION ANALYSIS

The intersection evaluation was performed using Synchro 12, utilizing the HCM 7 methodology for the signalized and stop-controlled intersections. The results are shown in Tables 14 and 15. The SYNCHRO outputs are provided in Appendix G.

TABLE 14: INTERSECTION PERFORMANCE: PROPOSED ZONING- AM PEAK HOUR

Intersection	Mobility Standards LOS	2025 Background	2031 Background	2031 W/ Zone Change
Windsor Island Road at Lockhaven Drive	LOS E	B	B	D
Lockhaven Drive at River Road	v/c 1.00	0.73	0.77	0.92
Windsor Island Road at Chemawa Road	LOS E	A	A	B
Chemawa Road at River Road	v/c 1.00	0.61	0.65	0.67
Lockhaven Drive at Chemawa Road	v/c 1.00	0.61	0.68	0.71
Windsor Island Road at Site Access	LOS E	n/a	n/a	C

As demonstrated in Table 14, all intersections meet the applicable mobility standards at the end of the TSP horizon year with the proposed zone change.

TABLE 15: INTERSECTION PERFORMANCE: PROPOSED ZONING- PM PEAK HOUR

Intersection	Mobility Standards LOS	2025 Background	2031 Background	2031 W/ Zone Change
Windsor Island Road at Lockhaven Drive	LOS E	B	B	D
Lockhaven Drive at River Road	v/c 1.00	0.69	0.73	0.81
Windsor Island Road at Chemawa Road	LOS E	B	B	B
Chemawa Road at River Road	v/c 1.00	0.63	0.66	0.67
Lockhaven Drive at Chemawa Road	v/c 1.00	0.65	0.69	0.76
Windsor Island Road at Site Access	LOS E	n/a	n/a	B

As demonstrated in Table 15, all intersections meet the applicable mobility standards at the end of the TSP horizon year with the proposed zone change.

9.5 QUEUE ANALYSIS

A queuing analysis was conducted for the studied intersections. The queuing analysis was performed using SimTraffic, a microsimulation software tool that uses the HCM-defined criteria to estimate the queuing of vehicles within the study area. The average and 95th percentile queuing results are illustrated in Table 16 for the AM peak hour and Table 17 for the PM peak hour. All results are rounded to 25 feet to represent the total number of vehicles in the queue, as one vehicle typically occupies 25 feet of space. The SimTraffic outputs are provided in Appendix G.

TABLE 16: INTERSECTION QUEUING: PROPOSED ZONING- AM PEAK HOUR

Intersection			Available Storage (Feet)	2025 Background (Feet)		2031 Background (Feet)		2031 Build (Feet)	
				95th	Average	95th	Average	95th	Average
Chemawa at Lockhaven	EB	L	330	75	50	25	25	200	75
	EB	T	530	325	225	325	250	400	250
	EB	TR	530	275	175	350	225	325	200
	WB	L	530	150	50	200	75	200	100
	WB	T	575	150	75	225	150	225	150
	WB	TR	575	125	75	150	75	200	100
	NB	T	575	200	75	225	75	200	75
	NB	R	200	250	175	250	175	250	200
	SB	L	250	25	25	25	25	75	50
	SB	T	375	50	25	50	25	25	25
	SB	R	250	25	25	25	25	25	25
River Road at Lockhaven	EB	L	275	125	50	125	75	225	100
	EB	T	500	250	150	225	150	425	250
	EB	R	300	100	50	100	50	225	100
	WB	L	290	275	125	350	150	400	200
	WB	LT	825	375	225	475	275	525	325
	WB	R	175	250	100	275	125	275	125
	NB	L	325	300	150	350	200	350	275
	NB	T	775	325	150	425	175	450	175
	NB	R	260	25	25	50	25	125	25
	SB	L	350	300	275	275	275	275	275
	SB	T	550	825	650	700	675	700	675
	SB	TR	550	875	550	900	550	900	550
Chemawa Rd at River Rd	EB	L	500	100	50	125	50	125	50
	EB	T	750	350	225	350	225	375	250
	EB	R	275	175	75	200	125	225	100
	WB	L	300	200	100	200	125	225	125
	WB	T	500	325	175	375	200	400	200
	WB	R	300	100	50	175	50	175	50
	NB	L	330	150	75	175	100	175	100
	NB	T	750	150	75	150	75	175	100

	NB	TR	750	125	75	150	75	150	75
	SB	L	300	100	50	150	50	150	75
	SB	T	1000	250	150	275	175	325	200
	SB	TR	1000	200	100	225	125	275	150
Shoreline at Chemawa	EB	LTR	400	50	50	50	50	75	50
	WB	LTR	275	50	25	50	25	50	25
	NB	LTR	400	50	25	50	25	50	25
	SB	LTR	200	75	50	75	50	75	50
Windsor at Lockhaven	WB	L	500	50	25	50	25	125	50
	WB	R	500	50	25	50	25	75	50
	NB	TR	100	25	25	25	0	25	25
	SB	LT	225	50	25	50	25	150	75
Windsor at Site Access	WB	LR	150	N/A	N/A	N/A	N/A	100	50

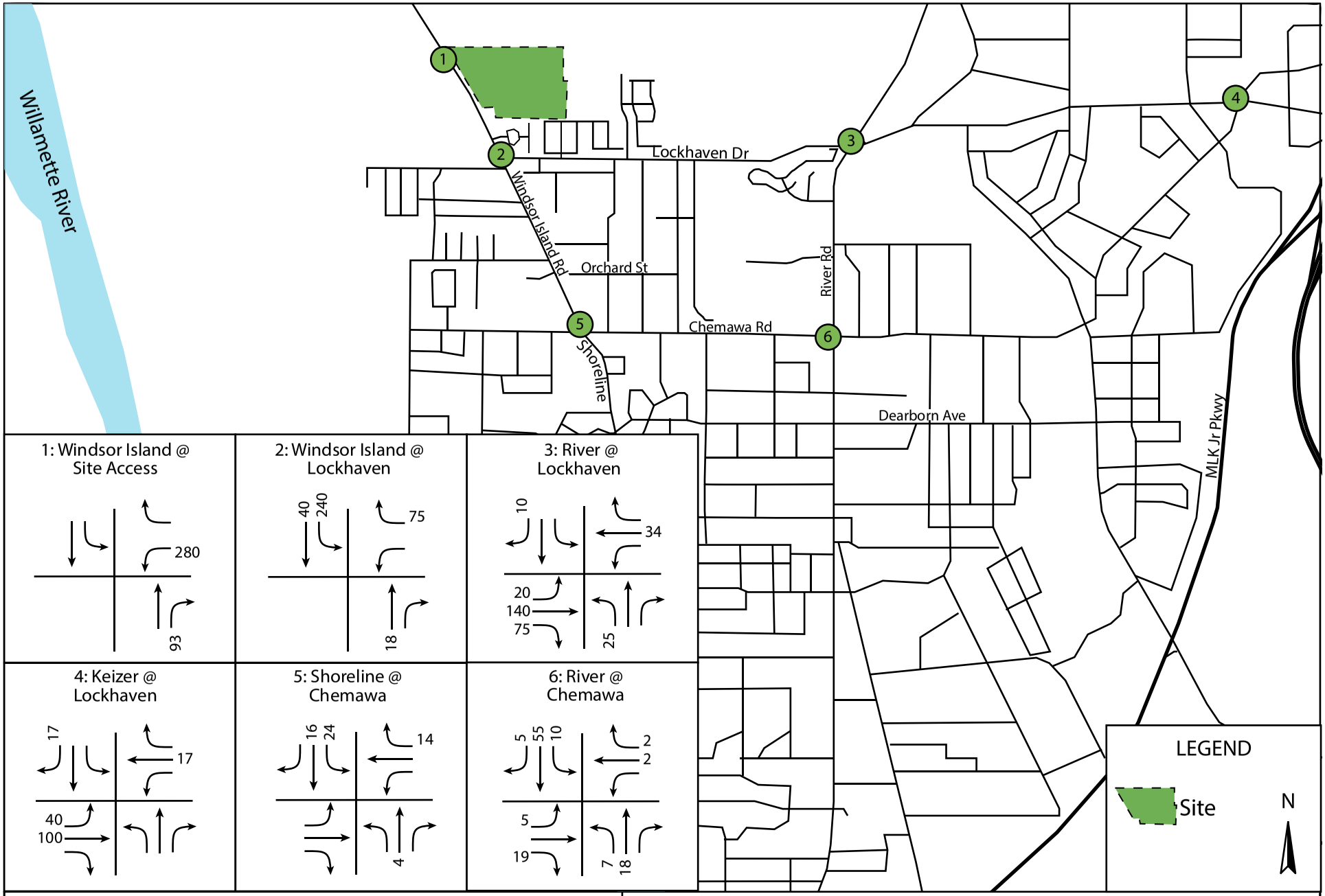
As demonstrated in Table 16, the addition of development traffic from the proposed zone change does not substantially increase the queuing conditions or result in queues backing up and blocking critical transportation infrastructure.

TABLE 17: INTERSECTION QUEUING: PROPOSED ZONING- PM PEAK HOUR

Intersection			Available Storage (Feet)	2025 Background (Feet)		2031 Background (Feet)		2031 Build (Feet)	
				95th	Average	95th	Average	95th	Average
Chemawa at Lockhaven	EB	L	330	200	100	225	100	250	150
	EB	T	530	375	250	400	275	400	250
	EB	TR	530	300	200	325	225	350	225
	WB	L	530	325	225	350	250	350	250
	WB	T	575	250	150	250	150	250	175
	WB	TR	575	250	175	300	175	300	200
	NB	L	200	25	25	25	25	50	25
	NB	T	575	150	75	150	100	150	100
	NB	R	200	200	125	200	125	200	125
	SB	L	250	175	100	200	125	200	125
	SB	T	375	100	50	100	50	100	50
	SB	R	250	50	25	50	25	100	50
River Road at Lockhaven	EB	L	275	100	50	75	50	125	50
	EB	T	500	175	100	200	125	250	150
	EB	R	300	75	50	75	50	125	50
	WB	L	290	300	150	350	175	475	275
	WB	LT	825	375	225	425	275	700	400
	WB	R	175	275	125	275	150	275	175

	NB	L	325	350	200	350	250	300	300
	NB	T	775	475	250	875	475	1075	650
	NB	R	260	75	25	200	50	225	75
	SB	L	350	300	275	325	275	275	275
	SB	T	550	875	625	875	650	750	675
	SB	TR	550	875	500	900	500	850	550
Chemawa Rd at River Rd	EB	L	500	225	100	250	125	325	150
	EB	T	750	400	250	475	300	475	300
	EB	R	275	225	75	300	125	275	100
	WB	L	300	250	175	225	175	225	175
	WB	T	500	550	325	875	500	900	525
	WB	R	300	300	100	400	175	400	175
	NB	L	330	225	150	300	175	275	175
	NB	T	750	350	175	400	250	500	250
	NB	TR	750	300	175	325	200	450	225
	SB	L	300	275	175	275	200	225	225
	SB	T	1000	600	300	700	400	675	575
	SB	TR	1000	525	250	650	350	750	475
Shoreline at Chemawa	EB	LTR	400	50	25	50	25	50	25
	WB	LTR	275	75	25	75	25	75	50
	NB	LTR	400	50	25	75	50	75	50
	SB	LTR	200	75	50	75	50	100	50
Windsor at Lockhaven	WB	L	500	75	50	50	25	100	50
	WB	R	500	25	25	25	25	75	25
	NB	TR	100	25	25	25	25	25	25
	SB	LT	225	50	25	50	25	75	50
Windsor at Site Access	WB	LR	150	N/A	N/A	N/A	N/A	50	25

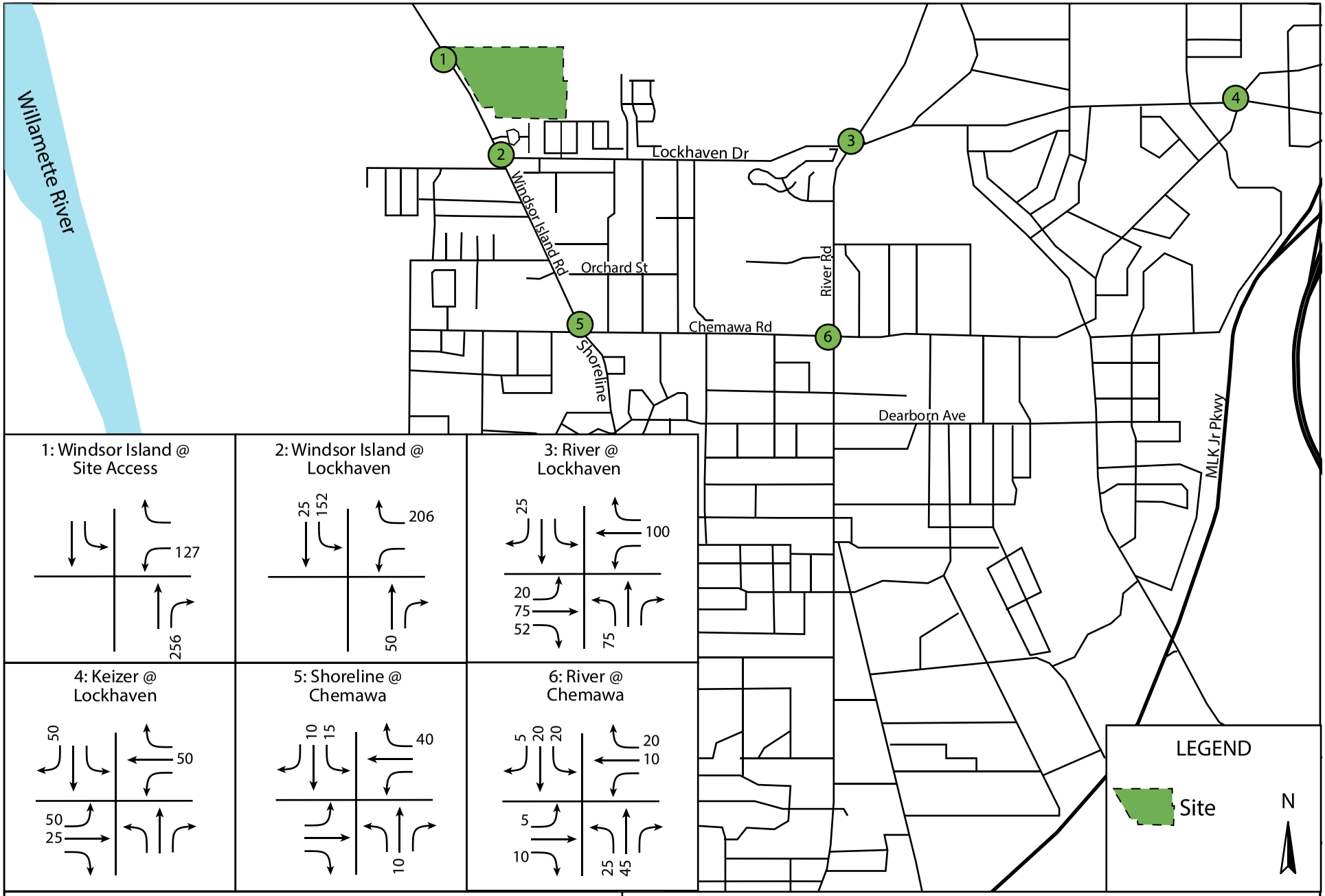
As demonstrated in Table 17, the addition of development traffic from the proposed zone change does not substantially increase the queuing conditions or result in queues to back up and block critical transportation infrastructure.



Olson Orchards Subdivision, Keizer, OR

Figure 15: AM Trip Distribution for TPR Findings

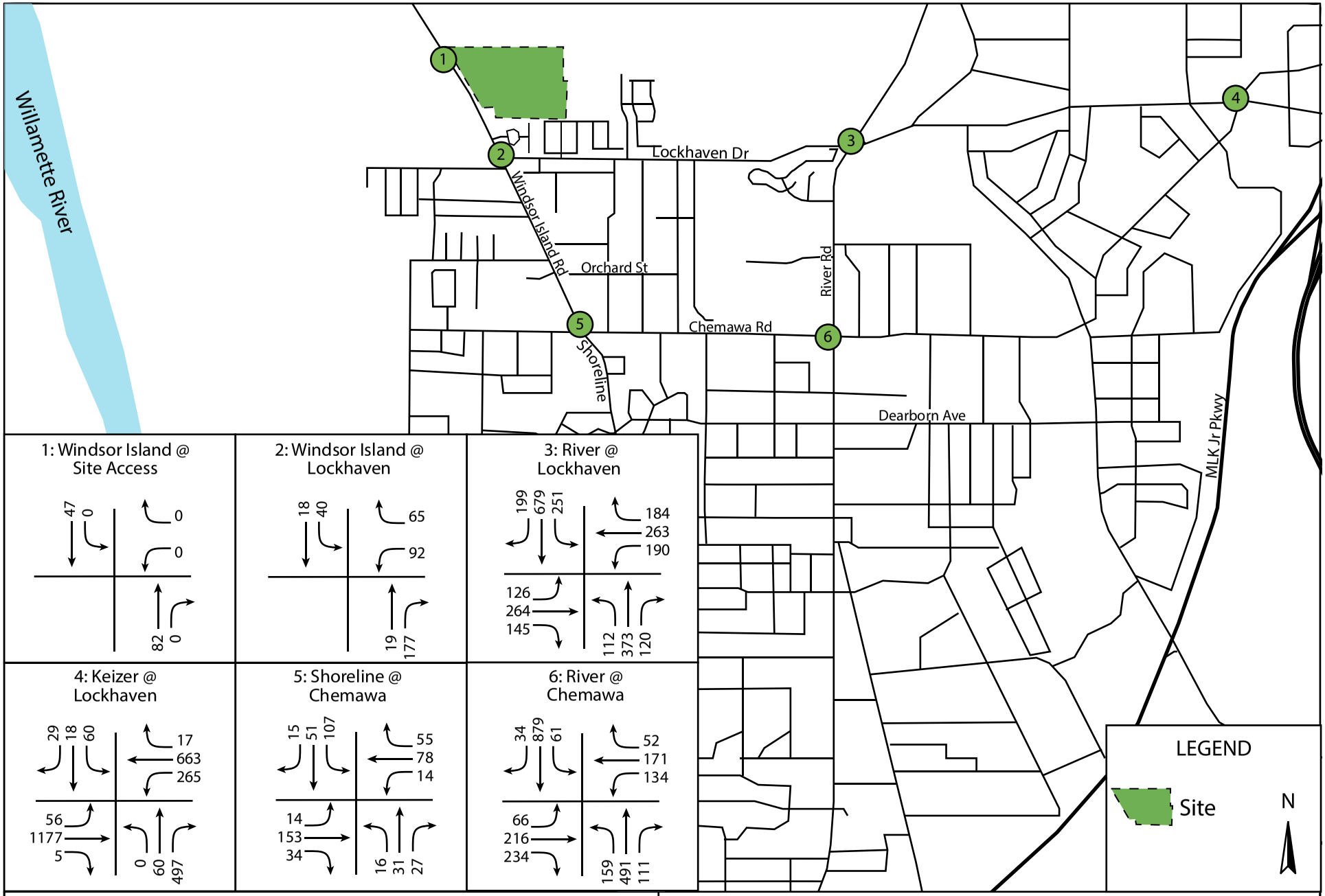
SANDOWENGINEERING
777 High Street Suite 320 Eugene, Oregon 97401 - 541.513.3376 - sandowengineering.com



Olson Orchards Subdivision, Keizer, OR

Figure 16: PM Trip Distribution for TPR Findings

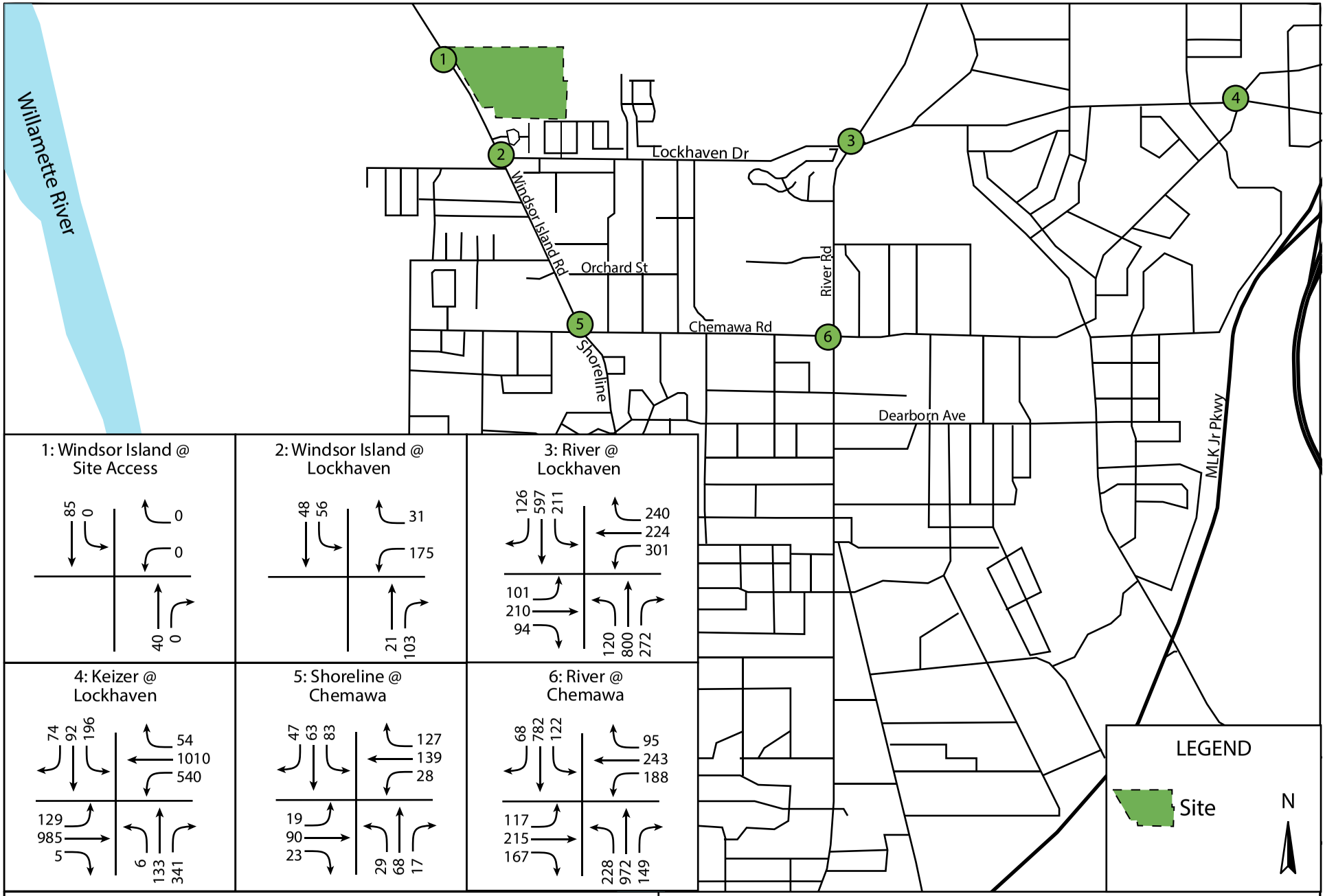
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Figure 17: Year 2031 AM Peak Hour Background Traffic Volumes

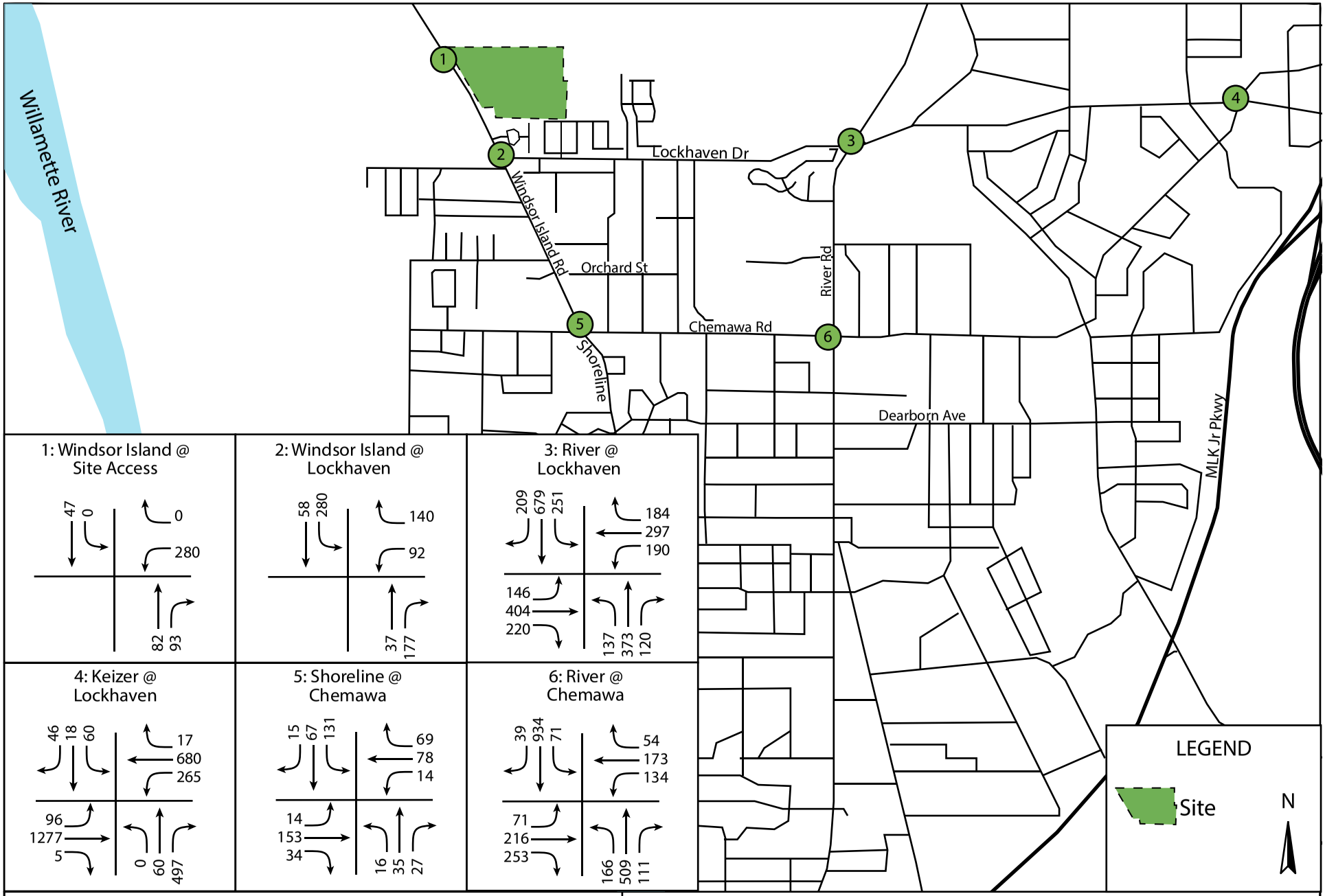
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Olson Orchards Subdivision, Keizer, OR

Figure 18: Year 2031 PM Peak Hour Background Traffic Volumes

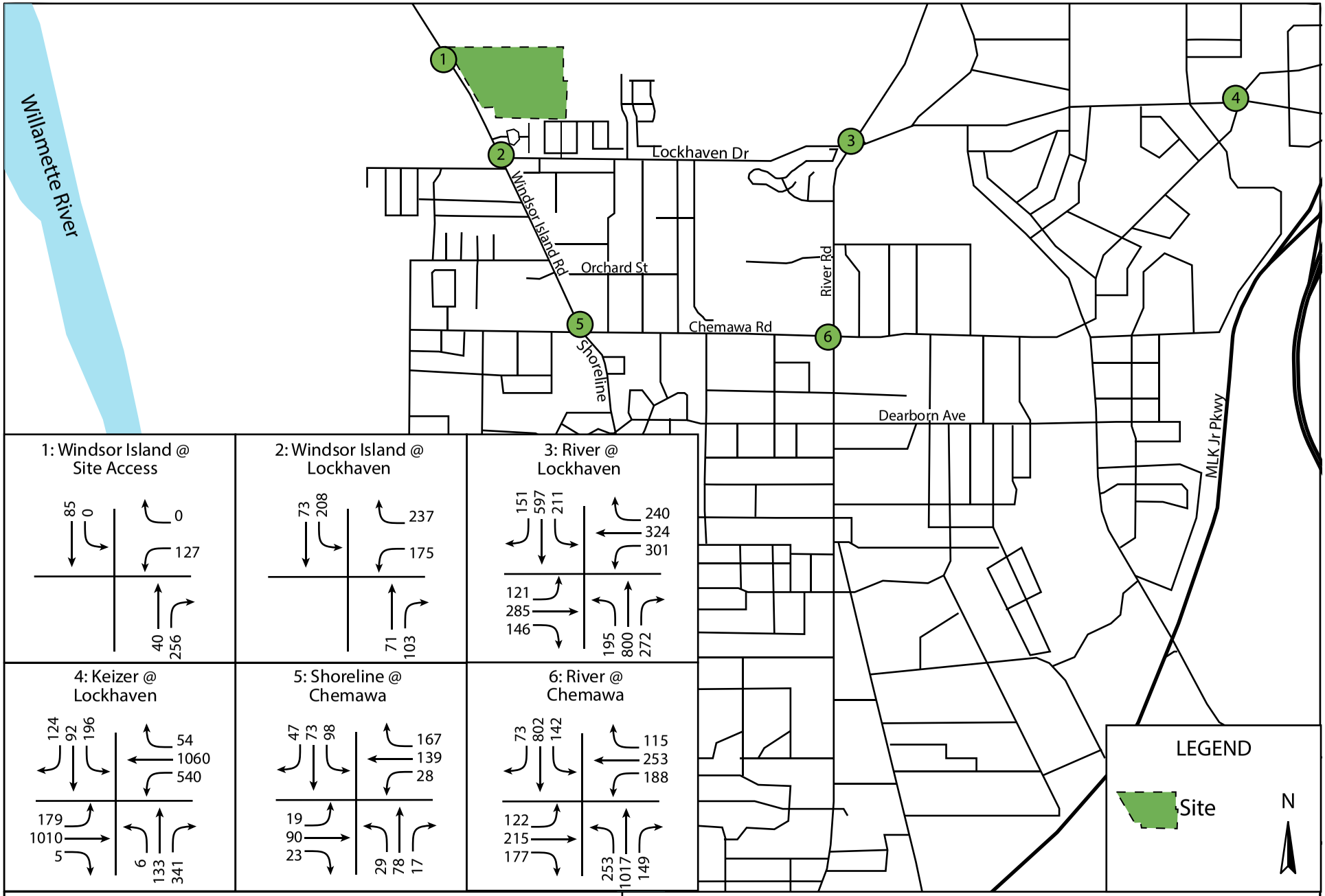
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Figure 19: Year 2031 AM Peak Hour Traffic Volumes With Proposed Zoning

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Olson Orchards Subdivision, Keizer, OR

Figure 20: Year 2031 PM Peak Hour Traffic Volumes With Proposed Zoning

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9.6 TRANSPORTATION PLANNING RULE FINDINGS

Consistent with the Transportation Planning Rule (TPR), the following elaborates on how this development meets the TPR requirements.

Goal 12, (OAR) 660-12-0060 (1) requires that a local government ensures that an amendment to a functional plan, an acknowledged comprehensive plan, or a land-use regulation (including a zoning map) does not significantly affect an existing or planned transportation facility. A plan or land use amendment significantly affects a transportation facility if it would:

(a) Change the functional classification of an existing or planned transportation facility (exclusive of correction of map errors in an adopted plan);

The existing street classification of the study area roadways is illustrated in Table 18.

TABLE 18: EXISTING STREET CLASSIFICATION

Street	Classification
Windsor Road	Collector
Lockhaven Drive	Minor Arterial/ Major Arterial
Chemawa Road	Minor Arterial
River Road	Major Arterial

The City of Keizer's Transportation System Plan identifies the factors considered in street classifications. These are land use patterns, roadway volumes, density of accesses, traffic mix and volumes, safety trends, traffic speeds, intersection spacing, and right-of-way availability and constraints.

The traffic mix is anticipated to be a majority as passenger vehicles with infrequent larger truck deliveries. The mix and levels of traffic are consistent with what is typically found within the types of streets in the study area. The proposed zone change and use will not require a change in street classification.

As demonstrated, the levels of traffic added from the proposed zone change will not change the functional classification of any of the adjacent streets where development traffic will be added.

(b) Change standards implementing a functional classification system; or

The standards for implementing a functional classification system are found within the City of Keizer's Transportation System Plan. The standards are based on street connectivity, spacing of streets, mix and amounts of travel modes, and mobility. The proposed zone change does not need to modify the standards for the street functional classification system.

(c) Result in any of the effects listed in paragraphs (A) through (C) of this subsection based on projected conditions measured at the end of the planning period identified in the adopted TSP. As part of evaluating projected conditions, the amount of traffic projected to be generated within the area of the amendment may be reduced if the amendment includes an enforceable, ongoing requirement that would demonstrably limit traffic generation, including, but not limited to, transportation demand management. This reduction may diminish or completely eliminate the significant effect of the amendment.

(A) Types or levels of travel or access that are inconsistent with the functional classification of an existing or planned transportation facility;

Development on the property with the proposed zone change will mostly consist of passenger cars, pedestrians, and bicycles, with occasional use by delivery vehicles, etc. This type of use is consistent with the types of uses expected on urban streets, especially local and collector streets.

The proposed zone change will not cause traffic levels, patterns, or access that are inconsistent with the functional classification of an existing or planned transportation facility.

(B) Degrade the performance of an existing or planned transportation facility such that it would not meet the performance standards identified in the TSP or comprehensive plan; or

As demonstrated in Section 9.4, the proposed zone change does not degrade the performance of an existing or planned transportation facility such that it would not meet the performance standards.

(C) Degrade the performance of an existing or planned transportation facility that is otherwise projected to not meet the performance standards identified in the TSP or comprehensive plan." OAR 660-12-0060(1)

All existing and planned transportation facilities will meet the applicable standards.

10.0 CONCLUSION

This report provides the Traffic Impact Analysis and Transportation Planning Rule findings prepared for the proposed zone change and 118-unit single-family residential subdivision located in Keizer, Oregon. The analysis evaluates the transportation impacts as per the City of Keizer, evaluating adjacent roadway and intersection operation with the addition of development traffic for the year of completion and 5 years into the future. Additionally, a TPR analysis was evaluated for the proposed zone change.

FINDINGS

- The addition of development trips does not trigger any intersections to not meet the LOS or v/c standards.
- The addition of development traffic does not substantially increase queuing conditions.
- The crash rates and patterns do not warrant safety improvements.
- There is no off-site mitigation needed for this development.
- TPR findings are demonstrated to be met.

APPENDIX A: SITE PLAN

Windsor Island Road Subdivision



LOT TYPE AND QUANTITY			
COLOR:	PRODUCT TYPE:	UNITS:	PERCENTAGE OF TOTAL UNITS:
	DETACHED 40' PRODUCT (50'≥ WIDE LOT)	88	74.6%
	DETACHED 35' PRODUCT (45'≥ WIDE LOT)	22	18.6%
	TOWNHOME PRODUCT (20'≥ WIDE LOT)	8	6.8%
TOTAL:		118	

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112 N 5th ST - SUITE 200 - P.O. BOX 909
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REGISTERED PROFESSIONAL ENGINEER
55,506PE
Marcus D. Cross
OREGON
JULY 09, 2004
MARCUS D. CROSS
RENEWS: 12-31-2027

02-22-2026

Olson Orchards
Preliminary Subdivision
KEIZER OREGON

SHEET NAME:
PRELIMINARY UNIT TYPE PLAN

DRAWN BY: TDC
CHK'D BY: MDC
DATE: FEBRUARY 2026

REVISIONS:

JOB NO.
2494

SHEET NO.
P-06

APPENDIX B: SCOPE OF WORK

Windsor Island Road Subdivision

SANDOWENGINEERING
160 MADISON STREET, SUITE A • EUGENE, OREGON 97402 • 541.513.3376

TECH MEMO

DATE: October 23, 2025

TO: City of Keizer

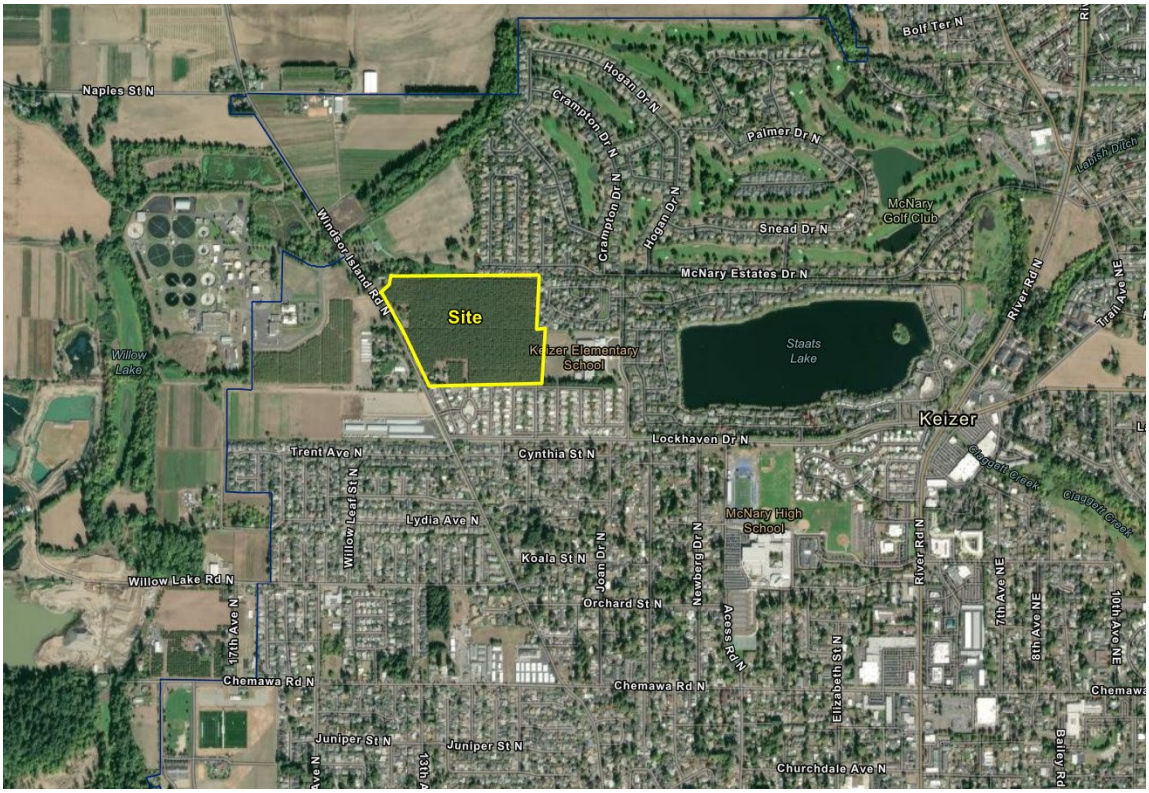
FROM: Kelly Sandow P.E.
Sandow Engineering

RE: Scope of Work- TPRA and TIA for Windsor Island Road Subdivision

The following provides the trip generation estimate and proposed Scope of Work to perform a Transportation Planning Rule Analysis (TPRA) and a Traffic Impact Analysis (TIA) for the proposed Comprehensive Plan/Zone Change and a subdivision proposed off Windsor Island Road in Keizer, Oregon.

Site Information

The development site is comprised of Tax Lots 1300 and 1400 of Assessor's Map 06-3W-34. The site is located along the east side of Windsor Island Road north of Lockhaven Drive. The entire site is approximately 36.46 acres and is occupied by one single-family residence and a filbert farm.



Development Proposal

The site is currently zoned Agricultural Industrial (AI). The applicant will be rezoning the property to Medium Density Residential (RM).

The development proposal is Phase 1 only, which includes 116 single-family lots.

Access to the site will be via a new street connection to Windsor Island Road.

A preliminary site layout is attached. The applicant will be constructing Phase 1 of the development located on the eastern half of the site. Phase 2 will be constructed at a later date.

Traffic Impact Analysis Requirement

As per the City of Keizer Development Code 2.301.04, a Traffic Impact Analysis is required if a zone change is proposed, or the site will generate 250 or more ADT. The proposed development of 116 single-family lots will generate more than 250 ADT, triggering a TIA.

Transportation Planning Rule Analysis Requirement

The zone application triggers an evaluation of the adjacent facilities as per the Statewide Planning Rule Goal 12 OAR 660-12-0060, the "Transportation Planning Rule". The evaluation is required to consider the impacts of a "reasonable worst-case" development scenario on the adjacent system, consistent with the City of Keizer's.

TRANSPORTATION PLANNING RULE ANALYSIS

The applicant is seeking rezoning of the entire site from Agricultural Industrial (AI) to Medium Density Residential (RM). The zone change triggers Transportation Planning Rule Analysis, as per OAR 660-012-0060. The following demonstrates the "reasonable worst-case" development scenario for the existing and proposed zoning.

Existing Zoning

The existing zoning is Agricultural Industrial (AI). As per Section 2.115 of the Keizer Code of Ordinances, the following uses are allowed within the AI zone and could reasonably likely be developed.

- Farm Uses
- Wholesale and retail nurseries

The ITE Trip Generation Manual, 11th ed, is used for estimating the trip generation. The ITE manuals do not have a trip rate for farm uses. However, the nursery would have a higher trip rate, providing the worst-case development scenario. Land Use 818- Nursery (Wholesale) and

817- Nursery (Garden Center) are the most closely related ITE Land Uses. According to the ITE manuals, nurseries typically have approximately 5,000 sf primary building with the rest of the site as greenhouses and outside storage. The greenhouses and storage areas are not included in the trip generation calculation. Table 1 below provides the PM Peak Hour trip generation estimate for the existing zoning.

TABLE 1: PM PEAK HOUR TRIP GENERATION- EXISTING ZONING

ITE Code	Size	Rate	Trips
818- Nursery (Wholesale)	5 ksf	5.24	26
817- Nursery (Garden Center)	5 ksf	6.94	35

The reasonable worst-case development scenario of the existing zoning is projected to generate 35 PM peak hour trips.

Potential Zoning

The proposed zoning is Medium Density Residential (RM). As per Section 2.103, the maximum density allowed is:

- 10 units/acre- single-family detached
- 10 units/acre- multi-family
- 25 units/acre- townhouses

While townhouses can have 25 units/acre within Keizer, typical development is 18-20 units/acre. 20 units per acre is a reasonable development assumption.

The ITE Trip Generation Manual, 11th ed, is used for estimating the trip generation. Land use code 210- Single Family Detached Housing, 215- Single Family Attached Housing, 220- Multi-Family Housing (low-rise) are the most closely matched land uses. Table 2 below provides the PM Peak Hour trip generation for the proposed zoning.

TABLE 2: PM PEAK HOUR TRIP GENERATION- PROPOSED ZONING

ITE Code	Size	Rate	Trips
210- Single Family Detached	364 Units	Ln(T)=0.94ln(x)+0.27	335
215- Single Family Attached	729 Units	=0.60(x)-3.93	433
220- Multi-Family (Low Rise)	364 Units	=0.43(x)+20.55	177

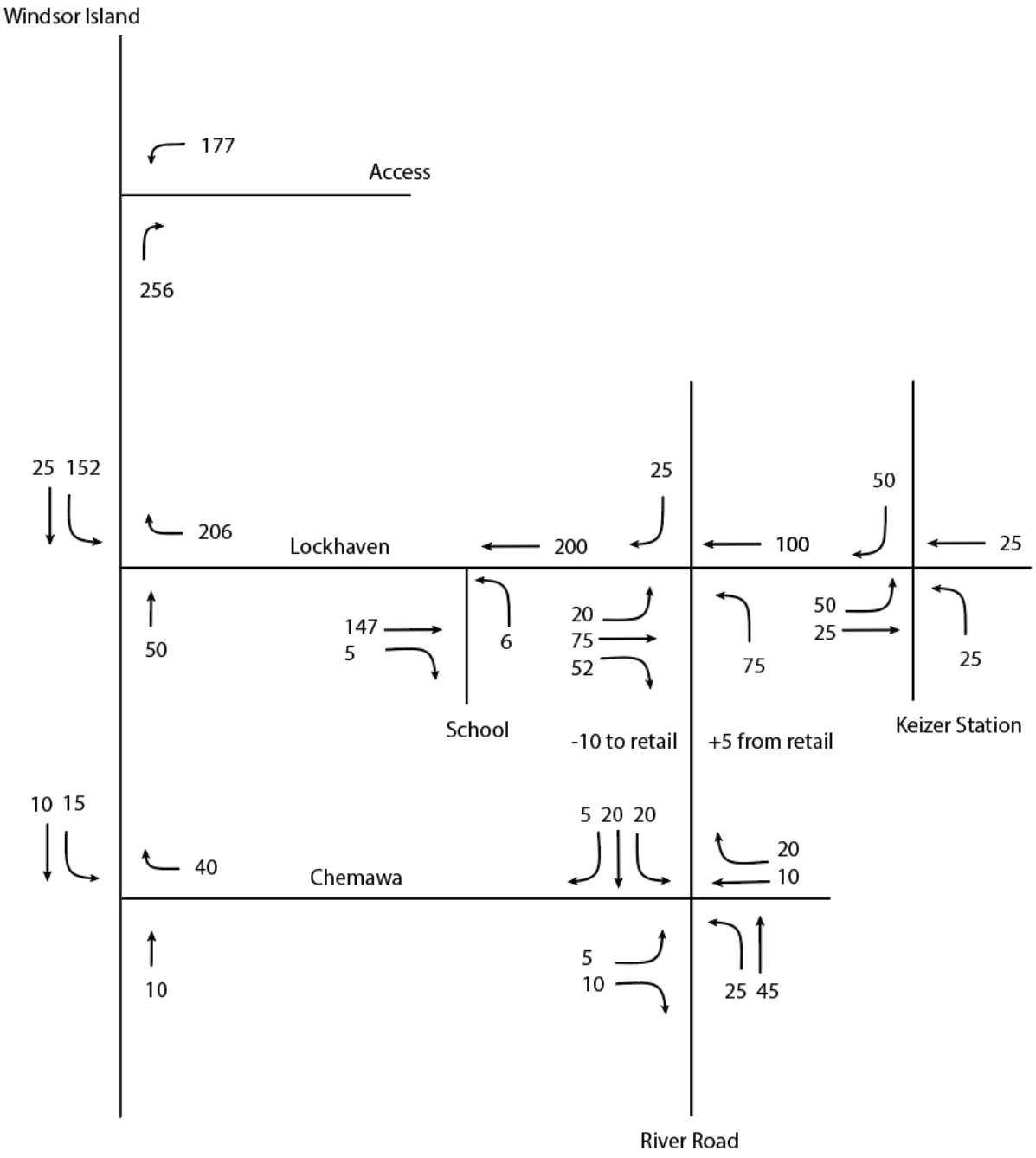
The reasonable worst-case development scenario of the proposed zoning is projected to generate 433 PM peak hour trips.

As demonstrated above, the proposed zoning will generate more trips than the existing zoning. Therefore, TPR analysis is required.

Trip Distribution
Single-family attached housing/townhomes have a split of 59% entering and 41% exiting. The entering and exiting splits are:

- 256 entering
- 177 exiting

The trips will be distributed on the street network based on the existing travel patterns, with modifications for reasonable origins/destinations. The preliminary distribution is below. Once traffic counts are taken, the distribution will be finalized.



Trip Distribution PM Peak Hour-Zone Change

TRAFFIC IMPACT ANALYSIS

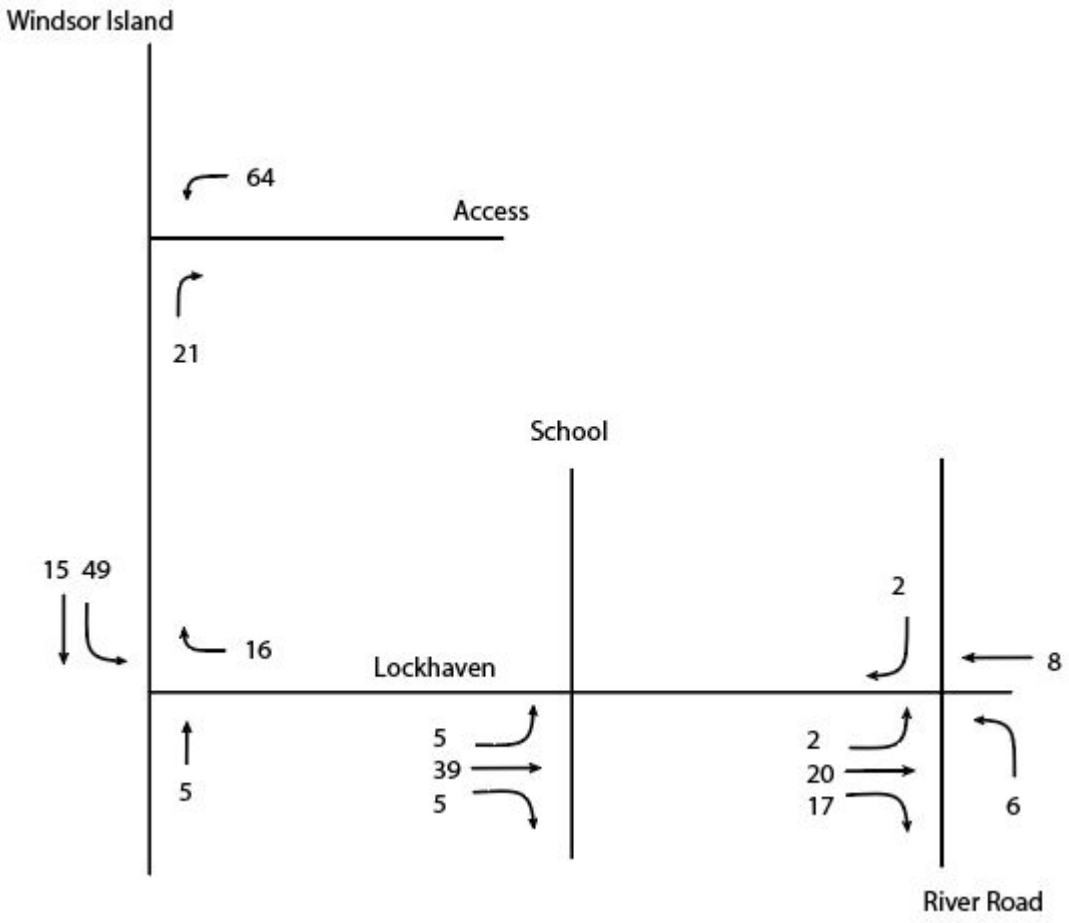
The development proposal is a 116 single-family lots. The development trips are estimated using the ITE Trip Generation Manual, 11th edition. The trips are estimated using land use code 210- Single Family Detached. Table 3 provides the trip estimates.

TABLE 3: DEVELOPMENT TRIP GENERATION

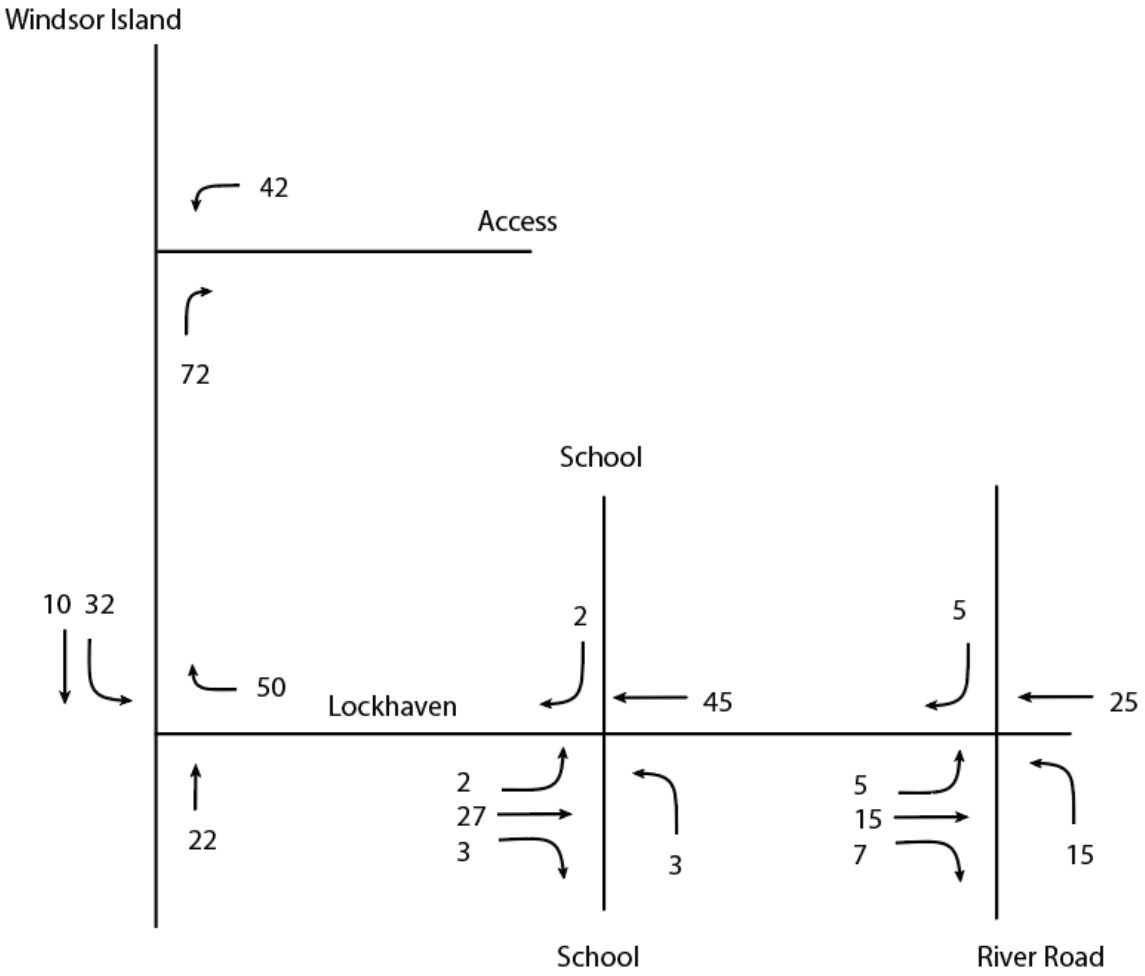
Time of Day	Units	Rate	Trips	In	Out
Daily	116	Ln(T)=0.92ln(x)+2.68	1,157	578 (50%)	579 (50%)
AM Peak Hour	116	Ln(T)=0.91ln(x)+0.12	85	21 (25%)	64 (75%)
PM Peak Hour	116	Ln(T)=0.94ln(x)+0.27	114	72 (63%)	42 (37%)

Trip Distribution

The trips will be distributed on the street network based on the existing travel patterns, with modifications for reasonable origins/destinations. The preliminary distribution is below. Once traffic counts are taken, the distribution will be finalized.



AM Peak Hour Trip Distribution



PM Peak Hour Trip Distribution

ANALYSIS PARAMETERS

TPR Analysis

- **Analysis Years:**
  - Year 2025- Existing
  - Year 2031-20 Year TSP Horizon
- **Analysis Time Period:**
  - PM Peak Hour 4-6 PM
- **Growth Rate:** As per TSP
- **Analysis to include:**
  - LOS
  - V/C
  - Queueing
  - TPR findings
- **Intersections Included in the Study:**
  - Windsor Island Road at Lockhaven Drive
  - Lockhaven Drive at River Road
  - Windsor Island Road at Site Access

TIA Analysis

- **Analysis Years:**
  - 2025- Existing
  - 2027- Year of Completion
  - 2032- 5-Year Planning Horizon
- **Analysis Time Period:**
  - AM Peak Hour 7-9 AM
  - PM Peak Hour- 4-6 PM
- **Growth Rate:** As per TSP
- **Analysis to include:**
  - LOS
  - V/C
  - Queuing
  - Crash Analysis
  - Turn pocket evaluation at the site entrance
  - Line of Sight at site entrance
- **Intersections Included in the Study:**
  - Windsor Island Road at Lockhaven Drive
  - Lockhaven Drive at River Road
  - Windsor Island Road at Chemawa Road
  - Chemawa Road at River Road
  - Windsor Island Road at Site Access

5710 WINDSOR ISLAND RD - PRE-APP LAYOUT





VICINITY MAP
NOT TO SCALE

GRAPHIC SCALE
0 100 150 200 300
(IN FEET)
1 inch = 100 ft.

SHADING LEGEND

OPEN SPACE

STORMWATER FACILITY

FS	MINIMUM FRONT YARD SETBACK	= 10'
GS	GARAGE SETBACK	= 20'
SY	SIDE YARD SETBACK	= 5'
RY	REAR YARD SETBACK	= 20'
SSSY	STREET SIDE SIDE YARD SETBACK	= 10'

LOT TYPE AND QUANTITY			
COLOR:	PRODUCT TYPE:	UNITS:	PERCENTAGE OF TOTAL UNITS:
	DETACHED 40' PRODUCT (50' WIDE LOT)	135	66.5%
	DETACHED 35' PRODUCT (45' WIDE LOT)	68	33.5%
TOTAL:		203	

NOTES:

1. INFORMATION SHOWN IS BASED ON A VARIETY OF SOURCES, INCLUDING GEOGRAPHIC INFORMATION SYSTEMS (GIS), AERIAL PHOTOGRAPHS, AS-BUILT INFORMATION, AND TAX ASSESSOR MAP INFORMATION.
2. DIMENSION SHOWN ARE APPROXIMATE.
3. LAYOUT IS A DRAFT AND FOR REVIEW PURPOSES ONLY.
4. LAYOUT IS SUBJECT TO CHANGE.
5. PRELIMINARY TITLE REVIEW COMPLETED 07/28/2025.
6. EACH INDIVIDUAL LOT IS ASSUMED TO HAVE ITS OWN STORMWATER MANAGEMENT FACILITY TO ADDRESS ROOF RUNOFF.
7. THE STORMWATER FACILITIES ARE SIZED WITH AN ASSUMED INFILTRATION RATE OF 0.5 INCH/HR.

SHEET INDEX

T100 PRE-APPLICATION LAYOUT & VICINITY MAP
T101 PRE-APPLICATION LOT LAYOUT
T102 G.I.S. EXISTING CONDITIONS

PACIFIC NATIONAL DEVELOPMENT
P.O. BOX 3550
SALEM, OR 97302
(503) 990-7003

R-C RHINE-CROSS GROUP LLC
ENGINEERING - SURVEYING - PLANNING
112 N 5th ST - SUITE 200 - P.O. BOX 909
KLAMATH FALLS, OREGON 97601
Phone: (541) 851-9405 Fax: (541) 273-9200 admin@rc-grp.com

REGISTERED PROFESSIONAL ENGINEER
55,506PE
OREGON
JULY 09, 2014
MARCUS D. CROSS
RENEWS: 12-31-2025
09-03-2025

5710 Windsor Island Rd
Pre-Application
KAIZER OREGON

SHEET NAME:
Pre-Application Layout & Vicinity Map

DRAWN BY: JDC
CHKD BY: MDC
DATE: SEPTEMBER 2025

REVISIONS:

JOB NO.
2494

SHEET NO.
T100

APPENDIX C: CRASH DATA

Windsor Island Road Subdivision

CRASH DATA SUMMARY

Chemawa @ River Rd

YEAR	PDO	INJURY	FATAL	HEAD	REAR	SIDE	TURN	OTHER	PED	BIKE	TOTAL	CHECK
2019	1	1					1			1	2	OK
2020		1			1						1	OK
2021	1	2			1			2			3	OK
2022	1	3			2			2			4	OK
2023	4	3			3		3		1		7	OK
2024	1			1							1	OK
2019-2023	7	10	0	0	7	0	4	4	1	1	17	

P.M. PEAK HOUR	Number of Years, n	ADT	AVG. ANNUAL MILES (MILLIONS)	AVG. YEARLY CRASHES	CRASH RATE/ MILLION MILES
3500	5	35000	12775000.000	3400000.0	0.27

REAR	2 N-S / N-S	N-E / N-E	5 S-N / S-N	
TURN	S-W / W-E	E-N / S-N	W-S / N-S	
SIDE				
OTHER	N-S	S-W	N-S / W-E	W-E / S-N
BIKE	W-S / W-E			
PED	W-E / UNKNOWN			
head	N-E / S-W			

Chemawa @ Windsor Island

YEAR	PDO	INJURY	FATAL	HEAD	REAR	SIDE	TURN	OTHER	PED	BIKE	TOTAL	CHECK
2019											0	OK
2020											0	OK
2021		1			1						1	OK
2022											0	OK
2023		1						1			1	OK
2024											0	OK
2019-2023	0	2	0	0	1	0	0	1	0	0	2	

P.M. PEAK HOUR	Number of Years, n	ADT	AVG. ANNUAL MILES (MILLIONS)	AVG. YEARLY CRASHES	CRASH RATE/ MILLION MILES
800	5	8000	2920000.000	400000.0	0.14

REAR	E-W / E-W
TURN	
OTHER	E-N
BIKE	

Lockhaven @ Chemawa

YEAR	PDO	INJURY	FATAL	HEAD	REAR	SIDE	TURN	OTHER	PED	BIKE	TOTAL	CHECK
2019		1				1					1	OK
2020	1	1				1		1			2	OK
2021											0	OK
2022	2	4			3		3				6	OK
2023	3	6			1		6	2			9	OK
2024	7	5			4		8				12	OK
2019-2023	6	12	0	0	4	2	9	3	0	0	18	

P.M. PEAK HOUR	Number of Years, n	ADT	AVG. ANNUAL MILES (MILLIONS)	AVG. YEARLY CRASHES	CRASH RATE/ MILLION MILES
3750	5	37500	13687500.000	3600000.0	0.26

REAR	5 E-W / E-W	E-W / E-W / E-W	W-E / W-E	N-S / N-S	
TURN	2 N-E / S-E	S-E / E-W	N-E / N-E	3 E-W / W-N	E-W / W-NE
	W-E / E-S	S-N / N-E	S-E / W-E	S-E / S-E	E-N / N-S
	E-W / N-E / N-E	E-W / N-W	N-E / S-N	E-W / N-E	
OTHER	E-W / N-S	2 W-E / N-S			
BIKE					
SIDE	E-W / E-W	N-S / N-S			

Lockhaven @ River Road

YEAR	PDO	INJURY	FATAL	HEAD	REAR	SIDE	TURN	OTHER	PED	BIKE	TOTAL	CHECK
2019	1	1				1		1			2	OK
2020	1	3			1			2		1	4	OK
2021		3			3						3	OK
2022	2	1				1	1	1			3	OK
2023	1	2			2			1			3	OK
2024		3			2			1			3	OK
2019-2023	5	10	0	0	6	2	1	5	0	1	15	

P.M. PEAK HOUR	Number of Years, n	ADT	AVG. ANNUAL MILES (MILLIONS)	AVG. YEARLY CRASHES	CRASH RATE/ MILLION MILES
3650	5	36500	13322500.000	3000000.0	0.23

REAR	2 NE-SW / NE-SW / NE-SW NE-SW / W-E	3 NE-SW / NE-SW	SE-NW / SE-NW	SW-NE / SW-NE	W-E / W-E
TURN	SW-NE / NE-E				
side	unknown / unknown	SW-NE / SW-NE			
OTHER	W-E	SW-E	E-W / NE-SW / E-W	SE-NW / NE-SW	NE-SW / W-E
BIKE	SW-E / NE-SW				

Lockhaven @ Windsor Island

YEAR	PDO	INJURY	FATAL	HEAD	REAR	SIDE	TURN	OTHER	PED	BIKE	TOTAL	CHECK
2019		1					1				1	OK
2020											0	OK
2021	1						1				1	OK
2022											0	OK
2023											0	OK
2024											0	OK
2019-2023	1	1	0	0	0	0	2	0	0	0	2	

P.M. PEAK HOUR	Number of Years, n	ADT	AVG. ANNUAL MILES (MILLIONS)	AVG. YEARLY CRASHES	CRASH RATE/ MILLION MILES
775	5	7750	2828750.000	400000.0	0.14

REAR		
TURN	E-SE / NW-SE	SE-NW / E-SE
OTHER		
BIKE		

CITY OF KEIZER, MARION COUNTY

CHEMAWA RD at RIVER RD, City of Keizer, Marion County, ALL Crashes Severity, ALL Crashes Circumstance, 01/01/2019 to 12/31/2024

1 - 5 of 18 Crash records shown.

SER# / INVEST / RD DPT / UNLOC?	S P E D	A L C	D M R U G	J N V	S I H L	C O R K	W	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
02187	N	N	N	N				06/16/2023	14	CHEMAWA RD N	INTER	CROSS	N	N	CLR	S-STRGHT	01	NONE 9	STRGHT											27,29
NONE								FR	0	RIVER RD N	N		TRF SIGNAL	N	DRY	REAR		N/A	N -S									000		00
N								10A			06	0		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	00	Unk	UNK		000	000		00
N								44 59 48.89	-123 1 35.92																UNK					
																	02	NONE 9	STRGHT											
																		N/A	N -S									000		00
																		PSNGR CAR		01	DRVR	NONE	00	Unk	UNK		000	000		00
																									UNK					
04441	N	N	N	N	N	N		10/23/2023	14	CHEMAWA RD N	INTER	CROSS	N	N	CLR	S-STRGHT	01	NONE 9	STRGHT											29
CITY								MO	0	RIVER RD N	N		TRF SIGNAL	N	DRY	REAR		N/A	N -S									000		00
N								8P			06	0		N	DLIT	PDO		PSNGR CAR		01	DRVR	NONE	00	Unk	UNK		000	000		00
N								44 59 48.89	-123 1 35.92																UNK					
																	02	NONE 9	STRGHT											
																		N/A	N -S									000		00
																		PSNGR CAR		01	DRVR	NONE	00	Unk	UNK		000	000		00
																									UNK					
03711	N	N	N	N				10/10/2023	16	CHEMAWA RD N	INTER	CROSS	N	N	CLR	S-OTHER	01	NONE 0	TURN-L											08,29
NO RPT								TU	0	RIVER RD N	E		TRF SIGNAL	N	DRY	TURN		PRVTE	N -E									000		00
N								11A			05	0		N	DAY	INJ		PSNGR CAR		01	DRVR	INJC	16	F	OR-Y		042	000		08,29
N								44 59 48.89	-123 1 35.92																OR<25					
																	02	NONE 0	TURN-L											
																		PRVTE	N -E									000		00
																		PSNGR CAR		01	DRVR	NONE	19	F	OR-Y		000	000		00
																									OR<25					
04981	N	N	N	N				12/10/2019	14	CHEMAWA RD N	INTER	CROSS	N	N	RAIN	BIKE	01	NONE 0	TURN-R											19
CITY								TU	0	RIVER RD N	S		TRF SIGNAL	N	WET	TURN		PRVTE	W -S									000		00
N								5P			05	0		N	DLIT	INJ		PSNGR CAR		01	DRVR	NONE	49	F	OR-Y		027	000		00
N								44 59 48.89	-123 1 35.93																OR<25					
																			- STRGHT		01	BIKE	INJB	16	M		I XWLK	000	000		19
																			W E											
00647	N	N	N	N				02/15/2020	14	CHEMAWA RD N	INTER	CROSS	N	N	CLR	S-1STOP	01	NONE 0	STRGHT											29
NONE								SA	0	RIVER RD N	S		TRF SIGNAL	N	DRY	REAR		PRVTE	S -N									000		00
N								10A			06	0		N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	42	F	OR-Y		026	000		29
N								44 59 48.9	-123 1 35.93																OR<25					
																	02	NONE 0	STOP											
																		PRVTE	S -N									011		00
																		PSNGR CAR		01	DRVR	INJC	69	M	OR-Y		000	000		00
																									OR<25					

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CITY OF KEIZER, MARION COUNTY

CHEMAWA RD at RIVER RD, City of Keizer, Marion County, ALL Crashes Severity, ALL Crashes Circumstance, 01/01/2019 to 12/31/2024

6 - 10 of 18 Crash records shown.

SER# / INVEST / RD DPT / UNLOC?	S P E D	A L C	D M R U G	J I N	S C H	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
03498	N	N	N	N			10/06/2021	14	CHEMAWA RD N	INTER	CROSS	N	N	CLR	S-1STOP	01	NONE 0	STRGHT											29
NONE							WE	0	RIVER RD N	S		UNKNOWN	N	DRY	REAR		PRVTE	S -N									000		00
N							10A			06	0		N	DAY	INJ		PSNGR CAR		01	DRVR	INJC	23	M	OR-Y		026	000		29
N							44 59 48.91	-123 1 35.95																OR<25					
																02	NONE 0	STOP											
																	PRVTE	S -N									011		00
																	PSNGR CAR		01	DRVR	INJB	76	M	OR-Y		000	000		00
																								OR<25					
																02	NONE 0	STOP											
																	PRVTE	S -N									011		00
																	PSNGR CAR		02	PSNG	INJC	49	F			000	000		00
04327	N	N	N	N	N	N	11/29/2021	14	CHEMAWA RD N	INTER	CROSS	N	Y	CLD	FIX OBJ	01	NONE 9	STRGHT										054		17
CITY							MO	0	RIVER RD N	S		TRF SIGNAL	N	DRY	FIX		N/A	N -S									000		00
N							3P			05	0		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	00	Unk	UNK		000	000		00
N							44 59 48.89	-123 1 35.92																UNK					
03167	N	N	N	N	N	N	09/10/2022	14	CHEMAWA RD N	INTER	CROSS	N	N	CLR	S-1STOP	01	NONE 0	STRGHT												07
CITY							SA	0	RIVER RD N	S		TRF SIGNAL	N	DRY	REAR		PRVTE	S -N									000		00
N							11A			06	0		N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	43	M	OR-Y		043,026	000		07
N							44 59 48.89	-123 1 35.92																OR<25					
																02	NONE 0	STOP											
																	PRVTE	S -N									011		00
																	PSNGR CAR		01	DRVR	INJC	49	F	OR-Y		000	000		00
																								OR<25					
02466	N	Y	N	N	N	N	07/21/2022	14	RIVER RD N	INTER	CROSS	N	N	CLR	S-1STOP	01	NONE 9	STRGHT												32,27
CITY							TH	0	CHEMAWA RD N	S		L-GRN-SIG	N	DRY	SS-O		N/A	S -N									000		00
N							7P			06	0		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	00	Unk	UNK		000	000		00
N							44 59 48.89	-123 1 35.92																UNK					
																02	NONE 9	STOP											
																	N/A	S -N									012		00
																	PSNGR CAR		01	DRVR	NONE	00	Unk	UNK		000	000		00
																								UNK					
04417	N	N	N	N			11/27/2023	14	CHEMAWA RD N	INTER	CROSS	N	N	UNK	S-1STOP	01	NONE 9	STRGHT												29
NONE							MO	0	RIVER RD N	S		TRF SIGNAL	N	UNK	REAR		N/A	S -N									000		00
N							4P			06	0		N	DUSK	PDO		PSNGR CAR		01	DRVR	NONE	00	Unk	UNK		000	000		00
N							44 59 48.89	-123 1 35.92																UNK					
																02	NONE 9	STOP											
																	N/A	S -N									011		00
																	PSNGR CAR		01	DRVR	NONE	00	Unk	UNK		000	000		00
																								UNK					

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CITY OF KEIZER, MARION COUNTY

CHEMAWA RD at RIVER RD, City of Keizer, Marion County, ALL Crashes Severity, ALL Crashes Circumstance, 01/01/2019 to 12/31/2024

11 - 15 of 18 Crash records shown.

SER# / INVEST / RD DPT / UNLOC?	S P E D	A L C	D M R J S W U I C O N H R V L 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 / OWNER / TYPE	QTY	MOVE / FROM / TO	P#	PRTC TYPE	INJ SVRTY	A G E	S E X	LICNS RES	PED LOC	ERROR	ACT	EVENT	CAUSE
03636	N N	N N	N N N N	09/20/2019	16	CHEMAWA RD N	INTER	CROSS	N	N	CLR	ANGL-STP	01	NONE	9	TURN-L											08
CITY				FR	0	RIVER RD N	W		TRF SIGNAL	N	DRY	TURN		N/A		S -W									000		00
N				6P			05	0		N	DAY	PDO		PSNGR CAR			01	DRVR	NONE	00	Unk	UNK		000	000		00
N				44 59 48.89	-123 1 35.93																	UNK					
													02	NONE	9	STOP											
														N/A		W -E									012		00
														PSNGR CAR			01	DRVR	NONE	00	Unk	UNK		000	000		00
																						UNK					
00931	N Y	N N	N N	03/23/2022	16	CHEMAWA RD N	INTER	CROSS	N	Y	CLR	FIX OBJ	01	NONE	0	TURN-L										040,100	33,08
CITY				WE	0	RIVER RD N	W		TRF SIGNAL	N	DRY	FIX		PRVTE		S -W									000	040,100	00
N				1A			05	0		N	DLIT	INJ		PSNGR CAR			01	DRVR	INJA	40	F	OR-Y		051,081,001	000		33,08
N				44 59 48.89	-123 1 35.93																	OR<25					
04928	N N	N N	N N	11/02/2023	16	CHEMAWA RD N	INTER	CROSS	N	N	UNK	PED	01	NONE	0	STRGHT											04
CITY				TH	0	RIVER RD N	W		TRF SIGNAL	N	WET	PED		PRVTE		W -E									000		00
N				5A			06	0		N	DLIT	INJ		PSNGR CAR			01	DRVR	NONE	95	F	OR-Y		020	000		04
N				44 59 48.89	-123 1 35.92																	OR<25					
																- STRGHT	01	PED	INJB	41	F		I XWLK	000	000		00
																UN UN											
00739	N N	N N	N N	03/09/2021	14	CHEMAWA RD N	INTER	CROSS	N	N	CLD	ANGL-OTH	01	NONE	0	STRGHT											04
CITY				TU	0	RIVER RD N	CN		TRF SIGNAL	N	WET	ANGL		PRVTE		N -S									000		00
N				5A			03	0		N	DLIT	INJ		PSNGR CAR			01	DRVR	INJB	42	F	OR-Y		020	000		04
N				44 59 48.89	-123 1 35.94																	OR<25					
													02	NONE	0	STRGHT											
														PRVTE		W -E									000		00
														PSNGR CAR			01	DRVR	INJC	29	M	NONE		000	000		00
																						OR<25					
02219	N N	N N	N N	07/04/2022	14	CHEMAWA RD N	INTER	CROSS	N	N	CLR	ANGL-OTH	01	NONE	0	STRGHT											04,27
CITY				MO	0	RIVER RD N	CN		TRF SIGNAL	N	DRY	ANGL		PRVTE		W -E									000		00
N				7P			04	0		N	DAY	INJ		PSNGR CAR			01	DRVR	INJB	36	F	OR-Y		000	000		00
N				44 59 48.89	-123 1 35.92																	OR<25					
													02	NONE	0	STRGHT											
														PRVTE		S -N									000		00
														PSNGR CAR			01	DRVR	NONE	39	M	OR-Y		020,016	038		04,27
																						OR<25					

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SER# / INVEST / RD DPT / UNLOC?	S P E D	A L C	D M R U G	J N V	S 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
02806	N	N	N	N	N	N	08/03/2023	14	CHEMAWA RD N	INTER	CROSS	N	N	CLR	ANGL-OTH	01	NONE 9	TURN-R											02,08
CITY			TH				0	RIVER RD N	CN		TRF SIGNAL	N	DRY	TURN		N/A	E -N									000		00
N			10A						02	0		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	00	Unk	UNK		000	000		00
N			44 59 48.89		-123 1		35.92																	UNK				
																02	NONE 9	STRGHT										
																	N/A	S -N								000		00
																	PSNGR CAR		01	DRVR	NONE	00	Unk	UNK		000	000		00
																								UNK				
04902	Y	N	N	N	N	N	12/29/2023	14	CHEMAWA RD N	INTER	CROSS	N	N	RAIN	ANGL-OTH	01	NONE 0	TURN-R											30,02
CITY			FR				0	RIVER RD N	CN		TRF SIGNAL	N	WET	TURN		PRVTE	W -S									000		00
N			6P						03	0		N	DLIT	INJ		PSNGR CAR		01	DRVR	NONE	77	F	OR-Y		028	000		02
N			44 59 48.89		-123 1		35.92																	OR<25				
																02	NONE 0	STRGHT										
																	PRVTE	N -S								000		00
																	PSNGR CAR		01	DRVR	INJB	20	F	OR-Y		050	000		30
																								OR<25				
																02	NONE 0	STRGHT										
																	PRVTE	N -S								000		00
																	PSNGR CAR		02	PSNG	INJB	48	F			000	000		00
04752	N	N	N	N			12/09/2024	14	CHEMAWA RD N	INTER	CROSS	N	N	CLR	O-1STOP	01	NONE 9	TURN-L											14
NO RPT			MO				0	RIVER RD N	CN		TRF SIGNAL	N	UNK	HEAD		N/A	N -E									000		00
N			2P						01	0		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	00	Unk	UNK		000	000		00
N			44 59 48.89		-123 1		35.92																	UNK				
																02	NONE 9	STOP										
																	N/A	S -W								012		00
																	PSNGR CAR		01	DRVR	NONE	00	Unk	UNK		000	000		00
																								UNK				

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CRASH SUMMARIES BY YEAR BY COLLISION TYPE

CHEMAWA RD at RIVER RD, City of Keizer, Marion County, ALL Crashes Severity, ALL Crashes Circumstance, 01/01/2019 to 12/31/2024

COLLISION TYPE	FATAL CRASHES	NON-FATAL CRASHES	PROPERTY DAMAGE ONLY	TOTAL CRASHES	PEOPLE KILLED	PEOPLE INJURED	TRUCKS	DRY SURF	WET SURF	DAY	DARK	INTER-SECTION	INTER-SECTION RELATED	OFF-ROAD
YEAR: 2024														
HEAD-ON	0	0	1	1	0	0	0	0	0	1	0	1	0	0
YEAR 2024 TOTAL	**0**	**0**	**1**	**1**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**1**	**0**	**0**
YEAR: 2023														
PEDESTRIAN	0	1	0	1	0	1	0	0	1	0	1	1	0	0
REAR-END	0	0	3	3	0	0	0	2	0	1	2	3	0	0
TURNING MOVEMENTS	0	2	1	3	0	3	0	2	1	2	1	3	0	0
YEAR 2023 TOTAL	**0**	**3**	**4**	**7**	**0**	**4**	**0**	**4**	**2**	**3**	**4**	**7**	**0**	**0**
YEAR: 2022														
ANGLE	0	1	0	1	0	1	0	1	0	1	0	1	0	0
FIXED / OTHER OBJECT	0	1	0	1	0	1	0	1	0	0	1	1	0	1
REAR-END	0	1	0	1	0	1	0	1	0	1	0	1	0	0
SIDESWIPE - OVERTAKING	0	0	1	1	0	0	0	1	0	1	0	1	0	0
YEAR 2022 TOTAL	**0**	**3**	**1**	**4**	**0**	**3**	**0**	**4**	**0**	**3**	**1**	**4**	**0**	**1**
YEAR: 2021														
ANGLE	0	1	0	1	0	2	0	0	1	0	1	1	0	0
FIXED / OTHER OBJECT	0	0	1	1	0	0	0	1	0	1	0	1	0	1
REAR-END	0	1	0	1	0	3	0	1	0	1	0	1	0	0
YEAR 2021 TOTAL	**0**	**2**	**1**	**3**	**0**	**5**	**0**	**2**	**1**	**2**	**1**	**3**	**0**	**1**

CRASH SUMMARIES BY YEAR BY COLLISION TYPE

CHEMAWA RD at RIVER RD, City of Keizer, Marion County, ALL Crashes Severity, ALL Crashes Circumstance, 01/01/2019 to 12/31/2024

COLLISION TYPE	FATAL CRASHES	NON-FATAL CRASHES	PROPERTY DAMAGE ONLY	TOTAL CRASHES	PEOPLE KILLED	PEOPLE INJURED	TRUCKS	DRY SURF	WET SURF	DAY	DARK	INTER-SECTION	INTER-SECTION RELATED	OFF-ROAD
YEAR: 2020														
REAR-END	0	1	0	1	0	1	0	1	0	1	0	1	0	0
YEAR 2020 TOTAL	**0**	**1**	**0**	**1**	**0**	**1**	**0**	**1**	**0**	**1**	**0**	**1**	**0**	**0**
YEAR: 2019														
TURNING MOVEMENTS	0	1	1	2	0	1	0	1	1	1	1	2	0	0
YEAR 2019 TOTAL	**0**	**1**	**1**	**2**	**0**	**1**	**0**	**1**	**1**	**1**	**1**	**2**	**0**	**0**
FINAL TOTAL	**0**	**10**	**8**	**18**	**0**	**14**	**0**	**12**	**4**	**11**	**7**	**18**	**0**	**2**

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CITY OF KEIZER, MARION COUNTY

CHEMAWA RD at SHORELINE DR, City of Keizer, Marion County, ALL Crashes Severity, ALL Crashes Circumstance, 01/01/2019 to 12/31/2024

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	SPCL USE / TRLR QTY / OWNER / V#	MOVE / FROM / TO	P#	PRTC TYPE	INJ SVRTY	A G E	S E X	LICNS RES	PED LOC	ERROR	ACT	EVENT	CAUSE

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CRASH SUMMARIES BY YEAR BY COLLISION TYPE

CHEMAWA RD at SHORELINE DR, City of Keizer, Marion County, ALL Crashes Severity, ALL Crashes Circumstance, 01/01/2019 to 12/31/2024

COLLISION TYPE	FATAL CRASHES	NON-FATAL CRASHES	PROPERTY DAMAGE ONLY	TOTAL CRASHES	PEOPLE KILLED	PEOPLE INJURED	TRUCKS	DRY SURF	WET SURF	DAY	DARK	INTER-SECTION	INTER-SECTION RELATED	OFF-ROAD
FINAL TOTAL														

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CITY OF KEIZER, MARION COUNTY

CHEMAWA RD at WINDSOR ISLAND RD, City of Keizer, Marion County, ALL Crashes Severity, ALL Crashes Circumstance, 01/01/2019 to 12/31/2024

1 - 2 of 2 Crash records shown.

SER# / INVEST / RD DPT / UNLOC?	S P E D	A L C	D M R U G N	J I 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
00718	N	N	N	N			02/28/2023	17	CHEMAWA RD N	INTER	CROSS	N	Y	RAIN	FIX OBJ	01	NONE 0	TURN-R										040,121,091	08
CITY							TU	0	WINDSOR ISLAND RD N	N		STOP SIGN	N	WET	FIX		PRVTE	E -N										000	040,121,091	00
N							2A			06	0		N	DLIT	INJ		PSNGR CAR		01	DRVR	INJB	22	F	OR-Y		001,081	000		08
N							44 59 49.41	-123 2 26.4																OR<25					
02716	N	Y	N	N	N	N	08/11/2021	16	CHEMAWA RD N	INTER	CROSS	N	N	CLR	S-1STOP	01	NONE 0	STRGHT											32,27,29
CITY							WE	0	WINDSOR ISLAND RD N	E		STOP SIGN	N	DRY	REAR		PRVTE	E -W									000		00
N							3P			06	0		N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	52	F	OR-Y		052,016,026	038		32,27,29
N							44 59 49.43	-123 2 26.39																OR<25					
																02	NONE 0	STOP											
																	PRVTE	E -W									011		00
																	PSNGR CAR		01	DRVR	INJB	45	F	OR-Y		000	000		00
																								OR<25					

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CRASH SUMMARIES BY YEAR BY COLLISION TYPE

CHEMAWA RD at WINDSOR ISLAND RD, City of Keizer, Marion County, ALL Crashes Severity, ALL Crashes Circumstance, 01/01/2019 to 12/31/2024

COLLISION TYPE	FATAL CRASHES	NON-FATAL CRASHES	PROPERTY DAMAGE ONLY	TOTAL CRASHES	PEOPLE KILLED	PEOPLE INJURED	TRUCKS	DRY SURF	WET SURF	DAY	DARK	INTER-SECTION	INTER-SECTION RELATED	OFF-ROAD
YEAR: 2023														
FIXED / OTHER OBJECT	0	1	0	1	0	1	0	0	1	0	1	1	0	1
YEAR 2023 TOTAL	**0**	**1**	**0**	**1**	**0**	**1**	**0**	**0**	**1**	**0**	**1**	**1**	**0**	**1**
YEAR: 2021														
REAR-END	0	1	0	1	0	1	0	1	0	1	0	1	0	0
YEAR 2021 TOTAL	**0**	**1**	**0**	**1**	**0**	**1**	**0**	**1**	**0**	**1**	**0**	**1**	**0**	**0**
FINAL TOTAL	**0**	**2**	**0**	**2**	**0**	**2**	**0**	**1**	**1**	**1**	**1**	**2**	**0**	**1**

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CITY OF KEIZER, MARION COUNTY

KEIZER STATION BLVD at CHEMAWA RD, City of Keizer, Marion County, ALL Crashes Severity, ALL Crashes Circumstance, 01/01/2019 to 12/31/2024

1 - 3 of 20 Crash records shown.

SER# / INVEST / RD DPT / UNLOC?	S P E D	A L C	D M R G S	J N V	S 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 / TYPE / OWNER	MOVE / FROM / TO	P#	PRTC TYPE	INJ SVRTY	A G E	S E X	LICNS RES	PED LOC	ERROR	ACT	EVENT	CAUSE
01348	N	N	N	N	N	N	04/12/2019	14	CHEMAWA RD NE	INTER	CROSS	N	N	CLR	S-STRGHT	01	NONE 0	STRGHT										087	32,13
CITY			FR				0	KEIZER STATION BLVD NE	E			TRF SIGNAL	N	DRY	SS-O		PRVTE	E -W									000	087	00
N			3P							06	0		N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	59	M	OR-Y		052,045	000		32,13
N			45 0 22.3				-123 0 14.45																	OR<25					
																02	NONE 0	STRGHT											
																	PRVTE	E -W									000	087	00
																	PSNGR CAR		01	DRVR	INJC	42	F	OR-Y		000	000		00
																								OR<25					
																02	NONE 0	STRGHT											
																	PRVTE	E -W									000	087	00
																	PSNGR CAR		02	PSNG	INJC	13	F			000	000		00
00182	N	N	N	N			01/16/2022	14	CHEMAWA RD NE	INTER	CROSS	N	N	CLR	S-1STOP	01	NONE 0	STRGHT											29
NONE			SU				0	KEIZER STATION BLVD NE	E			TRF SIGNAL	N	DRY	REAR		PRVTE	E -W									000		00
N			4P							06	0		N	DAY	INJ		PSNGR CAR		01	DRVR	INJC	17	M	OR-Y		026	000		29
N			45 0 22.3				-123 0 14.42																	OR<25					
																02	NONE 0	STOP											
																	PRVTE	E -W									011		00
																	PSNGR CAR		01	DRVR	NONE	82	F	OR-Y		000	000		00
																								OR<25					
02928	N	N	N	N	N	N	08/26/2022	14	CHEMAWA RD NE	INTER	CROSS	N	N	CLR	S-1STOP	01	NONE 0	STRGHT											07
CITY			FR				0	KEIZER STATION BLVD NE	E			TRF SIGNAL	N	DRY	REAR		PRVTE	E -W									000		00
N			1P							06	0		N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	60	M	OR-Y		043,026	000		07
N			45 0 22.29				-123 0 14.42																	OR<25					
																02	NONE 0	STOP											
																	PRVTE	E -W									011		00
																	PSNGR CAR		01	DRVR	INJC	69	F	OR-Y		000	000		00
																								OR<25					
																02	NONE 0	STOP											
																	PRVTE	E -W									011		00
																	PSNGR CAR		02	PSNG	INJC	69	M			000	000		00
04145	N	N	N	N	N	N	11/06/2023	14	CHEMAWA RD NE	INTER	CROSS	N	N	RAIN	S-1STOP	01	NONE 0	STRGHT											29
CITY			MO				0	KEIZER STATION BLVD NE	E			TRF SIGNAL	N	WET	REAR		PRVTE	E -W									000		00
N			2P							06	0		N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	42	F	OR-Y		026	000		29
N			45 0 22.29				-123 0 14.42																	OR<25					
																02	NONE 0	STOP											
																	PRVTE	E -W									011		00
																	PSNGR CAR		01	DRVR	INJB	41	F	OR-Y		000	000		00
																								OR<25					

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CITY OF KEIZER, MARION COUNTY

KEIZER STATION BLVD at CHEMAWA RD, City of Keizer, Marion County, ALL Crashes Severity, ALL Crashes Circumstance, 01/01/2019 to 12/31/2024

4 - 8 of 20 Crash records shown.

SER# / INVEST / RD DPT / UNLOC?	SPEM / EALC / DGSV / MRJSWLK	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	AGE	SEX	LICNS RES	PED LOC	ERROR	ACT	EVENT	CAUSE
											02	NONE 0 PRVTE PSNGR CAR	STOP E -W	02	PSNG	INJC	17	F			000	011 000		00 00
01567	N N N N	05/08/2024	14	CHEMAWA RD NE	INTER	CROSS	N	N	CLR	O-OTHER	01	NONE 9	TURN-L											08
NONE N N		WE 8A 45 0 22.29	0 -123 0 14.42	KEIZER STATION BLVD NE	E 05	 0	TRF SIGNAL	N N	DRY DAY	TURN PDO		N/A PSNGR CAR	N -E	01	DRVR	NONE	00	Unk	UNK UNK		000	000 000		00 00
											02	NONE 9 N/A PSNGR CAR	TURN-R S -E	01	DRVR	NONE	00	Unk	UNK UNK		000	000 000		00 00
01842	N N N N	05/30/2024	14	CHEMAWA RD NE	INTER	CROSS	N	N	CLR	S-1STOP	01	NONE 9	STRGHT											29
NONE N N		TH 10A 45 0 22.29	0 -123 0 14.42	KEIZER STATION BLVD NE	E 06	 0	TRF SIGNAL	N N	DRY DAY	REAR PDO		N/A PSNGR CAR	E -W	01	DRVR	NONE	00	Unk	UNK UNK		000	000 000		00 00
											02	NONE 9 N/A PSNGR CAR	STOP E -W	01	DRVR	NONE	00	Unk	UNK UNK		000	011 000		00 00
02200	Y N N N N N	06/01/2024	14	CHEMAWA RD NE	INTER	CROSS	N	N	CLD	ANGL-STP	01	NONE 0	TURN-R											33,30,08
CITY N N		SA 5P 45 0 22.29	0 -123 0 14.42	KEIZER STATION BLVD NE	E 06	 0	TRF SIGNAL	N N	DRY DAY	TURN INJ		PRVTE PSNGR CAR	S -E	01	DRVR	NONE	18	F	OR-Y OR<25		051,050,001	000 000		00 33,30,08
											01	NONE 0 PRVTE PSNGR CAR	TURN-R S -E	02	PSNG	INJB	14	F			000	000 000		00 00
											02	NONE 0 PRVTE PSNGR CAR	STOP E -W	01	DRVR	NONE	20	M	OR-Y OR<25		000	012 000		00 00
02029	N N N N	06/12/2024	14	CHEMAWA RD NE	INTER	CROSS	N	N	CLR	S-OTHER	01	NONE 9	TURN-L											08
NONE N N		WE 12P 45 0 22.29	0 -123 0 14.42	KEIZER STATION BLVD NE	E 05	 0	TRF SIGNAL	N N	DRY DAY	TURN PDO		N/A PSNGR CAR	N -E	01	DRVR	NONE	00	Unk	UNK UNK		000	000 000		00 00
											02	NONE 9 N/A PSNGR CAR	TURN-L N -E	01	DRVR	NONE	00	Unk	UNK UNK		000	000 000		00 00

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SER# / INVEST / RD DPT / UNLOC?	S P E D	A L C	D M R J G S	U N V	I H L	C O R K	W	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	MOVE / FROM / TO	P#	PRTC TYPE	INJ SVRTY	A G E	S E X	LICNS RES	PED LOC	ERROR	ACT	EVENT	CAUSE
04956	N	N	N N				N	12/20/2024	14	CHEMAWA RD NE	INTER	CROSS	N	N	RAIN	S-1STOP	01	NONE 9	STRGHT											07
NO RPT								FR	0	KEIZER STATION BLVD NE	E		TRF SIGNAL	N	WET	REAR		N/A	E -W									000		00
N								9P			06	0		N	DLIT	PDO		PSNGR CAR		01	DRVR	NONE	00	Unk	UNK		000	000		00
N								45 0 22.29	-123 0 14.42																UNK					
																	02	NONE 9	STOP											
																		N/A	E -W									011		00
																		PSNGR CAR		01	DRVR	NONE	00	Unk	UNK		000	000		00
																									UNK					
03137	N	N	N N				N	08/25/2024	14	CHEMAWA RD NE	INTER	CROSS	N	N	CLR	S-1STOP	01	NONE 0	STRGHT										013	29
NONE								SU	0	KEIZER STATION BLVD NE	E		TRF SIGNAL	N	DRY	REAR		PRVTE	E -W									000		00
N								4P			06	0		N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	30	F	OR-Y		026	000		29
N								45 0 22.29	-123 0 14.42																OR>25					
																	02	NONE 0	STOP											
																		PRVTE	E -W									011	013	00
																		PSNGR CAR		01	DRVR	INJB	58	F	OR-Y		000	000		00
																									OR<25					
																	02	NONE 0	STOP											
																		PRVTE	E -W									011	013	00
																		PSNGR CAR		02	PSNG	INJC	61	M			000	000		00
																	03	NONE 0	STOP											
																		PRVTE	E -W									011		00
																		PSNGR CAR		01	DRVR	INJC	67	F	OR-Y		000	000		00
																									OR<25					
01869	N	N	N N				N	05/23/2024	14	CHEMAWA RD NE	INTER	CROSS	N	N	CLR	S-1STOP	01	NONE 9	STRGHT											29
NONE								TH	0	KEIZER STATION BLVD NE	W		TRF SIGNAL	N	DRY	REAR		N/A	W -E									000		00
N								4P			06	0		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	00	Unk	UNK		000	000		00
N								45 0 22.29	-123 0 14.42																UNK					
																	02	NONE 9	STOP											
																		N/A	W -E									011		00
																		OTH BUS		01	DRVR	NONE	00	Unk	UNK		000	000		00
																									UNK					
00018	N	N	N N	N	N	N	N	01/02/2022	14	CHEMAWA RD NE	INTER	CROSS	N	N	RAIN	O-1 L-TURN	01	NONE 0	STRGHT											04,27
CITY								SU	0	KEIZER STATION BLVD NE	CN		TRF SIGNAL	N	WET	TURN		PRVTE	E -W									000		00
N								8P			02	0		N	DLIT	INJ		PSNGR CAR		01	DRVR	NONE	40	M	OR-Y		020,016	038		04,27
N								45 0 22.29	-123 0 14.43																OR<25					
																	02	NONE 0	TURN-L											
																		PRVTE	W -N									000		00
																		PSNGR CAR		01	DRVR	INJC	75	M	OR-Y		000	000		00
																									OR<25					

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CITY OF KEIZER, MARION COUNTY

KEIZER STATION BLVD at CHEMAWA RD, City of Keizer, Marion County, ALL Crashes Severity, ALL Crashes Circumstance, 01/01/2019 to 12/31/2024

13 - 16 of 20 Crash records shown.

SER# / INVEST / RD DPT / UNLOC?	S P E D	A L C	D M R U G S	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
02058	N	N	N N	N	N	N	06/22/2022	14	CHEMAWA RD NE	INTER	CROSS	N	N	CLR	O-1 L-TURN	01	NONE 0	STRGHT										04
CITY			WE				0	KEIZER STATION BLVD NE	CN		TRF SIGNAL	N	DRY	TURN		PRVTE	E -W									000	00
N			9A						02	0		N	DAY	INJ			PSNGR CAR		01	DRVR	NONE	24	F	SUSP		020	000	04
N			45 0 22.29				-123 0 14.42																	OR>25				
																02	NONE 0	TURN-L										
																	PRVTE	W -N									000	00
																	PSNGR CAR		01	DRVR	INJB	20	M	OR-Y		000	000	00
																								OR<25				
																02	NONE 0	TURN-L										
																	PRVTE	W -N									000	00
																	PSNGR CAR		02	PSNG	INJC	19	F			000	000	00
02861	N	N	N N				08/22/2022	14	CHEMAWA RD NE	INTER	CROSS	N	N	CLR	O-1 L-TURN	01	NONE 9	STRGHT										04
NO RPT			MO				0	KEIZER STATION BLVD NE	CN		TRF SIGNAL	N	DRY	TURN		N/A	E -W									000	00
N			7P						02	0		N	DAY	PDO			PSNGR CAR		01	DRVR	NONE	00	Unk	UNK		000	000	00
N			45 0 22.29				-123 0 14.42																	UNK				
																02	NONE 9	TURN-L										
																	N/A	W -N									000	00
																	PSNGR CAR		01	DRVR	NONE	00	Unk	UNK		000	000	00
																								UNK				
01878	N	N	N N	N	N	N	05/26/2023	14	CHEMAWA RD NE	INTER	CROSS	N	N	CLR	O-1 L-TURN	01	NONE 0	STRGHT										04,27
CITY			FR				0	KEIZER STATION BLVD NE	CN		TRF SIGNAL	N	DRY	TURN		PRVTE	E -W									000	00
N			9P						02	0		N	DLIT	INJ			PSNGR CAR		01	DRVR	INJB	54	F	OR-Y		020,016	038	04,27
N			45 0 22.29				-123 0 14.42																	OR<25				
																02	NONE 0	TURN-L										
																	PRVTE	W -NE									000	00
																	PSNGR CAR		01	DRVR	INJC	19	F	OR-Y		000	000	00
																								OR>25				
																02	NONE 0	TURN-L										
																	PRVTE	W -NE									000	00
																	PSNGR CAR		02	PSNG	INJB	22	M			000	000	00
03028	N	N	N N				08/22/2023	14	CHEMAWA RD NE	INTER	CROSS	N	N	CLR	O-OTHER	01	NONE 9	TURN-R										02
NONE			TU				0	KEIZER STATION BLVD NE	CN		TRF SIGNAL	N	DRY	TURN		N/A	S -E									000	00
N			3P						04	0		N	DAY	PDO			PSNGR CAR		01	DRVR	NONE	00	Unk	UNK		000	000	00
N			45 0 22.29				-123 0 14.42																	UNK				
																02	NONE 9	TURN-L										
																	N/A	N -E									000	00
																	PSNGR CAR		01	DRVR	NONE	00	Unk	UNK		000	000	00
																								UNK				

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CITY OF KEIZER, MARION COUNTY

KEIZER STATION BLVD at CHEMAWA RD, City of Keizer, Marion County, ALL Crashes Severity, ALL Crashes Circumstance, 01/01/2019 to 12/31/2024

17 - 20 of 20 Crash records shown.

SER# / INVEST / RD DPT / UNLOC?	S P E D	A L C	D M R U G S	J N V	S 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
03429	N	N	N N	N	N	N	09/21/2023	14	CHEMAWA RD NE	INTER	CROSS	N	N	CLR	O-1 L-TURN	01	NONE 0	STRGHT										04
CITY			TH	0	KEIZER STATION BLVD NE	CN		TRF SIGNAL	N	DRY	TURN		PRVTE	S -N											000		00
N			12P			04	0		N	DAY	INJ		PSNGR CAR		01	DRVR	INJB	23	F	OR-Y		097	000		00
N			45 0 22.29	-123 0 14.42																				OR<25				
																02	NONE 0	TURN-L										
																	PRVTE	N -E								000		00
																	PSNGR CAR		01	DRVR	INJB	80	M	OR-Y		097	000	00
																								OR<25				
																02	NONE 0	TURN-L										
																	PRVTE	N -E								000		00
																	PSNGR CAR		02	PSNG	INJB	79	F			000	000	00
02276	N	N	N N				06/11/2024	14	CHEMAWA RD NE	INTER	CROSS	N	N	CLR	ANGL-OTH	01	NONE 9	TURN-R										02
NONE			TU	0	KEIZER STATION BLVD NE	CN		UNKNOWN	N	DRY	TURN		N/A	S -E											000		00
N			8P			04	0		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	00	Unk	UNK		000	000		00
N			45 0 22.29	-123 0 14.42																				UNK				
																02	NONE 9	STRGHT										
																	N/A	W -E								000		00
																	PSNGR CAR		01	DRVR	NONE	00	Unk	UNK		000	000	00
																								UNK				
02642	N	N	N N				07/22/2024	14	CHEMAWA RD NE	INTER	CROSS	N	N	CLR	S-OTHER	01	NONE 0	TURN-R										06,08
NONE			MO	0	KEIZER STATION BLVD NE	CN		R-GRN-SIG	N	DRY	TURN		PRVTE	S -E											000		00
N			9A			04	0		N	DAY	INJ		PSNGR CAR		01	DRVR	INJC	42	F	OR-Y		031	000		06,08
N			45 0 22.29	-123 0 14.42																				OR<25				
																02	NONE 0	TURN-R										
																	PRVTE	S -E								000		00
																	TRUCK		01	DRVR	NONE	30	M	OR-Y		000	000	00
																								OR<25				
05041	N	N	N N	N	N	N	12/28/2024	14	CHEMAWA RD NE	INTER	3-LEG	N	N	CLD	O-1 L-TURN	01	NONE 9	STRGHT										02
CITY			SA	0	KEIZER STATION BLVD NE	CN		TRF SIGNAL	N	WET	TURN		N/A	W -E											000		00
N			8A			03	0		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	00	Unk	UNK		000	000		00
N			45 0 22.29	-123 0 14.42																				UNK				
																02	NONE 9	TURN-L										
																	N/A	E -S								000		00
																	PSNGR CAR		01	DRVR	NONE	00	Unk	UNK		000	000	00
																								UNK				

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CRASH SUMMARIES BY YEAR BY COLLISION TYPE

KEIZER STATION BLVD at CHEMAWA RD, City of Keizer, Marion County, ALL Crashes Severity, ALL Crashes Circumstance, 01/01/2019 to 12/31/2024

COLLISION TYPE	FATAL CRASHES	NON-FATAL CRASHES	PROPERTY DAMAGE ONLY	TOTAL CRASHES	PEOPLE KILLED	PEOPLE INJURED	TRUCKS	DRY SURF	WET SURF	DAY	DARK	INTER-SECTION	INTER-SECTION RELATED	OFF-ROAD
YEAR: 2024														
REAR-END	0	1	3	4	0	3	0	3	1	3	1	4	0	0
TURNING MOVEMENTS	0	2	4	6	0	2	1	5	1	6	0	6	0	0
YEAR 2024 TOTAL	**0**	**3**	**7**	**10**	**0**	**5**	**1**	**8**	**2**	**9**	**1**	**10**	**0**	**0**
YEAR: 2023														
REAR-END	0	1	0	1	0	2	0	0	1	1	0	1	0	0
TURNING MOVEMENTS	0	2	1	3	0	6	0	3	0	2	1	3	0	0
YEAR 2023 TOTAL	**0**	**3**	**1**	**4**	**0**	**8**	**0**	**3**	**1**	**3**	**1**	**4**	**0**	**0**
YEAR: 2022														
REAR-END	0	2	0	2	0	3	0	2	0	2	0	2	0	0
TURNING MOVEMENTS	0	2	1	3	0	3	0	2	1	2	1	3	0	0
YEAR 2022 TOTAL	**0**	**4**	**1**	**5**	**0**	**6**	**0**	**4**	**1**	**4**	**1**	**5**	**0**	**0**
YEAR: 2019														
SIDESWIPE - OVERTAKING	0	1	0	1	0	2	0	1	0	1	0	1	0	0
YEAR 2019 TOTAL	**0**	**1**	**0**	**1**	**0**	**2**	**0**	**1**	**0**	**1**	**0**	**1**	**0**	**0**
FINAL TOTAL	**0**	**11**	**9**	**20**	**0**	**21**	**1**	**16**	**4**	**17**	**3**	**20**	**0**	**0**

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CITY OF KEIZER, MARION COUNTY

LOCKHAVEN DR at KEIZER STATION BLVD, City of Keizer, Marion County, ALL Crashes Severity, ALL Crashes Circumstance, 01/01/2019 to 12/31/2024

1 - 4 of 10 Crash records shown.

SER# / INVEST / RD DPT / UNLOC?	S P E D	A L C	D M R U G S	J N V	S 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	MOVE / FROM / TO	P#	PRTC TYPE	INJ SVRTY	A G E	S E X	LICNS RES	PED LOC	ERROR	ACT	EVENT	CAUSE
00271	N	N	N N			N	01/18/2020	17	KEIZER STATION BLVD NE	INTER	CROSS	N	N	RAIN	S-STRGHT	01	NONE 9	STRGHT											13
CITY			SA				0	LOCKHAVEN DR NE	N		TRF SIGNAL	N	WET	SS-O		N/A	N -S									000		00
N			11P						06	0		N	DLIT	PDO			PSNGR CAR		01	DRVR	NONE	00	Unk	UNK		000	000		00
N			45 0 22.3	-123 0 14.42																				UNK					
																02	NONE 9	STRGHT											
																	N/A	N -S									000		00
																	PSNGR CAR		01	DRVR	NONE	00	Unk	UNK		000	000		00
																								UNK					
04092	N	N	N N			N	11/12/2022	17	KEIZER STATION BLVD NE	INTER	CROSS	N	N	CLR	S-1STOP	01	NONE 9	STRGHT											29
NONE			SA				0	LOCKHAVEN DR NE	N		TRF SIGNAL	N	DRY	REAR		N/A	N -S									000		00
N			1P						06	0		N	DAY	PDO			PSNGR CAR		01	DRVR	NONE	00	Unk	UNK		000	000		00
N			45 0 22.29	-123 0 14.42																				UNK					
																02	NONE 9	STOP											
																	N/A	N -S									011		00
																	PSNGR CAR		01	DRVR	NONE	00	Unk	UNK		000	000		00
																								UNK					
00933	Y	N	N N N		N		03/17/2023	17	KEIZER STATION BLVD NE	INTER	CROSS	N	N	CLR	ANGL-STP	01	NONE 9	TURN-R											32,30,08
CITY			FR				0	LOCKHAVEN DR NE	N		TRF SIGNAL	N	DRY	TURN		N/A	E -N									000		00
N			6P						06	0		N	DAY	PDO			PSNGR CAR		01	DRVR	NONE	00	Unk	UNK		000	000		00
N			45 0 22.29	-123 0 14.42																				UNK					
																02	NONE 9	STOP											
																	N/A	N -S									012		00
																	PSNGR CAR		01	DRVR	NONE	00	Unk	UNK		000	000		00
																								UNK					
01494	N	Y	N N N		N		05/17/2020	14	KEIZER STATION BLVD NE	INTER	CROSS	N	N	CLD	ANGL-OTH	01	NONE 0	STRGHT											04
CITY			SU				0	LOCKHAVEN DR NE	CN		TRF SIGNAL	N	DRY	ANGL		PRVTE	E -W									000		00
N			12P						01	0		N	DAY	INJ			PSNGR CAR		01	DRVR	NONE	65	M	OR-Y		020	000		04
N			45 0 22.31	-123 0 14.43																				OR<25					
																02	NONE 0	STRGHT											
																	PRVTE	N -S									000		00
																	PSNGR CAR		01	DRVR	INJC	34	M	OR-Y		000	000		00
																								OR<25					
01149	N	N	N N			N	04/03/2023	14	KEIZER STATION BLVD NE	INTER	CROSS	N	N	CLR	ANGL-OTH	01	NONE 0	STRGHT											04
NO RPT			MO				0	LOCKHAVEN DR NE	CN		TRF SIGNAL	N	DRY	ANGL		PRVTE	W -E									000		00
N			10P						03	0		N	DLIT	INJ			PSNGR CAR		01	DRVR	INJB	22	F	OR-Y		020	000		04
N			45 0 22.29	-123 0 14.42																				OR<25					
																02	NONE 0	STRGHT											
																	PRVTE	N -S									000		00
																	PSNGR CAR		01	DRVR	INJB	16	F	OR-Y		000	000		00
																								OR<25					

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SER# / INVEST / RD DPT / UNLOC?	S P E D	A L C	D M R U G S	J N H V	S I C 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	MOVE / FROM / TO	P#	PRTC TYPE	INJ SVRTY	A G E	S E X	LICNS RES	PED LOC	ERROR	ACT	EVENT	CAUSE
																02	NONE 0 PRVTE PSNGR CAR	STRGHT N -S									000		00
																			02	PSNG	INJB	15	F			000	000		00
01075	N	N	N	N	N	N	03/28/2023	14	KEIZER STATION BLVD NE	INTER	CROSS	N	N	RAIN	ANGL-OTH	01	NONE 0	STRGHT											04,27
CITY			TU					0	LOCKHAVEN DR NE	CN		TRF SIGNAL	N	WET	TURN		PRVTE	E -W								022		00
N			2P							01	0		N	DAY	INJ		PSNGR CAR		01	DRVR	INJB	29	F	OR-Y		020,016	038		04,27
N			45 0 22.29					-123 0 14.42										OR<25											
																02	NONE 0	TURN-L											
																	PRVTE	N -E									022		00
																	PSNGR CAR		01	DRVR	INJB	35	F	OR-Y OR<25		000	022		00
																02	NONE 0	TURN-L											
																	PRVTE	N -E									022		00
																	PSNGR CAR		02	PSNG	INJB	00	F			000	000		00
																02	NONE 0	TURN-L											
																	PRVTE	N -E									022		00
																	PSNGR CAR		03	PSNG	INJB	00	F			000	000		00
																03	NONE 0	TURN-L											
																	PRVTE	N -E									022		00
																	PSNGR CAR		01	DRVR	NONE	32	M	OR-Y OR>25	000	022			00
02572	N	N	N	N	N	N	07/16/2023	14	KEIZER STATION BLVD NE	INTER	CROSS	N	N	CLR	ANGL-OTH	01	NONE 0	STRGHT										010		04
CITY			SU					0	LOCKHAVEN DR NE	CN		TRF SIGNAL	N	DRY	ANGL		PRVTE	W -E								000			00
N			6A							03	0		N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	25	M	OR-Y	097	000			00
N			45 0 22.29					-123 0 14.42										OR<25											
																02	NONE 0	STRGHT											
																	PRVTE	N -S									000	010	00
																	PSNGR CAR		01	DRVR	INJC	22	M	OR-Y OR<25	097	000			00
03561	N	N	N	N			09/30/2023	14	KEIZER STATION BLVD NE	INTER	CROSS	N	N	CLR	ANGL-OTH	01	NONE 9	STRGHT											02,13
NONE			SA					0	LOCKHAVEN DR NE	CN		TRF SIGNAL	N	DRY	TURN		N/A	E -W								000		00
N			2P							01	0		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	00	Unk	UNK	000	000		00
N			45 0 22.29					-123 0 14.42										UNK											
																02	NONE 9	TURN-R											
																	N/A	N -W									000		00
																	PSNGR CAR		01	DRVR	NONE	00	Unk	UNK UNK	000	000			00

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CITY OF KEIZER, MARION COUNTY

LOCKHAVEN DR at KEIZER STATION BLVD, City of Keizer, Marion County, ALL Crashes Severity, ALL Crashes Circumstance, 01/01/2019 to 12/31/2024

9 - 10 of 10 Crash records shown.

SER# / INVEST / RD DPT / UNLOC?	S P E D	A L C	D M R J S W U G N H R I V L K C O	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
02060	N	N	N N	06/14/2024	14	KEIZER STATION BLVD NE	INTER	CROSS	N	N	CLR	O-1 L-TURN	01	NONE 0	TURN-L										02
NONE				FR	0	LOCKHAVEN DR NE	CN		TRF SIGNAL	N	DRY	TURN		PRVTE	N -E									000	00
N				9A			04	0		N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	67	F	OR-Y		028,004	000		02
N				45 0 22.29	-123 0 14.42																OR<25					
													02	NONE 0	STRGHT										
														PRVTE	S -N									000	00
														PSNGR CAR		01	DRVR	INJA	24	M	OR-Y		000	000	00
																					OR>25				
03251	N	N	N N N N	09/01/2024	14	KEIZER STATION BLVD NE	INTER	CROSS	N	N	CLR	ANGL-OTH	01	NONE 0	STRGHT										04
CITY				SU	0	LOCKHAVEN DR NE	CN		TRF SIGNAL	N	DRY	TURN		PRVTE	E -W									000	00
N				8A			01	0		N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	57	M	SUSP		020	000		04
N				45 0 22.29	-123 0 14.42																OR>25					
													02	NONE 0	TURN-L										
														PRVTE	N -E									000	00
														PSNGR CAR		01	DRVR	INJB	41	F	OR-Y		000	000	00
																					OR<25				
													02	NONE 0	TURN-L										
														PRVTE	N -E									000	00
														PSNGR CAR		02	PSNG	INJB	17	F			000	000	00
													02	NONE 0	TURN-L										
														PRVTE	N -E									000	00
														PSNGR CAR		03	PSNG	INJB	10	M			000	000	00

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CRASH SUMMARIES BY YEAR BY COLLISION TYPE

LOCKHAVEN DR at KEIZER STATION BLVD, City of Keizer, Marion County, ALL Crashes Severity, ALL Crashes Circumstance, 01/01/2019 to 12/31/2024

COLLISION TYPE	FATAL CRASHES	NON-FATAL CRASHES	PROPERTY DAMAGE ONLY	TOTAL CRASHES	PEOPLE KILLED	PEOPLE INJURED	TRUCKS	DRY SURF	WET SURF	DAY	DARK	INTER-SECTION	INTER-SECTION RELATED	OFF-ROAD
YEAR: 2024														
TURNING MOVEMENTS	0	2	0	2	0	4	0	2	0	2	0	2	0	0
YEAR 2024 TOTAL	**0**	**2**	**0**	**2**	**0**	**4**	**0**	**2**	**0**	**2**	**0**	**2**	**0**	**0**
YEAR: 2023														
ANGLE	0	2	0	2	0	4	0	2	0	1	1	2	0	0
TURNING MOVEMENTS	0	1	2	3	0	4	0	2	1	3	0	3	0	0
YEAR 2023 TOTAL	**0**	**3**	**2**	**5**	**0**	**8**	**0**	**4**	**1**	**4**	**1**	**5**	**0**	**0**
YEAR: 2022														
REAR-END	0	0	1	1	0	0	0	1	0	1	0	1	0	0
YEAR 2022 TOTAL	**0**	**0**	**1**	**1**	**0**	**0**	**0**	**1**	**0**	**1**	**0**	**1**	**0**	**0**
YEAR: 2020														
ANGLE	0	1	0	1	0	1	0	1	0	1	0	1	0	0
SIDESWIPE - OVERTAKING	0	0	1	1	0	0	0	0	1	0	1	1	0	0
YEAR 2020 TOTAL	**0**	**1**	**1**	**2**	**0**	**1**	**0**	**1**	**1**	**1**	**1**	**2**	**0**	**0**
FINAL TOTAL	**0**	**6**	**4**	**10**	**0**	**13**	**0**	**8**	**2**	**8**	**2**	**10**	**0**	**0**

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CITY OF KEIZER, MARION COUNTY

LOCKHAVEN DR at RIVER RD, City of Keizer, Marion County, ALL Crashes Severity, ALL Crashes Circumstance, 01/01/2019 to 12/31/2024

1 - 4 of 18 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	O W 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
01549	N	N	N	N				05/09/2022	14	LOCKHAVEN DR NE	INTER	CROSS	N	N	UNK	S-STRGHT	01	NONE 9	STRGHT											13
NONE								MO		RIVER RD N	UN		TRF SIGNAL	N	UNK	SS-O		N/A	UN-UN									000		00
N								8A			06	0		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	00	Unk	UNK		000	000		00
N								45 0 15.78	-123 1 32.3										UNK						UNK					
																	02	NONE 9	STRGHT											
																		N/A	UN-UN									000		00
																		PSNGR CAR		01	DRVR	NONE	00	Unk	UNK		000	000		00
																			UNK										
01728	N	N	N	N	N	N		05/28/2021	16	LOCKHAVEN DR NE	INTER	CROSS	N	N	CLR	S-1STOP	01	NONE 0	STRGHT										013	32,27,29
CITY								FR	0	RIVER RD N	NE		TRF SIGNAL	N	DRY	REAR		PRVTE	NE-SW								000		00
N								9A			06	1		N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	85	F	OR-Y		052,016,026	038		32,27,29
N								45 0 15.78	-123 1 32.32										OR<25										
																	02	NONE 0	STOP											
																		PRVTE	NE-SW									011	013	00
																		PSNGR CAR		01	DRVR	NONE	47	M	OR-Y		000	022		00
																			OR<25										
																	03	NONE 0	STOP											
																		PRVTE	NE-SW									011		00
																		PSNGR CAR		01	DRVR	INJC	57	M	OR-Y		000	000		00
																			OR<25										
02487	N	N	N	N				07/26/2021	16	LOCKHAVEN DR NE	INTER	CROSS	N	N	CLR	S-1STOP	01	NONE 0	STRGHT											29
NONE								MO	0	RIVER RD N	NE		TRF SIGNAL	N	DRY	REAR		PRVTE	NE-SW								000		00
N								7A			06	1		N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	22	M	OR-Y		026	000		29
N								45 0 15.81	-123 1 32.3										OR<25										
																	02	NONE 0	STOP											
																		PRVTE	NE-SW									011		00
																		PSNGR CAR		01	DRVR	INJC	40	F	OR-Y		000	000		00
																			OR<25										
00349	N	N	N	N				01/29/2023	16	LOCKHAVEN DR NE	INTER	CROSS	N	N	CLR	S-1STOP	01	NONE 9	STRGHT											29
NONE								SU	0	RIVER RD N	NE		TRF SIGNAL	N	DRY	REAR		N/A	NE-SW								000		00
N								2P			06	1		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	00	Unk	UNK		000	000		00
N								45 0 15.78	-123 1 32.3										UNK										
																	02	NONE 9	STOP											
																		N/A	NE-SW									011		00
																		PSNGR CAR		01	DRVR	NONE	00	Unk	UNK		000	000		00
																			UNK										
01546	N	N	N	N	N	N	N	05/04/2023	16	LOCKHAVEN DR NE	INTER	CROSS	N	N	CLD	S-1STOP	01	NONE 0	STRGHT											07
CITY								TH	0	RIVER RD N	NE		TRF SIGNAL	N	DRY	REAR		PRVTE	NE-SW								022		00
N								3P			06	1		N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	36	M	SUSP		043,026	022		07
N								45 0 15.78	-123 1 32.3										OR<25										

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SER# / INVEST / RD DPT / UNLOC?	S P E D	A L C	D M R U G S	J N S	I H V	C R L	S W O H	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	MOVE / FROM / TO	P#	PRTC TYPE	INJ SVRTY	A G E	S E X	LICNS RES	PED LOC	ERROR	ACT	EVENT	CAUSE
																	02	NONE 0	STOP										
																		PRVTE	NE-SW									011		00
																		PSNGR CAR		01	DRVR	INJC	66	F	OR-Y		000	022		00
																									OR<25					
																	02	NONE 0	STOP										
																		PRVTE	NE-SW									011		00
																		PSNGR CAR		02	PSNG	INJC	09	M			000	000		00
																	02	NONE 0	STOP										
																		PRVTE	NE-SW									011		00
																		PSNGR CAR		03	PSNG	INJC	08	F			000	000		00
																	03	NONE 0	STOP										
																		PRVTE	NE-SW									011		00
																		PSNGR CAR		01	DRVR	NONE	31	F	OR-Y		000	022		00
																									OR<25					
01749	N	N	N	N				05/20/2024	14	LOCKHAVEN DR NE	INTER	CROSS	N	N	CLR	S-1STOP	01	NONE 0	STRGHT										29
NONE								MO	0	RIVER RD N	NE		TRF SIGNAL	N	DRY	REAR		PRVTE	NE-SW									000		00
N								6A			06	1		N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	29	F	OR-Y		026	000		29
N								45 0 15.78	-123 1 32.3																OR<25					
																	02	NONE 0	STOP										
																		PRVTE	NE-SW									011		00
																		PSNGR CAR		01	DRVR	INJC	46	F	OR-Y		000	000		00
																									OR<25					
00692	N	N	N	N	N	N		02/18/2020	14	LOCKHAVEN DR NE	INTER	CROSS	N	Y	CLR	FIX OBJ	01	NONE 0	STRGHT										050,055	32,16
CITY								TU	0	RIVER RD N	E		TRF SIGNAL	N	DRY	FIX		PRVTE	W -E								000	050,055	00
N								2A			06	1		N	DLIT	INJ		PSNGR CAR		01	DRVR	INJC	19	M	OR-Y		052,039,081	025		32,16
N								45 0 15.8	-123 1 32.3																OR<25					
04524	N	N	N	N	N	N		12/11/2021	14	LOCKHAVEN DR NE	INTER	CROSS	N	N	RAIN	S-1STOP	01	NONE 0	STRGHT											32,07
STATE								SA	0	RIVER RD N	E		TRF SIGNAL	N	WET	REAR		PRVTE	SE-NW									000		00
N								6P			09	1		N	DLIT	INJ		PSNGR CAR		01	DRVR	NONE	21	M	OR-Y		052,043,026	000		32,07
N								45 0 15.79	-123 1 32.33																OR>25					
																	02	NONE 0	STOP										
																		PRVTE	SE-NW									011		00
																		PSNGR CAR		01	DRVR	INJC	29	F	OR-Y		000	000		00
																									OR<25					
02884	N	N	N	N	N	N		08/08/2023	14	LOCKHAVEN DR NE	INTER	CROSS	N	N	CLR	OVERTURN	01	NONE 0	TURN-R										001	11
CITY								TU	0	RIVER RD N	E		TRF SIGNAL	N	DRY	NCOL		PRVTE	SW-E								000		11
N								9P			05	0		N	DUSK	INJ		MTRCYCLE		01	DRVR	INJA	31	M	OR-Y		017	017	001	00
N								45 0 15.78	-123 1 32.3																OR<25					

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CITY OF KEIZER, MARION COUNTY

LOCKHAVEN DR at RIVER RD, City of Keizer, Marion County, ALL Crashes Severity, ALL Crashes Circumstance, 01/01/2019 to 12/31/2024

9 - 12 of 18 Crash records shown.

SER# / INVEST / RD DPT / UNLOC?	SPD EALCDS	DRJGSV MICNLK	WOHRL	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	AGE	SEX	LICNS RES	PED LOC	ERROR	ACT	EVENT	CAUSE
													01	NONE 0 PRVTE MTRCYCLE	TURN-R SW-E	02	PSNG	INJB	29	F			000 000	000 001	11 00
03877	N N N N N N			10/20/2023	14	LOCKHAVEN DR NE	INTER	CROSS	N	N	CLD	BIKE	01	NONE 0	TURN-R											04,18,19
CITY				FR	0	RIVER RD N	E		TRF SIGNAL	N	DRY	TURN		PRVTE	SW-E								000		00
N N				5A 45 0 15.78	-123 1 32.3		05	0		N	DLIT	INJ		PSNGR CAR		01	DRVR	NONE	62	M	OR-Y OR<25		000	000		00
															- STRGHT NE SW	01	BIKE	INJB	35	F		I XWLK	020	000		04,18,19
00170	N N N N			01/16/2024	14	LOCKHAVEN DR NE	INTER	CROSS	N	N	CLR	S-1STOP	01	NONE 0	STRGHT											29
NONE				TU	0	RIVER RD N	SW		TRF SIGNAL	N	SNO	REAR		PRVTE	SW-NE								000		00
N N				10A 45 0 15.78	-123 1 32.3		06	1		N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	38	M	OR-Y OR>25		026	000		29
													02	NONE 0 PRVTE PSNGR CAR	STOP SW-NE	01	DRVR	INJC	59	F	OR-Y OR<25		000	011 000		00 00
													02	NONE 0 PRVTE PSNGR CAR	STOP SW-NE	02	PSNG	INJC	23	M			000	011 000		00 00
													02	NONE 0 PRVTE PSNGR CAR	STOP SW-NE	03	PSNG	INJC	20	F			000	011 000		00 00
03480	N N N N			11/16/2020	16	LOCKHAVEN DR NE	INTER	CROSS	N	N	RAIN	S-STRGHT	01	NONE 9	STRGHT											29
NONE				MO	0	RIVER RD N	W		TRF SIGNAL	N	WET	REAR		N/A	W -E								000		00
N N				11A 45 0 15.77	-123 1 32.29		06	0		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	00	Unk	UNK UNK		000	000		00
													02	NONE 9 N/A PSNGR CAR	STRGHT W -E	01	DRVR	NONE	00	Unk	UNK UNK		000	000 000		00 00
02727	N N N N N N			07/20/2019	14	LOCKHAVEN DR NE	INTER	CROSS	N	N	CLR	ANGL-OTH	01	NONE 0	STRGHT											04
CITY				SA	0	RIVER RD N	CN		TRF SIGNAL	N	DRY	ANGL		PRVTE	NE-SW								000		00
N N				7P 45 0 15.78	-123 1 32.31		03	0		N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	45	F	OR-Y OR<25		020	000		04

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SER# / INVEST / RD DPT / UNLOC?	S P E D	A L C	D M R U G S	J N S	I H V	C R L	W O 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	MOVE / FROM / TO	P#	PRTC TYPE	INJ SVRTY	A G E	S E X	LICNS RES	PED LOC	ERROR	ACT	EVENT	CAUSE
																	02	NONE 0 PRVTE PSNGR CAR	STRGHT W -E	01	DRVR	NONE	45	M	OR-Y OR<25		000	000		00 00
																	02	NONE 0 PRVTE PSNGR CAR	STRGHT W -E	02	PSNG	INJC	41	F			000	000		00 00
																	02	NONE 0 PRVTE PSNGR CAR	STRGHT W -E	03	PSNG	INJB	12	F			000	000		00 00
																	02	NONE 0 PRVTE PSNGR CAR	STRGHT W -E	04	PSNG	INJC	08	F			000	000		00 00
																	02	NONE 0 PRVTE PSNGR CAR	STRGHT W -E	05	PSNG	INJB	10	F			000	000		00 00
02686	N	N	N	N				07/17/2019	14	LOCKHAVEN DR NE	INTER	CROSS	N	N	CLR	S-STRGHT	01	NONE 9	STRGHT												13
NONE								WE	0	RIVER RD N	CN		TRF SIGNAL	N	DRY	SS-O		N/A	SW-NE								000		00
N N								5P 45 0 15.78	-123 1 32.3		04	0		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	00	Unk	UNK UNK		000	000		00
																	02	NONE 9 N/A PSNGR CAR	STRGHT SW-NE	01	DRVR	NONE	00	Unk	UNK UNK		000	000		00 00
00352	N	N	N	N	N	N		01/23/2020	14	LOCKHAVEN DR NE	INTER	CROSS	N	N	RAIN	ANGL-OTH	01	NONE 0	STRGHT											013		04,27
CITY								TH	0	RIVER RD N	CN		TRF SIGNAL	N	WET	ANGL		PRVTE	E -W								022	013		00
N N								5P 45 0 15.79	-123 1 32.3		01	0		N	DLIT	INJ		PSNGR CAR		01	DRVR	INJB	47	F	OR-Y OR<25		000	022		00
																	02	NONE 0 PRVTE PSNGR CAR	STRGHT NE-SW	01	DRVR	NONE	44	F	OR-Y OR<25		020,016	000 038		00 04,27
																	03	NONE 0 PRVTE PSNGR CAR	STRGHT E -W	01	DRVR	NONE	36	M	OR-Y OR<25		000	022		00 00
00663	N	N	N	N				03/01/2022	14	LOCKHAVEN DR NE	INTER	CROSS	N	N	CLR	O-1 L-TURN	01	NONE 9	STRGHT												02
NONE								TU	0	RIVER RD N	CN		TRF SIGNAL	N	DRY	TURN		N/A	SW-NE								000		00
N N								1P 45 0 15.78	-123 1 32.3		04	0		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	00	Unk	UNK UNK		000	000		00

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CITY OF KEIZER, MARION COUNTY

LOCKHAVEN DR at RIVER RD, City of Keizer, Marion County, ALL Crashes Severity, ALL Crashes Circumstance, 01/01/2019 to 12/31/2024

16 - 18 of 18 Crash records shown.

SER# / INVEST / RD DPT / UNLOC?	S P E D	A L C	D M R U G S	J N V	S I H L	C O R K	W 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
																02	NONE 9 N/A PSNGR CAR	TURN-L NE-E	01	DRVR	NONE	00	Unk	UNK UNK		000	000 000	00 00
00870	N	N	N	N	N	N	03/17/2022	14	LOCKHAVEN DR NE	INTER	CROSS	N	N	CLR	ANGL-OTH	01	NONE 0	STRGHT										04
CITY							TH	0	RIVER RD N	CN		TRF SIGNAL	N	DRY	ANGL		PRVTE	SE-NW									000	00
N N							7A 45 0 15.78	-123 1 32.3		03	1		N	DAY	INJ		PSNGR CAR		01	DRVR	INJB	51	F	OR-Y OR<25		000	000	00
																02	NONE 0 PRVTE PSNGR CAR	STRGHT NE-SW	01	DRVR	NONE	70	M	OR-Y OR<25		020	000 000	00 04
03364	N	N	N	N	N	N	09/11/2024	14	LOCKHAVEN DR NE	INTER	CROSS	N	N	CLD	ANGL-OTH	01	NONE 0	STRGHT										04
CITY							WE	0	RIVER RD N	CN		TRF SIGNAL	N	DRY	ANGL		PRVTE	NE-SW									000	00
N N							8A 45 0 15.78	-123 1 32.3		03	1		N	DAY	INJ		PSNGR CAR		01	DRVR	INJC	29	M	OR-Y OR<25		020	000	04
																02	NONE 0 PRVTE PSNGR CAR	STRGHT W -E	01	DRVR	NONE	30	F	OR-Y OR<25		000	000 000	00 00

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CRASH SUMMARIES BY YEAR BY COLLISION TYPE

LOCKHAVEN DR at RIVER RD, City of Keizer, Marion County, ALL Crashes Severity, ALL Crashes Circumstance, 01/01/2019 to 12/31/2024

COLLISION TYPE	FATAL CRASHES	NON-FATAL CRASHES	PROPERTY DAMAGE ONLY	TOTAL CRASHES	PEOPLE KILLED	PEOPLE INJURED	TRUCKS	DRY SURF	WET SURF	DAY	DARK	INTER-SECTION	INTER-SECTION RELATED	OFF-ROAD
YEAR: 2024														
ANGLE	0	1	0	1	0	1	0	1	0	1	0	1	0	0
REAR-END	0	2	0	2	0	4	0	1	1	2	0	2	0	0
YEAR 2024 TOTAL	**0**	**3**	**0**	**3**	**0**	**5**	**0**	**2**	**1**	**3**	**0**	**3**	**0**	**0**
YEAR: 2023														
NON-COLLISION	0	1	0	1	0	2	0	1	0	0	1	1	0	0
REAR-END	0	1	1	2	0	3	0	2	0	2	0	2	0	0
TURNING MOVEMENTS	0	1	0	1	0	1	0	1	0	0	1	1	0	0
YEAR 2023 TOTAL	**0**	**3**	**1**	**4**	**0**	**6**	**0**	**4**	**0**	**2**	**2**	**4**	**0**	**0**
YEAR: 2022														
ANGLE	0	1	0	1	0	1	0	1	0	1	0	1	0	0
SIDESWIPE - OVERTAKING	0	0	1	1	0	0	0	0	0	1	0	1	0	0
TURNING MOVEMENTS	0	0	1	1	0	0	0	1	0	1	0	1	0	0
YEAR 2022 TOTAL	**0**	**1**	**2**	**3**	**0**	**1**	**0**	**2**	**0**	**3**	**0**	**3**	**0**	**0**
YEAR: 2021														
REAR-END	0	3	0	3	0	3	0	2	1	2	1	3	0	0
YEAR 2021 TOTAL	**0**	**3**	**0**	**3**	**0**	**3**	**0**	**2**	**1**	**2**	**1**	**3**	**0**	**0**
YEAR: 2020														
ANGLE	0	1	0	1	0	1	0	0	1	0	1	1	0	0
FIXED / OTHER OBJECT	0	1	0	1	0	1	0	1	0	0	1	1	0	1

CRASH SUMMARIES BY YEAR BY COLLISION TYPE

LOCKHAVEN DR at RIVER RD, City of Keizer, Marion County, ALL Crashes Severity, ALL Crashes Circumstance, 01/01/2019 to 12/31/2024

COLLISION TYPE	FATAL CRASHES	NON-FATAL CRASHES	PROPERTY DAMAGE ONLY	TOTAL CRASHES	PEOPLE KILLED	PEOPLE INJURED	TRUCKS	DRY SURF	WET SURF	DAY	DARK	INTER-SECTION	INTER-SECTION RELATED	OFF-ROAD
REAR-END	0	0	1	1	0	0	0	0	1	1	0	1	0	0
YEAR 2020 TOTAL	**0**	**2**	**1**	**3**	**0**	**2**	**0**	**1**	**2**	**1**	**2**	**3**	**0**	**1**
YEAR: 2019														
ANGLE	0	1	0	1	0	4	0	1	0	1	0	1	0	0
SIDESWIPE - OVERTAKING	0	0	1	1	0	0	0	1	0	1	0	1	0	0
YEAR 2019 TOTAL	**0**	**1**	**1**	**2**	**0**	**4**	**0**	**2**	**0**	**2**	**0**	**2**	**0**	**0**
FINAL TOTAL	**0**	**13**	**5**	**18**	**0**	**21**	**0**	**13**	**4**	**13**	**5**	**18**	**0**	**1**

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OREGON.. DEPARTMENT OF TRANSPORTATION - TRANSPORTATION DEVELOPMENT DIVISION
TRANSPORTATION DATA SECTION - CRASH ANAYLYSIS AND REPORTING UNIT
URBAN NON-SYSTEM CRASH LISTING

CITY OF KEIZER, MARION COUNTY

LOCKHAVEN DR at WINDSOR ISLAND RD, City of Keizer, Marion County, ALL Crashes Severity, ALL Crashes Circumstance, 01/01/2019 to 12/31/2024

1 - 2 of 2 Crash records shown.

SER# / INVEST / RD DPT / UNLOC?	S P E D	A L C	D M R J U G S V	S N H L	W 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 / TYPE / OWNER	MOVE / FROM / TO	P#	PRTC TYPE	INJ SVRTY	A G E	S E X	LICNS RES	PED LOC	ERROR	ACT EVENT	CAUSE
00702	N	N	N	N		02/23/2019	16	LOCKHAVEN DR N	INTER	3-LEG	N	N	RAIN	ANGL-OTH	01	NONE 0	TURN-L										02
CITY						SA	0	WINDSOR ISLAND RD N	CN		STOP SIGN	N	WET	TURN		PRVTE	E -SE									000	00
N						6P			01	0		N	DLIT	INJ		PSNGR CAR		01	DRVR	NONE	69	F	OR-Y		028	000	02
N						45 0 14.2	-123 2 42.81																OR<25				
															02	NONE 0	STRGHT										
																PRVTE	NW-SE									000	00
																PSNGR CAR		01	DRVR	INJC	52	F	OR-Y		000	000	00
																							OR<25				
02517	N	N	N	N		07/28/2021	16	LOCKHAVEN DR N	INTER	3-LEG	N	N	CLR	ANGL-OTH	01	NONE 9	STRGHT										10
NO RPT						WE	0	WINDSOR ISLAND RD N	CN		STOP SIGN	N	DRY	TURN		N/A	SE-NW									000	00
N						9P			02	0		N	DLIT	PDO		PSNGR CAR		01	DRVR	NONE	00	Unk	UNK		000	000	00
N						45 0 14.21	-123 2 42.81																UNK				
															02	NONE 9	TURN-L										
																N/A	E -SE									000	00
																PSNGR CAR		01	DRVR	NONE	00	Unk	UNK		000	000	00
																							UNK				

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CRASH SUMMARIES BY YEAR BY COLLISION TYPE

LOCKHAVEN DR at WINDSOR ISLAND RD, City of Keizer, Marion County, ALL Crashes Severity, ALL Crashes Circumstance, 01/01/2019 to 12/31/2024

COLLISION TYPE	FATAL CRASHES	NON-FATAL CRASHES	PROPERTY DAMAGE ONLY	TOTAL CRASHES	PEOPLE KILLED	PEOPLE INJURED	TRUCKS	DRY SURF	WET SURF	DAY	DARK	INTER-SECTION	INTER-SECTION RELATED	OFF-ROAD
YEAR: 2021														
TURNING MOVEMENTS	0	0	1	1	0	0	0	1	0	0	1	1	0	0
YEAR 2021 TOTAL	**0**	**0**	**1**	**1**	**0**	**0**	**0**	**1**	**0**	**0**	**1**	**1**	**0**	**0**
YEAR: 2019														
TURNING MOVEMENTS	0	1	0	1	0	1	0	0	1	0	1	1	0	0
YEAR 2019 TOTAL	**0**	**1**	**0**	**1**	**0**	**1**	**0**	**0**	**1**	**0**	**1**	**1**	**0**	**0**
FINAL TOTAL	**0**	**1**	**1**	**2**	**0**	**1**	**0**	**1**	**1**	**0**	**2**	**2**	**0**	**0**

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APPENDIX D:

TRAFFIC VOLUMES

Windsor Island Road Subdivision

1

Intersection: 1: River Rd @ Lockhaven Dr **City:** Keizer

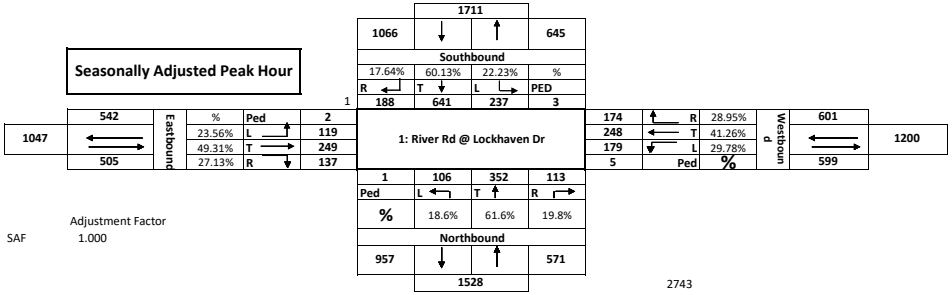
Counter: Sandow Engineering **Date:** Thursday, November 6, 2025

Total of All Vehicles

Time Period		Southbound				Westbound				Northbound				Eastbound				15 Minute Volume	Hourly Volume	Pedestrians			
		Right	Thru	Left	Approach Total	Right	Thru	Left	Approach Total	Right	Thru	Left	Approach Total	Right	Thru	Left	Approach Total			SB	WB	NB	EB
7:00	7:15	15	132	43	190	37	28	30	95	15	66	18	99	17	37	14	68	452		0	0	0	0
7:15	7:30	35	134	51	220	35	35	37	107	24	85	19	128	22	47	18	87	542		0	0	0	1
7:30	7:45	22	170	63	255	46	61	36	143	30	99	36	165	34	59	39	132	695		0	0	0	0
7:45	8:00	42	202	66	310	47	65	50	162	36	77	24	137	43	72	30	145	754	2443	1	3	1	1
8:00	8:15	89	135	57	281	46	87	56	189	23	91	27	141	38	71	32	141	752	2743	2	2	0	0
8:15	8:30	44	111	39	194	30	52	46	128	25	95	23	143	28	85	40	153	618	2819	4	3	1	1
8:30	8:45	17	147	52	216	35	44	34	113	30	93	19	142	21	58	20	99	570	2694	1	0	1	1
8:45	9:00	12	92	52	156	41	36	53	130	42	86	20	148	25	40	15	80	514	2454	2	1	1	1
9:00	9:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1702	0	0	0	0
9:15	9:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1084	0	0	0	0
9:30	9:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	514	0	0	0	0
9:45	10:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Count Period Total		**276**	**1123**	**423**		**317**	**408**	**342**		**225**	**692**	**186**		**228**	**469**	**208**		**4897**		**10**	**9**	**4**	**5**

PM Peak Hour Count Summary

	Southbound				Westbound				Northbound				Eastbound						Pedestrians			
	Right	Thru	Left	Approach	Right	Thru	Left	Approach	Right	Thru	Left	Approach	Right	Thru	Left	Approach			SB	WB	NB	EB
Peak Volumes	**188**	**641**	**237**	**1066**	**174**	**248**	**179**	**601**	**113**	**352**	**106**	**571**	**137**	**249**	**119**	**505**	**2743**		**3**	**5**	**1**	**2**
PHF	0.53	0.79	0.90	0.86	0.93	0.71	0.80	0.79	0.78	0.89	0.74	0.87	0.80	0.86	0.76	0.87	0.91					
Trucks	2	2	1		3	23	3		6	8	2		2	20	4							
% Trucks	1%	0%	0%		2%	9%	2%		5%	2%	2%		1%	8%	3%							


Seasonally Adjusted Peak Hour
1711
1066
645
Southbound
17.64%
60.13%
22.23%
%
R
T
L
PED
1
188
641
237
3
542
Eastbound
%
Ped
2
1047
23.56%
L
119
49.31%
T
249
27.13%
R
137
505
1: River Rd @ Lockhaven Dr
174
R
28.95%
248
T
41.26%
179
L
29.78%
5
Ped
%
Westboun
d
601
1200
599
1
106
352
113
Ped
L
T
R
%
18.6%
61.6%
19.8%
Northbound
957
571
1528
2743
Adjustment Factor
SAF
1.000

1: River Rd @ Lockhaven Dr

Pedestrians and Cars

Time Period	Southbound					Westbound					Northbound					Eastbound					15 Minute Volume	Hourly Volume
	Peds	Right	Thru	Left		Peds	Right	Thru	Left		Peds	Right	Thru	Left		Peds	Right	Thru	Left			
7:00 AM	0	15	132	42		0	37	26	29		0	15	61	17		0	16	35	12		437	
7:15 AM	0	35	134	51		0	35	33	37		0	23	83	19		0	22	41	17		530	
7:30 AM	0	21	170	63		0	46	53	35		0	29	98	36		0	33	52	38		674	
7:45 AM	1	42	200	66		3	45	58	49		1	33	73	22		1	42	69	28		727	2368
8:00 AM	2	88	135	56		2	45	81	55		0	22	90	27		0	38	67	32		736	2667
8:15 AM	4	43	107	39		3	29	50	45		1	25	91	22		1	27	80	40		598	2735
8:30 AM	1	17	147	51		0	35	39	34		1	30	91	19		1	21	50	18		552	2613
8:45 AM	2	12	91	52		1	40	29	51		1	42	85	19		0	25	37	14		497	2383
9:00 AM																					0	1647
9:15 AM																					0	1049
9:30 AM																					0	497
9:45 AM																					0	0
Total	10	273	1116	420		9	312	369	335		4	219	672	181		3	224	431	199			
Peak Hour	**3**	**186**	**639**	**236**		**5**	**171**	**225**	**176**		**1**	**107**	**344**	**104**		**1**	**135**	**229**	**115**		**2667**	**5035**

Trucks

Time Period	Southbound				Westbound				Northbound				Eastbound				15 Minute Volume	Hourly Volume
	Right	Thru	Left		Right	Thru	Left		Right	Thru	Left		Right	Thru	Left			
7:00 AM	0	0	1		0	2	1		0	5	1		1	2	2		15	
7:15 AM	0	0	0		0	2	0		1	2	0		0	6	1		12	
7:30 AM	1	0	0		0	8	1		1	1	0		1	7	1		21	
7:45 AM	0	2	0		2	7	1		3	4	2		1	3	2		27	75
8:00 AM	1	0	1		1	6	1		1	1	0		0	4	0		16	76
8:15 AM	1	4	0		1	2	1		0	4	1		1	5	0		20	84
8:30 AM	0	0	1		0	5	0		0	2	0		0	8	2		18	81
8:45 AM	0	1	0		1	7	2		0	1	1		0	3	1		17	71
9:00 AM																	0	55
9:15 AM																	0	35
9:30 AM																	0	17
9:45 AM																	0	0
Total	3	7	3		5	39	7		6	20	5		4	38	9			
Peak Hour	**2**	**2**	**1**		**3**	**23**	**3**		**6**	**8**	**2**		**2**	**20**	**4**		**76**	**151**

Bikes

Time Period	Southbound				Westbound				Northbound				Eastbound			SB	WB	NB	EB
	Right	Thru	Left		Right	Thru	Left		Right	Thru	Left		Right	Thru	Left				
7:00 AM																0	0	0	0
7:15 AM														1		0	0	0	1
7:30 AM																0	0	0	0
7:45 AM																0	0	0	0
8:00 AM																0	0	0	0
8:15 AM																0	0	0	0
8:30 AM																0	0	0	0
8:45 AM														1		0	0	0	1
9:00 AM																0	0	0	0
9:15 AM																0	0	0	0
9:30 AM																0	0	0	0
9:45 AM																0	0	0	0
Total	0	0	0		0	0	0		0	0	0		0	2	0				
Peak Hour	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**1**

Pedestrians

Time Period	NE				NW				SW				SE			SB	WB	NB	EB
	Left	Right	Total		Left	Right	Total		Left	Right	Total		Left	Right	Total				
7:00 AM			0				0				0				0	0	0	0	0
7:15 AM			0				0				0				0	0	0	0	0
7:30 AM			0				0				0				0	0	0	0	0
7:45 AM			0				0				0				0	0	0	0	0
8:00 AM			0				0				0				0	0	0	0	0
8:15 AM			0				0				0				0	0	0	0	0
8:30 AM			0				0				0				0	0	0	0	0
8:45 AM			0				0				0				0	0	0	0	0
9:00 AM			0				0				0				0	0	0	0	0
9:15 AM			0				0				0				0	0	0	0	0
9:30 AM			0				0				0				0	0	0	0	0
9:45 AM			0				0				0				0	0	0	0	0
Total	0	0	0		0	0	0		0	0	0		0	0	0	0	0	0	0
Peak Hour	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

Intersection: 2: Keizer Station @ Lockhaven Dr **City:** Keizer

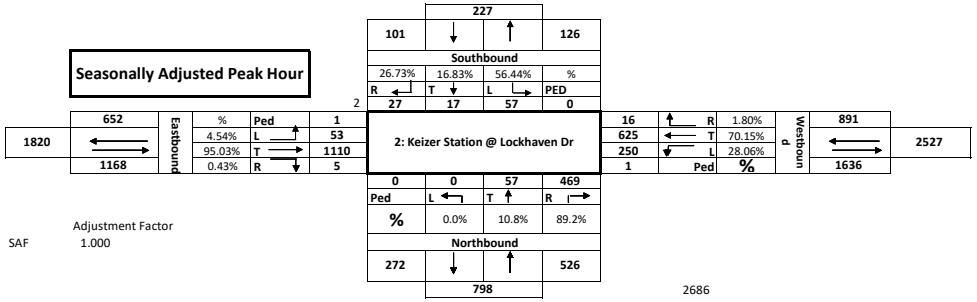
Counter: Sandow Engineering **Date:** Thursday, November 6, 2025

Total of All Vehicles

Time Period		Southbound				Westbound				Northbound				Eastbound				15 Minute Volume	Hourly Volume	Pedestrians			
		Right	Thru	Left	Approach Total	Right	Thru	Left	Approach Total	Right	Thru	Left	Approach Total	Right	Thru	Left	Approach Total			SB	WB	NB	EB
7:00	7:15	1	1	6	8	5	88	42	135	120	4	0	124	1	259	6	266	533		0	0	0	0
7:15	7:30	7	2	9	18	5	120	49	174	106	14	0	120	2	271	11	284	596		0	1	0	1
7:30	7:45	5	5	16	26	2	151	54	207	165	4	0	169	0	282	14	296	698		0	0	0	0
7:45	8:00	2	3	16	21	5	153	70	228	123	26	0	149	2	303	15	320	718	2545	0	0	0	0
8:00	8:15	13	7	16	36	4	201	77	282	75	13	0	88	1	254	13	268	674	2686	0	0	0	0
8:15	8:30	9	10	11	30	3	152	51	206	66	4	0	70	3	192	7	202	508	2598	0	0	0	0
8:30	8:45	6	5	16	27	8	120	33	161	90	9	0	99	0	251	11	262	549	2449	0	0	0	0
8:45	9:00	9	13	10	32	7	153	55	215	55	16	1	72	1	158	12	171	490	2221	0	0	0	0
9:00	9:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1547	0	0	0	0
9:15	9:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1039	0	0	0	0
9:30	9:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	490	0	0	0	0
9:45	10:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Count Period Total		**52**	**46**	**100**		**39**	**1138**	**431**		**800**	**90**	**1**		**10**	**1970**	**89**		**4766**		**0**	**1**	**0**	**1**

PM Peak Hour Count Summary

	Southbound				Westbound				Northbound				Eastbound						Pedestrians			
	Right	Thru	Left	Approach	Right	Thru	Left	Approach	Right	Thru	Left	Approach	Right	Thru	Left	Approach			SB	WB	NB	EB
Peak Volumes	**27**	**17**	**57**	**101**	**16**	**625**	**250**	**891**	**469**	**57**	**0**	**526**	**5**	**1110**	**53**	**1168**	**2686**		**0**	**1**	**0**	**1**
PHF	0.52	0.61	0.89	0.70	0.80	0.78	0.81	0.79	0.71	0.55	0.00	0.78	0.63	0.92	0.88	0.91	0.94					
Trucks	0	0	3		0	36	5		2	0	0		0	26	0							
% Trucks	0%	0%	5%		0%	6%	2%		0%	0%	0%		0%	2%	0%							


Seasonally Adjusted Peak Hour
227
101
126
Southbound
26.73%
16.83%
56.44%
%
R
T
L
PED
2
27
17
57
0
652
Eastbound
%
Ped
1
1820
4.54%
L
53
95.03%
T
1110
1168
0.43%
R
5
2: Keizer Station @ Lockhaven Dr
0
0
57
469
Ped
L
T
R
%
0.0%
10.8%
89.2%
Northbound
272
526
798
16
R
1.80%
625
T
70.15%
250
L
28.06%
1
Ped
%
Westbound
891
1636
2527
2686
Adjustment Factor
SAF
1.000

2: Keizer Station @ Lockhaven Dr

Pedestrians and Cars

Time Period	Southbound					Westbound					Northbound					Eastbound					15 Minute Volume	Hourly Volume
	Peds	Right	Thru	Left		Peds	Right	Thru	Left		Peds	Right	Thru	Left		Peds	Right	Thru	Left			
7:00 AM	0	1	1	6		0	5	85	42		0	120	4	0		0	1	256	6		527	
7:15 AM	0	7	2	9		1	5	114	48		0	105	14	0		1	2	263	11		580	
7:30 AM	0	5	5	15		0	2	141	51		0	165	4	0		0	0	275	14		677	
7:45 AM	0	2	3	15		0	5	143	69		0	123	26	0		0	2	299	15		702	2486
8:00 AM	0	13	7	15		0	4	191	77		0	74	13	0		0	1	247	13		655	2614
8:15 AM	0	9	10	11		0	3	148	50		0	66	4	0		0	3	187	7		498	2532
8:30 AM	0	6	5	16		0	7	114	32		0	90	9	0		0	0	241	11		531	2386
8:45 AM	0	9	13	9		0	7	142	54		0	55	15	1		0	1	154	10		470	2154
9:00 AM																					0	1499
9:15 AM																					0	1001
9:30 AM																					0	470
9:45 AM																					0	0
Total	0	52	46	96		1	38	1078	423		0	798	89	1		1	10	1922	87			
Peak Hour	**0**	**27**	**17**	**54**		**1**	**16**	**589**	**245**		**0**	**467**	**57**	**0**		**1**	**5**	**1084**	**53**		**2614**	**5100**

Trucks

Time Period	Southbound				Westbound				Northbound				Eastbound				15 Minute Volume	Hourly Volume
	Right	Thru	Left		Right	Thru	Left		Right	Thru	Left		Right	Thru	Left			
7:00 AM	0	0	0		0	3	0		0	0	0		0	3	0		6	
7:15 AM	0	0	0		0	6	1		1	0	0		0	8	0		16	
7:30 AM	0	0	1		0	10	3		0	0	0		0	7	0		21	
7:45 AM	0	0	1		0	10	1		0	0	0		0	4	0		16	59
8:00 AM	0	0	1		0	10	0		1	0	0		0	7	0		19	72
8:15 AM	0	0	0		0	4	1		0	0	0		0	5	0		10	66
8:30 AM	0	0	0		1	6	1		0	0	0		0	10	0		18	63
8:45 AM	0	0	1		0	11	1		0	1	0		0	4	2		20	67
9:00 AM																	0	48
9:15 AM																	0	38
9:30 AM																	0	20
9:45 AM																	0	0
Total	0	0	4		1	60	8		2	1	0		0	48	2			
Peak Hour	**0**	**0**	**3**		**0**	**36**	**5**		**2**	**0**	**0**		**0**	**26**	**0**		**72**	**131**

Bikes

Time Period	Southbound				Westbound				Northbound				Eastbound				SB	WB	NB	EB
	Right	Thru	Left		Right	Thru	Left		Right	Thru	Left		Right	Thru	Left					
7:00 AM																	0	0	0	0
7:15 AM																	0	0	0	0
7:30 AM																	0	0	0	0
7:45 AM																	0	0	0	0
8:00 AM																	0	0	0	0
8:15 AM																	0	0	0	0
8:30 AM																	0	0	0	0
8:45 AM																	0	0	0	0
9:00 AM																	0	0	0	0
9:15 AM																	0	0	0	0
9:30 AM																	0	0	0	0
9:45 AM																	0	0	0	0
Total	0	0	0		0	0	0		0	0	0		0	0	0					
Peak Hour	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**		**0**	**0**	**0**	**0**

Pedestrians

Time Period	NE				NW				SW				SE				SB	WB	NB	EB
	Left	Right	Total		Left	Right	Total		Left	Right	Total		Left	Right	Total					
7:00 AM			0				0				0				0		0	0	0	0
7:15 AM			0				0				0				0		0	0	0	0
7:30 AM			0				0				0				0		0	0	0	0
7:45 AM			0				0				0				0		0	0	0	0
8:00 AM			0				0				0				0		0	0	0	0
8:15 AM			0				0				0				0		0	0	0	0
8:30 AM			0				0				0				0		0	0	0	0
8:45 AM			0				0				0				0		0	0	0	0
9:00 AM			0				0				0				0		0	0	0	0
9:15 AM			0				0				0				0		0	0	0	0
9:30 AM			0				0				0				0		0	0	0	0
9:45 AM			0				0				0				0		0	0	0	0
Total	0	0	0		0	0	0		0	0	0		0	0	0		0	0	0	0

Intersection: 3: Shoreline @ Chemawa **City:** Keizer

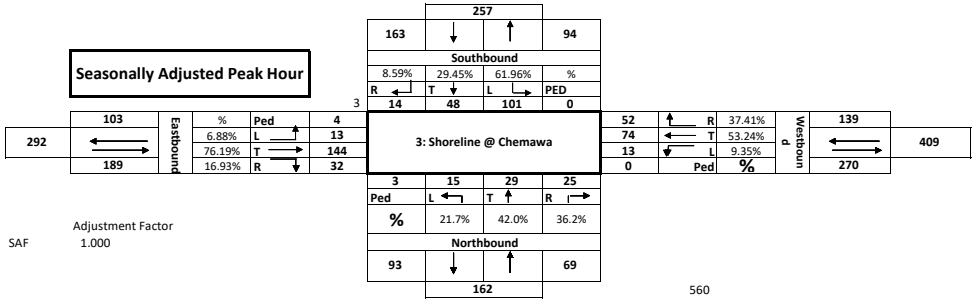
Counter: Sandow Engineering **Date:** Thursday, November 6, 2025

Total of All Vehicles

Time Period		Southbound				Westbound				Northbound				Eastbound				15 Minute Volume	Hourly Volume	Pedestrians			
		Right	Thru	Left	Approach Total	Right	Thru	Left	Approach Total	Right	Thru	Left	Approach Total	Right	Thru	Left	Approach Total			SB	WB	NB	EB
7:00	7:15	1	4	16	21	10	22	1	33	3	3	1	7	5	30	2	37	98		0	1	1	0
7:15	7:30	2	15	24	41	12	15	1	28	5	4	1	10	5	28	2	35	114		0	0	1	0
7:30	7:45	0	13	26	39	10	14	5	29	6	7	3	16	14	47	6	67	151		0	0	0	1
7:45	8:00	6	8	33	47	13	23	3	39	10	8	5	23	7	30	1	38	147	510	0	0	0	2
8:00	8:15	6	12	18	36	17	22	4	43	4	10	6	20	6	39	4	49	148	560	0	0	2	1
8:15	8:30	6	1	30	37	10	34	0	44	3	4	1	8	0	39	6	45	134	580	0	0	1	3
8:30	8:45	5	1	13	19	12	25	1	38	1	0	0	1	0	29	7	36	94	523	0	0	0	1
8:45	9:00	10	0	27	37	10	14	3	27	3	1	0	4	0	38	12	50	118	494	0	1	0	0
9:00	9:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	346	0	0	0	0
9:15	9:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	212	0	0	0	0
9:30	9:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	118	0	0	0	0
9:45	10:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Count Period Total		**36**	**54**	**187**		**94**	**169**	**18**		**35**	**37**	**17**		**37**	**280**	**40**		**1004**		**0**	**2**	**5**	**8**

PM Peak Hour Count Summary

	Southbound				Westbound				Northbound				Eastbound						Pedestrians			
	Right	Thru	Left	Approach	Right	Thru	Left	Approach	Right	Thru	Left	Approach	Right	Thru	Left	Approach			SB	WB	NB	EB
Peak Volumes	**14**	**48**	**101**	**163**	**52**	**74**	**13**	**139**	**25**	**29**	**15**	**69**	**32**	**144**	**13**	**189**	**560**		**0**	**0**	**3**	**4**
PHF	0.58	0.80	0.77	0.87	0.76	0.80	0.65	0.81	0.63	0.73	0.63	0.75	0.57	0.77	0.54	0.71	0.93					
Trucks	0	1	1		1	2	0		0	0	0		0	0	1							
% Trucks	0%	2%	1%		2%	3%	0%		0%	0%	0%		0%	0%	8%							


Seasonally Adjusted Peak Hour
257
163
94
Southbound
8.59%
29.45%
61.96%
%
R
T
L
PED
3
14
48
101
0
103
292
189
Eastbound
%
Ped
4
6.88%
L
13
76.19%
T
144
16.93%
R
32
3: Shoreline @ Chemawa
52
74
13
0
R
T
L
Ped
37.41%
53.24%
9.35%
%
Westbound
139
409
270
3
15
29
25
Ped
L
T
R
%
21.7%
42.0%
36.2%
Northbound
93
69
162
560
Adjustment Factor
SAF
1.000

3: Shoreline @ Chemawa

Pedestrians and Cars

Time Period	Southbound					Westbound					Northbound					Eastbound					15 Minute Volume	Hourly Volume
	Peds	Right	Thru	Left		Peds	Right	Thru	Left		Peds	Right	Thru	Left		Peds	Right	Thru	Left			
7:00 AM	0	1	4	16		1	9	22	1		0	3	3	1		0	5	30	2		97	
7:15 AM	0	2	15	24		0	11	15	1		1	5	4	1		0	5	28	2		113	
7:30 AM	0	0	13	25		0	10	13	5		0	6	7	3		1	14	47	6		149	
7:45 AM	0	6	8	33		0	13	23	3		0	10	8	5		1	7	30	0		146	505
8:00 AM	0	6	11	18		0	17	21	4		1	4	10	6		1	6	39	4		146	554
8:15 AM	0	6	1	30		0	10	33	0		0	3	4	1		3	0	38	4		130	571
8:30 AM	0	5	1	13		0	11	25	1		0	1	0	0		1	0	28	7		92	514
8:45 AM	0	10	0	27		1	10	11	3		0	3	1	0		0	0	38	12		115	483
9:00 AM																					0	337
9:15 AM																					0	207
9:30 AM																					0	115
9:45 AM																					0	0
Total	0	36	53	186		2	91	163	18		2	35	37	17		7	37	278	37			
Peak Hour	**0**	**14**	**47**	**100**	**0**	**0**	**51**	**72**	**13**	**0**	**2**	**25**	**29**	**15**	**0**	**3**	**32**	**144**	**12**	**0**	**554**	**1059**

Trucks

Time Period	Southbound				Westbound				Northbound				Eastbound				15 Minute Volume	Hourly Volume
	Right	Thru	Left		Right	Thru	Left		Right	Thru	Left		Right	Thru	Left			
7:00 AM	0	0	0		1	0	0		0	0	0		0	0	0		1	
7:15 AM	0	0	0		1	0	0		0	0	0		0	0	0		1	
7:30 AM	0	0	1		0	1	0		0	0	0		0	0	0		2	
7:45 AM	0	0	0		0	0	0		0	0	0		0	0	1		1	5
8:00 AM	0	1	0		0	1	0		0	0	0		0	0	0		2	6
8:15 AM	0	0	0		0	1	0		0	0	0		0	1	2		4	9
8:30 AM	0	0	0		1	0	0		0	0	0		0	1	0		2	9
8:45 AM	0	0	0		0	3	0		0	0	0		0	0	0		3	11
9:00 AM																	0	9
9:15 AM																	0	5
9:30 AM																	0	3
9:45 AM																	0	0
Total	0	1	1		3	6	0		0	0	0		0	2	3			
Peak Hour	**0**	**1**	**1**	**0**	**1**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**6**	**11**

Bikes

Time Period	Southbound				Westbound				Northbound				Eastbound			SB	WB	NB	EB
	Right	Thru	Left		Right	Thru	Left		Right	Thru	Left		Right	Thru	Left				
7:00 AM										1						0	0	1	0
7:15 AM																0	0	0	0
7:30 AM																0	0	0	0
7:45 AM														1		0	0	0	1
8:00 AM										1						0	0	1	0
8:15 AM										1						0	0	1	0
8:30 AM																0	0	0	0
8:45 AM																0	0	0	0
9:00 AM																0	0	0	0
9:15 AM																0	0	0	0
9:30 AM																0	0	0	0
9:45 AM																0	0	0	0
Total	0	0	0		0	0	0		0	3	0		0	1	0				
Peak Hour	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**1**	**1**

Pedestrians

Time Period	NE				NW				SW				SE			SB	WB	NB	EB
	Left	Right	Total		Left	Right	Total		Left	Right	Total		Left	Right	Total				
7:00 AM			0				0				0				0	0	0	0	0
7:15 AM			0				0				0				0	0	0	0	0
7:30 AM			0				0				0				0	0	0	0	0
7:45 AM			0				0				0				0	0	0	0	0
8:00 AM			0				0				0				0	0	0	0	0
8:15 AM			0				0				0				0	0	0	0	0
8:30 AM			0				0				0				0	0	0	0	0
8:45 AM			0				0				0				0	0	0	0	0
9:00 AM			0				0				0				0	0	0	0	0
9:15 AM			0				0				0				0	0	0	0	0
9:30 AM			0				0				0				0	0	0	0	0
9:45 AM			0				0				0				0	0	0	0	0
Total	0	0	0		0	0	0		0	0	0		0	0	0	0	0	0	0

Intersection: 4: Windsor @ Lockhaven Dr **City:** Keizer

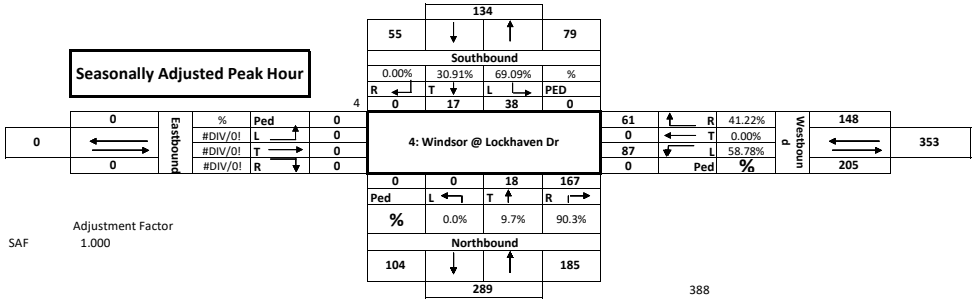
Counter: Sandow Engineering **Date:** Thursday, November 6, 2025

Total of All Vehicles

Time Period		Southbound				Westbound				Northbound				Eastbound				15 Minute Volume	Hourly Volume	Pedestrians			
		Right	Thru	Left	Approach Total	Right	Thru	Left	Approach Total	Right	Thru	Left	Approach Total	Right	Thru	Left	Approach Total			SB	WB	NB	EB
7:00	7:15	0	2	5	7	11	0	14	25	31	5	0	36	0	0	0	0	68		0	0	0	0
7:15	7:30	0	6	12	18	9	0	11	20	44	3	0	47	0	0	0	0	85		0	0	0	0
7:30	7:45	0	2	12	14	28	0	22	50	56	5	0	61	0	0	0	0	125		0	0	0	0
7:45	8:00	0	6	7	13	16	0	26	42	36	8	0	44	0	0	0	0	99	377	0	0	0	0
8:00	8:15	0	3	7	10	8	0	28	36	31	2	0	33	0	0	0	0	79	388	0	0	0	0
8:15	8:30	0	2	12	14	6	0	22	28	21	1	0	22	0	0	0	0	64	367	0	0	1	0
8:30	8:45	0	1	12	13	12	0	18	30	21	5	0	26	0	0	0	0	69	311	0	0	0	0
8:45	9:00	0	1	6	7	9	0	22	31	30	3	0	33	0	0	0	0	71	283	0	0	0	0
9:00	9:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	204	0	0	0	0
9:15	9:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	140	0	0	0	0
9:30	9:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	71	0	0	0	0
9:45	10:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Count Period Total		**0**	**23**	**73**		**99**	**0**	**163**		**270**	**32**	**0**		**0**	**0**	**0**		**660**		**0**	**0**	**1**	**0**

PM Peak Hour Count Summary

	Southbound				Westbound				Northbound				Eastbound						Pedestrians			
	Right	Thru	Left	Approach	Right	Thru	Left	Approach	Right	Thru	Left	Approach	Right	Thru	Left	Approach			SB	WB	NB	EB
Peak Volumes	**0**	**17**	**38**	**55**	**61**	**0**	**87**	**148**	**167**	**18**	**0**	**185**	**0**	**0**	**0**	**0**	**388**		**0**	**0**	**0**	**0**
PHF	0.00	0.71	0.79	0.76	0.54	0.00	0.78	0.74	0.75	0.56	0.00	0.76	0.00	0.00	0.00	0.00	0.78					
Trucks	0	2	14		19	0	7		8	2	0		0	0	0							
% Trucks	0%	12%	37%		31%	0%	8%		5%	11%	0%		0%	0%	0%							


Seasonally Adjusted Peak Hour
4
4: Windsor @ Lockhaven Dr
Southbound
Northbound
Eastbound
Westbound
Ped
Adjustment Factor
SAF 1.000
388

4: Windsor @ Lockhaven Dr

Pedestrians and Cars

Time Period	Southbound					Westbound					Northbound					Eastbound					15 Minute Volume	Hourly Volume
	Peds	Right	Thru	Left		Peds	Right	Thru	Left		Peds	Right	Thru	Left		Peds	Right	Thru	Left			
7:00 AM	0	0	2	3		0	8	0	11		0	28	4	0							56	
7:15 AM	0	0	5	8		0	8	0	10		0	41	2	0							74	
7:30 AM	0	0	2	7		0	23	0	20		0	55	5	0							112	
7:45 AM	0	0	6	4		0	9	0	24		0	34	7	0							84	326
8:00 AM	0	0	2	5		0	2	0	26		0	29	2	0							66	336
8:15 AM	0	0	2	6		0	4	0	20		0	20	1	0							53	315
8:30 AM	0	0	1	6		0	8	0	17		0	17	4	0							53	256
8:45 AM	0	0	1	4		0	4	0	20		0	28	3	0							60	232
9:00 AM																					0	166
9:15 AM																					0	113
9:30 AM																					0	60
9:45 AM																					0	0
Total	0	0	21	43		0	66	0	148		0	252	28	0		0	0	0	0			
Peak Hour	**0**	**0**	**15**	**24**		**0**	**42**	**0**	**80**		**0**	**159**	**16**	**0**		**0**	**0**	**0**	**0**		**336**	**662**

Trucks

Time Period	Southbound				Westbound				Northbound				Eastbound				15 Minute Volume	Hourly Volume
	Right	Thru	Left		Right	Thru	Left		Right	Thru	Left		Right	Thru	Left			
7:00 AM	0	0	2		3	0	3		3	1	0						12	
7:15 AM	0	1	4		1	0	1		3	1	0						11	
7:30 AM	0	0	5		5	0	2		1	0	0						13	
7:45 AM	0	0	3		7	0	2		2	1	0						15	51
8:00 AM	0	1	2		6	0	2		2	0	0						13	52
8:15 AM	0	0	6		2	0	2		1	0	0						11	52
8:30 AM	0	0	6		4	0	1		4	1	0						16	55
8:45 AM	0	0	2		5	0	2		2	0	0						11	51
9:00 AM																	0	38
9:15 AM																	0	27
9:30 AM																	0	11
9:45 AM																	0	0
Total	0	2	30		33	0	15		18	4	0		0	0	0			
Peak Hour	**0**	**2**	**14**		**19**	**0**	**7**		**8**	**2**	**0**		**0**	**0**	**0**	**0**	**52**	**103**

Bikes

Time Period	Southbound				Westbound				Northbound				Eastbound				SB	WB	NB	EB
	Right	Thru	Left		Right	Thru	Left		Right	Thru	Left		Right	Thru	Left					
7:00 AM																	0	0	0	0
7:15 AM																	0	0	0	0
7:30 AM																	0	0	0	0
7:45 AM																	0	0	0	0
8:00 AM																	0	0	0	0
8:15 AM										1							0	0	1	0
8:30 AM																	0	0	0	0
8:45 AM																	0	0	0	0
9:00 AM																	0	0	0	0
9:15 AM																	0	0	0	0
9:30 AM																	0	0	0	0
9:45 AM																	0	0	0	0
Total	0	0	0		0	0	0		0	1	0		0	0	0					
Peak Hour	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

Pedestrians

Time Period	NE				NW				SW				SE			SB	WB	NB	EB
	Left	Right	Total		Left	Right	Total		Left	Right	Total		Left	Right	Total				
7:00 AM			0				0				0				0	0	0	0	0
7:15 AM			0				0				0				0	0	0	0	0
7:30 AM			0				0				0				0	0	0	0	0
7:45 AM			0				0				0				0	0	0	0	0
8:00 AM			0				0				0				0	0	0	0	0
8:15 AM			0				0				0				0	0	0	0	0
8:30 AM			0				0				0				0	0	0	0	0
8:45 AM			0				0				0				0	0	0	0	0
9:00 AM			0				0				0				0	0	0	0	0
9:15 AM			0				0				0				0	0	0	0	0
9:30 AM			0				0				0				0	0	0	0	0
9:45 AM			0				0				0				0	0	0	0	0
Total	0	0	0		0	0	0		0	0	0		0	0	0	0	0	0	0

Intersection: 5: Windsor @ Site Access **City:** Keizer

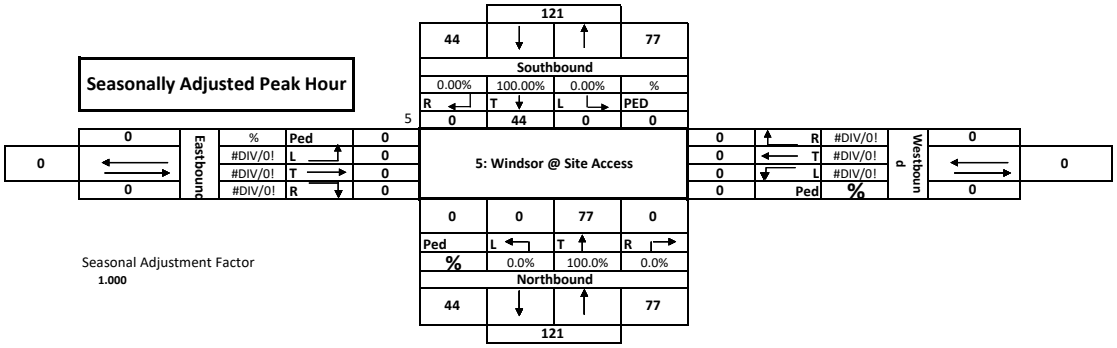
Counter: Sandow Engineering **Date:** Thursday, November 6, 2025

Total of All Vehicles

Time Period		Southbound				Westbound				Northbound				Eastbound				15 Minute Volume	Hourly Volume	Pedestrians			
		Right	Thru	Left	Approach Total	Right	Thru	Left	Approach Total	Right	Thru	Left	Approach Total	Right	Thru	Left	Approach Total			SB	WB	NB	EB
7:00	7:15	0	6	0	6	0	0	0	0	0	12	0	12	0	0	0	0	18		0	0	0	0
7:15	7:30	0	13	0	13	0	0	0	0	0	10	0	10	0	0	0	0	23		0	0	0	0
7:30	7:45	0	9	0	9	0	0	0	0	0	35	0	35	0	0	0	0	44		0	0	0	0
7:45	8:00	0	12	0	12	0	0	0	0	0	24	0	24	0	0	0	0	36	121	0	0	0	0
8:00	8:15	0	10	0	10	0	0	0	0	0	8	0	8	0	0	0	0	18	121	0	0	0	0
8:15	8:30	0	13	0	13	0	0	0	0	0	5	0	5	0	0	0	0	18	116	0	0	0	0
8:30	8:45	0	10	0	10	0	0	0	0	0	14	0	14	0	0	0	0	24	96	0	0	0	0
8:45	9:00	0	6	0	6	0	0	0	0	0	12	0	12	0	0	0	0	18	78	0	0	0	0
9:00	9:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	60	0	0	0	0
9:15	9:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	42	0	0	0	0
Count Period Total		**0**	**79**	**0**		**0**	**0**	**0**		**0**	**120**	**0**		**0**	**0**	**0**		**199**		**0**	**0**	**0**	**0**

PM Peak Hour Count Summary

	Southbound				Westbound				Northbound				Eastbound						Pedestrians			
	Right	Thru	Left	Approach	Right	Thru	Left	Approach	Right	Thru	Left	Approach	Right	Thru	Left	Approach			SB	WB	NB	EB
Peak Volumes	**0**	**44**	**0**	**44**	**0**	**0**	**0**	**0**	**0**	**77**	**0**	**77**	**0**	**0**	**0**	**0**	**121**		**0**	**0**	**0**	**0**
PHF	0.00	0.85	0.00	0.85	0.00	0.00	0.00	0.00	0.00	0.55	0.00	0.55	0.00	0.00	0.00	0.00	0.69					
Trucks	0	18	0		0	0	0		0	19	0		0	0	0							
% Trucks	0%	41%	0%		0%	0%	0%		0%	25%	0%		0%	0%	0%							


Seasonally Adjusted Peak Hour
121
44
77
Southbound
0.00%
100.00%
0.00%
%
R
T
L
PED
5
0
44
0
0
5: Windsor @ Site Access
0
0
77
0
Ped
L
T
R
%
0.0%
100.0%
0.0%
Northbound
44
77
121
Eastbound
Westboun
d
%
Ped
#DIV/0!
L
T
R
Seasonal Adjustment Factor
1.000

5: Windsor @ Site Access

Pedestrians and Cars

Time Period	Southbound					Westbound					Northbound					Eastbound					15 Minute Volume	Hourly Volume
	Peds	Right	Thru	Left		Peds	Right	Thru	Left		Peds	Right	Thru	Left		Peds	Right	Thru	Left			
7:00 AM	0	0	4	0		0	0	0	0		0	0	7	0		0	0	0	0		11	
7:15 AM	0	0	7	0		0	0	0	0		0	0	9	0		0	0	0	0		16	
7:30 AM	0	0	4	0		0	0	0	0		0	0	28	0		0	0	0	0		32	
7:45 AM	0	0	8	0		0	0	0	0		0	0	18	0		0	0	0	0		26	85
8:00 AM	0	0	7	0		0	0	0	0		0	0	3	0		0	0	0	0		10	84
8:15 AM	0	0	9	0		0	0	0	0		0	0	4	0		0	0	0	0		13	81
8:30 AM	0	0	4	0		0	0	0	0		0	0	6	0		0	0	0	0		10	59
8:45 AM	0	0	3	0		0	0	0	0		0	0	7	0		0	0	0	0		10	43
9:00 AM																					0	33
9:15 AM																					0	20
Total	0	0	46	0		0	0	0	0		0	0	82	0		0	0	0	0			
Peak Hour	**0**	**0**	**26**	**0**		**0**	**0**	**0**	**0**		**0**	**0**	**58**	**0**		**0**	**0**	**0**	**0**		**84**	**169**

Trucks

Time Period	Southbound				Westbound				Northbound				Eastbound				15 Minute Volume	Hourly Volume
	Right	Thru	Left		Right	Thru	Left		Right	Thru	Left		Right	Thru	Left			
7:00 AM	0	2	0		0	0	0		0	5	0		0	0	0		7	
7:15 AM	0	6	0		0	0	0		0	1	0		0	0	0		7	
7:30 AM	0	5	0		0	0	0		0	7	0		0	0	0		12	
7:45 AM	0	4	0		0	0	0		0	6	0		0	0	0		10	36
8:00 AM	0	3	0		0	0	0		0	5	0		0	0	0		8	37
8:15 AM	0	4	0		0	0	0		0	1	0		0	0	0		5	35
8:30 AM	0	6	0		0	0	0		0	8	0		0	0	0		14	37
8:45 AM	0	3	0		0	0	0		0	5	0		0	0	0		8	35
9:00 AM																	0	27
9:15 AM																	0	22
Total	0	33	0		0	0	0		0	38	0		0	0	0			
Peak Hour	**0**	**18**	**0**		**0**	**0**	**0**		**0**	**19**	**0**		**0**	**0**	**0**		**37**	**73**

Bikes

Time Period	Southbound				Westbound				Northbound				Eastbound			SB	WB	NB	EB
	Right	Thru	Left		Right	Thru	Left		Right	Thru	Left		Right	Thru	Left				
7:00 AM																0	0	0	0
7:15 AM																0	0	0	0
7:30 AM																0	0	0	0
7:45 AM																0	0	0	0
8:00 AM																0	0	0	0
8:15 AM																0	0	0	0
8:30 AM																0	0	0	0
8:45 AM																0	0	0	0
9:00 AM																0	0	0	0
9:15 AM																0	0	0	0
Total	0	0	0		0	0	0		0	0	0		0	0	0				
Peak Hour	**0**	**0**	**0**		**0**	**0**	**0**		**0**	**0**	**0**		**0**	**0**	**0**				

Pedestrians

Time Period	NE				NW				SW				SE			SB	WB	NB	EB
	Left	Right	Total		Left	Right	Total		Left	Right	Total		Left	Right	Total				
7:00 AM			0				0				0				0	0	0	0	0
7:15 AM			0				0				0				0	0	0	0	0
7:30 AM			0				0				0				0	0	0	0	0
7:45 AM			0				0				0				0	0	0	0	0
8:00 AM			0				0				0				0	0	0	0	0
8:15 AM			0				0				0				0	0	0	0	0
8:30 AM			0				0				0				0	0	0	0	0
8:45 AM			0				0				0				0	0	0	0	0
9:00 AM			0				0				0				0	0	0	0	0
9:15 AM			0				0				0				0	0	0	0	0
Total	0	0	0		0	0	0		0	0	0		0	0	0	0	0	0	0
Peak Hour	**0**	**0**	**0**		**0**	**0**	**0**		**0**	**0**	**0**		**0**	**0**	**0**				

Intersection: 6: River Rd @ Chemawa **City:** Keizer

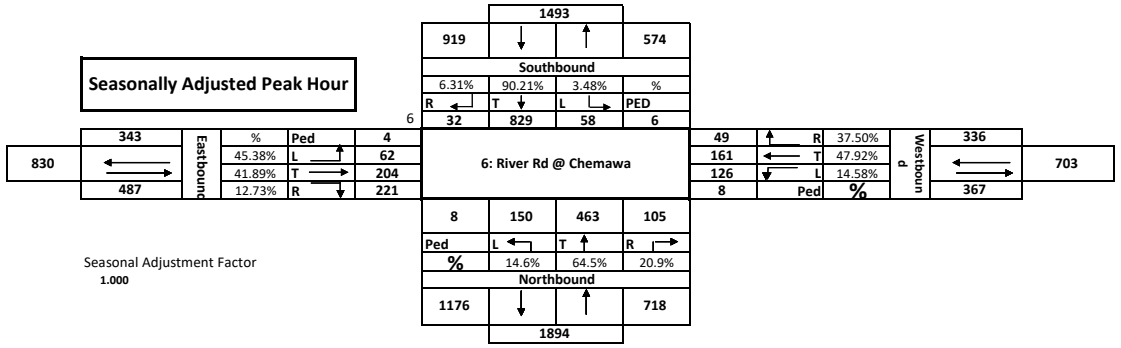
Counter: Sandow Engineering **Date:** Thursday, November 6, 2025

Total of All Vehicles

Time Period		Southbound				Westbound				Northbound				Eastbound				15 Minute Volume	Hourly Volume	Pedestrians			
		Right	Thru	Left	Approach Total	Right	Thru	Left	Approach Total	Right	Thru	Left	Approach Total	Right	Thru	Left	Approach Total			SB	WB	NB	EB
7:00	7:15	3	163	5	171	7	26	22	55	15	87	18	120	39	40	9	88	434		0	1	0	0
7:15	7:30	3	161	12	176	11	15	31	57	21	125	13	159	44	40	16	100	492		0	0	1	0
7:30	7:45	5	182	10	197	18	32	30	80	27	113	33	173	57	68	14	139	589		0	0	1	0
7:45	8:00	10	273	14	297	14	55	33	102	38	99	36	173	57	52	17	126	698	2213	2	4	3	0
8:00	8:15	14	213	22	249	6	59	32	97	19	126	68	213	63	44	15	122	681	2460	4	4	3	4
8:15	8:30	12	152	16	180	20	55	36	111	24	116	47	187	74	53	12	139	617	2585	5	1	4	2
8:30	8:45	10	170	8	188	18	21	34	73	20	123	35	178	66	58	21	145	584	2580	0	0	4	2
8:45	9:00	7	161	14	182	16	23	24	63	26	144	25	195	48	45	13	106	546	2428	1	0	1	0
9:00	9:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1747	12	10	17	8
9:15	9:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1130	6	8	8	4
Count Period Total		**64**	**1475**	**101**		**110**	**286**	**242**		**190**	**933**	**275**		**448**	**400**	**117**		**4641**		**30**	**28**	**42**	**20**

PM Peak Hour Count Summary

	Southbound				Westbound				Northbound				Eastbound						Pedestrians			
	Right	Thru	Left	Approach	Right	Thru	Left	Approach	Right	Thru	Left	Approach	Right	Thru	Left	Approach			SB	WB	NB	EB
Peak Volumes	**32**	**829**	**58**	**919**	**49**	**161**	**126**	**336**	**105**	**463**	**150**	**718**	**221**	**204**	**62**	**487**	**2460**		**6**	**8**	**8**	**4**
PHF	0.57	0.76	0.66	0.77	0.68	0.68	0.95	0.82	0.69	0.92	0.55	0.84	0.88	0.75	0.91	0.88	0.88					
Trucks	3	20	2		4	4	1		4	26	5		3	7	0							
% Trucks	9%	2%	3%		8%	2%	1%		4%	6%	3%		1%	3%	0%							


Seasonally Adjusted Peak Hour
1493
919
574
Southbound
6.31%
90.21%
3.48%
%
R
T
L
PED
6
32
829
58
6
6: River Rd @ Chemawa
343
Eastbound
%
Ped
4
830
45.38%
L
62
41.89%
T
204
487
12.73%
R
221
49
R
37.50%
161
T
47.92%
126
L
14.58%
8
Ped
%
Westboun d
336
703
367
8
150
463
105
Ped
L
T
R
%
14.6%
64.5%
20.9%
Northbound
1176
718
1894
Seasonal Adjustment Factor
1.000

6: River Rd @ Chemawa

Pedestrians and Cars

Time Period	Southbound					Westbound					Northbound					Eastbound					15 Minute Volume	Hourly Volume
	Peds	Right	Thru	Left		Peds	Right	Thru	Left		Peds	Right	Thru	Left		Peds	Right	Thru	Left			
7:00 AM	0	2	159	4		1	7	24	21		0	15	82	18		0	39	39	9		419	
7:15 AM	0	2	157	12		0	10	13	30		1	20	119	13		0	42	37	16		471	
7:30 AM	0	5	179	10		0	17	30	30		1	26	110	30		0	56	67	14		574	
7:45 AM	2	10	265	12		4	12	55	33		3	37	92	34		0	57	51	17		675	2139
8:00 AM	4	12	208	22		4	6	59	32		3	18	116	68		4	63	42	15		661	2381
8:15 AM	5	11	150	15		1	20	54	35		4	24	111	47		2	73	52	12		604	2514
8:30 AM	0	9	164	8		0	18	21	34		4	20	121	33		2	63	56	19		566	2506
8:45 AM	1	7	158	12		0	16	22	24		1	26	140	25			47	41	13		531	2362
9:00 AM																					0	1701
9:15 AM	0					0					0					0					0	1097
Total	12	58	1440	95		10	106	278	239		17	186	891	268		8	440	385	115			
Peak Hour	**6**	**29**	**809**	**56**		**8**	**45**	**157**	**125**		**8**	**101**	**437**	**145**		**4**	**218**	**197**	**62**		**2381**	**4520**

Trucks

Time Period	Southbound				Westbound				Northbound				Eastbound				15 Minute Volume	Hourly Volume
	Right	Thru	Left		Right	Thru	Left		Right	Thru	Left		Right	Thru	Left			
7:00 AM	1	4	1		0	2	1		0	5	0		0	1	0		15	
7:15 AM	1	4	0		1	2	1		1	6	0		2	3	0		21	
7:30 AM	0	3	0		1	2	0		1	3	3		1	1	0		15	
7:45 AM	0	8	2		2	0	0		1	7	2		0	1	0		23	74
8:00 AM	2	5	0		0	0	0		1	10	0		0	2	0		20	79
8:15 AM	1	2	1		0	1	1		0	5	0		1	1	0		13	71
8:30 AM	1	6	0		0	0	0		0	2	2		3	2	2		18	74
8:45 AM	0	3	2		0	1	0		0	4	0		1	4	0		15	66
9:00 AM																	0	46
9:15 AM																	0	33
Total	6	35	6		4	8	3		4	42	7		8	15	2			
Peak Hour	**3**	**20**	**2**		**4**	**4**	**1**		**4**	**26**	**5**		**3**	**7**	**0**		**79**	**153**

Bikes

Time Period	Southbound				Westbound				Northbound				Eastbound				SB	WB	NB	EB
	Right	Thru	Left		Right	Thru	Left		Right	Thru	Left		Right	Thru	Left					
7:00 AM																	0	0	0	0
7:15 AM																	0	0	0	0
7:30 AM																	0	0	0	0
7:45 AM																	0	0	0	0
8:00 AM																	0	0	0	0
8:15 AM																	0	0	0	0
8:30 AM																	0	0	0	0
8:45 AM																	0	0	0	0
9:00 AM																	0	0	0	0
9:15 AM																	0	0	0	0
Total	0	0	0		0	0	0		0	0	0		0	0	0					
Peak Hour	**0**	**0**	**0**		**0**	**0**	**0**		**0**	**0**	**0**		**0**	**0**	**0**					

Pedestrians

Time Period	NE				NW				SW				SE				SB	WB	NB	EB
	Left	Right	Total		Left	Right	Total		Left	Right	Total		Left	Right	Total					
7:00 AM			0				0				0				0		0	0	0	0
7:15 AM			0				0				0				0		0	0	0	0
7:30 AM			0				0				0				0		0	0	0	0
7:45 AM			0				0				0				0		0	0	0	0
8:00 AM			0				0				0				0		0	0	0	0
8:15 AM			0				0				0				0		0	0	0	0
8:30 AM			0				0				0				0		0	0	0	0
8:45 AM			0				0				0				0		0	0	0	0
9:00 AM			0				0				0				0		0	0	0	0
9:15 AM			0				0				0				0		0	0	0	0
Total	0	0	0		0	0	0		0	0	0		0	0	0		0	0	0	0
Peak Hour	**0**	**0**	**0**		**0**	**0**	**0**		**0**	**0**	**0**		**0**	**0**	**0**					

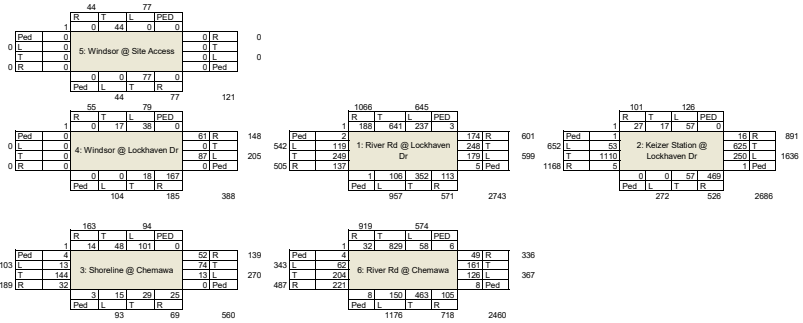
Global Peak Hour

Intersections								
		1: River Rd @ Lockhaven Dr	2: Keizer Station @ Lockhaven Dr	3: Shoreline @ Chemawa	4: Windsor @ Lockhaven Dr	5: Windsor @ Site Access	6: River Rd @ Chemawa	
Time Period		Volume	Volume	Volume	Volume	Volume	Volume	Total
7:00 AM	8:00 AM	2,443	2,545	510	377	121	2,213	**8209**
7:15 AM	8:15 AM	2,743	2,686	560	388	121	2,460	**8958**
7:30 AM	8:30 AM	2,819	2,598	580	367	116	2,585	**9065**
7:45 AM	8:45 AM	2,694	2,449	523	311	96	2,580	**8653**
8:00 AM	9:00 AM	2,454	2,221	494	283	78	2,428	**7958**
		2819	2686	580	388	121	2585	**9065**

Peak Hour 7:30 AM
7:45 AM
8:00 AM
8:15 AM

Background Trips

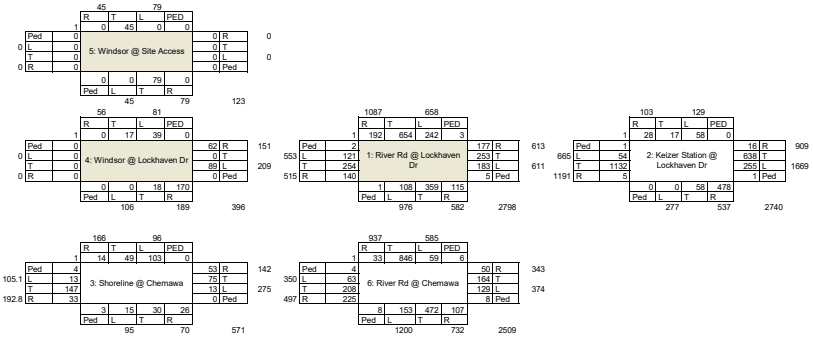
2025



2027

EDIT Highlighted

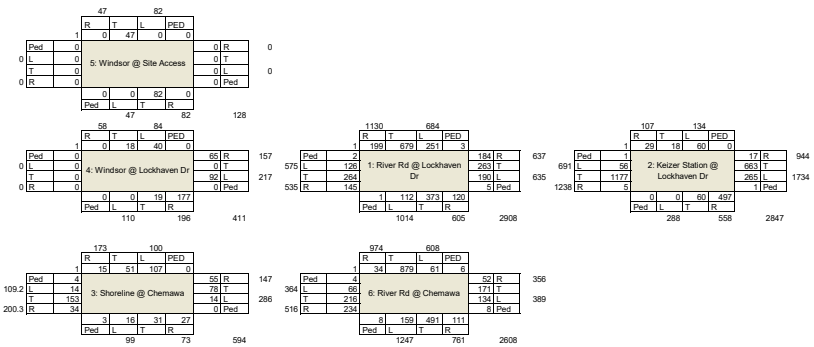
Base Year	###
Target Year	###
Years of Growth	2
Growth Rate Per Yea	0.010
Growth Factor	1.02



2031

EDIT Highlighted

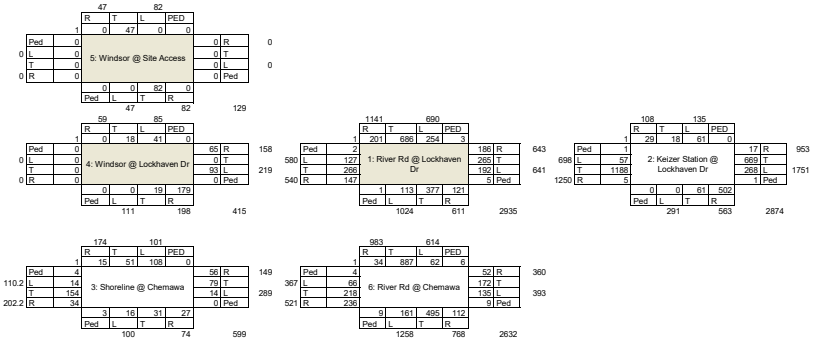
Base Year	###
Target Year	###
Years of Growth	6
Growth Rate Per Yea	0.010
Growth Factor	1.06



2032

EDIT Highlighted

Base Year	###
Target Year	###
Years of Growth	7
Growth Rate Per Yea	0.010
Growth Factor	1.07



1

Intersection: 1: River Rd @ Lockhaven Dr **City:** Keizer

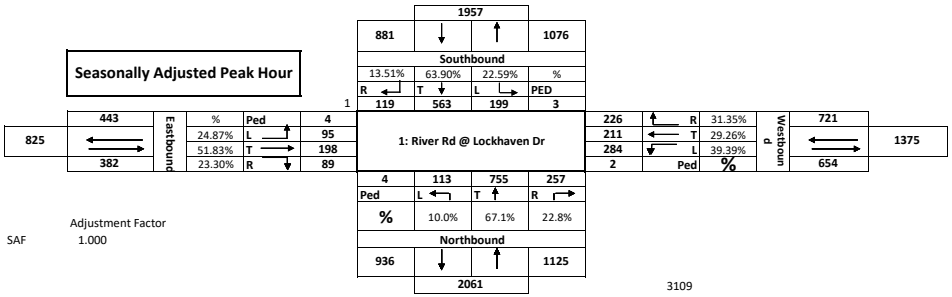
Counter: Sandow Engineering **Date:** Wednesday, November 5, 2025

Total of All Vehicles

Time Period		Southbound				Westbound				Northbound				Eastbound				15 Minute Volume	Hourly Volume	Pedestrians			
		Right	Thru	Left	Approach Total	Right	Thru	Left	Approach Total	Right	Thru	Left	Approach Total	Right	Thru	Left	Approach Total			SB	WB	NB	EB
16:00	16:15	31	136	55	222	42	48	66	156	70	169	34	273	25	51	32	108	759		1	0	0	1
16:15	16:30	28	119	47	194	70	57	79	206	62	157	21	240	25	50	19	94	734		0	1	3	3
16:30	16:45	27	167	57	251	59	47	61	167	68	179	31	278	23	58	25	106	802		2	1	1	0
16:45	17:00	33	141	40	214	55	59	78	192	57	250	27	334	16	39	19	74	814	3109	0	0	0	0
17:00	17:15	27	147	50	224	46	41	51	138	79	146	31	256	13	27	10	50	668	3018	0	0	0	0
17:15	17:30	31	163	48	242	54	54	58	166	69	188	35	292	31	59	20	110	810	3094	0	0	0	0
17:30	17:45	26	146	34	206	50	48	74	172	64	176	33	273	11	55	33	99	750	3042	0	1	1	0
17:45	18:00	29	125	45	199	57	58	48	163	49	133	29	211	19	29	19	67	640	2868	0	0	1	2
18:00	18:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2200	0	0	0	0
18:15	18:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1390	0	0	0	0
18:30	18:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	640	0	0	0	0
18:45	19:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Count Period Total		**232**	**1144**	**376**		**433**	**412**	**515**		**518**	**1398**	**241**		**163**	**368**	**177**		**5977**		**3**	**3**	**6**	**6**

PM Peak Hour Count Summary

	Southbound				Westbound				Northbound				Eastbound						Pedestrians			
	Right	Thru	Left	Approach	Right	Thru	Left	Approach	Right	Thru	Left	Approach	Right	Thru	Left	Approach			SB	WB	NB	EB
Peak Volumes	**119**	**563**	**199**	**881**	**226**	**211**	**284**	**721**	**257**	**755**	**113**	**1125**	**89**	**198**	**95**	**382**	**3109**	**3109**	**3**	**2**	**4**	**4**
PHF	0.90	0.84	0.87	0.88	0.81	0.89	0.90	0.88	0.92	0.76	0.83	0.84	0.89	0.85	0.74	0.88	0.95					
Trucks	3	6	1		0	3	1		1	3	0		1	3	1							
% Trucks	3%	1%	1%		0%	1%	0%		0%	0%	0%		1%	2%	1%							


Seasonally Adjusted Peak Hour
1957
881
1076
Southbound
13.51%
63.90%
22.59%
%
R
T
L
PED
1
119
563
199
3
443
Eastbound
%
Ped
4
825
24.87%
L
95
51.83%
T
198
382
23.30%
R
89
1: River Rd @ Lockhaven Dr
226
R
31.35%
211
T
29.26%
284
L
39.39%
2
Ped
%
Westboun
d
721
1375
654
4
113
755
257
Ped
L
T
R
%
10.0%
67.1%
22.8%
Northbound
936
1125
2061
Adjustment Factor
SAF
1.000
3109

1: River Rd @ Lockhaven Dr

Pedestrians and Cars

Time Period	Southbound					Westbound					Northbound					Eastbound					15 Minute Volume	Hourly Volume
	Peds	Right	Thru	Left		Peds	Right	Thru	Left		Peds	Right	Thru	Left		Peds	Right	Thru	Left			
4:00 PM	1	30	136	55		0	42	48	66		0	70	168	34		1	24	49	32		754	
4:15 PM	0	27	118	47		1	70	57	78		3	62	157	21		2	25	50	18		730	
4:30 PM	2	27	163	56		1	59	47	61		1	67	179	31		0	23	57	25		795	
4:45 PM	0	32	140	40		0	55	56	78		0	57	248	27		0	16	39	19		807	3086
5:00 PM	0	26	147	50		0	46	41	51		0	79	146	31		0	13	25	10		665	2997
5:15 PM	0	31	163	48		0	54	54	58		0	69	188	35		0	31	59	20		810	3077
5:30 PM	0	26	146	34		1	50	48	74		1	63	175	33		0	11	55	33		748	3030
5:45 PM	0	29	125	45		0	57	58	48		1	48	132	29		1	19	29	19		638	2861
6:00 PM																					0	2196
6:15 PM																					0	1386
6:30 PM																					0	638
6:45 PM																					0	0
Total	3	228	1138	375		3	433	409	514		6	515	1393	241		4	162	363	176			
Peak Hour	**3**	**116**	**557**	**198**	**0**	**2**	**226**	**208**	**283**	**0**	**4**	**256**	**752**	**113**	**0**	**3**	**88**	**195**	**94**	**0**	**3086**	**3086**

Trucks

Time Period	Southbound				Westbound				Northbound				Eastbound				15 Minute Volume	Hourly Volume
	Right	Thru	Left		Right	Thru	Left		Right	Thru	Left		Right	Thru	Left			
4:00 PM	1	0	0		0	0	0		0	1	0		1	2	0		5	
4:15 PM	1	1	0		0	0	1		0	0	0		0	0	1		4	
4:30 PM	0	4	1		0	0	0		1	0	0		0	1	0		7	
4:45 PM	1	1	0		0	3	0		0	2	0		0	0	0		7	23
5:00 PM	1	0	0		0	0	0		0	0	0		0	2	0		3	21
5:15 PM	0	0	0		0	0	0		0	0	0		0	0	0		0	17
5:30 PM	0	0	0		0	0	0		1	1	0		0	0	0		2	12
5:45 PM	0	0	0		0	0	0		1	1	0		0	0	0		2	7
6:00 PM																	0	4
6:15 PM																	0	4
6:30 PM																	0	2
6:45 PM																	0	0
Total	4	6	1		0	3	1		3	5	0		1	5	1			
Peak Hour	**3**	**6**	**1**	**0**	**0**	**3**	**1**	**0**	**1**	**3**	**0**	**0**	**1**	**3**	**1**	**0**	**23**	**23**

Bikes

Time Period	Southbound				Westbound				Northbound				Eastbound			SB	WB	NB	EB
	Right	Thru	Left		Right	Thru	Left		Right	Thru	Left		Right	Thru	Left				
4:00 PM																0	0	0	0
4:15 PM														1		0	0	0	1
4:30 PM																0	0	0	0
4:45 PM																0	0	0	0
5:00 PM																0	0	0	0
5:15 PM																0	0	0	0
5:30 PM																0	0	0	0
5:45 PM														1		0	0	0	1
6:00 PM																0	0	0	0
6:15 PM																0	0	0	0
6:30 PM																0	0	0	0
6:45 PM																0	0	0	0
Total	0	0	0		0	0	0		0	0	0		0	2	0				
Peak Hour	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**1**

Pedestrians

Time Period	NE				NW				SW				SE			SB	WB	NB	EB
	Left	Right	Total		Left	Right	Total		Left	Right	Total		Left	Right	Total				
4:00 PM			0				0				0				0	0	0	0	0
4:15 PM			0				0				0				0	0	0	0	0
4:30 PM			0				0				0				0	0	0	0	0
4:45 PM			0				0				0				0	0	0	0	0
5:00 PM			0				0				0				0	0	0	0	0
5:15 PM			0				0				0				0	0	0	0	0
5:30 PM			0				0				0				0	0	0	0	0
5:45 PM			0				0				0				0	0	0	0	0
6:00 PM			0				0				0				0	0	0	0	0
6:15 PM			0				0				0				0	0	0	0	0
6:30 PM			0				0				0				0	0	0	0	0
6:45 PM			0				0				0				0	0	0	0	0
Total	0	0	0		0	0	0		0	0	0		0	0	0	0	0	0	0
Peak Hour	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

Intersection: 2: Keizer Station @ Lockhaven Dr **City:** Keizer

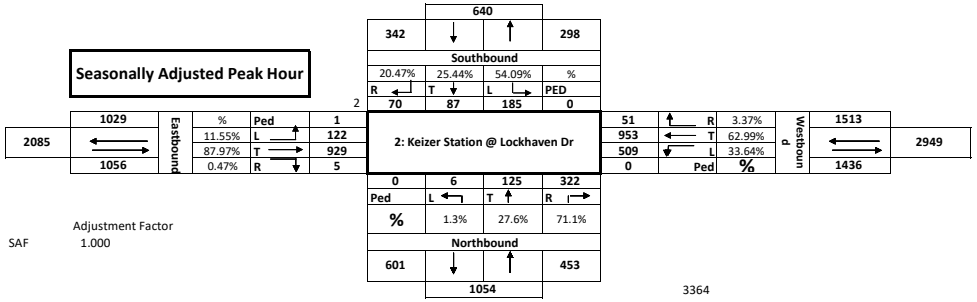
Counter: Sandow Engineering **Date:** Wednesday, November 5, 2025

Total of All Vehicles

Time Period		Southbound				Westbound				Northbound				Eastbound				15 Minute Volume	Hourly Volume	Pedestrians			
		Right	Thru	Left	Approach Total	Right	Thru	Left	Approach Total	Right	Thru	Left	Approach Total	Right	Thru	Left	Approach Total			SB	WB	NB	EB
16:00	16:15	21	21	47	89	13	231	115	359	87	38	2	127	2	223	34	259	834		0	0	0	0
16:15	16:30	17	23	35	75	10	262	146	418	91	25	3	119	1	243	37	281	893		0	0	0	1
16:30	16:45	14	29	46	89	19	223	125	367	60	35	0	95	2	229	29	260	811		0	0	0	0
16:45	17:00	18	14	57	89	9	237	123	369	84	27	1	112	0	234	22	256	826	3364	0	0	0	0
17:00	17:15	12	26	51	89	9	213	103	325	130	27	1	158	0	175	30	205	777	3307	0	0	0	0
17:15	17:30	17	21	31	69	13	258	116	387	73	40	0	113	2	247	32	281	850	3264	0	0	0	0
17:30	17:45	23	18	47	88	4	220	76	300	71	29	0	100	0	176	29	205	693	3146	0	0	0	0
17:45	18:00	23	20	52	95	12	280	97	389	95	36	1	132	2	209	29	240	856	3176	0	1	0	1
18:00	18:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2399	0	0	0	0
18:15	18:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1549	0	0	0	0
18:30	18:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	856	0	0	0	0
18:45	19:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Count Period Total		**145**	**172**	**366**		**89**	**1924**	**901**		**691**	**257**	**8**		**9**	**1736**	**242**		**6540**		**0**	**1**	**0**	**2**

PM Peak Hour Count Summary

	Southbound				Westbound				Northbound				Eastbound						Pedestrians			
	Right	Thru	Left	Approach	Right	Thru	Left	Approach	Right	Thru	Left	Approach	Right	Thru	Left	Approach			SB	WB	NB	EB
Peak Volumes	**70**	**87**	**185**	**342**	**51**	**953**	**509**	**1513**	**322**	**125**	**6**	**453**	**5**	**929**	**122**	**1056**	**3364**	**3364**	**0**	**0**	**0**	**1**
PHF	0.83	0.75	0.81	0.96	0.67	0.91	0.87	0.90	0.88	0.82	0.50	0.89	0.63	0.96	0.82	0.94	0.94					
Trucks	1	0	0		1	2	5		5	0	1		0	6	0							
% Trucks	1%	0%	0%		2%	0%	1%		2%	0%	17%		0%	1%	0%							


Seasonally Adjusted Peak Hour
640
342
298
Southbound
20.47%
25.44%
54.09%
%
R
T
L
PED
2
70
87
185
0
1029
2085
1056
Eastbound
%
Ped
1
11.55%
L
122
87.97%
T
929
0.47%
R
5
2: Keizer Station @ Lockhaven Dr
51
R
3.37%
953
T
62.99%
509
L
33.64%
0
Ped
%
Westbound
1513
2949
1436
0
6
125
322
Ped
L
T
R
%
1.3%
27.6%
71.1%
Northbound
601
453
1054
3364
Adjustment Factor
SAF
1.000

2: Keizer Station @ Lockhaven Dr

Pedestrians and Cars

Time Period	Southbound					Westbound					Northbound					Eastbound					15 Minute Volume	Hourly Volume
	Peds	Right	Thru	Left		Peds	Right	Thru	Left		Peds	Right	Thru	Left		Peds	Right	Thru	Left			
4:00 PM	0	21	21	47		0	13	230	113		0	86	38	1		0	2	221	34		827	
4:15 PM	0	17	23	35		0	10	262	143		0	89	25	3		1	1	243	37		888	
4:30 PM	0	14	29	46		0	19	223	125		0	60	35	0		0	2	226	29		808	
4:45 PM	0	17	14	57		0	8	236	123		0	82	27	1		0	0	233	22		820	3343
5:00 PM	0	12	26	51		0	9	212	103		0	130	27	1		0	0	173	30		774	3290
5:15 PM	0	17	21	31		0	13	255	115		0	73	40	0		0	2	246	32		845	3247
5:30 PM	0	23	18	47		0	4	220	74		0	70	29	0		0	0	176	29		690	3129
5:45 PM	0	23	20	51		0	12	279	96		0	95	36	1		0	2	209	29		853	3162
6:00 PM																					0	2388
6:15 PM																					0	1543
6:30 PM																					0	853
6:45 PM																					0	0
Total	0	144	172	365		0	88	1917	892		0	685	257	7		1	9	1727	242			
Peak Hour	**0**	**69**	**87**	**185**		**0**	**50**	**951**	**504**		**0**	**317**	**125**	**5**		**1**	**5**	**923**	**122**		**3343**	**3343**

Trucks

Time Period	Southbound				Westbound				Northbound				Eastbound				15 Minute Volume	Hourly Volume
	Right	Thru	Left		Right	Thru	Left		Right	Thru	Left		Right	Thru	Left			
4:00 PM	0	0	0		0	1	2		1	0	1		0	2	0		7	
4:15 PM	0	0	0		0	0	3		2	0	0		0	0	0		5	
4:30 PM	0	0	0		0	0	0		0	0	0		0	3	0		3	
4:45 PM	1	0	0		1	1	0		2	0	0		0	1	0		6	21
5:00 PM	0	0	0		0	1	0		0	0	0		0	2	0		3	17
5:15 PM	0	0	0		0	3	1		0	0	0		0	1	0		5	17
5:30 PM	0	0	0		0	0	2		1	0	0		0	0	0		3	17
5:45 PM	0	0	1		0	1	1		0	0	0		0	0	0		3	14
6:00 PM																	0	11
6:15 PM																	0	6
6:30 PM																	0	3
6:45 PM																	0	0
Total	1	0	1		1	7	9		6	0	1		0	9	0			
Peak Hour	**1**	**0**	**0**	**0**	**1**	**2**	**5**	**0**	**5**	**0**	**1**	**0**	**0**	**6**	**0**	**0**	**21**	**21**

Bikes

Time Period	Southbound				Westbound				Northbound				Eastbound				SB	WB	NB	EB
	Right	Thru	Left		Right	Thru	Left		Right	Thru	Left		Right	Thru	Left					
4:00 PM																	0	0	0	0
4:15 PM																	0	0	0	0
4:30 PM																	0	0	0	0
4:45 PM																	0	0	0	0
5:00 PM																	0	0	0	0
5:15 PM																	0	0	0	0
5:30 PM																	0	0	0	0
5:45 PM						1								1			0	1	0	1
6:00 PM																	0	0	0	0
6:15 PM																	0	0	0	0
6:30 PM																	0	0	0	0
6:45 PM																	0	0	0	0
Total	0	0	0		0	1	0		0	0	0		0	1	0					
Peak Hour	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

Pedestrians

Time Period	NE				NW				SW				SE			SB	WB	NB	EB
	Left	Right	Total		Left	Right	Total		Left	Right	Total		Left	Right	Total				
4:00 PM			0				0				0				0	0	0	0	0
4:15 PM			0				0				0				0	0	0	0	0
4:30 PM			0				0				0				0	0	0	0	0
4:45 PM			0				0				0				0	0	0	0	0
5:00 PM			0				0				0				0	0	0	0	0
5:15 PM			0				0				0				0	0	0	0	0
5:30 PM			0				0				0				0	0	0	0	0
5:45 PM			0				0				0				0	0	0	0	0
6:00 PM			0				0				0				0	0	0	0	0
6:15 PM			0				0				0				0	0	0	0	0
6:30 PM			0				0				0				0	0	0	0	0
6:45 PM			0				0				0				0	0	0	0	0
Total	0	0	0		0	0	0		0	0	0		0	0	0	0	0	0	0

Intersection: 3: Shoreline @ Chemawa **City:** Keizer

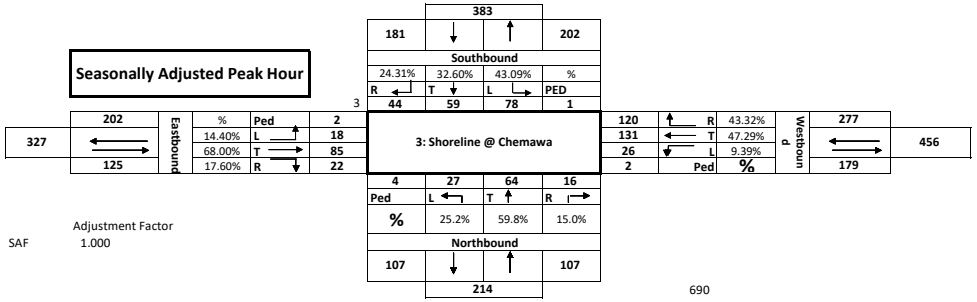
Counter: Sandow Engineering **Date:** Wednesday, November 5, 2025

Total of All Vehicles

Time Period		Southbound				Westbound				Northbound				Eastbound				15 Minute Volume	Hourly Volume	Pedestrians			
		Right	Thru	Left	Approach Total	Right	Thru	Left	Approach Total	Right	Thru	Left	Approach Total	Right	Thru	Left	Approach Total			SB	WB	NB	EB
16:00	16:15	11	9	23	43	33	26	3	62	3	15	1	19	3	22	5	30	154		0	0	1	0
16:15	16:30	16	14	15	45	22	40	11	73	4	15	6	25	2	21	4	27	170		0	0	2	0
16:30	16:45	4	23	24	51	34	37	8	79	4	14	12	30	5	14	4	23	183		1	1	1	1
16:45	17:00	13	13	16	42	31	28	4	63	5	20	8	33	12	28	5	45	183	690	0	1	0	1
17:00	17:15	7	11	16	34	25	35	12	72	13	12	7	32	5	26	6	37	175	711	0	2	0	0
17:15	17:30	10	11	13	34	31	42	11	84	6	6	15	27	4	21	9	34	179	720	0	0	0	1
17:30	17:45	12	6	24	42	23	36	7	66	3	6	1	10	1	37	8	46	164	701	0	0	0	0
17:45	18:00	7	9	25	41	11	32	4	47	3	12	2	17	1	23	4	28	133	651	0	0	0	0
18:00	18:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	476	0	0	0	0
18:15	18:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	297	0	0	0	0
18:30	18:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	133	0	0	0	0
18:45	19:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Count Period Total		**80**	**96**	**156**		**210**	**276**	**60**		**41**	**100**	**52**		**33**	**192**	**45**		**1341**		**1**	**4**	**4**	**3**

PM Peak Hour Count Summary

	Southbound				Westbound				Northbound				Eastbound						Pedestrians			
	Right	Thru	Left	Approach	Right	Thru	Left	Approach	Right	Thru	Left	Approach	Right	Thru	Left	Approach			SB	WB	NB	EB
Peak Volumes	**44**	**59**	**78**	**181**	**120**	**131**	**26**	**277**	**16**	**64**	**27**	**107**	**22**	**85**	**18**	**125**	**690**	**690**	**1**	**2**	**4**	**2**
PHF	0.69	0.64	0.81	0.89	0.88	0.82	0.59	0.88	0.80	0.80	0.56	0.81	0.46	0.76	0.90	0.69	0.94					
Trucks	4	0	1		1	0	0		0	1	1		1	0	0							
% Trucks	9%	0%	1%		1%	0%	0%		0%	2%	4%		5%	0%	0%							


Seasonally Adjusted Peak Hour
383
181
202
Southbound
24.31%
32.60%
43.09%
%
R
T
L
PED
3
44
59
78
1
202
Eastbound
%
Ped
2
14.40%
L
18
68.00%
T
85
17.60%
R
22
125
327
3: Shoreline @ Chemawa
120
R
43.32%
131
T
47.29%
26
L
9.39%
2
Ped
%
Westboun
d
277
179
456
4
27
64
16
Ped
L
T
R
%
25.2%
59.8%
15.0%
Northbound
107
107
214
690
Adjustment Factor
SAF
1.000

3: Shoreline @ Chemawa

Pedestrians and Cars

Time Period	Southbound					Westbound					Northbound					Eastbound					15 Minute Volume	Hourly Volume
	Peds	Right	Thru	Left		Peds	Right	Thru	Left		Peds	Right	Thru	Left		Peds	Right	Thru	Left			
4:00 PM	0	10	9	23		0	33	26	3		1	3	14	1		0	3	22	5		152	
4:15 PM	0	15	14	15		0	22	40	11		1	4	15	6		0	2	21	4		169	
4:30 PM	1	4	23	23		1	33	37	8		1	4	14	11		1	5	14	4		180	
4:45 PM	0	11	13	16		1	31	28	4		0	5	20	8		1	11	28	5		180	681
5:00 PM	0	7	11	16		2	25	35	12		0	13	12	6		0	5	26	6		174	703
5:15 PM	0	10	11	13		0	31	42	11		0	6	6	15		1	4	21	8		178	712
5:30 PM	0	12	6	24		0	23	36	7		0	3	6	1		0	1	37	8		164	696
5:45 PM	0	7	9	25		0	11	32	4		0	3	12	2		0	1	23	4		133	649
6:00 PM																					0	475
6:15 PM																					0	297
6:30 PM																					0	133
6:45 PM																					0	0
Total	1	76	96	155		4	209	276	60		3	41	99	50		3	32	192	44			
Peak Hour	**1**	**40**	**59**	**77**	**0**	**2**	**119**	**131**	**26**	**0**	**3**	**16**	**63**	**26**	**0**	**2**	**21**	**85**	**18**	**0**	**681**	**681**

Trucks

Time Period	Southbound				Westbound				Northbound				Eastbound				15 Minute Volume	Hourly Volume
	Right	Thru	Left		Right	Thru	Left		Right	Thru	Left		Right	Thru	Left			
4:00 PM	1	0	0		0	0	0		0	1	0		0	0	0		2	
4:15 PM	1	0	0		0	0	0		0	0	0		0	0	0		1	
4:30 PM	0	0	1		1	0	0		0	0	1		0	0	0		3	
4:45 PM	2	0	0		0	0	0		0	0	0		1	0	0		3	9
5:00 PM	0	0	0		0	0	0		0	0	1		0	0	0		1	8
5:15 PM	0	0	0		0	0	0		0	0	0		0	0	1		1	8
5:30 PM	0	0	0		0	0	0		0	0	0		0	0	0		0	5
5:45 PM	0	0	0		0	0	0		0	0	0		0	0	0		0	2
6:00 PM																	0	1
6:15 PM																	0	0
6:30 PM																	0	0
6:45 PM																	0	0
Total	4	0	1		1	0	0		0	1	2		1	0	1			
Peak Hour	**4**	**0**	**1**	**0**	**1**	**0**	**0**	**0**	**0**	**1**	**1**	**0**	**1**	**0**	**0**	**0**	**9**	**9**

Bikes

Time Period	Southbound				Westbound				Northbound				Eastbound				SB	WB	NB	EB
	Right	Thru	Left		Right	Thru	Left		Right	Thru	Left		Right	Thru	Left					
4:00 PM																	0	0	0	0
4:15 PM										1							0	0	1	0
4:30 PM																	0	0	0	0
4:45 PM																	0	0	0	0
5:00 PM																	0	0	0	0
5:15 PM																	0	0	0	0
5:30 PM																	0	0	0	0
5:45 PM																	0	0	0	0
6:00 PM																	0	0	0	0
6:15 PM																	0	0	0	0
6:30 PM																	0	0	0	0
6:45 PM																	0	0	0	0
Total	0	0	0		0	0	0		0	1	0		0	0	0					
Peak Hour	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**

Pedestrians

Time Period	NE				NW				SW				SE			SB	WB	NB	EB
	Left	Right	Total		Left	Right	Total		Left	Right	Total		Left	Right	Total				
4:00 PM			0				0				0				0	0	0	0	0
4:15 PM			0				0				0				0	0	0	0	0
4:30 PM			0				0				0				0	0	0	0	0
4:45 PM			0				0				0				0	0	0	0	0
5:00 PM			0				0				0				0	0	0	0	0
5:15 PM			0				0				0				0	0	0	0	0
5:30 PM			0				0				0				0	0	0	0	0
5:45 PM			0				0				0				0	0	0	0	0
6:00 PM			0				0				0				0	0	0	0	0
6:15 PM			0				0				0				0	0	0	0	0
6:30 PM			0				0				0				0	0	0	0	0
6:45 PM			0				0				0				0	0	0	0	0
Total	0	0	0		0	0	0		0	0	0		0	0	0	0	0	0	0

Intersection: 4: Windsor @ Lockhaven Dr **City:** Keizer

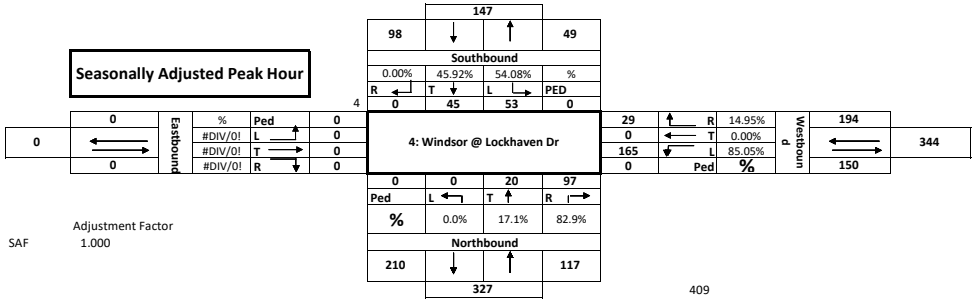
Counter: Sandow Engineering **Date:** Wednesday, November 5, 2025

Total of All Vehicles

Time Period	Southbound				Westbound				Northbound				Eastbound				15 Minute Volume	Hourly Volume	Pedestrians			
	Right	Thru	Left	Approach Total	Right	Thru	Left	Approach Total	Right	Thru	Left	Approach Total	Right	Thru	Left	Approach Total			SB	WB	NB	EB
16:00 16:15	0	8	11	19	9	0	39	48	18	5	0	23	0	0	0	0	90		0	0	0	0
16:15 16:30	0	12	7	19	8	0	49	57	31	4	0	35	0	0	0	0	111		0	0	0	0
16:30 16:45	0	16	25	41	4	0	41	45	25	5	0	30	0	0	0	0	116		0	0	0	0
16:45 17:00	0	9	10	19	8	0	36	44	23	6	0	29	0	0	0	0	92	409	0	0	0	0
17:00 17:15	0	5	10	15	7	0	45	52	30	3	0	33	0	0	0	0	100	419	0	0	0	0
17:15 17:30	0	7	6	13	7	0	48	55	32	5	0	37	0	0	0	0	105	413	0	0	0	0
17:30 17:45	0	6	4	10	7	0	44	51	32	3	0	35	0	0	0	0	96	393	0	0	0	0
17:45 18:00	0	6	3	9	1	0	41	42	20	3	0	23	0	0	0	0	74	375	0	0	0	0
18:00 18:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	275	0	0	0	0
18:15 18:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	170	0	0	0	0
18:30 18:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	74	0	0	0	0
18:45 19:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Count Period Total	**0**	**69**	**76**		**51**	**0**	**343**		**211**	**34**	**0**		**0**	**0**	**0**		**784**		**0**	**0**	**0**	**0**

PM Peak Hour Count Summary

	Southbound				Westbound				Northbound				Eastbound						Pedestrians			
	Right	Thru	Left	Approach	Right	Thru	Left	Approach	Right	Thru	Left	Approach	Right	Thru	Left	Approach			SB	WB	NB	EB
Peak Volumes	**0**	**45**	**53**	**98**	**29**	**0**	**165**	**194**	**97**	**20**	**0**	**117**	**0**	**0**	**0**	**0**	**409**	**409**	**0**	**0**	**0**	**0**
PHF	0.00	0.70	0.53	0.60	0.81	0.00	0.84	0.85	0.78	0.83	0.00	0.84	0.00	0.00	0.00	0.00	0.88					
Trucks	0	1	1		1	0	4		2	1	0		0	0	0							
% Trucks	0%	2%	2%		3%	0%	2%		2%	5%	0%		0%	0%	0%							


Seasonally Adjusted Peak Hour
147
98
49
Southbound
0.00%
45.92%
54.08%
%
R
T
L
PED
4
0
45
53
0
4: Windsor @ Lockhaven Dr
0
Eastbound
%
Ped
0
#DIV/0!
L
0
#DIV/0!
T
0
#DIV/0!
R
0
0
0
0
0
Ped
0
0
20
97
L
T
R
%
0.0%
17.1%
82.9%
Northbound
210
117
327
409
29
R
14.95%
0
T
0.00%
165
L
85.05%
0
Ped
%
Westbound
194
344
150
Adjustment Factor
SAF
1.000

4: Windsor @ Lockhaven Dr

Pedestrians and Cars

Time Period	Southbound					Westbound					Northbound					Eastbound					15 Minute Volume	Hourly Volume
	Peds	Right	Thru	Left		Peds	Right	Thru	Left		Peds	Right	Thru	Left		Peds	Right	Thru	Left			
4:00 PM	0	0	8	11		0	9	0	37		0	17	4	0							86	
4:15 PM	0	0	12	7		0	8	0	48		0	30	4	0							109	
4:30 PM	0	0	16	24		0	4	0	41		0	25	5	0							115	
4:45 PM	0	0	8	10		0	7	0	35		0	23	6	0							89	399
5:00 PM	0	0	5	9		0	7	0	44		0	30	3	0							98	411
5:15 PM	0	0	7	6		0	7	0	48		0	32	5	0							105	407
5:30 PM	0	0	6	4		0	7	0	44		0	32	3	0							96	388
5:45 PM	0	0	6	3		0	1	0	41		0	20	3	0							74	373
6:00 PM																					0	275
6:15 PM																					0	170
6:30 PM																					0	74
6:45 PM																					0	0
Total	0	0	68	74		0	50	0	338		0	209	33	0		0	0	0	0			
Peak Hour	**0**	**0**	**44**	**52**	**0**	**0**	**28**	**0**	**161**	**0**	**0**	**95**	**19**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**399**	**399**

Trucks

Time Period	Southbound				Westbound				Northbound				Eastbound				15 Minute Volume	Hourly Volume
	Right	Thru	Left		Right	Thru	Left		Right	Thru	Left		Right	Thru	Left			
4:00 PM	0	0	0		0	0	2		1	1	0						4	
4:15 PM	0	0	0		0	0	1		1	0	0						2	
4:30 PM	0	0	1		0	0	0		0	0	0						1	
4:45 PM	0	1	0		1	0	1		0	0	0						3	10
5:00 PM	0	0	1		0	0	1		0	0	0						2	8
5:15 PM	0	0	0		0	0	0		0	0	0						0	6
5:30 PM	0	0	0		0	0	0		0	0	0						0	5
5:45 PM	0	0	0		0	0	0		0	0	0						0	2
6:00 PM																	0	0
6:15 PM																	0	0
6:30 PM																	0	0
6:45 PM																	0	0
Total	0	1	2		1	0	5		2	1	0		0	0	0			
Peak Hour	**0**	**1**	**1**	**0**	**1**	**0**	**4**	**0**	**2**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**10**	**10**

Bikes

Time Period	Southbound				Westbound				Northbound				Eastbound				SB	WB	NB	EB
	Right	Thru	Left		Right	Thru	Left		Right	Thru	Left		Right	Thru	Left					
4:00 PM																	0	0	0	0
4:15 PM																	0	0	0	0
4:30 PM																	0	0	0	0
4:45 PM																	0	0	0	0
5:00 PM																	0	0	0	0
5:15 PM																	0	0	0	0
5:30 PM																	0	0	0	0
5:45 PM																	0	0	0	0
6:00 PM																	0	0	0	0
6:15 PM																	0	0	0	0
6:30 PM																	0	0	0	0
6:45 PM																	0	0	0	0
Total	0	0	0		0	0	0		0	0	0		0	0	0					
Peak Hour	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

Pedestrians

Time Period	NE				NW				SW				SE			SB	WB	NB	EB
	Left	Right	Total		Left	Right	Total		Left	Right	Total		Left	Right	Total				
4:00 PM			0				0				0				0	0	0	0	0
4:15 PM			0				0				0				0	0	0	0	0
4:30 PM			0				0				0				0	0	0	0	0
4:45 PM			0				0				0				0	0	0	0	0
5:00 PM			0				0				0				0	0	0	0	0
5:15 PM			0				0				0				0	0	0	0	0
5:30 PM			0				0				0				0	0	0	0	0
5:45 PM			0				0				0				0	0	0	0	0
6:00 PM			0				0				0				0	0	0	0	0
6:15 PM			0				0				0				0	0	0	0	0
6:30 PM			0				0				0				0	0	0	0	0
6:45 PM			0				0				0				0	0	0	0	0
Total	0	0	0		0	0	0		0	0	0		0	0	0	0	0	0	0

Intersection: 5: Windsor @ Site Access **City:** Keizer

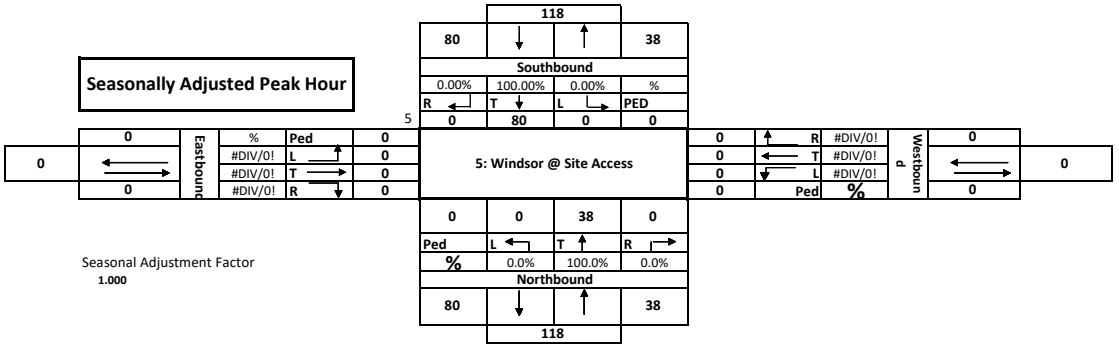
Counter: Sandow Engineering **Date:** Wednesday, November 5, 2025

Total of All Vehicles

Time Period	Southbound				Westbound				Northbound				Eastbound				15 Minute Volume	Hourly Volume	Pedestrians			
	Right	Thru	Left	Approach Total	Right	Thru	Left	Approach Total	Right	Thru	Left	Approach Total	Right	Thru	Left	Approach Total			SB	WB	NB	EB
16:00 16:15	0	15	0	15	0	0	0	0	0	11	0	11	0	0	0	0	26		0	0	0	0
16:15 16:30	0	15	0	15	0	0	0	0	0	11	0	11	0	0	0	0	26		0	0	0	0
16:30 16:45	0	37	0	37	0	0	0	0	0	8	0	8	0	0	0	0	45		0	0	0	0
16:45 17:00	0	13	0	13	0	0	0	0	0	8	0	8	0	0	0	0	21	118	0	0	0	0
17:00 17:15	0	10	0	10	0	0	0	0	0	10	0	10	0	0	0	0	20	112	0	0	0	0
17:15 17:30	0	9	0	9	0	0	0	0	0	12	0	12	0	0	0	0	21	107	0	0	0	0
17:30 17:45	0	9	0	9	0	0	0	0	0	7	0	7	0	0	0	0	16	78	0	0	0	0
17:45 18:00	0	9	0	9	0	0	0	0	0	4	0	4	0	0	0	0	13	70	0	0	0	0
18:00 18:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	50	0	0	0	0
18:15 18:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	29	0	0	0	0
Count Period Total	**0**	**117**	**0**		**0**	**0**	**0**		**0**	**71**	**0**		**0**	**0**	**0**		**188**		**0**	**0**	**0**	**0**

PM Peak Hour Count Summary

	Southbound				Westbound				Northbound				Eastbound						Pedestrians			
	Right	Thru	Left	Approach	Right	Thru	Left	Approach	Right	Thru	Left	Approach	Right	Thru	Left	Approach			SB	WB	NB	EB
Peak Volumes	**0**	**80**	**0**	**80**	**0**	**0**	**0**	**0**	**0**	**38**	**0**	**38**	**0**	**0**	**0**	**0**	**118**	**118**	**0**	**0**	**0**	**0**
PHF	0.00	0.54	0.00	0.54	0.00	0.00	0.00	0.00	0.00	0.86	0.00	0.86	0.00	0.00	0.00	0.00	0.66					
Trucks	0	2	0		0	0	0		0	0	0		0	0	0							
% Trucks	0%	3%	0%		0%	0%	0%		0%	0%	0%		0%	0%	0%							


Seasonally Adjusted Peak Hour
118
80
38
Southbound
0.00%
100.00%
0.00%
%
R
T
L
PED
5
0
80
0
0
0
%
Ped
0
#DIV/0!
L
0
#DIV/0!
T
0
#DIV/0!
R
0
5: Windsor @ Site Access
0
R
#DIV/0!
0
T
#DIV/0!
0
L
#DIV/0!
0
Ped
%
0
0
0
0
Eastbound
Westbound
0
0
0
0
0
38
0
Ped
L
T
R
%
0.0%
100.0%
0.0%
Northbound
80
38
118
Seasonal Adjustment Factor
1.000

5: Windsor @ Site Access

Pedestrians and Cars

Time Period	Southbound					Westbound					Northbound					Eastbound					15 Minute Volume	Hourly Volume
	Peds	Right	Thru	Left		Peds	Right	Thru	Left		Peds	Right	Thru	Left		Peds	Right	Thru	Left			
4:00 PM	0	0	15	0		0	0	0	0		0	0	11	0							26	
4:15 PM	0	0	14	0		0	0	0	0		0	0	11	0							25	
4:30 PM	0	0	36	0		0	0	0	0		0	0	8	0							44	
4:45 PM	0	0	13	0		0	0	0	0		0	0	8	0							21	116
5:00 PM	0	0	10	0		0	0	0	0		0	0	10	0							20	110
5:15 PM	0	0	9	0		0	0	0	0		0	0	12	0							21	106
5:30 PM	0	0	9	0		0	0	0	0		0	0	7	0							16	78
5:45 PM	0	0	9	0		0	0	0	0		0	0	4	0							13	70
6:00 PM																					0	50
6:15 PM																					0	29
Total	0	0	115	0		0	0	0	0		0	0	71	0		0	0	0	0			
Peak Hour	**0**	**0**	**78**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**38**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**116**	**116**

Trucks

Time Period	Southbound				Westbound				Northbound				Eastbound				15 Minute Volume	Hourly Volume
	Right	Thru	Left		Right	Thru	Left		Right	Thru	Left		Right	Thru	Left			
4:00 PM	0	0	0		0	0	0		0	0	0						0	
4:15 PM	0	1	0		0	0	0		0	0	0						1	
4:30 PM	0	1	0		0	0	0		0	0	0						1	
4:45 PM	0	0	0		0	0	0		0	0	0						0	2
5:00 PM	0	0	0		0	0	0		0	0	0						0	2
5:15 PM	0	0	0		0	0	0		0	0	0						0	1
5:30 PM	0	0	0		0	0	0		0	0	0						0	0
5:45 PM	0	0	0		0	0	0		0	0	0						0	0
6:00 PM																	0	0
6:15 PM																	0	0
Total	0	2	0		0	0	0		0	0	0		0	0	0			
Peak Hour	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**2**

Bikes

Time Period	Southbound				Westbound				Northbound				Eastbound			SB	WB	NB	EB
	Right	Thru	Left		Right	Thru	Left		Right	Thru	Left		Right	Thru	Left				
4:00 PM																0	0	0	0
4:15 PM																0	0	0	0
4:30 PM																0	0	0	0
4:45 PM																0	0	0	0
5:00 PM																0	0	0	0
5:15 PM																0	0	0	0
5:30 PM																0	0	0	0
5:45 PM																0	0	0	0
6:00 PM																0	0	0	0
6:15 PM																0	0	0	0
Total	0	0	0		0	0	0		0	0	0		0	0	0				
Peak Hour	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

Pedestrians

Time Period	NE				NW				SW				SE			SB	WB	NB	EB
	Left	Right	Total		Left	Right	Total		Left	Right	Total		Left	Right	Total				
4:00 PM			0				0				0				0	0	0	0	0
4:15 PM			0				0				0				0	0	0	0	0
4:30 PM			0				0				0				0	0	0	0	0
4:45 PM			0				0				0				0	0	0	0	0
5:00 PM			0				0				0				0	0	0	0	0
5:15 PM			0				0				0				0	0	0	0	0
5:30 PM			0				0				0				0	0	0	0	0
5:45 PM			0				0				0				0	0	0	0	0
6:00 PM			0				0				0				0	0	0	0	0
6:15 PM			0				0				0				0	0	0	0	0
Total	0	0	0		0	0	0		0	0	0		0	0	0	0	0	0	0
Peak Hour	**0**	**0**	**0**		**0**	**0**	**0**		**0**	**0**	**0**		**0**	**0**	**0**				

Intersection: 6: River Rd @ Chemawa **City:** Keizer

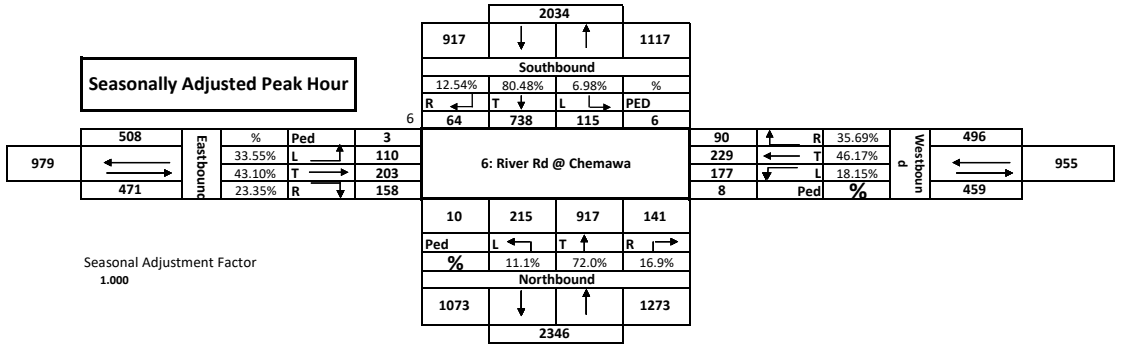
Counter: Sandow Engineering **Date:** Wednesday, November 5, 2025

Total of All Vehicles

Time Period		Southbound				Westbound				Northbound				Eastbound				15 Minute Volume	Hourly Volume	Pedestrians			
		Right	Thru	Left	Approach Total	Right	Thru	Left	Approach Total	Right	Thru	Left	Approach Total	Right	Thru	Left	Approach Total			SB	WB	NB	EB
16:00	16:15	15	179	38	232	20	57	46	123	29	205	47	281	43	55	26	124	760		1	2	2	0
16:15	16:30	20	192	29	241	24	54	42	120	35	261	51	347	36	45	28	109	817		2	2	1	0
16:30	16:45	10	188	23	221	20	68	48	136	34	231	57	322	30	49	29	108	787		2	3	6	2
16:45	17:00	19	179	25	223	26	50	41	117	43	220	60	323	49	54	27	130	793	3157	1	1	1	1
17:00	17:15	32	166	23	221	27	47	42	116	37	233	51	321	39	62	27	128	786	3183	4	5	4	1
17:15	17:30	15	175	15	205	27	54	39	120	39	241	58	338	33	43	24	100	763	3129	0	11	4	1
17:30	17:45	15	187	20	222	30	70	38	138	21	211	57	289	44	51	40	135	784	3126	0	1	2	1
17:45	18:00	12	138	19	169	16	31	20	67	29	195	42	266	37	43	24	104	606	2939	0	5	0	0
18:00	18:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2153	10	30	20	6
18:15	18:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1390	6	8	10	3
Count Period Total		**138**	**1404**	**192**		**190**	**431**	**316**		**267**	**1797**	**423**		**311**	**402**	**225**		**6096**		**26**	**68**	**50**	**15**

PM Peak Hour Count Summary

	Southbound				Westbound				Northbound				Eastbound						Pedestrians			
	Right	Thru	Left	Approach	Right	Thru	Left	Approach	Right	Thru	Left	Approach	Right	Thru	Left	Approach			SB	WB	NB	EB
Peak Volumes	**64**	**738**	**115**	**917**	**90**	**229**	**177**	**496**	**141**	**917**	**215**	**1273**	**158**	**203**	**110**	**471**	**3157**	**3157**	**6**	**8**	**10**	**3**
PHF	0.80	0.96	0.76	0.95	0.87	0.84	0.92	0.91	0.82	0.88	0.90	0.92	0.81	0.92	0.95	0.91	0.97					
Trucks	0	10	3		0	0	2		2	10	0		0	6	0							
% Trucks	0%	1%	3%		0%	0%	1%		1%	1%	0%		0%	3%	0%							


Seasonally Adjusted Peak Hour
2034
917
1117
Southbound
12.54%
80.48%
6.98%
%
R
T
L
PED
6
64
738
115
6
508
%
Ped
3
979
33.55%
L
110
43.10%
T
203
471
23.35%
R
158
6: River Rd @ Chemawa
90
R
35.69%
229
T
46.17%
177
L
18.15%
8
Ped
%
496
955
459
10
215
917
141
Ped
L
T
R
%
11.1%
72.0%
16.9%
Northbound
1073
1273
2346
Seasonal Adjustment Factor
1.000

6: River Rd @ Chemawa

Pedestrians and Cars

Time Period	Southbound					Westbound					Northbound					Eastbound					15 Minute Volume	Hourly Volume
	Peds	Right	Thru	Left		Peds	Right	Thru	Left		Peds	Right	Thru	Left		Peds	Right	Thru	Left			
4:00 PM	1	15	176	38		2	20	57	45		2	29	202	47		0	43	53	26		751	
4:15 PM	2	20	190	27		2	24	54	42		1	35	257	51		0	36	44	28		808	
4:30 PM	2	10	185	23		3	20	68	47		6	33	230	57		2	30	48	29		780	
4:45 PM	1	19	177	24		1	26	50	41		1	42	218	60		1	49	52	27		785	3124
5:00 PM	4	31	164	23		5	27	47	42		4	37	232	51		1	39	61	27		781	3154
5:15 PM	0	15	174	15		11	27	54	39		4	39	239	58		1	33	43	24		760	3106
5:30 PM	0	15	184	20		1	30	70	38		2	21	210	57		1	43	50	40		778	3104
5:45 PM	0	12	136	19		5	16	31	20		0	29	193	42		0	37	43	24		602	2921
6:00 PM	0					0					0					0					0	2140
6:15 PM	0					0					0					0					0	1380
Total	10	137	1386	189		30	190	431	314		20	265	1781	423		6	310	394	225			
Peak Hour	**6**	**64**	**728**	**112**	**0**	**8**	**90**	**229**	**175**	**0**	**10**	**139**	**907**	**215**	**0**	**3**	**158**	**197**	**110**	**0**	**3124**	**3124**

Trucks

Time Period	Southbound				Westbound				Northbound				Eastbound				15 Minute Volume	Hourly Volume
	Right	Thru	Left		Right	Thru	Left		Right	Thru	Left		Right	Thru	Left			
4:00 PM	0	3	0				1		0	3			0	2			9	
4:15 PM	0	2	2				0		0	4			0	1			9	
4:30 PM	0	3	0				1		1	1			0	1			7	
4:45 PM	0	2	1				0		1	2			0	2			8	33
5:00 PM	1	2	0				0		0	1			0	1			5	29
5:15 PM	0	1	0				0		0	2			0	0			3	23
5:30 PM	0	3	0				0		0	1			1	1			6	22
5:45 PM	0	2	0				0		0	2			0	0			4	18
6:00 PM																	0	13
6:15 PM																	0	10
Total	1	18	3		0	0	2		2	16	0		1	8	0			
Peak Hour	**0**	**10**	**3**	**0**	**0**	**0**	**2**	**0**	**2**	**10**	**0**	**0**	**0**	**6**	**0**	**0**	**33**	**33**

Bikes

Time Period	Southbound				Westbound				Northbound				Eastbound			SB	WB	NB	EB
	Right	Thru	Left		Right	Thru	Left		Right	Thru	Left		Right	Thru	Left				
4:00 PM																0	0	0	0
4:15 PM																0	0	0	0
4:30 PM																0	0	0	0
4:45 PM																0	0	0	0
5:00 PM																0	0	0	0
5:15 PM																0	0	0	0
5:30 PM																0	0	0	0
5:45 PM																0	0	0	0
6:00 PM																0	0	0	0
6:15 PM																0	0	0	0
Total	0	0	0		0	0	0		0	0	0		0	0	0				
Peak Hour	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

Pedestrians

Time Period	NE				NW				SW				SE			SB	WB	NB	EB
	Left	Right	Total		Left	Right	Total		Left	Right	Total		Left	Right	Total				
4:00 PM			0				0				0				0	0	0	0	0
4:15 PM			0				0				0				0	0	0	0	0
4:30 PM			0				0				0				0	0	0	0	0
4:45 PM			0				0				0				0	0	0	0	0
5:00 PM			0				0				0				0	0	0	0	0
5:15 PM			0				0				0				0	0	0	0	0
5:30 PM			0				0				0				0	0	0	0	0
5:45 PM			0				0				0				0	0	0	0	0
6:00 PM			0				0				0				0	0	0	0	0
6:15 PM			0				0				0				0	0	0	0	0
Total	0	0	0		0	0	0		0	0	0		0	0	0	0	0	0	0
Peak Hour	**0**	**0**	**0**		**0**	**0**	**0**		**0**	**0**	**0**		**0**	**0**	**0**				

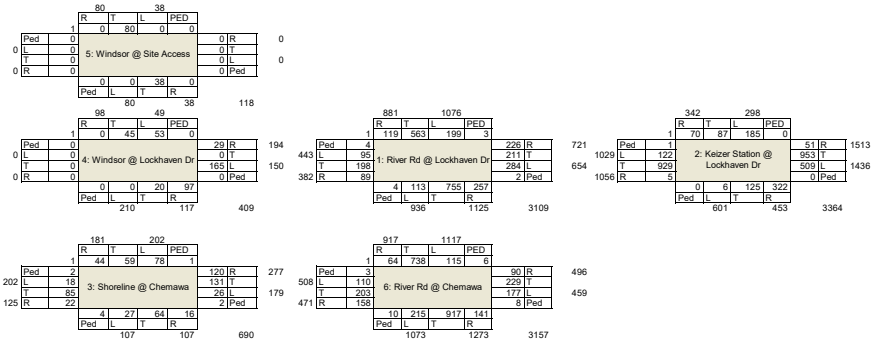
Global Peak Hour

		Intersections						
		1: River Rd @ Lockhaven Dr	2: Keizer Station @ Lockhaven Dr	3: Shoreline @ Chemawa	4: Windsor @ Lockhaven Dr	5: Windsor @ Site Access	6: River Rd @ Chemawa	
Time Period		Volume	Volume	Volume	Volume	Volume	Volume	Total
4:00 PM	5:00 PM	3,109	3,364	690	409	118	3,157	**10847**
4:15 PM	5:15 PM	3,018	3,307	711	419	112	3,183	**10750**
4:30 PM	5:30 PM	3,094	3,264	720	413	107	3,129	**10727**
4:45 PM	5:45 PM	3,042	3,146	701	393	78	3,126	**10486**
5:00 PM	6:00 PM	2,868	3,176	651	375	70	2,939	**10079**
		3109	3364	720	419	118	3183	**10847**

Peak Hour 4:00 PM
4:15 PM
4:30 PM
4:45 PM

Background Trips

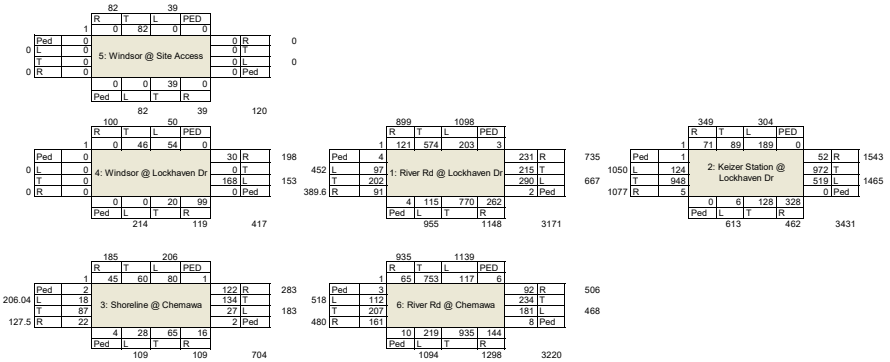
2025



2027

EDIT Highlighted

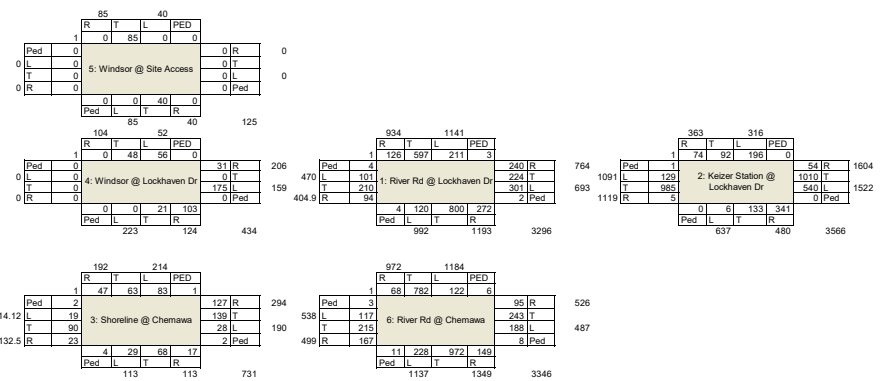
Base Year	###
Target Year	###
Years of Growth	2
Growth Rate Per Yea	0.010
Growth Factor	1.02



2031

EDIT Highlighted

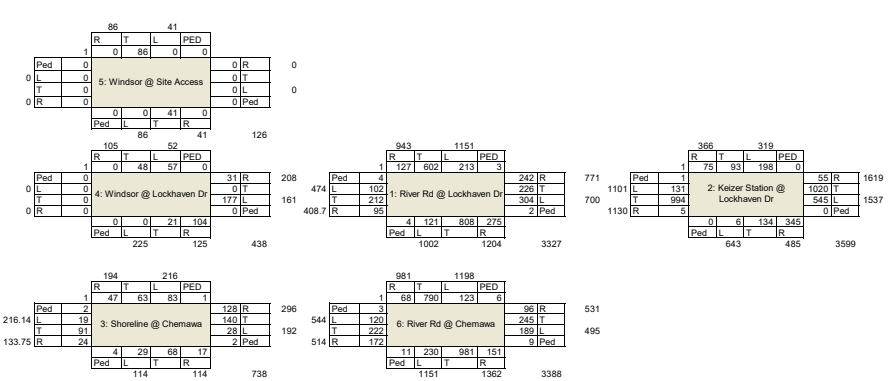
Base Year	###
Target Year	###
Years of Growth	6
Growth Rate Per Yea	0.010
Growth Factor	1.06



2032

EDIT Highlighted

Base Year	###
Target Year	###
Years of Growth	7
Growth Rate Per Yea	0.010
Growth Factor	1.07



APPENDIX E:

SYNCHRO OUTPUTS

Windsor Island Road Subdivision

River at Lockhaven AM Peak Hour

2026 Background									los	B
Phase		Adj flow	Sat Flow							
1	SBL	260	1810	0.144	1,2	0.253				
2	NBT	387	3554	0.109	5,6	0.321	0.321			
									Cycle Length	120
4	EB	274	1781	0.154	4	0.154			Lost Time/phase	4
5	NBL	116	1781	0.065					# phases	4
6	SBT	462	1805	0.256			0.154		Total Lost Time	16
8	WB	273	1767	0.154	8	0.154	0.154	Critical	v/c	0.73
					Critical Pairs	0.629				

2027 Background									los	D
Phase		Adj flow	Sat Flow							
1	SBL	266	1810	0.147	1,2	0.258				
2	NBT	395	3554	0.111	5,6	0.328	0.328			
									Cycle Length	120
4	EB	279	1781	0.157	4	0.157			Lost Time/phase	4
5	NBL	119	1781	0.067					# phases	4
6	SBT	472	1805	0.261			0.157		Total Lost Time	16
8	WB	278	1767	0.157	8	0.157	0.157	Critical	v/c	0.74
					Critical Pairs	0.642				

2027 Build									los	B
Phase		Adj flow	Sat Flow							
1	SBL	266	1810	0.147	1,2	0.258				
2	NBT	395	3554	0.111	5,6	0.332	0.332			
									Cycle Length	120
4	EB	301	1781	0.169	4	0.169			Lost Time/phase	4
5	NBL	124	1781	0.070					# phases	4
6	SBT	474	1805	0.263			0.169		Total Lost Time	16
8	WB	286	1767	0.162	8	0.162	0.162	Critical	v/c	0.77
					Critical Pairs	0.663				

2032 Background									los	D
Phase		Adj flow	Sat Flow							
1	SBL	279	1810	0.154	1,2	0.271				
2	NBT	414	3554	0.116	5,6	0.343	0.343			
									Cycle Length	120
4	EB	292	1781	0.164	4	0.164			Lost Time/phase	4
5	NBL	124	1781	0.070					# phases	4
6	SBT	494	1805	0.274			0.164		Total Lost Time	16
8	WB	291	1767	0.165	8	0.165	0.165	Critical	v/c	0.78
					Critical Pairs	0.672				

2032 Build									los	B
Phase		Adj flow	Sat Flow							
1	SBL	279	1810	0.154	1,2	0.271				
2	NBT	414	3554	0.116	5,6	0.348	0.348			
									Cycle Length	120
4	EB	314	1781	0.176	4	0.176			Lost Time/phase	4
5	NBL	130	1781	0.073					# phases	4
6	SBT	497	1805	0.275			0.176		Total Lost Time	16
8	WB	299	1767	0.169	8	0.169	0.169	Critical	v/c	0.80
					Critical Pairs	0.694				

2026 Background — los B

Phase		Adj flow	Sat Flow							
1	SBL	209	1795	0.116	1,2	0.337				
2	NBT	795	3610	0.220	5,6	0.267	0.337			
									Cycle Length	120
4	EB	208	1870	0.111	4	0.111			Lost Time/phase	4
5	NBL	119	1810	0.066					# phases	4
6	SBT	360	1791	0.201			0.111		Total Lost Time	16
8	WB	238	1610	0.148	8	0.148	0.148	Critical	v/c	0.69
					Critical Pairs	0.596				

2027 Background — los D

Phase		Adj flow	Sat Flow							
1	SBL	214	1795	0.119	1,2	0.344				
2	NBT	811	3610	0.225	5,6	0.272	0.344			
									Cycle Length	120
4	EB	213	1870	0.114	4	0.114			Lost Time/phase	4
5	NBL	121	1810	0.067					# phases	4
6	SBT	367	1791	0.205			0.114		Total Lost Time	16
8	WB	281	1885	0.149	8	0.149	0.149	Critical	v/c	0.70
					Critical Pairs	0.607				

2027 Build — los B

Phase		Adj flow	Sat Flow							
1	SBL	214	1795	0.119	1,2	0.344				
2	NBT	811	3610	0.225	5,6	0.282	0.344			
									Cycle Length	120
4	EB	228	1870	0.122	4	0.122			Lost Time/phase	4
5	NBL	137	1810	0.076					# phases	4
6	SBT	370	1791	0.207			0.122		Total Lost Time	16
8	WB	289	1885	0.153	8	0.153	0.153	Critical	v/c	0.71
					Critical Pairs	0.619				

2032 Background — los D

Phase		Adj flow	Sat Flow							
1	SBL	224	1795	0.125	1,2	0.361				
2	NBT	851	3610	0.236	5,6	0.201	0.361			
									Cycle Length	120
4	EB	223	1870	0.119	4	0.119			Lost Time/phase	4
5	NBL	127	1810	0.070					# phases	4
6	SBT	385	2943	0.131			0.119		Total Lost Time	16
8	WB	295	1885	0.156	8	0.156	0.156	Critical	v/c	0.73
					Critical Pairs	0.636				

2032 Build — los B

Phase		Adj flow	Sat Flow							
1	SBL	224	1795	0.125	1,2	0.361				
2	NBT	851	3610	0.236	5,6	0.296	0.361			
									Cycle Length	120
4	EB	239	1870	0.128	4	0.128			Lost Time/phase	4
5	NBL	143	1810	0.079					# phases	4
6	SBT	388	1791	0.217			0.128		Total Lost Time	16
8	WB	303	1885	0.161	8	0.161	0.161	Critical	v/c	0.75
					Critical Pairs	0.649				

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	53	1110	5	250	625	16	0	57	469	57	17	27
Future Volume (vph)	53	1110	5	250	625	16	0	57	469	57	17	27
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	0.95		0.97	0.95			1.00	0.88	0.97	1.00	1.00
Frt	1.00	1.00		1.00	1.00			1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00			1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3502	3537		3433	3398			1900	2842	3335	1900	1615
Flt Permitted	0.95	1.00		0.95	1.00			1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3502	3537		3433	3398			1900	2842	3335	1900	1615
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	56	1181	5	266	665	17	0	61	499	61	18	29
RTOR Reduction (vph)	0	0	0	0	1	0	0	0	327	0	0	22
Lane Group Flow (vph)	56	1186	0	266	681	0	0	61	172	61	18	7
Heavy Vehicles (%)	0%	2%	0%	2%	6%	0%	0%	0%	0%	5%	0%	0%
Turn Type	Prot	NA		Prot	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases									2			6
Actuated Green, G (s)	4.9	35.6		10.9	41.6			9.2	9.2	5.1	18.8	18.8
Effective Green, g (s)	5.4	36.1		11.4	42.1			9.7	9.7	5.6	19.3	19.3
Actuated g/C Ratio	0.07	0.46		0.14	0.53			0.12	0.12	0.07	0.24	0.24
Clearance Time (s)	4.5	4.5		4.5	4.5			4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)	2.5	4.0		2.5	4.0			2.5	2.5	2.5	2.5	2.5
Lane Grp Cap (vph)	239	1620		496	1815			233	349	237	465	395
v/s Ratio Prot	0.02	c0.34		c0.08	0.20			0.03		c0.02	0.01	
v/s Ratio Perm									c0.06			0.00
v/c Ratio	0.23	0.73		0.54	0.37			0.26	0.49	0.26	0.04	0.02
Uniform Delay, d1	34.7	17.4		31.2	10.7			31.3	32.3	34.6	22.7	22.6
Progression Factor	1.00	1.00		1.00	1.00			1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.4	1.9		0.9	0.2			0.4	0.8	0.4	0.0	0.0
Delay (s)	35.1	19.3		32.1	10.9			31.7	33.1	35.1	22.7	22.6
Level of Service	D	B		C	B			C	C	D	C	C
Approach Delay (s/veh)		20.0			16.8			32.9			29.6	
Approach LOS		B			B			C			C	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	21.8	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.62		
Actuated Cycle Length (s)	78.8	Sum of lost time (s)	16.0
Intersection Capacity Utilization	60.6%	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)	53	1110	5	250	625	16	0	57	469	57	17	27
Future Volume (veh/h)	53	1110	5	250	625	16	0	57	469	57	17	27
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	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	1900	1870	1900	1870	1811	1900	1900	1900	1900	1826	1900	1900
Adj Flow Rate, veh/h	56	1181	5	266	665	17	0	61	499	61	18	29
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	0	2	0	2	6	0	0	0	0	5	0	0
Cap, veh/h	135	1631	7	362	1768	45	2	444	663	134	601	510
Arrive On Green	0.04	0.45	0.44	0.10	0.52	0.51	0.00	0.23	0.23	0.04	0.32	0.32
Sat Flow, veh/h	3510	3629	15	3456	3428	88	1810	1900	2834	3374	1900	1610
Grp Volume(v), veh/h	56	578	608	266	334	348	0	61	499	61	18	29
Grp Sat Flow(s),veh/h/ln	1755	1777	1868	1728	1721	1795	1810	1900	1417	1687	1900	1610
Q Serve(g_s), s	1.4	24.6	24.6	6.9	10.8	10.8	0.0	2.4	15.2	1.6	0.6	1.2
Cycle Q Clear(g_c), s	1.4	24.6	24.6	6.9	10.8	10.8	0.0	2.4	15.2	1.6	0.6	1.2
Prop In Lane	1.00		0.01	1.00		0.05	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	135	798	839	362	887	926	2	444	663	134	601	510
V/C Ratio(X)	0.42	0.72	0.72	0.74	0.38	0.38	0.00	0.14	0.75	0.46	0.03	0.06
Avail Cap(c_a), veh/h	341	882	927	447	910	949	176	759	1131	328	759	643
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	43.5	20.8	20.8	40.2	13.5	13.5	0.0	28.1	33.0	43.5	21.9	22.0
Incr Delay (d2), s/veh	1.5	3.0	2.9	4.3	0.4	0.4	0.0	0.1	1.3	1.8	0.0	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	10.2	10.7	3.1	4.0	4.1	0.0	1.1	5.1	0.7	0.3	0.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	45.1	23.9	23.7	44.5	13.9	13.9	0.0	28.2	34.3	45.3	21.9	22.1
LnGrp LOS	D	C	C	D	B	B		C	C	D	C	C
Approach Vol, veh/h		1242			948			560			108	
Approach Delay, s/veh		24.7			22.5			33.7			35.2	
Approach LOS		C			C			C			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	7.7	25.7	13.7	45.6	0.0	33.3	7.6	51.8
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	8.5	36.5	11.5	45.5	8.5	36.5	8.5	48.5
Max Q Clear Time (g_c+I1), s	3.6	17.2	8.9	26.6	0.0	3.2	3.4	12.8
Green Ext Time (p_c), s	0.1	4.0	0.3	14.5	0.0	0.2	0.1	12.5

Intersection Summary	
HCM 7th Control Delay, s/veh	26.1
HCM 7th LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	119	249	137	179	248	174	106	352	113	237	641	188
Future Volume (vph)	119	249	137	179	248	174	106	352	113	237	641	188
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	1.00	1.00	0.95	1.00	1.00	0.95	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.97	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1752	1759	1599	1681	1658	1583	1770	3539	1538	1805	3479	
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1752	1759	1599	1681	1658	1583	1770	3539	1538	1805	3479	
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	131	274	151	197	273	191	116	387	124	260	704	207
RTOR Reduction (vph)	0	0	119	0	0	148	0	0	87	0	21	0
Lane Group Flow (vph)	131	274	32	177	293	43	116	387	37	260	890	0
Heavy Vehicles (%)	3%	8%	1%	2%	9%	2%	2%	2%	5%	0%	0%	1%
Turn Type	Split	NA	Perm	Split	NA	Perm	Prot	NA	Perm	Prot	NA	
Protected Phases	4	4		8	8		5	2		1	6	
Permitted Phases			4			8			2			
Actuated Green, G (s)	18.9	18.9	18.9	20.2	20.2	20.2	5.7	26.9	26.9	8.7	29.9	
Effective Green, g (s)	19.4	19.4	19.4	20.7	20.7	20.7	6.2	27.4	27.4	9.2	30.4	
Actuated g/C Ratio	0.21	0.21	0.21	0.22	0.22	0.22	0.07	0.30	0.30	0.10	0.33	
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	
Vehicle Extension (s)	2.5	2.5	2.5	2.5	2.5	2.5	2.5	4.0	4.0	2.5	4.0	
Lane Grp Cap (vph)	366	368	334	375	370	353	118	1046	454	179	1140	
v/s Ratio Prot	0.07	c0.16		0.11	c0.18		0.07	0.11		c0.14	c0.26	
v/s Ratio Perm			0.02			0.03			0.02			
v/c Ratio	0.36	0.74	0.09	0.47	0.79	0.12	0.98	0.37	0.08	1.45	0.78	
Uniform Delay, d1	31.3	34.3	29.6	31.3	34.0	28.7	43.2	25.8	23.6	41.8	28.1	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.4	7.5	0.1	0.7	10.7	0.1	77.1	0.3	0.1	232.0	3.8	
Delay (s)	31.8	41.9	29.7	31.9	44.7	28.8	120.3	26.1	23.7	273.7	31.9	
Level of Service	C	D	C	C	D	C	F	C	C	F	C	
Approach Delay (s/veh)		36.2			36.7			43.1			85.6	
Approach LOS		D			D			D			F	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	56.9	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.86		
Actuated Cycle Length (s)	92.7	Sum of lost time (s)	16.0
Intersection Capacity Utilization	69.1%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

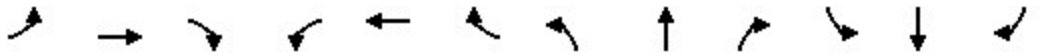
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	119	249	137	179	248	174	106	352	113	237	641	188
Future Volume (veh/h)	119	249	137	179	248	174	106	352	113	237	641	188
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	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	1856	1781	1885	1870	1767	1870	1870	1870	1826	1900	1900	1885
Adj Flow Rate, veh/h	131	274	151	197	273	191	116	387	124	260	704	207
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
Percent Heavy Veh, %	3	8	1	2	9	2	2	2	5	0	0	1
Cap, veh/h	359	362	325	367	364	326	123	1075	468	188	928	273
Arrive On Green	0.20	0.20	0.20	0.21	0.21	0.21	0.07	0.30	0.30	0.10	0.34	0.33
Sat Flow, veh/h	1767	1781	1598	1781	1767	1585	1781	3554	1547	1810	2751	809
Grp Volume(v), veh/h	131	274	151	197	273	191	116	387	124	260	462	449
Grp Sat Flow(s),veh/h/ln	1767	1781	1598	1781	1767	1585	1781	1777	1547	1810	1805	1754
Q Serve(g_s), s	5.5	12.6	7.2	8.6	12.6	9.4	5.6	7.4	5.3	9.0	19.8	19.8
Cycle Q Clear(g_c), s	5.5	12.6	7.2	8.6	12.6	9.4	5.6	7.4	5.3	9.0	19.8	19.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.46
Lane Grp Cap(c), veh/h	359	362	325	367	364	326	123	1075	468	188	609	592
V/C Ratio(X)	0.36	0.76	0.47	0.54	0.75	0.59	0.94	0.36	0.26	1.38	0.76	0.76
Avail Cap(c_a), veh/h	744	750	672	606	601	539	123	1188	517	188	666	647
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	29.7	32.5	30.4	30.7	32.3	31.1	40.2	23.7	22.9	38.9	25.6	25.7
Incr Delay (d2), s/veh	0.5	2.4	0.8	0.9	2.3	1.2	62.6	0.3	0.4	202.6	5.1	5.3
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.3	5.5	2.7	3.6	5.4	3.6	4.5	3.0	1.9	14.4	8.8	8.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	30.2	35.0	31.2	31.6	34.7	32.3	102.8	24.0	23.4	241.4	30.7	31.0
LnGrp LOS	C	C	C	C	C	C	F	C	C	F	C	C
Approach Vol, veh/h		556			661			627			1171	
Approach Delay, s/veh		32.8			33.1			38.4			77.6	
Approach LOS		C			C			D			E	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	13.0	30.2		21.6	10.0	33.2		21.9				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	8.5	28.5		36.0	5.5	31.5		29.0				
Max Q Clear Time (g_c+I1), s	11.0	9.4		14.6	7.6	21.8		14.6				
Green Ext Time (p_c), s	0.0	6.5		2.6	0.0	6.9		2.8				

Intersection Summary	
HCM 7th Control Delay, s/veh	51.4
HCM 7th LOS	D

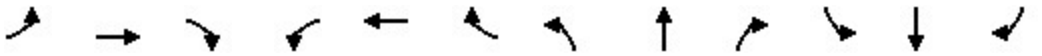
Notes

User approved pedestrian interval to be less than phase max green.
User approved volume balancing among the lanes for turning movement.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	62	204	221	126	161	49	150	463	105	58	829	32
Future Volume (vph)	62	204	221	126	161	49	150	463	105	58	829	32
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95		1.00	0.95	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.97		1.00	0.99	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1805	1845	1599	1787	1863	1495	1752	3323		1752	3511	
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1805	1845	1599	1787	1863	1495	1752	3323		1752	3511	
Peak-hour factor, PHF	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	70	232	251	143	183	56	170	526	119	66	942	36
RTOR Reduction (vph)	0	0	167	0	0	45	0	18	0	0	2	0
Lane Group Flow (vph)	70	232	84	143	183	11	170	627	0	66	976	0
Heavy Vehicles (%)	0%	3%	1%	1%	2%	8%	3%	6%	4%	3%	2%	9%
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA		Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8						
Actuated Green, G (s)	4.6	13.9	13.9	6.2	15.5	15.5	12.5	39.4		4.2	31.1	
Effective Green, g (s)	4.6	13.9	13.9	6.2	15.5	15.5	13.0	39.9		4.7	31.6	
Actuated g/C Ratio	0.06	0.17	0.17	0.08	0.19	0.19	0.16	0.49		0.06	0.39	
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.5	4.5		4.5	4.5	
Vehicle Extension (s)	2.5	2.5	2.5	2.5	2.5	2.5	2.5	4.0		2.5	4.0	
Lane Grp Cap (vph)	102	317	275	137	357	287	282	1642		102	1374	
v/s Ratio Prot	0.04	c0.13		c0.08	0.10		c0.10	0.19		0.04	c0.28	
v/s Ratio Perm			0.05			0.01						
v/c Ratio	0.69	0.73	0.30	1.04	0.51	0.04	0.60	0.38		0.65	0.71	
Uniform Delay, d1	37.3	31.6	29.2	37.3	29.2	26.5	31.5	12.7		37.2	20.7	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	16.1	8.0	0.5	89.0	0.9	0.0	3.0	0.2		11.8	1.9	
Delay (s)	53.4	39.6	29.6	126.3	30.1	26.6	34.5	12.9		49.0	22.6	
Level of Service	D	D	C	F	C	C	C	B		D	C	
Approach Delay (s/veh)		36.8			65.6			17.4			24.2	
Approach LOS		D			E			B			C	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	30.4	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.72		
Actuated Cycle Length (s)	80.7	Sum of lost time (s)	16.0
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)	62	204	221	126	161	49	150	463	105	58	829	32
Future Volume (veh/h)	62	204	221	126	161	49	150	463	105	58	829	32
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		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	1900	1856	1885	1885	1870	1781	1856	1811	1841	1856	1870	1767
Adj Flow Rate, veh/h	70	232	251	143	183	56	170	526	119	66	942	36
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %	0	3	1	1	2	8	3	6	4	3	2	9
Cap, veh/h	90	369	318	116	399	322	213	1425	321	94	1547	59
Arrive On Green	0.05	0.20	0.20	0.06	0.21	0.21	0.12	0.51	0.51	0.05	0.44	0.44
Sat Flow, veh/h	1810	1856	1598	1795	1870	1510	1767	2790	628	1767	3490	133
Grp Volume(v), veh/h	70	232	251	143	183	56	170	323	322	66	480	498
Grp Sat Flow(s),veh/h/ln	1810	1856	1598	1795	1870	1510	1767	1721	1698	1767	1777	1846
Q Serve(g_s), s	3.5	10.6	13.8	6.0	7.9	2.8	8.7	10.5	10.6	3.4	19.1	19.1
Cycle Q Clear(g_c), s	3.5	10.6	13.8	6.0	7.9	2.8	8.7	10.5	10.6	3.4	19.1	19.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.37	1.00		0.07
Lane Grp Cap(c), veh/h	90	369	318	116	399	322	213	879	867	94	787	818
V/C Ratio(X)	0.77	0.63	0.79	1.23	0.46	0.17	0.80	0.37	0.37	0.70	0.61	0.61
Avail Cap(c_a), veh/h	117	514	443	116	519	419	267	1231	1214	114	1117	1161
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	43.5	34.0	35.3	43.4	31.8	29.8	39.7	13.7	13.7	43.2	19.7	19.7
Incr Delay (d2), s/veh	18.6	1.3	5.5	158.0	0.6	0.2	11.5	0.4	0.4	12.1	1.1	1.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.0	4.8	5.8	7.7	3.6	1.0	4.4	3.9	3.9	1.8	7.6	7.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	62.2	35.3	40.8	201.4	32.4	30.0	51.2	14.0	14.1	55.3	20.8	20.8
LnGrp LOS	E	D	D	F	C	C	D	B	B	E	C	C
Approach Vol, veh/h		553			382			815			1044	
Approach Delay, s/veh		41.2			95.3			21.8			22.9	
Approach LOS		D			F			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	8.9	51.4	10.0	22.4	15.2	45.1	8.6	23.8
Change Period (Y+Rc), s	4.5	4.5	4.0	4.0	4.5	4.5	4.0	4.0
Max Green Setting (Gmax), s	5.5	65.8	6.0	25.7	13.5	57.8	6.0	25.7
Max Q Clear Time (g_c+I1), s	5.4	12.6	8.0	15.8	10.7	21.1	5.5	9.9
Green Ext Time (p_c), s	0.0	13.4	0.0	2.6	0.1	19.5	0.0	1.6

Intersection Summary	
HCM 7th Control Delay, s/veh	36.1
HCM 7th LOS	D

Notes

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

Intersection	
Intersection Delay, s/veh	9.2
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	13	144	32	13	74	52	15	29	25	101	48	14
Future Vol, veh/h	13	144	32	13	74	52	15	29	25	101	48	14
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles, %	8	0	0	0	3	2	0	0	0	1	2	0
Mvmt Flow	14	155	34	14	80	56	16	31	27	109	52	15
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay, s/veh	9.5	8.7	8.4	9.5
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	22%	7%	9%	62%
Vol Thru, %	42%	76%	53%	29%
Vol Right, %	36%	17%	37%	9%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	69	189	139	163
LT Vol	15	13	13	101
Through Vol	29	144	74	48
RT Vol	25	32	52	14
Lane Flow Rate	74	203	149	175
Geometry Grp	1	1	1	1
Degree of Util (X)	0.099	0.267	0.189	0.239
Departure Headway (Hd)	4.782	4.736	4.555	4.904
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	745	756	783	729
Service Time	2.841	2.784	2.606	2.956
HCM Lane V/C Ratio	0.099	0.269	0.19	0.24
HCM Control Delay, s/veh	8.4	9.5	8.7	9.5
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.3	1.1	0.7	0.9

Intersection	
Int Delay, s/veh	4.8

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	87	61	18	167	38	17
Future Vol, veh/h	87	61	18	167	38	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	206	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	78	78	78	78	78	78
Heavy Vehicles, %	8	31	11	5	37	12
Mvmt Flow	112	78	23	214	49	22

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	249	130	0	0	237	0
Stage 1	130	-	-	-	-	-
Stage 2	119	-	-	-	-	-
Critical Hdwy	6.48	6.51	-	-	4.47	-
Critical Hdwy Stg 1	5.48	-	-	-	-	-
Critical Hdwy Stg 2	5.48	-	-	-	-	-
Follow-up Hdwy	3.572	3.579	-	-	2.533	-
Pot Cap-1 Maneuver	726	847	-	-	1149	-
Stage 1	881	-	-	-	-	-
Stage 2	891	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	695	847	-	-	1149	-
Mov Cap-2 Maneuver	695	-	-	-	-	-
Stage 1	881	-	-	-	-	-
Stage 2	853	-	-	-	-	-

Approach	WB	NB	SB
HCM Ctrl Dly, s/v	10.55	0	5.71
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	695	847	1136	-
HCM Lane V/C Ratio	-	-	0.16	0.092	0.042	-
HCM Ctrl Dly (s/v)	-	-	11.2	9.7	8.3	0
HCM Lane LOS	-	-	B	A	A	A
HCM 95th %tile Q(veh)	-	-	0.6	0.3	0.1	-

Intersection	
Int Delay, s/veh	0

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	0	77	0	0	44
Future Vol, veh/h	0	0	77	0	0	44
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	69	69	69	69	69	69
Heavy Vehicles, %	0	0	25	0	0	41
Mvmt Flow	0	0	112	0	0	64

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	175	112	0	0	112	0
Stage 1	112	-	-	-	-	-
Stage 2	64	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	819	947	-	-	1491	-
Stage 1	918	-	-	-	-	-
Stage 2	964	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	819	947	-	-	1491	-
Mov Cap-2 Maneuver	819	-	-	-	-	-
Stage 1	918	-	-	-	-	-
Stage 2	964	-	-	-	-	-

Approach	WB	NB	SB
HCM Ctrl Dly, s/v	0	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	-	1491	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Ctrl Dly (s/v)	-	-	0	0	-
HCM Lane LOS	-	-	A	A	-
HCM 95th %tile Q(veh)	-	-	-	0	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	121	254	140	183	253	177	108	359	115	242	654	192
Future Volume (vph)	121	254	140	183	253	177	108	359	115	242	654	192
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	1.00	1.00	0.95	1.00	1.00	0.95	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.97	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1752	1759	1599	1681	1658	1583	1770	3539	1538	1805	3479	
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1752	1759	1599	1681	1658	1583	1770	3539	1538	1805	3479	
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	133	279	154	201	278	195	119	395	126	266	719	211
RTOR Reduction (vph)	0	0	122	0	0	150	0	0	87	0	21	0
Lane Group Flow (vph)	133	279	32	181	298	45	119	395	39	266	909	0
Heavy Vehicles (%)	3%	8%	1%	2%	9%	2%	2%	2%	5%	0%	0%	1%
Turn Type	Split	NA	Perm	Split	NA	Perm	Prot	NA	Perm	Prot	NA	
Protected Phases	4	4		8	8		5	2		1	6	
Permitted Phases			4			8			2			
Actuated Green, G (s)	19.2	19.2	19.2	20.6	20.6	20.6	5.6	28.7	28.7	7.7	30.8	
Effective Green, g (s)	19.7	19.7	19.7	21.1	21.1	21.1	6.1	29.2	29.2	8.2	31.3	
Actuated g/C Ratio	0.21	0.21	0.21	0.22	0.22	0.22	0.06	0.31	0.31	0.09	0.33	
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	
Vehicle Extension (s)	2.5	2.5	2.5	2.5	2.5	2.5	2.5	4.0	4.0	2.5	4.0	
Lane Grp Cap (vph)	366	367	334	376	371	354	114	1097	476	157	1155	
v/s Ratio Prot	0.08	c0.16		0.11	c0.18		0.07	0.11		c0.15	c0.26	
v/s Ratio Perm			0.02			0.03			0.03			
v/c Ratio	0.36	0.76	0.10	0.48	0.80	0.13	1.04	0.36	0.08	1.69	0.79	
Uniform Delay, d1	31.9	35.0	30.1	31.8	34.6	29.2	44.1	25.2	23.0	43.0	28.4	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.4	8.6	0.1	0.7	11.6	0.1	96.6	0.3	0.1	338.3	3.8	
Delay (s)	32.3	43.6	30.2	32.5	46.1	29.3	140.6	25.5	23.1	381.3	32.3	
Level of Service	C	D	C	C	D	C	F	C	C	F	C	
Approach Delay (s/veh)		37.3			37.6			46.4			109.9	
Approach LOS		D			D			D			F	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	67.5	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.89		
Actuated Cycle Length (s)	94.2	Sum of lost time (s)	16.0
Intersection Capacity Utilization	70.2%	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)	121	254	140	183	253	177	108	359	115	242	654	192
Future Volume (veh/h)	121	254	140	183	253	177	108	359	115	242	654	192
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	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	1856	1781	1885	1870	1767	1870	1870	1870	1826	1900	1900	1885
Adj Flow Rate, veh/h	133	279	154	201	278	195	119	395	126	266	719	211
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
Percent Heavy Veh, %	3	8	1	2	9	2	2	2	5	0	0	1
Cap, veh/h	363	366	328	371	368	330	121	1116	486	164	927	272
Arrive On Green	0.21	0.21	0.21	0.21	0.21	0.21	0.07	0.31	0.31	0.09	0.34	0.33
Sat Flow, veh/h	1767	1781	1598	1781	1767	1585	1781	3554	1547	1810	2752	808
Grp Volume(v), veh/h	133	279	154	201	278	195	119	395	126	266	472	458
Grp Sat Flow(s),veh/h/ln	1767	1781	1598	1781	1767	1585	1781	1777	1547	1810	1805	1755
Q Serve(g_s), s	5.7	13.0	7.5	8.9	13.0	9.8	5.9	7.6	5.4	8.0	20.7	20.7
Cycle Q Clear(g_c), s	5.7	13.0	7.5	8.9	13.0	9.8	5.9	7.6	5.4	8.0	20.7	20.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.46
Lane Grp Cap(c), veh/h	363	366	328	371	368	330	121	1116	486	164	608	591
V/C Ratio(X)	0.37	0.76	0.47	0.54	0.76	0.59	0.98	0.35	0.26	1.62	0.78	0.78
Avail Cap(c_a), veh/h	732	738	662	596	592	531	121	1210	527	164	656	637
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	30.1	33.0	30.8	31.1	32.8	31.5	41.0	23.3	22.6	40.1	26.2	26.3
Incr Delay (d2), s/veh	0.5	2.5	0.8	0.9	2.4	1.3	75.5	0.3	0.4	304.7	5.9	6.1
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.4	5.7	2.9	3.8	5.6	3.7	5.1	3.1	1.9	17.4	9.4	9.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	30.5	35.5	31.6	32.1	35.2	32.8	116.5	23.6	23.0	344.8	32.1	32.4
LnGrp LOS	C	D	C	C	D	C	F	C	C	F	C	C
Approach Vol, veh/h		566			674			640			1196	
Approach Delay, s/veh		33.2			33.5			40.7			101.8	
Approach LOS		C			C			D			F	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	12.0	31.7		22.1	10.0	33.7		22.3				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	7.5	29.5		36.0	5.5	31.5		29.0				
Max Q Clear Time (g_c+I1), s	10.0	9.6		15.0	7.9	22.7		15.0				
Green Ext Time (p_c), s	0.0	6.8		2.6	0.0	6.5		2.8				

Intersection Summary		
HCM 7th Control Delay, s/veh	61.5	
HCM 7th LOS	E	

Notes

User approved pedestrian interval to be less than phase max green.
User approved volume balancing among the lanes for turning movement.

Intersection	
Int Delay, s/veh	4.9

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	89	62	18	170	39	17
Future Vol, veh/h	89	62	18	170	39	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	206	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	78	78	78	78	78	78
Heavy Vehicles, %	8	31	11	5	37	12
Mvmt Flow	114	79	23	218	50	22

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	254	132	0	0	241	0
Stage 1	132	-	-	-	-	-
Stage 2	122	-	-	-	-	-
Critical Hdwy	6.48	6.51	-	-	4.47	-
Critical Hdwy Stg 1	5.48	-	-	-	-	-
Critical Hdwy Stg 2	5.48	-	-	-	-	-
Follow-up Hdwy	3.572	3.579	-	-	2.533	-
Pot Cap-1 Maneuver	722	845	-	-	1146	-
Stage 1	879	-	-	-	-	-
Stage 2	889	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	690	845	-	-	1146	-
Mov Cap-2 Maneuver	690	-	-	-	-	-
Stage 1	879	-	-	-	-	-
Stage 2	850	-	-	-	-	-

Approach	WB	NB	SB
HCM Ctrl Dly, s/v	10.61	0	5.77
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	690	845	1132	-
HCM Lane V/C Ratio	-	-	0.165	0.094	0.044	-
HCM Ctrl Dly (s/v)	-	-	11.2	9.7	8.3	0
HCM Lane LOS	-	-	B	A	A	A
HCM 95th %tile Q(veh)	-	-	0.6	0.3	0.1	-

Intersection	
Int Delay, s/veh	0

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	0	79	0	0	45
Future Vol, veh/h	0	0	79	0	0	45
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	69	69	69	69	69	69
Heavy Vehicles, %	0	0	25	0	0	41
Mvmt Flow	0	0	114	0	0	65

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	180	114	0	0	114	0
Stage 1	114	-	-	-	-	-
Stage 2	65	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	814	944	-	-	1487	-
Stage 1	915	-	-	-	-	-
Stage 2	963	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	814	944	-	-	1487	-
Mov Cap-2 Maneuver	814	-	-	-	-	-
Stage 1	915	-	-	-	-	-
Stage 2	963	-	-	-	-	-

Approach	WB	NB	SB
HCM Ctrl Dly, s/v	0	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	-	1487	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Ctrl Dly (s/v)	-	-	0	0	-
HCM Lane LOS	-	-	A	A	-
HCM 95th %tile Q(veh)	-	-	-	0	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	123	274	157	183	260	177	113	359	115	242	654	196
Future Volume (veh/h)	123	274	157	183	260	177	113	359	115	242	654	196
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	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	1856	1781	1885	1870	1767	1870	1870	1870	1826	1900	1900	1885
Adj Flow Rate, veh/h	135	301	173	201	286	195	124	395	126	266	719	215
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
Percent Heavy Veh, %	3	8	1	2	9	2	2	2	5	0	0	1
Cap, veh/h	384	387	347	375	372	333	118	1096	477	159	905	271
Arrive On Green	0.22	0.22	0.22	0.21	0.21	0.21	0.07	0.31	0.31	0.09	0.33	0.32
Sat Flow, veh/h	1767	1781	1598	1781	1767	1585	1781	3554	1547	1810	2739	819
Grp Volume(v), veh/h	135	301	173	201	286	195	124	395	126	266	474	460
Grp Sat Flow(s),veh/h/ln	1767	1781	1598	1781	1767	1585	1781	1777	1547	1810	1805	1753
Q Serve(g_s), s	5.9	14.5	8.6	9.1	13.9	10.1	6.0	7.9	5.6	8.0	21.7	21.7
Cycle Q Clear(g_c), s	5.9	14.5	8.6	9.1	13.9	10.1	6.0	7.9	5.6	8.0	21.7	21.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.47
Lane Grp Cap(c), veh/h	384	387	347	375	372	333	118	1096	477	159	596	579
V/C Ratio(X)	0.35	0.78	0.50	0.54	0.77	0.58	1.06	0.36	0.26	1.67	0.79	0.79
Avail Cap(c_a), veh/h	709	715	641	578	573	514	118	1172	510	159	635	617
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	30.2	33.5	31.2	32.0	33.8	32.3	42.5	24.5	23.7	41.5	27.7	27.8
Incr Delay (d2), s/veh	0.4	2.5	0.8	0.9	2.5	1.2	98.6	0.3	0.4	327.9	7.0	7.2
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	2.5	6.3	3.3	3.9	6.0	3.8	5.8	3.2	2.0	18.0	10.1	9.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	30.6	36.1	32.1	32.8	36.4	33.5	141.1	24.8	24.1	369.4	34.7	35.0
LnGrp LOS	C	D	C	C	D	C	F	C	C	F	C	D
Approach Vol, veh/h		609			682			645			1200	
Approach Delay, s/veh		33.7			34.5			47.0			109.0	
Approach LOS		C			C			D			F	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	12.0	32.0		23.8	10.0	34.0		23.1
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5
Max Green Setting (Gmax), s	7.5	29.5		36.0	5.5	31.5		29.0
Max Q Clear Time (g_c+I1), s	10.0	9.9		16.5	8.0	23.7		15.9
Green Ext Time (p_c), s	0.0	6.7		2.8	0.0	5.8		2.8

Intersection Summary	
HCM 7th Control Delay, s/veh	65.4
HCM 7th LOS	E

Notes

User approved pedestrian interval to be less than phase max green.
User approved volume balancing among the lanes for turning movement.

Intersection	
Int Delay, s/veh	5.7

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	89	79	23	170	87	30
Future Vol, veh/h	89	79	23	170	87	30
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	206	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	78	78	78	78	78	78
Heavy Vehicles, %	8	31	11	5	37	12
Mvmt Flow	114	101	29	218	112	38

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	400	138	0	0	247	0
Stage 1	138	-	-	-	-	-
Stage 2	262	-	-	-	-	-
Critical Hdwy	6.48	6.51	-	-	4.47	-
Critical Hdwy Stg 1	5.48	-	-	-	-	-
Critical Hdwy Stg 2	5.48	-	-	-	-	-
Follow-up Hdwy	3.572	3.579	-	-	2.533	-
Pot Cap-1 Maneuver	594	838	-	-	1139	-
Stage 1	874	-	-	-	-	-
Stage 2	768	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	535	838	-	-	1139	-
Mov Cap-2 Maneuver	535	-	-	-	-	-
Stage 1	874	-	-	-	-	-
Stage 2	692	-	-	-	-	-

Approach	WB	NB	SB
HCM Ctrl Dly, s/v	11.82	0	6.32
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	535	838	1115	-
HCM Lane V/C Ratio	-	-	0.213	0.121	0.098	-
HCM Ctrl Dly (s/v)	-	-	13.5	9.9	8.5	0
HCM Lane LOS	-	-	B	A	A	A
HCM 95th %tile Q(veh)	-	-	0.8	0.4	0.3	-

Intersection	
Int Delay, s/veh	3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	61	0	79	22	0	45
Future Vol, veh/h	61	0	79	22	0	45
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	69	69	69	69	69	69
Heavy Vehicles, %	0	0	25	0	0	41
Mvmt Flow	88	0	114	32	0	65

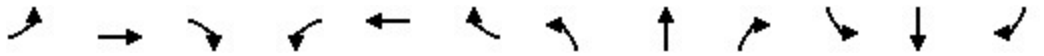
Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	196	130	0	0	146	0
Stage 1	130	-	-	-	-	-
Stage 2	65	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	798	925	-	-	1448	-
Stage 1	901	-	-	-	-	-
Stage 2	963	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	798	925	-	-	1448	-
Mov Cap-2 Maneuver	798	-	-	-	-	-
Stage 1	901	-	-	-	-	-
Stage 2	963	-	-	-	-	-

Approach	WB	NB	SB
HCM Ctrl Dly, s/v	10.07	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	798	1448	-
HCM Lane V/C Ratio	-	-	0.111	-	-
HCM Ctrl Dly (s/v)	-	-	10.1	0	-
HCM Lane LOS	-	-	B	A	-
HCM 95th %tile Q(veh)	-	-	0.4	0	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	127	266	147	192	265	186	113	377	121	254	686	201
Future Volume (vph)	127	266	147	192	265	186	113	377	121	254	686	201
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	1.00	1.00	0.95	1.00	1.00	0.95	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.97	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1752	1759	1599	1681	1658	1583	1770	3539	1538	1805	3479	
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1752	1759	1599	1681	1658	1583	1770	3539	1538	1805	3479	
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	140	292	162	211	291	204	124	414	133	279	754	221
RTOR Reduction (vph)	0	0	127	0	0	148	0	0	91	0	21	0
Lane Group Flow (vph)	140	292	35	190	312	56	124	414	42	279	954	0
Heavy Vehicles (%)	3%	8%	1%	2%	9%	2%	2%	2%	5%	0%	0%	1%
Turn Type	Split	NA	Perm	Split	NA	Perm	Prot	NA	Perm	Prot	NA	
Protected Phases	4	4		8	8		5	2		1	6	
Permitted Phases			4			8			2			
Actuated Green, G (s)	20.4	20.4	20.4	21.9	21.9	21.9	5.6	30.1	30.1	7.6	32.1	
Effective Green, g (s)	20.9	20.9	20.9	22.4	22.4	22.4	6.1	30.6	30.6	8.1	32.6	
Actuated g/C Ratio	0.21	0.21	0.21	0.23	0.23	0.23	0.06	0.31	0.31	0.08	0.33	
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	
Vehicle Extension (s)	2.5	2.5	2.5	2.5	2.5	2.5	2.5	4.0	4.0	2.5	4.0	
Lane Grp Cap (vph)	373	375	341	384	378	361	110	1105	480	149	1157	
v/s Ratio Prot	0.08	c0.17		0.11	c0.19		0.07	0.12		c0.15	c0.27	
v/s Ratio Perm			0.02			0.04			0.03			
v/c Ratio	0.38	0.78	0.10	0.49	0.83	0.15	1.13	0.37	0.09	1.87	0.82	
Uniform Delay, d1	33.0	36.4	31.0	32.9	35.9	30.2	46.0	26.2	23.8	45.0	30.1	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.5	9.4	0.1	0.7	13.4	0.1	124.1	0.3	0.1	417.0	5.1	
Delay (s)	33.4	45.8	31.1	33.6	49.3	30.4	170.1	26.5	23.9	462.0	35.2	
Level of Service	C	D	C	C	D	C	F	C	C	F	D	
Approach Delay (s/veh)		38.9			39.6			52.6			130.2	
Approach LOS		D			D			D			F	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	77.4	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.92		
Actuated Cycle Length (s)	98.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	72.9%	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)	127	266	147	192	265	186	113	377	121	254	686	201
Future Volume (veh/h)	127	266	147	192	265	186	113	377	121	254	686	201
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	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	1856	1781	1885	1870	1767	1870	1870	1870	1826	1900	1900	1885
Adj Flow Rate, veh/h	140	292	162	211	291	204	124	414	133	279	754	221
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
Percent Heavy Veh, %	3	8	1	2	9	2	2	2	5	0	0	1
Cap, veh/h	374	377	338	380	377	338	117	1111	484	158	920	270
Arrive On Green	0.21	0.21	0.21	0.21	0.21	0.21	0.07	0.31	0.31	0.09	0.33	0.33
Sat Flow, veh/h	1767	1781	1598	1781	1767	1585	1781	3554	1547	1810	2753	807
Grp Volume(v), veh/h	140	292	162	211	291	204	124	414	133	279	494	481
Grp Sat Flow(s),veh/h/ln	1767	1781	1598	1781	1767	1585	1781	1777	1547	1810	1805	1755
Q Serve(g_s), s	6.2	14.1	8.1	9.7	14.2	10.6	6.0	8.3	5.9	8.0	23.0	23.0
Cycle Q Clear(g_c), s	6.2	14.1	8.1	9.7	14.2	10.6	6.0	8.3	5.9	8.0	23.0	23.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.46
Lane Grp Cap(c), veh/h	374	377	338	380	377	338	117	1111	484	158	604	587
V/C Ratio(X)	0.37	0.77	0.48	0.55	0.77	0.60	1.06	0.37	0.28	1.76	0.82	0.82
Avail Cap(c_a), veh/h	705	711	638	575	570	511	117	1166	508	158	632	614
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	30.9	34.0	31.6	32.1	33.9	32.5	42.7	24.5	23.6	41.7	27.9	28.0
Incr Delay (d2), s/veh	0.5	2.6	0.8	0.9	2.8	1.3	100.6	0.3	0.4	367.8	8.5	8.8
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.6	6.2	3.1	4.1	6.2	4.1	5.8	3.4	2.1	19.7	10.8	10.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	31.3	36.6	32.4	33.0	36.7	33.7	143.3	24.8	24.1	409.5	36.5	36.8
LnGrp LOS	C	D	C	C	D	C	F	C	C	F	D	D
Approach Vol, veh/h		594			706			671			1254	
Approach Delay, s/veh		34.2			34.7			46.5			119.6	
Approach LOS		C			C			D			F	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	12.0	32.6		23.3	10.0	34.6		23.5				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	7.5	29.5		36.0	5.5	31.5		29.0				
Max Q Clear Time (g_c+I1), s	10.0	10.3		16.1	8.0	25.0		16.2				
Green Ext Time (p_c), s	0.0	7.0		2.7	0.0	5.1		2.8				

Intersection Summary		
HCM 7th Control Delay, s/veh	70.1	
HCM 7th LOS	E	

Notes

User approved pedestrian interval to be less than phase max green.
User approved volume balancing among the lanes for turning movement.

Intersection	
Int Delay, s/veh	4.9

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	93	65	19	179	41	18
Future Vol, veh/h	93	65	19	179	41	18
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	206	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	78	78	78	78	78	78
Heavy Vehicles, %	8	31	11	5	37	12
Mvmt Flow	119	83	24	229	53	23

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	267	139	0	0	254	0
Stage 1	139	-	-	-	-	-
Stage 2	128	-	-	-	-	-
Critical Hdwy	6.48	6.51	-	-	4.47	-
Critical Hdwy Stg 1	5.48	-	-	-	-	-
Critical Hdwy Stg 2	5.48	-	-	-	-	-
Follow-up Hdwy	3.572	3.579	-	-	2.533	-
Pot Cap-1 Maneuver	709	837	-	-	1132	-
Stage 1	873	-	-	-	-	-
Stage 2	883	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	676	837	-	-	1132	-
Mov Cap-2 Maneuver	676	-	-	-	-	-
Stage 1	873	-	-	-	-	-
Stage 2	841	-	-	-	-	-

Approach	WB	NB	SB
HCM Ctrl Dly, s/v	10.77	0	5.79
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	676	837	1118	-
HCM Lane V/C Ratio	-	-	0.176	0.1	0.046	-
HCM Ctrl Dly (s/v)	-	-	11.5	9.8	8.3	0
HCM Lane LOS	-	-	B	A	A	A
HCM 95th %tile Q(veh)	-	-	0.6	0.3	0.1	-

Intersection	
Int Delay, s/veh	0

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	0	82	0	0	47
Future Vol, veh/h	0	0	82	0	0	47
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	69	69	69	69	69	69
Heavy Vehicles, %	0	0	25	0	0	41
Mvmt Flow	0	0	119	0	0	68

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	187	119	0	0	119	0
Stage 1	119	-	-	-	-	-
Stage 2	68	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	807	938	-	-	1482	-
Stage 1	911	-	-	-	-	-
Stage 2	960	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	807	938	-	-	1482	-
Mov Cap-2 Maneuver	807	-	-	-	-	-
Stage 1	911	-	-	-	-	-
Stage 2	960	-	-	-	-	-

Approach	WB	NB	SB
HCM Ctrl Dly, s/v	0	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	-	1482	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Ctrl Dly (s/v)	-	-	0	0	-
HCM Lane LOS	-	-	A	A	-
HCM 95th %tile Q(veh)	-	-	-	0	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	129	286	164	192	272	186	118	377	121	254	686	205
Future Volume (veh/h)	129	286	164	192	272	186	118	377	121	254	686	205
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	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	1856	1781	1885	1870	1767	1870	1870	1870	1826	1900	1900	1885
Adj Flow Rate, veh/h	142	314	180	211	299	204	130	414	133	279	754	225
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
Percent Heavy Veh, %	3	8	1	2	9	2	2	2	5	0	0	1
Cap, veh/h	395	398	357	384	381	342	113	1089	474	153	898	268
Arrive On Green	0.22	0.22	0.22	0.22	0.22	0.22	0.06	0.31	0.31	0.08	0.33	0.32
Sat Flow, veh/h	1767	1781	1598	1781	1767	1585	1781	3554	1547	1810	2740	818
Grp Volume(v), veh/h	142	314	180	211	299	204	130	414	133	279	497	482
Grp Sat Flow(s),veh/h/ln	1767	1781	1598	1781	1767	1585	1781	1777	1547	1810	1805	1753
Q Serve(g_s), s	6.4	15.7	9.3	9.9	15.1	10.9	6.0	8.6	6.2	8.0	24.1	24.1
Cycle Q Clear(g_c), s	6.4	15.7	9.3	9.9	15.1	10.9	6.0	8.6	6.2	8.0	24.1	24.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.47
Lane Grp Cap(c), veh/h	395	398	357	384	381	342	113	1089	474	153	591	574
V/C Ratio(X)	0.36	0.79	0.50	0.55	0.78	0.60	1.15	0.38	0.28	1.82	0.84	0.84
Avail Cap(c_a), veh/h	684	689	618	557	553	496	113	1130	492	153	612	595
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	30.9	34.5	32.1	32.9	34.9	33.3	44.2	25.7	24.8	43.2	29.4	29.5
Incr Delay (d2), s/veh	0.4	2.6	0.8	0.9	3.8	1.2	129.5	0.3	0.5	392.4	10.3	10.6
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.7	6.9	3.6	4.3	6.7	4.2	6.7	3.6	2.3	20.2	11.6	11.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	31.3	37.2	32.9	33.8	38.7	34.5	173.7	26.0	25.3	435.5	39.7	40.1
LnGrp LOS	C	D	C	C	D	C	F	C	C	F	D	D
Approach Vol, veh/h		636			714			677			1258	
Approach Delay, s/veh		34.7			36.1			54.2			127.7	
Approach LOS		C			D			D			F	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	12.0	32.9		25.1	10.0	34.9		24.4
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5
Max Green Setting (Gmax), s	7.5	29.5		36.0	5.5	31.5		29.0
Max Q Clear Time (g_c+I1), s	10.0	10.6		17.7	8.0	26.1		17.1
Green Ext Time (p_c), s	0.0	6.9		2.9	0.0	4.3		2.8

Intersection Summary	
HCM 7th Control Delay, s/veh	74.6
HCM 7th LOS	E

Notes

User approved pedestrian interval to be less than phase max green.
User approved volume balancing among the lanes for turning movement.

Intersection	
Int Delay, s/veh	5.8

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	93	82	24	179	89	31
Future Vol, veh/h	93	82	24	179	89	31
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	206	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	78	78	78	78	78	78
Heavy Vehicles, %	8	31	11	5	37	12
Mvmt Flow	119	105	31	229	114	40

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	413	146	0	0	260	0
Stage 1	146	-	-	-	-	-
Stage 2	268	-	-	-	-	-
Critical Hdwy	6.48	6.51	-	-	4.47	-
Critical Hdwy Stg 1	5.48	-	-	-	-	-
Critical Hdwy Stg 2	5.48	-	-	-	-	-
Follow-up Hdwy	3.572	3.579	-	-	2.533	-
Pot Cap-1 Maneuver	584	830	-	-	1126	-
Stage 1	867	-	-	-	-	-
Stage 2	763	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	523	830	-	-	1126	-
Mov Cap-2 Maneuver	523	-	-	-	-	-
Stage 1	867	-	-	-	-	-
Stage 2	684	-	-	-	-	-

Approach	WB	NB	SB
HCM Ctrl Dly, s/v	12.05	0	6.35
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	523	830	1101	-
HCM Lane V/C Ratio	-	-	0.228	0.127	0.101	-
HCM Ctrl Dly (s/v)	-	-	13.9	10	8.6	0
HCM Lane LOS	-	-	B	A	A	A
HCM 95th %tile Q(veh)	-	-	0.9	0.4	0.3	-

Intersection	
Int Delay, s/veh	2.9

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	61	0	82	22	0	47
Future Vol, veh/h	61	0	82	22	0	47
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	69	69	69	69	69	69
Heavy Vehicles, %	0	0	25	0	0	41
Mvmt Flow	88	0	119	32	0	68

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	203	135	0	0	151	0
Stage 1	135	-	-	-	-	-
Stage 2	68	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	790	919	-	-	1443	-
Stage 1	897	-	-	-	-	-
Stage 2	960	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	790	919	-	-	1443	-
Mov Cap-2 Maneuver	790	-	-	-	-	-
Stage 1	897	-	-	-	-	-
Stage 2	960	-	-	-	-	-

Approach	WB	NB	SB
HCM Ctrl Dly, s/v	10.13	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	790	1443	-
HCM Lane V/C Ratio	-	-	0.112	-	-
HCM Ctrl Dly (s/v)	-	-	10.1	0	-
HCM Lane LOS	-	-	B	A	-
HCM 95th %tile Q(veh)	-	-	0.4	0	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	122	929	5	509	953	51	6	125	322	185	87	70
Future Volume (vph)	122	929	5	509	953	51	6	125	322	185	87	70
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	0.95		0.97	0.95		1.00	1.00	0.88	0.97	1.00	1.00
Frt	1.00	1.00		1.00	0.99		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3502	3572		3467	3579		1543	1900	2787	3502	1900	1599
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3502	3572		3467	3579		1543	1900	2787	3502	1900	1599
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	130	988	5	541	1014	54	6	133	343	197	93	74
RTOR Reduction (vph)	0	0	0	0	3	0	0	0	289	0	0	55
Lane Group Flow (vph)	130	993	0	541	1065	0	6	133	54	197	93	19
Heavy Vehicles (%)	0%	1%	0%	1%	0%	2%	17%	0%	2%	0%	0%	1%
Turn Type	Prot	NA		Prot	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases									2			6
Actuated Green, G (s)	7.8	31.2		18.7	42.1		1.1	14.0	14.0	9.8	22.7	22.7
Effective Green, g (s)	8.3	31.7		19.2	42.6		1.6	14.5	14.5	10.3	23.2	23.2
Actuated g/C Ratio	0.09	0.35		0.21	0.46		0.02	0.16	0.16	0.11	0.25	0.25
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)	2.5	4.0		2.5	4.0		2.5	2.5	2.5	2.5	2.5	2.5
Lane Grp Cap (vph)	316	1234		725	1662		26	300	440	393	480	404
v/s Ratio Prot	0.04	c0.28		c0.16	0.30		0.00	c0.07		c0.06	0.05	
v/s Ratio Perm									0.02			0.01
v/c Ratio	0.41	0.80		0.75	0.64		0.23	0.44	0.12	0.50	0.19	0.05
Uniform Delay, d1	39.4	27.2		34.0	18.7		44.4	34.9	33.1	38.3	26.9	25.9
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.6	4.1		4.0	1.0		3.3	0.8	0.1	0.7	0.1	0.0
Delay (s)	40.0	31.3		37.9	19.7		47.7	35.7	33.2	39.0	27.0	25.9
Level of Service	D	C		D	B		D	D	C	D	C	C
Approach Delay (s/veh)		32.3			25.8			34.1			33.3	
Approach LOS		C			C			C			C	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	29.7	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.68		
Actuated Cycle Length (s)	91.7	Sum of lost time (s)	16.0
Intersection Capacity Utilization	65.5%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

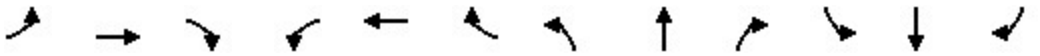
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	122	929	5	509	953	51	6	125	322	185	87	70
Future Volume (veh/h)	122	929	5	509	953	51	6	125	322	185	87	70
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	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	1900	1885	1900	1885	1900	1870	1648	1900	1870	1900	1900	1885
Adj Flow Rate, veh/h	130	988	5	541	1014	54	6	133	343	197	93	74
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	0	1	0	1	0	2	17	0	2	0	0	1
Cap, veh/h	219	1389	7	645	1753	93	18	334	490	297	472	397
Arrive On Green	0.06	0.38	0.37	0.19	0.50	0.50	0.01	0.18	0.18	0.08	0.25	0.25
Sat Flow, veh/h	3510	3654	18	3483	3486	186	1570	1900	2790	3510	1900	1598
Grp Volume(v), veh/h	130	484	509	541	525	543	6	133	343	197	93	74
Grp Sat Flow(s),veh/h/ln	1755	1791	1882	1742	1805	1867	1570	1900	1395	1755	1900	1598
Q Serve(g_s), s	3.3	21.1	21.1	13.7	18.7	18.7	0.3	5.7	10.6	5.0	3.5	3.3
Cycle Q Clear(g_c), s	3.3	21.1	21.1	13.7	18.7	18.7	0.3	5.7	10.6	5.0	3.5	3.3
Prop In Lane	1.00		0.01	1.00		0.10	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	219	681	715	645	908	939	18	334	490	297	472	397
V/C Ratio(X)	0.59	0.71	0.71	0.84	0.58	0.58	0.33	0.40	0.70	0.66	0.20	0.19
Avail Cap(c_a), veh/h	345	780	819	722	983	1016	154	686	1007	460	748	629
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	41.8	24.1	24.1	36.0	16.0	16.0	44.9	33.5	35.5	40.7	27.2	27.1
Incr Delay (d2), s/veh	1.9	3.0	2.9	7.6	1.0	0.9	7.5	0.6	1.4	1.9	0.1	0.2
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	1.5	9.0	9.4	6.3	7.3	7.6	0.2	2.6	3.6	2.2	1.6	1.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	43.7	27.2	27.0	43.6	16.9	16.9	52.5	34.1	36.9	42.6	27.4	27.3
LnGrp LOS	D	C	C	D	B	B	D	C	D	D	C	C
Approach Vol, veh/h		1123			1609			482			364	
Approach Delay, s/veh		29.0			25.9			36.3			35.6	
Approach LOS		C			C			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.7	20.1	21.0	38.8	5.1	26.8	9.7	50.1
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	11.5	32.6	18.5	39.4	8.5	35.6	8.5	49.4
Max Q Clear Time (g_c+I1), s	7.0	12.6	15.7	23.1	2.3	5.5	5.3	20.7
Green Ext Time (p_c), s	0.3	3.0	0.7	11.3	0.0	0.8	0.1	18.3

Intersection Summary	
HCM 7th Control Delay, s/veh	29.3
HCM 7th LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	95	198	89	284	211	226	113	755	257	199	563	119
Future Volume (vph)	95	198	89	284	211	226	113	755	257	199	563	119
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	1.00	1.00	0.95	1.00	1.00	0.95	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.97	
Flt Protected	0.95	1.00	1.00	0.95	0.99	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1787	1863	1599	1715	1775	1615	1805	3610	1615	1787	3469	
Flt Permitted	0.95	1.00	1.00	0.95	0.99	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1787	1863	1599	1715	1775	1615	1805	3610	1615	1787	3469	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	100	208	94	299	222	238	119	795	271	209	593	125
RTOR Reduction (vph)	0	0	78	0	0	187	0	0	185	0	13	0
Lane Group Flow (vph)	100	208	16	254	267	51	119	795	86	209	705	0
Heavy Vehicles (%)	1%	2%	1%	0%	1%	0%	0%	0%	0%	1%	1%	3%
Turn Type	Split	NA	Perm	Split	NA	Perm	Prot	NA	Perm	Prot	NA	
Protected Phases	4	4		8	8		5	2		1	6	
Permitted Phases			4			8			2			
Actuated Green, G (s)	13.5	13.5	13.5	17.1	17.1	17.1	5.7	25.4	25.4	7.8	27.5	
Effective Green, g (s)	14.0	14.0	14.0	17.6	17.6	17.6	6.2	25.9	25.9	8.3	28.0	
Actuated g/C Ratio	0.17	0.17	0.17	0.22	0.22	0.22	0.08	0.32	0.32	0.10	0.34	
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	
Vehicle Extension (s)	2.5	2.5	2.5	2.5	2.5	2.5	2.5	4.0	4.0	2.5	4.0	
Lane Grp Cap (vph)	305	318	273	368	381	347	136	1143	511	181	1187	
v/s Ratio Prot	0.06	c0.11		0.15	c0.15		0.07	c0.22		c0.12	0.20	
v/s Ratio Perm			0.01			0.03			0.05			
v/c Ratio	0.33	0.65	0.06	0.69	0.70	0.15	0.88	0.70	0.17	1.15	0.59	
Uniform Delay, d1	29.8	31.6	28.4	29.6	29.7	26.0	37.4	24.5	20.2	36.8	22.2	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.5	4.3	0.1	5.1	5.3	0.1	41.8	2.0	0.2	114.7	0.9	
Delay (s)	30.2	35.9	28.5	34.7	35.0	26.2	79.2	26.5	20.4	151.4	23.1	
Level of Service	C	D	C	C	C	C	E	C	C	F	C	
Approach Delay (s/veh)		32.8			32.1			30.4			52.1	
Approach LOS		C			C			C			D	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	37.2	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.73		
Actuated Cycle Length (s)	81.8	Sum of lost time (s)	16.0
Intersection Capacity Utilization	69.1%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



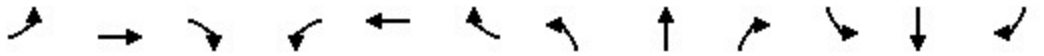
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	95	198	89	284	211	226	113	755	257	199	563	119
Future Volume (veh/h)	95	198	89	284	211	226	113	755	257	199	563	119
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	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	1885	1870	1885	1900	1885	1900	1900	1900	1900	1885	1885	1856
Adj Flow Rate, veh/h	100	208	94	261	276	238	119	795	271	209	593	125
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	1	2	1	0	1	0	0	0	0	1	1	3
Cap, veh/h	285	296	253	382	398	340	135	1199	535	178	1052	221
Arrive On Green	0.16	0.16	0.16	0.21	0.21	0.21	0.07	0.33	0.33	0.10	0.36	0.35
Sat Flow, veh/h	1795	1870	1598	1810	1885	1610	1810	3610	1610	1795	2945	619
Grp Volume(v), veh/h	100	208	94	261	276	238	119	795	271	209	360	358
Grp Sat Flow(s),veh/h/ln	1795	1870	1598	1810	1885	1610	1810	1805	1610	1795	1791	1774
Q Serve(g_s), s	4.0	8.5	4.2	10.7	10.9	11.0	5.2	15.2	10.9	8.0	13.0	13.1
Cycle Q Clear(g_c), s	4.0	8.5	4.2	10.7	10.9	11.0	5.2	15.2	10.9	8.0	13.0	13.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.35
Lane Grp Cap(c), veh/h	285	296	253	382	398	340	135	1199	535	178	640	633
V/C Ratio(X)	0.35	0.70	0.37	0.68	0.69	0.70	0.88	0.66	0.51	1.17	0.56	0.57
Avail Cap(c_a), veh/h	814	848	724	663	691	590	135	1345	600	178	712	705
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	30.2	32.1	30.3	29.3	29.3	29.4	36.9	23.0	21.6	36.2	20.8	20.9
Incr Delay (d2), s/veh	0.5	2.3	0.7	1.6	1.6	2.0	43.9	1.3	1.1	121.0	1.1	1.2
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	1.7	3.9	1.6	4.6	4.9	4.2	3.9	6.2	4.0	9.4	5.3	5.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	30.7	34.3	31.0	30.9	31.0	31.3	80.8	24.3	22.6	157.3	22.0	22.1
LnGrp LOS	C	C	C	C	C	C	F	C	C	F	C	C
Approach Vol, veh/h		402			775			1185			927	
Approach Delay, s/veh		32.6			31.1			29.6			52.5	
Approach LOS		C			C			C			D	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	12.0	30.7		16.8	10.0	32.7		21.0				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	7.5	29.5		36.0	5.5	31.5		29.0				
Max Q Clear Time (g_c+I1), s	10.0	17.2		10.5	7.2	15.1		13.0				
Green Ext Time (p_c), s	0.0	9.1		1.8	0.0	8.6		3.5				

Intersection Summary		
HCM 7th Control Delay, s/veh	36.8	
HCM 7th LOS	D	

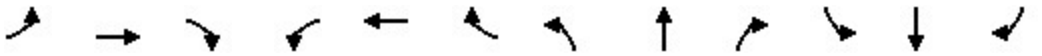
Notes

User approved pedestrian interval to be less than phase max green.
User approved volume balancing among the lanes for turning movement.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	110	203	158	177	229	90	215	917	141	115	738	64
Future Volume (vph)	110	203	158	177	229	90	215	917	141	115	738	64
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95		1.00	0.95	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.98		1.00	0.99	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1805	1845	1615	1787	1900	1615	1805	3503		1752	3534	
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1805	1845	1615	1787	1900	1615	1805	3503		1752	3534	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	113	209	163	182	236	93	222	945	145	119	761	66
RTOR Reduction (vph)	0	0	132	0	0	78	0	13	0	0	7	0
Lane Group Flow (vph)	113	209	31	182	236	15	222	1077	0	119	820	0
Heavy Vehicles (%)	0%	3%	0%	1%	0%	0%	0%	1%	1%	3%	1%	0%
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA		Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8						
Actuated Green, G (s)	8.3	14.8	14.8	6.2	12.7	12.7	14.9	34.9		5.7	25.7	
Effective Green, g (s)	8.3	14.8	14.8	6.2	12.7	12.7	15.4	35.4		6.2	26.2	
Actuated g/C Ratio	0.11	0.19	0.19	0.08	0.16	0.16	0.20	0.45		0.08	0.33	
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.5	4.5		4.5	4.5	
Vehicle Extension (s)	2.5	2.5	2.5	2.5	2.5	2.5	2.5	4.0		2.5	4.0	
Lane Grp Cap (vph)	190	347	304	140	306	260	353	1577		138	1178	
v/s Ratio Prot	0.06	0.11		c0.10	c0.12		c0.12	c0.31		c0.07	0.23	
v/s Ratio Perm			0.02			0.01						
v/c Ratio	0.59	0.60	0.10	1.30	0.77	0.06	0.63	0.68		0.86	0.70	
Uniform Delay, d1	33.5	29.2	26.4	36.2	31.6	27.9	29.0	17.1		35.8	22.7	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	4.1	2.5	0.1	177.4	11.0	0.1	3.0	1.3		38.6	2.0	
Delay (s)	37.7	31.7	26.5	213.6	42.5	28.0	32.0	18.5		74.4	24.7	
Level of Service	D	C	C	F	D	C	C	B		E	C	
Approach Delay (s/veh)		31.3			100.8			20.8			31.0	
Approach LOS		C			F			C			C	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	37.9	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.76		
Actuated Cycle Length (s)	78.6	Sum of lost time (s)	16.0
Intersection Capacity Utilization	70.0%	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)	110	203	158	177	229	90	215	917	141	115	738	64
Future Volume (veh/h)	110	203	158	177	229	90	215	917	141	115	738	64
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	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	1900	1856	1900	1885	1900	1900	1900	1885	1885	1856	1885	1900
Adj Flow Rate, veh/h	113	209	163	182	236	93	222	945	145	119	761	66
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	0	3	0	1	0	0	0	1	1	3	1	0
Cap, veh/h	143	322	280	119	307	260	271	1607	246	117	1443	125
Arrive On Green	0.08	0.17	0.17	0.07	0.16	0.16	0.15	0.52	0.51	0.07	0.43	0.43
Sat Flow, veh/h	1810	1856	1610	1795	1900	1610	1810	3113	477	1767	3335	289
Grp Volume(v), veh/h	113	209	163	182	236	93	222	544	546	119	409	418
Grp Sat Flow(s),veh/h/ln	1810	1856	1610	1795	1900	1610	1810	1791	1799	1767	1791	1833
Q Serve(g_s), s	5.5	9.5	8.4	6.0	10.7	4.6	10.7	19.0	19.1	6.0	15.1	15.2
Cycle Q Clear(g_c), s	5.5	9.5	8.4	6.0	10.7	4.6	10.7	19.0	19.1	6.0	15.1	15.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.27	1.00		0.16
Lane Grp Cap(c), veh/h	143	322	280	119	307	260	271	924	929	117	775	793
V/C Ratio(X)	0.79	0.65	0.58	1.53	0.77	0.36	0.82	0.59	0.59	1.01	0.53	0.53
Avail Cap(c_a), veh/h	160	528	458	119	499	423	361	1315	1321	117	1077	1102
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	40.9	34.7	34.3	42.1	36.2	33.7	37.2	15.2	15.2	42.1	18.8	18.9
Incr Delay (d2), s/veh	20.1	1.6	1.4	274.2	3.0	0.6	9.6	0.9	0.8	86.7	0.8	0.8
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	3.2	4.3	3.3	11.7	5.1	1.8	5.3	7.3	7.3	5.4	6.1	6.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	60.9	36.4	35.7	316.4	39.3	34.3	46.8	16.0	16.1	128.8	19.6	19.6
LnGrp LOS	E	D	D	F	D	C	D	B	B	F	B	B
Approach Vol, veh/h		485			511			1312			946	
Approach Delay, s/veh		41.9			137.1			21.3			33.4	
Approach LOS		D			F			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.0	50.6	10.0	19.7	17.5	43.1	11.1	18.6
Change Period (Y+Rc), s	4.5	4.5	4.0	4.0	4.5	4.5	4.0	4.0
Max Green Setting (Gmax), s	5.5	65.8	6.0	25.7	17.5	53.8	8.0	23.7
Max Q Clear Time (g_c+I1), s	8.0	21.1	8.0	11.5	12.7	17.2	7.5	12.7
Green Ext Time (p_c), s	0.0	25.0	0.0	2.4	0.3	16.0	0.0	1.8

Intersection Summary	
HCM 7th Control Delay, s/veh	46.0
HCM 7th LOS	D

Notes

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

Intersection	
Intersection Delay, s/veh	9.9
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	18	85	22	26	131	120	27	64	16	78	59	44
Future Vol, veh/h	18	85	22	26	131	120	27	64	16	78	59	44
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles, %	0	0	5	0	0	1	4	2	0	1	0	9
Mvmt Flow	19	90	23	28	139	128	29	68	17	83	63	47
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay, s/veh	9.2	10.5	9.3	9.9
HCM LOS	A	B	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	25%	14%	9%	43%
Vol Thru, %	60%	68%	47%	33%
Vol Right, %	15%	18%	43%	24%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	107	125	277	181
LT Vol	27	18	26	78
Through Vol	64	85	131	59
RT Vol	16	22	120	44
Lane Flow Rate	114	133	295	193
Geometry Grp	1	1	1	1
Degree of Util (X)	0.164	0.183	0.377	0.268
Departure Headway (Hd)	5.189	4.955	4.6	5.008
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	683	717	775	711
Service Time	3.285	3.04	2.668	3.094
HCM Lane V/C Ratio	0.167	0.185	0.381	0.271
HCM Control Delay, s/veh	9.3	9.2	10.5	9.9
HCM Lane LOS	A	A	B	A
HCM 95th-tile Q	0.6	0.7	1.8	1.1

Intersection	
Int Delay, s/veh	6.4

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	165	29	20	97	53	45
Future Vol, veh/h	165	29	20	97	53	45
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	206	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	2	3	5	2	2	2
Mvmt Flow	188	33	23	110	60	51

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	249	78	0	0	133	0
Stage 1	78	-	-	-	-	-
Stage 2	172	-	-	-	-	-
Critical Hdwy	6.42	6.23	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.327	-	-	2.218	-
Pot Cap-1 Maneuver	739	980	-	-	1452	-
Stage 1	945	-	-	-	-	-
Stage 2	858	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	708	980	-	-	1452	-
Mov Cap-2 Maneuver	708	-	-	-	-	-
Stage 1	945	-	-	-	-	-
Stage 2	822	-	-	-	-	-

Approach	WB	NB	SB
HCM Ctrl Dly, s/v	11.45	0	4.1
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	708	980	973	-
HCM Lane V/C Ratio	-	-	0.265	0.034	0.041	-
HCM Ctrl Dly (s/v)	-	-	11.9	8.8	7.6	0
HCM Lane LOS	-	-	B	A	A	A
HCM 95th %tile Q(veh)	-	-	1.1	0.1	0.1	-

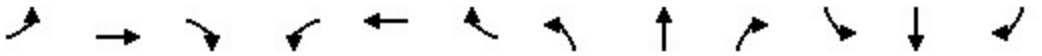
Intersection	
Int Delay, s/veh	0

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	0	38	0	0	80
Future Vol, veh/h	0	0	38	0	0	80
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	66	66	66	66	66	66
Heavy Vehicles, %	0	0	0	0	0	3
Mvmt Flow	0	0	58	0	0	121

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	179	58	0	0	58	0
Stage 1	58	-	-	-	-	-
Stage 2	121	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	815	1014	-	-	1560	-
Stage 1	970	-	-	-	-	-
Stage 2	909	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	815	1014	-	-	1560	-
Mov Cap-2 Maneuver	815	-	-	-	-	-
Stage 1	970	-	-	-	-	-
Stage 2	909	-	-	-	-	-

Approach	WB	NB	SB
HCM Ctrl Dly, s/v	0	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	-	1560	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Ctrl Dly (s/v)	-	-	0	0	-
HCM Lane LOS	-	-	A	A	-
HCM 95th %tile Q(veh)	-	-	-	0	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	97	202	91	290	215	231	115	770	262	203	574	121
Future Volume (vph)	97	202	91	290	215	231	115	770	262	203	574	121
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	1.00	1.00	0.95	1.00	1.00	0.95	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.97	
Flt Protected	0.95	1.00	1.00	0.95	0.99	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1787	1863	1599	1715	1775	1615	1805	3610	1615	1787	3469	
Flt Permitted	0.95	1.00	1.00	0.95	0.99	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1787	1863	1599	1715	1775	1615	1805	3610	1615	1787	3469	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	102	213	96	305	226	243	121	811	276	214	604	127
RTOR Reduction (vph)	0	0	80	0	0	190	0	0	188	0	13	0
Lane Group Flow (vph)	102	213	16	259	272	53	121	811	88	214	718	0
Heavy Vehicles (%)	1%	2%	1%	0%	1%	0%	0%	0%	0%	1%	1%	3%
Turn Type	Split	NA	Perm	Split	NA	Perm	Prot	NA	Perm	Prot	NA	
Protected Phases	4	4		8	8		5	2		1	6	
Permitted Phases			4			8			2			
Actuated Green, G (s)	13.8	13.8	13.8	17.5	17.5	17.5	5.7	26.2	26.2	7.8	28.3	
Effective Green, g (s)	14.3	14.3	14.3	18.0	18.0	18.0	6.2	26.7	26.7	8.3	28.8	
Actuated g/C Ratio	0.17	0.17	0.17	0.22	0.22	0.22	0.07	0.32	0.32	0.10	0.35	
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	
Vehicle Extension (s)	2.5	2.5	2.5	2.5	2.5	2.5	2.5	4.0	4.0	2.5	4.0	
Lane Grp Cap (vph)	306	319	274	370	383	348	134	1157	517	178	1199	
v/s Ratio Prot	0.06	c0.11		0.15	c0.15		0.07	c0.22		c0.12	0.21	
v/s Ratio Perm			0.01			0.03			0.05			
v/c Ratio	0.33	0.67	0.06	0.70	0.71	0.15	0.90	0.70	0.17	1.20	0.60	
Uniform Delay, d1	30.3	32.3	28.9	30.2	30.2	26.5	38.3	24.8	20.3	37.5	22.5	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.5	4.7	0.1	5.5	5.7	0.1	49.3	2.1	0.2	132.3	0.9	
Delay (s)	30.8	37.0	28.9	35.6	35.9	26.6	87.6	26.9	20.6	169.8	23.4	
Level of Service	C	D	C	D	D	C	F	C	C	F	C	
Approach Delay (s/veh)		33.6			32.9			31.5			56.6	
Approach LOS		C			C			C			E	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	39.2	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.75		
Actuated Cycle Length (s)	83.3	Sum of lost time (s)	16.0
Intersection Capacity Utilization	70.2%	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)	97	202	91	290	215	231	115	770	262	203	574	121
Future Volume (veh/h)	97	202	91	290	215	231	115	770	262	203	574	121
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	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	1885	1870	1885	1900	1885	1900	1900	1900	1900	1885	1885	1856
Adj Flow Rate, veh/h	102	213	96	266	281	243	121	811	276	214	604	127
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	1	2	1	0	1	0	0	0	0	1	1	3
Cap, veh/h	289	301	257	386	403	344	133	1198	534	176	1050	220
Arrive On Green	0.16	0.16	0.16	0.21	0.21	0.21	0.07	0.33	0.33	0.10	0.36	0.35
Sat Flow, veh/h	1795	1870	1598	1810	1885	1610	1810	3610	1610	1795	2947	618
Grp Volume(v), veh/h	102	213	96	266	281	243	121	811	276	214	367	364
Grp Sat Flow(s),veh/h/ln	1795	1870	1598	1810	1885	1610	1810	1805	1610	1795	1791	1774
Q Serve(g_s), s	4.1	8.8	4.4	11.1	11.2	11.4	5.4	15.8	11.3	8.0	13.5	13.6
Cycle Q Clear(g_c), s	4.1	8.8	4.4	11.1	11.2	11.4	5.4	15.8	11.3	8.0	13.5	13.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.35
Lane Grp Cap(c), veh/h	289	301	257	386	403	344	133	1198	534	176	638	632
V/C Ratio(X)	0.35	0.71	0.37	0.69	0.70	0.71	0.91	0.68	0.52	1.22	0.57	0.58
Avail Cap(c_a), veh/h	803	836	714	654	681	582	133	1326	592	176	702	695
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	30.5	32.5	30.6	29.6	29.7	29.7	37.6	23.5	22.0	36.8	21.3	21.4
Incr Delay (d2), s/veh	0.5	2.3	0.7	1.6	1.6	2.0	51.3	1.4	1.1	138.1	1.3	1.3
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	1.8	4.0	1.7	4.8	5.1	4.4	4.2	6.5	4.2	10.1	5.5	5.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	31.0	34.7	31.3	31.2	31.3	31.7	88.8	25.0	23.1	174.9	22.6	22.7
LnGrp LOS	C	C	C	C	C	C	F	C	C	F	C	C
Approach Vol, veh/h		411			790			1208			945	
Approach Delay, s/veh		33.0			31.4			30.9			57.1	
Approach LOS		C			C			C			E	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	12.0	31.1		17.1	10.0	33.1		21.4				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	7.5	29.5		36.0	5.5	31.5		29.0				
Max Q Clear Time (g_c+I1), s	10.0	17.8		10.8	7.4	15.6		13.4				
Green Ext Time (p_c), s	0.0	8.8		1.8	0.0	8.5		3.5				

Intersection Summary	
HCM 7th Control Delay, s/veh	38.7
HCM 7th LOS	D

Notes

User approved pedestrian interval to be less than phase max green.
User approved volume balancing among the lanes for turning movement.

Intersection	
Int Delay, s/veh	6.5

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	168	30	20	99	54	46
Future Vol, veh/h	168	30	20	99	54	46
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	206	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	2	3	5	2	2	2
Mvmt Flow	191	34	23	113	61	52

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	254	79	0	0	135	0
Stage 1	79	-	-	-	-	-
Stage 2	175	-	-	-	-	-
Critical Hdwy	6.42	6.23	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.327	-	-	2.218	-
Pot Cap-1 Maneuver	735	979	-	-	1449	-
Stage 1	944	-	-	-	-	-
Stage 2	855	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	703	979	-	-	1449	-
Mov Cap-2 Maneuver	703	-	-	-	-	-
Stage 1	944	-	-	-	-	-
Stage 2	818	-	-	-	-	-

Approach	WB	NB	SB
HCM Ctrl Dly, s/v	11.54	0	4.1
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	703	979	972	-
HCM Lane V/C Ratio	-	-	0.272	0.035	0.042	-
HCM Ctrl Dly (s/v)	-	-	12	8.8	7.6	0
HCM Lane LOS	-	-	B	A	A	A
HCM 95th %tile Q(veh)	-	-	1.1	0.1	0.1	-

Intersection	
Int Delay, s/veh	0

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	0	39	0	0	82
Future Vol, veh/h	0	0	39	0	0	82
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	66	66	66	66	66	66
Heavy Vehicles, %	0	0	0	0	0	3
Mvmt Flow	0	0	59	0	0	124

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	183	59	0	0	59	0
Stage 1	59	-	-	-	-	-
Stage 2	124	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	811	1012	-	-	1558	-
Stage 1	969	-	-	-	-	-
Stage 2	906	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	811	1012	-	-	1558	-
Mov Cap-2 Maneuver	811	-	-	-	-	-
Stage 1	969	-	-	-	-	-
Stage 2	906	-	-	-	-	-

Approach	WB	NB	SB
HCM Ctrl Dly, s/v	0	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	-	1558	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Ctrl Dly (s/v)	-	-	0	0	-
HCM Lane LOS	-	-	A	A	-
HCM 95th %tile Q(veh)	-	-	-	0	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	102	217	98	290	240	231	130	770	262	203	574	126
Future Volume (veh/h)	102	217	98	290	240	231	130	770	262	203	574	126
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	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	1885	1870	1885	1900	1885	1900	1900	1900	1900	1885	1885	1856
Adj Flow Rate, veh/h	107	228	103	279	289	243	137	811	276	214	604	133
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	1	2	1	0	1	0	0	0	0	1	1	3
Cap, veh/h	303	316	270	391	407	348	130	1181	527	172	1025	225
Arrive On Green	0.17	0.17	0.17	0.22	0.22	0.22	0.07	0.33	0.33	0.10	0.35	0.35
Sat Flow, veh/h	1795	1870	1598	1810	1885	1610	1810	3610	1610	1795	2919	641
Grp Volume(v), veh/h	107	228	103	279	289	243	137	811	276	214	370	367
Grp Sat Flow(s),veh/h/ln	1795	1870	1598	1810	1885	1610	1810	1805	1610	1795	1791	1770
Q Serve(g_s), s	4.4	9.6	4.8	11.9	11.8	11.6	6.0	16.2	11.6	8.0	14.1	14.2
Cycle Q Clear(g_c), s	4.4	9.6	4.8	11.9	11.8	11.6	6.0	16.2	11.6	8.0	14.1	14.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.36
Lane Grp Cap(c), veh/h	303	316	270	391	407	348	130	1181	527	172	629	621
V/C Ratio(X)	0.35	0.72	0.38	0.71	0.71	0.70	1.05	0.69	0.52	1.24	0.59	0.59
Avail Cap(c_a), veh/h	787	820	700	641	668	570	130	1301	580	172	688	680
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	30.6	32.8	30.7	30.3	30.2	30.2	38.6	24.3	22.7	37.6	22.1	22.2
Incr Delay (d2), s/veh	0.5	2.3	0.7	1.8	1.7	1.9	93.0	1.6	1.2	147.7	1.5	1.5
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	1.9	4.4	1.8	5.1	5.3	4.5	5.9	6.8	4.3	10.5	5.8	5.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	31.1	35.1	31.4	32.1	32.0	32.1	131.6	25.9	23.9	185.4	23.6	23.7
LnGrp LOS	C	D	C	C	C	C	F	C	C	F	C	C
Approach Vol, veh/h		438			811			1224			951	
Approach Delay, s/veh		33.3			32.0			37.3			60.0	
Approach LOS		C			C			D			E	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	12.0	31.2		18.1	10.0	33.2		22.0
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5
Max Green Setting (Gmax), s	7.5	29.5		36.0	5.5	31.5		29.0
Max Q Clear Time (g_c+I1), s	10.0	18.2		11.6	8.0	16.2		13.9
Green Ext Time (p_c), s	0.0	8.5		1.9	0.0	8.4		3.6

Intersection Summary	
HCM 7th Control Delay, s/veh	41.8
HCM 7th LOS	D

Notes

User approved pedestrian interval to be less than phase max green.
User approved volume balancing among the lanes for turning movement.

Intersection	
Int Delay, s/veh	7.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	168	79	38	99	86	56
Future Vol, veh/h	168	79	38	99	86	56
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	206	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	2	3	5	2	2	2
Mvmt Flow	191	90	43	113	98	64

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	359	99	0	0	156	0
Stage 1	99	-	-	-	-	-
Stage 2	259	-	-	-	-	-
Critical Hdwy	6.42	6.23	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.327	-	-	2.218	-
Pot Cap-1 Maneuver	640	954	-	-	1424	-
Stage 1	925	-	-	-	-	-
Stage 2	784	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	594	954	-	-	1424	-
Mov Cap-2 Maneuver	594	-	-	-	-	-
Stage 1	925	-	-	-	-	-
Stage 2	728	-	-	-	-	-

Approach	WB	NB	SB
HCM Ctrl Dly, s/v	12.38	0	4.67
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	594	954	1090	-
HCM Lane V/C Ratio	-	-	0.321	0.094	0.069	-
HCM Ctrl Dly (s/v)	-	-	13.9	9.2	7.7	0
HCM Lane LOS	-	-	B	A	A	A
HCM 95th %tile Q(veh)	-	-	1.4	0.3	0.2	-

Intersection	
Int Delay, s/veh	1.9

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	42	0	39	67	0	82
Future Vol, veh/h	42	0	39	67	0	82
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	66	66	66	66	66	66
Heavy Vehicles, %	0	0	0	0	0	3
Mvmt Flow	64	0	59	102	0	124

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	234	110	0	0	161	0
Stage 1	110	-	-	-	-	-
Stage 2	124	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	759	949	-	-	1431	-
Stage 1	920	-	-	-	-	-
Stage 2	906	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	759	949	-	-	1431	-
Mov Cap-2 Maneuver	759	-	-	-	-	-
Stage 1	920	-	-	-	-	-
Stage 2	906	-	-	-	-	-

Approach	WB	NB	SB
HCM Ctrl Dly, s/v	10.18	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	759	1431	-
HCM Lane V/C Ratio	-	-	0.084	-	-
HCM Ctrl Dly (s/v)	-	-	10.2	0	-
HCM Lane LOS	-	-	B	A	-
HCM 95th %tile Q(veh)	-	-	0.3	0	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	102	212	95	304	226	242	121	808	275	213	602	127
Future Volume (vph)	102	212	95	304	226	242	121	808	275	213	602	127
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	1.00	1.00	0.95	1.00	1.00	0.95	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.97	
Flt Protected	0.95	1.00	1.00	0.95	0.99	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1787	1863	1599	1715	1775	1615	1805	3610	1615	1787	3469	
Flt Permitted	0.95	1.00	1.00	0.95	0.99	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1787	1863	1599	1715	1775	1615	1805	3610	1615	1787	3469	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	107	223	100	320	238	255	127	851	289	224	634	134
RTOR Reduction (vph)	0	0	83	0	0	200	0	0	196	0	13	0
Lane Group Flow (vph)	107	223	17	272	286	55	127	851	93	224	755	0
Heavy Vehicles (%)	1%	2%	1%	0%	1%	0%	0%	0%	0%	1%	1%	3%
Turn Type	Split	NA	Perm	Split	NA	Perm	Prot	NA	Perm	Prot	NA	
Protected Phases	4	4		8	8		5	2		1	6	
Permitted Phases			4			8			2			
Actuated Green, G (s)	14.5	14.5	14.5	18.5	18.5	18.5	5.6	27.6	27.6	8.7	30.7	
Effective Green, g (s)	15.0	15.0	15.0	19.0	19.0	19.0	6.1	28.1	28.1	9.2	31.2	
Actuated g/C Ratio	0.17	0.17	0.17	0.22	0.22	0.22	0.07	0.32	0.32	0.11	0.36	
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	
Vehicle Extension (s)	2.5	2.5	2.5	2.5	2.5	2.5	2.5	4.0	4.0	2.5	4.0	
Lane Grp Cap (vph)	307	320	274	373	386	351	126	1161	519	188	1239	
v/s Ratio Prot	0.06	c0.12		0.16	c0.16		0.07	c0.24		c0.13	c0.22	
v/s Ratio Perm			0.01			0.03			0.06			
v/c Ratio	0.35	0.70	0.06	0.73	0.74	0.16	1.01	0.73	0.18	1.19	0.61	
Uniform Delay, d1	31.8	34.0	30.3	31.8	31.9	27.7	40.6	26.3	21.3	39.1	23.0	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.5	6.0	0.1	6.6	7.1	0.2	82.3	2.6	0.2	126.7	1.0	
Delay (s)	32.3	40.0	30.3	38.3	38.9	27.8	122.9	28.9	21.5	165.7	24.0	
Level of Service	C	D	C	D	D	C	F	C	C	F	C	
Approach Delay (s/veh)		35.8			35.2			36.6			56.0	
Approach LOS		D			D			D			E	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	41.7	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.76		
Actuated Cycle Length (s)	87.3	Sum of lost time (s)	16.0
Intersection Capacity Utilization	73.0%	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)	102	212	95	304	226	242	121	808	275	213	602	127
Future Volume (veh/h)	102	212	95	304	226	242	121	808	275	213	602	127
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	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	1885	1870	1885	1900	1885	1900	1900	1900	1900	1885	1885	1856
Adj Flow Rate, veh/h	107	223	100	279	295	255	127	851	289	224	634	134
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	1	2	1	0	1	0	0	0	0	1	1	3
Cap, veh/h	296	309	264	396	413	353	128	1160	517	190	1050	222
Arrive On Green	0.16	0.16	0.16	0.22	0.22	0.22	0.07	0.32	0.32	0.11	0.36	0.35
Sat Flow, veh/h	1795	1870	1598	1810	1885	1610	1810	3610	1610	1795	2943	621
Grp Volume(v), veh/h	107	223	100	279	295	255	127	851	289	224	385	383
Grp Sat Flow(s),veh/h/ln	1795	1870	1598	1810	1885	1610	1810	1805	1610	1795	1791	1773
Q Serve(g_s), s	4.5	9.6	4.7	12.1	12.3	12.5	6.0	17.8	12.6	9.0	15.0	15.0
Cycle Q Clear(g_c), s	4.5	9.6	4.7	12.1	12.3	12.5	6.0	17.8	12.6	9.0	15.0	15.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.35
Lane Grp Cap(c), veh/h	296	309	264	396	413	353	128	1160	517	190	639	632
V/C Ratio(X)	0.36	0.72	0.38	0.70	0.71	0.72	0.99	0.73	0.56	1.18	0.60	0.60
Avail Cap(c_a), veh/h	772	805	687	629	656	560	128	1234	550	190	676	669
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	31.5	33.6	31.6	30.6	30.7	30.7	39.4	25.6	23.8	37.9	22.4	22.5
Incr Delay (d2), s/veh	0.6	2.4	0.7	1.7	1.7	2.1	77.1	2.4	1.5	120.7	1.7	1.8
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	1.9	4.4	1.8	5.2	5.5	4.8	5.3	7.6	4.8	10.2	6.2	6.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	32.0	36.0	32.2	32.3	32.4	32.8	116.4	28.0	25.3	158.6	24.1	24.2
LnGrp LOS	C	D	C	C	C	C	F	C	C	F	C	C
Approach Vol, veh/h		430			829			1267			992	
Approach Delay, s/veh		34.1			32.5			36.2			54.5	
Approach LOS		C			C			D			D	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	13.0	31.3		18.0	10.0	34.3		22.6				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	8.5	28.5		36.0	5.5	31.5		29.0				
Max Q Clear Time (g_c+I1), s	11.0	19.8		11.6	8.0	17.0		14.5				
Green Ext Time (p_c), s	0.0	7.0		1.9	0.0	8.3		3.6				

Intersection Summary		
HCM 7th Control Delay, s/veh	40.2	
HCM 7th LOS	D	

Notes

User approved pedestrian interval to be less than phase max green.
User approved volume balancing among the lanes for turning movement.

Intersection	
Int Delay, s/veh	6.6

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	177	31	21	104	57	48
Future Vol, veh/h	177	31	21	104	57	48
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	206	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	2	3	5	2	2	2
Mvmt Flow	201	35	24	118	65	55

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	267	83	0	0	142	0
Stage 1	83	-	-	-	-	-
Stage 2	184	-	-	-	-	-
Critical Hdwy	6.42	6.23	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.327	-	-	2.218	-
Pot Cap-1 Maneuver	722	974	-	-	1441	-
Stage 1	940	-	-	-	-	-
Stage 2	847	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	689	974	-	-	1441	-
Mov Cap-2 Maneuver	689	-	-	-	-	-
Stage 1	940	-	-	-	-	-
Stage 2	808	-	-	-	-	-

Approach	WB	NB	SB
HCM Ctrl Dly, s/v	11.84	0	4.13
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	689	974	977	-
HCM Lane V/C Ratio	-	-	0.292	0.036	0.045	-
HCM Ctrl Dly (s/v)	-	-	12.4	8.8	7.6	0
HCM Lane LOS	-	-	B	A	A	A
HCM 95th %tile Q(veh)	-	-	1.2	0.1	0.1	-

Intersection	
Int Delay, s/veh	0

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	0	41	0	0	86
Future Vol, veh/h	0	0	41	0	0	86
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	66	66	66	66	66	66
Heavy Vehicles, %	0	0	0	0	0	3
Mvmt Flow	0	0	62	0	0	130

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	192	62	0	0	62	0
Stage 1	62	-	-	-	-	-
Stage 2	130	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	801	1008	-	-	1554	-
Stage 1	966	-	-	-	-	-
Stage 2	901	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	801	1008	-	-	1554	-
Mov Cap-2 Maneuver	801	-	-	-	-	-
Stage 1	966	-	-	-	-	-
Stage 2	901	-	-	-	-	-

Approach	WB	NB	SB
HCM Ctrl Dly, s/v	0	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	-	1554	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Ctrl Dly (s/v)	-	-	0	0	-
HCM Lane LOS	-	-	A	A	-
HCM 95th %tile Q(veh)	-	-	-	0	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	107	227	102	304	251	242	136	808	275	213	602	132
Future Volume (veh/h)	107	227	102	304	251	242	136	808	275	213	602	132
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	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	1885	1870	1885	1900	1885	1900	1900	1900	1900	1885	1885	1856
Adj Flow Rate, veh/h	113	239	107	292	303	255	143	851	289	224	634	139
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	1	2	1	0	1	0	0	0	0	1	1	3
Cap, veh/h	312	325	277	400	417	356	125	1143	510	187	1026	225
Arrive On Green	0.17	0.17	0.17	0.22	0.22	0.22	0.07	0.32	0.32	0.10	0.35	0.35
Sat Flow, veh/h	1795	1870	1598	1810	1885	1610	1810	3610	1610	1795	2921	640
Grp Volume(v), veh/h	113	239	107	292	303	255	143	851	289	224	388	385
Grp Sat Flow(s),veh/h/ln	1795	1870	1598	1810	1885	1610	1810	1805	1610	1795	1791	1770
Q Serve(g_s), s	4.8	10.5	5.1	13.0	12.9	12.7	6.0	18.2	12.9	9.0	15.5	15.6
Cycle Q Clear(g_c), s	4.8	10.5	5.1	13.0	12.9	12.7	6.0	18.2	12.9	9.0	15.5	15.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.36
Lane Grp Cap(c), veh/h	312	325	277	400	417	356	125	1143	510	187	629	622
V/C Ratio(X)	0.36	0.74	0.39	0.73	0.73	0.72	1.14	0.74	0.57	1.20	0.62	0.62
Avail Cap(c_a), veh/h	757	789	674	617	643	549	125	1210	540	187	662	655
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	31.5	33.9	31.7	31.3	31.3	31.2	40.3	26.4	24.6	38.8	23.2	23.3
Incr Delay (d2), s/veh	0.5	2.4	0.7	1.9	1.8	2.0	122.8	2.6	1.6	129.8	1.9	2.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.1	4.8	2.0	5.7	5.8	4.9	6.9	7.8	4.9	10.6	6.5	6.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	32.1	36.3	32.3	33.2	33.1	33.2	163.0	29.1	26.3	168.6	25.2	25.3
LnGrp LOS	C	D	C	C	C	C	F	C	C	F	C	C
Approach Vol, veh/h		459			850			1283			997	
Approach Delay, s/veh		34.3			33.2			43.4			57.5	
Approach LOS		C			C			D			E	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	13.0	31.4		19.0	10.0	34.4		23.1
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5
Max Green Setting (Gmax), s	8.5	28.5		36.0	5.5	31.5		29.0
Max Q Clear Time (g_c+I1), s	11.0	20.2		12.5	8.0	17.6		15.0
Green Ext Time (p_c), s	0.0	6.7		2.0	0.0	8.1		3.7

Intersection Summary	
HCM 7th Control Delay, s/veh	43.7
HCM 7th LOS	D

Notes

User approved pedestrian interval to be less than phase max green.
User approved volume balancing among the lanes for turning movement.

Intersection	
Int Delay, s/veh	7.3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	177	80	39	104	89	58
Future Vol, veh/h	177	80	39	104	89	58
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	206	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	2	3	5	2	2	2
Mvmt Flow	201	91	44	118	101	66

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	372	103	0	0	163	0
Stage 1	103	-	-	-	-	-
Stage 2	268	-	-	-	-	-
Critical Hdwy	6.42	6.23	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.327	-	-	2.218	-
Pot Cap-1 Maneuver	629	949	-	-	1416	-
Stage 1	921	-	-	-	-	-
Stage 2	777	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	582	949	-	-	1416	-
Mov Cap-2 Maneuver	582	-	-	-	-	-
Stage 1	921	-	-	-	-	-
Stage 2	719	-	-	-	-	-

Approach	WB	NB	SB
HCM Ctrl Dly, s/v	12.78	0	4.68
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	582	949	1090	-
HCM Lane V/C Ratio	-	-	0.345	0.096	0.071	-
HCM Ctrl Dly (s/v)	-	-	14.4	9.2	7.7	0
HCM Lane LOS	-	-	B	A	A	A
HCM 95th %tile Q(veh)	-	-	1.5	0.3	0.2	-

Intersection	
Int Delay, s/veh	1.8

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	42	0	41	67	0	86
Future Vol, veh/h	42	0	41	67	0	86
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	66	66	66	66	66	66
Heavy Vehicles, %	0	0	0	0	0	3
Mvmt Flow	64	0	62	102	0	130

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	243	113	0	0	164	0
Stage 1	113	-	-	-	-	-
Stage 2	130	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	750	945	-	-	1427	-
Stage 1	917	-	-	-	-	-
Stage 2	901	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	750	945	-	-	1427	-
Mov Cap-2 Maneuver	750	-	-	-	-	-
Stage 1	917	-	-	-	-	-
Stage 2	901	-	-	-	-	-

Approach	WB	NB	SB
HCM Ctrl Dly, s/v	10.25	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	750	1427	-
HCM Lane V/C Ratio	-	-	0.085	-	-
HCM Ctrl Dly (s/v)	-	-	10.2	0	-
HCM Lane LOS	-	-	B	A	-
HCM 95th %tile Q(veh)	-	-	0.3	0	-

APPENDIX F: QUEUING OUTPUTS

Windsor Island Road Subdivision

Intersection: 3: Chemawa Rd/Keizer Station & Lockhaven Dr , Interval #1

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	SB
Directions Served	L	L	T	TR	L	L	T	TR	T	R	R	L
Maximum Queue (ft)	5	58	303	264	135	182	140	115	180	222	207	8
Average Queue (ft)	1	30	225	169	64	135	75	62	73	180	129	1
95th Queue (ft)	8	63	312	267	174	203	134	120	203	250	244	10
Link Distance (ft)			512	512			658	658	607			
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	300	300			500	500				200	200	230
Storage Blk Time (%)			1							6	0	
Queuing Penalty (veh)			0							3	0	

Intersection: 3: Chemawa Rd/Keizer Station & Lockhaven Dr , Interval #1

Movement	SB	SB	SB
Directions Served	L	T	R
Maximum Queue (ft)	58	35	28
Average Queue (ft)	38	13	9
95th Queue (ft)	72	38	28
Link Distance (ft)	589	589	
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			240
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 3: Chemawa Rd/Keizer Station & Lockhaven Dr , Interval #2

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	SB
Directions Served	L	L	T	TR	L	L	T	TR	T	R	R	L
Maximum Queue (ft)	19	77	355	298	172	204	167	151	250	224	210	20
Average Queue (ft)	1	36	209	154	46	120	75	53	59	171	115	1
95th Queue (ft)	7	74	321	265	141	193	141	122	171	238	230	10
Link Distance (ft)			512	512			658	658	607			
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	300	300			500	500				200	200	230
Storage Blk Time (%)			1							3	0	
Queuing Penalty (veh)			1							2	0	

Intersection: 3: Chemawa Rd/Keizer Station & Lockhaven Dr , Interval #2

Movement	SB	SB	SB
Directions Served	L	T	R
Maximum Queue (ft)	88	42	32
Average Queue (ft)	36	11	10
95th Queue (ft)	73	34	27
Link Distance (ft)	589	589	
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			240
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 3: Chemawa Rd/Keizer Station & Lockhaven Dr , All Intervals

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	SB
Directions Served	L	L	T	TR	L	L	T	TR	T	R	R	L
Maximum Queue (ft)	19	79	360	304	178	206	180	155	286	224	211	20
Average Queue (ft)	1	35	213	158	50	124	75	55	62	173	118	1
95th Queue (ft)	8	71	320	266	150	196	140	122	180	241	234	10
Link Distance (ft)			512	512			658	658	607			
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	300	300			500	500				200	200	230
Storage Blk Time (%)			1							4	0	
Queuing Penalty (veh)			1							2	0	

Intersection: 3: Chemawa Rd/Keizer Station & Lockhaven Dr , All Intervals

Movement	SB	SB	SB
Directions Served	L	T	R
Maximum Queue (ft)	88	43	37
Average Queue (ft)	36	12	10
95th Queue (ft)	73	35	27
Link Distance (ft)	589	589	
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			240
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 8: River Rd & Lockhaven, Interval #1

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	SB	SB
Directions Served	L	T	R	L	LT	R	L	T	T	R	L	T
Maximum Queue (ft)	109	235	88	340	438	185	178	262	199	27	275	679
Average Queue (ft)	58	158	47	182	294	109	121	133	91	6	272	568
95th Queue (ft)	114	241	86	371	462	256	258	297	248	23	288	872
Link Distance (ft)		667			941			785	785			664
Upstream Blk Time (%)												50
Queuing Penalty (veh)												0
Storage Bay Dist (ft)	270		290	410		160	260			266	250	
Storage Blk Time (%)		0			29	2	8				84	1
Queuing Penalty (veh)		0			83	9	15				295	3

Intersection: 8: River Rd & Lockhaven, Interval #1

Movement	SB
Directions Served	TR
Maximum Queue (ft)	658
Average Queue (ft)	495
95th Queue (ft)	810
Link Distance (ft)	664
Upstream Blk Time (%)	1
Queuing Penalty (veh)	0
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 8: River Rd & Lockhaven, Interval #2

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	SB	SB
Directions Served	L	T	R	L	LT	R	L	T	T	R	L	T
Maximum Queue (ft)	139	289	123	286	356	185	252	309	246	19	275	683
Average Queue (ft)	45	130	41	80	201	85	140	137	76	2	274	679
95th Queue (ft)	101	230	92	227	316	234	304	339	275	11	274	682
Link Distance (ft)		667			941			785	785			664
Upstream Blk Time (%)												96
Queuing Penalty (veh)												0
Storage Bay Dist (ft)	270		290	410		160	260			266	250	
Storage Blk Time (%)		1	0		16	2	18				100	0
Queuing Penalty (veh)		1	0		41	7	30				310	1

Intersection: 8: River Rd & Lockhaven, Interval #2

Movement	SB
Directions Served	TR
Maximum Queue (ft)	679
Average Queue (ft)	564
95th Queue (ft)	896
Link Distance (ft)	664
Upstream Blk Time (%)	2
Queuing Penalty (veh)	0
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 8: River Rd & Lockhaven, All Intervals

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	SB	SB
Directions Served	L	T	R	L	LT	R	L	T	T	R	L	T
Maximum Queue (ft)	140	299	128	362	452	185	252	348	325	28	275	683
Average Queue (ft)	48	137	42	105	223	91	135	136	80	3	274	653
95th Queue (ft)	105	234	91	278	369	240	293	329	270	15	282	821
Link Distance (ft)		667			941			785	785			664
Upstream Blk Time (%)												84
Queuing Penalty (veh)												0
Storage Bay Dist (ft)	270		290	410		160	260			266	250	
Storage Blk Time (%)		0	0		19	2	15				96	1
Queuing Penalty (veh)		1	0		51	7	27				306	1

Intersection: 8: River Rd & Lockhaven, All Intervals

Movement	SB
Directions Served	TR
Maximum Queue (ft)	679
Average Queue (ft)	547
95th Queue (ft)	879
Link Distance (ft)	664
Upstream Blk Time (%)	2
Queuing Penalty (veh)	0
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 13: Chemawa Rd & River Rd , Interval #1

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	R	L	T	R	L	T	TR	L	T	TR
Maximum Queue (ft)	76	347	207	166	337	106	168	174	148	89	257	205
Average Queue (ft)	46	249	89	123	191	35	102	84	78	44	173	109
95th Queue (ft)	79	374	203	217	348	122	181	164	150	96	264	212
Link Distance (ft)		776			837			1016	1016		555	555
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	365		325	160		300	200			190		
Storage Blk Time (%)		2		4	27	0	0	0			5	
Queuing Penalty (veh)		5		10	54	0	1	1			3	

Intersection: 13: Chemawa Rd & River Rd , Interval #2

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	R	L	T	R	L	T	TR	L	T	TR
Maximum Queue (ft)	99	329	220	185	343	114	150	155	134	176	244	200
Average Queue (ft)	41	221	65	94	151	29	68	71	50	44	131	83
95th Queue (ft)	81	324	154	184	288	82	125	133	106	107	218	171
Link Distance (ft)		776			837			1016	1016		555	555
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	365		325	160		300	200			190		
Storage Blk Time (%)		1	0	0	15	0	0	0		0	2	
Queuing Penalty (veh)		2	0	1	26	0	0	0		0	1	

Intersection: 13: Chemawa Rd & River Rd , All Intervals

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	R	L	T	R	L	T	TR	L	T	TR
Maximum Queue (ft)	103	353	222	185	370	168	182	191	161	177	264	226
Average Queue (ft)	42	228	70	101	161	30	76	74	57	44	141	90
95th Queue (ft)	81	338	168	194	306	94	144	142	121	104	234	183
Link Distance (ft)		776			837			1016	1016		555	555
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	365		325	160		300	200			190		
Storage Blk Time (%)		1	0	1	18	0	0	0		0	2	
Queuing Penalty (veh)		3	0	3	33	0	0	0		0	1	

Intersection: 18: Shoreline Dr /Windsor Island & Chemawa Rd, Interval #1

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	51	25	42	54
Average Queue (ft)	32	12	23	38
95th Queue (ft)	55	34	41	58
Link Distance (ft)	594	1045	1107	654
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 18: Shoreline Dr /Windsor Island & Chemawa Rd, Interval #2

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	57	41	43	75
Average Queue (ft)	30	10	21	39
95th Queue (ft)	53	32	35	65
Link Distance (ft)	594	1045	1107	654
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 18: Shoreline Dr /Windsor Island & Chemawa Rd, All Intervals

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	64	41	48	75
Average Queue (ft)	30	10	21	39
95th Queue (ft)	53	33	37	63
Link Distance (ft)	594	1045	1107	654
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 23: Windsor Island Rd /Windsor Island & Lockhaven Dr , Interval #1

Movement	WB	WB	NB	SB
Directions Served	L	R	TR	LT
Maximum Queue (ft)	51	49	28	43
Average Queue (ft)	28	23	4	15
95th Queue (ft)	51	51	32	47
Link Distance (ft)		1241	953	564
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)	206			
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 23: Windsor Island Rd /Windsor Island & Lockhaven Dr , Interval #2

Movement	WB	WB	NB	SB
Directions Served	L	R	TR	LT
Maximum Queue (ft)	62	48	10	66
Average Queue (ft)	22	17	0	9
95th Queue (ft)	46	41	6	40
Link Distance (ft)		1241	953	564
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)	206			
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 23: Windsor Island Rd /Windsor Island & Lockhaven Dr , All Intervals

Movement	WB	WB	NB	SB
Directions Served	L	R	TR	LT
Maximum Queue (ft)	66	52	39	71
Average Queue (ft)	24	18	1	11
95th Queue (ft)	47	44	16	42
Link Distance (ft)		1241	953	564
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)	206			
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 25: Windsor Island & Site Access, Interval #1

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 25: Windsor Island & Site Access, Interval #2

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 25: Windsor Island & Site Access, All Intervals

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Network Summary

Network wide Queuing Penalty, Interval #1: 484
Network wide Queuing Penalty, Interval #2: 422
Network wide Queuing Penalty, All Intervals: 437

Intersection: 8: River Rd & Lockhaven, Interval #1

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	SB	SB
Directions Served	L	T	R	L	LT	R	L	T	T	R	L	T
Maximum Queue (ft)	100	256	115	283	384	185	215	414	370	27	275	679
Average Queue (ft)	47	143	43	156	266	123	185	298	226	6	275	671
95th Queue (ft)	103	244	66	315	398	262	355	686	629	26	277	745
Link Distance (ft)		667			941			785	785			664
Upstream Blk Time (%)												78
Queuing Penalty (veh)												0
Storage Bay Dist (ft)	270		290	410		160	260			266	250	
Storage Blk Time (%)		1			26	2	44	0			99	0
Queuing Penalty (veh)		2			76	9	88	0			355	1

Intersection: 8: River Rd & Lockhaven, Interval #1

Movement	SB
Directions Served	TR
Maximum Queue (ft)	679
Average Queue (ft)	579
95th Queue (ft)	877
Link Distance (ft)	664
Upstream Blk Time (%)	2
Queuing Penalty (veh)	0
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 8: River Rd & Lockhaven, Interval #2

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	SB	SB
Directions Served	L	T	R	L	LT	R	L	T	T	R	L	T
Maximum Queue (ft)	132	251	94	301	425	185	247	432	385	40	275	679
Average Queue (ft)	50	134	42	107	226	104	185	230	181	4	274	679
95th Queue (ft)	111	228	76	275	375	251	347	595	549	20	276	679
Link Distance (ft)		667			941			785	785			664
Upstream Blk Time (%)												97
Queuing Penalty (veh)												0
Storage Bay Dist (ft)	270		290	410		160	260			266	250	
Storage Blk Time (%)		0		0	21	0	34				100	0
Queuing Penalty (veh)		0		0	55	1	58				316	1

Intersection: 8: River Rd & Lockhaven, Interval #2

Movement	SB
Directions Served	TR
Maximum Queue (ft)	679
Average Queue (ft)	545
95th Queue (ft)	911
Link Distance (ft)	664
Upstream Blk Time (%)	1
Queuing Penalty (veh)	0
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 8: River Rd & Lockhaven, All Intervals

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	SB	SB
Directions Served	L	T	R	L	LT	R	L	T	T	R	L	T
Maximum Queue (ft)	135	285	135	355	440	185	247	453	402	42	275	679
Average Queue (ft)	50	136	42	119	236	109	185	246	192	4	274	677
95th Queue (ft)	109	232	74	288	383	255	349	620	570	21	274	714
Link Distance (ft)		667			941			785	785			664
Upstream Blk Time (%)												92
Queuing Penalty (veh)												0
Storage Bay Dist (ft)	270		290	410		160	260			266	250	
Storage Blk Time (%)		0		0	22	1	36	0			100	0
Queuing Penalty (veh)		1		0	60	3	65	0			326	1

Intersection: 8: River Rd & Lockhaven, All Intervals

Movement	SB
Directions Served	TR
Maximum Queue (ft)	679
Average Queue (ft)	553
95th Queue (ft)	905
Link Distance (ft)	664
Upstream Blk Time (%)	1
Queuing Penalty (veh)	0
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 23: Windsor Island Rd /Windsor Island & Lockhaven Dr , Interval #1

Movement	WB	WB	NB	SB
Directions Served	L	R	TR	LT
Maximum Queue (ft)	50	34	9	52
Average Queue (ft)	24	18	2	13
95th Queue (ft)	44	41	12	47
Link Distance (ft)		1241	953	564
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)	206			
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 23: Windsor Island Rd /Windsor Island & Lockhaven Dr , Interval #2

Movement	WB	WB	NB	SB
Directions Served	L	R	TR	LT
Maximum Queue (ft)	61	51	21	74
Average Queue (ft)	22	19	1	9
95th Queue (ft)	46	44	8	43
Link Distance (ft)		1241	953	564
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)	206			
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 23: Windsor Island Rd /Windsor Island & Lockhaven Dr , All Intervals

Movement	WB	WB	NB	SB
Directions Served	L	R	TR	LT
Maximum Queue (ft)	62	51	22	78
Average Queue (ft)	23	19	1	10
95th Queue (ft)	46	43	9	44
Link Distance (ft)		1241	953	564
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)	206			
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 25: Windsor Island & Site Access, Interval #1

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 25: Windsor Island & Site Access, Interval #2

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 25: Windsor Island & Site Access, All Intervals

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Zone Summary

Zone wide Queuing Penalty, Interval #1: 531
Zone wide Queuing Penalty, Interval #2: 431
Zone wide Queuing Penalty, All Intervals: 456

Intersection: 8: River Rd & Lockhaven, Interval #1

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	SB	SB
Directions Served	L	T	R	L	LT	R	L	T	T	R	L	T
Maximum Queue (ft)	127	296	102	252	394	185	252	199	170	43	275	679
Average Queue (ft)	55	177	54	121	256	144	198	114	67	13	272	635
95th Queue (ft)	137	294	108	260	395	264	299	275	208	47	289	830
Link Distance (ft)		667			941			785	785			664
Upstream Blk Time (%)												67
Queuing Penalty (veh)												0
Storage Bay Dist (ft)	270		290	410		160	260			266	250	
Storage Blk Time (%)		1			27	0	11				93	1
Queuing Penalty (veh)		4			80	1	21				333	4

Intersection: 8: River Rd & Lockhaven, Interval #1

Movement	SB
Directions Served	TR
Maximum Queue (ft)	674
Average Queue (ft)	531
95th Queue (ft)	853
Link Distance (ft)	664
Upstream Blk Time (%)	1
Queuing Penalty (veh)	0
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 8: River Rd & Lockhaven, Interval #2

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	SB	SB
Directions Served	L	T	R	L	LT	R	L	T	T	R	L	T
Maximum Queue (ft)	121	228	96	296	389	185	252	300	269	27	275	679
Average Queue (ft)	47	138	46	99	215	95	146	105	52	4	274	679
95th Queue (ft)	99	224	85	264	354	241	291	257	174	17	276	679
Link Distance (ft)		667			941			785	785			664
Upstream Blk Time (%)												97
Queuing Penalty (veh)												0
Storage Bay Dist (ft)	270		290	410		160	260			266	250	
Storage Blk Time (%)		0			17	2	12				100	0
Queuing Penalty (veh)		0			44	9	20				316	0

Intersection: 8: River Rd & Lockhaven, Interval #2

Movement	SB
Directions Served	TR
Maximum Queue (ft)	676
Average Queue (ft)	527
95th Queue (ft)	892
Link Distance (ft)	664
Upstream Blk Time (%)	1
Queuing Penalty (veh)	0
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 8: River Rd & Lockhaven, All Intervals

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	SB	SB
Directions Served	L	T	R	L	LT	R	L	T	T	R	L	T
Maximum Queue (ft)	159	302	108	317	433	185	276	310	283	47	275	679
Average Queue (ft)	49	148	48	105	225	107	159	107	56	6	274	669
95th Queue (ft)	110	245	91	264	367	251	299	261	183	27	282	769
Link Distance (ft)		667			941			785	785			664
Upstream Blk Time (%)												89
Queuing Penalty (veh)												0
Storage Bay Dist (ft)	270		290	410		160	260			266	250	
Storage Blk Time (%)		0			20	2	11				98	0
Queuing Penalty (veh)		1			53	7	20				320	1

Intersection: 8: River Rd & Lockhaven, All Intervals

Movement	SB
Directions Served	TR
Maximum Queue (ft)	679
Average Queue (ft)	528
95th Queue (ft)	883
Link Distance (ft)	664
Upstream Blk Time (%)	1
Queuing Penalty (veh)	0
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 23: Windsor Island Rd /Windsor Island & Lockhaven Dr , Interval #1

Movement	WB	WB	NB	SB
Directions Served	L	R	TR	LT
Maximum Queue (ft)	80	51	17	94
Average Queue (ft)	39	22	2	41
95th Queue (ft)	83	47	13	100
Link Distance (ft)		1241	953	564
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)	206			
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 23: Windsor Island Rd /Windsor Island & Lockhaven Dr , Interval #2

Movement	WB	WB	NB	SB
Directions Served	L	R	TR	LT
Maximum Queue (ft)	58	52	17	109
Average Queue (ft)	25	22	1	22
95th Queue (ft)	47	46	7	74
Link Distance (ft)		1241	953	564
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)	206			
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 23: Windsor Island Rd /Windsor Island & Lockhaven Dr , All Intervals

Movement	WB	WB	NB	SB
Directions Served	L	R	TR	LT
Maximum Queue (ft)	81	57	22	129
Average Queue (ft)	28	22	1	27
95th Queue (ft)	59	46	9	82
Link Distance (ft)		1241	953	564
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)	206			
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 25: Windsor Island & Site Access, Interval #1

Movement	WB
Directions Served	LR
Maximum Queue (ft)	37
Average Queue (ft)	23
95th Queue (ft)	40
Link Distance (ft)	490
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 25: Windsor Island & Site Access, Interval #2

Movement	WB
Directions Served	LR
Maximum Queue (ft)	42
Average Queue (ft)	19
95th Queue (ft)	37
Link Distance (ft)	490
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 25: Windsor Island & Site Access, All Intervals

Movement	WB
Directions Served	LR
Maximum Queue (ft)	47
Average Queue (ft)	20
95th Queue (ft)	38
Link Distance (ft)	490
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Zone Summary

Zone wide Queuing Penalty, Interval #1: 443
Zone wide Queuing Penalty, Interval #2: 389
Zone wide Queuing Penalty, All Intervals: 403

Intersection: 8: River Rd & Lockhaven, Interval #1

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	SB	SB
Directions Served	L	T	R	L	LT	R	L	T	T	R	L	T
Maximum Queue (ft)	181	230	127	286	407	185	233	391	345	40	275	679
Average Queue (ft)	66	142	55	175	300	137	210	275	209	8	274	646
95th Queue (ft)	164	259	135	351	454	269	343	574	515	36	280	807
Link Distance (ft)		667			941			785	785			664
Upstream Blk Time (%)												70
Queuing Penalty (veh)												0
Storage Bay Dist (ft)	270		290	410		160	260			266	250	
Storage Blk Time (%)	0	0			34	0	44	0			96	1
Queuing Penalty (veh)	0	1			105	2	92	0			362	3

Intersection: 8: River Rd & Lockhaven, Interval #1

Movement	SB
Directions Served	TR
Maximum Queue (ft)	673
Average Queue (ft)	582
95th Queue (ft)	811
Link Distance (ft)	664
Upstream Blk Time (%)	1
Queuing Penalty (veh)	0
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 8: River Rd & Lockhaven, Interval #2

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	SB	SB
Directions Served	L	T	R	L	LT	R	L	T	T	R	L	T
Maximum Queue (ft)	111	278	86	368	455	185	247	437	398	47	275	679
Average Queue (ft)	41	133	40	126	232	107	193	286	229	5	274	679
95th Queue (ft)	92	227	72	303	381	255	348	671	616	25	275	679
Link Distance (ft)		667			941			785	785			664
Upstream Blk Time (%)												97
Queuing Penalty (veh)												0
Storage Bay Dist (ft)	270		290	410		160	260			266	250	
Storage Blk Time (%)		0		0	22	1	43	0			100	0
Queuing Penalty (veh)		1		0	60	4	79	0			331	0

Intersection: 8: River Rd & Lockhaven, Interval #2

Movement	SB
Directions Served	TR
Maximum Queue (ft)	679
Average Queue (ft)	506
95th Queue (ft)	892
Link Distance (ft)	664
Upstream Blk Time (%)	1
Queuing Penalty (veh)	0
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 8: River Rd & Lockhaven, All Intervals

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	SB	SB
Directions Served	L	T	R	L	LT	R	L	T	T	R	L	T
Maximum Queue (ft)	184	306	137	378	462	185	247	465	410	55	275	679
Average Queue (ft)	47	135	44	138	249	114	197	284	224	6	274	671
95th Queue (ft)	115	235	93	318	406	260	348	650	594	28	277	754
Link Distance (ft)		667			941			785	785			664
Upstream Blk Time (%)												90
Queuing Penalty (veh)												0
Storage Bay Dist (ft)	270		290	410		160	260			266	250	
Storage Blk Time (%)	0	0		0	25	1	43	0			99	0
Queuing Penalty (veh)	0	1		0	71	4	82	0			339	1

Intersection: 8: River Rd & Lockhaven, All Intervals

Movement	SB
Directions Served	TR
Maximum Queue (ft)	679
Average Queue (ft)	524
95th Queue (ft)	883
Link Distance (ft)	664
Upstream Blk Time (%)	1
Queuing Penalty (veh)	0
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 23: Windsor Island Rd /Windsor Island & Lockhaven Dr , Interval #1

Movement	WB	WB	NB	SB
Directions Served	L	R	TR	LT
Maximum Queue (ft)	53	50	13	70
Average Queue (ft)	33	25	2	17
95th Queue (ft)	56	55	12	62
Link Distance (ft)		1241	953	564
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)	206			
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 23: Windsor Island Rd /Windsor Island & Lockhaven Dr , Interval #2

Movement	WB	WB	NB	SB
Directions Served	L	R	TR	LT
Maximum Queue (ft)	56	52	4	70
Average Queue (ft)	23	21	0	14
95th Queue (ft)	47	48	4	51
Link Distance (ft)		1241	953	564
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)	206			
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 23: Windsor Island Rd /Windsor Island & Lockhaven Dr , All Intervals

Movement	WB	WB	NB	SB
Directions Served	L	R	TR	LT
Maximum Queue (ft)	61	54	13	76
Average Queue (ft)	26	22	1	15
95th Queue (ft)	50	50	6	54
Link Distance (ft)		1241	953	564
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)	206			
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 25: Windsor Island & Site Access, Interval #1

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 25: Windsor Island & Site Access, Interval #2

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 25: Windsor Island & Site Access, All Intervals

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Zone Summary

Zone wide Queuing Penalty, Interval #1: 565
Zone wide Queuing Penalty, Interval #2: 476
Zone wide Queuing Penalty, All Intervals: 498

Intersection: 8: River Rd & Lockhaven, Interval #1

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	SB	SB
Directions Served	L	T	R	L	LT	R	L	T	T	R	L	T
Maximum Queue (ft)	110	278	131	375	485	185	276	291	259	50	275	679
Average Queue (ft)	53	169	59	209	307	146	205	163	117	12	274	678
95th Queue (ft)	111	287	142	426	512	267	310	403	354	44	277	690
Link Distance (ft)		667			941			785	785			664
Upstream Blk Time (%)												80
Queuing Penalty (veh)												0
Storage Bay Dist (ft)	270		290	410		160	260			266	250	
Storage Blk Time (%)		1	0	0	34	0	19				100	1
Queuing Penalty (veh)		2	0	1	106	2	39				376	2

Intersection: 8: River Rd & Lockhaven, Interval #1

Movement	SB
Directions Served	TR
Maximum Queue (ft)	679
Average Queue (ft)	530
95th Queue (ft)	867
Link Distance (ft)	664
Upstream Blk Time (%)	1
Queuing Penalty (veh)	0
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 8: River Rd & Lockhaven, Interval #2

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	SB	SB
Directions Served	L	T	R	L	LT	R	L	T	T	R	L	T
Maximum Queue (ft)	155	276	149	301	383	185	269	433	364	38	275	679
Average Queue (ft)	49	140	51	117	228	101	189	210	157	4	274	679
95th Queue (ft)	116	239	107	276	362	246	349	528	475	22	275	679
Link Distance (ft)		667			941			785	785			664
Upstream Blk Time (%)												97
Queuing Penalty (veh)												0
Storage Bay Dist (ft)	270		290	410		160	260			266	250	
Storage Blk Time (%)		0	0	0	19	1	33				100	0
Queuing Penalty (veh)		1	0	0	53	3	61				331	1

Intersection: 8: River Rd & Lockhaven, Interval #2

Movement	SB
Directions Served	TR
Maximum Queue (ft)	679
Average Queue (ft)	578
95th Queue (ft)	889
Link Distance (ft)	664
Upstream Blk Time (%)	2
Queuing Penalty (veh)	0
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 8: River Rd & Lockhaven, All Intervals

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	SB	SB
Directions Served	L	T	R	L	LT	R	L	T	T	R	L	T
Maximum Queue (ft)	156	305	158	376	491	185	277	481	444	65	275	679
Average Queue (ft)	50	147	53	139	247	112	193	198	147	6	274	679
95th Queue (ft)	115	253	117	326	411	255	342	502	449	29	276	686
Link Distance (ft)		667			941			785	785			664
Upstream Blk Time (%)												93
Queuing Penalty (veh)												0
Storage Bay Dist (ft)	270		290	410		160	260			266	250	
Storage Blk Time (%)		0	0	0	23	1	30				100	1
Queuing Penalty (veh)		1	0	0	66	2	55				342	1

Intersection: 8: River Rd & Lockhaven, All Intervals

Movement	SB
Directions Served	TR
Maximum Queue (ft)	679
Average Queue (ft)	567
95th Queue (ft)	886
Link Distance (ft)	664
Upstream Blk Time (%)	1
Queuing Penalty (veh)	0
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 23: Windsor Island Rd /Windsor Island & Lockhaven Dr , Interval #1

Movement	WB	WB	NB	SB
Directions Served	L	R	TR	LT
Maximum Queue (ft)	64	52	17	77
Average Queue (ft)	28	27	2	29
95th Queue (ft)	58	52	16	81
Link Distance (ft)		1241	953	564
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)	206			
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 23: Windsor Island Rd /Windsor Island & Lockhaven Dr , Interval #2

Movement	WB	WB	NB	SB
Directions Served	L	R	TR	LT
Maximum Queue (ft)	59	52	34	91
Average Queue (ft)	27	22	2	22
95th Queue (ft)	51	48	16	66
Link Distance (ft)		1241	953	564
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)	206			
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 23: Windsor Island Rd /Windsor Island & Lockhaven Dr , All Intervals

Movement	WB	WB	NB	SB
Directions Served	L	R	TR	LT
Maximum Queue (ft)	70	55	34	101
Average Queue (ft)	27	23	2	23
95th Queue (ft)	53	49	16	70
Link Distance (ft)		1241	953	564
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)	206			
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 25: Windsor Island & Site Access, Interval #1

Movement	WB
Directions Served	LR
Maximum Queue (ft)	33
Average Queue (ft)	22
95th Queue (ft)	39
Link Distance (ft)	490
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 25: Windsor Island & Site Access, Interval #2

Movement	WB
Directions Served	LR
Maximum Queue (ft)	41
Average Queue (ft)	21
95th Queue (ft)	38
Link Distance (ft)	490
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 25: Windsor Island & Site Access, All Intervals

Movement	WB
Directions Served	LR
Maximum Queue (ft)	46
Average Queue (ft)	21
95th Queue (ft)	38
Link Distance (ft)	490
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Zone Summary

Zone wide Queuing Penalty, Interval #1: 528
Zone wide Queuing Penalty, Interval #2: 449
Zone wide Queuing Penalty, All Intervals: 469

Intersection: 3: Chemawa Rd/Keizer Station & Lockhaven Dr , Interval #1

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	NB
Directions Served	L	L	T	TR	L	L	T	TR	L	T	R	R
Maximum Queue (ft)	82	206	347	279	281	326	267	276	18	125	196	172
Average Queue (ft)	17	104	263	199	189	240	166	189	3	86	133	59
95th Queue (ft)	73	227	397	314	305	340	290	300	18	139	206	158
Link Distance (ft)			512	512			658	658		607		
Upstream Blk Time (%)			0									
Queuing Penalty (veh)			0									
Storage Bay Dist (ft)	300	300			500	500			180		200	200
Storage Blk Time (%)			4								1	0
Queuing Penalty (veh)			5								1	0

Intersection: 3: Chemawa Rd/Keizer Station & Lockhaven Dr , Interval #1

Movement	SB	SB	SB	SB
Directions Served	L	L	T	R
Maximum Queue (ft)	149	187	82	51
Average Queue (ft)	48	119	40	22
95th Queue (ft)	134	190	85	49
Link Distance (ft)		589	589	
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)	230			240
Storage Blk Time (%)	0	0		
Queuing Penalty (veh)	0	0		

Intersection: 3: Chemawa Rd/Keizer Station & Lockhaven Dr , Interval #2

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	NB
Directions Served	L	L	T	TR	L	L	T	TR	L	T	R	R
Maximum Queue (ft)	91	321	367	297	281	318	244	237	46	162	196	159
Average Queue (ft)	10	86	236	182	165	217	137	151	7	77	114	43
95th Queue (ft)	50	194	338	283	273	299	220	232	29	133	181	131
Link Distance (ft)			512	512			658	658		607		
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	300	300			500	500			180		200	200
Storage Blk Time (%)			2							0	0	0
Queuing Penalty (veh)			2							0	0	0

Intersection: 3: Chemawa Rd/Keizer Station & Lockhaven Dr , Interval #2

Movement	SB	SB	SB	SB
Directions Served	L	L	T	R
Maximum Queue (ft)	146	172	95	52
Average Queue (ft)	27	100	38	20
95th Queue (ft)	104	158	80	44
Link Distance (ft)		589	589	
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)	230			240
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 3: Chemawa Rd/Keizer Station & Lockhaven Dr , All Intervals

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	NB
Directions Served	L	L	T	TR	L	L	T	TR	L	T	R	R
Maximum Queue (ft)	110	324	405	338	293	346	282	286	46	163	206	178
Average Queue (ft)	12	91	243	186	171	222	144	160	6	79	119	47
95th Queue (ft)	56	203	355	291	282	311	241	254	26	135	188	138
Link Distance (ft)			512	512			658	658		607		
Upstream Blk Time (%)			0									
Queuing Penalty (veh)			0									
Storage Bay Dist (ft)	300	300			500	500			180		200	200
Storage Blk Time (%)			2							0	0	0
Queuing Penalty (veh)			3							0	1	0

Intersection: 3: Chemawa Rd/Keizer Station & Lockhaven Dr , All Intervals

Movement	SB	SB	SB	SB
Directions Served	L	L	T	R
Maximum Queue (ft)	158	194	103	61
Average Queue (ft)	32	104	38	21
95th Queue (ft)	113	167	81	46
Link Distance (ft)		589	589	
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)	230			240
Storage Blk Time (%)	0	0		
Queuing Penalty (veh)	0	0		

Intersection: 8: River Rd & Lockhaven, Interval #1

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	SB	SB
Directions Served	L	T	R	L	LT	R	L	T	T	R	L	T
Maximum Queue (ft)	117	200	60	303	356	185	276	360	307	49	275	682
Average Queue (ft)	47	110	34	144	230	141	187	224	163	18	262	455
95th Queue (ft)	116	201	67	292	357	260	327	369	288	55	313	822
Link Distance (ft)		667			941			785	785			664
Upstream Blk Time (%)												15
Queuing Penalty (veh)												0
Storage Bay Dist (ft)	270		290	410		160	260			266	250	
Storage Blk Time (%)		0			19	3	18	2	0		74	0
Queuing Penalty (veh)		0			75	14	71	2	0		218	0

Intersection: 8: River Rd & Lockhaven, Interval #1

Movement	SB
Directions Served	TR
Maximum Queue (ft)	616
Average Queue (ft)	389
95th Queue (ft)	736
Link Distance (ft)	664
Upstream Blk Time (%)	0
Queuing Penalty (veh)	0
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 8: River Rd & Lockhaven, Interval #2

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	SB	SB
Directions Served	L	T	R	L	LT	R	L	T	T	R	L	T
Maximum Queue (ft)	101	192	69	325	395	185	273	437	357	155	275	701
Average Queue (ft)	38	91	33	125	225	108	178	250	193	17	274	680
95th Queue (ft)	85	164	63	284	354	250	333	507	438	70	274	689
Link Distance (ft)		667			941			785	785			664
Upstream Blk Time (%)												97
Queuing Penalty (veh)												0
Storage Bay Dist (ft)	270		290	410		160	260			266	250	
Storage Blk Time (%)					19	2	26	0	0	0	99	1
Queuing Penalty (veh)					69	11	97	0	1	0	274	2

Intersection: 8: River Rd & Lockhaven, Interval #2

Movement	SB
Directions Served	TR
Maximum Queue (ft)	679
Average Queue (ft)	516
95th Queue (ft)	910
Link Distance (ft)	664
Upstream Blk Time (%)	1
Queuing Penalty (veh)	0
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 8: River Rd & Lockhaven, All Intervals

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	SB	SB
Directions Served	L	T	R	L	LT	R	L	T	T	R	L	T
Maximum Queue (ft)	126	210	74	362	416	185	284	459	390	167	275	704
Average Queue (ft)	40	96	33	130	226	116	180	244	186	17	272	626
95th Queue (ft)	94	174	64	287	355	255	332	479	409	67	298	867
Link Distance (ft)		667			941			785	785			664
Upstream Blk Time (%)												76
Queuing Penalty (veh)												0
Storage Bay Dist (ft)	270		290	410		160	260			266	250	
Storage Blk Time (%)		0			19	2	24	1	0	0	93	1
Queuing Penalty (veh)		0			70	11	91	1	0	0	260	1

Intersection: 8: River Rd & Lockhaven, All Intervals

Movement	SB
Directions Served	TR
Maximum Queue (ft)	679
Average Queue (ft)	486
95th Queue (ft)	879
Link Distance (ft)	664
Upstream Blk Time (%)	1
Queuing Penalty (veh)	0
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 13: Chemawa Rd & River Rd , Interval #1

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	R	L	T	R	L	T	TR	L	T	TR
Maximum Queue (ft)	238	417	240	185	589	279	212	257	229	198	302	272
Average Queue (ft)	107	266	97	162	341	87	124	161	154	118	195	148
95th Queue (ft)	262	460	288	235	654	267	207	266	251	219	370	311
Link Distance (ft)		776			837			1016	1016		555	555
Upstream Blk Time (%)					1						0	
Queuing Penalty (veh)					0						0	
Storage Bay Dist (ft)	365		325	160		300	200			190		
Storage Blk Time (%)		5	0	24	32	0	1	3		9	4	
Queuing Penalty (veh)		14	0	79	89	0	5	7		35	5	

Intersection: 13: Chemawa Rd & River Rd , Interval #2

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	R	L	T	R	L	T	TR	L	T	TR
Maximum Queue (ft)	244	468	299	185	521	325	224	397	366	214	457	423
Average Queue (ft)	84	244	70	154	302	103	140	176	157	167	320	260
95th Queue (ft)	186	381	190	230	502	301	235	348	302	271	628	551
Link Distance (ft)		776			837			1016	1016		555	555
Upstream Blk Time (%)											7	0
Queuing Penalty (veh)											0	0
Storage Bay Dist (ft)	365		325	160		300	200			190		
Storage Blk Time (%)		3	0	16	33	0	5	3		47	3	
Queuing Penalty (veh)		7	0	52	87	0	21	7		172	3	

Intersection: 13: Chemawa Rd & River Rd , All Intervals

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	R	L	T	R	L	T	TR	L	T	TR
Maximum Queue (ft)	342	542	350	185	620	325	224	405	373	214	467	423
Average Queue (ft)	89	249	76	156	312	99	136	173	156	155	290	233
95th Queue (ft)	208	403	218	232	545	293	229	331	292	264	585	510
Link Distance (ft)		776			837			1016	1016		555	555
Upstream Blk Time (%)					0						5	0
Queuing Penalty (veh)					0						0	0
Storage Bay Dist (ft)	365		325	160		300	200			190		
Storage Blk Time (%)		3	0	18	33	0	4	3		38	3	
Queuing Penalty (veh)		9	0	59	88	0	17	7		138	4	

Intersection: 18: Shoreline Dr /Windsor Island & Chemawa Rd, Interval #1

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	40	69	48	73
Average Queue (ft)	23	33	29	49
95th Queue (ft)	43	69	49	79
Link Distance (ft)	594	1045	1107	654
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 18: Shoreline Dr /Windsor Island & Chemawa Rd, Interval #2

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	76	62	66	73
Average Queue (ft)	27	25	29	42
95th Queue (ft)	52	51	56	68
Link Distance (ft)	594	1045	1107	654
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 18: Shoreline Dr /Windsor Island & Chemawa Rd, All Intervals

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	76	77	70	78
Average Queue (ft)	26	27	29	44
95th Queue (ft)	51	56	54	71
Link Distance (ft)	594	1045	1107	654
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 23: Windsor Island Rd /Windsor Island & Lockhaven Dr , Interval #1

Movement	WB	WB	NB	SB
Directions Served	L	R	TR	LT
Maximum Queue (ft)	71	16	9	43
Average Queue (ft)	40	5	2	13
95th Queue (ft)	88	11	12	43
Link Distance (ft)		1241	953	564
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)	206			
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 23: Windsor Island Rd /Windsor Island & Lockhaven Dr , Interval #2

Movement	WB	WB	NB	SB
Directions Served	L	R	TR	LT
Maximum Queue (ft)	80	16	4	40
Average Queue (ft)	29	5	0	8
95th Queue (ft)	61	14	3	32
Link Distance (ft)		1241	953	564
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)	206			
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 23: Windsor Island Rd /Windsor Island & Lockhaven Dr , All Intervals

Movement	WB	WB	NB	SB
Directions Served	L	R	TR	LT
Maximum Queue (ft)	95	19	9	48
Average Queue (ft)	32	5	1	9
95th Queue (ft)	69	13	6	35
Link Distance (ft)		1241	953	564
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)	206			
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 25: Windsor Island & Site Access, Interval #1

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 25: Windsor Island & Site Access, Interval #2

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 25: Windsor Island & Site Access, All Intervals

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Network Summary

Network wide Queuing Penalty, Interval #1: 620
Network wide Queuing Penalty, Interval #2: 805
Network wide Queuing Penalty, All Intervals: 759

Intersection: 8: River Rd & Lockhaven, Interval #1

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	SB	SB
Directions Served	L	T	R	L	LT	R	L	T	T	R	L	T
Maximum Queue (ft)	92	178	57	307	382	185	210	243	212	65	275	680
Average Queue (ft)	44	110	34	154	247	142	143	188	146	20	273	581
95th Queue (ft)	94	191	64	309	385	264	234	269	224	62	282	861
Link Distance (ft)		667			941			785	785			664
Upstream Blk Time (%)												37
Queuing Penalty (veh)												0
Storage Bay Dist (ft)	270		290	410		160	260			266	250	
Storage Blk Time (%)					25	1	0	1			91	0
Queuing Penalty (veh)					97	6	0	1			276	0

Intersection: 8: River Rd & Lockhaven, Interval #1

Movement	SB
Directions Served	TR
Maximum Queue (ft)	654
Average Queue (ft)	507
95th Queue (ft)	797
Link Distance (ft)	664
Upstream Blk Time (%)	0
Queuing Penalty (veh)	0
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 8: River Rd & Lockhaven, Interval #2

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	SB	SB
Directions Served	L	T	R	L	LT	R	L	T	T	R	L	T
Maximum Queue (ft)	104	190	68	296	378	185	255	402	324	106	275	698
Average Queue (ft)	35	98	32	131	222	129	162	216	168	18	274	680
95th Queue (ft)	83	164	62	276	356	260	295	382	325	72	274	688
Link Distance (ft)		667			941			785	785			664
Upstream Blk Time (%)												96
Queuing Penalty (veh)												0
Storage Bay Dist (ft)	270		290	410		160	260			266	250	
Storage Blk Time (%)					19	2	11	1	0	0	100	0
Queuing Penalty (veh)					71	11	42	1	0	0	282	0

Intersection: 8: River Rd & Lockhaven, Interval #2

Movement	SB
Directions Served	TR
Maximum Queue (ft)	679
Average Queue (ft)	533
95th Queue (ft)	908
Link Distance (ft)	664
Upstream Blk Time (%)	1
Queuing Penalty (veh)	0
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 8: River Rd & Lockhaven, All Intervals

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	SB	SB
Directions Served	L	T	R	L	LT	R	L	T	T	R	L	T
Maximum Queue (ft)	122	209	72	325	396	185	269	405	332	124	275	698
Average Queue (ft)	37	101	33	137	228	132	157	209	162	19	274	656
95th Queue (ft)	86	172	62	285	364	261	282	360	305	70	279	811
Link Distance (ft)		667			941			785	785			664
Upstream Blk Time (%)												81
Queuing Penalty (veh)												0
Storage Bay Dist (ft)	270		290	410		160	260			266	250	
Storage Blk Time (%)					21	2	8	1	0	0	98	0
Queuing Penalty (veh)					78	10	31	1	0	0	280	0

Intersection: 8: River Rd & Lockhaven, All Intervals

Movement	SB
Directions Served	TR
Maximum Queue (ft)	679
Average Queue (ft)	527
95th Queue (ft)	884
Link Distance (ft)	664
Upstream Blk Time (%)	1
Queuing Penalty (veh)	0
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 23: Windsor Island Rd /Windsor Island & Lockhaven Dr , Interval #1

Movement	WB	WB	NB	SB
Directions Served	L	R	TR	LT
Maximum Queue (ft)	61	18	4	39
Average Queue (ft)	28	7	1	6
95th Queue (ft)	47	21	7	27
Link Distance (ft)		1241	953	564
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)	206			
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 23: Windsor Island Rd /Windsor Island & Lockhaven Dr , Interval #2

Movement	WB	WB	NB	SB
Directions Served	L	R	TR	LT
Maximum Queue (ft)	72	26	4	48
Average Queue (ft)	29	6	0	10
95th Queue (ft)	56	18	4	36
Link Distance (ft)		1241	953	564
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)	206			
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 23: Windsor Island Rd /Windsor Island & Lockhaven Dr , All Intervals

Movement	WB	WB	NB	SB
Directions Served	L	R	TR	LT
Maximum Queue (ft)	79	32	4	54
Average Queue (ft)	29	6	0	9
95th Queue (ft)	54	19	5	34
Link Distance (ft)		1241	953	564
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)	206			
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 25: Windsor Island & Site Access, Interval #1

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 25: Windsor Island & Site Access, Interval #2

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 25: Windsor Island & Site Access, All Intervals

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Zone Summary

Zone wide Queuing Penalty, Interval #1: 380
Zone wide Queuing Penalty, Interval #2: 408
Zone wide Queuing Penalty, All Intervals: 401

Intersection: 8: River Rd & Lockhaven, Interval #1

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	SB	SB
Directions Served	L	T	R	L	LT	R	L	T	T	R	L	T
Maximum Queue (ft)	112	172	68	365	396	185	259	319	252	73	275	681
Average Queue (ft)	52	105	38	199	278	155	180	208	153	23	274	599
95th Queue (ft)	120	180	72	379	424	262	294	318	262	71	275	792
Link Distance (ft)		667			941			785	785			664
Upstream Blk Time (%)												44
Queuing Penalty (veh)												0
Storage Bay Dist (ft)	270		290	410		160	260			266	250	
Storage Blk Time (%)				0	32	2	4	3	0		96	0
Queuing Penalty (veh)				0	124	12	16	4	1		289	0

Intersection: 8: River Rd & Lockhaven, Interval #1

Movement	SB
Directions Served	TR
Maximum Queue (ft)	663
Average Queue (ft)	476
95th Queue (ft)	795
Link Distance (ft)	664
Upstream Blk Time (%)	0
Queuing Penalty (veh)	0
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 8: River Rd & Lockhaven, Interval #2

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	SB	SB
Directions Served	L	T	R	L	LT	R	L	T	T	R	L	T
Maximum Queue (ft)	109	215	81	317	377	185	285	771	735	167	275	695
Average Queue (ft)	39	113	33	139	242	125	255	475	415	34	274	680
95th Queue (ft)	87	194	63	286	369	264	341	899	836	136	274	689
Link Distance (ft)		667			941			785	785			664
Upstream Blk Time (%)								6	0			95
Queuing Penalty (veh)								0	0			0
Storage Bay Dist (ft)	270		290	410		160	260			266	250	
Storage Blk Time (%)					23	2	63	1	1	0	99	1
Queuing Penalty (veh)					85	9	239	1	3	0	280	2

Intersection: 8: River Rd & Lockhaven, Interval #2

Movement	SB
Directions Served	TR
Maximum Queue (ft)	679
Average Queue (ft)	540
95th Queue (ft)	908
Link Distance (ft)	664
Upstream Blk Time (%)	1
Queuing Penalty (veh)	0
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 8: River Rd & Lockhaven, All Intervals

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	SB	SB
Directions Served	L	T	R	L	LT	R	L	T	T	R	L	T
Maximum Queue (ft)	132	218	87	378	412	185	285	771	735	179	275	695
Average Queue (ft)	43	111	35	154	251	132	237	410	351	32	274	661
95th Queue (ft)	96	191	66	315	385	266	345	829	766	123	274	772
Link Distance (ft)		667			941			785	785			664
Upstream Blk Time (%)								4	0			82
Queuing Penalty (veh)								0	0			0
Storage Bay Dist (ft)	270		290	410		160	260			266	250	
Storage Blk Time (%)				0	25	2	48	1	1	0	98	1
Queuing Penalty (veh)				0	95	10	183	2	3	0	282	1

Intersection: 8: River Rd & Lockhaven, All Intervals

Movement	SB
Directions Served	TR
Maximum Queue (ft)	679
Average Queue (ft)	524
95th Queue (ft)	885
Link Distance (ft)	664
Upstream Blk Time (%)	1
Queuing Penalty (veh)	0
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 23: Windsor Island Rd /Windsor Island & Lockhaven Dr , Interval #1

Movement	WB	WB	NB	SB
Directions Served	L	R	TR	LT
Maximum Queue (ft)	79	39	4	50
Average Queue (ft)	35	14	1	20
95th Queue (ft)	74	35	10	54
Link Distance (ft)		1241	953	564
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)	206			
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 23: Windsor Island Rd /Windsor Island & Lockhaven Dr , Interval #2

Movement	WB	WB	NB	SB
Directions Served	L	R	TR	LT
Maximum Queue (ft)	87	30	17	56
Average Queue (ft)	30	10	1	15
95th Queue (ft)	62	23	8	46
Link Distance (ft)		1241	953	564
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)	206			
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 23: Windsor Island Rd /Windsor Island & Lockhaven Dr , All Intervals

Movement	WB	WB	NB	SB
Directions Served	L	R	TR	LT
Maximum Queue (ft)	96	43	17	68
Average Queue (ft)	31	11	1	16
95th Queue (ft)	65	26	9	48
Link Distance (ft)		1241	953	564
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)	206			
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 25: Windsor Island & Site Access, Interval #1

Movement	WB
Directions Served	LR
Maximum Queue (ft)	40
Average Queue (ft)	21
95th Queue (ft)	44
Link Distance (ft)	490
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 25: Windsor Island & Site Access, Interval #2

Movement	WB
Directions Served	LR
Maximum Queue (ft)	38
Average Queue (ft)	16
95th Queue (ft)	36
Link Distance (ft)	490
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 25: Windsor Island & Site Access, All Intervals

Movement	WB
Directions Served	LR
Maximum Queue (ft)	50
Average Queue (ft)	17
95th Queue (ft)	38
Link Distance (ft)	490
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Zone Summary

Zone wide Queuing Penalty, Interval #1: 447
Zone wide Queuing Penalty, Interval #2: 618
Zone wide Queuing Penalty, All Intervals: 575

Intersection: 8: River Rd & Lockhaven, Interval #1

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	SB	SB
Directions Served	L	T	R	L	LT	R	L	T	T	R	L	T
Maximum Queue (ft)	80	176	68	341	409	185	261	455	403	117	275	624
Average Queue (ft)	41	121	36	185	265	136	219	304	261	27	236	451
95th Queue (ft)	87	187	67	352	442	263	319	585	528	114	359	793
Link Distance (ft)		667			941			785	785			664
Upstream Blk Time (%)								0				12
Queuing Penalty (veh)								0				0
Storage Bay Dist (ft)	270		290	410		160	260			266	250	
Storage Blk Time (%)				0	26	8	28	2	1	0	71	0
Queuing Penalty (veh)				0	109	46	119	3	3	0	226	0

Intersection: 8: River Rd & Lockhaven, Interval #1

Movement	SB
Directions Served	TR
Maximum Queue (ft)	572
Average Queue (ft)	386
95th Queue (ft)	673
Link Distance (ft)	664
Upstream Blk Time (%)	0
Queuing Penalty (veh)	0
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 8: River Rd & Lockhaven, Interval #2

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	SB	SB
Directions Served	L	T	R	L	LT	R	L	T	T	R	L	T
Maximum Queue (ft)	114	219	73	364	456	185	285	646	614	172	275	702
Average Queue (ft)	42	112	32	149	250	133	255	442	378	47	274	677
95th Queue (ft)	93	194	63	320	398	263	342	811	756	175	276	718
Link Distance (ft)		667			941			785	785			664
Upstream Blk Time (%)								6	0			86
Queuing Penalty (veh)								0	0			0
Storage Bay Dist (ft)	270		290	410		160	260			266	250	
Storage Blk Time (%)		0		0	24	3	60	2	3	0	99	2
Queuing Penalty (veh)		0		0	92	17	237	2	8	0	291	3

Intersection: 8: River Rd & Lockhaven, Interval #2

Movement	SB
Directions Served	TR
Maximum Queue (ft)	679
Average Queue (ft)	538
95th Queue (ft)	876
Link Distance (ft)	664
Upstream Blk Time (%)	1
Queuing Penalty (veh)	0
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 8: River Rd & Lockhaven, All Intervals

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	SB	SB
Directions Served	L	T	R	L	LT	R	L	T	T	R	L	T
Maximum Queue (ft)	122	219	78	399	480	185	285	646	614	185	275	702
Average Queue (ft)	42	114	33	158	253	134	246	409	350	42	265	622
95th Queue (ft)	91	193	64	330	409	263	340	772	714	162	331	857
Link Distance (ft)		667			941			785	785			664
Upstream Blk Time (%)								5	0			68
Queuing Penalty (veh)								0	0			0
Storage Bay Dist (ft)	270		290	410		160	260			266	250	
Storage Blk Time (%)		0		0	24	5	52	2	3	0	92	1
Queuing Penalty (veh)		0		0	96	24	208	2	7	0	275	2

Intersection: 8: River Rd & Lockhaven, All Intervals

Movement	SB
Directions Served	TR
Maximum Queue (ft)	679
Average Queue (ft)	502
95th Queue (ft)	845
Link Distance (ft)	664
Upstream Blk Time (%)	1
Queuing Penalty (veh)	0
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 23: Windsor Island Rd /Windsor Island & Lockhaven Dr , Interval #1

Movement	WB	WB	NB	SB
Directions Served	L	R	TR	LT
Maximum Queue (ft)	52	12	4	44
Average Queue (ft)	31	5	1	15
95th Queue (ft)	57	13	6	45
Link Distance (ft)		1241	953	564
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)	206			
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 23: Windsor Island Rd /Windsor Island & Lockhaven Dr , Interval #2

Movement	WB	WB	NB	SB
Directions Served	L	R	TR	LT
Maximum Queue (ft)	82	22	9	43
Average Queue (ft)	31	6	0	7
95th Queue (ft)	60	14	5	30
Link Distance (ft)		1241	953	564
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)	206			
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 23: Windsor Island Rd /Windsor Island & Lockhaven Dr , All Intervals

Movement	WB	WB	NB	SB
Directions Served	L	R	TR	LT
Maximum Queue (ft)	86	22	13	44
Average Queue (ft)	31	5	0	9
95th Queue (ft)	59	14	5	35
Link Distance (ft)		1241	953	564
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)	206			
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 25: Windsor Island & Site Access, Interval #1

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 25: Windsor Island & Site Access, Interval #2

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 25: Windsor Island & Site Access, All Intervals

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Zone Summary

Zone wide Queuing Penalty, Interval #1: 507
Zone wide Queuing Penalty, Interval #2: 652
Zone wide Queuing Penalty, All Intervals: 615

Intersection: 8: River Rd & Lockhaven, Interval #1

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	SB	SB
Directions Served	L	T	R	L	LT	R	L	T	T	R	L	T
Maximum Queue (ft)	103	188	69	368	486	185	277	458	391	123	275	650
Average Queue (ft)	40	126	40	235	326	162	204	328	269	40	258	458
95th Queue (ft)	102	194	75	410	505	258	345	612	531	148	321	840
Link Distance (ft)		667			941			785	785			664
Upstream Blk Time (%)								0				26
Queuing Penalty (veh)								0				0
Storage Bay Dist (ft)	270		290	410		160	260			266	250	
Storage Blk Time (%)				0	37	3	31	4	1	0	67	1
Queuing Penalty (veh)				1	153	18	132	5	4	0	214	3

Intersection: 8: River Rd & Lockhaven, Interval #1

Movement	SB
Directions Served	TR
Maximum Queue (ft)	612
Average Queue (ft)	400
95th Queue (ft)	787
Link Distance (ft)	664
Upstream Blk Time (%)	0
Queuing Penalty (veh)	0
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 8: River Rd & Lockhaven, Interval #2

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	SB	SB
Directions Served	L	T	R	L	LT	R	L	T	T	R	L	T
Maximum Queue (ft)	91	251	74	408	500	185	285	777	750	246	275	710
Average Queue (ft)	43	126	32	206	296	149	272	632	578	59	274	677
95th Queue (ft)	90	222	65	362	451	264	332	964	935	205	274	728
Link Distance (ft)		667			941			785	785			664
Upstream Blk Time (%)								26	6			93
Queuing Penalty (veh)								0	0			0
Storage Bay Dist (ft)	270		290	410		160	260			266	250	
Storage Blk Time (%)		0		0	32	5	88	0	3	0	100	1
Queuing Penalty (veh)		0		0	123	27	349	0	8	0	294	3

Intersection: 8: River Rd & Lockhaven, Interval #2

Movement	SB
Directions Served	TR
Maximum Queue (ft)	679
Average Queue (ft)	512
95th Queue (ft)	907
Link Distance (ft)	664
Upstream Blk Time (%)	2
Queuing Penalty (veh)	0
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 8: River Rd & Lockhaven, All Intervals

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	SB	SB
Directions Served	L	T	R	L	LT	R	L	T	T	R	L	T
Maximum Queue (ft)	108	251	82	430	518	185	285	777	750	250	275	710
Average Queue (ft)	43	126	34	213	303	152	256	558	503	55	270	625
95th Queue (ft)	93	216	68	375	465	263	355	945	905	193	304	872
Link Distance (ft)		667			941			785	785			664
Upstream Blk Time (%)								19	4			77
Queuing Penalty (veh)								0	0			0
Storage Bay Dist (ft)	270		290	410		160	260			266	250	
Storage Blk Time (%)		0		0	33	4	74	1	3	0	92	1
Queuing Penalty (veh)		0		0	131	25	295	2	7	0	274	3

Intersection: 8: River Rd & Lockhaven, All Intervals

Movement	SB
Directions Served	TR
Maximum Queue (ft)	679
Average Queue (ft)	485
95th Queue (ft)	886
Link Distance (ft)	664
Upstream Blk Time (%)	1
Queuing Penalty (veh)	0
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 23: Windsor Island Rd /Windsor Island & Lockhaven Dr , Interval #1

Movement	WB	WB	NB	SB
Directions Served	L	R	TR	LT
Maximum Queue (ft)	54	36	8	44
Average Queue (ft)	35	14	2	16
95th Queue (ft)	61	33	12	44
Link Distance (ft)		1241	953	564
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)	206			
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 23: Windsor Island Rd /Windsor Island & Lockhaven Dr , Interval #2

Movement	WB	WB	NB	SB
Directions Served	L	R	TR	LT
Maximum Queue (ft)	83	37	9	57
Average Queue (ft)	32	10	0	16
95th Queue (ft)	63	24	5	47
Link Distance (ft)		1241	953	564
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)	206			
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 23: Windsor Island Rd /Windsor Island & Lockhaven Dr , All Intervals

Movement	WB	WB	NB	SB
Directions Served	L	R	TR	LT
Maximum Queue (ft)	90	42	13	57
Average Queue (ft)	33	11	1	16
95th Queue (ft)	63	27	7	46
Link Distance (ft)		1241	953	564
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)	206			
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 25: Windsor Island & Site Access, Interval #1

Movement	WB
Directions Served	LR
Maximum Queue (ft)	32
Average Queue (ft)	23
95th Queue (ft)	37
Link Distance (ft)	490
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 25: Windsor Island & Site Access, Interval #2

Movement	WB
Directions Served	LR
Maximum Queue (ft)	33
Average Queue (ft)	14
95th Queue (ft)	34
Link Distance (ft)	490
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 25: Windsor Island & Site Access, All Intervals

Movement	WB
Directions Served	LR
Maximum Queue (ft)	38
Average Queue (ft)	16
95th Queue (ft)	36
Link Distance (ft)	490
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Zone Summary

Zone wide Queuing Penalty, Interval #1: 531
Zone wide Queuing Penalty, Interval #2: 805
Zone wide Queuing Penalty, All Intervals: 736

APPENDIX G: TPR ANALYSIS

Windsor Island Road Subdivision

River at Lockhaven AM Peak Hour

2025 Background										los	B
Phase		Adj flow	Sat Flow								
1	SBL	260	1810	0.144	1,2	0.253					
2	NBT	387	3554	0.109	5,6	0.321	0.321				
										Cycle Length	120
4	EB	274	1781	0.154	4	0.154				Lost Time/phase	4
5	NBL	116	1781	0.065						# phases	4
6	SBT	462	1805	0.256			0.154			Total Lost Time	16
8	WB	273	1767	0.154	8	0.154	0.154	Critical		v/c	0.73
					Critical Pairs	0.629					

2031 Background										los	B
Phase		Adj flow	Sat Flow								
1	SBL	276	1810	0.152	1,2	0.268					
2	NBT	410	3554	0.115	5,6	0.340	0.340				
										Cycle Length	120
4	EB	290	1781	0.163	4	0.163				Lost Time/phase	4
5	NBL	123	1781	0.069						# phases	4
6	SBT	489	1805	0.271			0.163			Total Lost Time	16
8	WB	289	1767	0.164	8	0.164	0.164	Critical		v/c	0.77
					Critical Pairs	0.666					

2031 Build										los	B
Phase		Adj flow	Sat Flow								
1	SBL	276	1810	0.152	1,2	0.268					
2	NBT	410	3554	0.115	5,6	0.360	0.360				
										Cycle Length	120
4	EB	444	1781	0.249	4	0.249				Lost Time/phase	4
5	NBL	151	1781	0.085						# phases	4
6	SBT	496	1805	0.275			0.249			Total Lost Time	16
8	WB	326	1767	0.184	8	0.184	0.184	Critical		v/c	0.92
					Critical Pairs	0.793					

Lockhaven at Chemawa AM Peak Hour

2025 Background									los	C
Phase		Adj flow	Sat Flow							
1	SBL	61	3374	0.018	1,2	0.166				
2	NBT	499	3374	0.148	5,6	0.009				
3	WBL	266	3456	0.077					Cycle Length	120
4	EBT	578	1777	0.325					Lost Time/phase	4
5	NBL	0	1810	0.000					# phases	2
6	SBT	18	1900	0.009			0.166		Total Lost Time	8
7	EBL	56	3510	0.016	3,4	0.402				
8	WBT	334	1721	0.194	7,8	0.210	0.402	Critical	v/c	0.61
					Critical Pairs	0.568				

2031 Background									los	C
Phase		Adj flow	Sat Flow							
1	SBL	64	3374	0.019	1,2	0.206				
2	NBT	529	2834	0.187	5,6	0.010				
3	WBL	282	3456	0.082					Cycle Length	120
4	EBT	613	1777	0.345					Lost Time/phase	4
5	NBL	0	1810	0.000					# phases	2
6	SBT	19	1900	0.010			0.206		Total Lost Time	8
7	EBL	60	3510	0.017	3,4	0.427				
8	WBT	354	1721	0.206	7,8	0.223	0.427	Critical	v/c	0.68
					Critical Pairs	0.632				

2031 Build									los	D
Phase		Adj flow	Sat Flow							
1	SBL	64	3374	0.019	1,2	0.206				
2	NBT	529	2834	0.187	5,6	0.010				
3	WBL	282	3456	0.082					Cycle Length	120
4	EBT	665	1777	0.374					Lost Time/phase	4
5	NBL	0	1810	0.000					# phases	2
6	SBT	19	1900	0.010			0.206		Total Lost Time	8
7	EBL	102	3510	0.029	3,4	0.456				
8	WBT	362	1721	0.210	7,8	0.239	0.456	Critical	v/c	0.71
					Critical Pairs	0.661				

River at Chemawa AM Peak Hour

2025 Background									los	C
Phase		Adj flow	Sat Flow							
1	SBL	66	1767	0.037	1,2	0.225				
2	NBT	323	1721	0.188	5,6	0.367				
3	WBL	143	1795	0.080					Cycle Length	120
4	EBT	232	1856	0.125					Lost Time/phase	4
5	NBL	170	1761	0.097					# phases	2
6	SBT	480	1777	0.270			0.367		Total Lost Time	8
7	EBL	70	1810	0.039	3,4	0.205				
8	WBT	183	1870	0.098	7,8	0.137	0.205	Critical	v/c	0.61
					Critical Pairs	0.571				

2031 Background									los	C
Phase		Adj flow	Sat Flow							
1	SBL	69	1767	0.039	1,2	0.238				
2	NBT	343	1721	0.199	5,6	0.389				
3	WBL	152	1795	0.085					Cycle Length	120
4	EBT	245	1856	0.132					Lost Time/phase	4
5	NBL	181	1767	0.102					# phases	2
6	SBT	509	1777	0.286			0.389		Total Lost Time	8
7	EBL	75	1810	0.041	3,4	0.217				
8	WBT	194	1870	0.104	7,8	0.145	0.217	Critical	v/c	0.65
					Critical Pairs	0.606				

2031 Build									los	D
Phase		Adj flow	Sat Flow							
1	SBL	81	1767	0.046	1,2	0.251				
2	NBT	353	1721	0.205	5,6	0.412				
3	WBL	152	1795	0.085					Cycle Length	120
4	EBT	245	1856	0.132					Lost Time/phase	4
5	NBL	189	1767	0.107					# phases	2
6	SBT	542	1777	0.305			0.412		Total Lost Time	8
7	EBL	81	1810	0.045	3,4	0.217				
8	WBT	197	1870	0.105	7,8	0.150	0.217	Critical	v/c	0.67
					Critical Pairs	0.629				

Lockhaven at Chemawa PM Peak Hour

2025 Background									los	C
Phase		Adj flow	Sat Flow							
1	SBL	197	3510	0.056	1,2	0.179				
2	NBT	343	2790	0.123	5,6	0.053				
3	WBL	541	3483	0.155					Cycle Length	120
4	EBT	484	1791	0.270					Lost Time/phase	4
5	NBL	6	1570	0.004					# phases	2
6	SBT	93	1900	0.049			0.179		Total Lost Time	8
7	EBL	130	3510	0.037	3,4	0.426				
8	WBT	525	1805	0.291	7,8	0.328	0.426	Critical	v/c	0.65
					Critical Pairs	0.605				

2031 Background									los	C
Phase		Adj flow	Sat Flow							
1	SBL	209	3510	0.060	1,2	0.190				
2	NBT	363	2790	0.130	5,6	0.055				
3	WBL	574	3483	0.165					Cycle Length	120
4	EBT	513	1791	0.286					Lost Time/phase	4
5	NBL	6	1570	0.004					# phases	2
6	SBT	98	1900	0.052			0.190		Total Lost Time	8
7	EBL	137	3510	0.039	3,4	0.451				
8	WBT	556	1805	0.308	7,8	0.347	0.451	Critical	v/c	0.69
					Critical Pairs	0.641				

2031 Build									los	D
Phase		Adj flow	Sat Flow							
1	SBL	209	1755	0.119	1,2	0.249				
2	NBT	363	2790	0.130	5,6	0.051				
3	WBL	575	3483	0.165					Cycle Length	120
4	EBT	526	1791	0.294					Lost Time/phase	4
5	NBL	6	1570	0.004					# phases	2
6	SBT	90	1900	0.047			0.249		Total Lost Time	8
7	EBL	190	3510	0.054	3,4	0.459				
8	WBT	582	1805	0.322	7,8	0.377	0.459	Critical	v/c	0.76
					Critical Pairs	0.708				

River at Lockhaven PM Peak Hour

2025 Background									los	B
Phase		Adj flow	Sat Flow							
1	SBL	209	1795	0.116	1,2	0.337				
2	NBT	795	3610	0.220	5,6	0.267	0.337			
									Cycle Length	120
4	EB	208	1870	0.111	4	0.111			Lost Time/phase	4
5	NBL	119	1810	0.066					# phases	4
6	SBT	360	1791	0.201			0.111		Total Lost Time	16
8	WB	238	1610	0.148	8	0.148	0.148	Critical	v/c	0.69
					Critical Pairs	0.596				

2031 Background									los	B
Phase		Adj flow	Sat Flow							
1	SBL	222	1795	0.124	1,2	0.357				
2	NBT	842	3610	0.233	5,6	0.283	0.357			
									Cycle Length	120
4	EB	221	1870	0.118	4	0.118			Lost Time/phase	4
5	NBL	126	1810	0.070					# phases	4
6	SBT	382	1791	0.213			0.118		Total Lost Time	16
8	WB	293	1885	0.155	8	0.155	0.155	Critical	v/c	0.73
					Critical Pairs	0.631				

2031 Build									los	B
Phase		Adj flow	Sat Flow							
1	SBL	222	1795	0.124	1,2	0.357				
2	NBT	842	3610	0.233	5,6	0.335	0.357			
									Cycle Length	120
4	EB	300	1870	0.160	4	0.160			Lost Time/phase	4
5	NBL	205	1810	0.113					# phases	4
6	SBT	397	1791	0.222			0.160		Total Lost Time	16
8	WB	341	1885	0.181	8	0.181	0.181	Critical	v/c	0.81
					Critical Pairs	0.698				

2025 Background									los	C
Phase		Adj flow	Sat Flow							
1	SBL	119	1767	0.067	1,2	0.371				
2	NBT	544	1791	0.304	5,6	0.351				
3	WBL	182	1795	0.101					Cycle Length	120
4	EBT	206	1856	0.111					Lost Time/phase	4
5	NBL	222	1810	0.123					# phases	2
6	SBT	409	1791	0.228			0.371		Total Lost Time	8
7	EBL	113	1810	0.062	3,4	0.212				
8	WBT	236	1900	0.124	7,8	0.187	0.212	Critical	v/c	0.63
					Critical Pairs	0.583				

2031 Background									los	C
Phase		Adj flow	Sat Flow							
1	SBL	126	1767	0.071	1,2	0.393				
2	NBT	576	1791	0.322	5,6	0.372				
3	WBL	194	1795	0.108					Cycle Length	120
4	EBT	222	1856	0.120					Lost Time/phase	4
5	NBL	235	1810	0.130					# phases	2
6	SBT	433	1791	0.242			0.393		Total Lost Time	8
7	EBL	121	1810	0.067	3,4	0.228				
8	WBT	251	1900	0.132	7,8	0.199	0.228	Critical	v/c	0.66
					Critical Pairs	0.621				

2031 Build									los	D
Phase		Adj flow	Sat Flow							
1	SBL	146	1767	0.083	1,2	0.247				
2	NBT	295	1791	0.165	5,6	0.393				
3	WBL	194	1795	0.108					Cycle Length	120
4	EBT	222	1856	0.120					Lost Time/phase	4
5	NBL	261	1810	0.144					# phases	2
6	SBT	446	1791	0.249			0.393		Total Lost Time	8
7	EBL	126	1810	0.070	3,4	0.228				
8	WBT	261	1900	0.137	7,8	0.207	0.228	Critical	v/c	0.67
					Critical Pairs	0.621				

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	56	1177	5	265	663	17	0	60	497	60	18	29
Future Volume (vph)	56	1177	5	265	663	17	0	60	497	60	18	29
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	0.95		0.97	0.95			1.00	0.88	0.97	1.00	1.00
Frt	1.00	1.00		1.00	1.00			1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00			1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3502	3537		3433	3398			1900	2842	3335	1900	1615
Flt Permitted	0.95	1.00		0.95	1.00			1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3502	3537		3433	3398			1900	2842	3335	1900	1615
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	60	1252	5	282	705	18	0	64	529	64	19	31
RTOR Reduction (vph)	0	0	0	0	1	0	0	0	311	0	0	23
Lane Group Flow (vph)	60	1257	0	282	722	0	0	64	218	64	19	8
Heavy Vehicles (%)	0%	2%	0%	2%	6%	0%	0%	0%	0%	5%	0%	0%
Turn Type	Prot	NA		Prot	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases									2			6
Actuated Green, G (s)	5.1	38.7		10.8	44.4			10.5	10.5	5.2	20.2	20.2
Effective Green, g (s)	5.6	39.2		11.3	44.9			11.0	11.0	5.7	20.7	20.7
Actuated g/C Ratio	0.07	0.47		0.14	0.54			0.13	0.13	0.07	0.25	0.25
Clearance Time (s)	4.5	4.5		4.5	4.5			4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)	2.5	4.0		2.5	4.0			2.5	2.5	2.5	2.5	2.5
Lane Grp Cap (vph)	235	1666		466	1833			251	375	228	472	401
v/s Ratio Prot	0.02	c0.36		c0.08	0.21			0.03		c0.02	0.01	
v/s Ratio Perm									c0.08			0.00
v/c Ratio	0.26	0.75		0.61	0.39			0.25	0.58	0.28	0.04	0.02
Uniform Delay, d1	36.8	18.1		33.8	11.2			32.4	33.9	36.8	23.7	23.6
Progression Factor	1.00	1.00		1.00	1.00			1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.4	2.1		1.9	0.2			0.4	1.9	0.5	0.0	0.0
Delay (s)	37.2	20.2		35.7	11.4			32.8	35.8	37.3	23.7	23.6
Level of Service	D	C		D	B			C	D	D	C	C
Approach Delay (s/veh)		20.9			18.2			35.5			31.3	
Approach LOS		C			B			D			C	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	23.3	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.66		
Actuated Cycle Length (s)	83.2	Sum of lost time (s)	16.0
Intersection Capacity Utilization	63.4%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

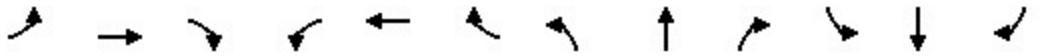
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	56	1177	5	265	663	17	0	60	497	60	18	29
Future Volume (veh/h)	56	1177	5	265	663	17	0	60	497	60	18	29
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	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	1900	1870	1900	1870	1811	1900	1900	1900	1900	1826	1900	1900
Adj Flow Rate, veh/h	60	1252	5	282	705	18	0	64	529	64	19	31
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	0	2	0	2	6	0	0	0	0	5	0	0
Cap, veh/h	133	1642	7	365	1784	46	2	457	682	130	608	515
Arrive On Green	0.04	0.45	0.45	0.11	0.52	0.52	0.00	0.24	0.24	0.04	0.32	0.32
Sat Flow, veh/h	3510	3630	14	3456	3428	88	1810	1900	2834	3374	1900	1610
Grp Volume(v), veh/h	60	613	644	282	354	369	0	64	529	64	19	31
Grp Sat Flow(s),veh/h/ln	1755	1777	1868	1728	1721	1795	1810	1900	1417	1687	1900	1610
Q Serve(g_s), s	1.6	28.4	28.4	7.8	12.2	12.2	0.0	2.6	17.1	1.8	0.7	1.3
Cycle Q Clear(g_c), s	1.6	28.4	28.4	7.8	12.2	12.2	0.0	2.6	17.1	1.8	0.7	1.3
Prop In Lane	1.00		0.01	1.00		0.05	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	133	804	845	365	895	934	2	457	682	130	608	515
V/C Ratio(X)	0.45	0.76	0.76	0.77	0.40	0.40	0.00	0.14	0.78	0.49	0.03	0.06
Avail Cap(c_a), veh/h	321	860	904	387	895	934	166	703	1049	309	703	596
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	46.3	22.5	22.5	42.8	14.2	14.3	0.0	29.4	34.9	46.3	23.0	23.2
Incr Delay (d2), s/veh	1.8	4.2	4.0	8.4	0.4	0.4	0.0	0.1	1.5	2.1	0.0	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	12.0	12.6	3.7	4.6	4.7	0.0	1.2	5.9	0.8	0.3	0.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	48.1	26.7	26.5	51.2	14.7	14.6	0.0	29.5	36.4	48.4	23.0	23.2
LnGrp LOS	D	C	C	D	B	B		C	D	D	C	C
Approach Vol, veh/h		1317			1005			593			114	
Approach Delay, s/veh		27.6			24.9			35.6			37.3	
Approach LOS		C			C			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	7.8	27.7	14.4	48.5	0.0	35.5	7.7	55.2
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	8.5	35.9	10.5	47.1	8.5	35.9	8.5	49.1
Max Q Clear Time (g_c+I1), s	3.8	19.1	9.8	30.4	0.0	3.3	3.6	14.2
Green Ext Time (p_c), s	0.1	4.0	0.1	13.6	0.0	0.2	0.1	13.3

Intersection Summary	
HCM 7th Control Delay, s/veh	28.6
HCM 7th LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	126	264	145	190	263	184	112	373	120	251	679	199
Future Volume (vph)	126	264	145	190	263	184	112	373	120	251	679	199
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	1.00	1.00	0.95	1.00	1.00	0.95	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.97	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1752	1759	1599	1681	1658	1583	1770	3539	1538	1805	3479	
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1752	1759	1599	1681	1658	1583	1770	3539	1538	1805	3479	
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	138	290	159	209	289	202	123	410	132	276	746	219
RTOR Reduction (vph)	0	0	125	0	0	148	0	0	91	0	21	0
Lane Group Flow (vph)	138	290	34	188	310	54	123	410	41	276	944	0
Heavy Vehicles (%)	3%	8%	1%	2%	9%	2%	2%	2%	5%	0%	0%	1%
Turn Type	Split	NA	Perm	Split	NA	Perm	Prot	NA	Perm	Prot	NA	
Protected Phases	4	4		8	8		5	2		1	6	
Permitted Phases			4			8			2			
Actuated Green, G (s)	20.1	20.1	20.1	21.7	21.7	21.7	5.6	30.0	30.0	7.6	32.0	
Effective Green, g (s)	20.6	20.6	20.6	22.2	22.2	22.2	6.1	30.5	30.5	8.1	32.5	
Actuated g/C Ratio	0.21	0.21	0.21	0.23	0.23	0.23	0.06	0.31	0.31	0.08	0.33	
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	
Vehicle Extension (s)	2.5	2.5	2.5	2.5	2.5	2.5	2.5	4.0	4.0	2.5	4.0	
Lane Grp Cap (vph)	370	372	338	383	377	360	110	1108	481	150	1160	
v/s Ratio Prot	0.08	c0.16		0.11	c0.19		0.07	0.12		c0.15	c0.27	
v/s Ratio Perm			0.02			0.03			0.03			
v/c Ratio	0.37	0.78	0.10	0.49	0.82	0.15	1.12	0.37	0.09	1.84	0.81	
Uniform Delay, d1	32.9	36.3	30.9	32.7	35.7	30.1	45.7	26.0	23.6	44.7	29.7	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.5	9.6	0.1	0.7	13.2	0.1	121.1	0.3	0.1	402.7	4.7	
Delay (s)	33.3	45.8	31.0	33.4	48.9	30.2	166.8	26.3	23.7	447.3	34.4	
Level of Service	C	D	C	C	D	C	F	C	C	F	C	
Approach Delay (s/veh)		38.9			39.4			51.8			126.2	
Approach LOS		D			D			D			F	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	75.6	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.92		
Actuated Cycle Length (s)	97.4	Sum of lost time (s)	16.0
Intersection Capacity Utilization	72.4%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



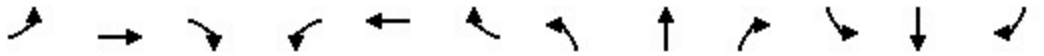
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	126	264	145	190	263	184	112	373	120	251	679	199
Future Volume (veh/h)	126	264	145	190	263	184	112	373	120	251	679	199
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	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	1856	1781	1885	1870	1767	1870	1870	1870	1826	1900	1900	1885
Adj Flow Rate, veh/h	138	290	159	209	289	202	123	410	132	276	746	219
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
Percent Heavy Veh, %	3	8	1	2	9	2	2	2	5	0	0	1
Cap, veh/h	372	375	336	379	376	337	118	1111	484	159	921	270
Arrive On Green	0.21	0.21	0.21	0.21	0.21	0.21	0.07	0.31	0.31	0.09	0.33	0.33
Sat Flow, veh/h	1767	1781	1598	1781	1767	1585	1781	3554	1547	1810	2752	808
Grp Volume(v), veh/h	138	290	159	209	289	202	123	410	132	276	489	476
Grp Sat Flow(s),veh/h/ln	1767	1781	1598	1781	1767	1585	1781	1777	1547	1810	1805	1755
Q Serve(g_s), s	6.1	13.9	7.9	9.5	14.0	10.4	6.0	8.1	5.8	8.0	22.5	22.5
Cycle Q Clear(g_c), s	6.1	13.9	7.9	9.5	14.0	10.4	6.0	8.1	5.8	8.0	22.5	22.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.46
Lane Grp Cap(c), veh/h	372	375	336	379	376	337	118	1111	484	159	604	587
V/C Ratio(X)	0.37	0.77	0.47	0.55	0.77	0.60	1.05	0.37	0.27	1.73	0.81	0.81
Avail Cap(c_a), veh/h	710	716	642	578	574	515	118	1173	511	159	636	618
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	30.7	33.8	31.4	31.9	33.7	32.3	42.4	24.3	23.5	41.4	27.6	27.7
Incr Delay (d2), s/veh	0.5	2.6	0.8	0.9	2.6	1.3	95.8	0.3	0.4	354.4	7.9	8.1
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.6	6.1	3.0	4.1	6.1	4.0	5.7	3.3	2.1	19.2	10.5	10.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	31.2	36.4	32.2	32.8	36.3	33.5	138.2	24.6	23.9	395.9	35.5	35.8
LnGrp LOS	C	D	C	C	D	C	F	C	C	F	D	D
Approach Vol, veh/h		587			700			665			1241	
Approach Delay, s/veh		34.0			34.5			45.4			115.8	
Approach LOS		C			C			D			F	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	12.0	32.4		23.1	10.0	34.4		23.3				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	7.5	29.5		36.0	5.5	31.5		29.0				
Max Q Clear Time (g_c+I1), s	10.0	10.1		15.9	8.0	24.5		16.0				
Green Ext Time (p_c), s	0.0	6.9		2.7	0.0	5.4		2.8				

Intersection Summary		
HCM 7th Control Delay, s/veh	68.3	
HCM 7th LOS	E	

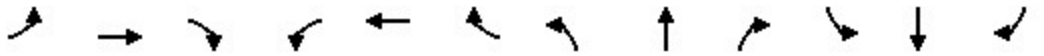
Notes

User approved pedestrian interval to be less than phase max green.
User approved volume balancing among the lanes for turning movement.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	66	216	234	134	171	52	159	491	111	61	879	34
Future Volume (vph)	66	216	234	134	171	52	159	491	111	61	879	34
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95		1.00	0.95	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.97		1.00	0.99	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1805	1845	1599	1787	1863	1495	1752	3323		1752	3510	
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1805	1845	1599	1787	1863	1495	1752	3323		1752	3510	
Peak-hour factor, PHF	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	75	245	266	152	194	59	181	558	126	69	999	39
RTOR Reduction (vph)	0	0	169	0	0	49	0	18	0	0	2	0
Lane Group Flow (vph)	75	245	97	152	194	10	181	666	0	69	1036	0
Heavy Vehicles (%)	0%	3%	1%	1%	2%	8%	3%	6%	4%	3%	2%	9%
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA		Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8						
Actuated Green, G (s)	6.2	14.1	14.1	6.2	14.1	14.1	13.3	40.4		5.7	32.8	
Effective Green, g (s)	6.2	14.1	14.1	6.2	14.1	14.1	13.8	40.9		6.2	33.3	
Actuated g/C Ratio	0.07	0.17	0.17	0.07	0.17	0.17	0.17	0.49		0.07	0.40	
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.5	4.5		4.5	4.5	
Vehicle Extension (s)	2.5	2.5	2.5	2.5	2.5	2.5	2.5	4.0		2.5	4.0	
Lane Grp Cap (vph)	134	311	270	132	314	252	289	1629		130	1401	
v/s Ratio Prot	0.04	c0.13		c0.09	0.10		c0.10	0.20		0.04	c0.30	
v/s Ratio Perm			0.06			0.01						
v/c Ratio	0.56	0.79	0.36	1.15	0.62	0.04	0.63	0.41		0.53	0.74	
Uniform Delay, d1	37.3	33.2	30.7	38.6	32.2	29.0	32.4	13.5		37.2	21.3	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	4.0	12.0	0.6	124.8	3.1	0.0	3.6	0.2		3.2	2.2	
Delay (s)	41.3	45.2	31.3	163.4	35.2	29.0	36.0	13.8		40.4	23.6	
Level of Service	D	D	C	F	D	C	D	B		D	C	
Approach Delay (s/veh)		38.4			82.4			18.4			24.6	
Approach LOS		D			F			B			C	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	33.4	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.76		
Actuated Cycle Length (s)	83.4	Sum of lost time (s)	16.0
Intersection Capacity Utilization	66.3%	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)	66	216	234	134	171	52	159	491	111	61	879	34
Future Volume (veh/h)	66	216	234	134	171	52	159	491	111	61	879	34
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	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	1900	1856	1885	1885	1870	1781	1856	1811	1841	1856	1870	1767
Adj Flow Rate, veh/h	75	245	266	152	194	59	181	558	126	69	999	39
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %	0	3	1	1	2	8	3	6	4	3	2	9
Cap, veh/h	97	378	326	110	396	319	222	1444	325	97	1557	61
Arrive On Green	0.05	0.20	0.20	0.06	0.21	0.21	0.13	0.52	0.51	0.05	0.45	0.44
Sat Flow, veh/h	1810	1856	1598	1795	1870	1510	1767	2791	628	1767	3487	136
Grp Volume(v), veh/h	75	245	266	152	194	59	181	343	341	69	509	529
Grp Sat Flow(s),veh/h/ln	1810	1856	1598	1795	1870	1510	1767	1721	1698	1767	1777	1846
Q Serve(g_s), s	4.0	11.9	15.6	6.0	9.0	3.2	9.8	11.8	11.9	3.8	21.9	21.9
Cycle Q Clear(g_c), s	4.0	11.9	15.6	6.0	9.0	3.2	9.8	11.8	11.9	3.8	21.9	21.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.37	1.00		0.07
Lane Grp Cap(c), veh/h	97	378	326	110	396	319	222	890	879	97	793	824
V/C Ratio(X)	0.78	0.65	0.82	1.39	0.49	0.18	0.81	0.39	0.39	0.71	0.64	0.64
Avail Cap(c_a), veh/h	110	485	418	110	489	395	270	1160	1145	108	1036	1076
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	46.0	35.9	37.4	46.2	34.1	31.8	41.8	14.3	14.4	45.7	21.1	21.1
Incr Delay (d2), s/veh	24.1	1.5	8.7	220.7	0.7	0.2	13.6	0.4	0.4	16.1	1.2	1.2
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	2.4	5.5	6.8	9.4	4.1	1.2	5.0	4.4	4.4	2.1	8.8	9.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	70.0	37.4	46.1	266.8	34.8	32.0	55.5	14.7	14.8	61.7	22.4	22.3
LnGrp LOS	E	D	D	F	C	C	E	B	B	E	C	C
Approach Vol, veh/h		586			405			865			1107	
Approach Delay, s/veh		45.5			121.5			23.3			24.8	
Approach LOS		D			F			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.4	54.9	10.0	24.0	16.4	47.9	9.2	24.8
Change Period (Y+Rc), s	4.5	4.5	4.0	4.0	4.5	4.5	4.0	4.0
Max Green Setting (Gmax), s	5.5	65.8	6.0	25.7	14.5	56.8	6.0	25.7
Max Q Clear Time (g_c+I1), s	5.8	13.9	8.0	17.6	11.8	23.9	6.0	11.0
Green Ext Time (p_c), s	0.0	14.4	0.0	2.4	0.2	19.5	0.0	1.6

Intersection Summary	
HCM 7th Control Delay, s/veh	41.7
HCM 7th LOS	D

Notes

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

Intersection	
Intersection Delay, s/veh	9.4
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	14	153	34	14	78	55	16	31	27	107	51	15
Future Vol, veh/h	14	153	34	14	78	55	16	31	27	107	51	15
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles, %	8	0	0	0	3	2	0	0	0	1	2	0
Mvmt Flow	15	165	37	15	84	59	17	33	29	115	55	16
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay, s/veh	9.8	8.9	8.5	9.8
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	22%	7%	10%	62%
Vol Thru, %	42%	76%	53%	29%
Vol Right, %	36%	17%	37%	9%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	74	201	147	173
LT Vol	16	14	14	107
Through Vol	31	153	78	51
RT Vol	27	34	55	15
Lane Flow Rate	80	216	158	186
Geometry Grp	1	1	1	1
Degree of Util (X)	0.107	0.288	0.203	0.257
Departure Headway (Hd)	4.856	4.795	4.622	4.968
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	732	746	771	718
Service Time	2.928	2.85	2.68	3.03
HCM Lane V/C Ratio	0.109	0.29	0.205	0.259
HCM Control Delay, s/veh	8.5	9.8	8.9	9.8
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.4	1.2	0.8	1

Intersection	
Int Delay, s/veh	4.9

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	92	65	19	177	40	18
Future Vol, veh/h	92	65	19	177	40	18
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	206	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	78	78	78	78	78	78
Heavy Vehicles, %	8	31	11	5	37	12
Mvmt Flow	118	83	24	227	51	23

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	263	138	0	0	251	0
Stage 1	138	-	-	-	-	-
Stage 2	126	-	-	-	-	-
Critical Hdwy	6.48	6.51	-	-	4.47	-
Critical Hdwy Stg 1	5.48	-	-	-	-	-
Critical Hdwy Stg 2	5.48	-	-	-	-	-
Follow-up Hdwy	3.572	3.579	-	-	2.533	-
Pot Cap-1 Maneuver	713	839	-	-	1135	-
Stage 1	874	-	-	-	-	-
Stage 2	885	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	680	839	-	-	1135	-
Mov Cap-2 Maneuver	680	-	-	-	-	-
Stage 1	874	-	-	-	-	-
Stage 2	845	-	-	-	-	-

Approach	WB	NB	SB
HCM Ctrl Dly, s/v	10.72	0	5.74
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	680	839	1120	-
HCM Lane V/C Ratio	-	-	0.173	0.099	0.045	-
HCM Ctrl Dly (s/v)	-	-	11.4	9.8	8.3	0
HCM Lane LOS	-	-	B	A	A	A
HCM 95th %tile Q(veh)	-	-	0.6	0.3	0.1	-

Intersection	
Int Delay, s/veh	0

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	0	82	0	0	47
Future Vol, veh/h	0	0	82	0	0	47
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	69	69	69	69	69	69
Heavy Vehicles, %	0	0	25	0	0	41
Mvmt Flow	0	0	119	0	0	68

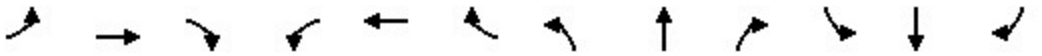
Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	187	119	0	0	119	0
Stage 1	119	-	-	-	-	-
Stage 2	68	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	807	938	-	-	1482	-
Stage 1	911	-	-	-	-	-
Stage 2	960	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	807	938	-	-	1482	-
Mov Cap-2 Maneuver	807	-	-	-	-	-
Stage 1	911	-	-	-	-	-
Stage 2	960	-	-	-	-	-

Approach	WB	NB	SB
HCM Ctrl Dly, s/v	0	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	-	1482	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Ctrl Dly (s/v)	-	-	0	0	-
HCM Lane LOS	-	-	A	A	-
HCM 95th %tile Q(veh)	-	-	-	0	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	96	1277	5	265	680	17	0	60	497	60	18	46
Future Volume (vph)	96	1277	5	265	680	17	0	60	497	60	18	46
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	0.95		0.97	0.95			1.00	0.88	0.97	1.00	1.00
Frt	1.00	1.00		1.00	1.00			1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00			1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3502	3538		3433	3398			1900	2842	3335	1900	1615
Flt Permitted	0.95	1.00		0.95	1.00			1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3502	3538		3433	3398			1900	2842	3335	1900	1615
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	102	1359	5	282	723	18	0	64	529	64	19	49
RTOR Reduction (vph)	0	0	0	0	1	0	0	0	305	0	0	37
Lane Group Flow (vph)	102	1364	0	282	740	0	0	64	224	64	19	12
Heavy Vehicles (%)	0%	2%	0%	2%	6%	0%	0%	0%	0%	5%	0%	0%
Turn Type	Prot	NA		Prot	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases									2			6
Actuated Green, G (s)	5.7	43.9		9.9	48.1			10.7	10.7	5.3	20.5	20.5
Effective Green, g (s)	6.2	44.4		10.4	48.6			11.2	11.2	5.8	21.0	21.0
Actuated g/C Ratio	0.07	0.51		0.12	0.55			0.13	0.13	0.07	0.24	0.24
Clearance Time (s)	4.5	4.5		4.5	4.5			4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)	2.5	4.0		2.5	4.0			2.5	2.5	2.5	2.5	2.5
Lane Grp Cap (vph)	247	1789		406	1880			242	362	220	454	386
v/s Ratio Prot	0.03	c0.39		c0.08	0.22			0.03		c0.02	0.01	
v/s Ratio Perm									c0.08			0.01
v/c Ratio	0.41	0.76		0.69	0.39			0.26	0.62	0.29	0.04	0.03
Uniform Delay, d1	39.1	17.5		37.2	11.2			34.6	36.3	39.0	25.7	25.6
Progression Factor	1.00	1.00		1.00	1.00			1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.8	2.1		4.7	0.2			0.4	2.7	0.5	0.0	0.0
Delay (s)	39.9	19.6		41.9	11.4			35.0	38.9	39.6	25.7	25.6
Level of Service	D	B		D	B			D	D	D	C	C
Approach Delay (s/veh)		21.0			19.8			38.5			32.4	
Approach LOS		C			B			D			C	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	24.3	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.69		
Actuated Cycle Length (s)	87.8	Sum of lost time (s)	16.0
Intersection Capacity Utilization	66.2%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



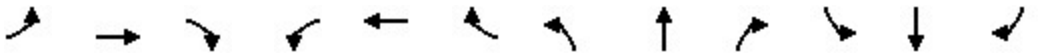
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	96	1277	5	265	680	17	0	60	497	60	18	46
Future Volume (veh/h)	96	1277	5	265	680	17	0	60	497	60	18	46
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	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	1900	1870	1900	1870	1811	1900	1900	1900	1900	1826	1900	1900
Adj Flow Rate, veh/h	102	1359	5	282	723	18	0	64	529	64	19	49
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	0	2	0	2	6	0	0	0	0	5	0	0
Cap, veh/h	181	1679	6	345	1752	44	2	456	680	129	604	512
Arrive On Green	0.05	0.46	0.46	0.10	0.51	0.51	0.00	0.24	0.24	0.04	0.32	0.32
Sat Flow, veh/h	3510	3631	13	3456	3431	85	1810	1900	2834	3374	1900	1610
Grp Volume(v), veh/h	102	665	699	282	362	379	0	64	529	64	19	49
Grp Sat Flow(s),veh/h/ln	1755	1777	1868	1728	1721	1796	1810	1900	1417	1687	1900	1610
Q Serve(g_s), s	2.8	32.2	32.2	8.0	13.1	13.1	0.0	2.7	17.5	1.9	0.7	2.1
Cycle Q Clear(g_c), s	2.8	32.2	32.2	8.0	13.1	13.1	0.0	2.7	17.5	1.9	0.7	2.1
Prop In Lane	1.00		0.01	1.00		0.05	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	181	822	864	345	879	917	2	456	680	129	604	512
V/C Ratio(X)	0.56	0.81	0.81	0.82	0.41	0.41	0.00	0.14	0.78	0.50	0.03	0.10
Avail Cap(c_a), veh/h	315	852	895	345	879	917	163	702	1047	303	702	595
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	46.4	23.1	23.1	44.2	15.2	15.2	0.0	29.9	35.6	47.2	23.5	24.0
Incr Delay (d2), s/veh	2.1	6.0	5.8	13.8	0.4	0.4	0.0	0.1	1.5	2.2	0.0	0.1
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.3	14.0	14.6	4.0	4.9	5.1	0.0	1.2	6.0	0.8	0.3	0.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	48.5	29.2	28.9	58.0	15.6	15.6	0.0	30.0	37.1	49.4	23.5	24.1
LnGrp LOS	D	C	C	E	B	B		C	D	D	C	C
Approach Vol, veh/h		1466			1023			593			132	
Approach Delay, s/veh		30.4			27.3			36.4			36.3	
Approach LOS		C			C			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	7.8	28.0	14.0	50.3	0.0	35.8	9.2	55.2
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	8.5	36.5	9.5	47.5	8.5	36.5	8.5	48.5
Max Q Clear Time (g_c+I1), s	3.9	19.5	10.0	34.2	0.0	4.1	4.8	15.1
Green Ext Time (p_c), s	0.1	4.0	0.0	11.6	0.0	0.3	0.1	13.4

Intersection Summary	
HCM 7th Control Delay, s/veh	30.8
HCM 7th LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	146	404	220	190	297	184	137	373	120	251	679	209
Future Volume (vph)	146	404	220	190	297	184	137	373	120	251	679	209
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	1.00	1.00	0.95	1.00	1.00	0.95	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.96	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1752	1759	1599	1681	1657	1583	1770	3539	1538	1805	3474	
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1752	1759	1599	1681	1657	1583	1770	3539	1538	1805	3474	
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	160	444	242	209	326	202	151	410	132	276	746	230
RTOR Reduction (vph)	0	0	174	0	0	131	0	0	96	0	23	0
Lane Group Flow (vph)	160	444	68	188	347	71	151	410	36	276	953	0
Heavy Vehicles (%)	3%	8%	1%	2%	9%	2%	2%	2%	5%	0%	0%	1%
Turn Type	Split	NA	Perm	Split	NA	Perm	Prot	NA	Perm	Prot	NA	
Protected Phases	4	4		8	8		5	2		1	6	
Permitted Phases			4			8			2			
Actuated Green, G (s)	30.8	30.8	30.8	25.5	25.5	25.5	5.6	29.8	29.8	7.6	31.8	
Effective Green, g (s)	31.3	31.3	31.3	26.0	26.0	26.0	6.1	30.3	30.3	8.1	32.3	
Actuated g/C Ratio	0.28	0.28	0.28	0.23	0.23	0.23	0.05	0.27	0.27	0.07	0.29	
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	
Vehicle Extension (s)	2.5	2.5	2.5	2.5	2.5	2.5	2.5	4.0	4.0	2.5	4.0	
Lane Grp Cap (vph)	490	492	448	391	385	368	96	959	417	130	1004	
v/s Ratio Prot	0.09	c0.25		0.11	c0.21		0.09	0.12		c0.15	c0.27	
v/s Ratio Perm			0.04			0.04			0.02			
v/c Ratio	0.33	0.90	0.15	0.48	0.90	0.19	1.57	0.43	0.09	2.12	0.95	
Uniform Delay, d1	31.8	38.7	30.2	37.0	41.6	34.4	52.8	33.6	30.4	51.8	38.9	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.3	19.6	0.1	0.7	23.5	0.2	301.8	0.4	0.1	530.3	17.3	
Delay (s)	32.1	58.4	30.3	37.7	65.1	34.6	354.6	34.0	30.5	582.1	56.2	
Level of Service	C	E	C	D	E	C	F	C	C	F	E	
Approach Delay (s/veh)		45.4			49.7			103.2			172.2	
Approach LOS		D			D			F			F	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	102.6	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.03		
Actuated Cycle Length (s)	111.7	Sum of lost time (s)	16.0
Intersection Capacity Utilization	83.3%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

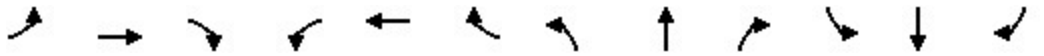


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	146	404	220	190	297	184	137	373	120	251	679	209
Future Volume (veh/h)	146	404	220	190	297	184	137	373	120	251	679	209
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	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	1856	1781	1885	1870	1767	1870	1870	1870	1826	1900	1900	1885
Adj Flow Rate, veh/h	160	444	242	209	326	202	151	410	132	276	746	230
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
Percent Heavy Veh, %	3	8	1	2	9	2	2	2	5	0	0	1
Cap, veh/h	504	508	456	392	389	349	98	976	425	133	796	245
Arrive On Green	0.29	0.29	0.29	0.22	0.22	0.22	0.06	0.27	0.27	0.07	0.29	0.29
Sat Flow, veh/h	1767	1781	1598	1781	1767	1585	1781	3554	1547	1810	2717	838
Grp Volume(v), veh/h	160	444	242	209	326	202	151	410	132	276	496	480
Grp Sat Flow(s),veh/h/ln	1767	1781	1598	1781	1767	1585	1781	1777	1547	1810	1805	1749
Q Serve(g_s), s	7.8	25.9	13.9	11.3	19.2	12.4	6.0	10.3	7.4	8.0	29.2	29.2
Cycle Q Clear(g_c), s	7.8	25.9	13.9	11.3	19.2	12.4	6.0	10.3	7.4	8.0	29.2	29.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.48
Lane Grp Cap(c), veh/h	504	508	456	392	389	349	98	976	425	133	529	512
V/C Ratio(X)	0.32	0.87	0.53	0.53	0.84	0.58	1.54	0.42	0.31	2.08	0.94	0.94
Avail Cap(c_a), veh/h	591	596	535	482	478	429	98	977	426	133	530	513
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	30.6	37.1	32.8	37.6	40.7	38.0	51.5	32.4	31.4	50.5	37.6	37.7
Incr Delay (d2), s/veh	0.3	11.6	0.7	0.8	9.9	1.1	287.7	0.4	0.6	510.7	24.7	25.2
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	3.3	12.6	5.4	5.0	9.3	4.9	10.5	4.4	2.8	22.4	16.1	15.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	30.9	48.7	33.6	38.4	50.5	39.1	339.3	32.8	32.0	561.2	62.3	62.9
LnGrp LOS	C	D	C	D	D	D	F	C	C	F	E	E
Approach Vol, veh/h		846			737			693			1252	
Approach Delay, s/veh		41.0			44.0			99.4			172.5	
Approach LOS		D			D			F			F	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	12.0	34.0		35.1	10.0	36.0		28.0				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	7.5	29.5		36.0	5.5	31.5		29.0				
Max Q Clear Time (g_c+I1), s	10.0	12.3		27.9	8.0	31.2		21.2				
Green Ext Time (p_c), s	0.0	6.5		2.7	0.0	0.3		2.3				

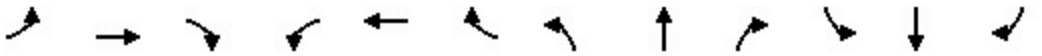
Intersection Summary		
HCM 7th Control Delay, s/veh	99.8	
HCM 7th LOS	F	

Notes
User approved pedestrian interval to be less than phase max green.
User approved volume balancing among the lanes for turning movement.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	71	216	253	134	173	54	166	509	111	71	934	39
Future Volume (vph)	71	216	253	134	173	54	166	509	111	71	934	39
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95		1.00	0.95	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.97		1.00	0.99	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1805	1845	1599	1787	1863	1495	1752	3325		1752	3508	
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1805	1845	1599	1787	1863	1495	1752	3325		1752	3508	
Peak-hour factor, PHF	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	81	245	288	152	197	61	189	578	126	81	1061	44
RTOR Reduction (vph)	0	0	162	0	0	51	0	17	0	0	3	0
Lane Group Flow (vph)	81	245	126	152	197	10	189	687	0	81	1102	0
Heavy Vehicles (%)	0%	3%	1%	1%	2%	8%	3%	6%	4%	3%	2%	9%
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA		Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8						
Actuated Green, G (s)	6.2	14.7	14.7	6.2	14.7	14.7	13.8	44.2		5.7	36.1	
Effective Green, g (s)	6.2	14.7	14.7	6.2	14.7	14.7	14.3	44.7		6.2	36.6	
Actuated g/C Ratio	0.07	0.17	0.17	0.07	0.17	0.17	0.16	0.51		0.07	0.42	
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.5	4.5		4.5	4.5	
Vehicle Extension (s)	2.5	2.5	2.5	2.5	2.5	2.5	2.5	4.0		2.5	4.0	
Lane Grp Cap (vph)	127	308	267	126	311	250	285	1692		123	1462	
v/s Ratio Prot	0.04	c0.13		c0.09	0.11		c0.11	0.21		0.05	c0.31	
v/s Ratio Perm			0.08			0.01						
v/c Ratio	0.64	0.80	0.47	1.21	0.63	0.04	0.66	0.41		0.66	0.75	
Uniform Delay, d1	39.7	35.1	33.0	40.8	34.0	30.6	34.5	13.3		39.8	21.8	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	8.9	12.8	1.0	146.0	3.7	0.0	5.1	0.2		10.8	2.4	
Delay (s)	48.6	48.0	34.0	186.8	37.7	30.7	39.6	13.6		50.6	24.2	
Level of Service	D	D	C	F	D	C	D	B		D	C	
Approach Delay (s/veh)		41.5			91.9			19.1			26.0	
Approach LOS		D			F			B			C	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	35.8	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.78		
Actuated Cycle Length (s)	87.8	Sum of lost time (s)	16.0
Intersection Capacity Utilization	68.4%	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)	71	216	253	134	173	54	166	509	111	71	934	39
Future Volume (veh/h)	71	216	253	134	173	54	166	509	111	71	934	39
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	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	1900	1856	1885	1885	1870	1781	1856	1811	1841	1856	1870	1767
Adj Flow Rate, veh/h	81	245	288	152	197	61	189	578	126	81	1061	44
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %	0	3	1	1	2	8	3	6	4	3	2	9
Cap, veh/h	104	391	337	103	394	318	227	1466	319	101	1566	65
Arrive On Green	0.06	0.21	0.21	0.06	0.21	0.21	0.13	0.52	0.52	0.06	0.45	0.45
Sat Flow, veh/h	1810	1856	1598	1795	1870	1510	1767	2811	611	1767	3477	144
Grp Volume(v), veh/h	81	245	288	152	197	61	189	353	351	81	542	563
Grp Sat Flow(s),veh/h/ln	1810	1856	1598	1795	1870	1510	1767	1721	1701	1767	1777	1844
Q Serve(g_s), s	4.6	12.6	18.2	6.0	9.7	3.5	10.9	12.9	13.0	4.7	25.3	25.3
Cycle Q Clear(g_c), s	4.6	12.6	18.2	6.0	9.7	3.5	10.9	12.9	13.0	4.7	25.3	25.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.36	1.00		0.08
Lane Grp Cap(c), veh/h	104	391	337	103	394	318	227	898	887	101	800	831
V/C Ratio(X)	0.78	0.63	0.86	1.48	0.50	0.19	0.83	0.39	0.40	0.80	0.68	0.68
Avail Cap(c_a), veh/h	104	456	392	103	459	371	253	1090	1078	101	973	1010
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	48.7	37.6	39.8	49.3	36.4	34.0	44.5	15.1	15.1	48.7	22.8	22.8
Incr Delay (d2), s/veh	30.1	1.7	14.3	259.4	0.7	0.2	18.1	0.4	0.4	34.1	1.8	1.7
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	2.9	5.8	8.4	10.1	4.5	1.3	5.8	4.9	4.9	3.0	10.4	10.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	78.7	39.3	54.1	308.7	37.2	34.2	62.5	15.5	15.6	82.9	24.6	24.5
LnGrp LOS	E	D	D	F	D	C	E	B	B	F	C	C
Approach Vol, veh/h		614			410			893			1186	
Approach Delay, s/veh		51.4			137.4			25.5			28.5	
Approach LOS		D			F			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.0	58.6	10.0	26.1	17.5	51.1	10.0	26.1
Change Period (Y+Rc), s	4.5	4.5	4.0	4.0	4.5	4.5	4.0	4.0
Max Green Setting (Gmax), s	5.5	65.8	6.0	25.7	14.5	56.8	6.0	25.7
Max Q Clear Time (g_c+I1), s	6.7	15.0	8.0	20.2	12.9	27.3	6.6	11.7
Green Ext Time (p_c), s	0.0	14.9	0.0	1.9	0.1	19.4	0.0	1.6

Intersection Summary	
HCM 7th Control Delay, s/veh	46.6
HCM 7th LOS	D

Notes

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

Intersection	
Intersection Delay, s/veh	9.8
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	14	153	34	14	78	69	16	35	27	131	67	15
Future Vol, veh/h	14	153	34	14	78	69	16	35	27	131	67	15
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles, %	8	0	0	0	3	2	0	0	0	1	2	0
Mvmt Flow	15	165	37	15	84	74	17	38	29	141	72	16
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay, s/veh	10.1	9.2	8.7	10.5
HCM LOS	B	A	A	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	21%	7%	9%	62%
Vol Thru, %	45%	76%	48%	31%
Vol Right, %	35%	17%	43%	7%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	78	201	161	213
LT Vol	16	14	14	131
Through Vol	35	153	78	67
RT Vol	27	34	69	15
Lane Flow Rate	84	216	173	229
Geometry Grp	1	1	1	1
Degree of Util (X)	0.116	0.297	0.227	0.32
Departure Headway (Hd)	4.981	4.946	4.725	5.035
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	711	720	753	708
Service Time	3.072	3.018	2.801	3.11
HCM Lane V/C Ratio	0.118	0.3	0.23	0.323
HCM Control Delay, s/veh	8.7	10.1	9.2	10.5
HCM Lane LOS	A	B	A	B
HCM 95th-tile Q	0.4	1.2	0.9	1.4

Intersection	
Int Delay, s/veh	11.6

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	92	140	37	177	280	58
Future Vol, veh/h	92	140	37	177	280	58
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	206	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	78	78	78	78	78	78
Heavy Vehicles, %	8	31	11	5	37	12
Mvmt Flow	118	179	47	227	359	74

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	953	161	0	0	274	0
Stage 1	161	-	-	-	-	-
Stage 2	792	-	-	-	-	-
Critical Hdwy	6.48	6.51	-	-	4.47	-
Critical Hdwy Stg 1	5.48	-	-	-	-	-
Critical Hdwy Stg 2	5.48	-	-	-	-	-
Follow-up Hdwy	3.572	3.579	-	-	2.533	-
Pot Cap-1 Maneuver	280	814	-	-	1112	-
Stage 1	854	-	-	-	-	-
Stage 2	436	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	186	814	-	-	1112	-
Mov Cap-2 Maneuver	186	-	-	-	-	-
Stage 1	854	-	-	-	-	-
Stage 2	289	-	-	-	-	-

Approach	WB	NB	SB
HCM Ctrl Dly, s/v	27.47	0	8.1
HCM LOS	D		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	186	814	1066	-
HCM Lane V/C Ratio	-	-	0.635	0.221	0.323	-
HCM Ctrl Dly (s/v)	-	-	53	10.7	9.8	0
HCM Lane LOS	-	-	F	B	A	A
HCM 95th %tile Q(veh)	-	-	3.6	0.8	1.4	-

Intersection	
Int Delay, s/veh	8.7

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	280	0	82	93	0	47
Future Vol, veh/h	280	0	82	93	0	47
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	69	69	69	69	69	69
Heavy Vehicles, %	0	0	25	0	0	41
Mvmt Flow	406	0	119	135	0	68

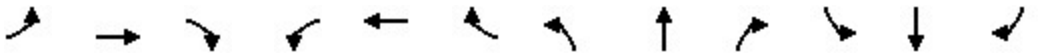
Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	254	186	0	0	254	0
Stage 1	186	-	-	-	-	-
Stage 2	68	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	739	861	-	-	1323	-
Stage 1	850	-	-	-	-	-
Stage 2	960	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	739	861	-	-	1323	-
Mov Cap-2 Maneuver	739	-	-	-	-	-
Stage 1	850	-	-	-	-	-
Stage 2	960	-	-	-	-	-

Approach	WB	NB	SB
HCM Ctrl Dly, s/v	15.65	0	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	739	1323	-
HCM Lane V/C Ratio	-	-	0.549	-	-
HCM Ctrl Dly (s/v)	-	-	15.7	0	-
HCM Lane LOS	-	-	C	A	-
HCM 95th %tile Q(veh)	-	-	3.4	0	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	129	985	5	540	1010	54	6	133	341	196	92	74
Future Volume (vph)	129	985	5	540	1010	54	6	133	341	196	92	74
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	0.95		0.97	0.95		1.00	1.00	0.88	0.97	1.00	1.00
Frt	1.00	1.00		1.00	0.99		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3502	3572		3467	3579		1543	1900	2787	3502	1900	1599
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3502	3572		3467	3579		1543	1900	2787	3502	1900	1599
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	137	1048	5	574	1074	57	6	141	363	209	98	79
RTOR Reduction (vph)	0	0	0	0	3	0	0	0	305	0	0	59
Lane Group Flow (vph)	137	1053	0	574	1128	0	6	141	58	209	98	20
Heavy Vehicles (%)	0%	1%	0%	1%	0%	2%	17%	0%	2%	0%	0%	1%
Turn Type	Prot	NA		Prot	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases									2			6
Actuated Green, G (s)	7.9	33.7		18.8	44.6		1.1	14.6	14.6	10.0	23.5	23.5
Effective Green, g (s)	8.4	34.2		19.3	45.1		1.6	15.1	15.1	10.5	24.0	24.0
Actuated g/C Ratio	0.09	0.36		0.20	0.47		0.02	0.16	0.16	0.11	0.25	0.25
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)	2.5	4.0		2.5	4.0		2.5	2.5	2.5	2.5	2.5	2.5
Lane Grp Cap (vph)	309	1284		703	1697		25	301	442	386	479	403
v/s Ratio Prot	0.04	c0.29		c0.17	0.32		0.00	c0.07		c0.06	0.05	
v/s Ratio Perm									0.02			0.01
v/c Ratio	0.44	0.82		0.82	0.66		0.24	0.47	0.13	0.54	0.20	0.05
Uniform Delay, d1	41.1	27.7		36.2	19.2		46.1	36.4	34.4	40.0	28.0	26.9
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.7	4.5		7.1	1.1		3.6	0.8	0.1	1.2	0.2	0.0
Delay (s)	41.9	32.2		43.3	20.3		49.7	37.2	34.5	41.2	28.2	27.0
Level of Service	D	C		D	C		D	D	C	D	C	C
Approach Delay (s/veh)		33.3			28.0			35.4			35.0	
Approach LOS		C			C			D			D	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	31.4	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.71		
Actuated Cycle Length (s)	95.1	Sum of lost time (s)	16.0
Intersection Capacity Utilization	68.7%	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)	129	985	5	540	1010	54	6	133	341	196	92	74
Future Volume (veh/h)	129	985	5	540	1010	54	6	133	341	196	92	74
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	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	1900	1885	1900	1885	1900	1870	1648	1900	1870	1900	1900	1885
Adj Flow Rate, veh/h	137	1048	5	574	1074	57	6	141	363	209	98	79
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	0	1	0	1	0	2	17	0	2	0	0	1
Cap, veh/h	223	1383	7	659	1757	93	18	343	504	303	486	409
Arrive On Green	0.06	0.38	0.37	0.19	0.50	0.50	0.01	0.18	0.18	0.09	0.26	0.26
Sat Flow, veh/h	3510	3656	17	3483	3487	185	1570	1900	2790	3510	1900	1598
Grp Volume(v), veh/h	137	513	540	574	556	575	6	141	363	209	98	79
Grp Sat Flow(s),veh/h/ln	1755	1791	1882	1742	1805	1867	1570	1900	1395	1755	1900	1598
Q Serve(g_s), s	3.7	24.2	24.2	15.5	21.4	21.4	0.4	6.4	11.9	5.6	3.9	3.7
Cycle Q Clear(g_c), s	3.7	24.2	24.2	15.5	21.4	21.4	0.4	6.4	11.9	5.6	3.9	3.7
Prop In Lane	1.00		0.01	1.00		0.10	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	223	677	712	659	909	941	18	343	504	303	486	409
V/C Ratio(X)	0.61	0.76	0.76	0.87	0.61	0.61	0.34	0.41	0.72	0.69	0.20	0.19
Avail Cap(c_a), veh/h	327	739	776	684	931	963	146	650	955	435	709	596
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	44.1	26.2	26.2	38.1	17.2	17.2	47.5	35.1	37.3	42.9	28.2	28.2
Incr Delay (d2), s/veh	2.0	4.6	4.4	11.3	1.4	1.3	8.1	0.6	1.5	2.1	0.1	0.2
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	1.6	10.7	11.2	7.4	8.5	8.9	0.2	2.9	4.0	2.5	1.8	1.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	46.2	30.8	30.6	49.3	18.6	18.6	55.5	35.7	38.8	45.0	28.4	28.3
LnGrp LOS	D	C	C	D	B	B	E	D	D	D	C	C
Approach Vol, veh/h		1190			1705			510			386	
Approach Delay, s/veh		32.5			28.9			38.1			37.4	
Approach LOS		C			C			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	12.4	21.5	22.3	40.6	5.1	28.7	10.2	52.7
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	11.5	32.6	18.5	39.4	8.5	35.6	8.5	49.4
Max Q Clear Time (g_c+I1), s	7.6	13.9	17.5	26.2	2.4	5.9	5.7	23.4
Green Ext Time (p_c), s	0.3	3.1	0.3	9.9	0.0	0.8	0.1	18.0

Intersection Summary	
HCM 7th Control Delay, s/veh	32.1
HCM 7th LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	101	210	94	301	224	240	120	800	272	211	597	126
Future Volume (vph)	101	210	94	301	224	240	120	800	272	211	597	126
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	1.00	1.00	0.95	1.00	1.00	0.95	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.97	
Flt Protected	0.95	1.00	1.00	0.95	0.99	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1787	1863	1599	1715	1775	1615	1805	3610	1615	1787	3469	
Flt Permitted	0.95	1.00	1.00	0.95	0.99	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1787	1863	1599	1715	1775	1615	1805	3610	1615	1787	3469	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	106	221	99	317	236	253	126	842	286	222	628	133
RTOR Reduction (vph)	0	0	82	0	0	198	0	0	194	0	13	0
Lane Group Flow (vph)	106	221	17	269	284	55	126	842	92	222	748	0
Heavy Vehicles (%)	1%	2%	1%	0%	1%	0%	0%	0%	0%	1%	1%	3%
Turn Type	Split	NA	Perm	Split	NA	Perm	Prot	NA	Perm	Prot	NA	
Protected Phases	4	4		8	8		5	2		1	6	
Permitted Phases			4			8			2			
Actuated Green, G (s)	14.4	14.4	14.4	18.3	18.3	18.3	5.6	27.4	27.4	8.7	30.5	
Effective Green, g (s)	14.9	14.9	14.9	18.8	18.8	18.8	6.1	27.9	27.9	9.2	31.0	
Actuated g/C Ratio	0.17	0.17	0.17	0.22	0.22	0.22	0.07	0.32	0.32	0.11	0.36	
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	
Vehicle Extension (s)	2.5	2.5	2.5	2.5	2.5	2.5	2.5	4.0	4.0	2.5	4.0	
Lane Grp Cap (vph)	306	319	274	371	384	349	126	1160	519	189	1238	
v/s Ratio Prot	0.06	c0.12		0.16	c0.16		0.07	c0.23		c0.12	c0.22	
v/s Ratio Perm			0.01			0.03			0.06			
v/c Ratio	0.35	0.69	0.06	0.73	0.74	0.16	1.00	0.73	0.18	1.17	0.60	
Uniform Delay, d1	31.7	33.8	30.1	31.6	31.7	27.6	40.4	26.1	21.2	38.8	22.9	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.5	5.9	0.1	6.5	6.9	0.2	80.2	2.4	0.2	120.4	1.0	
Delay (s)	32.2	39.7	30.2	38.1	38.6	27.7	120.5	28.5	21.4	159.2	23.8	
Level of Service	C	D	C	D	D	C	F	C	C	F	C	
Approach Delay (s/veh)		35.6			35.0			36.1			54.4	
Approach LOS		D			D			D			D	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	41.0	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.76		
Actuated Cycle Length (s)	86.8	Sum of lost time (s)	16.0
Intersection Capacity Utilization	72.4%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

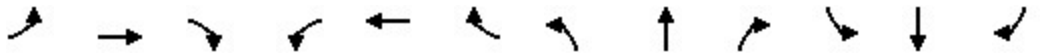
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	101	210	94	301	224	240	120	800	272	211	597	126
Future Volume (veh/h)	101	210	94	301	224	240	120	800	272	211	597	126
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	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	1885	1870	1885	1900	1885	1900	1900	1900	1900	1885	1885	1856
Adj Flow Rate, veh/h	106	221	99	277	293	253	126	842	286	222	628	133
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	1	2	1	0	1	0	0	0	0	1	1	3
Cap, veh/h	294	307	262	395	411	351	129	1161	518	192	1050	222
Arrive On Green	0.16	0.16	0.16	0.22	0.22	0.22	0.07	0.32	0.32	0.11	0.36	0.35
Sat Flow, veh/h	1795	1870	1598	1810	1885	1610	1810	3610	1610	1795	2942	622
Grp Volume(v), veh/h	106	221	99	277	293	253	126	842	286	222	382	379
Grp Sat Flow(s),veh/h/ln	1795	1870	1598	1810	1885	1610	1810	1805	1610	1795	1791	1773
Q Serve(g_s), s	4.4	9.4	4.7	11.9	12.1	12.3	5.9	17.4	12.4	9.0	14.7	14.8
Cycle Q Clear(g_c), s	4.4	9.4	4.7	11.9	12.1	12.3	5.9	17.4	12.4	9.0	14.7	14.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.35
Lane Grp Cap(c), veh/h	294	307	262	395	411	351	129	1161	518	192	639	633
V/C Ratio(X)	0.36	0.72	0.38	0.70	0.71	0.72	0.98	0.73	0.55	1.16	0.60	0.60
Avail Cap(c_a), veh/h	777	809	691	633	659	563	129	1241	554	192	679	673
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	31.3	33.4	31.4	30.4	30.5	30.6	39.1	25.3	23.6	37.7	22.2	22.3
Incr Delay (d2), s/veh	0.6	2.4	0.7	1.7	1.7	2.1	72.5	2.2	1.4	114.4	1.6	1.7
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	1.9	4.3	1.8	5.2	5.5	4.8	5.1	7.4	4.7	9.9	6.1	6.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	31.9	35.8	32.1	32.1	32.2	32.7	111.6	27.6	25.0	152.0	23.8	23.9
LnGrp LOS	C	D	C	C	C	C	F	C	C	F	C	C
Approach Vol, veh/h		426			823			1254			983	
Approach Delay, s/veh		34.0			32.3			35.4			52.8	
Approach LOS		C			C			D			D	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	13.0	31.1		17.8	10.0	34.1		22.4				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	8.5	28.5		36.0	5.5	31.5		29.0				
Max Q Clear Time (g_c+I1), s	11.0	19.4		11.4	7.9	16.8		14.3				
Green Ext Time (p_c), s	0.0	7.2		1.9	0.0	8.4		3.6				

Intersection Summary		
HCM 7th Control Delay, s/veh		39.4
HCM 7th LOS		D

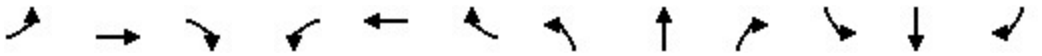
Notes

User approved pedestrian interval to be less than phase max green.
User approved volume balancing among the lanes for turning movement.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	117	215	167	188	243	95	228	972	149	122	782	68
Future Volume (vph)	117	215	167	188	243	95	228	972	149	122	782	68
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95		1.00	0.95	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.98		1.00	0.99	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1805	1845	1615	1787	1900	1615	1805	3503		1752	3534	
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1805	1845	1615	1787	1900	1615	1805	3503		1752	3534	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	121	222	172	194	251	98	235	1002	154	126	806	70
RTOR Reduction (vph)	0	0	139	0	0	81	0	12	0	0	7	0
Lane Group Flow (vph)	121	222	33	194	251	17	235	1144	0	126	869	0
Heavy Vehicles (%)	0%	3%	0%	1%	0%	0%	0%	1%	1%	3%	1%	0%
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA		Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8						
Actuated Green, G (s)	8.3	16.1	16.1	6.2	14.0	14.0	15.9	38.1		5.7	27.9	
Effective Green, g (s)	8.3	16.1	16.1	6.2	14.0	14.0	16.4	38.6		6.2	28.4	
Actuated g/C Ratio	0.10	0.19	0.19	0.07	0.17	0.17	0.20	0.46		0.07	0.34	
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.5	4.5		4.5	4.5	
Vehicle Extension (s)	2.5	2.5	2.5	2.5	2.5	2.5	2.5	4.0		2.5	4.0	
Lane Grp Cap (vph)	180	357	312	133	320	272	356	1627		130	1207	
v/s Ratio Prot	0.07	0.12		c0.11	c0.13		c0.13	c0.33		c0.07	0.25	
v/s Ratio Perm			0.02			0.01						
v/c Ratio	0.67	0.62	0.11	1.46	0.78	0.06	0.66	0.70		0.97	0.72	
Uniform Delay, d1	36.1	30.7	27.6	38.5	33.1	29.0	30.8	17.7		38.4	23.9	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	8.6	2.9	0.1	243.0	11.5	0.1	4.1	1.5		68.6	2.3	
Delay (s)	44.7	33.6	27.7	281.4	44.6	29.1	34.9	19.2		106.9	26.2	
Level of Service	D	C	C	F	D	C	C	B		F	C	
Approach Delay (s/veh)		34.2			126.4			21.8			36.3	
Approach LOS		C			F			C			D	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	44.4	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.80		
Actuated Cycle Length (s)	83.1	Sum of lost time (s)	16.0
Intersection Capacity Utilization	73.4%	ICU Level of Service	D
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)	117	215	167	188	243	95	228	972	149	122	782	68
Future Volume (veh/h)	117	215	167	188	243	95	228	972	149	122	782	68
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	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	1900	1856	1900	1885	1900	1900	1900	1885	1885	1856	1885	1900
Adj Flow Rate, veh/h	121	222	172	194	251	98	235	1002	154	126	806	70
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	0	3	0	1	0	0	0	1	1	3	1	0
Cap, veh/h	150	347	301	112	316	268	281	1624	249	110	1430	124
Arrive On Green	0.08	0.19	0.19	0.06	0.17	0.17	0.16	0.52	0.52	0.06	0.43	0.42
Sat Flow, veh/h	1810	1856	1610	1795	1900	1610	1810	3112	478	1767	3334	290
Grp Volume(v), veh/h	121	222	172	194	251	98	235	576	580	126	433	443
Grp Sat Flow(s),veh/h/ln	1810	1856	1610	1795	1900	1610	1810	1791	1799	1767	1791	1833
Q Serve(g_s), s	6.3	10.6	9.4	6.0	12.2	5.2	12.1	21.8	21.9	6.0	17.5	17.5
Cycle Q Clear(g_c), s	6.3	10.6	9.4	6.0	12.2	5.2	12.1	21.8	21.9	6.0	17.5	17.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.27	1.00		0.16
Lane Grp Cap(c), veh/h	150	347	301	112	316	268	281	935	939	110	768	786
V/C Ratio(X)	0.80	0.64	0.57	1.73	0.79	0.37	0.84	0.62	0.62	1.14	0.56	0.56
Avail Cap(c_a), veh/h	150	496	430	112	468	397	357	1234	1240	110	992	1015
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	43.3	36.1	35.6	45.1	38.5	35.6	39.5	16.2	16.3	45.1	20.7	20.7
Incr Delay (d2), s/veh	25.7	1.5	1.3	364.2	4.6	0.6	12.0	0.9	0.9	129.5	0.9	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	3.9	4.9	3.7	14.0	6.0	2.1	6.2	8.5	8.6	6.5	7.1	7.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	69.0	37.6	36.9	409.3	43.1	36.2	51.4	17.2	17.2	174.6	21.6	21.6
LnGrp LOS	E	D	D	F	D	D	D	B	B	F	C	C
Approach Vol, veh/h		515			543			1391			1002	
Approach Delay, s/veh		44.7			172.7			23.0			40.9	
Approach LOS		D			F			C			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.0	54.2	10.0	22.0	18.9	45.3	12.0	20.0
Change Period (Y+Rc), s	4.5	4.5	4.0	4.0	4.5	4.5	4.0	4.0
Max Green Setting (Gmax), s	5.5	65.8	6.0	25.7	18.5	52.8	8.0	23.7
Max Q Clear Time (g_c+I1), s	8.0	23.9	8.0	12.6	14.1	19.5	8.3	14.2
Green Ext Time (p_c), s	0.0	25.8	0.0	2.5	0.3	16.3	0.0	1.8

Intersection Summary	
HCM 7th Control Delay, s/veh	55.0
HCM 7th LOS	D

Notes

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

Intersection	
Intersection Delay, s/veh	10.4
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	19	90	23	28	139	127	29	68	17	83	63	47
Future Vol, veh/h	19	90	23	28	139	127	29	68	17	83	63	47
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles, %	0	0	5	0	0	1	4	2	0	1	0	9
Mvmt Flow	20	96	24	30	148	135	31	72	18	88	67	50
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay, s/veh	9.5	11.1	9.6	10.4
HCM LOS	A	B	A	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	25%	14%	10%	43%
Vol Thru, %	60%	68%	47%	33%
Vol Right, %	15%	17%	43%	24%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	114	132	294	193
LT Vol	29	19	28	83
Through Vol	68	90	139	63
RT Vol	17	23	127	47
Lane Flow Rate	121	140	313	205
Geometry Grp	1	1	1	1
Degree of Util (X)	0.182	0.202	0.415	0.296
Departure Headway (Hd)	5.397	5.167	4.772	5.192
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	665	698	757	692
Service Time	3.431	3.177	2.778	3.223
HCM Lane V/C Ratio	0.182	0.201	0.413	0.296
HCM Control Delay, s/veh	9.6	9.5	11.1	10.4
HCM Lane LOS	A	A	B	B
HCM 95th-tile Q	0.7	0.8	2.1	1.2

Intersection	
Int Delay, s/veh	6.6

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	175	31	21	103	56	48
Future Vol, veh/h	175	31	21	103	56	48
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	206	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	2	3	5	2	2	2
Mvmt Flow	199	35	24	117	64	55

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	264	82	0	0	141	0
Stage 1	82	-	-	-	-	-
Stage 2	182	-	-	-	-	-
Critical Hdwy	6.42	6.23	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.327	-	-	2.218	-
Pot Cap-1 Maneuver	725	974	-	-	1442	-
Stage 1	941	-	-	-	-	-
Stage 2	849	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	692	974	-	-	1442	-
Mov Cap-2 Maneuver	692	-	-	-	-	-
Stage 1	941	-	-	-	-	-
Stage 2	811	-	-	-	-	-

Approach	WB	NB	SB
HCM Ctrl Dly, s/v	11.77	0	4.1
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	692	974	969	-
HCM Lane V/C Ratio	-	-	0.287	0.036	0.044	-
HCM Ctrl Dly (s/v)	-	-	12.3	8.8	7.6	0
HCM Lane LOS	-	-	B	A	A	A
HCM 95th %tile Q(veh)	-	-	1.2	0.1	0.1	-

Intersection	
Int Delay, s/veh	0

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	0	40	0	0	85
Future Vol, veh/h	0	0	40	0	0	85
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	66	66	66	66	66	66
Heavy Vehicles, %	0	0	0	0	0	3
Mvmt Flow	0	0	61	0	0	129

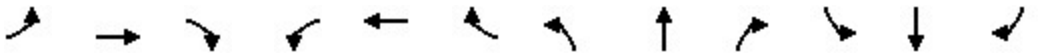
Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	189	61	0	0	61	0
Stage 1	61	-	-	-	-	-
Stage 2	129	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	804	1010	-	-	1556	-
Stage 1	967	-	-	-	-	-
Stage 2	902	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	804	1010	-	-	1556	-
Mov Cap-2 Maneuver	804	-	-	-	-	-
Stage 1	967	-	-	-	-	-
Stage 2	902	-	-	-	-	-

Approach	WB	NB	SB
HCM Ctrl Dly, s/v	0	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	-	1556	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Ctrl Dly (s/v)	-	-	0	0	-
HCM Lane LOS	-	-	A	A	-
HCM 95th %tile Q(veh)	-	-	-	0	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	179	1010	5	540	1060	54	6	133	341	196	92	124
Future Volume (vph)	179	1010	5	540	1060	54	6	133	341	196	92	124
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	0.95		0.97	0.95		1.00	1.00	0.88	0.97	1.00	1.00
Frt	1.00	1.00		1.00	0.99		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3502	3572		3467	3581		1543	1900	2787	3502	1900	1599
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3502	3572		3467	3581		1543	1900	2787	3502	1900	1599
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	190	1074	5	574	1128	57	6	141	363	209	98	132
RTOR Reduction (vph)	0	0	0	0	3	0	0	0	306	0	0	99
Lane Group Flow (vph)	190	1079	0	574	1182	0	6	141	57	209	98	33
Heavy Vehicles (%)	0%	1%	0%	1%	0%	2%	17%	0%	2%	0%	0%	1%
Turn Type	Prot	NA		Prot	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases									2			6
Actuated Green, G (s)	8.3	34.8		18.7	45.2		1.2	14.7	14.7	10.0	23.5	23.5
Effective Green, g (s)	8.8	35.3		19.2	45.7		1.7	15.2	15.2	10.5	24.0	24.0
Actuated g/C Ratio	0.09	0.37		0.20	0.48		0.02	0.16	0.16	0.11	0.25	0.25
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)	2.5	4.0		2.5	4.0		2.5	2.5	2.5	2.5	2.5	2.5
Lane Grp Cap (vph)	320	1310		691	1701		27	300	440	382	474	398
v/s Ratio Prot	0.05	c0.30		c0.17	0.33		0.00	c0.07		c0.06	0.05	
v/s Ratio Perm									0.02			0.02
v/c Ratio	0.59	0.82		0.83	0.70		0.22	0.47	0.13	0.55	0.21	0.08
Uniform Delay, d1	42.0	27.6		36.9	19.8		46.6	36.8	34.8	40.6	28.6	27.7
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	2.5	4.5		8.2	1.4		3.0	0.8	0.1	1.3	0.2	0.1
Delay (s)	44.4	32.2		45.2	21.1		49.6	37.7	34.9	41.9	28.7	27.7
Level of Service	D	C		D	C		D	D	C	D	C	C
Approach Delay (s/veh)		34.0			29.0			35.9			34.7	
Approach LOS		C			C			D			C	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	32.1	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.72		
Actuated Cycle Length (s)	96.2	Sum of lost time (s)	16.0
Intersection Capacity Utilization	69.4%	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)	179	1010	5	540	1060	54	6	133	341	196	92	124
Future Volume (veh/h)	179	1010	5	540	1060	54	6	133	341	196	92	124
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	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	1900	1885	1900	1885	1900	1870	1648	1900	1870	1900	1900	1885
Adj Flow Rate, veh/h	190	1074	5	574	1128	57	6	141	363	209	98	132
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	0	1	0	1	0	2	17	0	2	0	0	1
Cap, veh/h	277	1391	6	657	1714	87	18	343	503	303	485	408
Arrive On Green	0.08	0.38	0.38	0.19	0.49	0.49	0.01	0.18	0.18	0.09	0.26	0.26
Sat Flow, veh/h	3510	3656	17	3483	3497	177	1570	1900	2790	3510	1900	1598
Grp Volume(v), veh/h	190	526	553	574	582	603	6	141	363	209	98	132
Grp Sat Flow(s),veh/h/ln	1755	1791	1882	1742	1805	1868	1570	1900	1395	1755	1900	1598
Q Serve(g_s), s	5.1	25.1	25.1	15.6	23.6	23.7	0.4	6.4	11.9	5.6	3.9	6.5
Cycle Q Clear(g_c), s	5.1	25.1	25.1	15.6	23.6	23.7	0.4	6.4	11.9	5.6	3.9	6.5
Prop In Lane	1.00		0.01	1.00		0.09	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	277	682	716	657	885	916	18	343	503	303	485	408
V/C Ratio(X)	0.69	0.77	0.77	0.87	0.66	0.66	0.34	0.41	0.72	0.69	0.20	0.32
Avail Cap(c_a), veh/h	324	733	771	679	924	957	145	646	948	432	704	592
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	43.7	26.5	26.5	38.4	18.7	18.7	47.8	35.4	37.6	43.3	28.5	29.5
Incr Delay (d2), s/veh	4.2	5.2	4.9	11.6	1.9	1.8	8.1	0.6	1.5	2.1	0.2	0.3
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.4	11.2	11.7	7.5	9.6	10.0	0.2	3.0	4.1	2.5	1.8	2.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	47.9	31.6	31.4	50.0	20.6	20.5	55.9	35.9	39.1	45.3	28.6	29.8
LnGrp LOS	D	C	C	D	C	C	E	D	D	D	C	C
Approach Vol, veh/h		1269			1759			510			439	
Approach Delay, s/veh		34.0			30.2			38.4			36.9	
Approach LOS		C			C			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	12.4	21.6	22.4	41.1	5.1	28.9	11.7	51.8
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	11.5	32.6	18.5	39.4	8.5	35.6	8.5	49.4
Max Q Clear Time (g_c+I1), s	7.6	13.9	17.6	27.1	2.4	8.5	7.1	25.7
Green Ext Time (p_c), s	0.3	3.1	0.3	9.5	0.0	1.2	0.1	17.5

Intersection Summary	
HCM 7th Control Delay, s/veh	33.2
HCM 7th LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	121	285	146	301	324	240	195	800	272	211	597	151
Future Volume (vph)	121	285	146	301	324	240	195	800	272	211	597	151
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	1.00	1.00	0.95	1.00	1.00	0.95	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.97	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1787	1863	1599	1715	1781	1615	1805	3610	1615	1787	3452	
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1787	1863	1599	1715	1781	1615	1805	3610	1615	1787	3452	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	127	300	154	317	341	253	205	842	286	222	628	159
RTOR Reduction (vph)	0	0	122	0	0	149	0	0	204	0	18	0
Lane Group Flow (vph)	127	300	32	285	373	104	205	842	82	222	769	0
Heavy Vehicles (%)	1%	2%	1%	0%	1%	0%	0%	0%	0%	1%	1%	3%
Turn Type	Split	NA	Perm	Split	NA	Perm	Prot	NA	Perm	Prot	NA	
Protected Phases	4	4		8	8		5	2		1	6	
Permitted Phases			4			8			2			
Actuated Green, G (s)	20.1	20.1	20.1	24.5	24.5	24.5	5.6	27.8	27.8	8.6	30.8	
Effective Green, g (s)	20.6	20.6	20.6	25.0	25.0	25.0	6.1	28.3	28.3	9.1	31.3	
Actuated g/C Ratio	0.21	0.21	0.21	0.25	0.25	0.25	0.06	0.29	0.29	0.09	0.32	
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	
Vehicle Extension (s)	2.5	2.5	2.5	2.5	2.5	2.5	2.5	4.0	4.0	2.5	4.0	
Lane Grp Cap (vph)	371	387	332	433	449	407	111	1031	461	164	1091	
v/s Ratio Prot	0.07	c0.16		0.17	c0.21		c0.11	c0.23		0.12	c0.22	
v/s Ratio Perm			0.02			0.06			0.05			
v/c Ratio	0.34	0.78	0.10	0.66	0.83	0.25	1.85	0.82	0.18	1.35	0.71	
Uniform Delay, d1	33.4	37.0	31.7	33.2	35.0	29.6	46.5	32.9	26.6	44.9	29.8	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.4	9.0	0.1	3.2	12.1	0.2	413.7	5.4	0.3	193.7	2.2	
Delay (s)	33.8	46.0	31.8	36.4	47.1	29.8	460.1	38.3	26.8	238.6	32.0	
Level of Service	C	D	C	D	D	C	F	D	C	F	C	
Approach Delay (s/veh)		39.6			38.9			100.7			77.5	
Approach LOS		D			D			F			E	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	70.7	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.86		
Actuated Cycle Length (s)	99.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	79.2%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

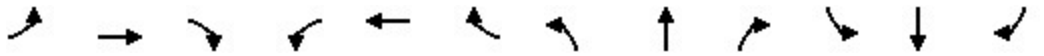
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	121	285	146	301	324	240	195	800	272	211	597	151
Future Volume (veh/h)	121	285	146	301	324	240	195	800	272	211	597	151
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	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	1885	1870	1885	1900	1885	1900	1900	1900	1900	1885	1885	1856
Adj Flow Rate, veh/h	127	300	154	317	341	253	205	842	286	222	628	159
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	1	2	1	0	1	0	0	0	0	1	1	3
Cap, veh/h	370	385	329	421	439	375	115	1068	476	172	928	235
Arrive On Green	0.21	0.21	0.21	0.23	0.23	0.23	0.06	0.30	0.30	0.10	0.33	0.32
Sat Flow, veh/h	1795	1870	1598	1810	1885	1610	1810	3610	1610	1795	2832	716
Grp Volume(v), veh/h	127	300	154	317	341	253	205	842	286	222	397	390
Grp Sat Flow(s),veh/h/ln	1795	1870	1598	1810	1885	1610	1810	1805	1610	1795	1791	1756
Q Serve(g_s), s	5.7	14.3	8.0	15.3	16.0	13.5	6.0	20.2	14.3	9.0	18.0	18.1
Cycle Q Clear(g_c), s	5.7	14.3	8.0	15.3	16.0	13.5	6.0	20.2	14.3	9.0	18.0	18.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.41
Lane Grp Cap(c), veh/h	370	385	329	421	439	375	115	1068	476	172	587	575
V/C Ratio(X)	0.34	0.78	0.47	0.75	0.78	0.67	1.78	0.79	0.60	1.29	0.68	0.68
Avail Cap(c_a), veh/h	696	725	619	567	590	504	115	1111	496	172	608	597
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	32.0	35.4	32.9	33.6	33.8	32.9	44.1	30.5	28.4	42.6	27.3	27.5
Incr Delay (d2), s/veh	0.4	2.6	0.8	3.3	4.0	1.6	382.9	4.0	2.3	168.6	3.3	3.4
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.5	6.6	3.1	6.9	7.5	5.3	14.9	9.0	5.6	11.9	7.9	7.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	32.4	37.9	33.6	36.9	37.8	34.5	427.0	34.5	30.7	211.2	30.6	30.8
LnGrp LOS	C	D	C	D	D	C	F	C	C	F	C	C
Approach Vol, veh/h		581			911			1333			1009	
Approach Delay, s/veh		35.6			36.6			94.0			70.4	
Approach LOS		D			D			F			E	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	13.0	31.9		23.4	10.0	34.9		25.9				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	8.5	28.5		36.0	5.5	31.5		29.0				
Max Q Clear Time (g_c+I1), s	11.0	22.2		16.3	8.0	20.1		18.0				
Green Ext Time (p_c), s	0.0	5.2		2.6	0.0	7.1		3.5				

Intersection Summary												
HCM 7th Control Delay, s/veh			65.3									
HCM 7th LOS			E									

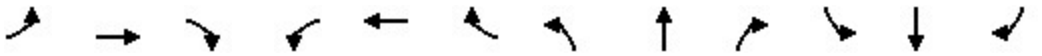
Notes

User approved pedestrian interval to be less than phase max green.
User approved volume balancing among the lanes for turning movement.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	122	215	177	188	253	115	253	1017	149	142	802	73
Future Volume (vph)	122	215	177	188	253	115	253	1017	149	142	802	73
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95		1.00	0.95	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.98		1.00	0.99	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1805	1845	1615	1787	1900	1615	1805	3506		1752	3533	
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1805	1845	1615	1787	1900	1615	1805	3506		1752	3533	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	126	222	182	194	261	119	261	1048	154	146	827	75
RTOR Reduction (vph)	0	0	147	0	0	99	0	11	0	0	7	0
Lane Group Flow (vph)	126	222	35	194	261	20	261	1191	0	146	895	0
Heavy Vehicles (%)	0%	3%	0%	1%	0%	0%	0%	1%	1%	3%	1%	0%
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA		Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8						
Actuated Green, G (s)	8.3	17.1	17.1	6.3	15.1	15.1	17.6	41.9		5.7	30.0	
Effective Green, g (s)	8.3	17.1	17.1	6.3	15.1	15.1	18.1	42.4		6.2	30.5	
Actuated g/C Ratio	0.09	0.19	0.19	0.07	0.17	0.17	0.21	0.48		0.07	0.35	
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.5	4.5		4.5	4.5	
Vehicle Extension (s)	2.5	2.5	2.5	2.5	2.5	2.5	2.5	4.0		2.5	4.0	
Lane Grp Cap (vph)	170	358	313	127	326	277	371	1689		123	1224	
v/s Ratio Prot	0.07	0.12		c0.11	c0.14		c0.14	c0.34		c0.08	0.25	
v/s Ratio Perm			0.02			0.01						
v/c Ratio	0.74	0.62	0.11	1.53	0.80	0.07	0.70	0.70		1.19	0.73	
Uniform Delay, d1	38.8	32.5	29.2	40.9	35.0	30.6	32.5	17.9		40.9	25.2	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	15.1	2.9	0.1	273.1	12.8	0.1	5.5	1.5		140.0	2.4	
Delay (s)	53.9	35.3	29.3	313.9	47.8	30.7	38.0	19.4		180.9	27.6	
Level of Service	D	D	C	F	D	C	D	B		F	C	
Approach Delay (s/veh)		37.7			134.2			22.7			49.0	
Approach LOS		D			F			C			D	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	50.2	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.83		
Actuated Cycle Length (s)	88.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	75.8%	ICU Level of Service	D
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)	122	215	177	188	253	115	253	1017	149	142	802	73
Future Volume (veh/h)	122	215	177	188	253	115	253	1017	149	142	802	73
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	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	1900	1856	1900	1885	1900	1900	1900	1885	1885	1856	1885	1900
Adj Flow Rate, veh/h	126	222	182	194	261	119	261	1048	154	146	827	75
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	0	3	0	1	0	0	0	1	1	3	1	0
Cap, veh/h	146	354	307	108	325	275	307	1652	242	107	1388	126
Arrive On Green	0.08	0.19	0.19	0.06	0.17	0.17	0.17	0.53	0.52	0.06	0.42	0.41
Sat Flow, veh/h	1810	1856	1610	1795	1900	1610	1810	3134	460	1767	3321	301
Grp Volume(v), veh/h	126	222	182	194	261	119	261	598	604	146	446	456
Grp Sat Flow(s),veh/h/ln	1810	1856	1610	1795	1900	1610	1810	1791	1802	1767	1791	1831
Q Serve(g_s), s	6.8	10.9	10.2	6.0	13.1	6.6	13.9	23.6	23.7	6.0	19.2	19.2
Cycle Q Clear(g_c), s	6.8	10.9	10.2	6.0	13.1	6.6	13.9	23.6	23.7	6.0	19.2	19.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.26	1.00		0.16
Lane Grp Cap(c), veh/h	146	354	307	108	325	275	307	944	950	107	749	765
V/C Ratio(X)	0.86	0.63	0.59	1.79	0.80	0.43	0.85	0.63	0.64	1.37	0.60	0.60
Avail Cap(c_a), veh/h	146	480	416	108	453	384	401	1195	1203	107	907	927
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	45.1	36.9	36.7	46.7	39.6	36.9	40.0	16.7	16.7	46.7	22.4	22.5
Incr Delay (d2), s/veh	37.7	1.4	1.4	389.5	6.1	0.8	11.7	1.0	1.0	214.2	1.1	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	4.6	5.0	4.1	14.4	6.6	2.6	7.0	9.2	9.3	8.9	7.9	8.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	82.9	38.3	38.0	436.2	45.7	37.7	51.7	17.7	17.8	260.8	23.5	23.5
LnGrp LOS	F	D	D	F	D	D	D	B	B	F	C	C
Approach Vol, veh/h		530			574			1463			1048	
Approach Delay, s/veh		48.8			176.0			23.8			56.6	
Approach LOS		D			F			C			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.0	56.4	10.0	23.0	20.9	45.5	12.0	21.0
Change Period (Y+Rc), s	4.5	4.5	4.0	4.0	4.5	4.5	4.0	4.0
Max Green Setting (Gmax), s	5.5	65.8	6.0	25.7	21.5	49.8	8.0	23.7
Max Q Clear Time (g_c+I1), s	8.0	25.7	8.0	12.9	15.9	21.2	8.8	15.1
Green Ext Time (p_c), s	0.0	26.2	0.0	2.5	0.5	15.4	0.0	1.8

Intersection Summary	
HCM 7th Control Delay, s/veh	61.1
HCM 7th LOS	E

Notes

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

Intersection	
Intersection Delay, s/veh	11.3
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	19	90	23	28	139	167	29	78	17	98	73	47
Future Vol, veh/h	19	90	23	28	139	167	29	78	17	98	73	47
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles, %	0	0	5	0	0	1	4	2	0	1	0	9
Mvmt Flow	20	96	24	30	148	178	31	83	18	104	78	50
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay, s/veh	9.8	12.3	10.1	11.2
HCM LOS	A	B	B	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	23%	14%	8%	45%
Vol Thru, %	63%	68%	42%	33%
Vol Right, %	14%	17%	50%	22%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	124	132	334	218
LT Vol	29	19	28	98
Through Vol	78	90	139	73
RT Vol	17	23	167	47
Lane Flow Rate	132	140	355	232
Geometry Grp	1	1	1	1
Degree of Util (X)	0.205	0.209	0.479	0.346
Departure Headway (Hd)	5.598	5.362	4.852	5.374
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	641	668	743	668
Service Time	3.638	3.401	2.883	3.409
HCM Lane V/C Ratio	0.206	0.21	0.478	0.347
HCM Control Delay, s/veh	10.1	9.8	12.3	11.2
HCM Lane LOS	B	A	B	B
HCM 95th-tile Q	0.8	0.8	2.6	1.5

Intersection	
Int Delay, s/veh	11

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	175	237	71	103	208	73
Future Vol, veh/h	175	237	71	103	208	73
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	206	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	2	3	5	2	2	2
Mvmt Flow	199	269	81	117	236	83

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	695	139	0	0	198	0
Stage 1	139	-	-	-	-	-
Stage 2	556	-	-	-	-	-
Critical Hdwy	6.42	6.23	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.327	-	-	2.218	-
Pot Cap-1 Maneuver	408	906	-	-	1375	-
Stage 1	888	-	-	-	-	-
Stage 2	574	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	335	906	-	-	1375	-
Mov Cap-2 Maneuver	335	-	-	-	-	-
Stage 1	888	-	-	-	-	-
Stage 2	471	-	-	-	-	-

Approach	WB	NB	SB
HCM Ctrl Dly, s/v	19.01	0	6.04
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	335	906	1311	-
HCM Lane V/C Ratio	-	-	0.594	0.297	0.172	-
HCM Ctrl Dly (s/v)	-	-	30.3	10.6	8.2	0
HCM Lane LOS	-	-	D	B	A	A
HCM 95th %tile Q(veh)	-	-	3.6	1.2	0.6	-

Intersection	
Int Delay, s/veh	3.3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	127	0	40	256	0	85
Future Vol, veh/h	127	0	40	256	0	85
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	66	66	66	66	66	66
Heavy Vehicles, %	0	0	0	0	0	3
Mvmt Flow	192	0	61	388	0	129

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	383	255	0	0	448	0
Stage 1	255	-	-	-	-	-
Stage 2	129	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	623	789	-	-	1123	-
Stage 1	793	-	-	-	-	-
Stage 2	902	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	623	789	-	-	1123	-
Mov Cap-2 Maneuver	623	-	-	-	-	-
Stage 1	793	-	-	-	-	-
Stage 2	902	-	-	-	-	-

Approach	WB	NB	SB
HCM Ctrl Dly, s/v	13.33	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	623	1123	-
HCM Lane V/C Ratio	-	-	0.309	-	-
HCM Ctrl Dly (s/v)	-	-	13.3	0	-
HCM Lane LOS	-	-	B	A	-
HCM 95th %tile Q(veh)	-	-	1.3	0	-

Intersection: 3: Chemawa Rd/Keizer Station & Lockhaven Dr , Interval #1

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	SB
Directions Served	L	L	T	TR	L	L	T	TR	T	R	R	L
Maximum Queue (ft)	19	108	362	306	187	211	188	171	313	225	211	5
Average Queue (ft)	3	40	258	196	97	152	106	82	102	192	148	1
95th Queue (ft)	15	127	386	330	214	238	199	168	283	254	253	8
Link Distance (ft)			512	512			658	658	607			
Upstream Blk Time (%)			0									
Queuing Penalty (veh)			0									
Storage Bay Dist (ft)	300	300			500	500				200	200	230
Storage Blk Time (%)			3							8	1	
Queuing Penalty (veh)			2							5	0	

Intersection: 3: Chemawa Rd/Keizer Station & Lockhaven Dr , Interval #1

Movement	SB	SB	SB
Directions Served	L	T	R
Maximum Queue (ft)	66	21	19
Average Queue (ft)	39	7	10
95th Queue (ft)	75	25	24
Link Distance (ft)	589	589	
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			240
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 3: Chemawa Rd/Keizer Station & Lockhaven Dr , Interval #2

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	SB
Directions Served	L	L	T	TR	L	L	T	TR	T	R	R	L
Maximum Queue (ft)	14	191	367	326	171	198	189	167	304	225	211	24
Average Queue (ft)	1	42	220	163	64	126	86	68	67	174	129	2
95th Queue (ft)	10	120	339	288	165	199	165	144	200	248	247	14
Link Distance (ft)			512	512			658	658	607			
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	300	300			500	500				200	200	230
Storage Blk Time (%)			1							6	1	
Queuing Penalty (veh)			1							3	0	

Intersection: 3: Chemawa Rd/Keizer Station & Lockhaven Dr , Interval #2

Movement	SB	SB	SB
Directions Served	L	T	R
Maximum Queue (ft)	92	43	38
Average Queue (ft)	37	10	9
95th Queue (ft)	78	34	26
Link Distance (ft)	589	589	
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			240
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 3: Chemawa Rd/Keizer Station & Lockhaven Dr , All Intervals

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	SB
Directions Served	L	L	T	TR	L	L	T	TR	T	R	R	L
Maximum Queue (ft)	19	192	401	354	195	225	218	201	332	225	212	25
Average Queue (ft)	2	41	229	171	72	132	91	71	75	178	134	2
95th Queue (ft)	11	121	353	300	180	211	174	151	224	251	250	13
Link Distance (ft)			512	512			658	658	607			
Upstream Blk Time (%)			0									
Queuing Penalty (veh)			0									
Storage Bay Dist (ft)	300	300			500	500				200	200	230
Storage Blk Time (%)			2							6	1	
Queuing Penalty (veh)			1							4	0	

Intersection: 3: Chemawa Rd/Keizer Station & Lockhaven Dr , All Intervals

Movement	SB	SB	SB
Directions Served	L	T	R
Maximum Queue (ft)	96	43	38
Average Queue (ft)	37	9	9
95th Queue (ft)	77	32	26
Link Distance (ft)	589	589	
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			240
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 8: River Rd & Lockhaven, Interval #1

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	SB	SB
Directions Served	L	T	R	L	LT	R	L	T	T	R	L	T
Maximum Queue (ft)	171	252	87	371	495	185	237	160	120	52	275	679
Average Queue (ft)	78	149	44	210	329	139	184	96	51	12	274	674
95th Queue (ft)	173	261	82	416	561	266	296	164	119	56	274	696
Link Distance (ft)		667			941			785	785			664
Upstream Blk Time (%)												75
Queuing Penalty (veh)												0
Storage Bay Dist (ft)	270		290	410		160	260			266	250	
Storage Blk Time (%)		1		0	37	1	6				100	1
Queuing Penalty (veh)		2		0	114	4	12				372	2

Intersection: 8: River Rd & Lockhaven, Interval #1

Movement	SB
Directions Served	TR
Maximum Queue (ft)	672
Average Queue (ft)	598
95th Queue (ft)	821
Link Distance (ft)	664
Upstream Blk Time (%)	1
Queuing Penalty (veh)	0
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 8: River Rd & Lockhaven, Interval #2

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	SB	SB
Directions Served	L	T	R	L	LT	R	L	T	T	R	L	T
Maximum Queue (ft)	106	234	130	373	482	185	277	374	356	40	275	679
Average Queue (ft)	49	133	44	115	245	114	188	188	145	4	274	679
95th Queue (ft)	94	213	99	296	414	256	341	465	424	22	275	679
Link Distance (ft)		667			941			785	785			664
Upstream Blk Time (%)												97
Queuing Penalty (veh)												0
Storage Bay Dist (ft)	270		290	410		160	260			266	250	
Storage Blk Time (%)		0			23	1	30	1			100	0
Queuing Penalty (veh)		0			62	4	55	1			328	0

Intersection: 8: River Rd & Lockhaven, Interval #2

Movement	SB
Directions Served	TR
Maximum Queue (ft)	679
Average Queue (ft)	521
95th Queue (ft)	912
Link Distance (ft)	664
Upstream Blk Time (%)	1
Queuing Penalty (veh)	0
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 8: River Rd & Lockhaven, All Intervals

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	SB	SB
Directions Served	L	T	R	L	LT	R	L	T	T	R	L	T
Maximum Queue (ft)	175	255	138	406	554	185	279	383	361	56	275	679
Average Queue (ft)	56	137	44	138	266	120	187	166	122	6	274	678
95th Queue (ft)	120	226	95	337	461	260	331	418	376	33	274	690
Link Distance (ft)		667			941			785	785			664
Upstream Blk Time (%)												91
Queuing Penalty (veh)												0
Storage Bay Dist (ft)	270		290	410		160	260			266	250	
Storage Blk Time (%)		0		0	26	1	24	1			100	0
Queuing Penalty (veh)		1		0	75	4	44	1			339	1

Intersection: 8: River Rd & Lockhaven, All Intervals

Movement	SB
Directions Served	TR
Maximum Queue (ft)	679
Average Queue (ft)	540
95th Queue (ft)	902
Link Distance (ft)	664
Upstream Blk Time (%)	1
Queuing Penalty (veh)	0
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 13: Chemawa Rd & River Rd , Interval #1

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	R	L	T	R	L	T	TR	L	T	TR
Maximum Queue (ft)	113	438	260	184	377	211	179	170	158	189	313	286
Average Queue (ft)	58	266	103	125	236	73	110	89	75	72	205	151
95th Queue (ft)	127	439	255	222	424	244	185	167	162	176	307	270
Link Distance (ft)		776			837			1016	1016		555	555
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	365		325	160		300	200			190		
Storage Blk Time (%)		4	0	8	22	0	1	0			10	
Queuing Penalty (veh)		14	0	21	47	0	2	0			7	

Intersection: 13: Chemawa Rd & River Rd , Interval #2

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	R	L	T	R	L	T	TR	L	T	TR
Maximum Queue (ft)	163	355	255	185	402	269	180	157	162	198	261	203
Average Queue (ft)	49	215	70	98	184	40	84	66	55	44	150	97
95th Queue (ft)	117	312	145	188	330	145	156	126	125	113	237	185
Link Distance (ft)		776			837			1016	1016		555	555
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	365		325	160		300	200			190		
Storage Blk Time (%)		0	0	2	23	0	1	0			3	
Queuing Penalty (veh)		1	0	4	40	0	1	0			1	

Intersection: 13: Chemawa Rd & River Rd , All Intervals

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	R	L	T	R	L	T	TR	L	T	TR
Maximum Queue (ft)	183	466	303	185	425	323	196	179	180	198	316	286
Average Queue (ft)	51	227	78	105	197	48	90	72	60	51	164	110
95th Queue (ft)	120	352	180	199	358	175	165	139	136	132	262	214
Link Distance (ft)		776			837			1016	1016		555	555
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	365		325	160		300	200			190		
Storage Blk Time (%)		1	0	3	23	0	1	0			5	
Queuing Penalty (veh)		5	0	8	42	0	1	0			3	

Intersection: 18: Shoreline Dr /Windsor Island & Chemawa Rd, Interval #1

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	42	29	52	64
Average Queue (ft)	30	14	24	39
95th Queue (ft)	48	34	50	62
Link Distance (ft)	594	1045	1107	654
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 18: Shoreline Dr /Windsor Island & Chemawa Rd, Interval #2

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	54	58	44	68
Average Queue (ft)	31	11	22	39
95th Queue (ft)	54	39	39	61
Link Distance (ft)	594	1045	1107	654
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 18: Shoreline Dr /Windsor Island & Chemawa Rd, All Intervals

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	55	58	53	68
Average Queue (ft)	31	12	23	39
95th Queue (ft)	53	38	42	61
Link Distance (ft)	594	1045	1107	654
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 23: Windsor Island Rd /Windsor Island & Lockhaven Dr , Interval #1

Movement	WB	WB	NB	SB
Directions Served	L	R	TR	LT
Maximum Queue (ft)	47	44	4	44
Average Queue (ft)	26	19	1	17
95th Queue (ft)	49	43	6	48
Link Distance (ft)		1241	953	564
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)	206			
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 23: Windsor Island Rd /Windsor Island & Lockhaven Dr , Interval #2

Movement	WB	WB	SB
Directions Served	L	R	LT
Maximum Queue (ft)	48	54	59
Average Queue (ft)	21	19	11
95th Queue (ft)	41	47	44
Link Distance (ft)		1241	564
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)	206		
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 23: Windsor Island Rd /Windsor Island & Lockhaven Dr , All Intervals

Movement	WB	WB	NB	SB
Directions Served	L	R	TR	LT
Maximum Queue (ft)	52	60	4	59
Average Queue (ft)	22	19	0	12
95th Queue (ft)	44	46	3	45
Link Distance (ft)		1241	953	564
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)	206			
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 25: Windsor Island & Site Access, Interval #1

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 25: Windsor Island & Site Access, Interval #2

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 25: Windsor Island & Site Access, All Intervals

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Network Summary

Network wide Queuing Penalty, Interval #1: 605
Network wide Queuing Penalty, Interval #2: 503
Network wide Queuing Penalty, All Intervals: 528

Intersection: 3: Chemawa Rd/Keizer Station & Lockhaven Dr , Interval #1

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	SB
Directions Served	L	L	T	TR	L	L	T	TR	T	R	R	L
Maximum Queue (ft)	55	182	407	279	164	192	198	177	238	224	212	15
Average Queue (ft)	13	83	260	183	83	140	115	89	79	184	148	1
95th Queue (ft)	56	196	390	294	191	212	192	177	216	242	240	8
Link Distance (ft)			512	512			658	658	607			
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	300	300			500	500				200	200	230
Storage Blk Time (%)			4							6	1	
Queuing Penalty (veh)			4							4	0	

Intersection: 3: Chemawa Rd/Keizer Station & Lockhaven Dr , Interval #1

Movement	SB	SB	SB
Directions Served	L	T	R
Maximum Queue (ft)	73	34	31
Average Queue (ft)	40	11	14
95th Queue (ft)	74	31	33
Link Distance (ft)	589	589	
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			240
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 3: Chemawa Rd/Keizer Station & Lockhaven Dr , Interval #2

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	SB
Directions Served	L	L	T	TR	L	L	T	TR	T	R	R	L
Maximum Queue (ft)	42	281	425	340	178	222	209	175	256	225	212	44
Average Queue (ft)	4	74	252	188	90	147	99	77	66	180	132	4
95th Queue (ft)	26	191	388	313	197	220	176	150	198	243	240	26
Link Distance (ft)			512	512			658	658	607			
Upstream Blk Time (%)			0									
Queuing Penalty (veh)			0									
Storage Bay Dist (ft)	300	300			500	500				200	200	230
Storage Blk Time (%)		0	3							5	0	
Queuing Penalty (veh)		0	3							3	0	

Intersection: 3: Chemawa Rd/Keizer Station & Lockhaven Dr , Interval #2

Movement	SB	SB	SB
Directions Served	L	T	R
Maximum Queue (ft)	94	30	34
Average Queue (ft)	39	9	11
95th Queue (ft)	78	27	28
Link Distance (ft)	589	589	
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			240
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 3: Chemawa Rd/Keizer Station & Lockhaven Dr , All Intervals

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	SB
Directions Served	L	L	T	TR	L	L	T	TR	T	R	R	L
Maximum Queue (ft)	69	281	437	340	186	227	221	190	270	225	212	49
Average Queue (ft)	6	76	254	187	88	146	103	80	69	181	136	3
95th Queue (ft)	36	193	389	308	196	218	181	157	202	243	241	23
Link Distance (ft)			512	512			658	658	607			
Upstream Blk Time (%)			0									
Queuing Penalty (veh)			0									
Storage Bay Dist (ft)	300	300			500	500				200	200	230
Storage Blk Time (%)		0	3							5	0	
Queuing Penalty (veh)		0	3							3	0	

Intersection: 3: Chemawa Rd/Keizer Station & Lockhaven Dr , All Intervals

Movement	SB	SB	SB
Directions Served	L	T	R
Maximum Queue (ft)	94	38	37
Average Queue (ft)	39	10	12
95th Queue (ft)	77	28	29
Link Distance (ft)	589	589	
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			240
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 8: River Rd & Lockhaven, Interval #1

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	SB	SB
Directions Served	L	T	R	L	LT	R	L	T	T	R	L	T
Maximum Queue (ft)	294	428	235	424	609	185	277	548	502	92	275	679
Average Queue (ft)	128	264	115	284	426	157	235	348	295	26	274	676
95th Queue (ft)	304	438	273	469	643	263	345	781	709	139	274	706
Link Distance (ft)		667			941			785	785			664
Upstream Blk Time (%)								8	2			83
Queuing Penalty (veh)								0	0			0
Storage Bay Dist (ft)	270		290	410		160	260			266	250	
Storage Blk Time (%)		8	0	0	51	2	52	0	1		100	2
Queuing Penalty (veh)		33	0	1	156	11	106	0	1		373	6

Intersection: 8: River Rd & Lockhaven, Interval #1

Movement	SB
Directions Served	TR
Maximum Queue (ft)	677
Average Queue (ft)	579
95th Queue (ft)	853
Link Distance (ft)	664
Upstream Blk Time (%)	3
Queuing Penalty (veh)	0
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 8: River Rd & Lockhaven, Interval #2

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	SB	SB
Directions Served	L	T	R	L	LT	R	L	T	T	R	L	T
Maximum Queue (ft)	259	543	314	409	538	185	285	810	782	118	275	679
Average Queue (ft)	65	230	76	158	280	109	284	691	548	16	274	679
95th Queue (ft)	172	408	192	343	452	257	290	978	995	100	276	679
Link Distance (ft)		667			941			785	785			664
Upstream Blk Time (%)		0						51	11			97
Queuing Penalty (veh)		0						0	0			0
Storage Bay Dist (ft)	270		290	410		160	260			266	250	
Storage Blk Time (%)		5	0		29	2	96	2	1	0	100	0
Queuing Penalty (veh)		18	0		80	7	172	3	1	0	328	1

Intersection: 8: River Rd & Lockhaven, Interval #2

Movement	SB
Directions Served	TR
Maximum Queue (ft)	679
Average Queue (ft)	519
95th Queue (ft)	906
Link Distance (ft)	664
Upstream Blk Time (%)	1
Queuing Penalty (veh)	0
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 8: River Rd & Lockhaven, All Intervals

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	SB	SB
Directions Served	L	T	R	L	LT	R	L	T	T	R	L	T
Maximum Queue (ft)	294	554	315	434	628	185	285	810	788	172	275	679
Average Queue (ft)	80	238	85	189	315	121	272	608	487	19	274	678
95th Queue (ft)	215	417	216	394	526	264	337	1016	961	110	275	694
Link Distance (ft)		667			941			785	785			664
Upstream Blk Time (%)		0						40	9			93
Queuing Penalty (veh)		0						0	0			0
Storage Bay Dist (ft)	270		290	410		160	260			266	250	
Storage Blk Time (%)		6	0	0	35	2	85	2	1	0	100	1
Queuing Penalty (veh)		22	0	0	99	8	156	2	1	0	339	2

Intersection: 8: River Rd & Lockhaven, All Intervals

Movement	SB
Directions Served	TR
Maximum Queue (ft)	679
Average Queue (ft)	533
95th Queue (ft)	899
Link Distance (ft)	664
Upstream Blk Time (%)	2
Queuing Penalty (veh)	0
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 13: Chemawa Rd & River Rd , Interval #1

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	R	L	T	R	L	T	TR	L	T	TR
Maximum Queue (ft)	207	429	276	184	442	214	164	176	173	133	373	348
Average Queue (ft)	73	288	137	133	245	45	117	102	93	63	252	187
95th Queue (ft)	206	448	302	221	472	159	186	194	190	141	397	358
Link Distance (ft)		776			837			1016	1016		555	555
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	365		325	160		300	200			190		
Storage Blk Time (%)		5	0	11	27	0	0	0			16	
Queuing Penalty (veh)		17	0	28	57	0	1	1			13	

Intersection: 13: Chemawa Rd & River Rd , Interval #2

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	R	L	T	R	L	T	TR	L	T	TR
Maximum Queue (ft)	85	345	266	185	418	269	182	190	154	214	318	252
Average Queue (ft)	43	231	77	118	188	44	87	87	68	60	167	111
95th Queue (ft)	78	334	165	211	352	158	158	162	134	152	284	212
Link Distance (ft)		776			837			1016	1016		555	555
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	365		325	160		300	200			190		
Storage Blk Time (%)		1	0	2	21	0	0	0		0	5	
Queuing Penalty (veh)		2	0	4	37	0	1	0		0	3	

Intersection: 13: Chemawa Rd & River Rd , All Intervals

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	R	L	T	R	L	T	TR	L	T	TR
Maximum Queue (ft)	211	433	311	185	476	321	190	202	180	214	383	348
Average Queue (ft)	50	245	92	122	202	44	94	91	74	61	188	130
95th Queue (ft)	125	371	211	214	388	158	168	171	151	150	326	262
Link Distance (ft)		776			837			1016	1016		555	555
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	365		325	160		300	200			190		
Storage Blk Time (%)		2	0	4	22	0	0	0		0	8	
Queuing Penalty (veh)		6	0	10	42	0	1	0		0	6	

Intersection: 18: Shoreline Dr /Windsor Island & Chemawa Rd, Interval #1

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	66	47	36	84
Average Queue (ft)	40	16	20	50
95th Queue (ft)	76	43	40	86
Link Distance (ft)	594	1045	1107	654
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 18: Shoreline Dr /Windsor Island & Chemawa Rd, Interval #2

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	75	45	49	96
Average Queue (ft)	34	14	24	48
95th Queue (ft)	64	38	43	76
Link Distance (ft)	594	1045	1107	654
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 18: Shoreline Dr /Windsor Island & Chemawa Rd, All Intervals

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	90	58	49	99
Average Queue (ft)	35	14	23	48
95th Queue (ft)	67	39	42	79
Link Distance (ft)	594	1045	1107	654
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 23: Windsor Island Rd /Windsor Island & Lockhaven Dr , Interval #1

Movement	WB	WB	NB	SB
Directions Served	L	R	TR	LT
Maximum Queue (ft)	163	76	46	158
Average Queue (ft)	80	39	12	92
95th Queue (ft)	161	79	37	163
Link Distance (ft)		1241	953	564
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)	206			
Storage Blk Time (%)	0			
Queuing Penalty (veh)	0			

Intersection: 23: Windsor Island Rd /Windsor Island & Lockhaven Dr , Interval #2

Movement	WB	WB	NB	SB
Directions Served	L	R	TR	LT
Maximum Queue (ft)	97	72	36	166
Average Queue (ft)	32	32	6	72
95th Queue (ft)	71	64	26	145
Link Distance (ft)		1241	953	564
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)	206			
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 23: Windsor Island Rd /Windsor Island & Lockhaven Dr , All Intervals

Movement	WB	WB	NB	SB
Directions Served	L	R	TR	LT
Maximum Queue (ft)	164	88	50	180
Average Queue (ft)	43	34	7	77
95th Queue (ft)	106	69	29	151
Link Distance (ft)		1241	953	564
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)	206			
Storage Blk Time (%)	0			
Queuing Penalty (veh)	0			

Intersection: 25: Windsor Island & Site Access, Interval #1

Movement	WB
Directions Served	LR
Maximum Queue (ft)	124
Average Queue (ft)	73
95th Queue (ft)	121
Link Distance (ft)	490
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 25: Windsor Island & Site Access, Interval #2

Movement	WB
Directions Served	LR
Maximum Queue (ft)	81
Average Queue (ft)	44
95th Queue (ft)	69
Link Distance (ft)	490
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 25: Windsor Island & Site Access, All Intervals

Movement	WB
Directions Served	LR
Maximum Queue (ft)	124
Average Queue (ft)	51
95th Queue (ft)	89
Link Distance (ft)	490
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Network Summary

Network wide Queuing Penalty, Interval #1: 812
Network wide Queuing Penalty, Interval #2: 664
Network wide Queuing Penalty, All Intervals: 701

Intersection: 3: Chemawa Rd/Keizer Station & Lockhaven Dr , Interval #1

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	NB
Directions Served	L	L	T	TR	L	L	T	TR	L	T	R	R
Maximum Queue (ft)	98	203	377	295	326	344	282	326	12	193	206	190
Average Queue (ft)	28	102	279	209	223	270	178	202	4	106	134	71
95th Queue (ft)	103	209	377	314	342	371	284	322	20	185	216	181
Link Distance (ft)			512	512			658	658		607		
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	300	300			500	500			180		200	200
Storage Blk Time (%)			5							0	1	0
Queuing Penalty (veh)			7							2	2	0

Intersection: 3: Chemawa Rd/Keizer Station & Lockhaven Dr , Interval #1

Movement	SB	SB	SB	SB
Directions Served	L	L	T	R
Maximum Queue (ft)	165	187	94	52
Average Queue (ft)	59	122	41	21
95th Queue (ft)	162	193	99	51
Link Distance (ft)		589	589	
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)	230			240
Storage Blk Time (%)	0	0		
Queuing Penalty (veh)	0	0		

Intersection: 3: Chemawa Rd/Keizer Station & Lockhaven Dr , Interval #2

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	NB
Directions Served	L	L	T	TR	L	L	T	TR	L	T	R	R
Maximum Queue (ft)	95	324	450	360	295	354	269	328	38	161	202	165
Average Queue (ft)	12	94	263	207	178	230	146	170	5	83	124	51
95th Queue (ft)	55	218	395	323	270	324	229	274	25	138	192	146
Link Distance (ft)			512	512			658	658		607		
Upstream Blk Time (%)			0									
Queuing Penalty (veh)			0									
Storage Bay Dist (ft)	300	300			500	500			180		200	200
Storage Blk Time (%)			4							0	0	0
Queuing Penalty (veh)			5							1	0	0

Intersection: 3: Chemawa Rd/Keizer Station & Lockhaven Dr , Interval #2

Movement	SB	SB	SB	SB
Directions Served	L	L	T	R
Maximum Queue (ft)	195	233	97	53
Average Queue (ft)	67	124	41	19
95th Queue (ft)	176	206	84	44
Link Distance (ft)		589	589	
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)	230			240
Storage Blk Time (%)	0	0		
Queuing Penalty (veh)	0	0		

Intersection: 3: Chemawa Rd/Keizer Station & Lockhaven Dr , All Intervals

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	NB
Directions Served	L	L	T	TR	L	L	T	TR	L	T	R	R
Maximum Queue (ft)	125	324	461	360	338	384	312	348	38	198	209	193
Average Queue (ft)	16	96	267	207	189	240	154	178	5	89	126	56
95th Queue (ft)	69	216	392	321	293	339	246	288	24	153	198	156
Link Distance (ft)			512	512			658	658		607		
Upstream Blk Time (%)			0									
Queuing Penalty (veh)			0									
Storage Bay Dist (ft)	300	300			500	500			180		200	200
Storage Blk Time (%)			4							0	1	0
Queuing Penalty (veh)			6							1	1	0

Intersection: 3: Chemawa Rd/Keizer Station & Lockhaven Dr , All Intervals

Movement	SB	SB	SB	SB
Directions Served	L	L	T	R
Maximum Queue (ft)	196	237	124	61
Average Queue (ft)	65	123	41	19
95th Queue (ft)	172	203	88	46
Link Distance (ft)		589	589	
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)	230			240
Storage Blk Time (%)	0	0		
Queuing Penalty (veh)	0	0		

Intersection: 8: River Rd & Lockhaven, Interval #1

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	SB	SB
Directions Served	L	T	R	L	LT	R	L	T	T	R	L	T
Maximum Queue (ft)	100	194	62	355	418	185	284	499	420	124	275	664
Average Queue (ft)	40	123	39	213	288	162	215	317	242	26	250	493
95th Queue (ft)	96	201	71	367	451	258	329	569	460	72	331	888
Link Distance (ft)		667			941			785	785			664
Upstream Blk Time (%)												38
Queuing Penalty (veh)												0
Storage Bay Dist (ft)	270		290	410		160	260			266	250	
Storage Blk Time (%)		0			29	5	28	5	0	0	73	1
Queuing Penalty (veh)		1			121	29	116	6	1	0	230	3

Intersection: 8: River Rd & Lockhaven, Interval #1

Movement	SB
Directions Served	TR
Maximum Queue (ft)	627
Average Queue (ft)	368
95th Queue (ft)	785
Link Distance (ft)	664
Upstream Blk Time (%)	0
Queuing Penalty (veh)	0
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 8: River Rd & Lockhaven, Interval #2

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	SB	SB
Directions Served	L	T	R	L	LT	R	L	T	T	R	L	T
Maximum Queue (ft)	87	213	82	405	506	185	285	716	666	201	275	697
Average Queue (ft)	31	106	38	150	251	130	261	513	466	61	274	678
95th Queue (ft)	71	182	69	328	412	263	343	936	915	223	275	702
Link Distance (ft)		667			941			785	785			664
Upstream Blk Time (%)								21	13			90
Queuing Penalty (veh)								0	0			0
Storage Bay Dist (ft)	270		290	410		160	260			266	250	
Storage Blk Time (%)		0		0	23	3	67	2	4	0	99	1
Queuing Penalty (veh)		0		0	88	17	262	2	10	0	292	1

Intersection: 8: River Rd & Lockhaven, Interval #2

Movement	SB
Directions Served	TR
Maximum Queue (ft)	676
Average Queue (ft)	547
95th Queue (ft)	889
Link Distance (ft)	664
Upstream Blk Time (%)	1
Queuing Penalty (veh)	0
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 8: River Rd & Lockhaven, All Intervals

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	SB	SB
Directions Served	L	T	R	L	LT	R	L	T	T	R	L	T
Maximum Queue (ft)	105	228	86	408	522	185	285	716	666	214	275	706
Average Queue (ft)	33	110	38	165	260	138	250	465	412	53	269	634
95th Queue (ft)	78	188	70	344	424	265	346	878	847	197	312	868
Link Distance (ft)		667			941			785	785			664
Upstream Blk Time (%)								16	10			77
Queuing Penalty (veh)								0	0			0
Storage Bay Dist (ft)	270		290	410		160	260			266	250	
Storage Blk Time (%)		0		0	25	4	57	2	3	0	93	1
Queuing Penalty (veh)		0		0	97	20	225	3	8	0	276	2

Intersection: 8: River Rd & Lockhaven, All Intervals

Movement	SB
Directions Served	TR
Maximum Queue (ft)	679
Average Queue (ft)	504
95th Queue (ft)	887
Link Distance (ft)	664
Upstream Blk Time (%)	1
Queuing Penalty (veh)	0
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 13: Chemawa Rd & River Rd , Interval #1

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	R	L	T	R	L	T	TR	L	T	TR
Maximum Queue (ft)	130	410	290	185	656	325	224	347	307	209	376	343
Average Queue (ft)	77	290	104	175	482	169	186	252	210	172	303	243
95th Queue (ft)	131	415	292	219	820	404	281	419	349	256	556	482
Link Distance (ft)		776			837			1016	1016		555	555
Upstream Blk Time (%)					5						1	
Queuing Penalty (veh)					0						0	
Storage Bay Dist (ft)	365		325	160		300	200			190		
Storage Blk Time (%)		5	0	41	37	0	11	8		40	7	
Queuing Penalty (veh)		16	0	142	107	0	56	19		159	9	

Intersection: 13: Chemawa Rd & River Rd , Interval #2

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	R	L	T	R	L	T	TR	L	T	TR
Maximum Queue (ft)	390	574	350	185	790	325	225	414	372	215	535	526
Average Queue (ft)	125	294	112	168	499	157	173	225	185	200	434	377
95th Queue (ft)	265	488	302	226	890	385	264	376	316	250	718	681
Link Distance (ft)		776			837			1016	1016		555	555
Upstream Blk Time (%)					10						40	2
Queuing Penalty (veh)					0						0	0
Storage Bay Dist (ft)	365		325	160		300	200			190		
Storage Blk Time (%)		10	0	42	31	0	12	5		74	5	
Queuing Penalty (veh)		28	0	140	88	0	57	11		285	6	

Intersection: 13: Chemawa Rd & River Rd , All Intervals

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	R	L	T	R	L	T	TR	L	T	TR
Maximum Queue (ft)	390	574	350	185	790	325	225	430	378	215	535	526
Average Queue (ft)	113	293	110	169	494	160	176	231	191	193	403	345
95th Queue (ft)	243	472	299	225	874	390	268	388	325	257	695	649
Link Distance (ft)		776			837			1016	1016		555	555
Upstream Blk Time (%)					9						30	1
Queuing Penalty (veh)					0						0	0
Storage Bay Dist (ft)	365		325	160		300	200			190		
Storage Blk Time (%)		9	0	42	33	0	12	6		65	5	
Queuing Penalty (veh)		25	0	141	93	0	57	13		253	6	

Intersection: 18: Shoreline Dr /Windsor Island & Chemawa Rd, Interval #1

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	45	47	48	78
Average Queue (ft)	25	29	30	52
95th Queue (ft)	48	51	51	79
Link Distance (ft)	594	1045	1107	654
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 18: Shoreline Dr /Windsor Island & Chemawa Rd, Interval #2

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	53	66	74	85
Average Queue (ft)	27	27	32	43
95th Queue (ft)	47	57	59	71
Link Distance (ft)	594	1045	1107	654
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 18: Shoreline Dr /Windsor Island & Chemawa Rd, All Intervals

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	57	67	74	89
Average Queue (ft)	26	28	31	45
95th Queue (ft)	47	56	57	73
Link Distance (ft)	594	1045	1107	654
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 23: Windsor Island Rd /Windsor Island & Lockhaven Dr , Interval #1

Movement	WB	WB	NB	SB
Directions Served	L	R	TR	LT
Maximum Queue (ft)	57	28	4	39
Average Queue (ft)	33	9	2	12
95th Queue (ft)	58	26	12	40
Link Distance (ft)		1241	953	564
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)	206			
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 23: Windsor Island Rd /Windsor Island & Lockhaven Dr , Interval #2

Movement	WB	WB	NB	SB
Directions Served	L	R	TR	LT
Maximum Queue (ft)	61	29	4	47
Average Queue (ft)	29	7	0	11
95th Queue (ft)	52	19	4	37
Link Distance (ft)		1241	953	564
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)	206			
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 23: Windsor Island Rd /Windsor Island & Lockhaven Dr , All Intervals

Movement	WB	WB	NB	SB
Directions Served	L	R	TR	LT
Maximum Queue (ft)	65	39	9	52
Average Queue (ft)	30	7	1	11
95th Queue (ft)	54	21	6	38
Link Distance (ft)		1241	953	564
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)	206			
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 25: Windsor Island & Site Access, Interval #1

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 25: Windsor Island & Site Access, Interval #2

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 25: Windsor Island & Site Access, All Intervals

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Network Summary

Network wide Queuing Penalty, Interval #1: 1026
Network wide Queuing Penalty, Interval #2: 1292
Network wide Queuing Penalty, All Intervals: 1226

Intersection: 3: Chemawa Rd/Keizer Station & Lockhaven Dr , Interval #1

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	NB
Directions Served	L	L	T	TR	L	L	T	TR	L	T	R	R
Maximum Queue (ft)	125	267	415	362	300	335	230	246	33	140	202	158
Average Queue (ft)	58	146	282	234	216	260	178	190	5	87	137	68
95th Queue (ft)	157	275	423	347	315	356	239	257	24	143	213	171
Link Distance (ft)			512	512			658	658		607		
Upstream Blk Time (%)			0									
Queuing Penalty (veh)			0									
Storage Bay Dist (ft)	300	300			500	500			180		200	200
Storage Blk Time (%)			4								1	0
Queuing Penalty (veh)			7								2	0

Intersection: 3: Chemawa Rd/Keizer Station & Lockhaven Dr , Interval #1

Movement	SB	SB	SB	SB
Directions Served	L	L	T	R
Maximum Queue (ft)	150	195	65	77
Average Queue (ft)	73	132	36	42
95th Queue (ft)	174	217	71	80
Link Distance (ft)		589	589	
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)	230			240
Storage Blk Time (%)		1		
Queuing Penalty (veh)		1		

Intersection: 3: Chemawa Rd/Keizer Station & Lockhaven Dr , Interval #2

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	NB
Directions Served	L	L	T	TR	L	L	T	TR	L	T	R	R
Maximum Queue (ft)	170	324	437	371	293	331	277	318	53	149	211	179
Average Queue (ft)	49	133	245	205	189	240	169	188	9	80	125	58
95th Queue (ft)	148	234	374	324	284	328	254	290	35	141	194	159
Link Distance (ft)			512	512			658	658		607		
Upstream Blk Time (%)			0									
Queuing Penalty (veh)			0									
Storage Bay Dist (ft)	300	300			500	500			180		200	200
Storage Blk Time (%)			3							0	1	0
Queuing Penalty (veh)			5							1	1	0

Intersection: 3: Chemawa Rd/Keizer Station & Lockhaven Dr , Interval #2

Movement	SB	SB	SB	SB
Directions Served	L	L	T	R
Maximum Queue (ft)	150	179	109	95
Average Queue (ft)	44	108	42	37
95th Queue (ft)	133	174	89	79
Link Distance (ft)		589	589	
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)	230			240
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 3: Chemawa Rd/Keizer Station & Lockhaven Dr , All Intervals

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	NB
Directions Served	L	L	T	TR	L	L	T	TR	L	T	R	R
Maximum Queue (ft)	172	324	492	409	311	345	277	318	57	161	211	189
Average Queue (ft)	51	136	254	212	195	245	171	189	8	81	128	60
95th Queue (ft)	150	245	389	331	293	336	251	283	32	141	199	162
Link Distance (ft)			512	512			658	658		607		
Upstream Blk Time (%)			0									
Queuing Penalty (veh)			0									
Storage Bay Dist (ft)	300	300			500	500			180		200	200
Storage Blk Time (%)			3							0	1	0
Queuing Penalty (veh)			6							0	1	0

Intersection: 3: Chemawa Rd/Keizer Station & Lockhaven Dr , All Intervals

Movement	SB	SB	SB	SB
Directions Served	L	L	T	R
Maximum Queue (ft)	172	213	109	101
Average Queue (ft)	51	114	41	38
95th Queue (ft)	145	187	85	80
Link Distance (ft)		589	589	
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)	230			240
Storage Blk Time (%)		0		
Queuing Penalty (veh)		0		

Intersection: 8: River Rd & Lockhaven, Interval #1

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	SB	SB
Directions Served	L	T	R	L	LT	R	L	T	T	R	L	T
Maximum Queue (ft)	100	227	94	434	726	185	285	800	765	291	275	685
Average Queue (ft)	52	152	46	326	503	177	282	663	553	100	274	627
95th Queue (ft)	109	233	91	518	829	231	298	961	937	289	275	741
Link Distance (ft)		667			941			785	785			664
Upstream Blk Time (%)					4			33	2			29
Queuing Penalty (veh)					0			0	0			0
Storage Bay Dist (ft)	270		290	410		160	260			266	250	
Storage Blk Time (%)		0		0	50	10	89	1	7	0	97	2
Queuing Penalty (veh)		1		1	208	67	375	3	19	0	304	5

Intersection: 8: River Rd & Lockhaven, Interval #1

Movement	SB
Directions Served	TR
Maximum Queue (ft)	668
Average Queue (ft)	569
95th Queue (ft)	703
Link Distance (ft)	664
Upstream Blk Time (%)	0
Queuing Penalty (veh)	0
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 8: River Rd & Lockhaven, Interval #2

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	SB	SB
Directions Served	L	T	R	L	LT	R	L	T	T	R	L	T
Maximum Queue (ft)	139	252	143	424	646	185	285	800	800	290	275	679
Average Queue (ft)	49	144	47	245	371	156	284	799	684	42	274	679
95th Queue (ft)	112	242	116	447	610	263	286	816	1083	169	275	682
Link Distance (ft)		667			941			785	785			664
Upstream Blk Time (%)								93	23			96
Queuing Penalty (veh)								0	0			0
Storage Bay Dist (ft)	270		290	410		160	260			266	250	
Storage Blk Time (%)		0		0	40	2	100	0	3	0	100	0
Queuing Penalty (veh)		1		0	153	14	393	1	7	0	293	1

Intersection: 8: River Rd & Lockhaven, Interval #2

Movement	SB
Directions Served	TR
Maximum Queue (ft)	678
Average Queue (ft)	543
95th Queue (ft)	880
Link Distance (ft)	664
Upstream Blk Time (%)	1
Queuing Penalty (veh)	0
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 8: River Rd & Lockhaven, All Intervals

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	SB	SB
Directions Served	L	T	R	L	LT	R	L	T	T	R	L	T
Maximum Queue (ft)	139	265	146	434	735	185	285	800	800	291	275	685
Average Queue (ft)	50	146	47	264	403	161	284	766	652	56	274	667
95th Queue (ft)	112	241	111	472	682	259	292	942	1058	206	275	734
Link Distance (ft)		667			941			785	785			664
Upstream Blk Time (%)					1			78	18			80
Queuing Penalty (veh)					0			0	0			0
Storage Bay Dist (ft)	270		290	410		160	260			266	250	
Storage Blk Time (%)		0		0	43	4	97	1	4	0	99	1
Queuing Penalty (veh)		1		1	167	27	388	1	10	0	296	2

Intersection: 8: River Rd & Lockhaven, All Intervals

Movement	SB
Directions Served	TR
Maximum Queue (ft)	678
Average Queue (ft)	549
95th Queue (ft)	851
Link Distance (ft)	664
Upstream Blk Time (%)	1
Queuing Penalty (veh)	0
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 13: Chemawa Rd & River Rd , Interval #1

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	R	L	T	R	L	T	TR	L	T	TR
Maximum Queue (ft)	197	383	156	185	596	275	225	420	354	215	581	566
Average Queue (ft)	124	251	92	170	406	173	182	254	213	211	505	429
95th Queue (ft)	270	415	209	217	682	391	257	388	335	240	698	667
Link Distance (ft)		776			837			1016	1016		555	555
Upstream Blk Time (%)											39	2
Queuing Penalty (veh)											0	0
Storage Bay Dist (ft)	365		325	160		300	200			190		
Storage Blk Time (%)	0	5	0	31	35	0	13	7		91	5	
Queuing Penalty (veh)	0	15	0	119	109	0	67	19		375	7	

Intersection: 13: Chemawa Rd & River Rd , Interval #2

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	R	L	T	R	L	T	TR	L	T	TR
Maximum Queue (ft)	348	589	350	185	846	325	225	485	453	215	587	580
Average Queue (ft)	150	292	108	170	550	166	177	242	215	214	572	478
95th Queue (ft)	320	489	284	224	932	397	254	501	459	214	582	758
Link Distance (ft)		776			837			1016	1016		555	555
Upstream Blk Time (%)		0			10						96	3
Queuing Penalty (veh)		0			0						0	0
Storage Bay Dist (ft)	365		325	160		300	200			190		
Storage Blk Time (%)	4	7	0	34	39	0	11	5		100	2	
Queuing Penalty (veh)	15	21	0	123	116	0	55	12		396	3	

Intersection: 13: Chemawa Rd & River Rd , All Intervals

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	R	L	T	R	L	T	TR	L	T	TR
Maximum Queue (ft)	348	601	350	185	846	325	225	514	461	215	587	580
Average Queue (ft)	144	282	104	170	515	168	178	245	215	214	556	467
95th Queue (ft)	309	474	268	223	889	396	255	480	435	228	662	739
Link Distance (ft)		776			837			1016	1016		555	555
Upstream Blk Time (%)		0			7						82	2
Queuing Penalty (veh)		0			0						0	0
Storage Bay Dist (ft)	365		325	160		300	200			190		
Storage Blk Time (%)	3	6	0	33	38	0	11	5		98	3	
Queuing Penalty (veh)	11	19	0	122	114	0	58	14		391	4	

Intersection: 18: Shoreline Dr /Windsor Island & Chemawa Rd, Interval #1

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	45	81	75	106
Average Queue (ft)	27	37	39	59
95th Queue (ft)	47	73	76	101
Link Distance (ft)	594	1045	1107	654
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 18: Shoreline Dr /Windsor Island & Chemawa Rd, Interval #2

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	52	96	64	98
Average Queue (ft)	26	35	33	48
95th Queue (ft)	46	73	57	80
Link Distance (ft)	594	1045	1107	654
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 18: Shoreline Dr /Windsor Island & Chemawa Rd, All Intervals

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	53	104	79	120
Average Queue (ft)	26	35	34	50
95th Queue (ft)	47	73	63	87
Link Distance (ft)	594	1045	1107	654
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 23: Windsor Island Rd /Windsor Island & Lockhaven Dr , Interval #1

Movement	WB	WB	NB	SB
Directions Served	L	R	TR	LT
Maximum Queue (ft)	95	71	17	68
Average Queue (ft)	54	36	2	37
95th Queue (ft)	93	71	14	72
Link Distance (ft)		1241	953	564
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)	206			
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 23: Windsor Island Rd /Windsor Island & Lockhaven Dr , Interval #2

Movement	WB	WB	NB	SB
Directions Served	L	R	TR	LT
Maximum Queue (ft)	97	64	22	90
Average Queue (ft)	43	25	2	33
95th Queue (ft)	81	53	13	78
Link Distance (ft)		1241	953	564
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)	206			
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 23: Windsor Island Rd /Windsor Island & Lockhaven Dr , All Intervals

Movement	WB	WB	NB	SB
Directions Served	L	R	TR	LT
Maximum Queue (ft)	106	75	27	96
Average Queue (ft)	45	27	2	34
95th Queue (ft)	85	58	13	77
Link Distance (ft)		1241	953	564
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)	206			
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 25: Windsor Island & Site Access, Interval #1

Movement	WB
Directions Served	LR
Maximum Queue (ft)	63
Average Queue (ft)	34
95th Queue (ft)	61
Link Distance (ft)	490
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 25: Windsor Island & Site Access, Interval #2

Movement	WB
Directions Served	LR
Maximum Queue (ft)	48
Average Queue (ft)	28
95th Queue (ft)	44
Link Distance (ft)	490
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 25: Windsor Island & Site Access, All Intervals

Movement	WB
Directions Served	LR
Maximum Queue (ft)	64
Average Queue (ft)	29
95th Queue (ft)	50
Link Distance (ft)	490
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Network Summary

Network wide Queuing Penalty, Interval #1: 1702
Network wide Queuing Penalty, Interval #2: 1612
Network wide Queuing Penalty, All Intervals: 1634

SANDOW
ENGINEERING
777 High Street, Suite 320
Eugene, Oregon 97401
541.513.3376
sandowengineering.com

REEL 3976 PAGE 475
MARION COUNTY
BILL BURGESS, COUNTY CLERK
08-01-2017 11:09 am.
Control Number 469709 $ 56.00
Instrument 2017 00040042

MAIL TAX STATEMENTS TO:
Michael A. Kerr, Trustee
Sandra K. Kerr, Trustee
Kerr Living Trust
9015 Windsor Island Rd N
Salem, OR 97303

AFTER RECORDING RETURN TO:
Jeffrey G. Moore, Attorney
Saalfeld Griggs PC
PO Box 470
Salem, OR 97308-0470

STATUTORY BARGAIN AND SALE DEED

Michael A. Kerr and Sandra K. Kerr, husband and wife, Grantors, convey to ***Michael A. Kerr and Sandra K. Kerr, Trustees of the Kerr Living Trust dated*** June 12 ***, 2017, and any amendments thereto,*** Grantees, any and all of Grantors' interest in the following described real property situated in the County of Marion, State of Oregon:

See Appendix 'A' attached hereto and incorporated herein.

This deed is executed to partially fund a trust of Grantors, and the true and actual consideration stated in terms of dollars is ZERO.

The following is the notice as required by Oregon law: "BEFORE SIGNING OR ACCEPTING THIS INSTRUMENT, THE PERSON TRANSFERRING FEE TITLE SHOULD INQUIRE ABOUT THE PERSON'S RIGHTS, IF ANY, UNDER ORS 195.300, 195.301 AND 195.305 TO 195.336 AND SECTIONS 5 TO 11, CHAPTER 424, OREGON LAWS 2007, SECTIONS 2 TO 9 AND 17, CHAPTER 855, OREGON LAWS 2009, AND SECTIONS 2 TO 7, CHAPTER 8, OREGON LAWS 2010. THIS INSTRUMENT DOES NOT ALLOW USE OF THE PROPERTY DESCRIBED IN THIS INSTRUMENT IN VIOLATION OF APPLICABLE LAND USE LAWS AND REGULATIONS. BEFORE SIGNING OR ACCEPTING THIS INSTRUMENT, THE PERSON ACQUIRING FEE TITLE TO THE PROPERTY SHOULD CHECK WITH THE APPROPRIATE CITY OR COUNTY PLANNING DEPARTMENT TO VERIFY THAT THE UNIT OF LAND BEING TRANSFERRED IS A LAWFULLY ESTABLISHED LOT OR PARCEL, AS DEFINED IN ORS 92.010 OR 215.010, TO VERIFY THE APPROVED USES OF THE LOT OR PARCEL, TO DETERMINE ANY LIMITS ON LAWSUITS AGAINST FARMING OR FOREST PRACTICES, AS DEFINED IN ORS 30.930, AND TO INQUIRE ABOUT THE RIGHTS OF NEIGHBORING PROPERTY OWNERS, IF ANY, UNDER ORS 195.300, 195.301 AND 195.305 TO 195.336 AND SECTIONS 5 TO 11, CHAPTER 424, OREGON LAWS 2007, SECTIONS 2 TO 9 AND 17, CHAPTER 855, OREGON LAWS 2009, AND SECTIONS 2 TO 7, CHAPTER 8, OREGON LAWS 2010."

Dated this 12 day of June, 2017.

Michael A. Kerr

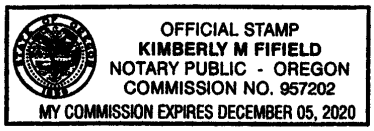
Sandra K. Kerr

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STATE OF OREGON)
) ss.
COUNTY OF MARION)

On this 12 day of June, 2017, personally appeared the above named ***Sandra K. Kerr*** and acknowledged the foregoing instrument to be her voluntary act and deed.

Before me:



Kimberly M. Fifield
Notary Public for Oregon
My Commission Expires: 12-5-2020

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EXHIBIT 'A'

Beginning at a point 8.70 chains North 0• 45' East of the North boundary of the D.L.C. of John Ford, No. 39, in T. 6 S.W. 3 W. of the Willamette Meridian, and 15.15 chains North 89• 42' East of the Southeast corner of the D.L.C. of James Smart, No. 42. same Township and Range; thence South 89• 42' West 34.54 chains to the middle of the Salem and Spong's Ferry Road; thence North 34• West in said road 9.69 chains; thence North 89• 42' East 40.15 chains to the East line of the J.O. Beardsley land; thence South 0• 45' West 8.03 chains to the place of beginning, containing 30 acres of land, more or less, situate in Marion County, Oregon.

SAVE AND EXCEPT the following described parcels:

(a) Beginning at an iron pipe which is 999.90 feet North 89• 42' East and North 0• 07' East 574.20 feet from the Southeast corner of the James Smart Donation Land Claim in Township 6 South Range 3 West of the Willamette Meridian, in Marion County, Oregon; thence South 89• 42' West parallel with the South line of above mentioned Donation Land Claim 821.90 feet to an iron pipe; thence North 0• 07' East 529.30 feet to an iron pipe; thence North 89• 42' East 821.90 feet to an iron rod; thence South 0• 07' West 529.30 feet to the place of beginning.

(b) Beginning at a point in the center of Windsor Island Road (Market Road No. 63) which point is the Northwest corner of the land conveyed to Zillah Anna Schooley and Arleen Elizabeth Olson as shown by deed recorded in Reel 604, page 359, Deed Records for Marion County, Oregon, in the Donation Land Claim No. 42 of James Smart in Township 6 South, Range 3 West of the Willamette Meridian in Marion County, Oregon, which point bears 8.70 chains North 0•45' East of the North boundary of the Donation Land Claim of John Ford No. 39, same Township and Range, and 15.15 chains North 89•42' East of the Southeast corner of the Donation Land Claim of James Smart, No. 42, same Township and Range; thence South 89•42' West 34.54 chains to the middle of the Salem and Spong's Ferry Road (Windsor Island Road); thence North 34• West in said road 9.69 chains to a point marking the True Point of Beginning; thence along the North line of said land, North 89•42' East 308.01 feet to a 5/8 inch iron rod; thence South 2•23'21" East 118.86 feet to a 5/8 inch iron rod; thence South 65•56'18" West 156.42 feet to a 5/8" iron rod; thence continuing South 65•56'18" West 40.49 feet to the centerline of Windsor Island Road; thence North 34• West 238.14 feet to the place of beginning.

SUBJECT TO: A perpetual easement for roadway purposes a strip of land 16.00 feet wide leading from the above described 10.00 acre tract to the county road leading from Salem to Spongs Landing, the north line of which is described as follows: Beginning at the Northwest corner of the above described 10.00 acre tract of land and running thence South 89• 42' West 1828.00 feet, more or less, to the center of the Salem to Spongs Landing county road.

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REEL: 3976 **PAGE: 475**

August 01, 2017, 11:09 am.

CONTROL #: 469709

State of Oregon
County of Marion

I hereby certify that the attached instrument was received and duly recorded by me in Marion County records:

FEE: $ 56.00

BILL BURGESS
COUNTY CLERK

THIS IS NOT AN INVOICE.

REEL 3828 PAGE 282
MARION COUNTY
BILL BURGESS, COUNTY CLERK
06-16-2016 04:05 pm.
Control Number 416125 $ 56.00
Instrument 2016 00028200

AFTER RECORDING, RETURN TO:

Barbara Jo Smith
Heltzel Williams PC
PO Box 1048
Salem, OR 97308-1048

Consideration: $0

Send Tax Statements To:
No Change

DEED

DIANE ELIZABETH RAMEY, as Grantor, 6150 Andover Circle, Anchorage, AK 99516,

conveys to

JOHN L. RAMEY and DIANE E. RAMEY, as Trustees of THE RAMEY FAMILY TRUST, under Agreement dated May 9, 2016, as Grantees, 6150 Andover Circle, Anchorage, AK 99516

her one-quarter (1/4) share of the following described real property located in Marion County, Oregon:

See attached Exhibit A

WARNING. BEFORE SIGNING OR ACCEPTING THIS INSTRUMENT, THE PERSON TRANSFERRING FEE TITLE SHOULD INQUIRE ABOUT THE PERSON'S RIGHTS, IF ANY, UNDER ORS 195.300, 195.301 AND 195.305 TO 195.336 AND SECTIONS 5 TO 11, CHAPTER 424, OREGON LAWS 2007, SECTIONS 2 TO 9 AND 17, CHAPTER 855, OREGON LAWS 2009, AND SECTIONS 2 TO 7, CHAPTER 8, OREGON LAWS 2010. THIS INSTRUMENT DOES NOT ALLOW USE OF THE PROPERTY DESCRIBED IN THIS INSTRUMENT IN VIOLATION OF APPLICABLE LAND USE LAWS AND REGULATIONS. BEFORE SIGNING OR ACCEPTING THIS INSTRUMENT, THE PERSON ACQUIRING FEE TITLE TO THE PROPERTY SHOULD CHECK WITH THE APPROPRIATE CITY OR COUNTY PLANNING DEPARTMENT TO VERIFY THAT THE UNIT OF LAND BEING TRANSFERRED IS A LAWFULLY ESTABLISHED LOT OR PARCEL, AS DEFINED IN ORS 92.010 OR 215.010, TO VERIFY THE APPROVED USES OF THE LOT OR PARCEL, TO DETERMINE ANY LIMITS ON LAWSUITS AGAINST FARMING OR FOREST PRACTICES, AS DEFINED IN ORS 30.930, AND TO INQUIRE ABOUT THE

RIGHTS OF NEIGHBORING PROPERTY OWNERS, IF ANY, UNDER ORS 195.300, 195.301 AND 195.305 TO 195.336 AND SECTIONS 5 TO 11, CHAPTER 424, OREGON LAWS 2007, SECTIONS 2 TO 9 AND 17, CHAPTER 855, OREGON LAWS 2009, AND SECTIONS 2 TO 7, CHAPTER 8, OREGON LAWS 2010.

The true consideration for this conveyance is $0.

Duly executed June 7, 2016.

Diane Elizabeth Ramey
DIANE ELIZABETH RAMEY

GRANTOR

Anchorage Burough, Alaska – ss:

On this 7 day of June, 2016 personally appeared DIANE ELIZABETH RAMEY and acknowledged the foregoing instrument to be her voluntary act and deed.

KENNETH KIRK
NOTARY PUBLIC - STATE OF ALASKA
My Commission Expires May 21, 2020
Commission Number 160521003

Notary Public for Alaska
My commission Expires: 5-21-2020

EXHIBIT A

Beginning at a point 8.70 chains North 0° 45' East of the North boundary of the D.L.C. of John Ford, No. 39, in T. 6 S.W. 3 W. of the Willamette Meridian, and 15.15 chains North 89° 42' East of the Southeast corner of the D.L.C. of James Smart, No. 42. same Township and Range; thence South 89° 42' West 34.54 chains to the middle of the Salem and Spong's Ferry Road; thence North 34° West in said road 9.69 chains; thence North 89° 42' East 40.15 chains to the East line of the J.O. Beardsley land; thence South 0° 45' West 8.03 chains to the place of beginning, containing 30 acres of land, more or less, situate in Marion County, Oregon.

SAVE AND EXCEPT the following described parcels:

(a) Beginning at an iron pipe which is 999.90 feet North 89° 42' East and North 0° 07' East 574.20 feet from the Southeast corner of the James Smart Donation Land Claim in Township 6 South Range 3 West of the Willamette Meridian, in Marion County, Oregon; thence South 89° 42' West parallel with the South line of above mentioned Donation Land Claim 821.90 feet to an iron pipe; thence North 0° 07' East 529.30 feet to an iron pipe; thence North 89° 42' East 821.90 feet to an iron rod; thence South 0° 07' West 529.30 feet to the place of beginning.

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SUBJECT TO: A perpetual easement for roadway purposes a strip of land 16.00 feet wide leading from the above described 10.00 acre tract to the county road leading from Salem to Spongs Landing, the north line of which is described as follows: Beginning at the Northwest corner of the above described 10.00 acre tract of land and running thence South 89° 42' West 1828.00 feet, more or less, to the center of the Salem to Spongs Landing county road.

REEL: 3828 **PAGE: 282**

June 16, 2016, 04:05 pm.

CONTROL #: 416125

State of Oregon
County of Marion

I hereby certify that the attached instrument was received and duly recorded by me in Marion County records:

FEE: $ 56.00

BILL BURGESS
COUNTY CLERK

THIS IS NOT AN INVOICE.

AFTER RECORDING RETURN TO:
Law Offices of Nay & Friedenberg
6500 SW Macadam Avenue, Suite 300
Portland, OR 97239-3565

SEND TAX STATEMENTS TO:
Karen S. Glaser, Trustee
1128 Arbor Rd.
Menlo Park, CA 94025

REEL 3938 PAGE 304
MARION COUNTY
BILL BURGESS, COUNTY CLERK
04-25-2017 09:44 am.
Control Number 456144 $ 51.00
Instrument 2017 00020871

BARGAIN AND SALE DEED

KAREN S. GLASER, Trustee, THE ZILLAH A. SCHOOLEY TRUST AGREEMENT, dated October 5, 1984, **GRANTOR**, for the consideration hereinafter stated, conveys unto KAREN S. GLASER, Trustee, THE KAREN S. GLASER IRREVOCABLE FAMILY PROTECTION TRUST, **GRANTEE,** the following real property situated in the County of Marion, State of Oregon, described as follows:

Beginning at a point 8.70 chains North 0° 45' East of the North boundary of the D.L.C. of John Ford, No. 39, in T. 6 S. R. 3 W. of the Willamette Meridian, and 15.15 chains North 89° 42' East of the Southeast corner of the D.L.C. of James Smart, No. 42. same Township and Range; thence South 89° 42' West 34.54 chains to the middle of the Salem and Spong's Ferry Road; thence North 34° West in said road 9.69 chains; thence North 89° 42' East 40.15 chains to the East line of the J. O. Beardsley land; thence South 0° 45' West 8.03 chains to the place of beginning, containing 30 acres of land, more or less, situate in Marion County, Oregon.

SAVE AND EXCEPT the following described parcel:

Beginning at an iron pipe which is 999.90 feet North 89° 42' East and North 0° 07' East 574.20 feet from the Southeast corner of the James Smart Donation Land Claim in Township 6 South Range 3 West of the Willamette Meridian, in Marion County, Oregon; thence South 89° 42' West parallel with the South line of above mentioned Donation Land Claim 821.90 feet to an iron pipe; thence North 0° 07' East 529.30 feet to an iron pipe; then North 89° 42' East 821.90 feet to an iron rod; then South 0° 07' West 529.30 feet to the place of beginning.

SUBJECT TO: A perpetual easement for roadway purposes a strip of land 16.00 feet wide leading from the above described 10.00 acre tract to the county road leading from Salem to Spongs Landing, the north line of which is described as follows: Beginning at the Northwest corner of the above described 10.00 acre tract of land and running thence South 89° 42' West 1828.00 feet, more or less, to the center of the Salem to Spongs Landing county road.

True and actual consideration for this conveyance is $-0- plus other good and valuable consideration.

DATED this 18 day of April, 2017.

Karen S. Glaser
KAREN S. GLASER, Trustee

BEFORE SIGNING OR ACCEPTING THIS INSTRUMENT, THE PERSON TRANSFERRING FEE TITLE SHOULD INQUIRE ABOUT THE PERSON'S RIGHTS, IF ANY, UNDER ORS 195.300, 195.301 AND 195.305 TO 195.336 AND SECTIONS 5 TO 11, CHAPTER 424, OREGON LAWS 2007, SECTIONS 2 TO 9 AND 17, CHAPTER 855, OREGON LAWS 2009, AND SECTIONS 2 TO 7, CHAPTER 8, OREGON LAWS 2010. THIS INSTRUMENT DOES NOT ALLOW USE OF THE PROPERTY DESCRIBED IN THIS INSTRUMENT IN VIOLATION OF APPLICABLE LAND USE LAWS AND REGULATIONS. BEFORE SIGNING OR ACCEPTING THIS INSTRUMENT, THE PERSON

ACQUIRING FEE TITLE TO THE PROPERTY SHOULD CHECK WITH THE APPROPRIATE CITY OR COUNTY PLANNING DEPARTMENT TO VERIFY THAT THE UNIT OF LAND BEING TRANSFERRED IS A LAWFULLY ESTABLISHED LOT OR PARCEL, AS DEFINED IN ORS 92.010 OR 215.010, TO VERIFY THE APPROVED USES OF THE LOT OR PARCEL, TO DETERMINE ANY LIMITS ON LAWSUITS AGAINST FARMING OR FOREST PRACTICES, AS DEFINED IN ORS 30.930, AND TO INQUIRE ABOUT THE RIGHTS OF NEIGHBORING PROPERTY OWNERS, IF ANY, UNDER ORS 195.300, 195.301 AND 195.305 TO 195.336 AND SECTIONS 5 TO 11, CHAPTER 424, OREGON LAWS 2007, SECTIONS 2 TO 9 AND 17, CHAPTER 855, OREGON LAWS 2009, AND SECTIONS 2 TO 7, CHAPTER 8, OREGON LAWS 2010.

A notary public or other office completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached, and not the truthfulness, accuracy, or validity of that document.

STATE OF CALIFORNIA)
) ss.
County of California)

On 04/18/17, 2017, before me, Suresh Nair, Notary Public, personally appeared KAREN S. GLASER, who proved to me on the basis of satisfactory evidence to be the person whose name is subscribed to the within instrument and acknowledged to me that she is Trustee under the Zillah A. Schooley Trust Agreement dated October 5, 1984, and that she executed the same in her authorized capacity, and that by her signature on the instrument the person, or the entity upon behalf of which the person acted, executed the instrument.

I certify under PENALTY of PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

SURESH NAIR
COMM. #2154303
NOTARY PUBLIC - CALIFORNIA
SAN MATEO COUNTY
My Commission Expires 08/02/2020

Notary Public

REEL: 3938 PAGE: 304

April 25, 2017, 09:44 am.

CONTROL #: 456144

State of Oregon
County of Marion

I hereby certify that the attached instrument was received and duly recorded by me in Marion County records:

FEE: $ 51.00

BILL BURGESS
COUNTY CLERK

THIS IS NOT AN INVOICE.

AFTER RECORDING, RETURN TO:

Barbara Jo Smith
Heltzel Williams PC
PO Box 1048
Salem, OR 97308-1048

Tax Statements:
Olson Sisters, LLC
9015 Windsor Island Rd. N
Salem, OR 97303

Consideration: $0 (Contribution)

MARION COUNTY RECORDS **2024-029131**
D-DEED 09/16/2024 04:37 PM
$20.00 $11.00 $10.00 $60.00 $101.00

00053161202400291310050053

I, Bill Burgess, County Clerk for Marion County, Oregon, certify that the instrument identified herein was recorded in the Official Records.

Pgs=4 CC1

BARGAIN AND SALE DEED

SANDRA K. KERR and DIANE E. RAMEY, as equal tenants in common, as Grantors,

convey to

OLSON SISTERS LLC, an Oregon limited liability company, as Grantee, 9015 Windsor Island Rd. N, Salem, OR 97303,

See attached Exhibit A, Parcels 1 and 2.

WARNING. BEFORE SIGNING OR ACCEPTING THIS INSTRUMENT, THE PERSON TRANSFERRING FEE TITLE SHOULD INQUIRE ABOUT THE PERSON'S RIGHTS, IF ANY, UNDER ORS 195.300, 195.301 AND 195.305 TO 195.336 AND SECTIONS 5 TO 11, CHAPTER 424, OREGON LAWS 2007, SECTIONS 2 TO 9 AND 17, CHAPTER 855, OREGON LAWS 2009, AND SECTIONS 2 TO 7, CHAPTER 8, OREGON LAWS 2010. THIS INSTRUMENT DOES NOT ALLOW USE OF THE PROPERTY DESCRIBED IN THIS INSTRUMENT IN VIOLATION OF APPLICABLE LAND USE LAWS AND REGULATIONS. BEFORE SIGNING OR ACCEPTING THIS INSTRUMENT, THE PERSON ACQUIRING FEE TITLE TO THE PROPERTY SHOULD CHECK WITH THE APPROPRIATE CITY OR COUNTY PLANNING DEPARTMENT TO VERIFY THAT THE UNIT OF LAND BEING TRANSFERRED IS A LAWFULLY ESTABLISHED LOT OR PARCEL, AS DEFINED IN ORS 92.010 OR 215.010, TO VERIFY THE APPROVED USES OF THE LOT OR PARCEL, TO DETERMINE ANY LIMITS ON LAWSUITS AGAINST FARMING OR FOREST PRACTICES, AS DEFINED IN ORS 30.930, AND TO INQUIRE ABOUT THE RIGHTS OF NEIGHBORING PROPERTY OWNERS, IF ANY, UNDER ORS 195.300, 195.301 AND 195.305 TO 195.336 AND

SECTIONS 5 TO 11, CHAPTER 424, OREGON LAWS 2007, SECTIONS 2 TO 9 AND 17, CHAPTER 855, OREGON LAWS 2009, AND SECTIONS 2 TO 7, CHAPTER 8, OREGON LAWS 2010.

The true consideration for this conveyance is $0 (Contribution).

Duly executed September 11, 2024.

Sandra K Kerr
SANDRA K. KERR

Diane E. Ramey
DIANE E. RAMEY

GRANTORS

Marion County, Oregon - ss:

On September 11, 2024, personally appeared SANDRA K. KERR, and acknowledged the foregoing instrument to be her voluntary act and deed.

Before me:

OFFICIAL STAMP
LAURA ELLEN OSS
NOTARY PUBLIC - OREGON
COMMISSION NO. 1031180
MY COMMISSION EXPIRES NOVEMBER 21, 2026

Laura Ellen Oss
Notary Public for Oregon
My Commission Expires: 11-21-2026

Marion County, Oregon - ss:

On September 11, 2024, personally appeared DIANE E. RAMEY, and acknowledged the foregoing instrument to be her voluntary act and deed.

Before me:

OFFICIAL STAMP
LAURA ELLEN OSS
NOTARY PUBLIC - OREGON
COMMISSION NO. 1031180
MY COMMISSION EXPIRES NOVEMBER 21, 2026

Laura Ellen Oss
Notary Public for Oregon
My Commission Expires: 11-21-2026

EXHIBIT A

A 50% tenant in common interest, which is their entire interest, in the following:

Parcel No. 1

Beginning at a point 8.70 chains North 0° 45' East of the North boundary of the D.L.C. of John Ford, No. 39, in T. 6 S.W. 3 W. of the Willamette Meridian, and 15.15 chains North 89° 42' East of the Southeast corner of the D.L.C. of James Smart, No. 42. same Township and Range; thence South 89° 42' West 34.54 chains to the middle of the Salem and Spong's Ferry Road; thence North 34° West in said road 9.69 chains; thence North 89° 42' East 40.15 chains to the East line of the J.O. Beardsley land; thence South 0° 45' West 8.03 chains to the place of beginning, containing 30 acres of land, more or less, situate in Marion County, Oregon.

SAVE AND EXCEPT the following described parcels:

(a) Beginning at an iron pipe which is 999.90 feet North 89° 42' East and North 0° 07' East 574.20 feet from the Southeast corner of the James Smart Donation Land Claim in Township 6 South Range 3 West of the Willamette Meridian, in Marion County, Oregon; thence South 89° 42' West parallel with the South line of above mentioned Donation Land Claim 821.90 feet to an iron pipe; thence North 0° 07' East 529.30 feet to an iron pipe; thence North 89° 42' East 821.90 feet to an iron rod; thence South 0° 07' West 529.30 feet to the place of beginning.

(b) Beginning at a point in the center of Windsor Island Road (Market Road No. 63) which point is the Northwest corner of the land conveyed to Zillah Anna Schooley and Arleen Elizabeth Olson as shown by deed recorded in Reel 604, page 359, Deed Records for Marion County, Oregon, in the Donation Land Claim No. 42 of James Smart in Township 6 South, Range 3 West of the Willamette Meridian in Marion County, Oregon, which point bears 8.70 chains North 0°45' East of the North boundary of the Donation Land Claim of John Ford No. 39, same Township and Range, and 15.15 chains North 89°42' East of the Southeast corner of the Donation Land Claim of James Smart, No. 42, same Township and Range; thence South 89°42' West 34.54 chains to the middle of the Salem and Spong's Ferry Road (Windsor Island Road); thence North 34° West in said road 9.69 chains to a point marking the True Point of Beginning; thence along the North line of said land, North 89°42' East 308.01 feet to a 5/8 inch iron rod; thence South 2°23'21" East 118.86 feet to a 5/8 inch iron rod; thence South 65°56'18" West 156.42 feet to a 5/8" iron rod; thence continuing South 65°56'18" West 40.49 feet to the centerline of Windsor Island Road; thence North 34° West 238.14 feet to the place of beginning.

SUBJECT TO: A perpetual easement for roadway purposes a strip of land 16.00 feet wide leading from the above described 10.00 acre tract to the county road leading from Salem to Spongs Landing, the north line of which is described as follows: Beginning at the Northwest corner of the above described 10.00 acre tract of land and running thence South 89° 42' West 1828.00 feet, more or less, to the center of the Salem to Spongs Landing county road.

A 100% interest, which is their entire interest, in the following:

Parcel No. 2

Beginning at an iron bar on the North line of the Donation Land Claim of John Ford and wife in Township Six (6) South, Range Three (3) West of the Willamette Meridian in Marion County, State of Oregon, said iron bar being North 89° 42' East 15.15 chains from the Southeast corner of the James Smart Donation Land Claim; thence North 0° 45' East 8.70 chains to the Southeast corner of a 30-acre tract of land conveyed to J.H. Farrar; thence South 89° 42' West 34.54 chains along the South line of the Farrar tract to the Southwest corner thereof in the center of the County Road; thence South 34° East 78 links to an angle in the road; thence South 27° East 9.08 chains to an iron bar in the center of said road on the North line of the said John Ford Claim; thence North 89° 42' East 30.00 chains to the place of beginning, containing 28.07 acres of land, more or less.

SAVE AND EXCEPT:

Beginning at an iron pipe on the North line of the John Ford Donation Land Claim No. 40 in Section 34, Township 6 South, Range 3 West of the Willamette Meridian in Marion County, Oregon, marking the Southeast corner of that tract of land conveyed to Roy J. Hoffman by deed recorded in Volume 252, Page 195, Deed Records for Marion County, Oregon, which bears North 89° 42' 00" East 999.10 feet from an iron pipe marking the Southeast corner of the James Smart Donation Land Claim No. 42; thence North 00° 09' 14" East along the East line of said Hoffman Tract, 574.44 feet to an iron pipe marking the Northeast corner thereof; thence South 89° 43' 55" West along the North line of said Hoffman Tract, 758.05 feet to an iron rod; thence South 00° 09' 14" West, parallel with the East line of said Hoffman Tract, 574.86 feet to an iron rod on the North line of said Ford Claim; thence North 89° 42' 00" East along said Claim line, 758.05 feet to the point of beginning.

Marion County
Document Separator Page

Instrument # 2024-029131

September 16, 2024 04:37 PM

State of Oregon
County of Marion

I hereby certify that the attached instrument was received and duly recorded by me in Marion County records:

Fee: $101.00

Bill Burgess
Marion County Clerk

This is not an invoice.

KEIZER COMMUNITY DEVELOPMENT
Comprehensive Plan Map Amendment / Zone Change / Subdivision Case 2026-05

TO: Theodore R. Naemura, Keizer Hearings Officer

FROM: Shane Witham, Planning Director

SUBJECT: Comprehensive Plan Map Amendment / Zone Change / Subdivision

DATE: July 1, 2026

Planning staff reviewed the above referenced case and offers the following comments.

I. GENERAL INFORMATION

A. **PROPERTY OWNERS:** Olson Sisters LLC (063W340001400)
Karen S Glaser Irrevocable Trust 50% & Kerr Living Trust 25% & Ramey Family Trust 25% (063W340001300)

B. **APPLICANT:** Pacific National Development Inc.

C. **AGENT:** Rhine Cross Group LLC

D. **PROPERTY LOCATION**: The subject property is located at 5710 Windsor Island Rd N and is also identified as being located within Township 6 South; Range 3 West; Section 34; Tax Lots 01300 and 01400. (Exhibit 1)

E. **EXISTING PARCEL SIZE**: The subject property is 36.72 acres in area. This application is for the approximately 22.31 acres of area that is identified by the concurrent property line adjustment request in Property Line Adjustment Case 2026-04.

F. **EXISTING DEVELOPMENT AND PUBLIC FACILITIES**: The property is developed with a home and multiple outbuildings, and also contains a wireless telecommunications facility. The property can be served by public water and sewer.

G. **PLAN DESIGNATION AND ZONING**: The property is designated Special Policy Area (SPA) limited use on the Comprehensive Plan and zoned Agricultural Industrial (AI).

H. **ADJACENT ZONING AND LAND USES**: Properties to the north, and west, are designated SPA on the Comprehensive Plan Land Use map and are zoned AI. In addition, property to the north of the proposed CP/ZC/subdivision area is designated

Low Density Residential, is zoned Single Family Residential (RS), and is developed with single family homes (McNary Estates Phase 20).

Properties to the east (adjacent to the area proposed to be changed to RS and subdivided) contain a residential subdivision (Sagrada Circle) which is designated Medium Density Residential and is zoned Limited Density Residential (RL), as well as an elementary school which is designated Elementary School and is zoned Public.

Property to the south is developed with a Manufactured Home Park and is designated Medium High Density and zoned Medium Density Residential (RM).

I. **PREVIOUS LAND USE ACTIONS**: The City approved a Property Line Adjustment application (PLA Case 2026-04) that requests the adjustment of the property line between current Tax Lot 1300 and 1400 to establish the boundaries of the Project Location as lawfully established property lines. The property line adjustment must be completed prior to subdivision platting.

J. **WILLOW LAKE SETTLEMENT AGREEMENT/DUAL INTEREST AREA AGREEMENT:** The property is currently designated Special Policy Area on the Comprehensive Plan Map and is Zoned Agricultural Industrial (AI). This designation and Zone was created as a result of impacts of the Willow Lake Wastewater Treatment Plant.

The Willow Lake Settlement Agreement (Resolution 2000-1204) and Dual Interest Area Agreement (Ord 2001-451) clarified the boundary and location of the official Special Policy Area restricting residential uses, and also identified specific properties/portions of property, that are now excluded from the official Special Policy Area. (Exhibit 1)

II. APPLICATION SUMMARY

This Application includes two separate components. First, a consolidated Comprehensive Plan Map Amendment from Special Policy Area Limited Use to Low Density Residential (LDR) (overlay) with a Zone Change from Agricultural Industrial (AI) Zone to Single-Family Residential (RS)–Odor Impact Overlay Zone. Second, a 118-lot subdivision contingent on approval of the Comprehensive Plan Map Amendment and Zone Change. (Exhibit 2). The area of the proposed Comp Plan Map Amendment/Zone Change/Subdivision is approximately 22.31 acres.

III. COMMENTS

AGENCY COMMENTS

The following agencies submitted comments:

A. The Keizer Public Works Department submitted comments which contain development requirements regarding sanitary sewer, water system, street and drainage improvements and other general development requirements (Exhibit 3)

B. The Salem Keizer School District submitted comments pertaining to the impact of the development on local schools. They anticipate an additional 45 students as a result of the development and the comments submitted indicate existing schools have adequate capacity, and the importance of infrastructure (including sidewalks) due to schools being within the "walk zone" . (Exhibit 4).

C. The Marion County Surveyor's Office submitted comments outlining the requirements for surveying and platting the subdivision in compliance with State requirements. (Exhibit 5)

D. The City of Salem, Development Services Department, submitted comments and recommended conditions of approval, which staff has incorporated into this report, relating to the Special Policy Area. No residential development is to be allowed within the Special Policy Area as depicted on the materials submitted by the City of Salem. (Exhibit 6)

CITIZEN COMMENTS - a request for comments and notice of public hearing was sent to property owners within 250 feet of the subject property. Several written comments were received:

John Blake (5655 Windsor Island Rd N) asked about the location of the sidewalk and whether the 45 mph speed zone could be extended north to the city limits or at least beyond the driving range. (Exhibit 7)

Dixie King (948 McNary Estates Dr N) expressed concern about the significant change from agricultural land to a 100+ lot subdivision, requested an 8-foot privacy wall, questioned whether two-story homes would be built adjacent to one-story homes, and sought clarification on how the existing easement between properties would be addressed. (Exhibit 8)

Jack & Sharon McLennan (1048 McNary Estates Dr N) requested information on how the former 16-foot easement would be handled, whether a privacy wall would be constructed, what materials would be used for the wall, and the proposed size and price range of the homes. (Exhibit 9)

Lance & Julie Petersen (1088 McNary Estates Dr N) raised concerns regarding the future of the existing easement, maintenance responsibilities, whether a wall or barrier would separate the subdivision from existing homes, whether the development would have an HOA, and whether grading and home design would minimize impacts by allowing one-story homes instead of two-story homes. (Exhibit 10)

Larry & Cathie Raaf (1158 McNary Estates Dr N), Ted Marr (1118 McNary Estates Dr N) and Taejun Lim (958 McNary Estates Dr N) all expressed concerns regarding the transition from agricultural land to a large subdivision, requested an 8-foot privacy wall, questioned the placement of two-story homes adjacent to one-story homes, and asked how the existing easement between properties would function after development. (Exhibit 11)

Patricia Stupfel & Laura McInnis (1148 McNary Estates Dr N) expressed concern that the proposed subdivision would negatively affect the peaceful rural character of their property and reduce its value. They asked whether adjacent lots would first be offered to McNary Estates residents, whether homes bordering their property would be limited to single-story structures and whether an easement and privacy barrier would be provided behind their backyard. (Exhibit 12)

Richard & Susan Warner (1068 McNary Estates Dr N) expressed concerns that the proposed subdivision would significantly reduce the privacy of their property due to their shallow backyard and the proximity of new homes. They requested construction of an 8-foot privacy barrier, opposed the construction of two-story homes and noted that the higher elevation of the proposed subdivision would further increase overlooking into their home and backyard. (Exhibit 13)

Diane Ramey and nee Olson (6150 Andover Cir, Anchorage AK) ~~expressed concerns that the proposed subdivision would significantly reduce the privacy of their property due to their shallow backyard and the proximity of new homes. They requested construction of an 8-foot privacy barrier, opposed the construction of two-story homes and noted that the higher elevation of the proposed subdivision would further increase overlooking into their home and backyard.~~ expressed support for the project stating that the property is appropriate for residential development, would provide needed housing, and would improve compatibility with surrounding land uses. Their family has historically farmed the subject property, and stated that continued agricultural use has become increasingly difficult as residential development has surrounded the property over several decades. They also noted that farming activities can conflict with neighboring residential uses and the adjacent elementary school due to noise, dust, and agricultural operations. (Exhibit 14)

Margaret Stephens (1830 23rd street NE, Salem) opposes the proposed Comprehensive Plan Map Amendment, Zone Change, and Subdivision, stating that the property should remain farmland and expressing concerns about increased traffic on Windsor Island Road. While acknowledging the need for additional housing, she encourages the developer to consider alternative sites. (Exhibit 15)

STAFF RESPONSE TO COMMENTS:

Public comments were received expressing a range of perspectives regarding the proposed Comprehensive Plan Map Amendment, Zone Change, and Subdivision. Concerns regarding the conversion of agricultural land to residential development and the potential impacts on neighborhood character, privacy, traffic, property values, grading, and the relationship between the proposed subdivision and existing homes in McNary Estates were expressed. Several commenters requested an eight-foot privacy wall or other buffering, questioned whether two-story homes would be permitted adjacent to existing single-story residences, and sought clarification regarding the status of existing easements, future maintenance responsibilities, homeowner's associations, and other subdivision details. One commenter opposed the proposal, stating that the property should remain in agricultural use, while another commenter supported the application, noting that continued farming has become

increasingly difficult as urban development has surrounded the property and that residential development would be compatible with the surrounding area.

The City acknowledges these comments and concerns. However, the review of this application is limited to the applicable approval criteria established in the Keizer Development Code. The subject property is located within the Keizer Urban Growth Boundary and the Willow Lake Treatment Plant Special Policy Area, which is governed by the Dual Interest Area Agreement and Willow Lake Settlement Agreement between the City of Keizer, the City of Salem, and Marion County. These agreements establish coordinated land use planning and regulatory responsibilities within the Special Policy Area. Accordingly, the requested Comprehensive Plan Map Amendment, Zone Change, and Subdivision are evaluated based on the applicable provisions of the Keizer Development Code, the Comprehensive Plan, the Dual Interest Area Agreement and Willow Lake Settlement Agreement, statewide planning goals, and other applicable land use regulations. Future development within the subdivision must comply with all applicable zoning and development standards, including setbacks, building height limitations, and other requirements of the RS zoning district. Existing easements will remain or be modified through the subdivision platting process in accordance with applicable law. Matters such as home prices, marketing of lots, homeowner's association governance, and impacts on private property values are not regulated through this land use decision. Likewise, the establishment or modification of speed limits on Windsor Island Road is outside the scope of this application.

The Staff Recommendation contains extensive findings of fact addressing the relevant review criteria for the applicant's request and recommends extensive conditions to assure the development complies with all applicable requirements.

IV. FINDINGS AND CONCLUSIONS FOR COMPREHENSIVE PLAN MAP AMENDMENT

The following discussion affects the property located at 5710 Windsor Island Rd N. The applicant requests approval of a Comprehensive Plan Map Amendment to designate approximately 22.31 acres of land located at 5710 Windsor Island Road N from Special Policy Area Limited Use to Low Density Residential (LDR).

The applicant submitted a map showing the area under consideration for the Comprehensive Plan Map amendment (sheet ZC-01) to clarify the proposal (Exhibit 16). The applicant's written statement and submitted materials contained some conflicting/unclear information regarding the proposal and sheet ZC-01 clearly shows the proposed location for the Comprehensive Plan Map and Zoning designations for the proposal. As a condition of approval, staff recommends that the Comp Plan and Zone designation be applied at the time of recording the subdivision, and that designations follow boundary lines of individual lots, so as to avoid "split" CP/Zone designations.

Approval of a Comprehensive Plan Map Amendment is governed by Section 3.109.04 of the Keizer Development Code. The applicable criteria and staff findings are provided below:

A. **3.109.04.A. Compliance is demonstrated with the statewide land use goals that apply to the subject properties or to the proposed land use designation. If the proposed designation on the subject property requires an exception to the Goals, the applicable criteria in the LCDC Administrative Rules for the type of exception needed shall also apply.**

FINDINGS: This action will occur entirely within the city limits and no goal exceptions are required. Compliance with the Statewide Land Use Goals is reviewed below:

Goal 1 - Citizen Involvement: The proposed Comprehensive Plan Map and Zone change is being processed according to the provisions of the Keizer Development Code which include citizen involvement in the decision-making process. Notice of the public hearing and request for comments was mailed to surrounding properties and potentially affected parties, and a public process involving a public hearing, deliberation, and ordinance adoption will be followed. Consistent with local requirements citizens will be given an opportunity to comment and testify before the hearings officer and again before the City Council. The final decision rests with the City Council. This process is consistent with the provision for the opportunity for citizens to be involved in all phases of this planning process as required by this Goal and with implementing administrative rules within Oregon Administrative Rules. Staff therefore finds this request complies with this goal.

Goal 2 – Land Use Planning: The City of Keizer's Development Code has an established process for all decisions and actions related to this proposal which were acknowledged by LCDC (Land Conservation and Development Commission). This change is being reviewed consistent with those procedures outlined in the Comprehensive Plan and Development Code. The adoption proceeding is being conducted in a manner consistent with requirements of the Keizer Comprehensive Plan, Keizer Development Code, and applicable state law. Notice was published in the Keizer Times, public hearings will be conducted before the Hearings Officer, who will then make a recommendation to City Council. A public hearing will also be conducted before the city council. As such, the proposed Comprehensive Plan Map change is consistent with this statewide planning goal and administrative rules. Staff therefore finds this request satisfies this goal.

Goal 3 - Agricultural Lands: The purpose of this goal is to protect lands that are designated for agricultural uses. The property is designated Special Policy Area due to the impacts of the wastewater treatment plant and the property is zoned Agricultural Industrial. It should be noted the state definition of "agricultural" lands excludes lands inside an urban growth boundary. The property is not zoned Exclusive Farm Use and the proposal will not remove any land from an exclusive farm use designation. Though the property has historically been used for farming hazelnuts, the land is not protected agricultural land. Therefore, the proposed Comprehensive Plan Map amendment will not be inconsistent with the Farm Land Goal or with any implementing administrative rules.

Goal 4- Forest Land: The intent of this goal is to protect lands that are designated for commercial forest uses. There are no lands designated within the city limits that allow commercial forestry. The proposed Comprehensive Plan Map change does not involve any land which is designated as forest land, nor will it impact the use of any forest lands. Therefore, this Goal and implementing administrative rules are not applicable to the proposed Comprehensive Plan Map amendment.

Goal 5– Open Spaces, Scenic and Historic Areas, and Natural Resources: The intent of the Natural Resources Goal is to protect various natural resources such as wetlands, waterways, big game habitat, etc. The city has a number of policies aimed to protect these natural resources that are within the city. The property does not contain any identified open space, scenic, or any natural resources such as riparian, wetlands, aggregate, etc. The proposed Comprehensive Plan Map change will allow the property to be developed with a proposed residential subdivision which will provide housing. This change will not affect any of the city's natural resources protection regulations or the lawful use of any properties that are within this overlay zone. Therefore, the Comprehensive Plan Map change will be consistent with this goal and with administrative rules designed to implement this goal.

Goal 6 - Air, Water and Land Resources Quality: The intent of this goal is to protect the city's air, water and land resource qualities. The city provides its residents with city water from groundwater sources. The future development of the property will be required to be connected to the municipal water system and so no wells will be drilled. New construction will be required to be connected to the established sanitary sewer system thereby reducing the likelihood of groundwater contamination from any failing on-site septic systems. The Comprehensive Plan Map amendment will result in allowing for a zone change and proposed residential subdivision. It should be noted that allowed uses in the Agricultural Industrial zone may have a greater adverse impact on the air quality of the immediate area, or even Keizer as a whole, than those created by residential development. Staff finds the Comprehensive Plan Map change to Low Density Residential will not impact the quality of air, water, or land resources and so complies with this goal and with administrative rules that implement this goal.

Goal 7– Areas Subject to Natural Disasters and Hazards: The purpose of this goal is to protect life and property from hazards resulting from flooding, steep slopes or other natural occurrences. The city has floodplain regulations that govern the placement of structures within identified 100-year floodplains. The property is not located within an identified 100-year floodplain so there are no issues associated with floodplain hazards for this property. There are no identified steep slopes on the subject property. There are no other identified natural hazard areas on the subject property. The proposed Comprehensive Plan Map change will neither impact this goal nor any administrative rules. Staff therefore finds this request complies with this goal.

Goal 8– Recreational Needs: This goal requires the city to identify and plan for the current and future recreation needs of the residents of the city. There are a number of parks, playgrounds, and other recreational opportunities within the city limits. This property is not identified as being needed to serve future park or recreation needs. Systems development charges will be assessed at the time of development of the property, which will contribute to the City's overall park and recreation facilities. This land use action will neither reduce nor will it alter or impact any other identified park or recreation sites. Staff therefore finds this request meets with this goal.

Goal 9 - Economic Development: The intent of this goal is to ensure the city plans for its overall economic vitality during the 20-year planning period. The proposed Comprehensive Plan Map change will change the property from Agricultural Industrial to Low Density Residential. This proposed change could theoretically reduce the economic development/job opportunities created by that portion of the property, however the Agricultural Industrial zone allows uses with relatively low employee per acre ratios. The applicant points out that short term gains created by construction related employment opportunities will be created, along with longer term work from home opportunities. The proposed change will be a source of economic benefit to the City in those ways. In consideration of the existing limited economic output of the current orchard, the potential economic benefit of retaining the AI zone and the potential economic benefit that could be created through temporary construction-related economic benefit and work from home opportunities, staff finds the proposal is not inconsistent with this goal.

Goal 10 - Housing: This goal requires the city to plan and provide for the housing needs of its residents. This change will affect approximately 22.31 acres of land that has historically been zoned for Agricultural Industrial use and contains an orchard. The result of the land use action will be the creation of 118 residential lots allowing for residential dwellings. As such the proposed Comprehensive Plan Map change will have a positive impact on the city's overall housing inventory. Staff therefore finds this request satisfies this goal.

The applicant's written statement asserts the possibility of future housing on the remaining 14.4 acre portion of the property as an additional housing related benefit and criteria argument. However, staff wishes to clarify that no request has been made to change the designation of that portion of the land and it is not currently being considered. The 14.4 acre portion of the property identified for "future development" in the applicant's submitted materials is located within the existing dual interest area agreement governed by the Willow Lake Settlement Agreement and is currently not under consideration by staff. Therefore, that portion of the applicant's argument for compliance with Goal 10 is irrelevant to this application.

Goal 11- Public Facilities and Services: The intent of this goal is to develop a timely, orderly and efficient arrangement of public facilities and services necessary to serve the residents of Keizer. The city provides its residents with water, sanitary

sewer, has an established street system, administrative, police and public safety services are also provided by the city. The proposed Comprehensive Plan Map change will allow for the development of the site with a 118 lot residential subdivision. Public Facilities and Services are available to serve the site, and the applicant will be required to provide frontage improvements along Windsor Island Road N, build new streets and extend water and sewer lines to serve the development. This will ensure the adequacy of public facilities. Transportation facilities are discussed below. Staff therefore finds this request complies with this goal.

Goal 12- Transportation: The city has an adopted Transportation System Plan (TSP) that describes the city's transportation systems. This system includes street, transit, bike, and pedestrian systems. Windsor Island Road N is classified as a collector street in the TSP. The applicant submitted a Transportation Impact Analysis (TIA) and Transportation Rule (TPR) analysis as a part of their application which indicate the proposed change will not have a detrimental impact to the transportation system. Staff therefore finds this request is consistent with this goal.

Goal 13- Energy Conservation: This goal seeks to maximize the conservation of energy. All new construction requires compliance for review to applicable energy conservation standards. This will be reviewed and regulated through the building permit review and approval process at the time of future development. Staff therefore finds this request meets with this goal.

Goal 14- Urbanization: The intent of this goal to provide for an orderly and efficient transition from rural to urban land use. The city has an adopted Comprehensive Plan and zone code that complies with this goal. The subject property is within the urban growth boundary and is also within the city limits of the City of Keizer. This change will not result in the need for an extension of urban services to a rural area. The existing orchard has historically been used for "rural" purposes. The proposed change will transition the use of the land from rural to urbanized uses in an orderly and efficient way. Staff therefore finds this request satisfies this goal.

Goal 15 – Willamette River Greenway: This goal seeks to protect, conserve, and maintain the natural, scenic, historical, agricultural, economic and recreational qualities of lands adjacent to the Willamette River. While the Willamette River is located along the western flanks of Keizer the proposed Comprehensive Plan map change will not impact the Willamette River. Because the property involved in this application is not located within the Willamette River Greenway the proposed Comprehensive Plan Map change will have no impact on the ability of the city to regulate uses along the river or the Willamette River overlay zone regulations and staff therefore finds this goal is not applicable to this application.

Goal 16 (Estuarine Resources), Goal 17 (Coastal Shorelands), Goal 18 (Beaches and Dunes), and Goal 19 Ocean Resources) govern areas along the ocean. Since Keizer is not located along the coast these goals are not applicable. Staff therefore finds this goal is not applicable to this application.

Based on the above findings, staff concludes the proposal complies with the applicable Statewide Land Use Goals and therefore satisfies this review criteria.

3.109.04 B. Consistency with the applicable goals and policies in the Comprehensive Plan is demonstrated.

FINDINGS: The Comprehensive Plan identifies orderly urban growth, provision of housing opportunities, efficient use of public facilities, and compatibility of land uses as primary community objectives. In addition, the Plan identifies the need to provide sufficient residential land and housing opportunities to accommodate future growth, and specifically encourages policies that promote stabilization, infill, and improvement of existing neighborhoods while ensuring adequate land is available to accommodate future growth and a variety of housing types.

The proposed amendment will facilitate development of approximately 118 residential lots within an area already surrounded by urban development and public facilities. The property is adjacent to existing residential neighborhoods to the north, east, and south and is located near schools, transportation facilities, parks, and other public services.

The Comprehensive Plan also has specific goals/policies and processes for land use approvals in the area designated as the Special Policy Area. The Comp Plan acknowledges this area exists to protect the ongoing operations of the Willow Lake Wastewater Treatment Facility. As such, the area is considered as a Dual Interest Area and is governed by the Dual Interest Area Agreement and Willow Lake Settlement Agreement which was adopted by Resolution 2000-1204. The settlement agreement delineates the boundary of the area of concern, which if changes were proposed to that area - would require a "regional planning action" as outlined in the Comprehensive Plan. Therefore, as a recommended condition of approval and as shown on the applicant's submitted materials (specifically as clarified by sheet ZC-01), the Comprehensive Plan Amendment is limited to the land area currently shown as the Special Policy Area - Limited Use.

The goals and policies in the Plan in relation to this application request are as follows:

1. **Section III.C. SIGNIFICANT NATURAL AND CULTURAL FEATURES– Goal 2 (a) (1)** Preserve and maintain agricultural lands within the UGB until needed for urban development.

   FINDINGS: The purpose of this goal is to protect lands that are designated for agricultural uses. The Comprehensive Plan Map change involves a property that is within the boundaries of the city limits of Keizer and is located within

one of 3 areas identified in the Comp Plan as agricultural. The purpose of this goal is to preserve agricultural land until it is needed for urban development. The proposed change will allow for the land to be developed for residential use to an urbanized standard. The City has an identified need for residential land and generally speaking, true agricultural lands are located outside of urban growth boundary areas. Therefore, staff finds the proposed Comprehensive Plan Map amendment will comply with this goal within the Comprehensive Plan, since there is a need residential land and this will allow for development to an urban form.

2. **Section III.A. SIGNIFICANT NATURAL AND CULTURAL FEATURES – Goal 2 (a) (**2) Conserve open space and protect natural, cultural and scenic resources.

FINDINGS: The intent of this goal is to protect various natural resources such as wetlands, waterways, big game habitat, etc. The city has a number of policies aimed to protect these natural resources that are within the city. The subject property does not contain any identified historic areas or designated historic structures. The property does not contain any identified open space, scenic, or any natural resources such as riparian, wetlands, aggregate, etc that preclude or constrain its use. The proposed Comprehensive Plan Map change will allow the property to be developed with a residential subdivision. The property is nearby to Keizer Rapids Park, as well as Spong's Landing Park (in Marion county), which are designated as open space. This change will not affect any of the city's natural resources protection regulations or the lawful use of any properties that are within this overlay zone. Therefore, the map change will be consistent with this goal within the Comprehensive Plan.

3. **Section III.A. SIGNIFICANT NATURAL AND CULTURAL FEATURES – Goal 2 (a) (**3) Maintain and improve the quality of air, water and land resources.

FINDINGS: The intent of this goal is to protect the city's air, water and land resource qualities. The city provides its residents with city water from groundwater sources. The proposed development will be required to connect to the municipal water system and no new wells will be drilled. The new construction will be required to be connected to the established sanitary sewer system thereby reducing the likelihood of groundwater contamination. In addition, there will be required storm water improvements to address runoff from the development that will prevent water resource contamination from point source discharge. The Comprehensive Plan Map change will result in the construction of a residential subdivision and not in any manufacturing uses on that portion of the site, so it will not result in the production of any odors and will have no adverse impact on the air quality of either the immediate area, or that of

Keizer as a whole. Whereas, without the proposed change, the SPA designation with AI zoning could allow for a greater intensity development that may result in adverse impacts. Therefore, staff finds the proposed Comprehensive Plan Map change will not impact the quality of air, water, or land resources and so complies with this goal.

4. **Section III.A. SIGNIFICANT NATURAL AND CULTURAL FEATURES – Goal 2 (a) (**4) Protect life and property from natural disasters and hazards.

FINDINGS: The purpose of this goal is to protect life and property from hazards resulting from flooding, steep slopes or other natural occurrences. The city has floodplain regulations that govern the placement of structures within identified 100-year floodplains. According to FIRM map # 41047C0193G, dated January 19, 2000 the property is not located within an identified 100-year floodplain and so there are no issues associated with floodplain hazards. There are no identified steep slopes on the subject property so there will be no hazards resulting from steep slopes. There are no other identified natural hazard areas on the subject property. The proposed Comprehensive Plan Map change will be consistent with this goal within the Comprehensive Plan. Staff therefore finds this request meets with this goal.

5. **Section III.A. SIGNIFICANT NATURAL AND CULTURAL FEATURES – Goal 2 (a) (5)** Encourage energy conservation.

FINDINGS: This goal seeks to maximize the conservation of energy. All new construction requires compliance for review to applicable energy conservation standards. This will be addressed through the building permit and review process. Staff therefore finds this request meets with this goal.

6. **Section III.A. SIGNIFICANT NATURAL AND CULTURAL FEATURES – Goal 2 (a) (6)** Protect, conserve, enhance and maintain the natural, scenic, historical, economic and recreational qualities of lands along the Willamette River.

FINDINGS: This goal seeks to protect, conserve, and maintain the natural, scenic, historical, agricultural, economic and recreational qualities of lands adjacent to the Willamette River. While the Willamette River is located along the western flanks of Keizer the proposed Comprehensive Plan map change will not impact the Willamette River. Because the property involved in this application is not located within the Willamette River Greenway the proposed Comprehensive Plan Map change will have no impact on the ability of the city to regulate uses along the river or the Willamette River overlay zone regulation. Staff therefore finds this request complies with this goal.

7. **Section III.A. SIGNIFICANT NATURAL AND CULTURAL FEATURES - Goal 2 (b) (1)** - Encourage agricultural lands within the UGB to continue in agricultural use until such lands are planned for public facilities and other development per the public facilities and urban growth management elements of this plan and with the applicable zone district requirements. The city's one parcel that is designated EFU should be evaluated to determine whether this zone designation is still appropriate or whether it should be re-designated to a more appropriate residential land designation.

   FINDINGS: The purpose of this goal is to protect lands that are designated for agricultural uses until needed for urban development. The Comprehensive Plan identifies a lack of housing in the City of Keizer, including in areas that are fully served by City services. The map amendment involves a property that is identified as being located in one of three areas in Keizer that have an agricultural designation. However, it is or will be served by all necessary public utilities, fire protection, and transportation facilities to support the urbanization of the land. The amendment will allow for needed housing, in the proposed subdivision. Therefore, the amendment is consistent with this goal.

8. **Section III.A. SIGNIFICANT NATURAL AND CULTURAL FEATURES - Goal 2 (f) –** Encourage renewal and conservation of existing urban neighborhoods and buildings, and create a multi-centered land use pattern to decrease travel needs. In-filling of passed over vacant land should be encouraged. Emphasis on close locational relationships among developments for living, working, shopping and recreation should be encouraged through planned mixed-use zones.

   FINDINGS: The planned map amendment will allow for the provision of needed housing (including those home sites included in this application) on property held specifically for that purpose. The Parent Tract is directly adjacent to other properties that are designated for and developed with residential uses. Further, it is near the River Road commercial corridor, a number of schools, Keizer Rapids Park, and Spong's Landing. In that regard, the Parent Tract is well situated to provide needed housing to the surrounding area. Therefore, the planned map amendment is consistent with this goal

9. **Section III.B. URBAN GROWTH AND GROWTH MANAGEMENT – Urban Growth Policies (b) (1)** Contain urban development within planned urban areas where basic services such as sewers, water facilities, police and fire protection can be efficiently and economically provided

   FINDINGS: This map change will allow the proposed development to be located in an area that is already served by major public facilities, including water, sanitary sewer, storm drainage, and streets, and transit. The applicant

will be required to connect to services and will be required to provide street frontage improvements along Windsor Island Rd as a condition of approval. Staff therefore finds this request meets this goal.

10. **Section III.B. URBAN GROWTH AND GROWTH MANAGEMENT – Urban Growth Policies (b) (2)** Conserve resources by encouraging orderly development of land by adopting efficiency measures that will further allow for the efficient use of urban land.

    FINDINGS: The City has adopted housing density minimums, housing variety allowances, and lot development standards for residential zones within LDR designated land. The proposed subdivision will be reviewed by standards of the Code to ensure an efficient use of the land. The property is also near transit service on Windsor Island Road N and is served by existing City services. Therefore, the planned map amendment will allow for the efficient use of the property proposed to have a Comprehensive Plan Map designation of LDR. Therefore, the proposal is consistent with this policy.

11. **Section III.B. URBAN GROWTH AND GROWTH MANAGEMENT – Urban Growth Policies (b) (3)** Preserve farmland and open space not needed for urban growth.

    FINDINGS: The planned map amendment will allow land that is currently within the city limits to provide needed housing. The property will help the City meet its projected residential land needs inside the urban area, thereby avoiding the need to place needed residential units on land that is located outside the city limits of Keizer. Though the property has historically been used for agricultural purposes, it is not considered as protected farmland by the state definition. It is anticipated that lands within an Urban Growth Boundary will eventually develop and urbanize. Since there is a need for housing and urban growth, staff finds that the map amendment is appropriate and consistent with this policy.

12. **Section III.B. URBAN GROWTH AND GROWTH MANAGEMENT – Urban Growth Policies (b) (9)** Maintain an adequate land supply to meet the needs of the city - *(o)Promote effective urbanization of underutilized lands within the existing UGB.*

    FINDINGS: The Comprehensive Plan identifies a need for additional residential land. The planned map amendment will employ surplus land (industrial/agricultural) to satisfy needed residential land, and this is consistent with this policy. In addition, the land is currently underutilized and due to the proximity to other residential development and exclusion from the dual interest area, staff finds that changing the designation for the approximately 22 acres of land to allow for a residential subdivision is consistent with this policy.

B. Section III.B. URBAN GROWTH AND GROWTH MANAGEMENT

Goal (2)(c) Encourage development in areas already served by major public facilities before

FINDINGS: The property is located within the UGB, and served by necessary public utilities, fire protection services, and transportation facilities. The planned map amendment will allow housing opportunities in an area that is already served by major public facilities, including water, sanitary sewer, storm drainage, and streets and transit. The Applicant plans to connect the subdivision to public services, including the public street network. Therefore, the planned map amendment is consistent with this goal.

C. Section III.C. LAND-USE AND ECONOMIC DEVELOPMENT -RESIDENTIAL DEVELOPMENT GOALS, OBJECTIVES AND POLICIES:

a) Residential Development Goal 1: Provide residential land to meet a range of needed housing types:

FINDINGS: Lands located to the northeast, east, and south of the property are designated Low Density Residential, Medium Density Residential, and Medium High Density Residential. The Project Location is planned to be improved with a residential subdivision, which will provide for an identified needed housing type. The property is currently underutilized and designated Special Policy Area. The applicant seeks to designate the property Low Density Residential to allow for the provision of needed single-family/ownership housing, including a residential subdivision on the Project Location. Therefore, the planned map amendment is consistent with this goal to provide additional residential land to meet needed housing types.

b) Residential Development Goal 2: Encourage the location of residential development where full urban services, public facilities, and routes of public transportation are available.

FINDINGS: The site is located within the city limits and can be fully served by all urban services. City water and sanitary sewer are available and as a condition of approval, the development will be required to serve the development with appropriate urban services. Street frontage improvements will be required along Windsor Island Rd as a condition of approval. Transit service is available nearby on Windsor Island Rd at Lockhaven. The Public works department is recommended the extension of a pedestrian connection to serve the new development and allow for residents to access public transportation. Therefore, with conditions, the proposal complies with this goal.

c) Residential Development Objective 2.1 Coordinate new residential development with the provision of an adequate level of services and facilities, such as sewers, water, transportation facilities, schools and parks.

FINDINGS: The site is located within the city limits that can be fully served by all urban services. Street frontage improvements will be required along Windsor Island Road along the frontage of the parcel. Transit service is available nearby on Windsor Island Rd. Keizer Rapids Park is a large regional park in the nearby area, and Spong's Landing is another regional park located in Marion County nearby. Educational services are provided by the Salem-Keizer School District and also be Chemeketa Community College. As part of their review the school district commented that they had reviewed the application and commented that sufficient school capacity exists in the elementary, middle, and high schools and that the subdivision is within the walk zone for both Keizer Elementary School and McNary High School. A bicycle and pedestrian connection is proposed from the subdivision to Keizer Elementary School, but there is a gap in the sidewalk facilities along Windsor Island Road from the Subdivision to existing pedestrian facilities. Public Works has recommended as a condition of approval the extension of the sidewalk on Windsor Island Road to allow for pedestrian connectivity. Therefore, as conditioned, the proposal complies with this objective.

d) Residential Development Goal 3: Stabilize and protect the essential characteristics of residential environments, including natural features.

FINDINGS: The proposed comprehensive plan change will result in the property (approximately 22 acres) being designated for residential use and subdivided into 118 lots. The development of the site will be required to comply with the standards within the RS zone district with regard to density, building setbacks, landscaping, building design, street improvements, and utility provisions, to ensure that it minimizes any impacts on the characteristics of the surrounding area. The portion of the property to the west (approximate 14 acres) will retain the SPA designation and AI zoning. Any future development outside of the proposed subdivision area will be regulated according the standards of the Keizer Code and will be subject to future land use approvals. Therefore, staff finds this request complies with this goal.

e) Residential Development Objective 3.1: Ensure compatibility among all types of new and existing residential uses, and between residential and non-residential uses.

FINDINGS: The focus of this objective is to ensure compatibility between uses. In this case the property is adjacent to single family subdivisions, an elementary school, and a manufactured home park. The proposed change

will locate Low Density Residential land directly adjacent to other Low, Medium, and Medium-High Density Residential Land as well as being adjacent to Elementary School designated land. The proposed subdivision request is reviewed later in this report. At the time of development of the subdivision, the development will be required to comply with the standards within the RS zone district with regard to density, building setback, landscaping, etc., to ensure that it minimizes any impacts on the surrounding area. For these reasons, staff finds the proposal complies with this objective.

f) Residential Development Policy 3.1 (1) Protect existing and proposed residential areas from conflicting non-residential land uses while providing for compatible mixed-use development (residential and non-residential).

FINDINGS: Since only residential development is sought, this will correct an issue that currently exists due to the fact the existing Agricultural Industrial designation could result in incompatible development with the neighborhood on Windsor Island Rd. No mixed use development is proposed, and is not permitted. Therefore, staff finds this proposal complies with this policy.

g) Residential Development Goal 4: Provide and allow for appropriate levels of residential development consistent with comprehensive plan designations.

FINDINGS: The proposed comprehensive plan map change to Low Density Residential will allow for the subdivision proposal to move forward. The subdivision proposes 118 lots on approximately 22 acres of land. This is equal to a density of approximately 5.4 units per acre, where the LDR designation allows for up to 8 units per acre. Therefore, the development proposal will be consistent with the proposed underlying designation of LDR. Therefore, staff finds this request complies with this goal.

h) Plan Diagram and Special Land Use Policy 1: Provide appropriately designated vacant buildable land in adequate quantities to meet the forecast needs of Keizer to 2033.

FINDINGS: Consistent with the comprehensive plan the city has identified that a deficit exists to meet projected housing needs, including those needed for future low-density needs. The proposed rezoning is located adjacent to existing residential development and near transit service. Sanitary sewer and water is able to serve the property and there is capacity in the systems to allow the connection of the site to these facilities. City services such as police and administration will be provided. Keizer Rapids park is nearby and provides many recreational opportunities to the general public and is available to future residents of this proposed development. The proposed

comprehensive plan map change to Low Density Residential will conform with the density provisions of this policy.

D. **Section 3.109.04 C. The Plan does not provide adequate areas in appropriate locations for uses allowed in the proposed land use designation and the addition of this property to the inventory of lands so designated is consistent with projected needs for such lands in the Comprehensive Plan.**

FINDINGS: The Comprehensive Plan and Housing Needs Analysis identify a need for additional residential land within the City. The Comprehensive Plan identifies a need for approximately 267.6 acres of additional residential land to meet projected residential growth demands.

The subject property contains approximately 22.31 acres and is one of the larger undeveloped properties remaining within the City that is capable of supporting residential development. The property is adjacent to established residential neighborhoods, public infrastructure, transportation facilities, and schools and is therefore appropriately situated to accommodate future residential growth.

The proposed amendment would facilitate development of approximately 118 residential lots and contribute toward addressing the City's documented housing need. Staff finds the addition of this property to the City's inventory of Low Density Residential land is consistent with projected residential land needs and represents an appropriate location for future residential development.

Therefore, this criterion is satisfied.

E. **3.109.03 D. The Plan provides more than the projected need for lands in the existing land use designation.**

FINDINGS: The intent of this criteria is that changes proposed do not exacerbate existing deficiencies in existing land supplies. The City of Keizer's land use inventory is found in the city's Comprehensive Plan. That information indicates there is a need for additional Residential land, which this proposed change will provide. The Comprehensive Plan currently identifies the property as Special Policy Area. The SPA designation intends to protect operations of the Willow Lake Wastewater Treatment Plant and is due to historical concerns regarding odor and noise impacts associated with operation of the Plant on residential uses.

The Willow Lake Treatment Plant Dual Interest Area Agreement as defined in the Willow Lake Settlement Agreement (amended in 2001) clearly shows the property proposed for development is no longer within the area restricted from development by the DIAA. Therefore, the SPA can be reduced in size (as is proposed) since it exceeds the required need outlined in the Comprehensive Plan through the provisions of the

Dual Interest Area Agreement. (which is why the portion of property currently carries a “limited use” designation)

The applicant proposes to retain the Odor/Noise Impact Overlay Zone as part of the rezone (which is addressed separately) and staff recommends that as a condition of approval the re-designation from SPA to Low Density Residential (LDR) will also be designated “overlay”. This is consistent with past practices and the other nearby properties that were rezoned/subdivided and developed with residential uses after the Willow Lake Settlement Agreement was modified in 2001 – shrinking the original boundary lines. (i.e: McNary Estates Phase 20, Windsor Woods, Pierce Sub, Bowden Meadows all are designated LDR-overlay). The applicant has agreed to requiring a “waiver/easement” to be recorded against the properties to assure protections to the treatment plant operations.

The City has a greater documented need for residential land than for additional land within the existing designation. While the proposal would remove approximately 22.31 acres from the Special Policy Area designation, the protections associated with the Odor/Noise Impact Overlay Zone would remain in effect and continue to address potential compatibility concerns. Staff finds the existing designation is no longer necessary to the extent originally contemplated due to the current language of the DIAA and that re-designation of the property better serves the City's identified housing needs while maintaining appropriate protections for nearby wastewater treatment operations. Therefore, this criterion is satisfied.

F. **Section 3.109.03 E. The proposed land use designation will not allow zones or uses that will destabilize the land use pattern in the vicinity.**

FINDINGS: The proposed land use designation will not allow zones or uses that will destabilize the land use pattern in the vicinity of the proposed map change. The subject property is surrounded primarily by residential development. Existing residential neighborhoods are located north, east, and south of the property. An elementary school is located east of the site and additional residential development exists throughout the surrounding area.

The proposed Low Density Residential designation would allow implementation through residential zoning districts intended to accommodate detached single-family dwellings and middle housing types. Such uses are compatible with the existing residential character of the area. The proposal represents a logical extension of existing residential development and supports the Comprehensive Plan's objective of encouraging orderly urban growth and neighborhood compatibility. Residential development under the proposed designation would reinforce the existing development pattern rather than introduce incompatible or disruptive uses.

Staff finds the proposal will not destabilize the existing land use pattern in the vicinity. Therefore, this criterion is satisfied

G. **Section 3.109.03 F. Uses allowed in the proposed designation will not significantly adversely affect existing or planned uses on adjacent lands.**

FINDINGS: The proposed LDR designation allows residential uses similar in character and intensity to surrounding residential neighborhoods. Future development will be required to comply with all applicable provisions of the Keizer Development Code relating to setbacks, landscaping, transportation improvements, stormwater management, and public facilities, and is addressed through the subdivision review and approval criteria.

The property will remain subject to the Odor/Noise Impact Overlay Zone, which was established specifically to address potential impacts associated with operation of the treatment plant. Future residential development will be required to comply with applicable requirements for recording a "waiver/easement" to provide notice to future owners.

The property is not identified as containing significant natural resources, Willamette Greenway resources, or other protected resources that would be adversely affected by the proposed amendment. Any future development will remain subject to applicable local, state, and federal environmental regulations.

Staff finds the uses permitted under the proposed designation will not significantly adversely affect existing or planned uses on adjacent lands. Therefore, this criterion is satisfied.

H. **3.109.03 G. Public facilities and services necessary to support uses allowed in the proposed designation are available or are likely to be available in the near future.**

FINDINGS: Public facilities and services are available to serve the proposed development. Water and sanitary sewer facilities are available adjacent to the property within Windsor Island Road N and will be extended to serve future development. Transportation facilities currently serve the area and will be improved as necessary through the subdivision and public improvement review processes.

Police protection, fire protection, parks, schools, stormwater facilities, and other public services are available to serve the property. Future development will be required to comply with KDC Chapter 2.3 public facility requirements, including streets, utilities, and stormwater management improvements, which will be regulated through the subdivision process.

Staff finds that adequate public facilities and services are available or can be provided concurrent with development of the property. Therefore, this criterion is satisfied

Based on the above findings and recommended conditions, staff concludes the proposal complies with decision criteria for the proposed change in Comprehensive Plan designation from Special Policy Area (limited use) to Low Density Residential (Overlay) for the property located at 5710 Windsor Island Road which is approximately 22 acres in area.

V. FINDINGS AND CONCLUSIONS FOR ZONE CHANGE

A. The zone change review criteria are found in Section 3.110 of the Keizer Development Code. Staff's response to the criteria is noted below:

(1) ***Section 3.110.04.A - The proposed zone is appropriate for the Comprehensive Plan land use designation on the property and is consistent with the description and policies for the applicable Comprehensive Plan land use classification.***

FINDINGS: Concurrent with this application, the applicant requests approval of a Comprehensive Plan Map Amendment re-designating the property from Special Policy Area Limited Use to Low Density Residential (LDR). Pursuant to KDC Section 1.103.02, the RS (Single Family Residential) zoning district is identified as an implementing zone for the Low Density Residential Comprehensive Plan designation. The Comprehensive Plan identifies a need for additional residential land and housing opportunities within the City. The proposed RS zoning district supports these objectives by providing opportunities for detached single-family dwellings and middle housing.

The proposal also retains the Odor/Noise Impact Overlay Zone (OIO). The Comprehensive Plan specifically identifies the area surrounding the Willow Lake Wastewater Treatment Facility as a Special Policy Area and recognizes the OIO Overlay as a tool used to address potential odor and noise impacts associated with the facility. Retention of the OIO Overlay ensures continued implementation of those Comprehensive Plan policies, and is consistent with past practice for land use approvals for nearby residential subdivisions, which was previously referenced in this report.

Because the RS zoning district is an implementing zone for the proposed LDR designation and because the OIO Overlay remains in place to address compatibility concerns identified by the Comprehensive Plan, staff finds the proposed zoning designation is appropriate and consistent with the Comprehensive Plan. Therefore, this criterion is satisfied.

(2) ***Section 3.110.04.B - The uses permitted in the proposed zone can be accommodated on the proposed site without exceeding its physical capacity.***

FINDINGS: KDC Section 2.102 establishes the RS zoning district as a residential district intended to accommodate detached single-family dwellings and middle housing on lots served by urban services. The subject property contains approximately 22.31 acres and is generally flat in topography. The applicant submitted a preliminary subdivision plat demonstrating the ability to accommodate approximately 118 residential lots together with public streets, utility infrastructure, stormwater facilities, open space areas, and associated public improvements.

The property is located within the Urban Growth Boundary and City limits and is capable of receiving municipal water and sanitary sewer service. The preliminary plat demonstrates that residential development can occur while maintaining compliance with applicable lot dimensions, street standards, utility requirements, and stormwater management requirements. As a recommended condition of approval and as will be addressed through the subdivision review and approval criteria, all lots must comply with applicable standards and zoning for individual lots within the subdivision must be consistent with this proposal.

As was previously addressed, the Comprehensive Plan Map and Willow Lake Settlement agreement establish a boundary for the Special Policy Area which is shown on the applicant's submitted materials. The City of Salem also submitted extensive comments regarding this particular issue. In order to assure, that residential uses are not located within any part of the Special Policy Area, staff is recommending as a condition of approval that the Comprehensive Plan Designations, Zoning Designations, and lot configurations be modified so that there are no split zones being created. It appears this would require modifications to Tract C, Tract A, Lot 1, and Lot 2. These modifications must be made and incorporated into the subdivision plat and will require concurrence of the City of Salem as well.

The applicant has not identified any physical constraints that would prevent development of the property under the RS zoning district. The site is not constrained by steep slopes, significant topographic features, or other conditions that would prevent implementation of the proposed subdivision.

Because the preliminary plat demonstrates the ability to accommodate residential lots and associated infrastructure while maintaining compliance with applicable development standards, staff finds the uses permitted within the RS zoning district can be accommodated on the site without exceeding its physical capacity. The recommended conditions of approval will assure that

the zoning designation and development of the property be consistent with the requirements of the Comprehensive Plan, Zone Code, and Dual Interest Area Agreement. Therefore, this criterion is satisfied

(3) Section 3.110.04.C -Allowed uses in the proposed zone can be established in compliance with the development requirements in this Ordinance.

FINDINGS: Future development of the property will be required to comply with all applicable provisions of the Keizer Development Code. The preliminary subdivision plat demonstrates compliance with KDC Chapter 2.3 Public Facilities by providing a public street system, utility extensions, and stormwater management facilities necessary to serve the development. The proposed lots are capable of complying with the dimensional standards of the RS zoning district, including lot area, frontage, setbacks, building placement, and density requirements. Conditions will be placed on the subdivision approval assuring these requirements are met.

The applicant has not requested any variances from applicable zoning standards and the preliminary plat demonstrates that developable lots can be created in compliance with City standards. As was previously addressed, there are some minor modifications that will be needed for the proposed subdivision to assure no residential development takes place within the Special Policy Area.

Because the proposed lots are capable of meeting all applicable zoning and development standards, staff finds uses permitted within the RS zoning district can be established in compliance with the requirements of the Keizer Development Code. Therefore, this criterion is satisfied.

(4) Section 3.110.04.D -Adequate public facilities, services, and transportation networks are in place or are planned to be provided concurrently with the development of the property.

FINDINGS: Statewide Planning Goal 11 requires urban development to be supported by adequate public facilities and services. Statewide Planning Goal 12 requires transportation facilities capable of serving proposed development. Municipal water and sanitary sewer facilities are located adjacent to the property within Windsor Island Road N and can be extended throughout the subdivision. Utility plans submitted with the application demonstrate the ability to provide service to all proposed lots.

The preliminary plat includes a public street system connecting to the existing transportation network. Transportation improvements required to serve the development will be reviewed through the engineering review process and constructed concurrent with development. It should be noted

that the Public Works department has submitted comments containing conditions and requirements which are being incorporated into this report to assure all public facilities needs are or will be met with this proposal. Of particular note is a recommended condition to require the extension of the sidewalk along the west side of Windsor Island Road to the north, in order to connect to the new subdivision and allow for residents and students to access transit services on Lockhaven and access the existing sidewalk system serving the area.

Police protection, fire protection, schools, parks, and other public services are currently available within the area and can serve future residents. The Salem Keizer School district submitted comments indicating there is adequate capacity for the projected number of new students that may dwell in the new subdivision.

Because adequate public facilities and transportation infrastructure are available or can be provided concurrent with development, staff finds this criterion is satisfied.

(5) Section 3.110.04.E -For residential zone changes, the criteria listed in the purpose statement for the proposed zone shall be met.

FINDINGS: The purpose of the RS zoning district is to provide for detached single-family dwellings and middle housing on individual lots served by urban facilities and services at low urban densities. The subject property is located within the Urban Growth Boundary and City limits and is capable of being served by municipal water, sanitary sewer, transportation facilities, and other urban services. The property is adjacent to existing residential development. The proposed subdivision demonstrates the ability to develop residential lots consistent with the purpose and intent of the RS zoning district. The proposal supports the Comprehensive Plan's housing goals and the City's identified need for additional residential land. Staff finds the proposal satisfies the purpose statement of the RS zoning district. Therefore, this criterion is satisfied

(6) The following additional criteria shall be addressed:

a. Section 3.110.04.F.1 -The supply of vacant land in the proposed zone is inadequate to accommodate the projected rate of development of uses allowed in the zone during the next five years, or the location of the appropriately zoned land is not locationally or physically suited to the particular uses proposed for the subject property, or lack site specific amenities required by the proposed site.

FINDINGS: The Comprehensive Plan and Housing Needs Analysis identifies a need for approximately 267.6 acres of additional residential land to accommodate the City's housing needs. The subject property is particularly suitable for residential development because it is adjacent to established residential neighborhoods, schools, transportation facilities, and existing public infrastructure. Water and sewer facilities are available adjacent to the site and can be extended efficiently. The proposed zone change would increase the City's inventory of residentially zoned land and assist in addressing documented housing needs identified in the Comprehensive Plan. Because the City has identified a need for additional residential land and because the subject property is particularly suited for residential development, staff finds this criterion is satisfied.

b. ***Section 3.110.04.F.2 -The supply of vacant land in the existing zone is adequate, assuming the zone change is granted, to accommodate the projected rate of development of uses allowed in the zone during the next 5 years.***

FINDINGS: The property is currently zoned Agricultural Industrial. Rezoning approximately 22.31 acres will not create a shortage of employment land within the City. The Comprehensive Plan identifies the need for institutional land in order to provide for specific target industries and employment opportunities – which are not uses allowed in the AI zone. The AI zone was specifically established for compatibility with the operations of the Wastewater Treatment Plant, and with the modification to the Special Policy Area as outlined in the Willow Lake Settlement Agreement, there is a "locational" excess of AI zoned property.

The property is surrounded primarily by residential development and is physically separated from larger concentrations of industrial and employment uses. Other lands designated and zoned for industrial and employment purposes remain available within the City. Because adequate land remains available to accommodate future industrial and employment development, staff finds this criterion is satisfied

c. ***Section 3.110.04.F.3 -The proposed zone, if it allows uses more intensive than other zones appropriate for the land use designation, will not allow uses that would destabilize the land use pattern of the area or significantly adversely affect adjacent properties.***

FINDINGS: The surrounding area is developed primarily with residential neighborhoods and an elementary school. The proposed RS zoning district permits residential uses that are compatible with the established development pattern.

The existing Agricultural Industrial zoning district permits a wider range of agricultural and industrial uses that may be less compatible with surrounding residential development. In contrast, the proposed RS zoning district would establish residential uses similar in character and intensity to surrounding neighborhoods to the north, east and south of the subject property.

The applicant proposes to retain the Odor/Noise Impact Overlay Zone, thereby preserving compatibility measures associated with operation of the Willow Lake Wastewater Treatment Facility.

Because the proposed zoning designation reinforces the established residential character of the area, maintains OIO protections, and is compatible with surrounding development, staff finds the proposal will not destabilize the existing land use pattern or significantly adversely affect adjacent properties. Therefore, this criterion is satisfied.

Based on the above findings, staff concludes the proposal complies with decision criteria for the proposed change in Zoning designation from Agricultural Industrial to Residential Single Family – Odor/Noise Impact Overlay for the subject property located at 5710 Windsor Island Rd N.

VI. FINDINGS AND CONCLUSIONS FOR SUBDIVISION

The review criteria for a subdivision are listed in Section 3.108.06 of the Keizer Development Code (KDC). The criteria and findings supporting the staff recommendation to approve the subdivision request for 5710 Windsor Island Rd N are listed below:

A. SECTION 3.108.06.A – THE PROPOSAL SHALL COMPLY WITH THE APPLICABLE DEVELOPMENT STANDARDS IN SECTION 2.405 AND SECTION 2.3 AS APPROPRIATE, INCLUDING PROVISIONS FOR STREETS AND UTILITIES.

Section 2.405 KDC contains development standards for manufactured home parks and is therefore not applicable in this situation. Section 2.3 contains the standards which guide all development approvals within the City of Keizer. Listed below are the applicable development standards contained in Section 2.3 that are pertinent to this subdivision review.

1. *SECTION 2.301.03 - PUBLIC FACILITY IMPROVEMENT REQUIREMENTS*

FINDINGS: The purpose of this section is to ensure that new development provides the public facilities necessary to serve the proposed subdivision in a manner that protects public health, safety, and welfare while minimizing impacts on surrounding properties.

The preliminary plat proposes a 118-lot residential subdivision consisting of 110 single-family detached residential lots and eight townhouse lots. The subdivision includes the construction of public streets, sidewalks, water and sanitary sewer facilities, storm drainage facilities, street lighting, street trees, fire hydrants, and other public infrastructure necessary to serve the development.

The proposal includes frontage improvements along Windsor Island Road N, extension of the public water system, construction of new sanitary sewer and stormwater infrastructure, and two public stormwater infiltration facilities designed to accommodate runoff from the proposed development. Public Works determined that adequate public facilities can be provided through compliance with the recommended Conditions of Approval and review of final engineering plans.

Final public improvement plans will be reviewed through the City's construction permitting process to ensure compliance with the Keizer Development Code and Keizer Design Standards.

Subject to the recommended Conditions of Approval, staff finds the proposal complies with this criterion.

2. <u>SECTION 2.302.03 - STREET STANDARDS – GENERAL PROVISIONS</u>

a. Section 2.302.03.A - General Requirement. The location, width, and grade of streets shall be considered in their relation to existing and planned streets, topographical conditions, public convenience and safety, and the proposed use of the land to be served by the streets.

FINDINGS: This criterion is intended to ensure that streets are designed with appropriate location, width, and grade while considering existing and planned transportation facilities, site topography, public convenience, public safety, and the intended use of the property.

The preliminary plat proposes an internal public street network that will provide access to a 118-lot residential subdivision consisting of 110 single-family detached residential lots and eight townhouse lots. The proposed street system connects to Windsor Island Road N and has been designed to provide safe and efficient circulation for residents, emergency responders, pedestrians, and public utilities. Because the site is generally level, the proposed street layout can be developed consistent with City standards while minimizing grading impacts.

Public Works reviewed the preliminary street layout and determined that the proposal can comply with applicable City standards through implementation

of the recommended Conditions of Approval, including frontage improvements, utility extensions, grading, drainage, and final engineering review.

Subject to the recommended Conditions of Approval, staff finds this criterion is satisfied.

b. ***Section 2.302.03.B - Continuation of Street. Development proposals shall provide for the continuation of, and connection to, existing streets where necessary to promote appropriate traffic circulation in the vicinity of the development. Where necessary to give access or permit a satisfactory future division of land, streets and utilities shall be extended to property boundaries to allow the future extension of streets and infrastructure. A temporary turnaround shall be constructed for stub streets in excess of 150 feet in length. Exemptions from these street extensions can be found in Section 2.302.03.B.1 – 5.***

FINDINGS: This criterion is intended to promote an interconnected street system by requiring new subdivisions to provide opportunities for future street and utility extensions where appropriate.

The preliminary plat proposes an internal public street network serving the subdivision and includes a public street stub extending to the western property boundary, providing an opportunity for future street and utility connections to the adjoining remainder parcel created through the approved Property Line Adjustment. The preliminary plat also identifies a secondary emergency vehicle access connecting to Windsor Island Road N through the adjoining property. Although a future street layout has not been established for the adjoining parcel, the proposed street stub provides a logical opportunity for future connectivity should that property develop. Public Works reviewed the proposed circulation pattern and concluded that the preliminary plat provides appropriate opportunities for future street connectivity. Staff finds this criterion is satisfied.

c. ***Section 2.302.03.C - Alignment. All streets other than minor streets or cul-de-sacs, as far as practical, shall be in alignment with existing streets by continuation of the existing centerlines. The staggering of street alignments resulting in "T" intersections shall, wherever practical, leave a minimum distance of 200 feet between the center lines of streets having approximately the same direction and otherwise shall not be less than 100 feet.***

FINDINGS: This criterion is intended to ensure that new streets align with existing transportation facilities whenever practical to promote safe and efficient traffic circulation. The preliminary plat has been designed with

street alignments and intersections that are consistent with accepted engineering practices and City standards. Public Works reviewed the proposed street layout and determined that the street alignments are appropriate. Final intersection geometry, roadway design, and construction details will be reviewed during the public improvement permitting process to ensure compliance with applicable City standards. Staff finds this criterion is satisfied.

d. ***Section 2.302.03.D – Future extension of streets. When it appears possible to continue a street, bicycle path and/or pedestrian accessway into a future subdivision, adjacent acreage or area attractors such as schools and shopping centers, streets, bicycle paths and/or pedestrian accessway facilities shall be platted and built to a boundary of the subdivision. The street may be platted without a turnaround unless the Public Works Department finds a turnaround is necessary for reasons of traffic safety. Any street extension exceeding 150 feet in length shall be provided with an approved turnaround as set forth in Section 902.2.2.4 "Dead Ends" of the Uniform Fire Code, 1994 edition.***

FINDINGS: This criterion is intended to ensure that the design of a subdivision does not preclude future development opportunities by providing for future street, bicycle, pedestrian, and utility connections where appropriate.

The preliminary plat includes a public street stub extending to the western property boundary to provide future access to the adjoining remainder parcel. Public Works concluded that the proposed layout provides a logical opportunity for future street connectivity while maintaining efficient circulation within the subdivision. The proposed street system is consistent with the City's Transportation System Plan and does not create isolated or inaccessible parcels.

A 20' wide public pedestrian/bicycle easement is proposed on the west boundary of the subdivision, shown to be located on the north side of lot 36, which will provide a pedestrian and vehicular connection to Keizer Elementary school which is an area attractor. The final design of the facility shall be approved by the City of Keizer. The applicant may wish to dedicate the area for the connection as right of way, and if that approach is taken, then the design and construction shall be included in the public improvement review and approval process. Staff finds this criterion can be satisfied.

e. ***Section 2.302.03.E - Intersection angles. Streets shall be laid out to intersect at angles as near to right angles as practical, except where topography requires lesser angles. Intersections of less than 60 degrees shall require special intersection designs. Streets shall have at least 50 feet of tangent adjacent to intersections unless topography requires lesser distances. Intersections that are not at right angles shall have minimum corner radii of 15 feet. Major arterial intersections shall have curb radii of not less than 35 feet. Other street intersections shall have curb radii of not less than 20 feet.***

FINDINGS: This criterion is intended to ensure that street intersections are designed to maximize visibility and provide safe vehicle movements. The preliminary plat depicts street intersections that generally meet City design standards for alignment and geometry. Public Works reviewed the proposed intersection layout and found it acceptable. Final intersection geometry, curb radii, grades, and sight distance will be verified during review of the public improvement plans. Staff finds this criterion is satisfied.

f. ***Section 2.302.03.F - Existing Streets. Whenever existing public streets adjacent to or within a tract are of a width less than the street design standards, additional right-of-way shall be provided at the time of subdivision, partitioning, or development.***

FINDINGS: This criterion is intended to ensure that existing public streets adjoining new development are improved to current City standards. The subject property fronts Windsor Island Road N, which is classified as a Collector street in the City's Transportation System Plan. Public Works determined that additional right-of-way shall be dedicated along the project frontage to provide 34 feet of right-of-way measured from the roadway centerline. The applicant will also be required to construct frontage improvements consistent with Collector street standards, including pavement widening, curb, gutter, planter strip, sidewalk, street trees, street lighting, utility improvements, and extension of the public sidewalk along the opposite side of Windsor Island Road N. Subject to the recommended Conditions of Approval, staff finds the proposal complies with this criterion.

g. ***Section 2.302.03.G - Half-streets may be approved where essential to the reasonable development of an area and when the City finds it to be practical to require the dedication of the other half when the adjoining property is developed. When a ¾ width street can reasonably be developed, as determined the Department of Public Works, a half street will be constructed with an additional 10 feet of pavement on the opposite side of the street from full improvement.***

FINDINGS: This provision allows the City to require the construction of a half street when necessary to facilitate the orderly development of adjacent properties. No half street improvements are proposed or required. Staff finds this criterion is not applicable.

h. Section 2.302.03.H - Cul-de-sacs. The maximum length shall be 800 feet.

FINDINGS: This provision establishes a maximum length for cul-de-sac streets to ensure adequate circulation and emergency access. The preliminary plat proposes one cul-de-sac street (Frogley) which is well under 800 feet in length. Therefore, this criterion is satisfied.

i. Section 2.302.03.I - Street names and numbers shall conform to the established standards and procedures in the City.

FINDINGS: The intent of this provision is to ensure that street names and addressing conform to established City standards and avoid duplicate or confusing street names. The preliminary plat includes proposed street names for reference purposes only. Street names are not reviewed as part of this land use application and have not yet been approved by the City. Final street names shall be reviewed and approved through the City's street naming process prior to plat approval. Address assignment will occur in accordance with City procedures as development progresses. Subject to the recommended Conditions of Approval, staff finds the proposal complies with this criterion.

j. Section 2.302.03.J - Grades shall not exceed 7 percent on arterials, 10 percent on collector streets or 15 percent on any other street. Street grades of 15 percent shall not exceed 200 feet in length. To provide for adequate drainage, all streets shall have a minimum slope of 0.5 percent. On arterials there shall be a tangent of not less than 100 feet between reversed curves.

FINDINGS: This criterion establishes maximum and minimum street grade standards to promote safe vehicle travel and adequate roadway drainage. The preliminary plat proposes new public streets that have been designed in accordance with accepted engineering practices. Public Works reviewed the preliminary street layout and determined that the proposed street grades can comply with City standards. Final street grades, roadway profiles, and drainage design will be reviewed through the public improvement permitting process to ensure compliance with the Keizer Development Code and Keizer Design Standards. Subject to the recommended Conditions of Approval, staff finds this criterion is satisfied.

k. ***Section 2.302.03.K - Frontage Streets. If a development abuts or contains an existing or proposed arterial or collector street, the City may allow frontage streets, or may require reverse frontage lots with suitable depth, screen planting contained in a non-access reservation along the rear or side property line, or such other treatment as may be necessary for adequate protection of residential properties, to afford separation of through and local traffic, and to preserve the capacity and safety of the collector or arterial street.***

FINDINGS: The intent of this provision is to ensure that when development abuts an arterial or collector street, appropriate design measures are used to preserve the safety and capacity of the higher-classification roadway while protecting adjacent residential development. The subject property fronts Windsor Island Road N, which is classified as a Collector street in the City's Transportation System Plan. The preliminary plat does not propose a frontage street. Access to the subdivision is provided through a single public street connection to Windsor Island Road N, and individual residential lots will obtain access from the internal public street system rather than directly from Windsor Island Road N. This design preserves the function and safety of the collector roadway while providing efficient internal circulation. Staff finds this criterion is satisfied.

l. ***Section 2.302.03.L - Alleys shall be provided in commercial and industrial zones unless other permanent provisions for access to off-street parking and loading facilities are provided. The corners of alley intersections shall have radii of not less than 10 feet.***

FINDINGS: This provision applies to development within commercial and industrial zoning districts where alleys are needed to provide access to off-street parking and loading areas. The proposed subdivision is residential in nature and does not include commercial or industrial uses. No alleys are proposed. Staff finds this criterion is not applicable.

m. ***Section 2.302.03.M. - Street Landscaping. Where required as part of the right-of-way design, planting strips shall conform to the following standards:***

1. ***Street trees shall be planted at a ratio of no less than one tree per 30 feet of property frontage. Street trees shall conform with the list of acceptable trees included in the City's Street Tree Ordinance. Installation of street trees shall be included in any improvement agreement covering the installation of public facilities and services on a property.***

2. ***Planting strips shall be planted and maintained in predominantly living groundcover materials with hard surfaces consisting of bricks,***

pavers, rocks, decorative concrete work, etc., only being included as part of an overall landscape design where living plant material is predominant. In no case shall asphalt be used within the planting strip.

FINDINGS: The purpose of this criterion is to ensure that required planting strips and street landscaping are installed as part of public street improvements to enhance the appearance of the streetscape and provide long-term environmental benefits.

The proposed subdivision includes frontage improvements along Windsor Island Road N and landscaped planter strips within the public right-of-way where required by City standards. Street trees and other required landscaping will be reviewed as part of the public improvement plans to ensure compliance with the City's Street Tree Ordinance and Keizer Design Standards. Installation of required landscaping will be secured through the public improvement process. Subject to the recommended Conditions of Approval, staff finds this criterion is satisfied.

n. Section 2.302.03.N.5 – Access Control Standards. Double Frontage Lots. When a lot has frontage onto two or more streets, access shall be provided first from the street with the lowest classification.

FINDINGS: The intent of this provision is to ensure that when a lot fronts on two or more streets, vehicular access is taken from the street with the lowest functional classification in order to preserve the safety and operational capacity of higher-classification roadways. The preliminary plat includes two double-frontage lots. Access to each of these lots is provided from the internal local street system rather than from Windsor Island Road N, which is classified as a Collector street. This design is consistent with the City's access management standards and preserves the function of Windsor Island Road N. Staff finds this criterion is satisfied.

o. Section 2.302.03.O. – Trees along Public Streets. Streetscape trees are required along public streets, shall comply with the provisions of Section 2.309, and must be located according to the following provisions:

1. Streetscape trees shall be planted within the boundaries of each lot within 10 feet of street improvements.

2. Lots measuring less than 60 feet in width shall be required to plant one streetscape tree. Lots measuring more than 60 feet in width shall be required to plant two streetscape trees.

3. Streetscape trees shall be selected from a list of approved trees.

FINDINGS: This criterion is intended to ensure that streetscape trees are installed along public streets to enhance neighborhood character, provide shade, and establish a consistent streetscape throughout new developments.

The proposed subdivision includes street trees along Windsor Island Road N and will be required to provide streetscape trees throughout the internal public street system consistent with this provision. Streetscape trees shall be installed prior to final building permit approval for each individual lot. Subject to the recommended Conditions of Approval, staff finds this criterion is satisfied.

3. SECTION 2.302.04 - GENERAL RIGHT–OF-WAY AND IMPROVEMENT WIDTHS

The following standards are general criteria for public streets in the City of Keizer. These standards shall be the minimum requirements for all streets, except where modifications are permitted under Subsection 2.302.05.

FINDINGS: This section establishes the minimum right-of-way and street improvement standards for public streets within the City of Keizer unless a modification is requested and approved pursuant to Section 2.302.05.

The subject property fronts Windsor Island Road N, which is classified as a Collector street in the City's Transportation System Plan. Public Works has determined that the applicant shall dedicate right-of-way along the project frontage to provide one-half of the required 68-foot right-of-way, resulting in a dedication of 34 feet measured from the roadway centerline. In addition, the applicant will be required to construct frontage improvements consistent with Collector street standards, including pavement widening, curb, gutter, planter strip, sidewalk, street trees, street lighting, and associated utility improvements. Public Works also requires extension of the public sidewalk along the opposite side of Windsor Island Road N and extension of the existing 12-inch water main to the north property line as part of the required public improvements.

The Subdivision will continue a network of new public streets within the subdivision to serve the development. The submitted materials indicate streets with varying right of way and improvement widths, which generally meet the standard of the code. “Kerr” lane is shown as a 35 foot wide right of way served by an “alternate” style turnaround, serving 8 townhome lots. It should be noted that the maximum number of dwellings units that can be served by the 35 foot wide right of way is 9 units, and that sidewalks are required on one side of the street, and parking will only be allowed on one side of the street.

The applicant has not requested any modifications to the City's right-of-way or street improvement standards. Compliance with the required right-of-way

dedication and public improvements will be verified during review of the public improvement plans. Subject to the recommended Conditions of Approval, staff finds the proposal complies with this criterion.

4. SECTION 2.302.06 – CONSTRUCTION SPECIFICATIONS:

FINDINGS: The purpose of this section is to ensure that all public streets and associated public improvements are designed and constructed in accordance with the City of Keizer's adopted construction standards.

The preliminary plat proposes the construction of new public streets, frontage improvements along Windsor Island Road N, and associated public infrastructure necessary to serve the subdivision. Public Works has reviewed the proposal and determined that the required public improvements can be designed and constructed in conformance with the City's Design Standards and Construction Specifications. Final engineering plans for all public streets, utilities, grading, drainage, and other public improvements will be reviewed and approved by the Public Works Department prior to issuance of construction permits.

Construction permits will be required for all work within the public right-of-way and for construction of public infrastructure associated with the subdivision. Compliance with the City's construction standards is required through the public improvement permitting process and is incorporated into the recommended Conditions of Approval. Subject to the recommended Conditions of Approval, staff finds the proposal complies with this criterion.

5. SECTION 2.302.08 - PRIVATE ACCESS EASEMENTS.

A private access easement created as the result of an approved partitioning or subdivision shall conform to standards governing the following: A. Width; B. Maintenance; C. Turn-around; D. Parking; E. Trees Along Access Easements; F. Screening:

FINDINGS: The purpose of this section is to establish design and maintenance standards for private access easements created through a partition or subdivision. The proposed subdivision will be served by a public street system, and no private access easements are proposed to provide vehicular access to the residential lots. Therefore, the standards governing private access easements are not applicable to this application. Staff finds this criterion is not applicable.

6. SECTION 2.303 - OFF-STREET PARKING AND LOADING

Parking shall be provided to ensure adequate areas for the parking, maneuvering, loading, and unloading of vehicles and bicycles for all land uses in the City of Keizer.

***FINDINGS*:** The purpose of this section is to establish standards for off-street parking and loading associated with development. This application is for a preliminary subdivision only and does not include the construction of residential dwellings or other structures. Therefore, no detailed site or building plans have been submitted for review. Consistent with the Keizer Development Code, the City does not require off-street parking for residential development. Should parking be voluntarily provided as part of future development, any parking areas shall comply with the applicable provisions of the Keizer Development Code and will be reviewed at the time of building permit application. Staff finds this criterion is satisfied.

7. SECTION 2.306 - STORM DRAINAGE

No construction of any facilities in a development included in Subsection 2.306.02 shall be permitted until a storm drainage and erosion control plan for the project is prepared by a professional engineer, and approved by the City. These provisions shall also apply to any cut or fill on a property, which may impact the velocity, volume, or quality of surface water on adjacent property, or may impact any permanent natural body of water.

FINDINGS: The purpose of this section is to ensure that development incorporates adequate stormwater management facilities to protect public infrastructure, adjacent properties, and water quality.

The applicant submitted a Preliminary Stormwater Report prepared by a licensed professional engineer that evaluates the proposed stormwater management system for the subdivision. The report demonstrates that stormwater generated by the proposed development can be collected, conveyed, treated, and infiltrated through two proposed public stormwater facilities designed in accordance with the City's Design Standards. Public Works reviewed the Preliminary Stormwater Report and concluded that the proposed stormwater system can reasonably conform to the requirements of the Keizer Design Standards.

As conditions of approval, the applicant shall submit final storm drainage plans, design calculations, and a grading and drainage plan for review and approval by the Public Works Department prior to issuance of construction permits. All stormwater facilities shall be designed and constructed in accordance with the City's Design Standards and applicable maintenance requirements.

Subject to the recommended Conditions of Approval, staff finds the proposal complies with this criterion.

8. SECTION 2.307 - UTILITY LINES AND FACILITIES

FINDINGS: The purpose of this section is to ensure that adequate utility infrastructure is provided to serve new development and that utility facilities are designed and constructed in accordance with City standards.

The proposed subdivision will be served by public water, sanitary sewer, storm drainage, street lighting, and other utility services. The preliminary plans include the extension of public utility infrastructure necessary to serve the proposed development. Public Works has reviewed the proposed utility layout and determined that the subdivision can be adequately served, subject to the recommended Conditions of Approval. Required improvements include extension of the public water system, construction of public sanitary sewer and storm drainage facilities, installation of street lighting, dedication of public utility easements, and coordination with applicable utility providers.

Final utility design, construction plans, and easement locations will be reviewed through the City's public improvement permitting process to ensure compliance with the Keizer Development Code, Keizer Design Standards, and the requirements of all applicable utility providers.

Subject to the recommended Conditions of Approval, staff finds the proposal complies with this criterion.

9. SECTION 2.309 – SITE AND LANDSCAPING DESIGN

a. Section 2.309.04(C)(a) …Significant trees removed (including trees that are removed within the two years prior to the application) must be replaced at the rate of two new trees for each significant tree removed or less if a large tree specimen size is planted….in lieu of an on-site tree replacement plan, an off-site tree mitigation plan may be submitted to the Planning Director for approval…(b) The above provisions include and apply to all significant trees located on the subject property or an any adjacent public right of way…

FINDING: The purpose of this provision is to ensure that significant trees removed as part of development are replaced in accordance with the standards of the Keizer Development Code. Significant trees located on the subject property or within adjacent public rights-of-way that are removed, including those removed within two years prior to application submittal, must be replaced in accordance with the tree replacement standards of Section 2.309.04(C). An off-site tree mitigation plan may be approved by the Planning Director in lieu of on-site replacement.

The applicant submitted a Tree Removal and Preservation Plan and table (shown on sheets P-13 and P-14) identifying trees proposed for removal as part of the subdivision. Consistent with Section 2.309.04(C), removal of these trees requires

replacement at a ratio of two replacement trees for each significant tree removed, unless an alternative replacement ratio is approved through the use of larger specimen trees. The submitted plan did not provide any information on the replacement of significant trees removed, and while the plan and table indicates the DBH of trees, it does not clarify if the trees less than 12" DBH are also less than 50 feet in height, therefore it is unclear as to the total number of "significant" trees that are being removed. If all 17 of the trees proposed for removal are considered significant trees, then the applicant will be required to plant 34 replacement trees within the boundary of the subdivision.

In addition to required replacement trees, the subdivision will be required to provide streetscape trees along public street frontages in accordance with the requirements of Sections 2.302.03.O and 2.309, as was addressed earlier in this report.

Staff recommends that as a condition of approval, the applicant submit a final tree removal and replacement plan. The plan should identify significant trees removed as well as the number, species, size, and approximate location of proposed replacement and streetscape trees. Installation of trees shall occur in accordance with the approved plan and the applicable provisions of the Keizer Development Code, and will be required to be planted on each lot prior to obtaining final certificate of occupancy.

Subject to the recommended Conditions of Approval, staff finds the proposal complies with this criterion.

10. <u>SECTION 2.310 - DEVELOPMENT STANDARDS FOR LAND DIVISIONS</u>

a. Section 2.310.03.A - Minimum lot area. Minimum lot area shall conform to the requirements of the zoning district in which the parcels are located.

FINDINGS: The purpose of this provision is to ensure that newly created lots meet the minimum lot area requirements of the applicable zoning district.

Approval of the proposed subdivision is contingent upon approval of the requested Comprehensive Plan Map Amendment and Zone Change to the Single Family Residential (RS) zoning district. Within the RS zone, the minimum lot area is 4,000 square feet for single-family detached dwellings and duplexes; 5,000 square feet for triplexes; 7,000 square feet for quadplexes and cottage clusters; and 1,500 square feet for townhomes .

The preliminary plat proposes a 118-lot residential subdivision consisting of 110 single-family detached residential lots and eight townhouse lots. Based on the preliminary plat, the proposed residential lots range in size from approximately

2,000 square feet for the smallest townhouse lot up to 12,396 square feet in area, exceeding the minimum lot area requirements of the RS zoning district.

As a condition of approval, the preliminary plat shall identify both gross and net lot areas for each proposed lot. Any future development on the lots will be required to comply with all applicable development standards of the RS zoning district and will be reviewed through the applicable building permit process. Existing structures located on the remainder parcel shall comply with applicable setback requirements following the approved Property Line Adjustment, and the existing dwelling and outbuildings shall be removed prior to final plat approval.

Subject to the recommended Conditions of Approval, staff finds the proposal complies with this criterion.

b. Section 2.310.03.C - Lot width and depth. The depth of a lot or parcel shall not be more than 3 times the width of the parcel.

FINDINGS: The purpose of this provision is to ensure that lots are configured in a manner that promotes orderly, safe, and efficient development while preventing the creation of excessively narrow or irregularly shaped lots that may be difficult to develop. The preliminary plat has been reviewed and the proposed lot configurations are consistent with the lot width-to-depth ratio required by this section. None of the proposed lots exceed the maximum depth-to-width ratio of 3:1. Staff finds that the proposed lot dimensions provide adequate building sites and are consistent with the development pattern anticipated within the RS zoning district. Staff finds the proposal complies with this criterion.

c. Section 2.310.03.D - Access. All lots and parcels shall provide a minimum frontage, on an existing or proposed public street, equal to the minimum lot width required by the underlying zone. Residential lots or parcels may be accessed via a private street or access easement developed in accordance with the provisions of Section 2.302.08. Cul-de-sac lots shall have a minimum frontage of 25 feet.

FINDINGS: The purpose of this provision is to ensure that all lots have adequate frontage on a public street, or where permitted, a private street or access easement, so that each lot has safe and legal access and can be developed in accordance with applicable City standards.

The preliminary plat proposes a public street system that will provide access to all 118 residential lots. Each lot is shown with frontage on an existing or proposed public street, and the proposed frontage meets or exceeds the minimum lot width required within the RS zoning district. Public Works has reviewed the proposed street layout and determined that the subdivision can be adequately served by the proposed public street system. Final lot dimensions and frontage will be verified with the final plat. Staff finds the proposal complies with this criterion.

d. Section 2.310.03.E -Flag Lots. Flag lots shall only be permitted if it is the only reasonable method by which the rear portion of a lot being unusually deep or having an unusual configuration may be accessed and when in compliance with Section 2.302.03.B. If a flag-lot is permitted, the following standards shall be met:

1. ***The access strip shall not be less than 20 feet wide. The access strip shall be improved with a minimum 12-foot-wide paved driveway and paved encroachment which meet applicable City standards.***

2. ***The access strip shall not be included in the calculation of lot area for purposes of determining compliance with any minimum lot size provision of this Ordinance.***

FINDINGS: No flag lots are proposed. Therefore, this criterion is not applicable.

e. Section 2.310.03.F - Through Lots. Through lots shall be avoided except where essential to provide separation of residential development from major street, adjacent non-residential activities, or to overcome specific development constraints due to topography or lot orientation. Through lots shall be no less than 100 feet in depth. Lots having their access off a private access easement or adjacent to a private access easement shall not be construed as qualifying as through lots. Screening or buffering, pursuant to the provision of Section 2.307, may be required by the City during the review of the land division request.

FINDINGS: Lot 1 and Lot 2 as shown are technically through lots since they have frontage on both Kerr Lane and Windsor Island Road. However, no access from Windsor Island Road to lot 1 or lot 2 will be allowed, and there will be a separated sidewalk and planter strip along the Windsor Island Road frontage. In addition, both lots exceed 100 feet in depth as shown, which meet the standard for through lots. As a condition of approval, due to the Special Policy Area designation, and as outlined in the findings for the Comprehensive Plan Map Amendment and Zone change, Lot 1 and 2 will be required to be modified so they are located entirely outside of the Special Policy Area. The final dimensions of all lots will be required to be shown on the preliminary and final plat which will allow staff to assure these provisions are met. Therefore, this criterion can be satisfied.

f. Section 2.310.03.G - Lot Lines. The side lines of lots, as far as practicable, shall run at right angles to the right-of-way line of the street upon which the lots face. The rear lot line shall be no less than 1/2 the dimension of the front lot line.

FINDINGS: The purpose of this provision is to ensure that lots are configured in a manner that promotes orderly development and creates functional building sites. Requiring side lot lines to run, where practicable, at right angles to the street right-of-way and establishing minimum rear lot line widths helps avoid irregularly shaped lots that could complicate future development.

The preliminary plat proposes generally rectangular lots with side lot lines that, where practicable, run perpendicular to the adjacent street right-of-way. Based on the preliminary plat, the rear lot lines are not less than one-half the dimension of the corresponding front lot lines, consistent with the requirements of this section.

Staff finds the proposed lot configurations are orderly, provide functional building sites, and comply with the lot line standards of Section 2.310.03.G. Therefore, staff finds the proposal complies with this criterion.

g. Section 2.310.03.H - Utility Easements. Utility easements shall be provided on lot areas where necessary to accommodate public utilities. Such easements shall have a minimum total width as specified in Section 2.302.04 of this Code.

FINDINGS: The purpose of this provision is to ensure that adequate utility easements are provided as part of the subdivision process to accommodate the installation, operation, maintenance, and replacement of public utilities.

The preliminary plat includes public utility easements necessary to serve the proposed subdivision. Public Works has determined that a 10-foot public utility easement (PUE) shall be dedicated along the Windsor Island Road N frontage and along the frontage of all proposed public streets within the subdivision. Additional easements may be required as part of the final engineering design to accommodate public water, sanitary sewer, storm drainage, and other utility infrastructure.

The location and dimensions of all required utility easements will be verified during review of the final engineering plans and shall be shown on the final plat in accordance with City standards.

Subject to the recommended Conditions of Approval, staff finds the proposal complies with this criterion.

11. <u>SECTION 2.310.04 - ADDITIONAL DESIGN STANDARDS FOR SUBDIVISIONS</u>

a. Section 2.310.04.A - Standards for Blocks:

1. General: The length, width, and shape of blocks shall be designed with regard to providing adequate building sites for the use contemplated; consideration of needs for convenient access, circulation, control, and safety of street traffic; and recognition of limitations and opportunities of topography.

2. Sizes: Blocks should not exceed 600 feet in length between street lines, except blocks adjacent to arterial streets, or unless the previous adjacent development pattern or topographical conditions justify a variation. The recommended minimum distance between intersections on arterial streets is 1,800 feet.

FINDINGS: The proposed subdivision provides a new street network to serve the proposed development that is laid out to provide efficient and convenient access to the individual lots within the subdivision. Staff finds the proposed subdivision complies with this criterion.

b. Section 2.310.04.B - Traffic Circulation. The proposed subdivision shall be laid out to provide safe and convenient vehicle, bicycle and pedestrian access to nearby residential areas, transit stops, neighborhood activity centers such as schools and parks, commercial areas, and industrial areas; and to provide safe and convenient traffic circulation. At a minimum, "nearby" is interpreted to mean uses within ¼ mile which can be reasonably expected to be used by pedestrians, and uses within 1 mile of the subdivision boundary which can reasonably be expected to be accessed by bicyclists.

FINDINGS: The purpose of this provision is to ensure that subdivisions are designed to provide safe and convenient circulation for vehicles, pedestrians, and bicyclists while promoting connectivity to surrounding neighborhoods, schools, parks, transit, and other activity centers.

The preliminary plat proposes an interconnected public street system that will provide access throughout the subdivision and connect to Windsor Island Road N. Sidewalks are proposed along both sides of the internal public streets, and frontage improvements along Windsor Island Road N will include sidewalks and other pedestrian facilities consistent with City standards. Public Works also requires construction of a sidewalk along the opposite side of Windsor Island Road N to complete a pedestrian connection along the project frontage. This connection will provide pedestrian connectivity to Lockhaven Drive where transit service is available.

The subdivision includes a public street stub extending to the western property boundary to facilitate future connectivity to the adjoining remainder parcel should it develop. In addition, the preliminary plat provides a secondary emergency vehicle access to Windsor Island Road N through the adjoining property. These connections support the orderly extension of the City's transportation network while providing safe and efficient circulation within the subdivision. There is also a pedestrian and bicycle connection proposed to connect to the Keizer Elementary school property to the east.

Staff finds the proposed subdivision provides safe and convenient vehicle, bicycle, and pedestrian circulation and with recommended conditions, complies with this criterion.

12. ***SECTION 2.310.06 - IMPROVEMENT REQUIREMENTS – SUBDIVISIONS***

a. Section 2.310.06.A - Frontage Improvements. Street improvements to full City Standards shall be required for all public streets on which a proposed subdivision fronts in accordance with Section 2.303 of this Code. Such improvements shall be designed to match with existing improved surfaces for a reasonable distance beyond the frontage of the property. Additional frontage improvements shall include: sidewalks, curbing, storm sewer, sanitary sewer, water lines, other public utilities as necessary, and such other improvements as the City shall determine to be reasonably necessary to serve the development or the immediate neighborhood.

FINDINGS: The purpose of this provision is to ensure that subdivisions provide frontage improvements along adjacent public streets that are consistent with City standards and sufficient to serve both the proposed development and the surrounding area.

The subject property fronts Windsor Island Road N, which is classified as a Collector street in the City's Transportation System Plan. Public Works reviewed the proposed subdivision and determined that frontage improvements are required along the project's Windsor Island Road frontage. These improvements include dedication of right-of-way, pavement widening, curb, gutter, planter strip, sidewalk, street trees, street lighting, storm drainage, water system improvements, and other public utilities necessary to serve the development. Public Works also requires construction of a sidewalk along the opposite side of Windsor Island Road N to complete the pedestrian network adjacent to the site.

The final design and construction of all frontage improvements will be reviewed through the City's public improvement permitting process to ensure compliance with the Keizer Development Code, the City's Design Standards, and the Public Works conditions of approval.

Subject to the recommended Conditions of Approval, staff finds the proposal complies with this criterion.

b. Section 2.310.06.B - Walkways for Private Streets. Sidewalks shall be required in accordance with applicable provisions in Sections 2.302 and 2.316 only if sidewalks currently exist along the connecting street.

FINDINGS: The purpose of this provision is to establish sidewalk requirements for developments served by private streets. The proposed subdivision will be served entirely by public streets and does not include any private streets. Therefore, the provisions of Section 2.310.06.B are not applicable to this application. Staff finds this criterion is not applicable.

c. Section 2.310.06.C - Project Streets. All public or private streets within the subdivision shall be constructed as required by the provisions of Section 2.302.

FINDINGS: The purpose of this provision is to ensure that all public and private streets constructed as part of a subdivision comply with the street design and construction standards contained in Section 2.302 of the Keizer Development Code. The preliminary plat proposes construction of a public street system to serve the proposed subdivision. Public Works has reviewed the proposed street layout and determined that the streets can be designed and constructed in accordance with Section 2.302 and the City's Design Standards. Final street design will be reviewed through the public improvement permitting process. Subject to the recommended Conditions of Approval, staff finds the proposal complies with this criterion.

d. Section 2.310.06.D - Monuments. Upon completion of street improvements, centerline monuments shall be established and protected in monument boxes at every street intersection and all points of curvature and points of tangency of street center lines.

FINDINGS: The purpose of this provision is to ensure that permanent survey monuments are established to accurately identify street alignments and public improvements. The applicant shall install all required survey monuments in accordance with City standards upon completion of the required public improvements. Monument locations will be verified through the final plat and public improvement process. Subject to the recommended Conditions of Approval, staff finds the proposal complies with this criterion.

e. Section 2.310.06.E - Bench Marks. Elevation bench marks shall be set at intervals established by the City Engineer. The bench marks shall consist of a brass cap set in a curb or other immovable structure.

FINDINGS: This provision ensures that permanent elevation benchmarks are established to facilitate future surveying, engineering, and maintenance of public infrastructure. Required elevation benchmarks shall be established in locations approved by the City Engineer as part of the public improvement plans. Subject to the recommended Conditions of Approval, staff finds the proposal complies with this criterion.

f. Section 2.310.06.F - Surface Drainage and Storm Sewer System. Drainage facilities shall be provided within the subdivision and to connect the subdivision drainage to drainage-ways or to storm sewers outside the subdivision. Design of drainage within the subdivision shall take into account the capacity and grade necessary to maintain unrestricted flow from areas draining through the subdivision and to allow extension of the system to serve such areas. Drainage shall be designed to avoid impacts on adjacent property.

FINDINGS: The purpose of this provision is to ensure that stormwater facilities are designed to adequately convey, treat, and manage runoff while preventing adverse impacts to adjacent properties. The applicant submitted a Preliminary Stormwater Report and preliminary grading and drainage plans demonstrating that runoff from the subdivision can be conveyed to two public stormwater infiltration facilities. Public Works reviewed the proposed stormwater concept and determined that the system can comply with City Design Standards. Final stormwater calculations, grading plans, and construction drawings will be reviewed and approved during the public improvement permitting process. Subject to the recommended Conditions of Approval, staff finds the proposal complies with this criterion.

g. Section 2.310.06.G - Sanitary Sewers. Sanitary sewer shall be installed to serve the subdivision and to connect the subdivision to existing mains both on and off the property being subdivided.

FINDINGS: The purpose of this provision is to ensure that each lot created through the subdivision is served by the public sanitary sewer system. The preliminary utility plans provide for extension of the public sanitary sewer system to serve all proposed lots. Public Works reviewed the proposed utility layout and determined that adequate sanitary sewer service can be provided to the subdivision. Final sewer design, utility sizing, and connection details will be reviewed during the public improvement permitting process. Any permits or approvals required from other agencies shall be obtained prior to construction. Subject to the recommended Conditions of Approval, staff finds the proposal complies with this criterion.

h. Section 2.310.06.H - Water System. Water lines with valves and Fire District approved fire hydrants serving the subdivision and connecting the subdivision to the City mains shall be installed and operating prior to start of combustible construction. The design shall take into account provisions for extension beyond the subdivision to adequately grid the City system and to serve the area within which the development is located when the area is ultimately developed. However, the developer will be responsible for water main sizes necessary to meet minimum fire flow requirements per Uniform Fire Code. The City will not expect the developer to pay for the extra pipe material cost of mains exceeding 8 inches in size.

FINDINGS: The purpose of this provision is to ensure that all lots are served by an adequate public water system capable of providing domestic water service and fire protection. The preliminary utility plans provide for extension of the public water system throughout the subdivision, including extension of the existing 12-inch public water main to the north property line as required by Public Works. Fire hydrants and water system improvements will be designed to meet the requirements of the Keizer Fire District and the City of Keizer. Final water system design will be reviewed during the public improvement permitting process. Subject

to the recommended Conditions of Approval, staff finds the proposal complies with this criterion.

i. Section 2.310.06.I - Sidewalks. Sidewalks shall be installed along both sides of each public street and in any pedestrian ways within the subdivision. The City may defer sidewalk construction until the dwellings or structures fronting the sidewalk are constructed. Any required off-site sidewalks (e.g., pedestrian walkways) or sidewalks fronting public property shall not be deferred.

FINDINGS: The purpose of this provision is to ensure that new subdivisions provide a safe and connected pedestrian network. The preliminary plat includes sidewalks along both sides of the proposed public streets. Public Works also requires frontage sidewalk improvements along Windsor Island Road N, including construction of a sidewalk on the opposite side of Windsor Island Road to complete the pedestrian network adjacent to the development. Final sidewalk design will be reviewed through the public improvement permitting process. The pedestrian/bicycle connection located on the north side of lot 36, serving Keizer Elementary school shall also be completed with the public improvements.

Subject to the recommended Conditions of Approval, staff finds the proposal complies with this criterion.

j. Section 2.310.06.J - Street Lights. The installation of street lights is required at locations determined to be appropriate by the City and shall be of a type required by City standards.

FINDINGS: The purpose of this provision is to ensure that adequate street lighting is provided to promote public safety and visibility. The subdivision includes construction of new public streets that will require street lighting consistent with City standards. Public Works has reviewed the proposal and identified the required street lighting improvements. Final lighting locations and design will be reviewed during the public improvement permitting process. Subject to the recommended Conditions of Approval, staff finds the proposal complies with this criterion.

k. Section 2.310.06.K - Street Signs. The installation of street name signs and traffic control signs is required at locations determined to be appropriate by the city and shall be of a type required by City standards. Each street sign shall display the one hundred block range. Street signs shall be installed prior to obtaining building permits.

FINDINGS: The purpose of this provision is to ensure that street name and traffic control signs are installed in accordance with City standards to promote public safety and effective emergency response.

Street names shown on the preliminary plat are provided for reference only and have not been approved by the City. Final street names shall be reviewed and approved through the City's street naming process prior to final plat approval. Required street name and traffic control signs shall be installed in locations approved by the City before issuance of building permits.

Subject to the recommended Conditions of Approval, staff finds the proposal complies with this criterion.

l. Section 2.310.06.L - Public Works Requirements. All facility improvements shall conform to the requirements and specifications of the Keizer Department of Public Works.

FINDINGS: The purpose of this provision is to ensure that all public improvements are designed and constructed in accordance with the requirements of the Keizer Public Works Department.

Public Works reviewed the proposed subdivision and provided comments addressing streets, utilities, storm drainage, sidewalks, lighting, and other public improvements. Compliance with these requirements will be verified during review of the public improvement plans and construction permitting process.

Subject to the recommended Conditions of Approval, staff finds the proposal complies with this criterion.

m. Section 2.310.06.M - Curb Cuts. Curb cuts and driveway installations, excluding common drives, are not required of the subdivider, but if installed, shall be according to the City standards.

FINDINGS: This provision ensures that curb cuts and driveway approaches are designed and constructed in accordance with City standards.

The subdivision will be served by public streets. Driveway approaches serving individual lots will be reviewed as development occurs. Public Works has identified the location of the primary subdivision access onto Windsor Island Road N and has required closure of existing driveway approaches as part of the frontage improvements. Final driveway and curb cut design will be reviewed through the public improvement permitting process.

Subject to the recommended Conditions of Approval, staff finds the proposal complies with this criterion.

n. Section 2.310.06.N - Street Trees. Street tree planting is mandatory where a planting strip is part of the street design. Plantings shall conform to Section 2.302.03(M).

FINDINGS: The purpose of this provision is to ensure that street trees are installed where required as part of public street improvements to enhance the streetscape and provide long-term environmental benefits.

The subdivision includes required planter strips and street trees along Windsor Island Road N. Street tree installation shall comply with Sections 2.302.03(M) and 2.309 of the Keizer Development Code. Final species selection, spacing, and planting locations will be reviewed through the public improvement permitting process.

Subject to the recommended Conditions of Approval, staff finds the proposal complies with this criterion.

o. Section 2.310.06.O - Grading & Fills. All grading which results in fills in excess of 3 feet located within the identified building envelope on a subdivision lot or parcel must be engineered.

FINDINGS: The purpose of this provision is to ensure that grading associated with subdivision development is properly engineered to protect public infrastructure and adjoining properties.

The applicant submitted preliminary grading information demonstrating that the site can be developed consistent with City standards. Final grading and drainage plans, including supporting engineering information, will be reviewed and approved by the Public Works Department prior to issuance of construction permits.

Subject to the recommended Conditions of Approval, staff finds the proposal complies with this criterion.

p. Section 2.310.06.P - Financial Requirements. All improvements required under this Section shall be completed to City standards or assured through a performance bond or other instrument acceptable to the City Attorney, prior to the approval of the Final Plat of the subdivision.

FINDINGS: The purpose of this provision is to ensure that all required public improvements are completed or financially guaranteed prior to approval of the final plat.

The applicant shall complete all required public improvements or provide financial security acceptable to the City to guarantee their completion prior to final plat approval.

Subject to the recommended Conditions of Approval, staff finds the proposal complies with this criterion.

13. SECTION 2.314 – STANDARDS FOR SINGLE FAMILY DWELLINGS, DUPLEXES, TRIPLEXES, QUADPLEXES, COTTAGE CLUSTERS, AND TOWNHOUSES

FINDINGS: The purpose of this section is to establish development and design standards for residential dwellings within the Single Family Residential (RS) zoning district.

This application is limited to the review of a preliminary subdivision and does not include the construction of residential dwellings. Accordingly, compliance with the standards of Section 2.314, including building setbacks, lot coverage, building height, architectural standards, and other applicable residential development standards, is not being reviewed as part of this application.

Any future development of the proposed lots shall comply with the applicable provisions of Section 2.314 and all other requirements of the Keizer Development Code. Compliance with these standards will be reviewed through the applicable building permit and development review processes. Staff finds this criterion will be addressed at the time of future development.

B. SECTION 3.108.06.B - EACH LOT SHALL SATISFY DIMENSIONAL STANDARDS AND DENSITY STANDARDS OF THE APPLICABLE ZONING DISTRICT, UNLESS A VARIANCE FROM THESE STANDARDS IS APPROVED.

FINDINGS: The purpose of this criterion is to ensure that each lot created through a subdivision complies with the dimensional and density standards of the applicable zoning district, thereby creating lots that are suitable for future development without the need for variances.

Approval of the proposed subdivision is contingent upon approval of the requested Comprehensive Plan Map Amendment and Zone Change to the Single Family Residential (RS) zoning district. The preliminary plat proposes a 118-lot residential subdivision consisting of 110 single-family detached residential lots and eight townhouse lots.

Section 2.102 of the Keizer Development Code establishes the dimensional standards for development within the RS zoning district. The minimum lot area is 4,000 square feet for single-family detached dwellings and duplexes; 5,000 square feet for triplexes; 7,000 square feet for quadplexes and cottage clusters; and 1,500 square feet for townhomes. Based on the preliminary plat, the proposed residential lots range in size from approximately 2,000 square feet for the smallest townhouse lot up to 12,396 square feet in area, exceeding the minimum lot area requirements

of the RS zoning district. The preliminary plat also demonstrates that the proposed lots meet the applicable lot width and depth standards.

As a condition of approval, the preliminary plat shall identify both gross and net lot areas for each proposed lot. Any future development on the lots will be required to comply with all applicable development standards of the RS zoning district and will be reviewed through the applicable building permit process. Existing structures located on the remainder parcel shall comply with applicable setback requirements following the approved Property Line Adjustment, and the existing dwelling and outbuildings shall be removed prior to final plat approval.

The proposed subdivision satisfies the applicable residential density standards for the RS zoning district, and is proposed at approximately 5.4 dwelling units per acre. Any future development of the proposed lots shall comply with all applicable dimensional, setback, lot coverage, building height, and design standards of the Keizer Development Code and will be reviewed through the applicable development and building permit processes.

Staff finds the proposed subdivision complies with the applicable dimensional and density standards of the proposed RS zoning district. Therefore, staff finds this criterion is satisfied.

C. SECTION 3.108.06.C - ADEQUATE PUBLIC FACILITIES SHALL BE AVAILABLE TO SERVE THE EXISTING AND NEWLY CREATED PARCELS.

FINDINGS: The purpose of this criterion is to ensure that adequate public facilities are available to serve both the existing development and the newly created lots without adversely impacting the City's infrastructure.

The proposed subdivision will be served by public streets, water, sanitary sewer, storm drainage facilities, sidewalks, street lighting, and other public improvements necessary to support the proposed development. Public Works, and other reviewing agencies have evaluated the proposal and determined that adequate public facilities can be provided, subject to the recommended Conditions of Approval. Final engineering plans for all public improvements will be reviewed through the City's public improvement permitting process to ensure compliance with applicable City standards.

As discussed elsewhere in this report, the applicant will be responsible for constructing or otherwise providing all required public improvements necessary to serve the subdivision prior to final plat approval or providing financial assurance in accordance with City requirements.

Subject to the recommended Conditions of Approval, staff finds adequate public facilities are available to serve the proposed subdivision and this criterion is satisfied.

D. SECTION 3.108.06.D - ROUGH PROPORTIONALITY. IMPROVEMENTS OR DEDICATIONS REQUIRED AS A CONDITION OF DEVELOPMENT APPROVAL, WHEN NOT VOLUNTARILY ACCEPTED BY THE APPLICANT, SHALL BE ROUGHLY PROPORTIONAL TO THE IMPACT OF DEVELOPMENT. FINDINGS IN THE DEVELOPMENT APPROVAL SHALL INDICATE HOW THE REQUIRED IMPROVEMENTS OR DEDICATIONS ARE ROUGHLY PROPORTIONAL TO THE IMPACT.

FINDINGS: The purpose of this criterion is to ensure that any dedications or public improvements required as conditions of subdivision approval are reasonably related and proportional to the impacts created by the proposed development.

The proposed subdivision consists of 118 residential lots, including 110 single-family detached residential lots and eight townhouse lots, together with new public streets and associated public infrastructure. The subdivision will increase demand on the City's transportation, utility, drainage, and other public systems. To mitigate these impacts, the applicant is required to dedicate right-of-way and construct public improvements necessary to serve the development, including frontage improvements along Windsor Island Road N, construction of public streets, sidewalks, water and sanitary sewer facilities, storm drainage facilities, street lighting, street trees, and other public infrastructure required by the Keizer Development Code and the Public Works Department.

These required improvements are directly related to the impacts created by the subdivision and are limited to the infrastructure necessary to provide safe and adequate access and public services to the proposed development. The required right-of-way dedication and public improvements are consistent with the City's adopted development standards and are no greater than necessary to mitigate the impacts resulting from the subdivision. In fact, the improvements required are solely required for the subdivision itself.

Public Works is requiring a small portion of off-site pedestrian improvements to be located on the west side of Windsor Island Road. The existing sidewalk will be required to be extended to the north in order to provide a connection (via crossing) to the newly created intersection serving the subdivision. This will allow pedestrians to walk to Lockhaven Drive for transit service and will provide a pedestrian system for residents and importantly students to connect to the existing system serving the area. This requirement is due, not only to the subdivision request, but also due to the Comprehensive Plan Amendment/Zone Change request modifying the designation of the land to Residential. One of the requirements for a Comp Plan/Zone Change is the adequacy of transportation facilities, which includes

safe pedestrian routes. The extension of the sidewalk system is solely due to the creation of the new subdivision.

Accordingly, staff finds that the required dedications and public improvements are roughly proportional to the impacts of the proposed development and satisfy the requirements of Section 3.108.06.D.

Based on the above findings, staff concludes the proposal complies with decision criteria for the proposed subdivision request for the subject property located at 5710 Windsor Island Rd N.

VII. RECOMMENDATION AND CONDITIONS

The available evidence indicates the proposal complies with the decision criteria. Staff recommends approval of the Comprehensive Plan / Zone Change / Subdivision subject to the following conditions, which shall be completed, including review and approval by the appropriate department, prior to the time lines outlined below. Compliance with the Conditions of Approval shall be the sole responsibility of the applicants and/or property owner.

General:

1. The Keizer Development Code requires the developer to connect to public utility services. The Development Code also requires all utility services to be placed below ground. These requirements apply to this request. Further, the developer is responsible for all utility connection costs. The City's System Development Charges for park development, water system improvements and transportation improvements shall be the fee in place at the time of building permit applications. These Development charges, as well as those involving the extension of sewer, water, and storm drainage, will apply to this request.

2. The Comprehensive Plan Map amendment and Zone Change will be effective upon recordation of the subdivision plat. Parcels and tracts shall not be "split" zoned and must be designated and zoned as full parcels or tracts. No residentially designated or zoned parcels or tracts are allowed to be located within the Special Policy Area. For reference, the area is shown on the applicant's materials and is shown in the exhibits accompanying the City of Salem's comments.

3. The development of the property shall comply with all applicable requirements of the Keizer Development Code, other applicable City regulations and the building requirements of the Marion County Building Inspection Division.

4. In accordance with the Dual Interest Area Agreement (2001) concurrence of the final location of Comprehensive Plan Map Amendment and Zoning boundary change must be obtained from the City of Salem and Keizer. This requires joint review and agreement that boundary lines are accurate and that no residential development is proposed within the Special Policy Area.

5. The Comprehensive Map Amendment and Zone Change is only approved for the land located outside the Special Policy Area as established by the Willow Lake Settlement agreement and Dual Interest Area Agreement.

6. Prior to plat approval, the property owner shall record a document granting an easement and a waiver of claims with regard to impacts from the Willow Lake Wastewater Treatment Plant. The easement/waiver shall be approved by the City Attorney and shall be reference on the subdivision plat.

7. Lot 1 and Lot 2 must be reconfigured so no portion of either of those residential lots are within the Special Policy Area. In addition, Tract A and Tract C must be clearly identified as non-residential use and designated and zoned consistent with the boundary of the Special Policy Area.

8. No vehicular access to Windsor Island Road from any individual lots within the subdivision will be allowed. This restriction shall be noted on the plat or through other methods which will assure future owners are aware of the restriction.

Prior to acceptance of the final plat map for review: (Public Works)

9. It will be the responsibility of the Applicant to locate any existing water services and meters that serve the subject Property and provide evidence that these are available for reuse or that they will be abandoned according to City requirements.

10. Any existing wells on the Subject Property shall be abandoned in accordance with the Oregon State Water Resources Department requirements. The Applicant shall provide evidence to the Public Works Department that any abandonment of existing wells has been completed in accordance with such requirements

11. The 12-inch water main within Windsor Island Road N shall be extended to the north line of the Subject Property.

12. The Applicant's engineer shall provide engineered calculations per KDS to demonstrate the adequacy of the new water distribution system to provide domestic service and fire flows to each lot within the proposed subdivision. If the required flows cannot be met under the current design, modifications to the main layout will be required.

13. The location of all water mains, appurtenances, services, and meters shall be reviewed for approval by the Public Works Department and shall be constructed within the public right-of-way or a City water easement and in conformance with the KDS.

14. Development plans shall be reviewed by Keizer Fire District regarding adequate location of fire hydrants. All fire hydrants, including the proposed hydrant shown on the Development plan, shall be served by an 8-inch or larger water main.

15. Any septic tanks and drainfields located on the Subject Property and within the City of

Keizer shall be abandoned according to the requirements of the appropriate agency and evidence of compliance submitted to the City prior to issuance of any building permits on the Subject Property.

16. The location of all sanitary sewer mains, structures, and services shall be reviewed for approval by the Public Works Department and shall be constructed within the public right-of-way or a City sanitary sewer easement and in conformance with the KDS.

17. City of Salem approval is also required for all sanitary sewer mains, structures, and services prior to the start of construction. Prior to submitting plans to the City of Salem, the Applicant's engineer shall submit sanitary sewer plans to the City of Keizer Public Works Department for review and determination of compliance with the City's overall requirements. The Applicant will need to provide evidence that the Salem sewer permit has been issued prior to the City of Keizer approving and issuing the construction permit.

18. As shown on the preliminary plans for the Development, the Applicant shall dedicate right-of-way along the Windsor Island Road N frontage to equal 34 feet from the right-of-way centerline.

19. The Applicant shall construct or otherwise demonstrate the street improvements along the Development side of Windsor Island Road N meet the standard Collector street section outlined in the TSP and in conformance with the KDS: 20 feet from roadway (right-of-way) centerline to the face of curb, including a 5-foot-wide (including curb) planter strip, 6-foot-wide property-line sidewalks, street lighting, and street trees.

20. Paved transitions shall be designed and constructed, in conformance with the KDS, at each end of the half-street improvements along the Subject Property frontage of Windsor Island Road N.

21. As shown on the preliminary plan, the existing driveway approach onto Windsor Island Road N shall be closed and new curb and sidewalk constructed with the required street improvements.

22. The Applicant shall construct a 6-foot-wide property line sidewalk on the far side of Windsor Island Road N along the Subject Property frontage, extending the existing 6-foot-wide City sidewalk from the south development to the north line of the Subject Property frontage. These improvements shall include accessible connections, in conformance with Public Right-of-Way Accessibility Guidelines (PROWAG) requirements between the sidewalk and the crosswalks created by the new intersection.

23. The proposed local roadway and associated transportation improvements shall be reviewed for approval by the Public Works Department and shall be constructed within the public right-of-way and in conformance with the KDS.

24. Upon completion of street improvements, centerline monuments shall be established and protected in monument boxes at every street intersection and all points of curvature and points of tangency of street centerlines. The City Engineer may also specify elevation bench marks to be placed if the existing bench marks are not sufficient to determine the local datum.

25. Public Works has reviewed the Preliminary Storm Report provided with this Application. The information provided demonstrates that the proposed storm system can reasonably conform with the requirements of the KDS. The Applicant's engineer shall submit a final overall storm drainage plan and design calculations, demonstrating conformance to the KDS, for review and approval by the City prior to the issuance of any construction permits related to the Development.

26. As discussed in the Preliminary Storm Report, the stormwater collection, conveyance, treatment, and retention facilities shall be designed to accommodate new impervious surfaces in the rights-of-way and City easements, and both new and future impervious surfaces on all proposed lots.

27. A grading and drainage plan shall be developed for the Subject Property in conformance with the KDS. The plan shall include details of adequate stormwater conveyance from all contributing areas across the Subject Property and shall include existing elevations and proposed lot corner elevations. The plan shall be submitted to and approved by the Public Works Department prior to the issuance of any erosion control or construction permits for the Development.

28. Though not shown on the preliminary plan, any proposed Underground Injection Control (UIC) systems shall be registered with DEQ and documentation of this registration provided to the City prior to approval of the proposed storm drainage system or issuance of any construction permits for the Development. In addition, these UIC systems shall be required to be farther than a two-year time of travel from any existing wells on or near the property. (refer to OAR 340-044-0018)

29. A pre-design meeting with City Public Works staff is required prior to the submittal of public improvement plans to either the City of Keizer or the City of Salem for review.

30. Construction permits are required for any construction within a public street, right-of-way, or City easement, for any public infrastructure on private property, and for erosion control and stormwater management on private property.

31. Erosion control permits shall be obtained from the City prior to the disturbance of any soil on the Subject Property.

32. Street opening permits are required for any work, within the City right-of-way or easements, that is not covered by a construction permit.

34. An improvement agreement in a form acceptable to the City shall be completed and an executed copy submitted to the City prior to issuance of permits for construction of public improvements.

35. A pre-construction conference is required, in coordination with City staff, prior to commencement of any construction under permits issued by the City. (KCS 108.02.00)

36. The Applicant shall coordinate the location of individual or cluster box unit (CBU) mailboxes with the U.S. Postal Service and Postmaster General.

37. Electricity, gas, and communications services to serve the subdivision shall be installed underground and pursuant to the requirements of the utility company(ies) serving the Development.

The following conditions shall be addressed on the final plat when submitted to the City for review: (Public Works)

38. As shown in the preliminary plan, the Applicant shall dedicate right-of-way along the development side of Windsor Island Road N to half of the 68-foot-wide right-of-way (34 feet measured from the right-of-way centerline) along the Subject Property frontage.

39. A10-foot public utility easement (PUE) shall be dedicated along the Subject Property frontage of Windsor Island Road N, as well as along the frontage of all the local streets within the Development.

40. The Applicant shall create a street lighting Local Improvement District (LID) for the subdivision to address installation and future maintenance of adequate lighting for the development frontage of Windsor Island Road N meeting Collector street standards.

Prior to Preliminary Plat Approval:

41. A detailed preliminary plat shall be submitted to the Marion County Surveyor's Office for review. The Marion County Surveyor's Office will then submit the preliminary plat to Keizer for review. The Preliminary Plat must be submitted for review prior to submittal of a final plat.

a. Subdivision name must be approved per Oregon Revised Statue 92.090.
b. Must be surveyed and platted per Oregon Revised Statue 92.050.
c. Subdivision plat must be submitted for review.
d. Checking fee and recording fees required.
e. Per Oregon Revised Statue 92.065 remaining monumentation bond may be required if some of the plat monuments have not been set and/or the installation of street and utility improvements has not been completed, or other conditions or circumstances cause the delay (or resetting) of monumentation.

f. A current or updated title report must be submitted at the time of review. Title reports shall be no less than 15 days old at the time of approval of the plat by the Surveyor's Office, which may require additional updated reports.

The detailed preliminary plat shall include the following provisions:

a. The preliminary plat shall substantially conform to the proposed subdivision request. Lot 1 and 2 shall be modified so as not to encroach into the SPA.
b. Lots shall comply with all area and dimension requirements for the proposed underlying zone.
c. Include all engineering elements as required by the Department of Public Works requirements.
d. For all public water mains, fire hydrants and any public sewer mains located within the subject property (if located outside platted rights-of-way) easements will be required and will need to be recorded. These easements shall meet the City of Keizer or City of Salem (where applicable) Design Standards and shall be shown on the subdivision plat.
e. 10' wide public utility easements (PUE) shall be shown along all dedicated rights-of-way.
f. Include a signature line for the City Engineer, Planning Director, and City Manager

42. Street names are required to be submitted to the Planning Department for approval prior to the preliminary plat, and must be shown on the preliminary plat.

43. With the preliminary plat, a copy of any proposed CC&R's, Owners Agreements, Articles and By-Laws shall be submitted to the Planning Department for review by the City Attorney as outlined in Section 3.108.07 of the Keizer Development Code. The following information should be included within the instrument(s):

a. Information regarding streetscape and replacement tree requirements for each lot

b. Information on restriction of vehicular access to Windsor Island Road from individual lots within the subdivision

c. Information regarding the odor/impact overlay zone and the easement/waiver provisions on the property.

The following conditions shall be addressed on the final plat when submitted to the City for review: (Public Works)

44. As shown in the preliminary plan, the Applicant shall dedicate right-of-way along the development side of Windsor Island Road N to half of the 68-foot-wide right-of-way (34 feet measured from the right-of-way centerline) along the Subject Property frontage.

45. A 10-foot public utility easement (PUE) shall be dedicated along the Subject Property frontage of Windsor Island Road N, as well as along the frontage of all the local streets within the Development.

46. The Applicant shall create a street lighting Local Improvement District (LID) for the subdivision to address installation and future maintenance of adequate lighting for the development frontage of Windsor Island Road N meeting Collector street standards.

Prior to Final Plat approval (Mylar):

47. Upon approval of the detailed preliminary plat and engineering plans, a final plat for the subdivision, which conforms to the preliminary plat approval, must be submitted for review to Marion County Surveyor's Office.

48. Upon approval of the preliminary agreement, a final copy of any CC&R's, Homeowner Agreements, or other instrument shall be submitted to the Planning Department which conforms to the agreements submitted during preliminary plat approval.

49. The existing dwelling and outbuildings must be removed prior to final plat approval.

50. A final Tree Removal and Replacement Plan must be submitted to the Planning department for review and approval to confirm the total number of trees removed and required to be planted. The plan shall include the number of replacement and streetscape trees to be planted on each of the individual lots. Significant trees must be replaced at a 2:1 ratio.

51. The final plat for the subdivision shall be recorded within 2 years from the date of final decision on this application. A one-year extension may be approved by the Planning Director. Requests for extensions must be received in writing at least thirty days prior to the one-year time period.

52. The pedestrian/bicycle connection to Keizer Elementary School must be constructed.

The following conditions of approval shall be completed before City approval and signature of the final plat map: (Public Works)

53. The Subject Property is located outside of the original Keizer Sewer District. The Applicant will be required to pay a Sewer Acreage Fee of $7,460.00 per acre, unless they can provide evidence that the Fee has already been paid for this property.

54. The Applicant shall complete and submit to the City an executed (signed, sworn, and recorded) Private Stormwater Maintenance Agreement for all private stormwater facilities prior to the first occurrence of either: recording of the Development plat; putting the stormwater facilities into operation; or the release of any building occupancy certificates.

Prior to Obtaining Building Permit Final or Occupancy:

55. The residential address requirements found in the Oregon Uniform Fire Code shall be completed as approved by the Keizer Fire District and City of Keizer Planning Department.

56. Replacement trees and streetscape trees shall be installed on each lot prior to obtaining final inspection approval. Trees shall be planted according to the requirements of the Keizer Development Code and as outlined in the final approved tree removal and replacement plan.

The following condition of approval shall be completed prior to City support of occupancy or other finalization for any building permit application on the Subject Property for the proposed Development: (Public Works)

57. All of the required public improvements and associated individual services shall be completed in substantial conformance with the final plat map and construction permits, and accepted by Public Works, prior to City support of occupancy of any building permit for an occupied structure.

EXHIBIT 1

CITY COUNCIL, CITY OF KEIZER, STATE OF OREGON

Resolution R2000-1204

AUTHORIZING THE CITY MANAGER TO SIGN THE WILLOW LAKE SETTLEMENT AGREEMENT

WHEREAS, a lawsuit has been filed by Monterey Development Company and F.R.T.W. Investment Company, LLC against the cities of Keizer and Salem, and Marion County alleging that the current Dual Interest Area Agreement (DIAA) unlawfully restricts plaintiffs' property;

WHEREAS, such complaint has brought into question the appropriateness of the DIAA and the effect that such agreement has on the Willow Lake "zone of influence";

WHEREAS, Keizer, Salem, Marion County and plaintiffs entered into mediation to resolve the differences between and among the parties with regard to plaintiffs' property and other properties subject to the DIAA;

WHEREAS, in settlement of the litigation the parties have agreed to a framework settlement agreement that is conditioned on occurrence of certain events;

WHEREAS, it is appropriate and in the public interest to settle the litigation and outstanding issues between the jurisdictions by entering into the Willow Lake Settlement Agreement;

NOW, THEREFORE,

Lien & Johnson
Attorneys at Law
4855 River Road N.
Keizer, Oregon 97303
(503) 390-1635

BE IT RESOLVED by the City Council of the City of Keizer that the City Manager is authorized to execute the Willow Lake Settlement Agreement, a copy of which is attached as Exhibit "A", and by this reference incorporated herein.

PASSED this 2nd day of October, 2000.

SIGNED this 2nd day of October, 2000.

Mayor

City Recorder

Lien & Johnson
Attorneys at Law
4855 River Road N.
Keizer, Oregon 97303
(503) 390-1635

COPY

WILLOW LAKE SETTLEMENT AGREEMENT

The parties to this agreement are the City of Salem, Oregon ("Salem"); the City of Keizer, Oregon ("Keizer"); Marion County, Oregon; FRTW Investment Company, LLC ("FRTW") and Monterey Development Corporation, an Oregon corporation ("Monterey").

WHEREAS, Salem and Keizer are neighboring cities who share an urban growth boundary in Marion County, and Salem provides regionally important wastewater treatment services at its Willow Lake Wastewater Treatment Plant ("Willow Lake WWTP") located within the Keizer-Salem Urban Growth Boundary; and

WHEREAS, Salem, Keizer and Marion County are parties to a Dual Interest Area Agreement ("DIAA"), which, among other things, prohibits residential development in a Special Policy Area ("SPA") in the vicinity of Willow Lake WWTP; and

WHEREAS, Monterey is the owner of approximately 14.4 acres of land east of Willow Lake WWTP, all of which lies within the current SPA; and

WHEREAS all parties agreed it was in the interest of the public and the parties to enter into a mediation in order to resolve issues raised by litigation filed by FRTW and Monterey against Salem, Keizer, and Marion County concerning the DIAA and SPA, and in order to create a basis for future cooperation and coordination relating to the Willow Lake WWTP impact area located within Keizer City limits; and

WHEREAS, the mediation process identified common interests among the parties, including Salem's continued provision of regional wastewater treatment in a manner that is both safe and protective of its regional ratepayers, and Keizer's ability to plan and approve development within its city limits in and adjacent to any plant impact area in a manner consistent with Salem's interests; and

WHEREAS, Monterey seeks to complete residential development on approximately 14.4 acres on the eastern edge of the SPA as defined by the existing DIAA in a manner protective of Salem's interests (the "Development Property"); and

WHEREAS, the parties recognize the need of Salem to control the area east of the plant within the amended DIAA as contemplated by this Agreement, and the local government parties recognize Monterey's residential development interest in the Development Property;

WHEREAS, the parties recognize that it is for the benefit of each party that there be a mediated settlement and that litigation against all defendants be dismissed with prejudice on completion of the conditions precedent described below, and the parties further recognize that the completion of these conditions depends on the occurrence of an event or events independent of and beyond the control of this agreement; and

WHEREAS the parties agree that any mediated settlement is the compromise of a doubtful and disputed claim, and that any payment or completion of other elements of a mediated settlement is not to be construed as an admission of liability on the part of Salem, Keizer, Marion County, or any officer, agent, or employee of those defendants;

THEREFORE, the parties enter into a Willow Lake Settlement Agreement as follows:

Part I. CONDITIONS PRECEDENT

The following are conditions precedent to completion of a mediated settlement including dismissal of the lawsuit with prejudice. The conditions represent the good-faith attempt of the parties to reach mediated consensus on all relevant issues. Execution of this agreement which identifies conditions precedent is not a final and binding commitment on behalf of any governmental entity on any of the conditions.

Section I. Intergovernmental Actions

(A) Amend the DIAA/SPA boundary to exclude the following areas currently within the DIAA, more particularly described in Appendix "A" and illustrated on a map attached as Appendix "B":

1. The Development Property (the 14.4 +/- acres proposed by Monterey for development);

2. All areas south of the imaginary western extension of Lockhaven to the eastern edge of Willow Lake WWTP property;

3. All areas to the north and south of the Development Property that are east of the extended western boundary line of the Development Property; and

4. Two triangular areas on both sides of Windsor Island Road (one north of Lockhaven Road and west of Windsor Island Road to the point at which the northern boundary of that triangle intersects Windsor Island Road, and one east from that point to the southern extension of the west Monterey property line and to the northern boundary line of that parcel).

(B) Amend the DIAA to

1. Require a protective overlay zone for the excluded property identified in Section I(A) of this agreement, more particularly described in Appendix "A" and illustrated on a map attached as Appendix "B," which zone shall include these requirements:

   a. Salem and Marion County shall have standing in and be entitled to notice of all legislative and quasi-judicial zoning and comprehensive plan map amendments; and

   b. Keizer, as a condition of approval of development and building permits, shall require an odor easement in favor of Salem, Keizer, and Marion County in a form substantially similar to Appendix "C."

2. Impose, as land use regulations for areas subject to the amended DIAA, the Agricultural Industrial (IA) zone provisions adopted by Keizer modified to conform to the amended DIAA. Such modifications to the IA zone shall include, but not be limited to, the prohibition of wastewater treatment.

(C) Salem and Marion County concur in the Keizer rezoning of the 14.4 +/- acres of Development Property, limited to single family residential at no more than 5 dwelling units per acre.

Section II. Keizer Actions

(A) Adopt the overlay zone required in Section I(B)

(B) Within the parameters of the protective overlay zone referenced in Section II(A), process as provided by law the necessary land use applications for Monterey's development of the Development Property for a single family residential subdivision with the density not to exceed five lots per acre.

Section III. Salem Actions

(A) Subject to an environmental assessment acceptable to the City of Salem, accept a donation of 27 +/- acres of FRTW real property (the Donated Property) located west of Development Property, and more particularly described in Appendix D and illustrated on a map attached as Appendix "B," subject to grantors' reservation of:

(1) Either an option for a 40-year lease for a 4-acre golf driving range or, if necessary, a permanent access right-of-way of not more than 60 feet in width at a location to be determined during applicable land use proceedings; and

(2) If "necessary" a permanent utility and sewer easement; and

(3) A temporary access right-of-way for construction purposes over the property described in Appendix E; and

(4) A covenant prohibiting the treatment of wastewater on the Donated Property.

The City of Salem is a political subdivision qualified to receive a charitable contribution pursuant to IRC § 170(c)(1). For purposes of § III(A)(1) and (2) above, "necessary" shall mean required by a government entity for development approval purposes.

(B) Reimburse Monterey Development for expenses and costs of litigation and settlement in the amount of $150,000.

Section IV Monterey and FRTW Actions

Upon the satisfaction of the conditions precedent set forth above, including, but not limited to, the approval of by Keizer a subdivision and development application for the Development Property and the Amendment of the DIAA as set forth in Section I(A) and (B) above:

(A) Monterey shall grant to Salem, Keizer, and Marion County an Easement and Waiver in the form of the attached Appendix "C" over the 14.4 +/- acres of Development Property, which is described and depicted in Appendix F.

(B) Monterey and FRTW shall execute a release releasing Salem, Keizer, and Marion County from any and all actions, causes of action, claims, demands, damages, costs, expenses, and all other damages that Monterey and FRTW have or may hereafter have on account of or arising out of or related to the claims and occurrences alleged in Marion County Circuit Court Case No. 99C-15234.

PART II. DISMISSAL OF LITIGATION

The parties agree that on the completion of all conditions precedent identified in this agreement, that in the lawsuit entitled

IN THE CIRCUIT COURT FOR THE STATE OF OREGON

COUNTY OF MARION

MONTEREY DEVELOPMENT COMPANY, an Oregon corporation, and F.T.R.W. INVESTMENT COMPANY, LLC, an Oregon limited liability company, Plaintiffs, THE CITY OF SALEM, a municipality, CITY OF KEIZER, a municipality, and MARION COUNTY, Defendants.	Case No. 99-C-15234

Plaintiffs Monterey Development and FRTW shall file a stipulated order of dismissal, with prejudice, as to all claims made by plaintiffs.

PART III. COMPLETION OF SETTLEMENT

This agreement shall be in full force and become effective upon signing by a representative of all parties. Unless a condition precedent is waived by written agreement of all the parties hereto, this Agreement shall be terminated by the failure of any party hereto to satisfy a condition precedent to the mediated settlement within 180 days of the execution of this

Agreement. However, such term for completion of the conditions precedent may be extended by written agreement of all parties to this Agreement.

The term of this agreement is perpetual.

By: _____
Monterey Development

Print Name: Marty E. Townsend
Its: President

DATED: October 18, 2000

By: _____
FRTW Investment Company LLC

Print Name: Marty E. Townsend
Its: Managing Member

DATED: October 18, 2000

By: _____
Marion County

Print Name: MELINDA RAE CARLTON
Its: COUNTY MANAGER

DATED: 10-24, 2000

By: _____
City of Salem

Print Name: LARRY WACKER
Its: CITY MANAGER

DATED: October 23, 2000

By: _____
City of Keizer

Print Name: Christopher C. Eppley
Its: City Manager

DATED: October 18, 2000

Area to be Removed from Existing
Willow Lake Treatment Plant
Special Policy Area

September 19, 2000
Tract A

Beginning at a point on the West Line of a tract of land conveyed to Robert M. Bowden by instrument recorded in Reel 1308, Page 343, Marion County Records, said point being at the intersection of said West Line of Bowden tract and the westerly extension of the North Line extended of a tract of land conveyed to Viesko Quality Concrete, Inc., described in Reel 1473, Page 0496, Marion County Records, said point also being 475.46 feet, more or less, South from the northwest corner of said Bowden tract; said point being in Section 33, Township 6 South, Range 3 West of the Willamette Meridian, Keizer, Oregon; and running thence:

south along the West Line of said Bowden tract 572.54 feet, more or less, to the southwest corner thereof;

thence east along the South Line of said Bowden tract 445 feet, more or less, to the southeast corner thereof;

thence south along the southerly extension of the East Line of said Bowden tract 383 feet, more or less, to a point on the South Line of Bowden Lane NE, said point being the northwest corner of Willow Lake Estates Phase III as recorded in Volume 39, Page 77 Book of Town Plats for Marion County;

thence South 88°41'00"East along the South Line of said Bowden Lane NE and the North Line of said Willow Lake Estates Phase III, 708.49 feet to the southeast corner of a tract of land conveyed to Gary Whalen and Rona L. Chandler by instrument recorded in Reel 1673, Page 306, Marion County Records;

thence North 00°25'33" East along the East Line of said Whalen and Chandler tract 662.56 feet to the northwest corner of Apple Tree Estates Phase 3B as recorded in Volume 41, Page 21, Book of Town Plats for Marion County;

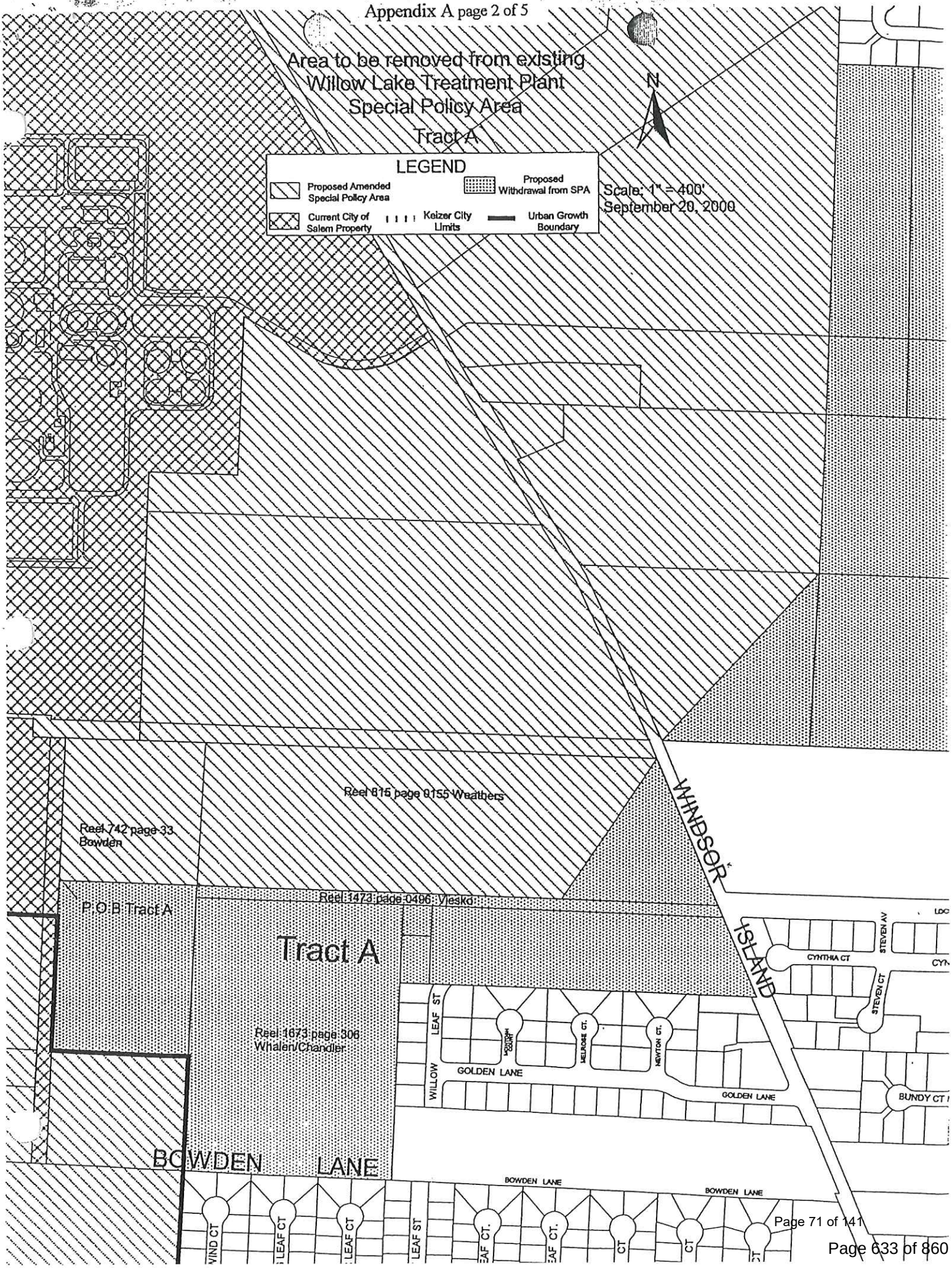
thence South 89°30'27" East along the North Line of said Apple Tree Estates Phase 3B, Apple Tree Estates Phase 3, as recorded in Volume 40, Page 50, Book of Town Plats for Marion County, and Apple Tree Estates Phase 1, as recorded in Volume 39, Page 62, Book of Town Plats for Marion County, a distance of 1,215 feet, more or less, to a point on the West Line of said Windsor Island Road NE (20 feet from centerline);

thence North 26°45' West along the West Line of said Windsor Island Road NE a distance of 866 feet, more or less, to the point of intersection of the North Line of a tract of land conveyed to Earl J and Hazel I. Weathers, Trust described in Reel 815, Page 0155, Marion County Records;

thence southwesterly in a direct line to a point on the North Line of the previously described Viesko Quality Concrete, Inc. Tract described in Reel 1473, Page 0496, said point being 533.12 feet West of the intersection of said North Line of Viesko Tract with the Westerly Right-of-way of Windsor Island Road NE (20 feet from centerline);

thence west along said North Line of Viesko tract and the extension of said North Line, 1,710 feet, more or less, to the point of beginning.

Checked By: _____
Project No.: None
September 22, 2000


Area to be removed from existing
Willow Lake Treatment Plant
Special Policy Area
Tract A
N
LEGEND
Proposed Amended Special Policy Area
Proposed Withdrawal from SPA
Current City of Salem Property
Keizer City Limits
Urban Growth Boundary
Scale: 1" = 400'
September 20, 2000
Reel 815 page 0155 Weathers
Reel 742 page 33 Bowden
Reel 1473 page 0496 Vlesko
P.O.B Tract A
Tract A
Reel 1673 page 306 Whalen/Chandler
WINDSOR ISLAND
CYNTHIA CT
STEVEN AV
STEVEN CT
WILLOW LEAF ST
GOLDEN LANE
BUNDY CT
BOWDEN LANE
BOWDEN LANE
BOWDEN LANE

Area to be Removed from Existing
Willow Lake Treatment Plant
Special Policy Area

September 19, 2000
Tract B

Beginning at a point on the Easterly Right-of-way of Windsor Island Road NE, said point being on the South Line of a tract of land conveyed to Arleen Olson, trustee, by instrument recorded in No. 27606PCJ, Marion County Records; said point being in Section 34, Township 6 South, Range 3 West of the Willamette Meridian, Keizer, Oregon; and running thence:

east along the South Line of said Olson tract 1,200 feet, more or less, to the southwest corner of the Nimrod Ford Donation Land Claim No. 40, in Section 34, Township 6 South, Range 3 West, Willamette Meridian, Marion County, Oregon; also being the southeast corner of said Olson tract;

thence North 00°09'14" East 574.86 feet to the northeast corner of said Olson tract, said point being on the South Line of Whispering Pines Phase II as recorded in Volume 42, Page 8, Book of Town Plats for Marion County;

thence North 89°43'31" West along the North Line of said Olson tract and the South Line of said Whispering Pines Phase II, 63.52 feet to the southwest corner of said Whispering Pines Phase II;

thence North 00°42'20" East along the West Line of said Whispering Pines Phase II and Whispering Pines Subdivision as recorded in Volume 41, Page 57, Book of Town Plats for Marion County, 529.04 feet to the northwest corner of said Whispering Pines Subdivision, said point being on the south boundary of McNary Estates Phase 17 as recorded in Volume 42, Page 19, Book of Town Plats for Marion County;

thence North 89°09'17" West along said south boundary of McNary Estates Phase 17 and the westerly extension thereof, 91.01 feet to the intersection of the southerly extension of the most Westerly Line of said McNary Estates Phase 17;

thence North 00°47'15" East along said Southerly extension, and the most westerly boundary of said McNary Estates Phase 17, and the West Line of McNary Estates Phase 11, as recorded in Volume 39, Page 90, Book of Town Plats for Marion County, a distance of 1,156.41 feet to an angle point in the West Line of said McNary Estates Phase 11;

thence North 89°17'03" West continuing along the south boundary of said McNary Estates Phase 11 and the south boundary of McNary Estates Phase 19, as recorded in Volume 43, Page 24, Book of Town Plats for Marion County, 543.58 feet to the southwest corner of said McNary Estates Phase 19;

thence South 00°43'27" West parallel with the west boundary of said McNary Estates Phase 19, 1,688 feet, more or less, to a point on the North Line of the aforementioned Olson tract;

thence southwesterly in a direct line to the point of beginning.

Checked By: _____
Project No.: None
September 22, 2000

LEK:P:\DAILY\DAY03127.WPD

Willow Lake Treatment Plant
Special Policy Area

September 19, 2000
Tract C

Beginning at a point on the West Line of McNary Estates Phase 19, as recorded in Volume 43, Page 24, Book of Town Plats for Marion County, said point being an angle corner in the boundary of said McNary Estates Phase 19, which is 236.16 feet North 00°43'27" East from the southwest corner of said subdivision; said point being in Section 34, Township 6 South, Range 3 West of the Willamette Meridian, Keizer, Oregon; and running thence:

North 00°43'27" East parallel with said west boundary 457 feet, more or less, to a point on the Section Line common to Sections 27 and 34 in Township 6 South, Range 3 West of the Willamette Meridian;

thence east along said Section Line 394 feet, more or less, to the northeast corner of the James Smart Donation Land Claim No. 42 in said Township and Range, said point being on the west boundary of McNary Estates Phase 9, as recorded in Volume 39, Page 19, Book of Town Plats for Marion County;

thence South 00°39'51" West along said west boundary of McNary Estates Phase 9, and the boundary of McNary Estates Phase 11, as recorded in Volume 39, Page 90, Book of Town Plats for Marion County, 66 feet to an angle corner in said boundary of McNary Estates Phase 11;

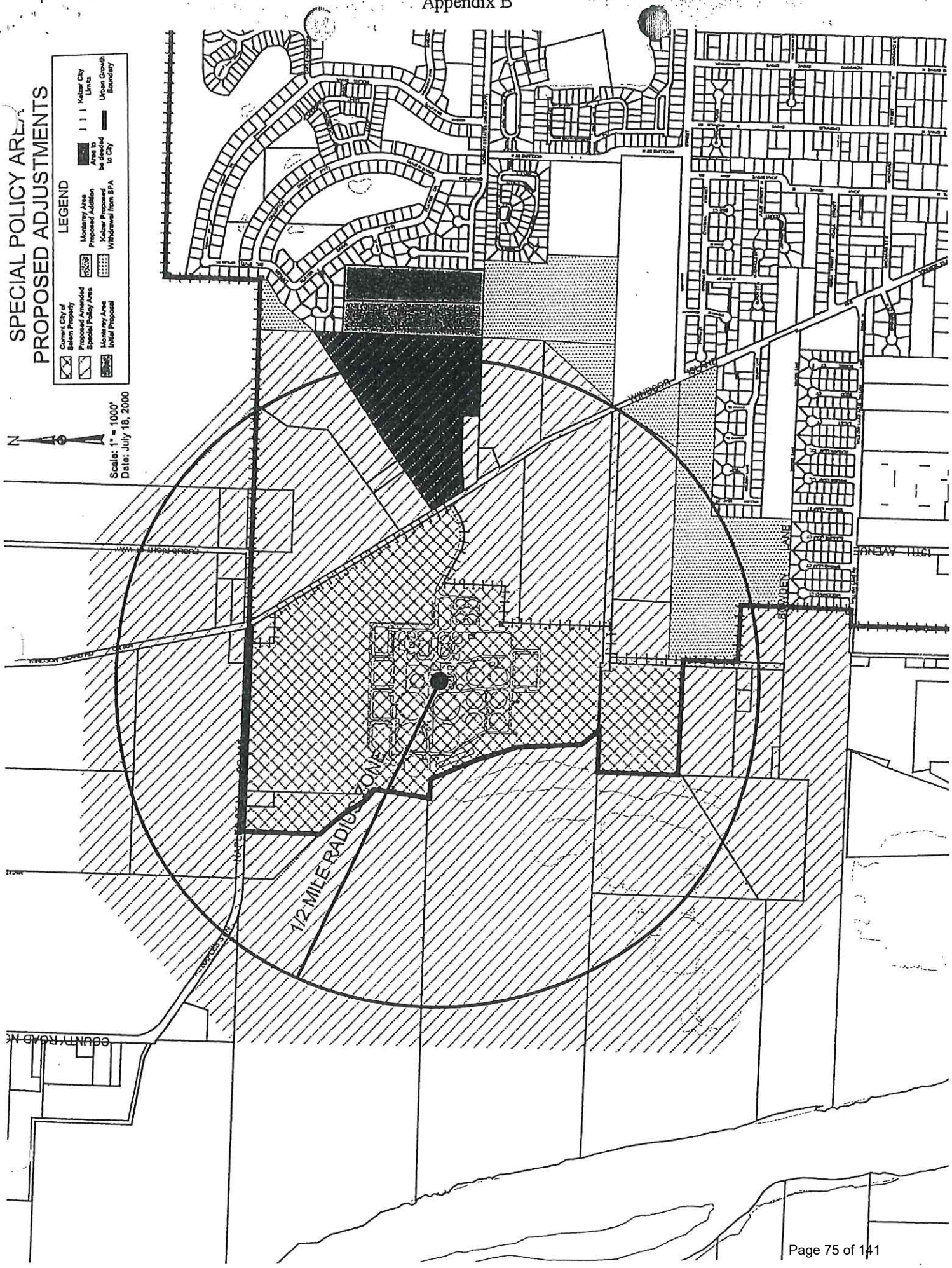
thence South 57°33'00" West continuing along said boundary of McNary Estates Phase 11 202.23 feet to an angle corner therein;

thence South 38°42'35" West continuing along said boundary and the boundary of the aforesaid McNary Estates Phase 19 a distance of 361.39 feet to the point of beginning.

Checked By: _____
Project No.: None
September 22, 2000

LEK:P:\DAILY\DAY03127.WPD


Willow Lake Treatment Plant
Special Policy Area
Tract B & C
N
Scale: 1" = 400'
September 20, 2000
LEGEND
Proposed Amended Special Policy Area
Proposed Withdrawal from SPA
Current City of Salem Property
Keizer City Limits
Urban Growth Boundary
Tract C
Tract B
P.O.B Tract C
P.O.B Tract B
No. 27606PCJ Olson
HOGAN DR
LITTLER DR. (PVT)
CRAMPTON DRIVE N (PVT)
PLAYER DRIVE
PLAYER DR.
CRAMPTON
MCNARY ESTA
CIRCLE N
SAGRADA
MCCLURE ST N
WINDSOR
LOCKHAVEN


SPECIAL POLICY AREA
PROPOSED ADJUSTMENTS
LEGEND
Current City of Salem Property
Proposed Amended Special Policy Area
Monterey Area Initial Proposal
Monterey Area Proposed Addition
Keizer Proposed Withdrawal from SPA
Area to be deeded to City
Keizer City Limits
Urban Growth Boundary
N
Scale: 1" = 1000'
Date: July 18, 2000
WINDSOR
1/2 MILE RADIUS ZONE
COUNTY ROAD NO.

AMENDMENT OF

1991 DUAL INTEREST AREA AGREEMENT

(2001 AMENDMENT)

PARTIES:

CITY OF KEIZER, CITY OF SALEM AND MARION COUNTY

1991 Agreement - Reel 903, Page 78

AFTER RECORDING,
RETURN TO:

E. Shannon Johnson
Keizer City Attorney
4855 River Road N.
Keizer, OR 97303

ORIGINAL

DUAL INTEREST AREA AGREEMENT FOR WILLOW LAKE TREATMENT PLANT AREA

WHEREAS, the Salem and Keizer Comprehensive Plans through their mutually adopted Regional Policies provide for establishment of dual interest areas, land use decision making for which may be provided by agreement between affected jurisdictions; and

WHEREAS, Marion and Polk Counties and the Cities of Keizer and Salem have identified the area of the Willow Lake Wastewater Treatment Plant as a dual interest area, and wish to establish the nature and scope of coordinated land use regulations in the area by dual interest area agreement; and

WHEREAS, Dual Interest Agreement was established for the Willow Lake Wastewater Treatment Plant area in 1991 that initiated a study of the impacts of the treatment plant and established interim controls until that study was completed and an implementing strategy put in place; and

WHEREAS, that study was completed in 1993 and the implementing strategy process was initiated in the fall of 1994, thereby fulfilling a portion of the purpose of the 1991 Dual Interest Agreement; and

WHEREAS, the three jurisdictions and other parties with the assistance of a mediator entered into the Willow Lake Settlement Agreement; and

WHEREAS, such Willow Lake Settlement Agreement calls for, as a condition precedent to the finalization of the settlement, the amendment of the 1991 Dual Interest Area Agreement to specifically amend the boundary and exclude certain properties ("Excluded Properties") from the restrictions of the Dual Interest Area Agreement.

NOW, THEREFORE, the Cities of Keizer and Salem, and Marion County, parties having jurisdiction in the Willow Lake Wastewater Treatment Plant Area, hereby adopt this Dual Interest Agreement that replaces and supersedes the 1991 Dual Interest Agreement, and agree as follows:

1. Establishment of Willow Lake Wastewater Treatment Plant Special Policy Area.

The Willow Lake Wastewater Treatment Plant Special Policy Area is established and described by the legal description set forth in Exhibit "A" attached hereto and by this reference incorporated herein.

2. Land Use Control.

Keizer shall establish and place upon all land within the Special Policy Area either the Ag-Industrial (AI) zone, the text of which is attached as Exhibit "B" and made part of this agreement or the Exclusive Farm Use (EFU) zone. Any deletion or amendment to the zone text for either zone shall be subject to the concurrence of all parties of this agreement.

3. Economic Development.

Keizer shall work to foster economic development with the Special Policy Area in accordance with the Ag-Industrial zone. Salem shall cooperate with Keizer in the study and implementation of the use of by-products of the Willow Lake Wastewater Treatment Plant in surrounding agricultural and industrial uses.

4. Regulation Procedures.

Each jurisdiction shall be given notice and opportunity to comment on any land use application involving property within or partially within the Special Policy Area.

5. Excluded Properties Overlay Zone.

Those properties that were within the boundaries of the 1991 Dual Interest Area Agreement, but are now not part of the description in Exhibit "A" shall be known as the "Excluded Properties." A odor/noise impact overlay zone shall be adopted and imposed on such Excluded Properties. The text of the odor/noise impact overlay zone is attached as Exhibit "C". Any deletion or amendment to such text requires the concurrence of all parties of this Agreement.

6. Operation of the Willow Lake Wastewater Treatment Plant.

Salem agrees to minimize the odor as best as practicable given the existing

treatment plant facility by utilizing effective and economically practical technology and techniques of plant operations, in light of the requirements of the National Pollution Discharge Elimination System permit as issued by the Department of Environmental Quality.

Salem agrees to include the full range of odor control improvement options in any major plant expansion Master Plan study.

7. Planning for the Willow Lake Treatment Plant.

It is agreed the City of Keizer will have a role in any master planning affecting the Willow Lake Wastewater Treatment Plant. This role will be a seat on the Salem Water-Sewer Task Force, and notice and invitation to attend Salem Planning Commission and City Council workshops affecting the Willow Lake Master Planning activities. At the request of either City Council, a joint workshop of both Councils will be conducted to discuss Willow Lake Master Planning activities. Salem shall be invited to participate in any Keizer water, drainage, sanitary sewer, or treatment plant study groups.

8. Amendments.

Amendment to this Dual Interest Agreement shall be in writing and approved by all parties to this agreement. The amendment procedure shall utilize the Salem/Keizer Urban Area (Regional) Procedures and Policies cited in the respective comprehensive plan of the City of Salem and the City of Keizer.

9. Duration and Review.

This agreement shall be in effect so long as the Willow Lake Wastewater Treatment Plant exists at the current site.

This agreement shall be reviewed using the SKAPAC process at the initiation of either party, but not later than the next Periodic Review of the urban area comprehensive plan. The purpose of the review will be to determine the appropriateness of each section and adopt appropriate amendments given then current

plant operations and plans, and community characteristics.

CITY OF KEIZER

By: _____
Title: City Manager
Date: 5-14-01

CITY OF SALEM

By: Robert A Wells
Title: City Manager Pro Tem
Date: 5/23/01

Approved as to form:

_____
City Attorney
Date: 5-18-01

Approved as to form:

_____
City Attorney
Date: 5-21-01

MARION COUNTY

By: _____
Title: Vice Chair, Board of Commissioners
Date: 5-18-01

Approved as to form:

_____
Marion County Counsel
Date: 5-18-01

2490COK.020

12-7-00

STATE OF OREGON)
) ss.
County of Marion)

This instrument was acknowledged before me on May 16, 2001 by Christopher C. Eppley, City Manager of the City of Keizer.

NOTARY PUBLIC FOR OREGON
My Commission Expires: 2-6-2002

OFFICIAL SEAL
E SHANNON JOHNSON
NOTARY PUBLIC - OREGON
COMMISSION NO. 307521
MY COMMISSION EXPIRES FEB. 6, 2002

STATE OF OREGON)
) ss.
County of Marion)

This instrument was acknowledged before me on May 23, 2001 by Roberto G. Wells, City Mgr. Pro Tem of the City of Salem.

NOTARY PUBLIC FOR OREGON
My Commission Expires: 9-27-04

OFFICIAL SEAL
MARGARET BLAINE
NOTARY PUBLIC - OREGON
COMMISSION NO. 336416
MY COMMISSION EXPIRES SEP. 27, 2004

STATE OF OREGON)
) ss.
County of Marion)

This instrument was acknowledged before me on [redacted] 18 May 2001 by PATRICIA MILNE, VICECHAIR of Marion County.

NOTARY PUBLIC FOR OREGON
My Commission Expires: 4-19-04

OFFICIAL SEAL
JANE ELLEN STONECIPHER
NOTARY PUBLIC-OREGON
COMMISSION NO. 330831
MY COMMISSION EXPIRES MAR. 19, 2004

Tract No. 1
Inside UGB and Keizer City Limits

Beginning at the section corner common to Sections 27, 28, 33, and 34, Township 6 South, Range 3 West, Willamette Meridian, City of Keizer, Marion County, Oregon, said point being on the now existing City Limits Line; and running thence:

North 89° 33' West along the South Line of said Section 28 a distance of 580 feet, more or less, to a point on the East Line of Windsor Island Road NE;

thence North 12° 34' West along the East Line of said Windsor Island Road NE 30 feet, more or less, to the point of intersection of the easterly extension of the North Line of County Road No. 605 (commonly known as Naples Street NE);

thence west along the easterly extension of the North Line and the North Line of said Naples Street NE 160 feet, more or less, to the point of intersection of the northerly extension of a tract of land conveyed to Clifford B., Jr., and Janice A. Bentson by instrument recorded in Reel 690, Page 138, Marion County Records;

thence South 00° 27' West along the northerly extension of the West Line and the West Line of said Bentson tract 238 feet, more or less, to the southwest corner thereof;

thence South 89° 33' East along the South Line of said Bentson tract 239 feet, more or less, to a point on the West Line of said Windsor Island Road NE; said point also being on the existing Keizer City Limits Line;

thence South 31° 28' East along the West Line of said Windsor Island Road NE 1,711.36 feet to the Easterly South Line of the City of Salem Willow Lake property;

thence along said City of Salem property the following courses and distances, South 55° 48' West a distance of 97.03 feet;

thence along the arc of a 316.48-foot radius curve to the right (the chord of which bears South 86° 24' West 322.20 feet) 323.37 feet;

thence North 63° West 269.32 feet;

thence South 527.10 feet;

thence West 287 feet;

thence South 885 feet along said City of Salem property and leaving said boundary, to a point on the South Line of a tract of land conveyed to PGE by instrument recorded in Reel 1, Page 721, Marion County Records;

thence west along the South Line of said PGE tract 250 feet, more or less, to the point of intersection of the northwest corner of a tract of land conveyed to Thomas W. and Inez Bowden by instrument recorded in Reel 742, Page 33, Marion County Records;

thence south along the West Line of said Bowden tract 475.46 feet, more or less, to the intersection of the North Line extended of a tract of land conveyed to Viesko Quality Concrete, Inc., described in Reel 1473, Page 0496, Marion County Records;

thence east along said North Line extended and the North Line of said Viesko Quality Concrete, Inc., tract 1,710 feet, more or less, to a point which is 533.12 feet West of the intersection of said North Line with the Westerly Right-of-way of Windsor Island Road NE;

thence northeasterly in a direct line to the intersection of the North Line of that tract of land conveyed to Earl J. and Hazel I. Weathers, Trust described in Reel 815, Page 0155, Marion County Records, and the Westerly Right-of-way of Windsor Island Road NE;

thence North 26° 45' West along the West Line of said Windsor Island Road NE a distance of 66 feet, more or less, to the point of intersection of the South Line extended of a tract of land conveyed to Arleen Olson, trustee by instrument recorded in No. 27606PCJ, Marion County Records;

thence east along said extension of the South Line of said Olson tract and the South Line of said Olson tract 44.80 feet, more or less, to a point on the Easterly Right-of-way of said Windsor Island Road NE;

thence northeasterly in a direct line to the intersection of the North Line of said Olson tract and the southerly extension of the West Line of McNary Estates Phase 19, as recorded in

Volume 43, Page 24, Book of Town Plats for Marion County, and further recorded in Reel 1558, Page 579, Marion County Deed Records;

thence north along said southerly extension, along the said West Line of McNary Estates Phase 19 and along the northerly extension of said McNary Estates Phase 19, to the North Line of the James Smart Donation Land Claim No. 42; said point being on the section line common to Sections 27 and 34 of Township 6 South, Range 3 West, Willamette Meridian, Marion County, Oregon;

thence west along the North Line of said Section 34 to the southwest corner of the Alvis Smith Donation Land Claim No. 69 in Section 27, Township 6 South, Range 3 West, Willamette Meridian, Marion County, Oregon;

thence North 89° 37' 30" West 502.20 feet to the point of beginning.

Checked By: _____
Project No.: None
September 6, 2000

2.115 AGRICULTURAL INDUSTRIAL (AI)

2.115.01 Purpose

The purpose of the AI (Ag-Industrial) zone is to provide appropriate areas suitable for agricultural uses, agricultural related industries, warehousing, transportation facilities, and other agricultural, industrial, and recreational uses that have relatively low employees per acre ratios. The Ag-Industrial zone is appropriate in those areas designated Ag-Industrial in the Comprehensive Plan where the location is impacted by the Willow Lake Wastewater Treatment Plant and the site has access to an arterial street for transport of bulk materials. (5/98)

2.115.02 Permitted Uses

The following uses, when developed under the applicable development standards in this Zoning Ordinance, are permitted in the AI zone:

A. Lawful uses existing on a property at the time of the effective date of this zone. (5/98)

B. Farm Use, including farm dwellings as defined in ORS 215.213(e), (f), and (g). (5/98)

C. Timber tracts (081) and forest nurseries (083). (5/98)

D. Agricultural services (07). (5/98)

E. Wholesale and retail nurseries (__). (12/00)

F. Food and kindred products (20). (5/98)

G. Recycling Centers and Depots. (5/98)

2.115.03 Special Permitted Uses

The following uses, when developed under the applicable development standards in the Ordinance and special development requirements, are permitted in the AI zone:

A. Non-Residential Partitions, subject to the provisions in Section 2.310. (5/98)

B. Non-Residential Subdivision, subject to the provisions in Section 2.310.

(5/98)

C. **Non-Residential Planned unit development**, subject to the provisions in Section 2.311. (5/98)

D. **Accessory structures** and uses prescribed in Section 2.203.02. (5/98)

E. The following special uses subject to the applicable standards in Section 2.4:

1. **Energy facility** (Section 2.425). (5/98)

F. **Wireless Telecommunications Facilities** (Section 2.427). (5/98)

2.115.04 Conditional Uses

The following uses may be permitted in a AI zone subject to obtaining a conditional use permit:

A. **Solid waste transfer facility.** (5/98)

B. **Public or Private Golf Course or Driving Range.** (5/98)

C. **Public or Semi-Public Recreation Facility** incorporating outdoor fields for organized team play along with related concession, storage, and maintenance facilities. (5/98)

D. **Composting and recycling facility** for organic yard debris. (5/98)

E. **Construction contractor's offices** and related outdoor storage (15, 16, 17). (5/98)

F. **Manufacturing and Assembly.** (5/98)

1. Textile products and apparel (22). (5/98)

2. Millwork (2431). (5/98)

3. Wood kitchen cabinets (2434). (5/98)

4. Structural wood members, not elsewhere classified (2439). (5/98)

5. Furniture and fixtures (25). (5/98)

6. Chemicals and allied products (28) except miscellaneous chemical products (289). (5/98)

7. Rubber and miscellaneous plastics products (30). (5/98)

8. Leather and leather products (31) except leather tanning and finishing (311). (5/98)

9. Stone, clay, glass products (32) except cement (324); structural clay products (325), concrete, gypsum and plaster products (327) and abrasive, asbestos and miscellaneous non-metallic mineral products (329). (5/98)

10. Fabricated metal products except metal forging and stamping (346) and ordnance and accessories (348). (5/98)

11. Machinery and equipment manufacturers (35). (5/98)

12. Transportation equipment (37). (5/98)

13. Miscellaneous manufacturing industries (39). (5/98)

G. Transportation, utilities and communication (40-49), BUT EXCLUDING travel agencies (4722). (5/98)

H. Biomass facility (Section 2.425). (5/98)

I. Boat & RV Storage (Section 2.411). (5/98)

J. Public and Semi-Public buildings and structures excluding office space. (5/98)

In addition to any other notice required by law, notice shall be also sent to Marion County and the City of Salem for any hearing regarding any conditional use or other land use applications for property within the AI zone.

2.115.05 Prohibited Use

The following uses are prohibited in the AI zone:

A. Wastewater treatment in any form. (12/00)

2.115.06 Dimensional Standards

A. Minimum Lot Dimension and Maximum Height Requirements

LOT SIZE	The parcel size shall be adequate to contain all structures within the required yard setbacks.
MAXIMUM STRUCTURE HEIGHT	35 feet

B. Minimum Yard Setback Requirements

ADJACENT PROPERTY USE

SETBACKS	Residential	Non-Residential
Front	20 feet	20 feet
Side	20 feet*	15 feet
Rear	20 feet*	15 feet
Street-side	20 feet	20 feet

*Plus 1 foot for each foot of building height over 10 feet

Adjacent to residential zones, a 8 foot sight obscuring fence, wall or hedge is required.

2.115.06 Development Standards

All development in the AI Zone shall comply with the applicable provisions of this Ordinance. The following includes referenced items as well as additional development requirements:

A. Off Street Parking. Parking shall be as specified in Section 2.3030. (5/98)

B. **Non-Residential Subdivisions and Partitions.** Land divisions shall be reviewed in accordance with the provisions of Section 2.310. (5/98)

C. **Design Standards** - Unless specifically modified by provisions in this Section, buildings located within the AI zone shall comply with the Development Standards in Section 2.315. (5/98)

D. **Yards and Lots.** Yards and lots shall conform to the standards of Section 2.312. (5/98)

E. **Signs.** Signs shall conform to the requirements of Section 2.308. (5/98)

F. **Accessory Structures.** Accessory structures shall conform to requirements in Section 2.313. (5/98)

G. **Landscaping.** A minimum of 10% of the property shall be landscaped, including all required yards. Landscaped areas shall be landscaped as provided in Section 2.309. (5/98)

H. **Lot Coverage.** The combined maximum building and parking area coverage shall not exceed 90%. (5/98)

I. **Open Storage.** (5/98)

1. Open storage of materials used for the manufacture or assembly of goods, and equipment is prohibited in required yards, but is otherwise permitted provided that such storage is enclosed with a sight-obscuring fence, wall, hedge, or berm a minimum of 8 feet in height. (5/98)

2. Materials and equipment stored as permitted in this section shall be no more than 14 feet in height above the elevation of the storage area. (5/98)

3. Landscaping shall screen open storage over six feet in height above the elevation of the storage area. (5/98)

J. **Easement/Waiver.** As a condition of approval of any building permit or land use action in the AI zone, and as a precondition of any occupancy permit, the property owner shall sign and cause to be recorded in the real property records of Marion County a document granting an easement and a waiver of claims with regard to impacts from the Willow Lake Wastewater Treatment Plant. Such easement/waiver shall be approved by the City Attorney and be in substantially the same form as that

attached to that certain Willow Lake Settlement Agreement executed by Salem, Marion County and Keizer. The recorded easement/waiver shall also be referenced on the plat of any partition, subdivision or PUD. (12/00)

2.128 ODOR/NOISE IMPACT OVERLAY ZONE (OIO)

2.128.01 Purpose

The purpose of the Odor/Noise Impact Overlay Zone is to alert property owners and potential property owners of the possible odor/noise impacts of the Willow Lake Wastewater Treatment Plant operated by the City of Salem and to prevent development of property in the overlay zone from occurring without the proper notice and documentation. (12/00)

2.128.02 Development Standards

No development shall occur in the Odor/Noise Impact Overlay Zone without execution by the property owner of an easement/waiver. As a condition of approval of any building permit or land use action in the AI zone, and as a precondition of any occupancy permit, the property owner shall sign and cause to be recorded in the real property records of Marion County a document granting an easement and a waiver of claims with regard to impacts from the Willow Lake Wastewater Treatment Plant. Such easement/waiver shall be approved by the City Attorney and be in substantially the same form as that attached to that certain Willow Lake Settlement Agreement executed by Salem, Marion County and Keizer. The recorded easement/waiver shall also be referenced on the plat of any partition, subdivision or PUD. (12/00)

REEL:1787 **PAGE: 22**

May 23, 2001, 03:46 pm.

CONTROL #: 34086

State of Oregon
County of Marion

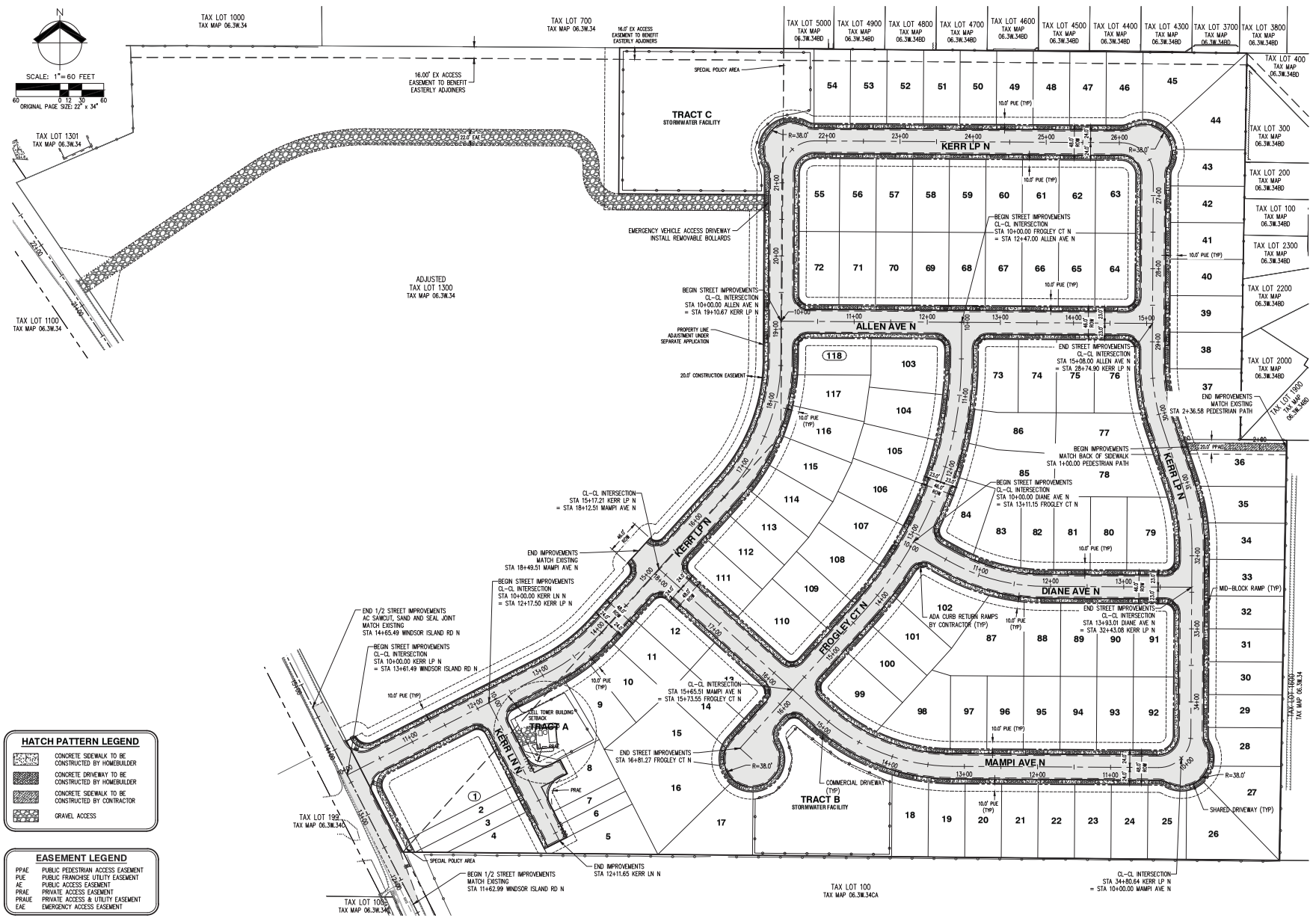
I hereby certify that the attached instrument was received and duly recorded by me in Marion County records:

FEE: $ 96.00

ALAN H DAVIDSON
COUNTY CLERK

THIS IS NOT AN INVOICE.

EXHIBIT 2



HATCH PATTERN LEGEND

- CONCRETE SIDEWALK TO BE CONSTRUCTED BY HOMEBUILDER
- CONCRETE DRIVEWAY TO BE CONSTRUCTED BY HOMEBUILDER
- CONCRETE SIDEWALK TO BE CONSTRUCTED BY CONTRACTOR
- GRAVEL ACCESS

EASEMENT LEGEND

PPAE	PUBLIC PEDESTRIAN ACCESS EASEMENT
PUE	PUBLIC FRANCHISE UTILITY EASEMENT
AE	PUBLIC ACCESS EASEMENT
PRAE	PRIVATE ACCESS EASEMENT
PRAUE	PRIVATE ACCESS & UTILITY EASEMENT
EAE	EMERGENCY ACCESS EASEMENT

PACIFIC NATIONAL DEVELOPMENT
P.O. BOX 3550
SALEM, OR 97302
(503) 390-4803

R-C RHINE-CROSS GROUP LLC
ENGINEERING - SURVEYING - PLANNING
112 N 5th ST - SUITE 200 - P.O. BOX 909
KLAMATH FALLS, OREGON 97601
Phone: (541) 851-9405 Fax: (541) 273-9200 admin@rc-grp.com

REGISTERED PROFESSIONAL ENGINEER
55,506PE
OREGON
JULY 09, 2021
MARCUS D. CROSS
RENEWS: 12-31-2027
02-22-2026

Olson Orchards
Preliminary Subdivision
OREGON
KEIZER

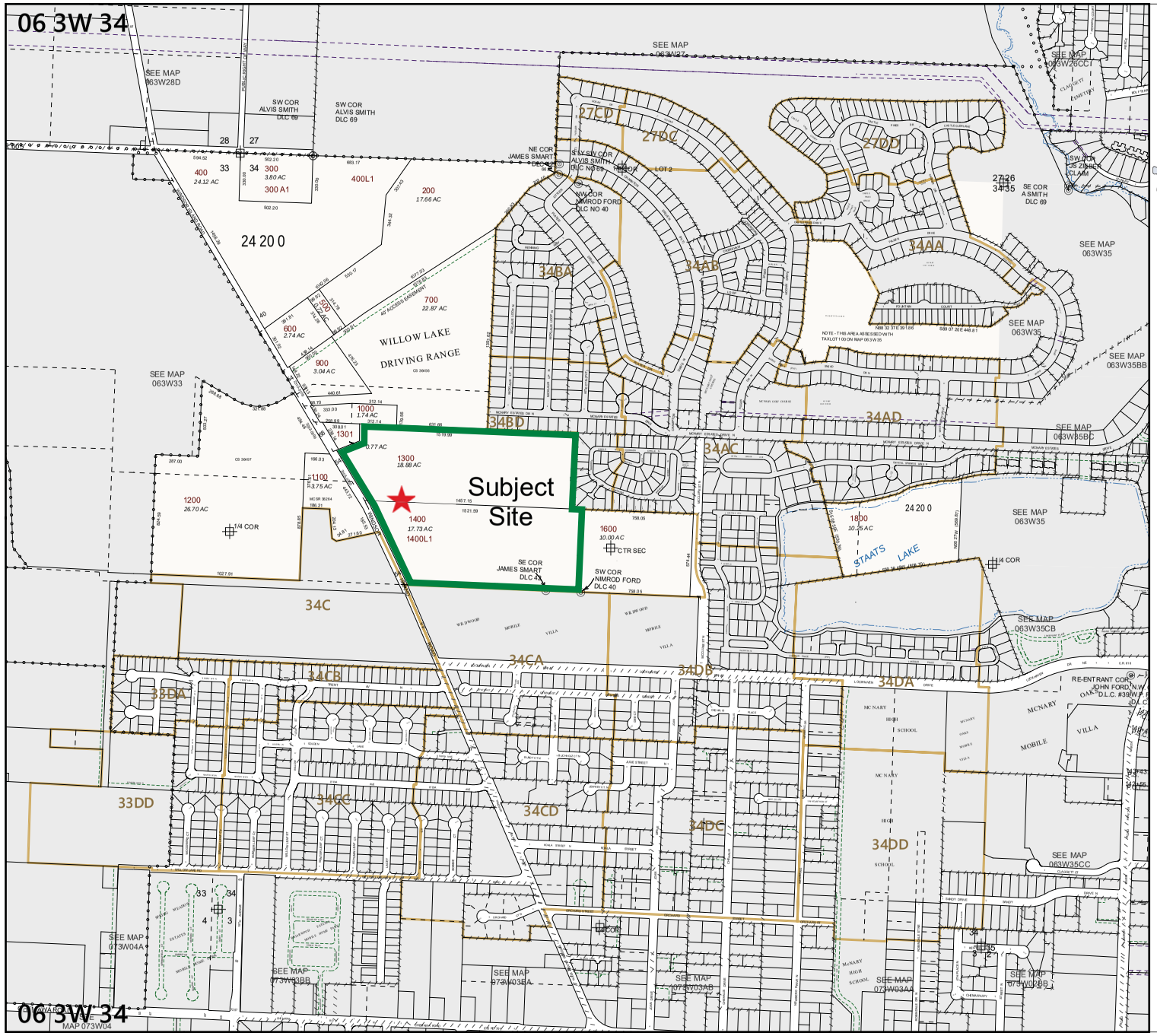
SHEET NAME: PRELIMINARY STREET PLAN

DRAWN BY: TDC
CHK'D BY: MDC
DATE: FEBRUARY 2026

REVISIONS:

JOB NO. 2494

SHEET NO. P-09



06 3W 34
KEIZER



MARION COUNTY, OREGON
SEC 34 T6S R3W W.M.
SCALE 1" = 400'

LEGEND

LINE TYPES

Taxlot Boundary	Historical Boundary
Road Right-of-Way	Easement
Railroad Right-of-Way	Railroad Centerline
Private Road ROW	Taxcode Line
Subdivision/Plat Bndry	Map Boundary
Waterline - Taxlot Bndry	Waterline - Non Bndry

CORNER TYPES

+ 1/16TH Section Cor.
1/4 Section Cor.
DLC Corner
16 15 / 21 22 Section Corner

NUMBERS

Tax Code Number
00 00 0

Acreage
0.25 AC
All acres listed are Net Acres, excluding any portions of the taxlot within public ROWs

NOTES

Tick Marks: A tick mark in the road indicates that the labeled dimension extends into the public ROW

200.00
175.00

CANCELLED NUMBERS

100	1901		
101	1902		
102	1903		
103	1904		
104	1905		
105	1906		
601	1907		
701			
800			
901			
902			
1500			
1501			
1700			
1801			
1802			
1803			

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PLOT DATE: 10/16/2020

KEIZER
06 3W 34

CPC-ZC-SUB CASE NUMBER: 2026-05
PROPERTY ADDRESS: 5710 WINDSOR ISLAND ROAD N
SUBJECT: LAND USE REVIEW AND RFC RESPONSE

Pacific National Development Inc. (the "Applicant") is requesting approval of a Comprehensive Plan Map Amendment, Zone Change, and Subdivision Preliminary Plan (the "Development") for approximately 22.31 acres of land (the "Subject Property") located at 5710 Windsor Island Road N. The Subject Property is currently spanning parts of two existing parcels totaling approximately 36.72 acres (Marion County Assessor's Map 063W3401300 and 063W3401400 combined). A concurrent Property Line Adjustment application was submitted to the City by Rhine-Cross Group, LLC, requesting to reconfigure the existing parcels into two parcels containing approximately 14.41 acres (reconfigured Tax Lot 1300) and 22.31 acres (reconfigured Tax Lot 1400), respectively. The Application materials received pertain to the reconfigured 22.31-acre parcel. The Subject Property is zoned Agricultural Industrial (AI) and has a split Comprehensive Plan designation between Special Policy Area (SPA) and Special Policy Area Limited Use (SPA-LU). The Applicant requests that the Comprehensive Designation be changed to Low Density Residential (LDR) and that the Zoning be changed to Single-Family Residential (RS) with the Odor/Noise Impact Overlay (OIO) and then be subdivided into 110 residential lots.

The following findings and remarks are based on our review of the proposed Development as it relates to City infrastructure and in general conformance with applicable public works portions of the City of Keizer, Oregon Code (the Code), the Keizer Development Code (KDC), Keizer utility Master Plans and Transportation System Plan (TSP), and the Keizer Design Standards and Construction Specifications (the Standards). To prepare these comments we reviewed the following application materials:

- City of Keizer Land Use Application form, indicating Pacific National Development Inc. as Applicant (signed by Serge Serdsev on April 13, 2026); Rhine-Cross Group, LLC as Applicant's Representative; and OLSON SISTERS LLC and KAREN S GLASER IRREVOCABLE FAMILY PROTECTION TRUST 50% & KERR LIVING TRUST 25% & RAMEY FAMILY TRUST 25% as Property Owners, consisting of 7 pages, dated 13/04/2026, signed by Sandra Kerr, John Ramey, Diane Ramey, Michael Kerr, and Karen Glaser
- Comprehensive Plan Amendment/Zone Change and Subdivision Written Statement, consisting of 44 pages, prepared by Rhine-Cross Group, LLC, undated and unsigned
- Preliminary Plans, consisting of 17 pages, prepared by Rhine-Cross Group, LLC, dated February 2026, sealed and signed by Marcus D. Cross
- Preliminary Storm Report, consisting of 129 pages, prepared by Rhine-Cross Group, LLC, dated 02-27-2026, sealed and signed by Marcus D. Cross
- Traffic Impact Analysis-Transportation Planning Rule Analysis, consisting of 327 pages, prepared by Sandow Engineering, dated March 31, 2026, sealed and signed by Kelly R. Sandow
- Property Deed documents, consisting of 16 pages, under various recording numbers and dates

SUMMARY OF LAND USE REVIEW:

Per Public Works review of the proposed Development, it appears that the Application is complete for review, and that through the implementation of Conditions of Approval the pertinent City requirements can be met and the requested Comprehensive Plan Amendment, Zone Change, and Subdivision can be approved.

RECOMMENDED CONDITIONS OF APPROVAL:

The following conditions of approval shall be completed prior to City acceptance of the final plat map for review:

1. It will be the responsibility of the Applicant to locate any existing water services and meters that serve the subject Property and provide evidence that these are available for reuse or that they will be abandoned according to City requirements.
2. Any existing wells on the Subject Property shall be abandoned in accordance with the Oregon State Water Resources Department requirements. The Applicant shall provide evidence to the Public Works Department that any abandonment of existing wells has been completed in accordance with such requirements.
3. The 12-inch water main within Windsor Island Road N shall be extended to the north line of the Subject Property.
4. The Applicant's engineer shall provide engineered calculations per KDS to demonstrate the adequacy of the new water distribution system to provide domestic service and fire flows to each lot within the proposed subdivision. If the required flows cannot be met under the current design, modifications to the main layout will be required.
5. The location of all water mains, appurtenances, services, and meters shall be reviewed for approval by the Public Works Department and shall be constructed within the public right-of-way or a City water easement and in conformance with the KDS.
6. Development plans shall be reviewed by Keizer Fire District regarding adequate location of fire hydrants. All fire hydrants, including the proposed hydrant shown on the Development plan, shall be served by an 8-inch or larger water main.
7. Any septic tanks and drainfields located on the Subject Property and within the City of Keizer shall be abandoned according to the requirements of the appropriate agency and evidence of compliance submitted to the City prior to issuance of any building permits on the Subject Property.
8. The location of all sanitary sewer mains, structures, and services shall be reviewed for approval by the Public Works Department and shall be constructed within the public right-of-way or a City sanitary sewer easement and in conformance with the KDS.
9. City of Salem approval is also required for all sanitary sewer mains, structures, and services prior to the start of construction. Prior to submitting plans to the City of Salem, the Applicant's engineer shall submit sanitary sewer plans to the City of Keizer Public Works Department for review and determination of compliance with the City's overall requirements. The Applicant will need to provide evidence that the Salem sewer permit has been issued prior to the City of Keizer approving and issuing the construction permit.
10. As shown on the preliminary plans for the Development, the Applicant shall dedicate right-of-way along the Windsor Island Road N frontage to equal 34 feet from the right-of-way centerline.
11. The Applicant shall construct or otherwise demonstrate the street improvements along the Development side of Windsor Island Road N meet the standard Collector street section outlined in the TSP and in conformance with the KDS: 20 feet from roadway (right-of-way) centerline to the face of curb, including a 5-foot-wide (including curb) planter strip, 6-foot-wide property-line sidewalks, street lighting, and street trees.

12. Paved transitions shall be designed and constructed, in conformance with the KDS, at each end of the half-street improvements along the Subject Property frontage of Windsor Island Road N.
13. As shown on the preliminary plan, the existing driveway approach onto Windsor Island Road N shall be closed and new curb and sidewalk constructed with the required street improvements.
14. The Applicant shall construct a 6-foot-wide property line sidewalk on the far side of Windsor Island Road N along the Subject Property frontage, extending the existing 6-foot-wide City sidewalk from the south development to the north line of the Subject Property frontage. These improvements shall include accessible connections, in conformance with Public Right-of-Way Accessibility Guidelines (PROWAG) requirements between the sidewalk and the crosswalks created by the new intersection.
15. The proposed local roadway and associated transportation improvements shall be reviewed for approval by the Public Works Department and shall be constructed within the public right-of-wayand in conformance with the KDS.
16. Upon completion of street improvements, centerline monuments shall be established and protected in monument boxes at every street intersection and all points of curvature and points of tangency of street centerlines. The City Engineer may also specify elevation bench marks to be placed if the existing bench marks are not sufficient to determine the local datum.
17. Public Works has reviewed the Preliminary Storm Report provided with this Application. The information provided demonstrates that the proposed storm system can reasonably conform with the requirements of the KDS. The Applicant's engineer shall submit a final overall storm drainage plan and design calculations, demonstrating conformance to the KDS, for review and approval by the City prior to the issuance of any construction permits related to the Development.
18. As discussed in the Preliminary Storm Report, the stormwater collection, conveyance, treatment, and retention facilities shall be designed to accommodate new impervious surfaces in the rights-of-way and City easements, and both new and future impervious surfaces on all proposed lots.
19. A grading and drainage plan shall be developed for the Subject Property in conformance with the KDS. The plan shall include details of adequate stormwater conveyance from all contributing areas across the Subject Property and shall include existing elevations and proposed lot corner elevations. The plan shall be submitted to and approved by the Public Works Department prior to the issuance of any erosion control or construction permits for the Development.
20. Though not shown on the preliminary plan, any proposed Underground Injection Control (UIC) systems shall be registered with DEQ and documentation of this registration provided to the City prior to approval of the proposed storm drainage system or issuance of any construction permits for the Development. In addition, these UIC systems shall be required to be farther than a two-year time of travel from any existing wells on or near the property. (refer to OAR 340-044-0018)
21. A pre-design meeting with City Public Works staff is required prior to the submittal of public improvement plans to either the City of Keizer or the City of Salem for review.
22. Construction permits are required for any construction within a public street, right-of-way, or City easement, for any public infrastructure on private property, and for erosion control and stormwater management on private property.

23. Erosion control permits shall be obtained from the City prior to the disturbance of any soil on the Subject Property.
24. Street opening permits are required for any work, within the City right-of-way or easements, that is not covered by a construction permit.
25. An improvement agreement in a form acceptable to the City shall be completed and an executed copy submitted to the City prior to issuance of permits for construction of public improvements.
26. A pre-construction conference is required, in coordination with City staff, prior to commencement of any construction under permits issued by the City. (KCS 108.02.00)
27. The Applicant shall coordinate the location of individual or cluster box unit (CBU) mailboxes with the U.S. Postal Service and Postmaster General.
28. Electricity, gas, and communications services to serve the subdivision shall be installed underground and pursuant to the requirements of the utility company(ies) serving the Development.

The following conditions shall be addressed on the final plat when submitted to the City for review:

29. As shown in the preliminary plan, the Applicant shall dedicate right-of-way along the development side of Windsor Island Road N to half of the 68-foot-wide right-of-way (34 feet measured from the right-of-way centerline) along the Subject Property frontage.
30. A 10-foot public utility easement (PUE) shall be dedicated along the Subject Property frontage of Windsor Island Road N, as well as along the frontage of all the local streets within the Development.
31. The Applicant shall create a street lighting Local Improvement District (LID) for the subdivision to address installation and future maintenance of adequate lighting for the development frontage of Windsor Island Road N meeting Collector street standards.

The following conditions of approval shall be completed before City approval and signature of the final plat map:

32. The Subject Property is located outside of the original Keizer Sewer District. The Applicant will be required to pay a Sewer Acreage Fee of $7,460.00 per acre, unless they can provide evidence that the Fee has already been paid for this property.
33. The Applicant shall complete and submit to the City an executed (signed, sworn, and recorded) Private Stormwater Maintenance Agreement for all private stormwater facilities prior to the first occurrence of either: recording of the Development plat; putting the stormwater facilities into operation; or the release of any building occupancy certificates.

The following condition of approval shall be completed prior to City support of occupancy or other finalization for any building permit application on the Subject Property for the proposed Development:

34. All of the required public improvements and associated individual services shall be completed in substantial conformance with the final plat map and construction permits, and accepted by Public Works, prior to City support of occupancy of any building permit for an occupied structure.

FACTS:

1. The Subject Property has access to and frontage along Windsor Island Road N, which is classified as a Collector street in the Keizer Transportation System Plan (TSP). The

standard for this street is a 40-foot-wide street improvement, including 6-foot-wide bike lanes, curbs, and 6-foot-wide property-line sidewalks, street lighting and street trees, within a 68-foot-wide right-of-way. Currently Windsor Island N along the property frontage has a varied-width paved improvement (two travel lanes) within a 54-foot-wide right-of-way.

2. The Subject Property is located outside of the original Keizer Sewer District.
3. An 8-inch PVC City sanitary sewer main is located in Windsor Island Road N near the southwest corner of the Subject Property. development side of Wheatland Road N along the Subject Property. The existing buildings do not appear to be connected to this main.
4. A 12-inch ductile iron City water main is located in Windsor Island Road N near the southwest corner of the Subject Property. City records indicate that the existing property has a 5/8-inch water meter, but it is unclear where this meter is located.
5. A 10-inch unknown-material City storm main is located in Windsor Island Road N near the southwest corner of the Subject Property.
6. Per the Oregon Rapid Wetland Assessment Protocol (ORWAP) mapping tool, no wetland areas or hydric soils are designated on the Subject Property.
7. Per Flood Insurance Rate Map Number 41047C0193G the Subject Property is located outside of any mapped Special Flood Hazard Area (SFHA).
8. Per the Statewide Landslide Information Layer for Oregon (SLIDO) maps (maintained by the Oregon Department of Geology and Mineral Industries), the Subject Property appears to have small, localized areas of moderate landslide susceptibility near the north property line.
9. Per City records, it appears that there are three existing groundwater wells located on the Subject Property.

CRITERIA AND FINDINGS:

KDC SECTION 2.302.03 – General Provisions

The following provisions shall apply to the dedication, construction, improvement or other development of all public streets in the City of Keizer:

. . .

B. Continuation of Streets. Development proposals, including subdivisions and partitions, shall provide for the continuation of, and connection to, streets where necessary to promote appropriate traffic circulation in the vicinity of the development. Where necessary to give access or permit a satisfactory future division of adjoining land, streets and utilities shall be extended to property boundaries to allow the future extension of streets and infrastructure. A temporary turnaround shall be constructed for stub streets in excess of 150 feet in length.

Finding – The preliminary plan for the Development shows a future street connection to reconfigured Tax Lot 1300 as an extension of "Mampi Avenue N" and also provides an emergency vehicle secondary access across that property which connects to Windsor Island Road N to the west.

Public Works Response: Though the preliminary plan does not "shadow plat" future roadways through the neighboring property, it does show potential viable street connections. We believe that this provision is addressed.

C. Alignment. All streets other than minor streets or cul-de-sacs, as far as practical, shall be in alignment with existing streets by continuation of the existing centerlines. The staggering of

street alignments resulting in "T" intersections shall, wherever practical, leave a minimum distance of 200 feet between the center lines of streets having approximately the same direction and otherwise shall not be less than 100 feet.

Finding – The preliminary plan for the Development does not show any mis-aligned street alignments.

Public Works Response: We believe that this provision is addressed.

D. *Future extension of streets. When it appears possible to continue a street, bicycle path and/or pedestrian accessway into a future subdivision, adjacent acreage or area attractors such as schools and shopping centers, streets, bicycle paths and/or pedestrian accessway facilities shall be platted and built to a boundary of the subdivision. The street may be platted without a turnaround unless the Public Works Department finds a turnaround is necessary for reasons of traffic safety. Any street extension exceeding 150 feet in length shall be provided with an approved turnaround as set forth in the Uniform Fire Code.*

Finding - The preliminary plan for the Development shows a future street connection to reconfigured Tax Lot 1300 as an extension of "Mampi Avenue N" and also provides an emergency vehicle secondary access across that property which connects to Windsor Island Road N to the west.

Public Works Response: Though the preliminary plan does not "shadow plat" future roadways through the neighboring property, it does show potential viable street connections. We believe that this provision is addressed.

E. *Intersection angles. Streets shall be laid out to intersect at angles as near to right angles as practical, except where topography requires lesser angles. Intersections of less than 60 degrees shall require special intersection designs. Streets shall have at least 50 feet of tangent adjacent to intersections unless topography requires lesser distances. Intersections that are not at right angles shall have minimum corner radii of 15 feet. Major arterial intersections shall have curb radii of not less than 35 feet. Other street intersections shall have curb radii of not less than 20 feet.*

Finding - The preliminary plan for the Development shows intersections at right angles.

Public Works Response: We believe that this provision is addressed.

F. *Existing Streets. Whenever existing public streets adjacent to or within a tract are of a width less than the street design standards, additional right-of-way shall be provided at the time of subdivision, partitioning, or development.*

Finding – Windsor Island Road N is the only existing public street adjacent to the Subject Property. The preliminary plan for the Development shows right-of-way dedication and full street improvements to this street along the frontage.

Public Works Response: The Conditions of Approval will outline the boundary street improvements required for this Development.

G. *Half-Streets. Half-streets may be approved where essential to the reasonable development of an area and when the City finds it to be practical to require the dedication of the other half when the adjoining property is developed. When a ¾ width street can reasonably be developed, as determined the Department of Public Works, a half street will be constructed*

with an additional 10 feet of pavement on the opposite side of the street from full improvement.

Finding – Windsor Island Road N is the only existing public street adjacent to the Subject Property. The preliminary plan for the Development shows right-of-way dedication and full street improvements to this street along the frontage.

Public Works Response: The Conditions of Approval will outline the boundary street improvements required for this Development.

H. Cul-de-sacs. The maximum length shall be 800 feet.

Finding - The preliminary plan for the Development shows only one cul-de-sac street and it is well below the maximum length.

Public Works Response: We believe that this provision is addressed.

. . .

J. Grades and Curves. Grades shall not exceed 7 percent on arterials, 10 percent on collector streets or 15 percent on any other street. Street grades of 15 percent shall not exceed 200 feet in length. To provide for adequate drainage, all streets shall have a minimum slope of 0.5 percent. On arterials there shall be a tangent of not less than 100 feet between reversed curves.

Finding - The preliminary plan for the Development shows street grades meeting these provisions.

Public Works Response: We believe that this provision is addressed.

K. Frontage Streets. If a development abuts or contains an existing or proposed arterial or collector street, the City may allow frontage streets, or may require reverse frontage lots with suitable depth, screen planting contained in a non-access reservation along the rear or side property line, or such other treatment as may be necessary for adequate protection of residential properties, to afford separation of through and local traffic, and to preserve the capacity and safety of the collector or arterial street.

Finding - The amount of frontage along Windsor Island Road N, the higher-class street, is minimal.

Public Works Response: We believe that this provision can be met by the Development.

. . .

N. Access Control Standards. The following access control standards apply to public, industrial, commercial and residential developments including land divisions. Access shall be managed to maintain an adequate level of service and to maintain the functional classification of roadways as required by the City of Keizer Transportation System Plan. Major roadways, including arterials and collectors, serve as the primary system for moving people and goods within and through the city. Access management is a primary concern on these roads. Local streets and alleys provide access to individual properties. If vehicular access and circulation are not properly designed, these roadways will be unable to accommodate the needs of development and serve their transportation function.

Finding - The amount of frontage along Windsor Island Road N, the higher-class street, is minimal.

Public Works Response: We believe that this provision can be met by the Development.

The regulations in this section further the orderly layout and use of land, protect community character, and conserve natural resources by promoting well-designed road and access systems and discouraging the unplanned subdivision of land.

2. *Traffic Impact Analysis Requirements. The City or other agency with access jurisdiction may require a traffic study prepared by a qualified professional to determine access, circulation and other transportation requirements.*

Finding – The Applicant has provided a Traffic Impact Analysis – Transportation Planning Rule Analysis as part of the application materials.

Public Works Response: We believe that this provision is addressed.

3. *The City or other agency with access permit jurisdiction may require the closing or consolidation of existing curb cuts or other vehicle access points, recording of reciprocal access easements (i.e., for shared driveways), development of a frontage street, installation of traffic control devices, and/or other mitigation as a condition of granting an access permit, to ensure the safe and efficient operation of the street and highway system. Access to and from off-street parking areas shall not permit backing onto a public street.*

Finding – The Subject Property currently has a single private driveway onto Windsor Island Road N. The preliminary plan indicates that this will be replaced by a new public local street connection to serve the proposed Development.

Public Works Response: We believe that this provision is addressed.

. . .

5. *Double-Frontage Lots. When a lot has frontage onto two or more streets, access shall be provided first from the street with the lowest classification. For example, access shall be provided from a local street before a collector or arterial street.*

Finding – The preliminary plan only shows two double-frontage lots within the Development, and these are accessed from the lower-classification street.

Public Works Response: We believe that this provision is addressed.

. . .

11. *Street lights. Street lights shall be required for public streets serving more than four dwelling units. Street lights shall be located within a right of way or in utility easements. Street lights are not required along private access easements. Street lights shall be designed to direct the light down toward the street and sidewalk and as much as practicable away from adjoining homes.*

Finding – The preliminary plan shows street configurations that will allow the installation of required street lighting.

Public Works Response: We believe that this provision can be met by the Development. The Conditions of Approval will outline the public improvements required for this Development.

O. Trees Along Public Street.

Streetscape trees are required along public streets, shall comply with the provisions of Section 2.309, and must be located according to the following provisions:

2. Streetscape trees shall be planted within the boundaries of each lot within 10 feet of street improvements.

3. Lots measuring less than 60 feet in width shall be required to plant one streetscape tree. Lots measuring 60 feet or more in width shall be required to plant two streetscape trees.

4. Streetscape trees shall be selected from a list of approved trees.

Finding – The preliminary plan includes street trees along the Windsor Island Road n frontage, and shows street configurations that will allow the planting of required street trees along the local streets.

Public Works Response: We believe that this provision can be met by the Development. The Conditions of Approval will outline the public improvements required for this Development.

KDC SECTION 2.310.06 – Improvement Requirements - Subdivisions

The following improvements shall be required for all subdivisions in the City of Keizer:

A. Frontage Improvements. Street improvements to full City Standards shall be required for all public streets on which a proposed subdivision fronts in accordance with Section 2.302 of this Code. Such improvements shall be designed to match with existing improved surfaces for a reasonable distance beyond the frontage of the property. Additional frontage improvements shall include: sidewalks, curbing, storm sewer, sanitary sewer, water lines, other public utilities as necessary, and such other improvements as the City shall determine to be reasonably necessary to serve the development or the immediate neighborhood.

Finding – The preliminary plan shows boundary street improvements as well as some public utility extensions within the public right-of-way along Windsor Island Road N.

Public Works Response: This requirement can be met by the Development. The Conditions of Approval will outline the public improvements required for this Development, including extension of the City sidewalk on the west side of the existing roadway to improve pedestrian access, paved transitions beyond the full improvements, and extension of the City water main to the north line of the Subject Property.

. . .

C. Project Streets. All public or private streets within the subdivision shall be constructed as required by the provisions of Section 2.302.

D. Monuments. Upon completion of street improvements, centerline monuments shall be established and protected in monument boxes at every street intersection and all points of curvature and points of tangency of street center lines.

E. Bench Marks. Elevation bench marks shall be set at intervals established by the City Engineer. The bench marks shall consist of a brass cap set in a curb or other immovable structure.

Finding – The preliminary plan shows the construction of public streets in the Development.

Public Works Response: This requirement can be met by the Development. The Conditions of Approval will outline the public street improvements required for this Development.

F. Surface Drainage and Storm Sewer System. Drainage facilities shall be provided within the subdivision and to connect the subdivision drainage to drainage-ways or to storm sewers outside the subdivision. Design of drainage within the subdivision shall take into account the capacity and grade necessary to maintain unrestricted flow from areas draining through the subdivision and to allow extension of the system to serve such areas. Drainage shall be designed to avoid impacts on adjacent property.

Finding - Public Works has reviewed the Preliminary Storm Report provided with this Application. The information provided demonstrates that the Applicant has considered drainage upstream and downstream of the Development, and that the proposed storm system can reasonably conform with the requirements of the KDS.

Public Works Response: This requirement can be met by the Development. The Conditions of Approval will outline the public storm drainage improvements required for this Development.

G. Sanitary Sewers. Sanitary sewer shall be installed to serve the subdivision and to connect the subdivision to existing mains both on and off the property being subdivided. If the required sewer facilities will, without further sewer construction, directly serve property outside the subdivision, the City may recommend to the City Council construction as an assessment project with such arrangement with the subdivider as is equitable to assure financing his share of the construction and to provide for appropriate reimbursements of costs above those directly attributable to the subdivision.

The City may require that the subdivider construct sewage lines of a size in excess of that necessary to adequately service the development in question, where such facilities are or will be necessary to serve the entire area within which the development is located when the area is ultimately developed. The City may also require that the construction take place as an assessment project with such arrangement with the subdivider as is desirable to assure his share of the construction.

Finding – The preliminary plan shows connection of the proposed sanitary sewer system to a City main that appears to be sized and deep enough to accommodate the proposed sewer from the Development. The only unserved property "upstream" of the Development is reconfigured Tax Lot 1300, which is associated with this Development and has access to a City sanitary sewer main to the northwest.

Public Works Response: This requirement can be met by the Development. The Conditions of Approval will outline the public sanitary sewer improvements required for this Development.

H. *Water System. Water lines with valves and Fire District approved fire hydrants serving the subdivision and connecting the subdivision to the City mains shall be installed and operating prior to start of combustible construction. The design shall take into account provisions for extension beyond the subdivision to adequately grid the City system and to serve the area within which the development is located when the area is ultimately developed. However, the developer will be responsible for water main sizes necessary to meet minimum fire flow requirements per Uniform Fire Code. The City will not expect the developer to pay for the extra pipe material cost of mains exceeding 8 inches in size.*

Finding – The preliminary plan shows connection of the proposed domestic water system to a 12-inch City main. The only unserved property "adjacent" to the Development is reconfigured Tax Lot 1300, which can be served by extension of the 12-inch main north of the Development.

Public Works Response: This requirement can be met by the Development. The Conditions of Approval will outline the public water improvements required for this Development.

I. *Sidewalks. Sidewalks shall be installed along both sides of each public street and in any pedestrian ways within the subdivision. The City may defer sidewalk construction until the dwellings or structures fronting the sidewalk are constructed. Any required off-site sidewalks (e.g. pedestrian walkways) or sidewalks fronting public property shall not be deferred.*

Finding – The preliminary plan shows sidewalks along each of the proposed streets and differentiates between those to be constructed with the Development and with the individual building permits.

Public Works Response: This requirement can be met by the Development. The Conditions of Approval will outline the public street improvements required for this Development.

J. *Street Lights. The installation of street lights is required at locations and of a type required by City standards.*

Finding – The preliminary plan shows street configurations that will allow the installation of required street lighting.

Public Works Response: This requirement can be met by the Development. The Conditions of Approval will outline the public street improvements required for this Development.

K. *Street Signs. The installation of street name signs and traffic control signs is required at locations determined to be appropriate by the city and shall be of a type required by City standards. Each street sign shall display the one hundred block range. Street signs shall be installed prior to obtaining building permits.*

Finding – The preliminary plan shows street configurations that will allow the installation of required signs.

Public Works Response: This requirement can be met by the Development. The Conditions of Approval will outline the public street improvements required for this Development.

L. *Public Works Requirements. All facility improvements shall conform to the requirements and specifications of the Keizer Department of Public Works.*

Finding – The preliminary plan appears to be consistent with the design requirements of the KDS.

Public Works Response: This requirement can be met by the Development. The Conditions of Approval will outline the public street improvements required for this Development.

M. Curb Cuts. Curb cuts and driveway installations, excluding common drives, are not required of the subdivider, but if installed, shall be according to the City standards. (5/98)

Finding – The preliminary plan shows driveway approaches to each of the proposed lots and differentiates between those portions to be constructed with the Development and with the individual building permits.

Public Works Response: This requirement can be met by the Development. The Conditions of Approval will outline the public street improvements required for this Development.

N. Street Trees. Street tree planting is mandatory where a planting strip is part of the street design. Plantings shall conform to Section 2.302.03(M).

Finding – The preliminary plan includes street trees along the Windsor Island Road n frontage and shows street configurations that will allow the planting of required street trees along the local streets.

Public Works Response: This requirement can be met by the Development. The Conditions of Approval will outline the public improvements required for this Development.

O. Grading & Fills. All grading which results in fills in excess of 3 feet located within the identified building envelope on a subdivision lot or parcel must be engineered.

Finding – The preliminary plan grading information does not appear to propose any fills in excess of 3 feet.

Public Works Response: This requirement can be met by the Development.

P. Financial Requirements. All improvements required under this Section shall be completed to City standards or assured through a performance bond or other instrument acceptable to the City Attorney, prior to the approval of the Final Plat of the subdivision.

Finding – This requirement is implemented as part of construction plan review and permit issuance.

Public Works Response: This requirement can be met by the Development.

KDC SECTION 3.108.04 – Submittal Requirements

. . .

B. Submittal Material. The following submittal requirements shall apply to all Preliminary Plan applications for subdivisions, planned unit developments, and manufactured home parks.

. . .

2. Submittal Requirements. Each application shall be accompanied by a preliminary plat drawn to scale of not less than one inch equals 50 feet nor more than one inch equals 200 feet, and containing at a minimum, the following:

. . .

s. Future Street Plan. Applicants for a subdivision…shall submit as a part of their application, a future street plan. The future street plan shall show the pattern of existing and future streets from the boundaries of the proposed land division and shall include other parcels within 500 feet of the proposed land division property line. The City may determine future neighborhood street connections. A future street proposal may be modified when subsequent development proposals are submitted.

Finding – The preliminary plan for the Development shows a future street connection to reconfigured Tax Lot 1300 as an extension of "Mampi Avenue N" and also provides an emergency vehicle secondary access across that property which connects to Windsor Island Road N to the west.

Public Works Response: Though the preliminary plan does not "shadow plat" future roadways through the neighboring property, it does show potential viable street connections. We believe that this submittal requirement is addressed.

. . .

KDC SECTION 3.108.06 – Review Criteria

Approval of a subdivision…shall require compliance with the following:

A. The proposal shall comply with the applicable development standards in ~~Section 2.405 and~~ Section 2.3, as appropriate, including provisions for streets and utilities.

Finding – The preliminary plan shows construction of streets and utilities and connection of these to existing City facilities.

Public Works Response: This requirement can be met by the Development. The Conditions of Approval will outline the public street and utility improvements required for this Development.

. . .

C. Adequate public facilities shall be available and shall serve the existing and newly created parcels.

Finding – The preliminary plan shows construction of streets and utilities to serve the proposed Development.

Public Works Response: This requirement can be met by the Development. The Conditions of Approval will outline the public street and utility improvements required for this Development.

. . .

KDC SECTION 3.109.04 – Criteria for Approval

. . .

D. Public facilities and services necessary to support uses allowed in the proposed designation are available or are likely to be available in the near future.

Finding – Extension of public facilities and services is necessary to serve development of the Subject Property regardless of the Comprehensive Plan designation.

Public Works Response: The Conditions of Approval will outline the public improvements required for this Development.

. . .

KDC SECTION 3.110.04 – Criteria for Approval

. . .

D. Adequate public facilities, services, and transportation networks are in place or are planned to be provided concurrently with the development of the property.

Finding – Extension of public facilities and services is necessary to serve development of the Subject Property regardless of the zoning designation.

Public Works Response: The Conditions of Approval will outline the public improvements required for this Development.

. . .

EXHIBIT 4

REQUEST FOR COMMENTS

DATE: June 3, 2026
CASE: **Comprehensive Plan Map Amend/Zone Change/Subdivision Case 2026-05**

The Planning Division is soliciting comments you may wish to have considered in the City's review of the above land use case. Application materials are attached.

Comments must be submitted in writing and received in our office by 5:00 pm on June 17, 2026. If we do not receive a response by the end of the comment period, we will assume you have no concerns.

Send comments or questions to:
Dina Horner, Assistant Planner
Email: Hornerd@keizerOR.Gov Phone: (503) 856-3442
City of Keizer Planning Division
930 Chemawa Rd NE, Keizer OR 97303

APPLICANT: Pacific Development Inc.

REQUEST: The applicant is requesting approval of a Comprehensive Plan Map Amendment, Zone Change, and Subdivision for approximately 22.31 acres of land located at 5710 Windsor Island Rd N. The subject property is currently part of two parcels totaling approximately 36.72 acres. A concurrent Property Line Adjustment application has been submitted to reconfigure the existing parcels into two parcels containing approximately 14.41 acres and 22.31 acres, respectively.

This application pertains to the proposed 22.31-acre parcel. The request includes a Comprehensive Plan Map Amendment from Special Policy Area Limited Use to Low Density Residential (LDR), a Zone Change from Agricultural Industrial (AI) to Single-Family Residential (RS) with the Odor/Noise Impact Overlay (OIO), and a Subdivision to create 110 residential lots.

PLEASE CHECK THE APPROPRIATE ITEMS:

_____ Our agency reviewed the proposal and determined we have no comment.

_____ Our agency would like to receive a copy of the staff decision/report and notice of any public hearings in this case.

X Our comments are in the attached letter.

_____ Our Agency's comments are: _____

Name: David Fridenmaker
Phone: 503-315-0232
Date: June 17, 2026

Agency: Salem-Keizer Public Schools
Email: fridenmaker_david@salkeiz.k12.or.us

June 18, 2026

Dina Horner, Planner
Keizer Community Development Department
P.O. Box 21000
Keizer, OR 97307-1000

RE: Land Use Activity Case No. CPA-ZC-SUB2026-05, 5710 Windsor Island Rd N

The City of Keizer issued a Request for Comments for a Land Use Case as referenced above. Please find below comments on the impact of the proposed land use change on the Salem-Keizer School District.

IDENTIFICATION OF SCHOOLS SERVING THE SUBJECT PROPERTY

The School District has established geographical school attendance areas for each school known as school boundaries. Students residing in any residence within that boundary are assigned to the school identified to serve that area. There are three school levels, elementary school serving kindergarten thru fifth grade, middle school serving sixth thru eighth grade, and high school serving ninth thru twelfth grade. . The schools identified to serve the subject property are:

School Name	School Type	Grades Served
Keizer	Elementary	K thru 5
Claggett Creek	Middle	6 thru 8
McNary	High	9 thru 12

Table 1

SCHOOL CAPACITY & CURRENT ENROLLMENT

The School District has established school capacities which are the number of students that a particular school is designed to serve. Capacities can change based on class size. School capacities are established by taking into account core infrastructure (gymnasium, cafeteria, library, etc.) counting the number of classrooms and multiplying by the number of students that each classroom will serve. A more detailed explanation of school capacity can be found in the School District's adopted Facility Plan.

School Name	School Type	School Enrollment	School Design Capacity	Enroll./Capacity Ratio
Keizer	Elementary	554	711	78%
Claggett Creek	Middle	808	969	83%
McNary	High	1,929	2,200	88%

Table 2

POTENTIAL ADDITIONAL STUDENTS IN BOUNDARY AREA RESULTING FROM APPROVAL OF LAND USE CASE

The School District anticipates the number of students that may reside at the proposed development based on the housing type, single family (SF), duplex/triplex/four-plex (DU), multi-family (MF) and mobile home park (MHP). The School District commissioned a study by the Mid-Willamette Valley Council of Governments in 2021 to determine an estimate of students per residence, for the Salem-Keizer area, in each of the four housing types. Since the results are averages, the actual number of students in any given housing type will vary. The table below represents the resulting estimates for the subject property:

School Type	Qty. of New Residences	Housing Type	Average Qty. of Students per Residence	Total New Students
Elementary	110	SF	0.168	18
Middle			0.098	11
High			0.144	16

Table 3

POTENTIAL EFFECT OF THIS DEVELOPMENT ON SCHOOL ENROLLMENT

To determine the impact of the new residential development on school enrollment, the School District compares the school capacity to the current enrollment plus estimates of potential additional students resulting from land use cases over the previous two calendar years. A ratio of the existing and new students is then compared with the school design capacity and expressed as a percentage to show how much of the school capacity may be used.

School Name	School Type	School Enrollment	New Students During Past 2 yrs	New Student from this Case	Total New Students	School Design Cap.	Enroll. /Cap. Ratio
Keizer	Elem.	554	10	18	28	711	82%
Claggett Creek	Mid.	808	14	11	25	969	86%
McNary	High	1,929	37	16	53	2,200	90%

Table 4

ESTIMATE OF THE EFFECT ON INFRASTRUCTURE – IDENTIFICATION OF WALK ZONES AND SCHOOL TRANSPORTATION SERVICE

Civic infrastructure needed to provide connectivity between the new residential development and the schools serving the new development will generally require roads, sidewalks and bicycle lanes. When developing within one mile of school(s), adequate pathways to the school should be provided that would have raised sidewalks. If there are a large number of students walking, the sidewalks should be wider to accommodate the number of students that would be traveling the

path at the same time. Bike lanes should be included, crosswalks with flashing lights and signs where appropriate, traffic signals to allow for safe crossings at busy intersections, and any easements that would allow students to travel through neighborhoods. If the development is farther than one mile away from any school, provide bus pullouts and a covered shelter (like those provided by the transit district). Locate in collaboration with the District at a reasonable distance away from an intersection for buses if the distance is greater than ½ mile from the main road. If the distance is less than a ½ mile then raised sidewalks should be provided with stop signs where students would cross intersections within the development as access to the bus stop on the main road. Following is an identification, for the new development location, that the development is either located in a school walk zone or is eligible for school transportation services.

School Name	School Type	Walk Zone or Eligible for School Transportation
Keizer	Elementary	Walk Zone*
Claggett Creek	Middle	Eligible for School Transportation*
McNary	High	Walk Zone*

Table 5

ESTIMATE OF NEW SCHOOL CONSTRUCTION NEEDED TO SERVE DEVELOPMENT

The School District estimates the cost of constructing new school facilities to serve our community. The costs of new school construction is estimated using the Rider Levett Bucknall (RLB) North America Quarterly Construction Cost Report and building area per student from Cornerstone Management Group, Inc. estimates. The costs to construct school facilities to serve the proposed development are in the following table.

School Type	Number of Students	Estimate of Facility Cost Per Student*	Total Cost of Facilities for Proposed Development*
Elementary	18	$105,625	$1,901,250
Middle	11	$137,443	$1,511,873
High	16	$169,260	$2,708,160
TOTAL			$6,121,283

Table 6

*Estimates based on average of Indicative Construction Costs from "RLB Construction Cost Report North America Q2 2025"

*Once pedestrian infrastructure and access is completed at the subject property, the school district will reevaluate eligibiity for school transportation at all three schools.

Sincerely,

David Fridenmaker
Business and Support Services

c: Paul Odenthal, Chief Operations Officer, David Hughes, Director of Operations & Logistics, T.J. Crockett, Director of Transportation

Comments on Planning Action: ___Keizer CPA-ZC-Subdivision 2026-05

Date__6_/_23_/_2026_ Person Commenting __ Kent Inman_____

Subdivision:

__X__ 1. Subdivision name must be approved per ORS 92.090.

__X__ 2. Must be surveyed and platted per ORS 92.050.

__X__ 3. Subdivision plat must be submitted for review.

__X__ 4. Checking fee and recording fees required.

__X__ 5. Per ORS 92.065 - Remaining monumentation bond may be required if some of the plat monuments have not been set and/or the installation of street and utility improvements has not been completed, or other conditions or circumstances cause the delay (or resetting) of monumentation.

__X__ 6. A current or updated title report must be submitted at the time of review. Title reports shall be no more than 15 days old at the time of approval of the plat by the Surveyor's Office, which may require additional updated reports.

Partition:

____ 1. Per ORS 92.055 – Parcels over 10 acres can be unsurveyed.

____ 2. Parcels ten acres and less must be surveyed.

____ 3. Per ORS 92.050, plat must be submitted for review.

____ 4. Checking fee and recording fees required.

____ 5. A current or updated title report must be submitted at the time of review. Title reports shall be no more than 15 days old at the time of approval of the plat by the Surveyor's Office, which may require additional updated reports.

Property Line Adjustment:

_____1. Unless the governing body of a city or county has otherwise provided by ordinance, a survey or monument is not required for a property line adjustment when the abutting properties are each greater than 10 acres, per ORS 92.060(8).

____ 2. The adjusted line must be surveyed and monumented per ORS 92.060 (7).

____ 3. Survey checking fee required at the time of review.

(See Page 2 for additional comments)

Property Line Adjustment (continued):

____4. Property line adjustment deeds shall be recorded with the Marion County Clerk's Office. Per ORS 92.190 (4): The deed shall contain the names of the parties, the description of the adjusted line, references to original recorded documents and signatures of all parties with proper acknowledgment.

____5. A re-plat (**in the form of a partition plat**) is required, due to the adjustment of a partition plat parcel line or subdivision lot line. A property line adjustment deed for the area being transferred shall be recorded with the Marion County Clerk's Office. As per ORS 92.190 (4): The deed shall contain the names of the parties, the description of the adjusted line, references to original recorded documents and signatures of all parties with proper acknowledgment.

The deeds conveying the re-platted parcels shall be recorded after the recording of the re-plat.

Re-plat: (Re-configuration of lots or parcels and public easements within a recorded plat)

____1. Must comply with all provisions per ORS 92.185 (6)

____2. Must be surveyed and platted per ORS 92.050, and the plat submitted for review.

____3. Checking fee and recording fees required.

____4. A current or updated title report must be submitted at the time of review.

____5. The portion of the subdivision or partition plat proposed for replatting contains utility easement(s) that will need to be addressed. Per ORS 92.185 (4), when a utility easement is proposed to be realigned, reduced in width or omitted by a replat, all affected utility companies or public agencies shall be notified, consistent with a governing body's notice to owners of property contiguous to the proposed plat. Any utility company that desires to maintain an easement subject to vacation must notify the governing body in writing within 14 days of the mailing or other service of the notice.

Other comments specific to this Planning Action:

REQUEST FOR COMMENTS

DATE: June 3, 2026
CASE: **Comprehensive Plan Map Amend/Zone Change/Subdivision Case 2026-05**

The Planning Division is soliciting comments you may wish to have considered in the City's review of the above land use case. Application materials are attached.

Comments must be submitted in writing and received in our office by 5:00 pm on June 17, 2026. If we do not receive a response by the end of the comment period, we will assume you have no concerns.

Send comments or questions to:
Dina Horner, Assistant Planner
Email: Hornerd@keizerOR.Gov Phone: (503) 856-3442
City of Keizer Planning Division
930 Chemawa Rd NE, Keizer OR 97303

APPLICANT: Pacific Development Inc.

REQUEST: The applicant is requesting approval of a Comprehensive Plan Map Amendment, Zone Change, and Subdivision for approximately 22.31 acres of land located at 5710 Windsor Island Rd N. The subject property is currently part of two parcels totaling approximately 36.72 acres. A concurrent Property Line Adjustment application has been submitted to reconfigure the existing parcels into two parcels containing approximately 14.41 acres and 22.31 acres, respectively.

This application pertains to the proposed 22.31-acre parcel. The request includes a Comprehensive Plan Map Amendment from Special Policy Area Limited Use to Low Density Residential (LDR), a Zone Change from Agricultural Industrial (AI) to Single-Family Residential (RS) with the Odor/Noise Impact Overlay (OIO), and a Subdivision to create 110 residential lots.

PLEASE CHECK THE APPROPRIATE ITEMS:

_____ Our agency reviewed the proposal and determined we have no comment.

_____ Our agency would like to receive a copy of the staff decision/report and notice of any public hearings in this case.

X Our comments are in the attached letter.

_____ Our Agency's comments are: _____

Name: Laurel Christian, Infrastructure Planner III
Agency: City of Salem, Development Services Division
Phone: 503-584-4632
Email: lchristian@cityofsalem.net
Date: June 25, 2026

June 25, 2026

Dina Horner, Assistant Planner
City of Keizer Planning Division
930 Chemawa Road NE
Keizer, OR 97303

Delivered by email to:
Hornerd@keizer.gov

SUBJECT: **REVISED Response to Request for Comments**
City of Salem Comments Recommendations
Comprehensive Plan Map Amend/Zone Change/Subdivision Case 2026-05
5710 Windsor Island Road N

REQUEST: *The applicant is requesting approval of a Comprehensive Plan Map Amendment, Zone Change, and Subdivision for approximately 22.31 acres of land located at 5710 Windsor Island Rd N. The subject property is currently part of two parcels totaling approximately 36.72 acres. A concurrent Property Line Adjustment application has been submitted to reconfigure the existing parcels into two parcels containing approximately 14.41 acres and 22.31 acres, respectively.*

This application pertains to the proposed 22.31-acre parcel. The request includes a Comprehensive Plan Map Amendment from Special Policy Area Limited Use to Low Density Residential (LDR), a Zone Change from Agricultural Industrial (AI) to Single-Family Residential (RS) with the Odor/Noise Impact Overlay (OIO), and a Subdivision to create 110 residential lots.

Dear Ms. Horner:

Thank you for the opportunity to comment on the proposed development in the City of Keizer. Below are the City of Salem comments regarding the proposed Comprehensive Plan Map Amend/Zone Change/Subdivision Case 2026-05.

BACKGROUND

The City of Salem operates the Willow Lake Wastewater Pollution Control Facility located at 5195 Windsor Island Road N., Keizer, OR. This facility provides wastewater services to the City of Salem, City of Turner, and City of Keizer and has the potential to have odor and noise impacts on adjacent property. To mitigate these impacts and coordinate land use regulations of impacted property, the City of Salem, Marion County, and the City of Keizer entered into the *2001 Dual Interest Area Agreement for the Willow Lake Treatment Plant Area*. This agreement establishes the *Willow Lake Wastewater*

Treatment Plant Special Policy Area. Residential development is not permitted within the Agricultural-Industrial (AI) Zone or within the *Special Policy Area*. Accommodations

Under Section 2 of the Dual Interest Agreement, the City of Keizer established the AI zone, and placed the AI zoning designation on all land lying within the Special Policy Area. The subject property is located within the Special Policy Area as established by the legal description set forth in the *Dual Interest Agreement* (Attachment A). This section also requires that any amendments to the AI Zone, be subject to the concurrence of all parties of the agreement.

The City of Salem objects to the application as has been proposed. Conditions of approval, discussed below, are requested to ensure compliance with the Dual Interest Agreement. **Additionally, the City of Salem requests that a condition of approval be added to the application that ensures City of Salem Concurrence on the final zoning boundaries and subdivision final plan is obtained, in accordance with Section 2 of the *Dual Interest Agreement.***

LAND USE DECISION CRITERIA

According to the Notice of Public Hearing, the criteria upon which the decision on this application will be based include the following: Section 3.108 (Subdivisions, Planned Unit Developments, and Manufactured Home Parks), Section 3.109 (Comprehensive Plan Map Amendments) and Section 3.110 (Zone Change) of the City Code – Appendix A.

The City of Salem objects to the application as has been proposed. Specifically, the allowance of residential development within the *Special Policy Area* as established by the *Dual Interest Agreement*. As proposed, the application would create two (2) lots for residential development and two (2) Tracts for stormwater and open space that are partially within Special Policy Area (Attachment A). Additionally, Sheet P-17 of the Applicant's Subdivision Plans show a future development plan creating an additional 86 lots for residential development fully within the *Special Policy Area*. The City of Salem provides the following written findings addressing the applicable Criteria that support the City's objection to the proposal:

Comprehensive Plan Map Amendment Criteria (*Sec. 3.109.04*)

Findings: The applicant requests a Comprehensive Plan Map Amendment from Special Policy Area Limited Use to Low Density Residential (LDR). As proposed, the proposed Comprehensive Plan Map Amendment does not comply with the stated approval criteria. Specifically, Sec 3.109.04(b): *Consistency with the applicable goals and policies in the comprehensive plan is demonstrated.*

The *2022 City of Keizer Comprehensive Plan* (Comprehensive Plan) establishes Special Land Use Policies for *Willow Lake Wastewater Treatment Plant Special Policy Area (Sec. 2.i). The Comprehensive Plan establishes that the purpose of the special policy area is to Limit uses to those that will not be adversely affected by noise and odor originating at the Willow Lake Sewage Treatment Plant* and to *Prohibit subdivision actions, which may preclude more intensive development if conditions at the Willow Lake Sewage Treatment Plant cannot be improved.* Additionally, the *Comprehensive Plan* limits development within the *Special Policy Area* to agricultural and related uses, industrial and commercial uses related

to agricultural, institutional and other public uses. Lastly, the Comprehensive Plan policy states that the City of Keizer should *continue the agricultural zoning in the special policy area until additional studies regarding noise and odor have been completed.*

Approval of the requested Comprehensive Plan Map Amendment from Special Policy Area Limited Use to Low Density Residential (LDR) for any property within the *Special Policy Area* as established by the *Dual Interest Agreement* would not comply with the established policies of the *City of Keizer Comprehensive Plan* or the *Dual Interest Agreement*. Therefore, the Comprehensive Plan Map Amendment should only be approved for property located outside of the *Special Policy Area* (see attachment B). **The City of Salem requests a Condition of Approval on the Comprehensive Plan Map Amendment that ensures the Comprehensive Plan Map Amendment only applies to property outside of the *Special Policy Area*.**

Zone Change Criteria (*Sec. 3.110.04*):

Findings: The applicant requests a Zone Change from Agricultural Industrial (AI) to Single-Family Residential (RS) with the Odor/Noise Impact Overlay (OIO). As proposed, the proposed Zone Change does not comply with the stated approval criteria. Specifically, Sec 3.110.04(A): *The proposed zone is appropriate for the comprehensive plan land use designation on the property and is consistent with the description and policies for the applicable comprehensive plan land use classification.*

As described above, the application as proposed does not comply with the *City of Keizer Comprehensive Plan* established Special Land Use Policies for *Willow Lake Wastewater Treatment Plant Special Policy Area (Sec. 2.i).* By amending the zone, the City of Keizer will be allowing residential development and supporting infrastructure within the *Special Policy Area*, which is not allowed.

As proposed, the zone change also does not comply with the approval criteria listed in Sec 3.110.04(F)(3): *The proposed zone, if it allows uses more intensive than other zones appropriate for the land use designation, will not allow uses that would destabilize the land use pattern of the area or significantly adversely affect adjacent properties.*

As stated in the *City of Keizer Comprehensive Plan,* residential uses may be adversely impacted by the noise and odor originating from the Willow Lake Sewage Treatment Facility and requires that development of property within the Special Policy Area be limited to uses that would not be adversely affected (Sec 2.i). The Comprehensive Plan identifies that these uses are inconsistent. Approval of the requested Zone change as it has been proposed could have the ability to negatively impact the operations of the Willow Lake Treatment Plant Facility and is not consistent with the *Dual Interest Agreement.*

As the proposed Zone Change does not comply with the stated approval criterion, the zone change should only be approved for property located outside of the *Special Policy Area* (see attachment B). **The City of Salem requests a Condition of Approval on the Zone Change that ensures the Zone Change only applies to property outside of the *Special Policy Area*.**

Subdivision Decision Criteria *(Sec. 3.108.06):*

Findings: As proposed, the application would create two (2) lot for residential development and two (2) Tracts for stormwater and open space that are partially within Special Policy Area. Additionally, Sheet P-17 of the Applicant's Subdivision Plans show a future development plan creating an additional 86 lots for residential development fully within the Special Policy Area. If the Comprehensive Plan Map Amendment and Zone Change are approved as proposed, the property would be within the Odor/Noise Impact Overlay Zone and be required to meet the applicable development standards listed in Sec. 2.128.02. This section requires: *a condition of approval of any building permit or land use action in the AI zone, and as a precondition of any occupancy permit, the property owner shall sign and cause to be recorded in the real property records of Marion County a document granting an easement and a waiver of claims with regard to impacts from the Willow Lake Wastewater Treatment Plant.* **The City of Salem requests that a condition of approval be placed on the subdivision that ensures the required easement/waiver is recorded against each property located within the *Special Policy Area* and Odor/Noise Impact Overlay Zone. The recorded easement/waiver shall also be referenced on the subdivision plat.**

Additionally, as residential development is not permitted within the Special Policy area, **the City of Salem requests that the boundaries proposed Lot 1 and Lot 2 be revised to conform to the Special Policy Area boundary. No portion of proposed Lot 1 or Lot 2 may be located within *the Special Policy Area; The City of Salem requests the Subdivision Tentative Plan be required to be revised to conform to the Special Policy Area.*** Tract A and Tract C, proposed for stormwater and open space, may be located within the Special Policy Area if the required easement/waiver is referenced on the subdivision plat.

SUMMARY

Based on the above written findings, the City of Salem objects to the application as has been proposed. However, if the City of Keizer applies the requested conditions of approval to the application, the City of Salem would release its objection. The City of Salem requests the following conditions of approval to ensure concurrence, as required by the *Dual Interest Agreement:*

1. Condition: In accordance with the 2001 *Dual Interest Agreement,* concurrence of the final Comprehensive Plan Map and Zoning District Boundaries shall be obtained.

2. Condition: The Comprehensive Plan Map Amendment shall only be approved for land outside of the boundaries of the *Special Policy Area* as established by the legal description set forth in the 2001 *Dual Interest Agreement* between the City of Keizer and the City of Salem.

3. Condition: The Zone Change shall only be approved for land outside of the boundaries of the *Special Policy Area* as established by the legal description set forth in the 2001 *Dual Interest Agreement* between the City of Keizer and the City of Salem.

4. Condition: Prior to Final Plat Approval, the property owner shall sign and cause to be recorded a document granting an easement and a waiver of claims with regard to impacts from the Willow Lake Wastewater Treatment Plant for any property located within the Odor/Noise Impact Overlay Zone, in accordance with Sec. 2.128.02. The recorded document shall be referenced on the final plat.

5. Condition: Prior to Final Plat Approval, proposed Lot 1 and Lot 2, shall be reconfigured so that no portion of the lots are within the boundaries of the *Special Policy Area* as established by the legal description set forth in the 2001 *Dual Interest Agreement* between the City of Keizer and the City of Salem.

CONSTRUCTION PERMITS

If the proposed subdivision moved forward, the applicant will be required to obtain Construction Permits from the City of Salem for connections to existing sanitary sewer mains and extension of new mains. There is an existing 8-inch sanitary sewer main located in Windsor Island Road N available to serve future development of the property. Any connections to the sanitary sewer main located in Windsor Island Road N will require construction permits in accordance with the *City of Salem Revised Code*, the *City of Salem Public Works Design Standards*, and the *City of Salem Standard Construction Specifications*. Permits will not be issued by the City of Salem until all construction plans have been approved by the Public Works Department. Construction drawings can be submitted by email to: Developmentservices@cityofsalem.net

Sincerely,

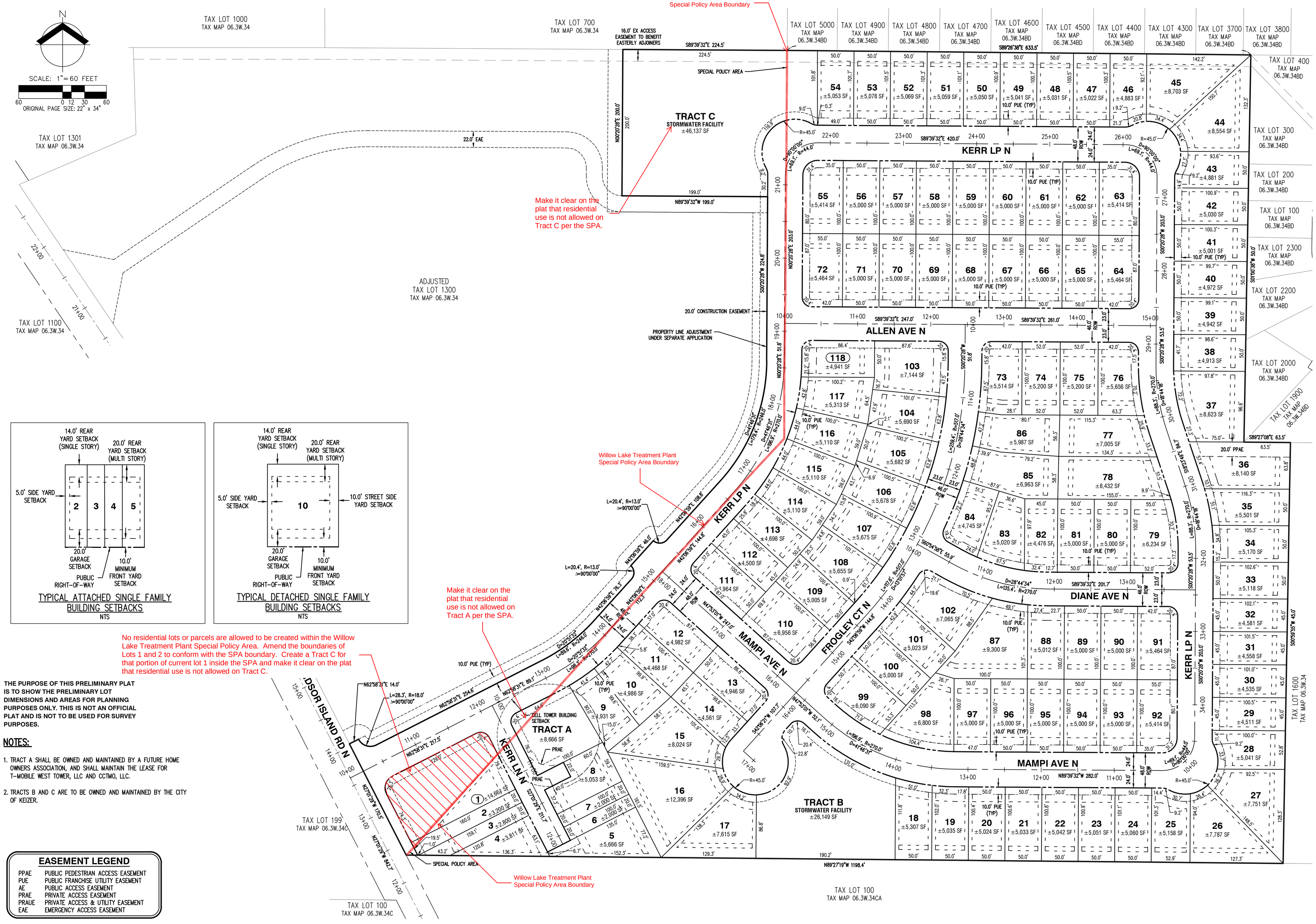
Laurel Christian
Infrastructure Planner III
City of Salem | Development Services Division
Mailing Address: P.O. Box 14300, Salem, OR 97309
lchristian@cityofsalem.net | Office: 503-584-4632

Enclosures: Attachment A: Special Policy Area Boundary
Attachment B: City of Salem Comments on Preliminary Subdivision Plan Sheets

Cc: Thomas Cupani, City of Salem, Assistant City Attorney
Jason Pulley, City of Salem, Public Works Assistant Director
Shane Witham, City of Keizer, Community Development Director


Boundary of Willow Lake Treatment Plant Adjudicated Special Policy Area per Legal Description
Subject Property
SEWER
Willow Lake Treatment Plant Special Policy Area Boundary Map
CITY OF Salem AT YOUR SERVICE

Attachment B


N
SCALE: 1"=60 FEET
60 0 12 30 60
ORIGINAL PAGE SIZE: 22" x 34"
TAX LOT 1000
TAX MAP 06.3W.34
TAX LOT 700
TAX MAP 06.3W.34
16.0' EX ACCESS EASEMENT TO BENEFIT EASTERLY ADJOINERS
S89°39'32"E 224.5'
224.5'
SPECIAL POLICY AREA
Willow Lake Treatment Plant Special Policy Area Boundary
TRACT C
STORMWATER FACILITY
±46,137 SF
200.0'
N00°20'28"E 200.0'
N89°39'32"W 199.0'
22.0' EAE
Make it clear on the plat that residential use is not allowed on Tract C per the SPA.
TAX LOT 1301
TAX MAP 06.3W.34
TAX LOT 1100
TAX MAP 06.3W.34
ADJUSTED
TAX LOT 1300
TAX MAP 06.3W.34
20.0' CONSTRUCTION EASEMENT
PROPERTY LINE ADJUSTMENT UNDER SEPARATE APPLICATION
TAX LOT 5000 TAX MAP 06.3W.34BD
TAX LOT 4900 TAX MAP 06.3W.34BD
TAX LOT 4800 TAX MAP 06.3W.34BD
TAX LOT 4700 TAX MAP 06.3W.34BD
TAX LOT 4600 TAX MAP 06.3W.34BD
TAX LOT 4500 TAX MAP 06.3W.34BD
TAX LOT 4400 TAX MAP 06.3W.34BD
TAX LOT 4300 TAX MAP 06.3W.34BD
TAX LOT 3700 TAX MAP 06.3W.34BD
TAX LOT 3800 TAX MAP 06.3W.34BD
TAX LOT 400 TAX MAP 06.3W.34BD
TAX LOT 300 TAX MAP 06.3W.34BD
TAX LOT 200 TAX MAP 06.3W.34BD
TAX LOT 100 TAX MAP 06.3W.34BD
TAX LOT 2300 TAX MAP 06.3W.34BD
TAX LOT 2200 TAX MAP 06.3W.34BD
TAX LOT 2000 TAX MAP 06.3W.34BD
TAX LOT 1900 TAX MAP 06.3W.34BD
TAX LOT 1600 TAX MAP 06.3W.34
S89°27'08"E 63.5'
20.0' PPAE
S89°26'38"E 633.5'
KERR LP N
ALLEN AVE N
DIANE AVE N
MAMPI AVE N
KERR LN N
FROGLEY CT N
DSOR ISLAND RD N
S89°39'32"E 420.0'
S89°39'32"E 247.0'
S89°39'32"E 261.0'
S89°39'32"E 201.7'
N89°39'32"W 282.0'
S89°27'19"W 1198.4'
S87°54'58"E 55.9'
S00°20'28"W 53.5'
S00°20'28"W 203.0'
S00°20'28"W 53.5'
S00°20'28"W 51.8'
S00°20'28"W 51.8'
N00°20'28"E 203.0'
N00°20'28"E 51.8'
S00°20'28"W 224.8'
N62°58'31"E 254.6'
N62°58'31"E 277.5'
N62°58'31"E 89.1'
N62°58'31"E 14.0'
L=28.3', R=18.0' Δ=90°00'00"
L=20.4', R=13.0' Δ=90°00'00"
L=68.1', R=44.0' Δ=88°43'34"
L=135.4', R=270.0' Δ=28°44'34"
L=68.1', R=44.0' Δ=88°43'34"
L=135.4', R=270.0' Δ=28°44'34"
L=68.1', R=44.0' Δ=88°43'34"
L=68.1', R=44.0' Δ=88°43'34"
L=68.1', R=44.0' Δ=88°43

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SCALE: 1"=80 FEET

80 0 16 40 80

ORIGINAL PAGE SIZE: 22" x 34"

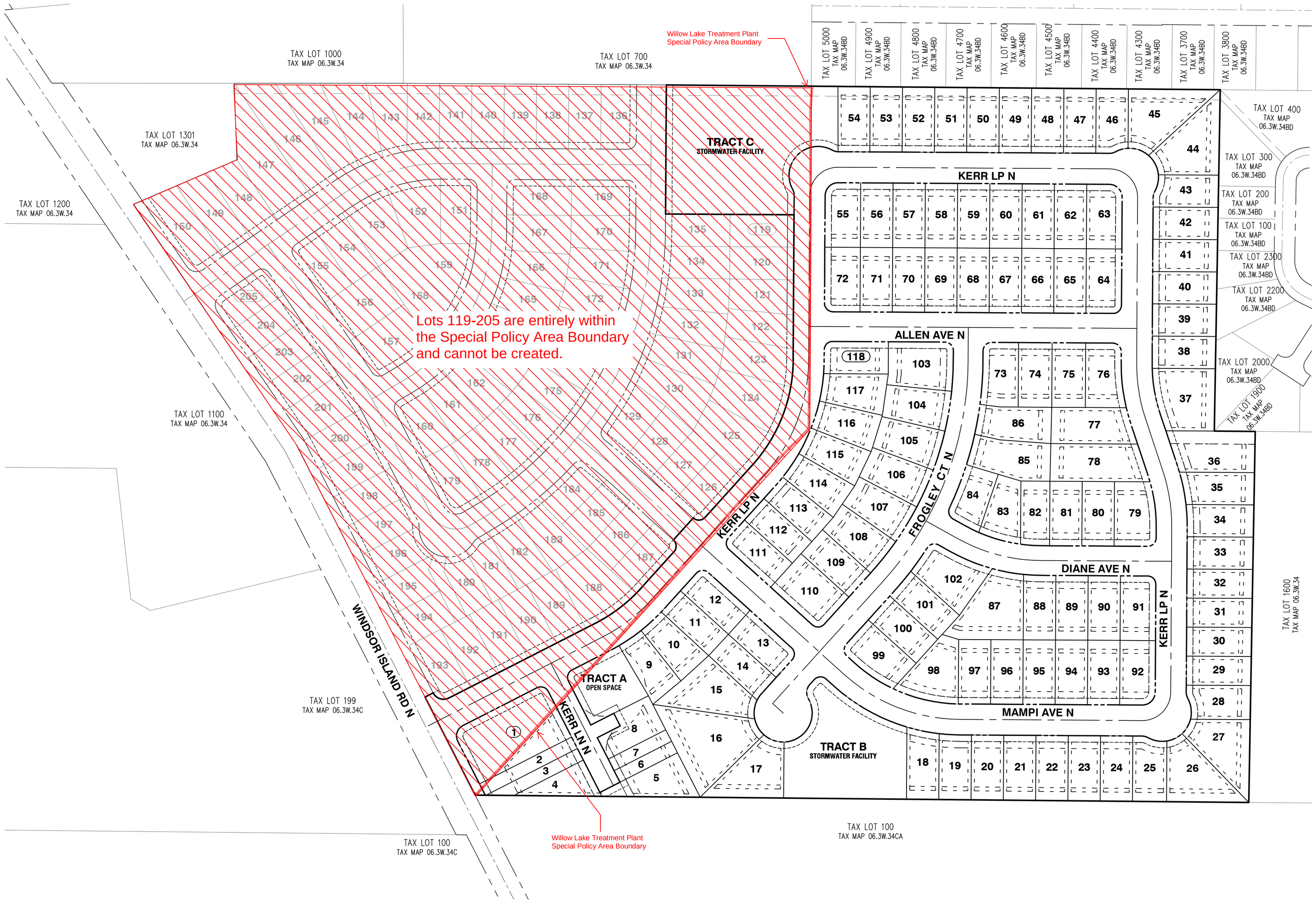
EASEMENT LEGEND

PPAE	PUBLIC PEDESTRIAN ACCESS EASEMENT
PUE	PUBLIC FRANCHISE UTILITY EASEMENT
AE	PUBLIC ACCESS EASEMENT
PRAE	PRIVATE ACCESS EASEMENT
PRAUE	PRIVATE ACCESS & UTILITY EASEMENT
EAE	EMERGENCY ACCESS EASEMENT

THE PURPOSE OF THIS PRELIMINARY PLAT IS TO SHOW PRELIMINARY DIMENSIONS AND AREAS FOR PLANNING PURPOSES ONLY. THIS IS NOT AN OFFICIAL PLAT AND IS NOT TO BE USED FOR SURVEY PURPOSES.

NOTES:

1. TRACT A SHALL BE OWNED AND MAINTAINED BY A FUTURE HOME OWNERS ASSOCIATION, AND SHALL MAINTAIN THE LEASE FOR T-MOBILE WEST TOWER, LLC AND CCTMO, LLC.
2. TRACTS B AND C ARE TO BE OWNED AND MAINTAINED BY THE CITY OF KEIZER.



RHINE-CROSS GROUP LLC
ENGINEERING - SURVEYING - PLANNING
112 N 5th ST - SUITE 200 - P.O. BOX 909
KLAMATH FALLS, OREGON 97601
Phone: (541) 851-9405 Fax: (541) 273-9200 admin@rc-grp.com

REGISTERED PROFESSIONAL ENGINEER
55,506PE
OREGON
JULY 09, 2001
MARCUS D. CROSS
RENEWS: 12-31-2027

02-22-2026

PACIFIC NATIONAL DEVELOPMENT
P.O. BOX 3550
SALEM, OR 97302
(503) 990-7003

Olson Orchards Preliminary Subdivision

OREGON

KEIZER

SHEET NAME
CONCEPTUAL OFF-SITE DEVELOPMENT PLAN

DRAWN BY: TDC
CHK'D BY: MDC
DATE: FEBRUARY 2026

REVISIONS:

JOB NO.
2494

SHEET NO.
P-17

N

SCALE: 1" = 80 FEET

80 0 16 40 80

ORIGINAL PAGE SIZE: 22" x 34"

EASEMENT LEGEND

PPAE	PUBLIC PEDESTRIAN ACCESS EASEMENT
PUE	PUBLIC FRANCHISE UTILITY EASEMENT
AE	PUBLIC ACCESS EASEMENT
PRAE	PRIVATE ACCESS EASEMENT
PRAUE	PRIVATE ACCESS & UTILITY EASEMENT
EAE	EMERGENCY ACCESS EASEMENT

THE PURPOSE OF THIS PRELIMINARY PLAT IS TO SHOW PRELIMINARY DIMENSIONS AND AREAS FOR PLANNING PURPOSES ONLY. THIS IS NOT AN OFFICIAL PLAT AND IS NOT TO BE USED FOR SURVEY PURPOSES.

NOTES:

1. TRACT A SHALL BE OWNED AND MAINTAINED BY A FUTURE HOME OWNERS ASSOCIATION, AND SHALL MAINTAIN THE LEASE FOR T-MOBILE WEST TOWER, LLC AND CCTMO, LLC.
2. TRACTS B AND C ARE TO BE OWNED AND MAINTAINED BY THE CITY OF KEIZER.

Willow Lake Treatment Plant Special Policy Area Boundary

The City of Salem Requests that all land within the Special Policy Area remain with a Comprehensive Plan Designation of Special Policy Area Limited and Zone Designation of Agricultural Industrial (AI).

TAX LOT 1000 TAX MAP 06.3W.34

TAX LOT 700 TAX MAP 06.3W.34

TAX LOT 1301 TAX MAP 06.3W.34

TAX LOT 1200 TAX MAP 06.3W.34

TAX LOT 199 TAX MAP 06.3W.34C

TAX LOT 100 TAX MAP 06.3W.34C

TAX LOT 5000 TAX MAP 06.3W.34BD

TAX LOT 4900 TAX MAP 06.3W.34BD

TAX LOT 4800 TAX MAP 06.3W.34BD

TAX LOT 4700 TAX MAP 06.3W.34BD

TAX LOT 4600 TAX MAP 06.3W.34BD

TAX LOT 4500 TAX MAP 06.3W.34BD

TAX LOT 4400 TAX MAP 06.3W.34BD

TAX LOT 4300 TAX MAP 06.3W.34BD

TAX LOT 3700 TAX MAP 06.3W.34BD

TAX LOT 3800 TAX MAP 06.3W.34BD

TAX LOT 400 TAX MAP 06.3W.34BD

TAX LOT 300 TAX MAP 06.3W.34BD

TAX LOT 200 TAX MAP 06.3W.34BD

TAX LOT 100 TAX MAP 06.3W.34BD

TAX LOT 2300 TAX MAP 06.3W.34BD

TAX LOT 2200 TAX MAP 06.3W.34BD

TAX LOT 2000 TAX MAP 06.3W.34BD

TAX LOT 1900 TAX MAP 06.3W.34BD

TAX LOT 1600 TAX MAP 06.3W.34

TRACT C
STORMWATER FACILITY

TRACT A
OPEN SPACE

TRACT B
STORMWATER FACILITY

KERR LP N

ALLEN AVE N

FROGLEY CT N

DIANE AVE N

MAMPI AVE N

KERR LN N

WINDSOR ISLAND RD N

The City of Salem requests that the requested Comprehensive Plan Map Amendment and Zone Change only apply to property outside of the Special Policy Area.

PACIFIC NATIONAL DEVELOPMENT
P.O. BOX 3550
SALEM, OR 97302
(503) 990-7003

R-C RHINE-CROSS GROUP LLC
RHINE-CROSS GROUP
ENGINEERING - SURVEYING - PLANNING
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RENEWS: 12-31-2027

02-22-2026

Olson Orchards
Preliminary Subdivision
KEIZER OREGON

SHEET NAME
CONCEPTUAL OFF-SITE DEVELOPMENT PLAN

DRAWN BY: TDC
CHK'D BY: MDC
DATE: FEBRUARY 2026

REVISIONS:

JOB NO.
2494

SHEET NO.
P-17

EXHIBIT 7

Property Line Adjustment 2026-04
5710 Windsor Island Rd N, Keizer

My/Our comments are: 1* Is the sidewalk along the development going to be on the east side of Windsor Isl Rd N and continue south to Lockhaven?

*2. Is the 45 mph speed zone going to be shifted North to the City limits? (or at least past the driving range?)

Name: John Blake

Phone: 503-798-8329 Email: johnblake1949@gmail.com

Address: 5055 Windsor Isl. Rd N Keizer, OR

Date: June 11, 2026

Sorry being late to turn this in

Comments submitted regarding this partitioning must addressed the following criteria:

A. Each parcel shall meet the access requirements of Section 2.310.03.D.

B. Each parcel shall satisfy the dimensional standards of applicable zoning district, unless a variance from these standards is requested and is approved.

C. Each parcel shall comply with the requirements of Section 2.310.

D. Rough Proportionality. Improvements or dedications required as a condition of development approval, when not voluntarily accepted by the applicant, shall be roughly proportional to the impact of development. Findings in the development approval shall indicate how the required improvements or dedications are roughly proportional to the impact.

E. Each parcel shall comply with the applicable requirements within Sections 2.301 (General Provisions); 2.302 (Street Standards); 2.303 (Off-Street Parking and Loading); 2.305 (Transit Facilities); 2.306 (Storm Drainage); 2.307 (Utility Lines and Facilities); and 2.309 (Site and Landscaping Design).

F. Adequate public facilities shall be available to serve the existing and newly created parcels.

Copies of the Keizer Development Code are available for viewing at the Planning Department or on the City of Keizer website.

EXHIBIT 8

RECEIVED
CITY OF KEIZER
JUN 17 2026
PLANNING DEPARTMENT

June 17, 2026

City of Keizer Planning Division

930 Chemawa Rd NE Keizer Or 97303

RE: Compréhensive Plan Amendement/Zone Change/Subdivisons Application Case 202605

This application is a dramatic change in our neighborhood from open space agricultural land to a very large with over one hundred resident lots.

To help mitigate the impact and the noise of new homes in very close proximity to our neighborhood, we are requesting that an eight – foot barrier of concrete, brick or stone material be established between the affected homes of McNary Estates and the new subdivision.

Our concern is whether two-story homes will be built adjacent to one story homes on McNary Estate Drive.

Finally we would like to understand how the existing easement between our properties will work with the creation of the subdivision.

Sincerely

Dixie King

Dixie King

948 McNary Estates Dr North

Keizer OR 97303

503-664-6523

EXHIBIT 9

City of Keizer Planning Division

930 Chemawa Rd. NE, Keizer, OR 97303

Concerns for the future development of agricultural acreage:

A. How the former 16' easement between properties is being handled
B. Will the Developer build a privacy wall at the north end of their properties

C. The materials to be used in the construction of a wall

D. The size and price range of homes proposed.

Sincerely,

Jack and Sharon McLennan

1048 McNary Estates Dr. N

Keizer, Oregon 97303

503.910.0050

JSMCLENNAN@MSN.COM

EXHIBIT 10

June 17, 2026

City of Keizer Planning Division
930 Chemawa Rd NE, Keizer, OR 97303

RE: Comprehensive Plan Amendment/Zone Change/Subdivision Application Case 2024-05

We were present for informal meeting with other neighbors on 6/15/2026, and voiced many concerns about future development of subdivision behind our home such as:

- How is the existing easement between our properties factored into new development, will it still exist, who will maintain
- Will there be a wall or some sort of barrier between our homes and new development
- Will new development have an HOA
- Currently the orchard is elevated higher than our homes. Will the ground be brought down and will single story homes be built instead of two story homes

Thanks for opportunity to give comments, we will see you on July 8th.

Sincerely,

Lance & Julie Petersen
1088 McNary Estates Dr N
Keizer, OR 97303

EXHIBIT 11

June 17th 2026

City of Keizer Planning Division

930 Chemawa Rd NE, Keizer, OR 97303

RE: Comprehensive Plan Amendment/Zone Change/Subdivision Application Case 2026-05

This application proposes a dramatic change in our neighborhood, from open space agricultural land to a very large subdivision with over one hundred residential lots.

To help mitigate the impact of having new residential homes in very close proximity to our neighborhood, we request that an eight-foot barrier of concrete, brick or stone materials be established between the affected homes of McNary Estates and the new subdivision.

Our other concern is whether two-story homes will be built adjacent to the one-story homes on McNary Estates Drive.

Finally, we would like to understand how the existing easement between our properties will work with the creation of the subdivision.

Please feel free to contact us if you have any questions.

Sincerely,

Larry & Cathie Raaf

1158 McNary Estates Dr N

Keizer, OR 97303

971.209.5549

lraaf77@gmail.com

PLEASE CHECK THE APPROPRIATE ITEMS:

_____ I/We reviewed the proposal and determined I/we have no comment.

_____ My/Our comments are in the attached letter.

_X_ My/Our comments are: The same as Roads

Name: TED MARR

Phone: 503-434-0888 Email: TMARRAZOR@YAHOO.COM

Address: 1118 McNary Estates

Date: 6/17/2026

Comments submitted regarding this Comprehensive Plan Map Amendment/Zone Change/Subdivision Application must addressed the following criteria:

3.109.04 Criteria for Approval – Comprehensive Plan Amendment

Comprehensive Plan map amendment proposals shall be approved if the applicant provides evidence substantiating the following:

A. Compliance is demonstrated with the statewide land use goals that apply to the subject properties or to the proposed land use designation. If the proposed designation on the subject property requires an exception to the Goals, the applicable criteria in the LCDC Administrative Rules for the type of exception needed shall also apply.

B. Consistency with the applicable goals and policies in the Comprehensive Plan is demonstrated.

C. The Plan does not provide adequate areas in appropriate locations for uses allowed in the proposed land use designation and the addition of this property to the inventory of lands so designated is consistent with projected needs for such lands in the Comprehensive Plan.

D. The Plan provides more than the projected need for lands in the existing land use designation.

E. The proposed land use designation will not allow zones or uses that will destabilize the land use pattern in the vicinity.

F. Uses allowed in the proposed designation will not significantly adversely affect existing or planned uses on adjacent lands.

G. Public facilities and services necessary to support uses allowed in the proposed designation are available or are likely to be available in the near future.

June 17th 2026

City of Keizer Planning Division

930 Chemawa Rd NE, Keizer, OR 97303

RE: Comprehensive Plan Amendment/Zone Change/Subdivision Application Case 2026-05

This application proposes a dramatic change in our neighborhood, from open space agricultural land to a very large subdivision with over one hundred residential lots.

To help mitigate the impact of having new residential homes in very close proximity to our neighborhood, we request that an eight-foot barrier of concrete, brick or stone materials be established between the affected homes of McNary Estates and the new subdivision.

Our other concern is whether two-story homes will be built adjacent to the one-story homes on McNary Estates Drive.

Finally, we would like to understand how the existing easement between our properties will work with the creation of the subdivision.

Please feel free to contact us if you have any questions.

Sincerely,

Taejun Lim

Jun. 16. 2026.

958 McNary Estates Dr

Keizer, OR 97303

RECEIVED
CITY OF KEIZER
JUN 17 2026
PLANNING DEPARTMENT

EXHIBIT 12

PLEASE CHECK THE APPROPRIATE ITEMS:

_____ I/We reviewed the proposal and determined I/we have no comment.

__X__ My/Our comments are in the attached letter.

__X__ My/Our comments are: We just bought our home in June 2025 for the express reason of having open space behind our home. We are concerned the value of our home has instantly dropped due to this proposed change. See Letter Attached.

Name: Patricia Stupfel + Laura McInnis

Phone: 503-580-7915 Email: TANDL2008@comcast.net

Address: 1148 McNary Estates Dr. N. Keizer OR 97303

Date: 6/17/2026

Comments submitted regarding this Comprehensive Plan Map Amendment/Zone Change/Subdivision Application must addressed the following criteria:

3.109.04 Criteria for Approval – Comprehensive Plan Amendment

Comprehensive Plan map amendment proposals shall be approved if the applicant provides evidence substantiating the following:

A. Compliance is demonstrated with the statewide land use goals that apply to the subject properties or to the proposed land use designation. If the proposed designation on the subject property requires an exception to the Goals, the applicable criteria in the LCDC Administrative Rules for the type of exception needed shall also apply.

B. Consistency with the applicable goals and policies in the Comprehensive Plan is demonstrated.

C. The Plan does not provide adequate areas in appropriate locations for uses allowed in the proposed land use designation and the addition of this property to the inventory of lands so designated is consistent with projected needs for such lands in the Comprehensive Plan.

D. The Plan provides more than the projected need for lands in the existing land use designation.

E. The proposed land use designation will not allow zones or uses that will destabilize the land use pattern in the vicinity.

F. Uses allowed in the proposed designation will not significantly adversely affect existing or planned uses on adjacent lands.

G. Public facilities and services necessary to support uses allowed in the proposed designation are available or are likely to be available in the near future.

City of Keizer Planning Division 6/17/2026

RE: Comprehensive Plan Assessment / Zone Change / Subdivision Application Case 2026-5

To Whom It May Concern:

Having grown up in Keizer, I looked forward to the day to return here to live in McNary Estates. Our retirement dreams came true when we bought our home in June 2025 at 1148 McNary Estates Dr. N with the open agricultural open space in our backyard.

The proposed application significantly aborts the serene nature of our backyard. We are concerned the value of our property has already declined substantially as a result of this proposal. We currently enjoy a quiet peaceful backyard with wildlife viewing of deer, coyote and squirrels roaming in the orchard.

Our questions:
1. Will the lots adjacent to our McNary Estate home(s) be offered to McNary residents as first right of refusal to purchase?
2. Will homes built next to existing McNary Estates homes only be allowed as single level structures?
3. Will there be an easement space behind our back fence (how many feet)? Will there be a barrier / solid fence to separate the new lots

from the existing McNary Estates homes?

Please feel free to contact us with questions or answers to our questions.

Sincerely,

Patricia Stupfel + Laura Mcinnis
1148 McNary Estates Dr N.
Keizer, OR 97303

503-580-7915

TANDL2008@comcast.net

P.S. Please note that we recieved No communication from the City of Keizer regarding this proposal. One neighbors thankfully reached out to us. Please send us updates directly by email and/or address above.

EXHIBIT 13

June 17th 2026

City of Keizer Planning Division

930 Chemawa Rd NE, Keizer, OR 97303

RE: Comprehensive Plan Amendment/Zone Change/
Subdivision Application Case 2026-05

We have been living at this home in McNary Estates since 2003. In fact we built this home which was the first home built along the lots which border the proposed subdivision. All of the homes bordering the proposed subdivision have unusually small back yards, ours being only fifteen feet deep, so we will be close to this new subdivision, depending on the easement, which will be infringing on our privacy which we have enjoyed now for twenty three years.

We would request there be at least an eight foot high barrier be built along the back of the homes which border the new subdivision and that the barrier be built along an easement line which is at least twenty feet back from our back property line because of our unusually small back yards.

Another very important request we have is that there be no two story homes built behind our lots which border the new subdivision. A two story home would completely take away any privacy we have in our back yards and even my family room which has a wall of windows that looks into my back yard. A two story home built behind us, even with an eight foot barrier, would be able to look right into our family room as well as our patio and back yard area. The ground level of our home is three feet lower than the ground level of the new subdivision which affects our privacy even more.

This new subdivision bordering our back yard will be a huge change for us and we hope that you will be able relieve some of the impact by looking into these requests and preserving the privacy we have had for many years.

Sincerely,

Richard Warner

Susan Warner

Richard Warner
1068 McNary Estates Dr N
Keizer, OR 97303
503 551-3280
warner.co@comcast.net

Susan Warner

EXHIBIT 14

Regarding Case 2026-05: Comprehensive Plan Map Amendment/Zone Change/ Subdivision

My family has farmed for generations on this land along Windor Island Road North, but that has become difficult as the city of Keizer has expanded and crowded in around the properties.

- In 1968, McNary Oaks Mobile Home Park was developed to the south
- In the 1980s, Keizer forced us to sell land off the east edge to build Keizer Elementary School
- In the 1990s, Whispering Pines Subdivision was developed to the east, north of the elementary school
- In the 2000s, McNary Estates Subdivision was developed to the north

Farming is a noisy and dirty business, with dust and chemical spraying a part of the operation. But they conflict with the reasonable desires of neighboring residents and school children for a clean and quiet environment.

There is a need for more housing in Keizer but a shortage of available land for new development. It's time for this land to be rezoned and developed with residential housing, like the surrounding land, providing additional housing for Keizer and improving environmental conditions for the neighboring properties.

Please approve the zoning changes needed to make this development possible.

Diane Ramey, née Olson
6150 Andover Cir
Anchorage, AK 99516
(907) 342-9854

EXHIBIT 15

From: Margaret Stephens
To: Horner, Dina; panning@keizeror.gov
Subject: Comment for July 8 hearing re: 5710 Windsor Island Road
Date: Friday, June 26, 2026 12:19:27 PM

Greetings:

Please let me know if this comment is received and will be reviewed before or at the July 8 public hearing.

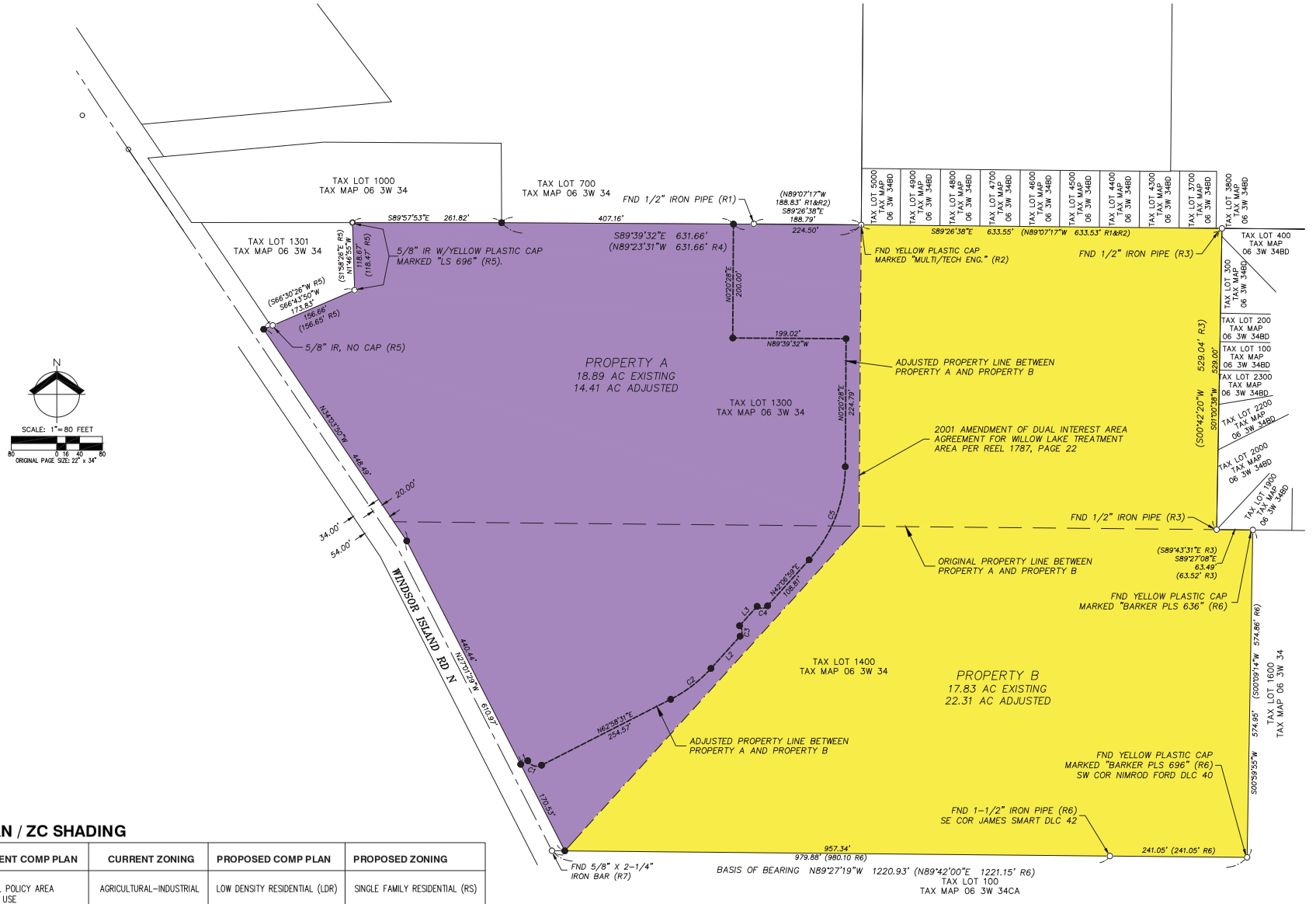
I am writing in opposition to changing existing land use rules to allow the development of the proposed new subdivision at the site address referred to above (5710 Windsor Island Road).

This is farm land, and should remain farm land. More traffic on this road would also be problematic.

While acknowledging more housing is needed, I urge the developer to explore other sites, such as pursuing the purchase of the vacant lot on Lockhaven near Trail avenue (5750 Trail Ave).

Thank you.

EXHIBIT 16



COMP PLAN / ZC SHADING

COLOR:	CURRENT COMP PLAN	CURRENT ZONING	PROPOSED COMP PLAN	PROPOSED ZONING
	SPECIAL POLICY AREA LIMITED USE	AGRICULTURAL-INDUSTRIAL	LOW DENSITY RESIDENTIAL (LDR)	SINGLE FAMILY RESIDENTIAL (RS)
	SPECIAL POLICY AREA	AGRICULTURAL-INDUSTRIAL	SPECIAL POLICY AREA	AGRICULTRUAL-INDUSTRIAL

PACIFIC NATIONAL DEVELOPMENT
P.O. BOX 3550
SALEM, OR 97302
(503) 991-7240

R-C RHINE-CROSS GROUP LLC
RHINE-CROSS GROUP
ENGINEERING - SURVEYING - PLANNING
112 N 5th ST - SUITE 210 - P.O. BOX 509
KLAMATH FALLS, OREGON 97601
Phone: (541) 851-9405 Fax: (541) 273-9200 admin@rc-grp.com

REGISTERED PROFESSIONAL ENGINEER
55,506PE
OREGON
JULY 09, 2021
MARCUS D. CROSS
RENEWS: 12-31-2027
06-18-2026

Olson Orchards
Preliminary Subdivision
KEIZER OREGON

SHEET NAME:
ZONE CHANGE EXHIBIT

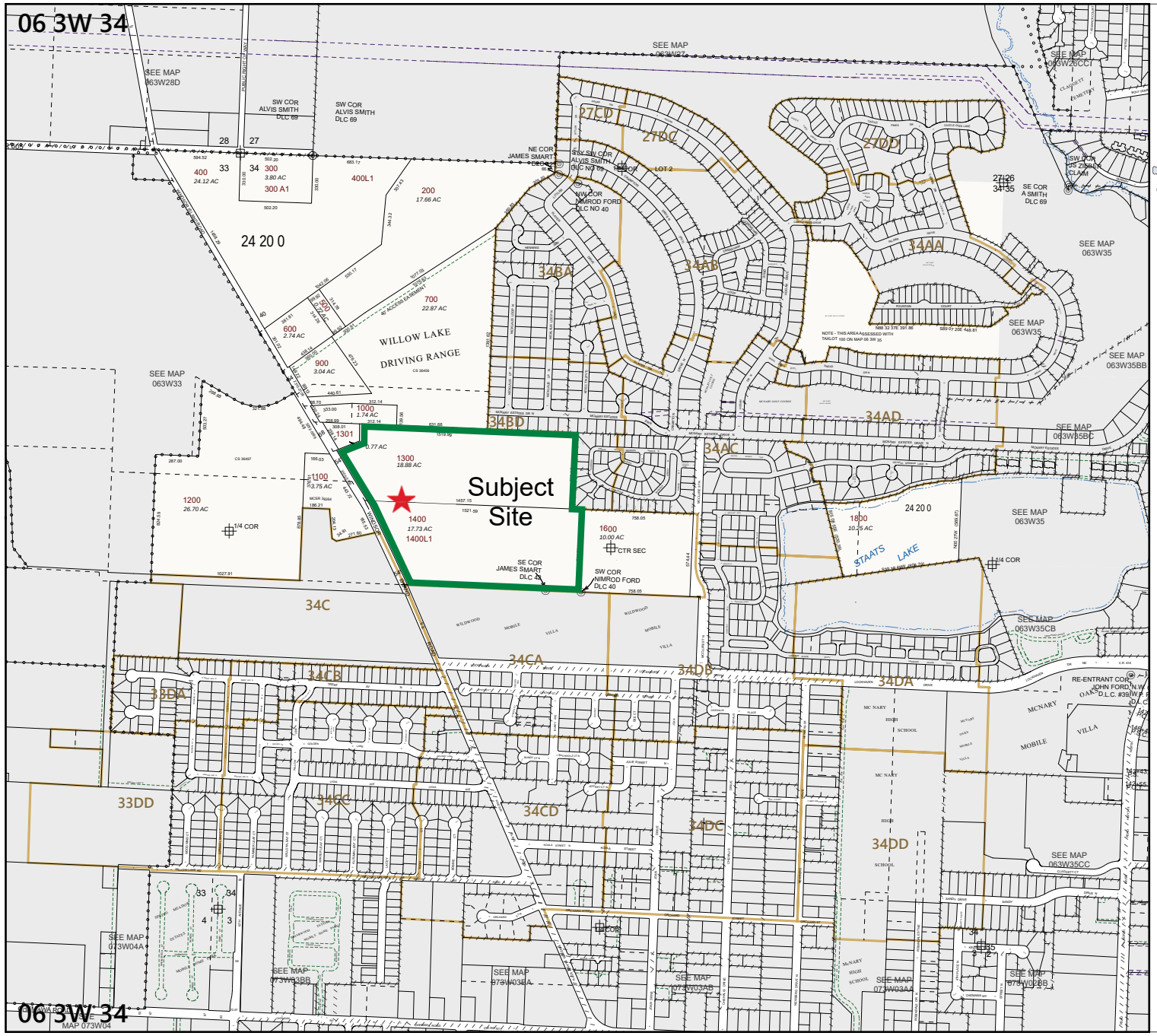
DRAWN BY: TDC
CHKD BY: MDC
DATE: JUNE 2026

REVISIONS:

JOB NO.
2494

SHEET NO.
ZC-01

To view the ***Staff Recommendation to the Hearings Officer*** and additional information (exhibits) submitted after the Recommendation was published following the QR Code.



06 3W 34
KEIZER



MARION COUNTY, OREGON
SEC 34 T6S R3W W.M.
SCALE 1" = 400'

LEGEND

LINE TYPES

- Taxlot Boundary
- Historical Boundary
- Road Right-of-Way
- Easement
- Railroad Right-of-Way
- Railroad Centerline
- Private Road ROW
- Taxcode Line
- Subdivision/Plat Bndry
- Map Boundary
- Waterline - Taxlot Bndry
- Waterline - Non Bndry

CORNER TYPES

- 1/16TH Section Cor.
- 1/4 Section Cor.
- DLC Corner
- Section Corner (16, 15, 21, 22)

NUMBERS

Tax Code Number
00 00 0

Acreage
0.25 AC

All acres listed are Net Acres, excluding any portions of the taxlot within public ROWs

NOTES

Tick Marks: A tick mark in the road indicates that the labeled dimension extends into the public ROW

200.00
175.00

CANCELLED NUMBERS

100	1901		
101	1902		
102	1903		
103	1904		
104	1905		
105	1906		
601	1907		
701			
800			
901			
902			
1500			
1501			
1700			
1801			
1802			
1803			

DISCLAIMER: THIS MAP WAS PREPARED FOR ASSESSMENT PURPOSES ONLY

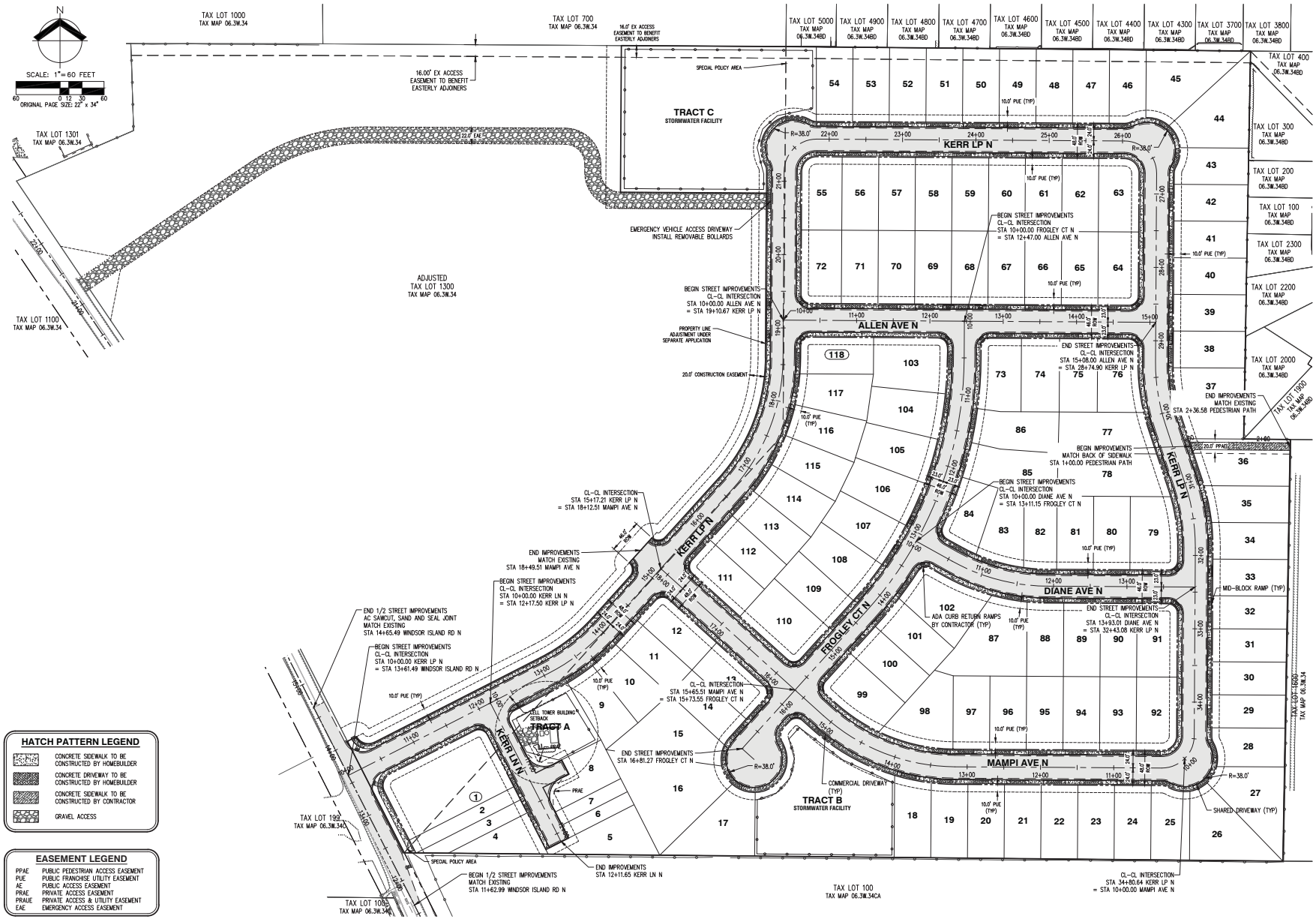
Marion County OREGON — Assessors Office Cartography Dept

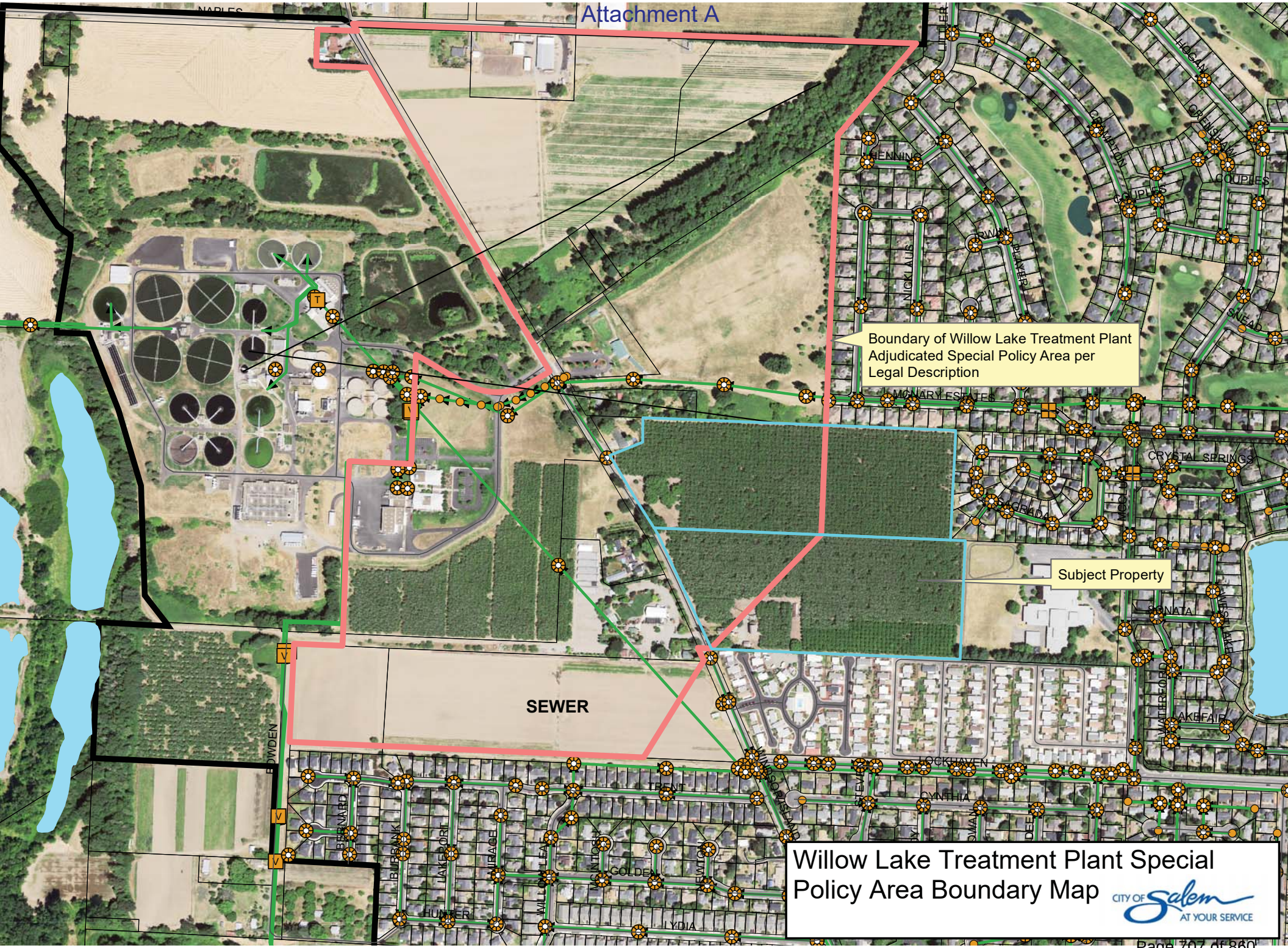
FOR ADDITIONAL MAPS VISIT OUR WEBSITE AT www.co.marion.or.us

PLOT DATE: 10/16/2020

KEIZER
06 3W 34

EXHIBIT 2

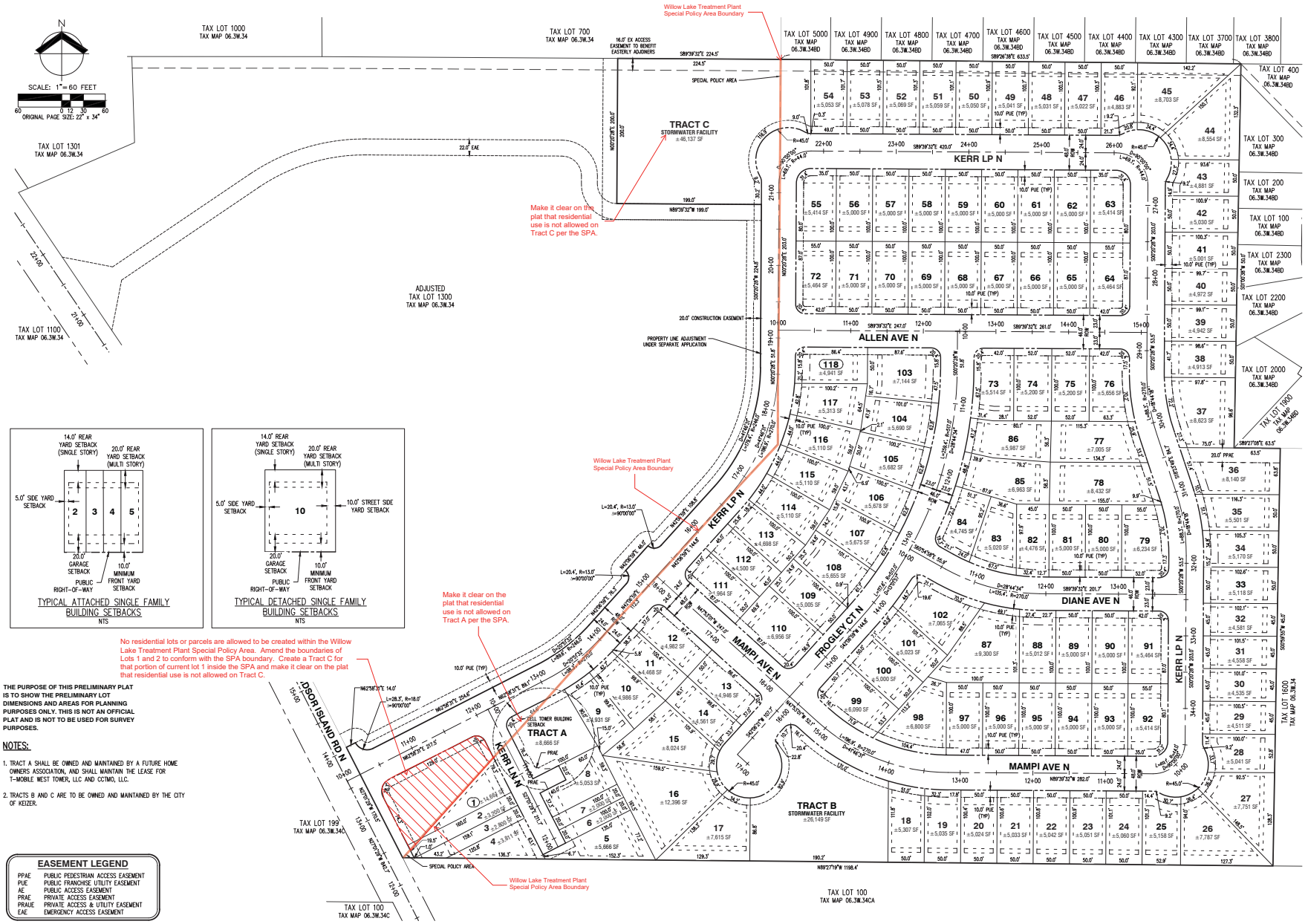

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TAX LOT 2200 TAX MAP 06.3W.34BD
TAX LOT 2000 TAX MAP 06.3W.34BD
TAX LOT 1900 TAX MAP 06.3W.34BD
TAX LOT 1301 TAX MAP 06.3W.34
TAX LOT 1100 TAX MAP 06.3W.34
TAX LOT 192 TAX MAP 06.3W.34C
TAX LOT 100 TAX MAP 06.3W.34CA
TAX LOT 1800 TAX MAP 06.3W.34
ADJUSTED TAX LOT 1300 TAX MAP 06.3W.34
16.00' EX ACCESS EASEMENT TO BENEFIT EASTERLY ADJOINERS
16.0' EX ACCESS EASEMENT TO BENEFIT EASTERLY ADJOINERS
22.0' EAE
SPECIAL POLICY AREA
TRACT C
STORMWATER FACILITY
KERR LP N
ALLEN AVE N
DIANE AVE N
FROGLEY CT N
MAMPI AVE N
KERR LN N
TRACT A
TRACT B
STORMWATER FACILITY
EMERGENCY VEHICLE ACCESS DRIVEWAY
INSTALL REMOVABLE BOLLARDS
PROPERTY LINE ADJUSTMENT UNDER SEPARATE APPLICATION
20.0' CONSTRUCTION EASEMENT
BEGIN STREET IMPROVEMENTS CL-CL INTERSECTION STA 10+00.00 FROGLEY CT N = STA 12+47.00 ALLEN AVE N
BEGIN STREET IMPROVEMENTS CL-CL INTERSECTION STA 10+00.00 ALLEN AVE N = STA 19+10.67 KERR LP N
END STREET IMPROVEMENTS CL-CL INTERSECTION STA 15+08.00 ALLEN AVE N = STA 26+74.90 KERR LP N
END IMPROVEMENTS MATCH EXISTING STA 2+36.58 PEDESTRIAN PATH
BEGIN IMPROVEMENTS MATCH BACK OF SIDEWALK STA 1+00.00 PEDESTRIAN PATH
BEGIN STREET IMPROVEMENTS CL-CL INTERSECTION STA 10+00.00 DIANE AVE N = STA 13+11.15 FROGLEY CT N
END STREET IMPROVEMENTS CL-CL INTERSECTION STA 13+93.01 DIANE AVE N = STA 32+43.08 KERR LP N
CL-CL INTERSECTION STA 15+17.21 KERR LP N = STA 18+12.51 MAMPI AVE N
END IMPROVEMENTS MATCH EXISTING STA 18+49.51 MAMPI AVE N
BEGIN STREET IMPROVEMENTS CL-CL INTERSECTION STA 10+00.00 KERR LN N = STA 12+17.50 KERR LP N
END 1/2 STREET IMPROVEMENTS AC SAWCUT, SAND AND SEAL JOINT MATCH EXISTING STA 14+65.49 WINDSOR ISLAND RD N
BEGIN STREET IMPROVEMENTS CL-CL INTERSECTION STA 10+00.00 KERR LP N = STA 13+61.49 WINDSOR ISLAND RD N
CL-CL INTERSECTION STA 15+65.51 MAMPI AVE N = STA 15+73.55 FROGLEY CT N
END STREET IMPROVEMENTS STA 16+81.27 FROGLEY CT N
END IMPROVEMENTS STA 12+11.65 KERR LN N
BEGIN 1/2 STREET IMPROVEMENTS MATCH EXISTING STA 11+62.99 WINDSOR ISLAND RD N
CL-CL INTERSECTION STA 34+80.64 KERR LP N = STA 10+00.00 MAMPI AVE N
ADA CURB RETURN RAMPS BY CONTRACTOR (TYP)
MID-BLOCK RAMP (TYP)
SHARED DRIVEWAY (TYP)
COMMERCIAL DRIVEWAY (TYP)
SPECIAL POLICY AREA
10.0' PUE (TYP)
20.0' PPAE
R=38.0'
R=38.0'
R=38.0'



Willow Lake Treatment Plant Special Policy Area Boundary Map

CITY OF Salem AT YOUR SERVICE

Attachment B



THE PURPOSE OF THIS PRELIMINARY PLAT IS TO SHOW THE PRELIMINARY LOT DIMENSIONS AND AREAS FOR PLANNING PURPOSES ONLY. THIS IS NOT AN OFFICIAL PLAT AND IS NOT TO BE USED FOR SURVEY PURPOSES.

NOTES:

1. TRACT A SHALL BE OWNED AND MAINTAINED BY A FUTURE HOME OWNERS ASSOCIATION, AND SHALL MAINTAIN THE LEASE FOR T-MOBILE WEST TOWER, LLC AND CCTMO, LLC.
2. TRACTS B AND C ARE TO BE OWNED AND MAINTAINED BY THE CITY OF KEIZER.

EASEMENT LEGEND

PPAE	PUBLIC PEDESTRIAN ACCESS EASEMENT
PUE	PUBLIC FRANCHISE UTILITY EASEMENT
AE	PUBLIC ACCESS EASEMENT
PRAE	PRIVATE ACCESS EASEMENT
PRAUE	PRIVATE ACCESS & UTILITY EASEMENT
EAE	EMERGENCY ACCESS EASEMENT

PACIFIC NATIONAL DEVELOPMENT
P.O. BOX 3550
SALEM, OR 97302
(503) 980-7003

R-C RHINE-CROSS GROUP LLC
ENGINEERING · SURVEYING · PLANNING
1217 MAIN ST., SUITE 207, P.O. BOX 9099
KLAMATH FALLS, OREGON 97601
Phone: (541) 851-9405 Fax: (541) 273-9200 admin@rc-grp.com

REGISTERED PROFESSIONAL ENGINEER
55,506PE
OREGON
JULY 09, 2021
MARCUS D. CROSS
RENEWS: 12-31-2027

02-22-2026

Olson Orchards
Preliminary Subdivision
KEIZER OREGON

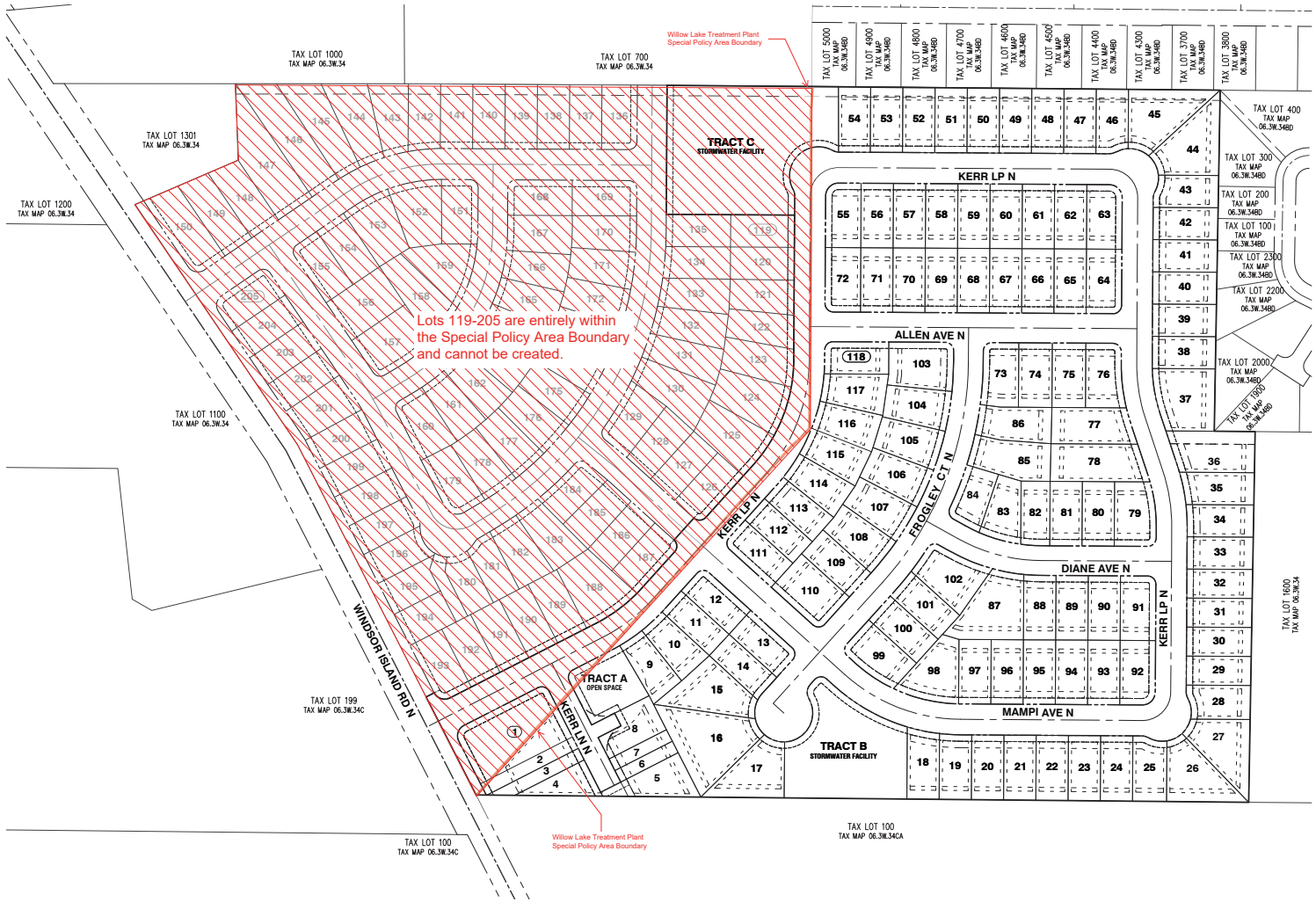
SHEET NAME:
PRELIMINARY DIMENSIONED SUBDIVISION PLAT

DRAWN BY: TDC
CHKD BY: MDC
DATE: FEBRUARY 2026

REVISIONS:

JOB NO.
2494

SHEET NO.
P-05



PACIFIC NATIONAL DEVELOPMENT
P.O. BOX 3550
SALEM, OR 97302
(503) 980-7003

R-C RHINE-CROSS GROUP LLC
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JULY 09, 2021
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RENEWS: 12-31-2027
02-22-2026

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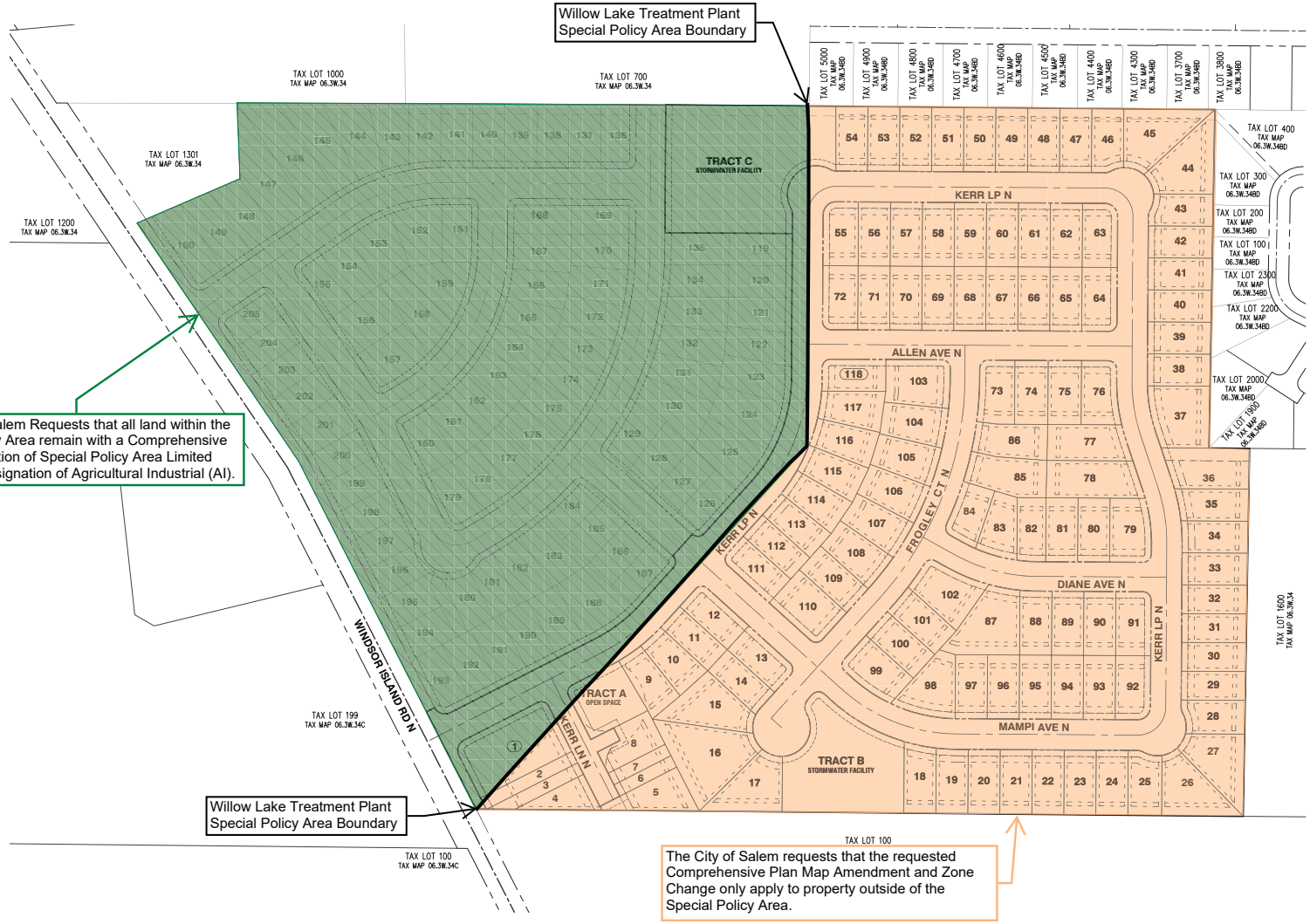
SHEET TITLE
CONCEPTUAL OFF-SITE DEVELOPMENT PLAN

DRAWN BY: TDC
CHKD BY: MDC
DATE: FEBRUARY 2026

REVISIONS:

JOB NO.
2494

SHEET NO.
P-17



N

SCALE: 1" = 80 FEET

80 0 16 40 80

ORIGINAL PAGE SIZE: 22" x 34"

EASEMENT LEGEND

PPAE	PUBLIC PEDESTRIAN ACCESS EASEMENT
PUE	PUBLIC FRANCHISE UTILITY EASEMENT
AE	PUBLIC ACCESS EASEMENT
PRAE	PRIVATE ACCESS EASEMENT
PRAUE	PRIVATE ACCESS & UTILITY EASEMENT
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(503) 980-7003

R-C RHINE-CROSS GROUP
RHINE-CROSS GROUP, LLC
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KLAMATH FALLS, OREGON 97601
Phone: (541) 851-9405 Fax: (541) 273-9200 admin@rc-grp.com

REGISTERED PROFESSIONAL ENGINEER
55,506PE
OREGON
JULY 09, 2021
MARCUS D. CROSS
RENEWS: 12-31-2027
02-22-2026

Olson Orchards
Preliminary Subdivision
KEIZER OREGON

SHEET TITLE:
CONCEPTUAL OFF-SITE DEVELOPMENT PLAN

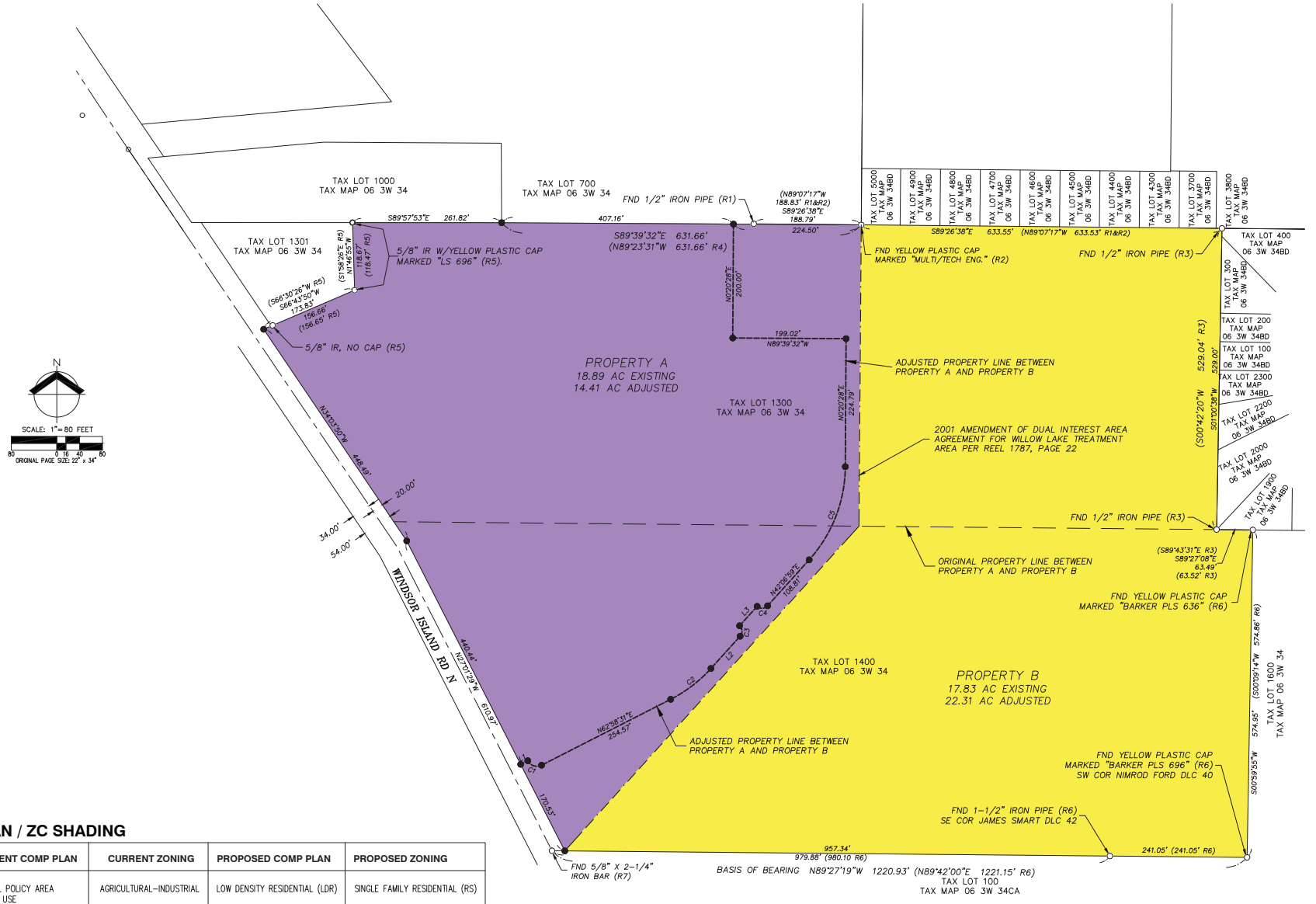
DRAWN BY: TDC
CHKD BY: MDC
DATE: FEBRUARY 2026

REVISIONS:

JOB NO.
2494

SHEET NO.
P-17

EXHIBIT 16



COMP PLAN / ZC SHADING

COLOR:	CURRENT COMP PLAN	CURRENT ZONING	PROPOSED COMP PLAN	PROPOSED ZONING
	SPECIAL POLICY AREA LIMITED USE	AGRICULTURAL–INDUSTRIAL	LOW DENSITY RESIDENTIAL (LDR)	SINGLE FAMILY RESIDENTIAL (RS)
	SPECIAL POLICY AREA	AGRICULTURAL–INDUSTRIAL	SPECIAL POLICY AREA	AGRICULTRUAL–INDUSTRIAL

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Phone: (541) 851-9405 Fax: (541) 273-9209 admin@rc-grp.com

REGISTERED PROFESSIONAL ENGINEER 55,506PE OREGON JULY 09, 2001 MARCUS D. CROSS
RENEWS: 12-31-2027
06-18-2026

Olson Orchards
Preliminary Subdivision
KEIZER OREGON

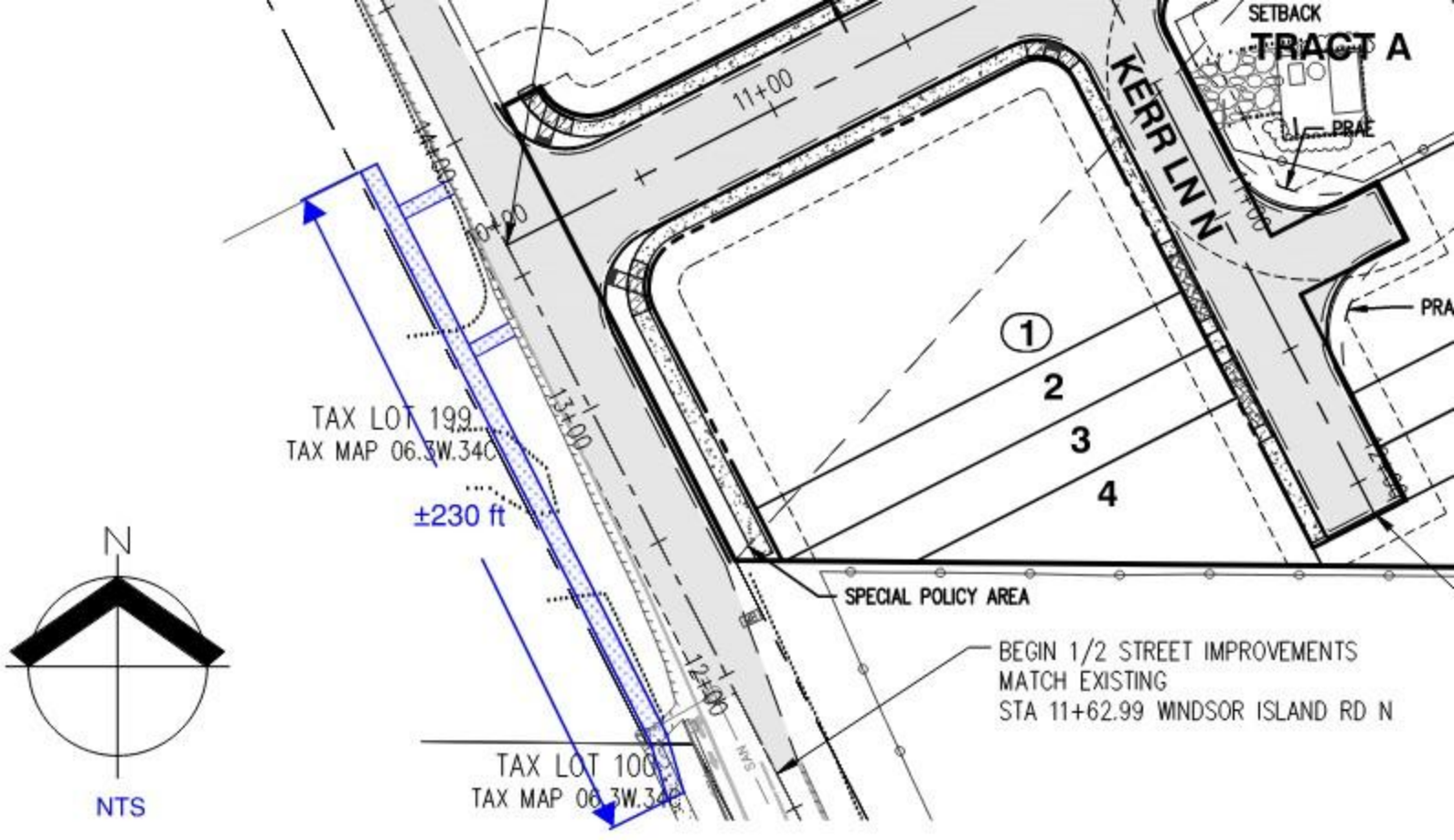
SHEET NAME:
ZONE CHANGE EXHIBIT

DRAWN BY: TDC
CHKD BY: MDC
DATE: JUNE 2026

REVISIONS:

JOB NO.
2494

SHEET NO.
ZC-01


SETBACK
TRACT A
PRAE
KERR LN N
11+00
10+00
13+00
12+00
1
2
3
4
TAX LOT 199
TAX MAP 06.3W.340
±230 ft
SPECIAL POLICY AREA
BEGIN 1/2 STREET IMPROVEMENTS
MATCH EXISTING
STA 11+62.99 WINDSOR ISLAND RD N
TAX LOT 100
TAX MAP 06.3W.34
N
NTS

From: sandrak.kerr@gmail.com
To: Horner, Dina
Subject: Comments for 5710 Windsor Is Rd
Date: Thursday, July 2, 2026 11:40:45 AM

CAUTION: This email originated from Outside Your Organization. Exercise caution when opening attachments or on clicking links from unknown senders. Please contact Information Technology for assistance.

Regarding property on 5710 Windsor Is Rd

In 1902 my grandmother's family purchased 238 acres on Windsor Is Rd. In 1911 her brother Roy Hoffman built the house across the street and she married Obed Frogley who owned the 36 acres adjoining it. My mother Arleen Frogley Olson inherited the Hoffman property and part of the Frogley piece. My father Keith Olson farmed it since the 1960's and I started managing it in the 1980's.

I have the deed from 9/12/1985 when Marion County School District 24J "lawfully seized in full" the back part of the Hoffman property. In 1991 a Special Policy Area was imposed on the properties close to Windsor Is Rd which reduced the value of the land.

In the 1970's the Urban growth boundary was established which designates this property within city limits. With houses on the north, and south and a grade school on the east side farming has become extremely difficult so building houses would be more suitable and compatible with neighboring properties.

Salem/Keizer is in need of land for developing homes and this site is appropriate. The circumstances have changed with this increased need and the sewage treatment plant has made significant improvements since 2010 including a cogeneration facility which has improved its function.

With increased complaints from neighbors I have had to sacrifice the outside three rows to prevent drift and with increased spread of the disease of Eastern Filbert Blight from neighboring orchards it is becoming difficult and unreasonable to continue in the city limits. Please approve zone changes to allow this development.

Sandra Kerr

From: Mike Kerr
To: Horner, Dina
Subject: Case 2026-05
Date: Wednesday, July 8, 2026 12:35:53 PM

CAUTION: This email originated from Outside Your Organization. Exercise caution when opening attachments or on clicking links from unknown senders. Please contact Information Technology for assistance.

July 8, 2026

City of Keizer Planning Division
930 Chemawa RD NE, Keizer, OR 97303

Regarding Case 2026-05: Comprehensive Plan Map Amendment / Zone Change / Subdivision

To amplify excellent comments submitted by my wife, Sandra Kerr, and her sister, Diane Ramey.

Their family has owned portions of the property for 124 years. 124 years ago, air conditioning was invented and the Teddy Bear was named after President Theadore Roosevelt. For 124 years the family has successfully farmed and established hazelnut orchards on their land.

53 years ago, Senate Bill 100 was signed into law by then Governor Tom McCall and our land-use planning system in Oregon was established. The tenants of SB 100 required cities to establish an urban growth boundary clearly separating urban and rural agricultural and forestry land and uses. Subsequently, the City of Salem, and later the City of Keizer adopted comprehensive plans with their urban growth boundaries and city limits clearly defined.

For 53 years the orderly transition of the family farmland to residential has been inevitable. The family continued to farm until present conditions have made it impossible to continue. We cannot continue to intrude on the neighborhoods that surround us with the dust and noise of farming. Dust, noise

and farming practices that are appropriate in the exclusive farm-use zone outside of the city limits and the urban growth boundary. This is coupled with the certain slow destruction of our orchards caused by the Eastern Filbert Blight disease. The trees are literally falling apart and dying. This has been exacerbated by our proximity to the hazelnut orchards owned by the City of Salem that are infested with the disease, creating enormous spore load adding to the disease pressure in our orchards.

In summary:

1. This land will no longer be farmed.
2. This land will be developed to residential or Agricultural-Industrial use.
3. Residential use is far more compatible with the surrounding neighborhood than uses allowed in the AI zone, such as:
    a. Recycling Centers and Depots.
    b. Energy facilities
    c. Numerous marijuana related uses from growing to processing to retailing.
    d. Solid Waste Transfer Facility.
    e. Composting and recycling facility for organic yard debris.
4. Keizer has a documented need for more land for housing, and this application will help meet that need.
5. This is 22 acres that will not need to be added to any urban growth boundary expansion, thereby retaining farmland where it is needed – outside the urban growth boundary, and within the Exclusive Farm-use zone.

Please approve the Comprehensive Plan Map Amendment / Zone Change / Subdivision application 2026-05.

Respectfully submitted,

Michael A. Kerr
8177 Saghalie DR S
Salem, OR 97306
503-930-1010

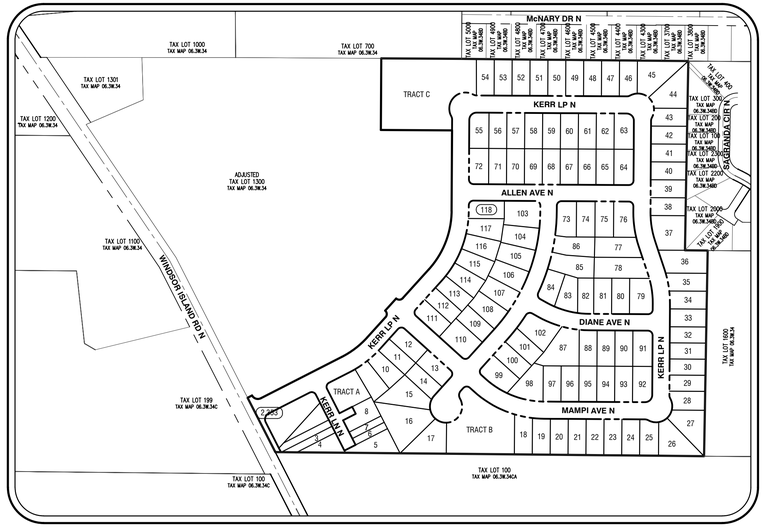
OLSON ORCHARDS

PRELIMINARY SUBDIVISION PLANS

LEGEND

	EXISTING	PROPOSED		EXISTING	PROPOSED
DECIDUOUS TREE	○	⊕	STORM DRAIN CLEAN OUT	○	●
CONIFEROUS TREE	✶	✺	STORM DRAIN CATCH BASIN	□	■
FIRE HYDRANT	♀	♀	STORM DRAIN AREA DRAIN	□	■
WATER BLOWOFF	♀	♀	STORM DRAIN MANHOLE	◎	◉
WATER METER	▭	▬	GAS METER	⊠	◘
WATER VALVE	⋈	⋈	GAS VALVE	⊠	◘
DOUBLE CHECK VALVE	⋈	⋈	GUY WIRE ANCHOR	←	←
AIR RELEASE VALVE	♂	♂	UTILITY POLE	○	●
SANITARY SEWER CLEAN OUT	○	●	POWER VAULT	P	P
SANITARY SEWER MANHOLE	○	●	POWER JUNCTION BOX	△	▲
SIGN	⊸	⊸	POWER PEDESTAL	□	■
STREET LIGHT	☼	✷	COMMUNICATIONS VAULT	C	C
MAILBOX	MB	MB	COMMUNICATIONS JUNCTION BOX	△	▲
			COMMUNICATIONS RISER	○	●

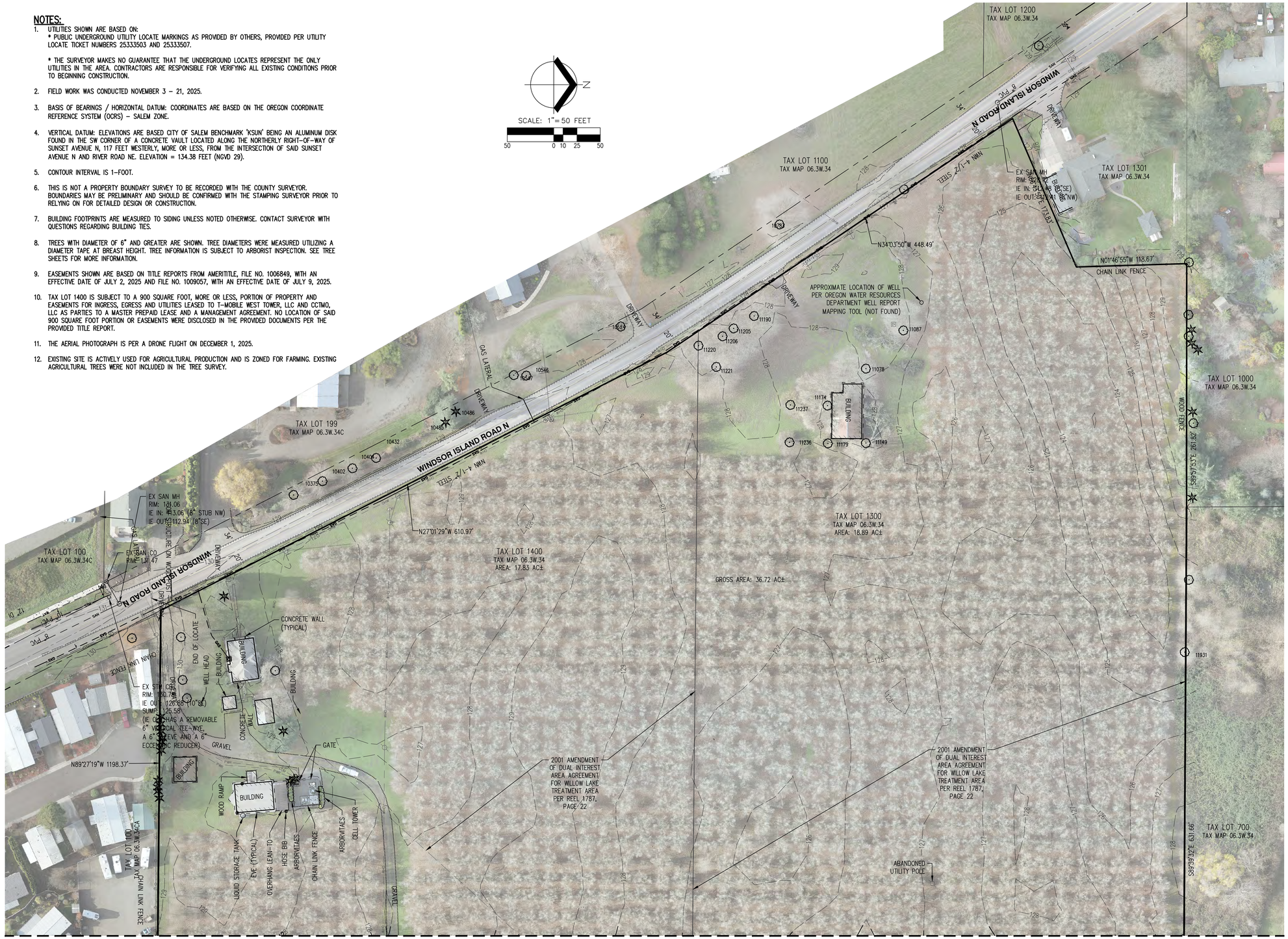
	EXISTING	PROPOSED
RIGHT-OF-WAY LINE		
BOUNDARY LINE		
PROPERTY LINE		
CENTERLINE		
DITCH		
CURB		
EDGE OF PAVEMENT		
GUTTER		
EASEMENT		
FENCE LINE		
GRAVEL EDGE		
POWER LINE	PWR	PWR
OVERHEAD WIRE	OHW	OHW
COMMUNICATIONS LINE	COM	COM
FIBER OPTIC LINE	OFO	OFO
GAS LINE	GAS	GAS
STORM DRAIN LINE	STM	STM
SANITARY SEWER LINE	SAN	SAN
WATER LINE	WAT	WAT
RECLAIMED WATER LINE	NPWAT	NPWAT



NOTES:

1. UTILITIES SHOWN ARE BASED ON:
   * PUBLIC UNDERGROUND UTILITY LOCATE MARKINGS AS PROVIDED BY OTHERS, PROVIDED PER UTILITY LOCATE TICKET NUMBERS 25333503 AND 25333507.

   * THE SURVEYOR MAKES NO GUARANTEE THAT THE UNDERGROUND LOCATES REPRESENT THE ONLY UTILITIES IN THE AREA. CONTRACTORS ARE RESPONSIBLE FOR VERIFYING ALL EXISTING CONDITIONS PRIOR TO BEGINNING CONSTRUCTION.
2. FIELD WORK WAS CONDUCTED NOVEMBER 3 – 21, 2025.
3. BASIS OF BEARINGS / HORIZONTAL DATUM: COORDINATES ARE BASED ON THE OREGON COORDINATE REFERENCE SYSTEM (OCRS) – SALEM ZONE.
4. VERTICAL DATUM: ELEVATIONS ARE BASED CITY OF SALEM BENCHMARK 'KSUN' BEING AN ALUMINUM DISK FOUND IN THE SW CORNER OF A CONCRETE VAULT LOCATED ALONG THE NORTHERLY RIGHT-OF-WAY OF SUNSET AVENUE N, 117 FEET WESTERLY, MORE OR LESS, FROM THE INTERSECTION OF SAID SUNSET AVENUE N AND RIVER ROAD NE. ELEVATION = 134.38 FEET (NGVD 29).
5. CONTOUR INTERVAL IS 1-FOOT.
6. THIS IS NOT A PROPERTY BOUNDARY SURVEY TO BE RECORDED WITH THE COUNTY SURVEYOR. BOUNDARIES MAY BE PRELIMINARY AND SHOULD BE CONFIRMED WITH THE STAMPING SURVEYOR PRIOR TO RELYING ON FOR DETAILED DESIGN OR CONSTRUCTION.
7. BUILDING FOOTPRINTS ARE MEASURED TO SIDING UNLESS NOTED OTHERWISE. CONTACT SURVEYOR WITH QUESTIONS REGARDING BUILDING TIES.
8. TREES WITH DIAMETER OF 6" AND GREATER ARE SHOWN. TREE DIAMETERS WERE MEASURED UTILIZING A DIAMETER TAPE AT BREAST HEIGHT. TREE INFORMATION IS SUBJECT TO ARBORIST INSPECTION. SEE TREE SHEETS FOR MORE INFORMATION.
9. EASEMENTS SHOWN ARE BASED ON TITLE REPORTS FROM AMERITITLE, FILE NO. 1006849, WITH AN EFFECTIVE DATE OF JULY 2, 2025 AND FILE NO. 1009057, WITH AN EFFECTIVE DATE OF JULY 9, 2025.
10. TAX LOT 1400 IS SUBJECT TO A 900 SQUARE FOOT, MORE OR LESS, PORTION OF PROPERTY AND EASEMENTS FOR INGRESS, EGRESS AND UTILITIES LEASED TO T-MOBILE WEST TOWER, LLC AND CCTMO, LLC AS PARTIES TO A MASTER PREPAID LEASE AND A MANAGEMENT AGREEMENT. NO LOCATION OF SAID 900 SQUARE FOOT PORTION OR EASEMENTS WERE DISCLOSED IN THE PROVIDED DOCUMENTS PER THE PROVIDED TITLE REPORT.
11. THE AERIAL PHOTOGRAPH IS PER A DRONE FLIGHT ON DECEMBER 1, 2025.
12. EXISTING SITE IS ACTIVELY USED FOR AGRICULTURAL PRODUCTION AND IS ZONED FOR FARMING. EXISTING AGRICULTURAL TREES WERE NOT INCLUDED IN THE TREE SURVEY.



MATCHLINE SEE SHEET P-03

PACIFIC NATIONAL DEVELOPMENT
P.O. BOX 3550
SALEM, OR 97302
(503) 990-7003

R-C RHINE-CROSS GROUP
RHINE-CROSS GROUP LLC
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Phone: (541) 851-9405 Fax: (541) 273-9200 admin@rc-grp.com

REGISTERED PROFESSIONAL ENGINEER
55,506PE
Marcus D. Cross
OREGON
JULY 09, 2004
MARCUS D. CROSS
RENEWS: 12-31-2027

02-22-2026

Olson Orchards Preliminary Subdivision

OREGON
KEIZER

SHEET NAME:
EXISTING CONDITIONS PLAN - WEST

DRAWN BY: TDC
CHK'D BY: MDC
DATE: FEBRUARY 2026

REVISIONS:

JOB NO.
2494

SHEET NO.
P-02

MATCHLINE SEE SHEET P-02



N

SCALE: 1"=50 FEET

50 0 10 25 50

NOTES:

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Marcus D. Cross
OREGON
JULY 09, 2001
MARCUS D. CROSS
RENEWS: 12-31-2027

02-22-2026

Olson Orchards
Preliminary Subdivision
KEIZER OREGON

SHEET NAME:
EXISTING CONDITIONS PLAN - EAST

DRAWN BY: TDC
CHK'D BY: MDC
DATE: FEBRUARY 2026

REVISIONS:

JOB NO.
2494

SHEET NO.
P-03

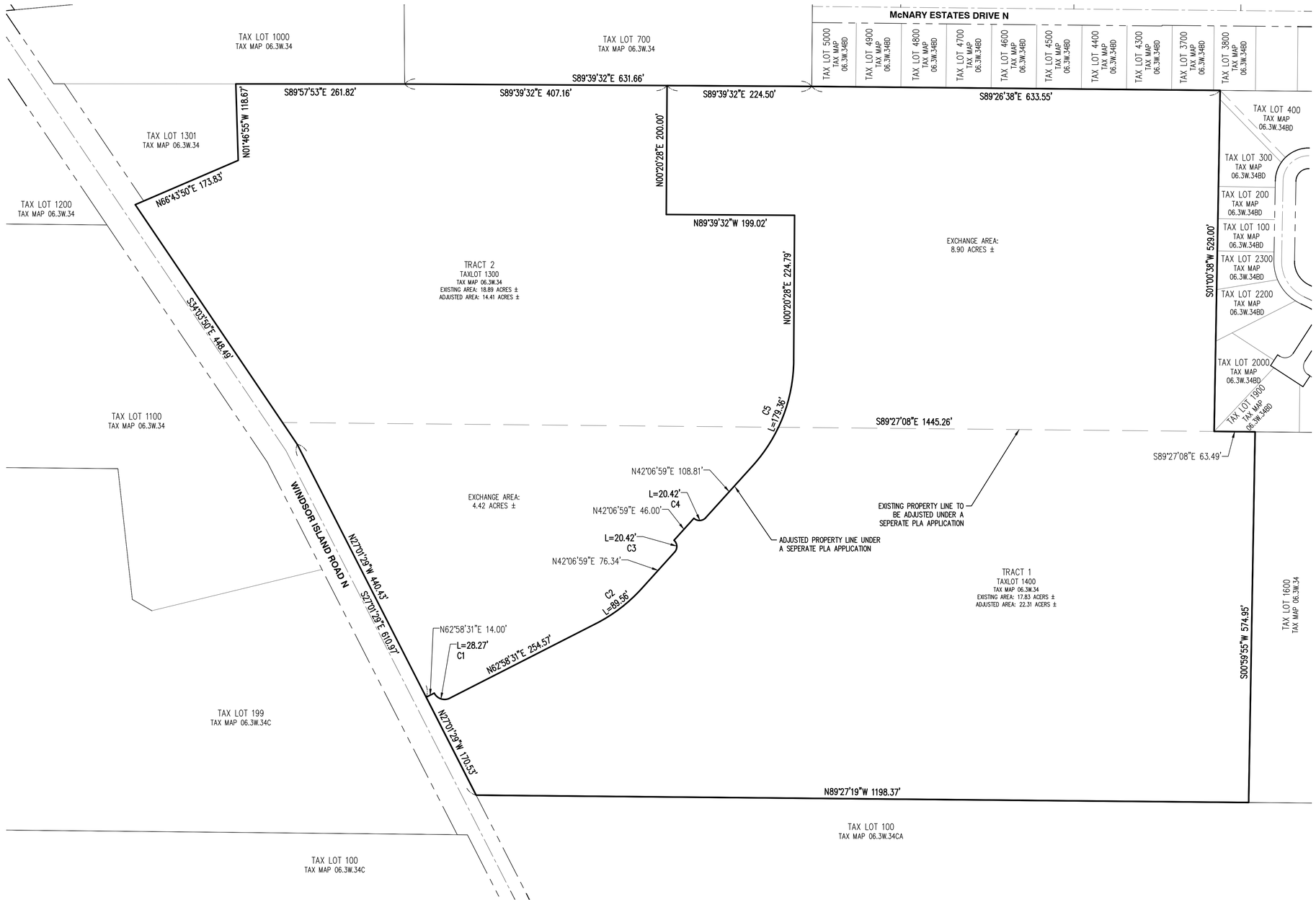
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SCALE: 1"= 80 FEET

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ORIGINAL PAGE SIZE: 22" x 34"

CURVE TABLE				
CURVE	RADIUS	DELTA	LENGTH	CHORD



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OREGON
JULY 09, 2001
MARCUS D. CROSS

RENEWS: 12-31-2027

02-22-2026

Olson Orchards
Preliminary Subdivision

OREGON

KEIZER

SHEET NAME:

PROPERTY LINE ADJUSTMENT

DRAWN BY: TDC

CHK'D BY: MDC

DATE: FEBRUARY 2026

REVISIONS:

JOB NO.

2494

SHEET NO.

P-04

N

SCALE: 1"=60 FEET

60 0 12 30 60

ORIGINAL PAGE SIZE: 22" x 34"

TAX LOT 1000
TAX MAP 06.3W.34

TAX LOT 700
TAX MAP 06.3W.34

TAX LOT 5000 TAX MAP 06.3W.34BD | TAX LOT 4900 TAX MAP 06.3W.34BD | TAX LOT 4800 TAX MAP 06.3W.34BD | TAX LOT 4700 TAX MAP 06.3W.34BD | TAX LOT 4600 TAX MAP 06.3W.34BD | TAX LOT 4500 TAX MAP 06.3W.34BD | TAX LOT 4400 TAX MAP 06.3W.34BD | TAX LOT 4300 TAX MAP 06.3W.34BD | TAX LOT 3700 TAX MAP 06.3W.34BD | TAX LOT 3800 TAX MAP 06.3W.34BD

TAX LOT 400
TAX MAP
06.3W.34BD

TAX LOT 300
TAX MAP
06.3W.34BD

TAX LOT 200
TAX MAP
06.3W.34BD

TAX LOT 100
TAX MAP
06.3W.34BD

TAX LOT 2300
TAX MAP
06.3W.34BD

TAX LOT 2200
TAX MAP
06.3W.34BD

TAX LOT 2000
TAX MAP
06.3W.34BD

TAX LOT 1900
TAX MAP
06.3W.34BD

TAX LOT 1301
TAX MAP 06.3W.34

TAX LOT 1100
TAX MAP 06.3W.34

TAX LOT 1600
TAX MAP 06.3W.34

S89°39'32"E 224.5'
224.5'

SPECIAL POLICY AREA

TRACT C
STORMWATER FACILITY
±46,137 SF

N00°20'28"E 200.0'
200.0'

N89°39'32"W 199.0'
199.0'

22.0' EAE

APPROXIMATE LOCATION OF WELL PER OREGON WATER RESOURCES DEPARTMENT WELL REPORT MAPPING TOOL (NOT FOUND)

ADJUSTED
TAX LOT 1300
TAX MAP 06.3W.34

20.0' CONSTRUCTION EASEMENT

PROPERTY LINE ADJUSTMENT UNDER SEPARATE APPLICATION

KERR LP N

ALLEN AVE N

DIANE AVE N

MAMPI AVE N

KERR LN N

WINDSOR ISLAND RD N

MAMPI AVE N

TRACT A
±8,666 SF
PRAE

TRACT B
STORMWATER FACILITY
±26,149 SF

TRACT D
OPEN SPACE
±10,909 SF

CELL TOWER BUILDING SETBACK

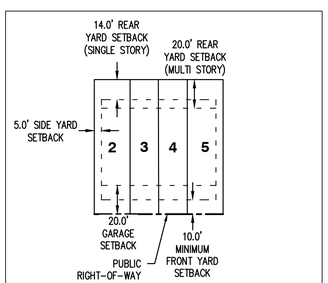
SPECIAL POLICY AREA

TAX LOT 199
TAX MAP 06.3W.34C

TAX LOT 100
TAX MAP 06.3W.34C

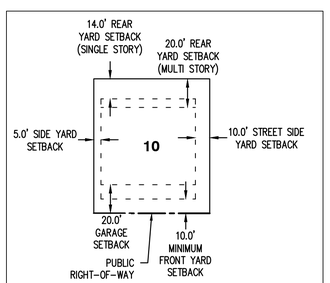
TAX LOT 100
TAX MAP 06.3W.34CA

N89°27'19"W 1198.4'



TYPICAL ATTACHED SINGLE FAMILY BUILDING SETBACKS

NTS



TYPICAL DETACHED SINGLE FAMILY BUILDING SETBACKS

NTS

THE PURPOSE OF THIS PRELIMINARY PLAT IS TO SHOW THE PRELIMINARY LOT DIMENSIONS AND AREAS FOR PLANNING PURPOSES ONLY. THIS IS NOT AN OFFICIAL PLAT AND IS NOT TO BE USED FOR SURVEY PURPOSES.

NOTES:

1. TRACT A SHALL BE OWNED AND MAINTAINED BY A FUTURE HOME OWNERS ASSOCIATION, AND SHALL MAINTAIN THE LEASE FOR T-MOBILE WEST TOWER, LLC AND CCTMO, LLC.
2. TRACTS B AND C ARE TO BE OWNED AND MAINTAINED BY THE CITY OF KEIZER.

EASEMENT LEGEND

PPAE	PUBLIC PEDESTRIAN ACCESS EASEMENT
PUE	PUBLIC FRANCHISE UTILITY EASEMENT
AE	PUBLIC ACCESS EASEMENT
PRAE	PRIVATE ACCESS EASEMENT
PRAUE	PRIVATE ACCESS & UTILITY EASEMENT
EAE	EMERGENCY ACCESS EASEMENT

PACIFIC NATIONAL DEVELOPMENT
P.O. BOX 3550
SALEM, OR 97302
(503) 990-7003

R-C RHINE-CROSS GROUP LLC
RHINE-CROSS GROUP
ENGINEERING - SURVEYING - PLANNING
112 N 5th ST - SUITE 200 - P.O. BOX 909
KLAMATH FALLS, OREGON 97601
Phone: (541) 851-9405 Fax: (541) 273-9200 admin@rc-grp.com

REGISTERED PROFESSIONAL ENGINEER
55,506PE
Marcus D. Cross
OREGON
JULY 09, 2004
MARCUS D. CROSS
RENEWS: 12-31-2027

02-22-2026

Olson Orchards
Preliminary Subdivision
KEIZER OREGON

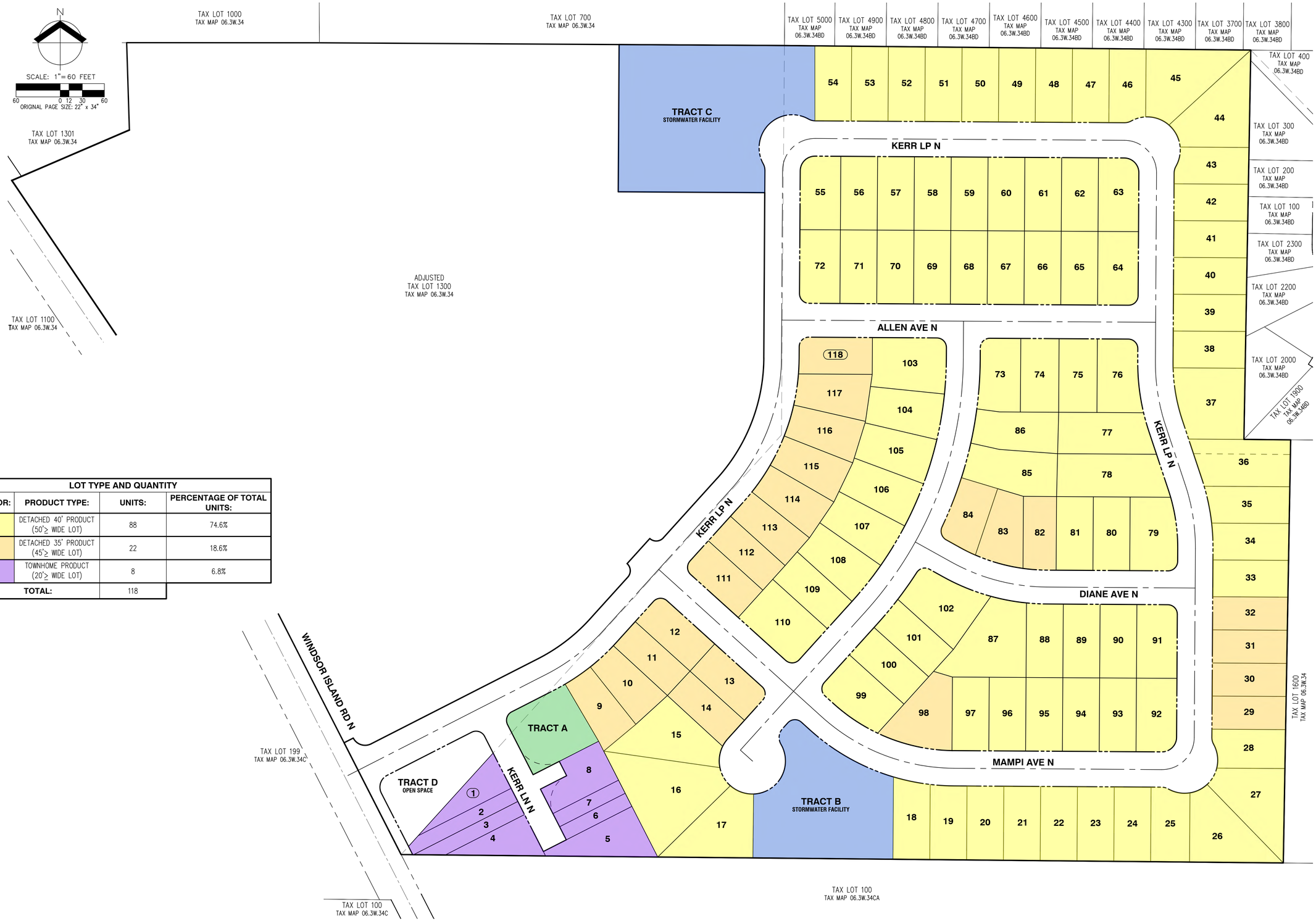
SHEET NAME:
PRELIMINARY DIMENSIONED SUBDIVISION PLAT

DRAWN BY: TDC
CHK'D BY: MDC
DATE: FEBRUARY 2026

REVISIONS:

JOB NO.
2494

SHEET NO.
P-05



LOT TYPE AND QUANTITY			
COLOR:	PRODUCT TYPE:	UNITS:	PERCENTAGE OF TOTAL UNITS:
	DETACHED 40' PRODUCT (50'≥ WIDE LOT)	88	74.6%
	DETACHED 35' PRODUCT (45'≥ WIDE LOT)	22	18.6%
	TOWNHOME PRODUCT (20'≥ WIDE LOT)	8	6.8%
TOTAL:		118	

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55,506PE
Marcus D. Cross
OREGON
JULY 09, 2004
MARCUS D. CROSS
RENEWS: 12-31-2027

02-22-2026

Olson Orchards
Preliminary Subdivision
KEIZER OREGON

SHEET NAME:
PRELIMINARY UNIT TYPE PLAN

DRAWN BY: TDC
CHK'D BY: MDC
DATE: FEBRUARY 2026

REVISIONS:

JOB NO.
2494

SHEET NO.
P-06

N

SCALE: 1"=60 FEET

60 0 12 30 60

ORIGINAL PAGE SIZE: 22" x 34"

TAX LOT 1000
TAX MAP 06.3W.34

TAX LOT 700
TAX MAP 06.3W.34

TAX LOT 5000 TAX MAP 06.3W.34BD
TAX LOT 4900 TAX MAP 06.3W.34BD
TAX LOT 4800 TAX MAP 06.3W.34BD
TAX LOT 4700 TAX MAP 06.3W.34BD
TAX LOT 4600 TAX MAP 06.3W.34BD
TAX LOT 4500 TAX MAP 06.3W.34BD
TAX LOT 4400 TAX MAP 06.3W.34BD
TAX LOT 4300 TAX MAP 06.3W.34BD
TAX LOT 3700 TAX MAP 06.3W.34BD
TAX LOT 3800 TAX MAP 06.3W.34BD
TAX LOT 400 TAX MAP 06.3W.34BD
TAX LOT 300 TAX MAP 06.3W.34BD
TAX LOT 200 TAX MAP 06.3W.34BD
TAX LOT 100 TAX MAP 06.3W.34BD
TAX LOT 2300 TAX MAP 06.3W.34BD
TAX LOT 2200 TAX MAP 06.3W.34BD
TAX LOT 2000 TAX MAP 06.3W.34BD
TAX LOT 1900 TAX MAP 06.3W.34BD
TAX LOT 1600 TAX MAP 06.3W.34

TAX LOT 1301
TAX MAP 06.3W.34

TAX LOT 1100
TAX MAP 06.3W.34

TAX LOT 199
TAX MAP 06.3W.34C

TAX LOT 100
TAX MAP 06.3W.34C

TAX LOT 100
TAX MAP 06.3W.34CA

SEDIMENT FENCE (TYP)

SLOPE MATTING (TYP)

TRACT C
STORMWATER FACILITY

22.0' D.E.

APPROXIMATE LOCATION OF WELL PER OREGON WATER RESOURCES DEPARTMENT WELL REPORT MAPPING TOOL (NOT-FOUND)

ADJUSTED TAX LOT 1300
TAX MAP 06.3W.34

20.0' CONSTRUCTION EASEMENT

KERR LP N

ALLEN AVE N

DISTURBANCE BOUNDARY (TYP)

DIANE AVE N

MAMPI AVE N

INLET PROTECTION (TYP)

CONSTRUCTION ENTRANCE

TRACT A
OPEN SPACE

TRACT B
STORMWATER FACILITY

TRACT D
OPEN SPACE

WINDSOR ISLAND RD N

TREE PROTECTION FENCE (TYP)

SAWCUT LINE (TYP)

LEGEND

- EXISTING GROUND CONTOUR (1 FT) — 124 —
- EXISTING GROUND CONTOUR (5 FT) — 125 —
- FINISHED GRADE CONTOUR (1 FT) —— 124 ——
- FINISHED GRADE CONTOUR (5 FT) —— 125 ——
- SEDIMENT FENCE (TO BE INSTALLED PRIOR TO GRADING) — x — x —
- SAWCUT LINE - - - - -
- AREA DRAIN PROTECTION (TYP) PER CATCH BASIN INSERT BAG DETAIL
- DRAINAGE FLOW DIRECTION
- GRAVEL CONSTRUCTION ENTRANCE
- SLOPE MATTING
- GRADING LIMITS
- TREE PROTECTION/CONSTRUCTION FENCE

EASEMENT LEGEND

PPAE	PUBLIC PEDESTRIAN ACCESS EASEMENT
PUE	PUBLIC FRANCHISE UTILITY EASEMENT
AE	PUBLIC ACCESS EASEMENT
PRAE	PRIVATE ACCESS EASEMENT
PRAUE	PRIVATE ACCESS & UTILITY EASEMENT
EAE	EMERGENCY ACCESS EASEMENT

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Marcus D. Cross
OREGON
JULY 09, 2001
MARCUS D. CROSS
RENEWS: 12-31-2027

02-22-2026

Olson Orchards Preliminary Subdivision

OREGON

KEIZER

SHEET NAME:
PRELIMINARY GRADING & ESC PLAN

DRAWN BY: TDC
CHK'D BY: MDC
DATE: FEBRUARY 2026

REVISIONS:

JOB NO.
2494

SHEET NO.
P-07

N

SCALE: 1"=60 FEET

60 0 12 30 60

ORIGINAL PAGE SIZE: 22" x 34"

TAX LOT 1000
TAX MAP 06.3W.34

TAX LOT 700
TAX MAP 06.3W.34

TAX LOT 5000 TAX MAP 06.3W.34BD | TAX LOT 4900 TAX MAP 06.3W.34BD | TAX LOT 4800 TAX MAP 06.3W.34BD | TAX LOT 4700 TAX MAP 06.3W.34BD | TAX LOT 4600 TAX MAP 06.3W.34BD | TAX LOT 4500 TAX MAP 06.3W.34BD | TAX LOT 4400 TAX MAP 06.3W.34BD | TAX LOT 4300 TAX MAP 06.3W.34BD | TAX LOT 3700 TAX MAP 06.3W.34BD | TAX LOT 3800 TAX MAP 06.3W.34BD

TAX LOT 400 TAX MAP 06.3W.34BD

TAX LOT 300 TAX MAP 06.3W.34BD

TAX LOT 200 TAX MAP 06.3W.34BD

TAX LOT 100 TAX MAP 06.3W.34BD

TAX LOT 2300 TAX MAP 06.3W.34BD

TAX LOT 2200 TAX MAP 06.3W.34BD

TAX LOT 2000 TAX MAP 06.3W.34BD

TAX LOT 1900 TAX MAP 06.3W.34BD

TAX LOT 1301
TAX MAP 06.3W.34

TAX LOT 1100
TAX MAP 06.3W.34

TRACT C
STORMWATER FACILITY

22.0' EAE

APPROXIMATE LOCATION OF WELL PER OREGON WATER RESOURCES DEPARTMENT WELL REPORT MAPPING TOOL (NOT FOUND)

ADJUSTED
TAX LOT 1300
TAX MAP 06.3W.34

20.0' CONSTRUCTION EASEMENT

KERR LP N

ALLEN AVE N

DIANE AVE N

MAMPI AVE N

KERR LN N

LIGHT POLE (TYP)

FIRE HYDRANT (TYP)

SANITARY SEWER MANHOLE (TYP)

PAIRED WATER METERS (TYP)

STORM DRAINAGE LATERAL (TYP)

SANITARY SEWER LATERAL (TYP)

STORM DRAINAGE MAINLINE (TYP)

SANITARY SEWER MAINLINE (TYP)

WATER MAINLINE (TYP)

STORM DRAINAGE CATCH BASIN (TYP)

STORM DRAINAGE MANHOLE (TYP)

STORM DRAINAGE OUTFALL (TYP)

WATER METER (TYP)

SINGLE WATER METER (TYP)

TRACT A
OPEN SPACE

TRACT B
STORMWATER FACILITY

TRACT D
OPEN SPACE

CONNECT TO EXISTING SANITARY SEWER STUB

STORM DRAINAGE CLEAN OUT

EXISTING SANITARY MANHOLE
RIM: 131.06
IE IN: 113.06 (8"STUB NW)
IE OUT: 112.94 (8"SE)

CONNECT TO EXISTING WATER MAINLINE

TAX LOT 199
TAX MAP 06.3W.34CC

TAX LOT 100
TAX MAP 06.3W.34C

TAX LOT 100
TAX MAP 06.3W.34CA

TAX LOT 1600
TAX MAP 06.3W.34

HATCH PATTERN LEGEND

- CONCRETE SIDEWALK TO BE CONSTRUCTED BY HOMEBUILDER
- CONCRETE DRIVEWAY TO BE CONSTRUCTED BY HOMEBUILDER
- CONCRETE SIDEWALK TO BE CONSTRUCTED BY CONTRACTOR
- GRAVEL ACCESS

EASEMENT LEGEND

PPAE	PUBLIC PEDESTRIAN ACCESS EASEMENT
PUE	PUBLIC FRANCHISE UTILITY EASEMENT
AE	PUBLIC ACCESS EASEMENT
PRAE	PRIVATE ACCESS EASEMENT
PRAUE	PRIVATE ACCESS & UTILITY EASEMENT
EAE	EMERGENCY ACCESS EASEMENT

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55,506PE
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OREGON
JULY 09, 2001
MARCUS D. CROSS
RENEWS: 12-31-2027

02-22-2026

Olson Orchards Preliminary Subdivision

OREGON

KEIZER

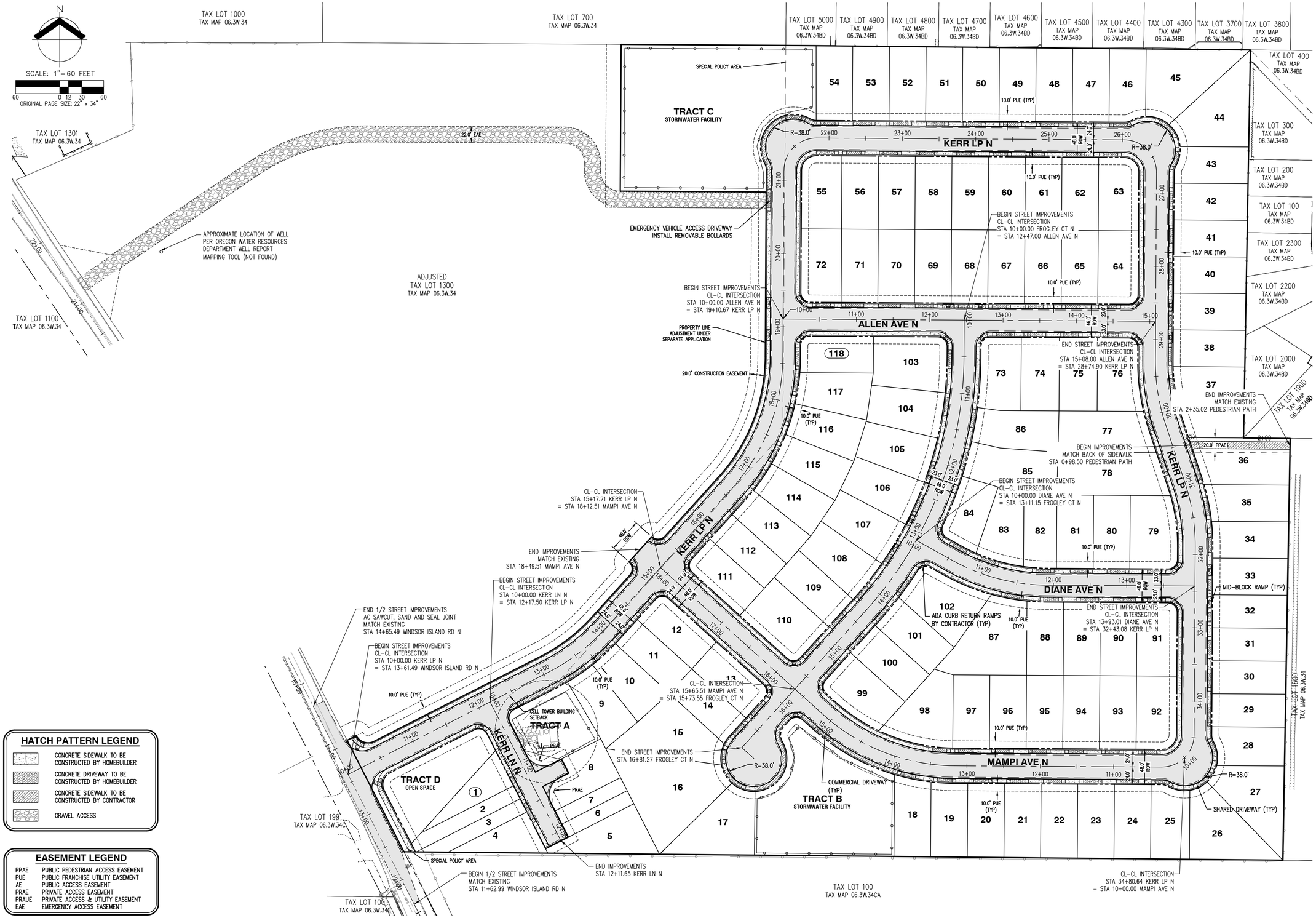
SHEET NAME:
PRELIMINARY COMPOSITE UTILITY PLAN

DRAWN BY: TDC
CHK'D BY: MDC
DATE: FEBRUARY 2026

REVISIONS:

JOB NO.
2494

SHEET NO.
P-08



HATCH PATTERN LEGEND

- CONCRETE SIDEWALK TO BE CONSTRUCTED BY HOMEBUILDER
- CONCRETE DRIVEWAY TO BE CONSTRUCTED BY HOMEBUILDER
- CONCRETE SIDEWALK TO BE CONSTRUCTED BY CONTRACTOR
- GRAVEL ACCESS

EASEMENT LEGEND

PPAE	PUBLIC PEDESTRIAN ACCESS EASEMENT
PUE	PUBLIC FRANCHISE UTILITY EASEMENT
AE	PUBLIC ACCESS EASEMENT
PRAE	PRIVATE ACCESS EASEMENT
PRAUE	PRIVATE ACCESS & UTILITY EASEMENT
EAE	EMERGENCY ACCESS EASEMENT

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REGISTERED PROFESSIONAL ENGINEER
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OREGON
JULY 09, 2010
MARCUS D. CROSS
RENEWS: 12-31-2027
02-22-2026

Olson Orchards Preliminary Subdivision

OREGON
KEIZER

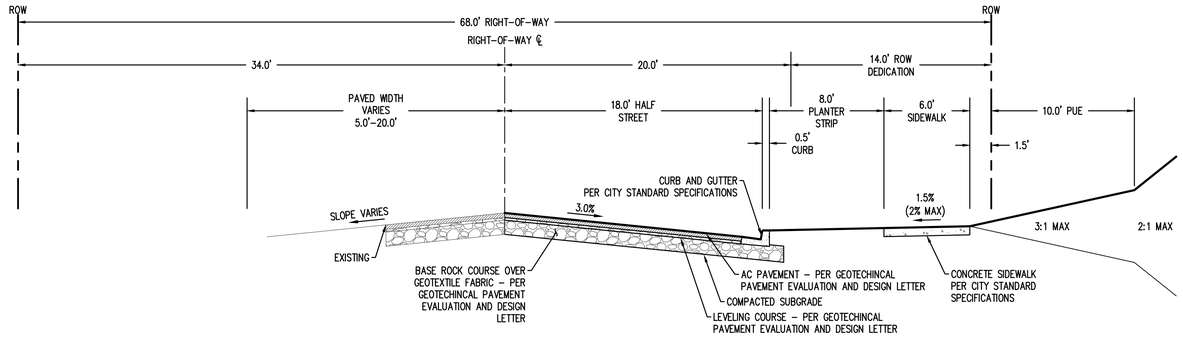
SHEET NAME:
PRELIMINARY STREET PLAN

DRAWN BY: TDC
CHK'D BY: MDC
DATE: FEBRUARY 2026

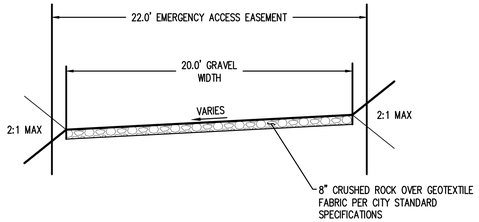
REVISIONS:

JOB NO.
2494

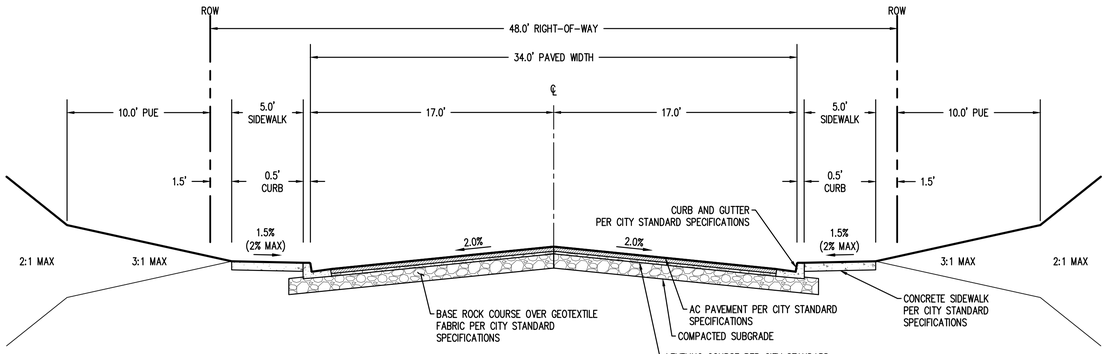
SHEET NO.
P-09



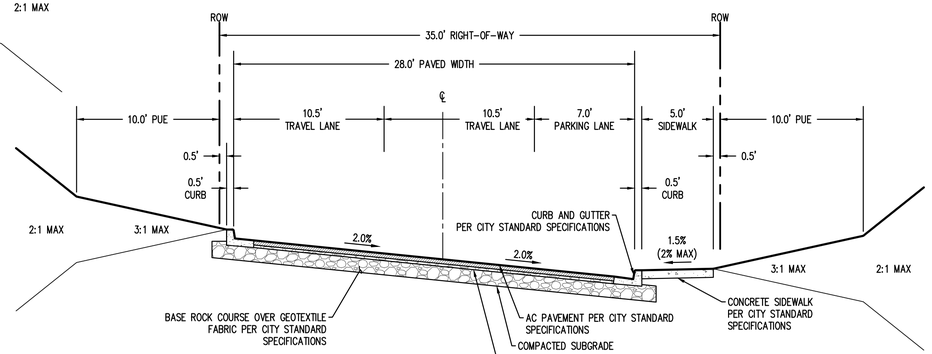
WINDSOR ISLAND RD N HALF STREET
CROSS-SECTION
NOT TO SCALE



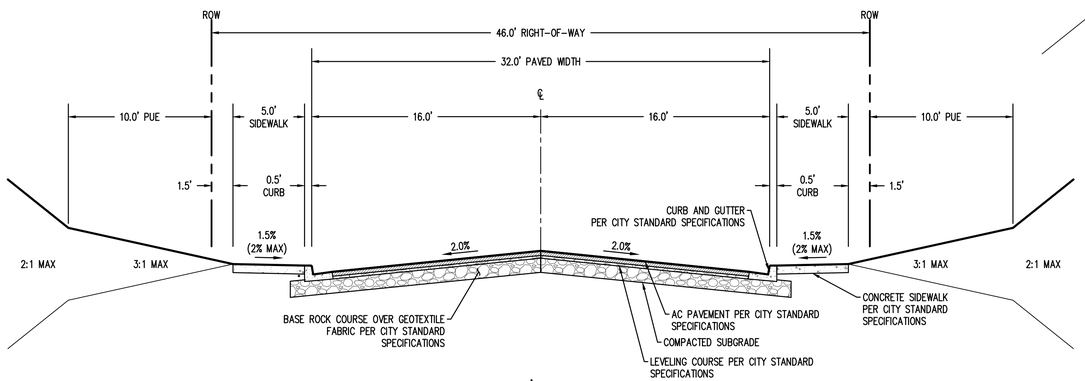
EMERGENCY ACCESS
CROSS-SECTION
(NOT TO SCALE)
EMERGENCY VEHICLE ACCESS



TYPICAL 48' ROW SECTION
LOCAL V
(NOT TO SCALE)
KERR LOOP N
MAMPI AVENUE N (STA: 10+00.00 - 18+12.47)



TYPICAL 35' ROW SECTION
LOCAL I
(NOT TO SCALE)
KERR LANE N



TYPICAL 46' ROW SECTION
LOCAL IV
(NOT TO SCALE)
ALLEN AVENUE N
DIANE AVENUE N
FROGLEY COURT N
MAMPI AVENUE N (STA: 18+12.47 - 18+49.47)

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RENEWS: 12-31-2027

02-22-2026

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KEIZER

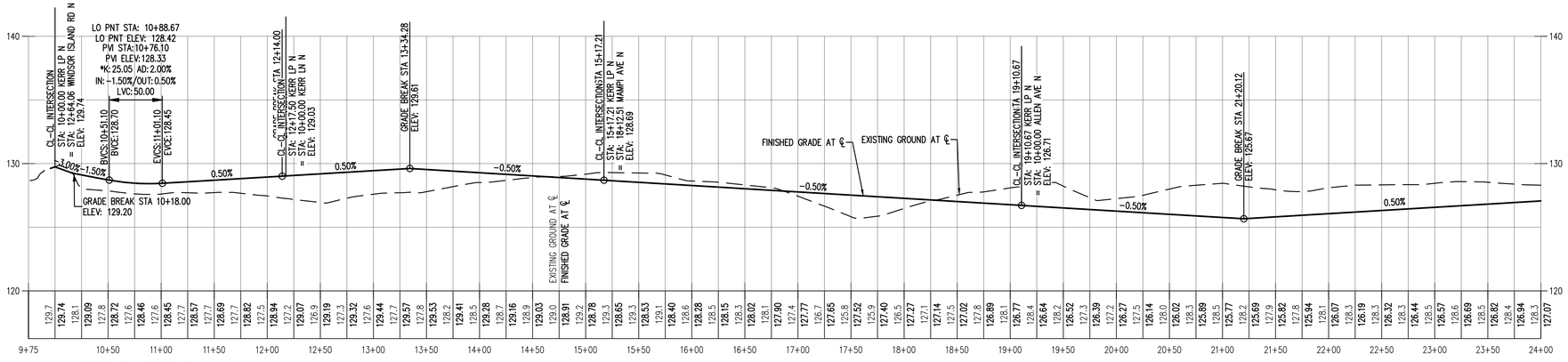
SHEET NAME:
TYPICAL STREET CROSS SECTIONS

DRAWN BY: TDC
CHK'D BY: MDC
DATE: FEBRUARY 2026

REVISIONS:

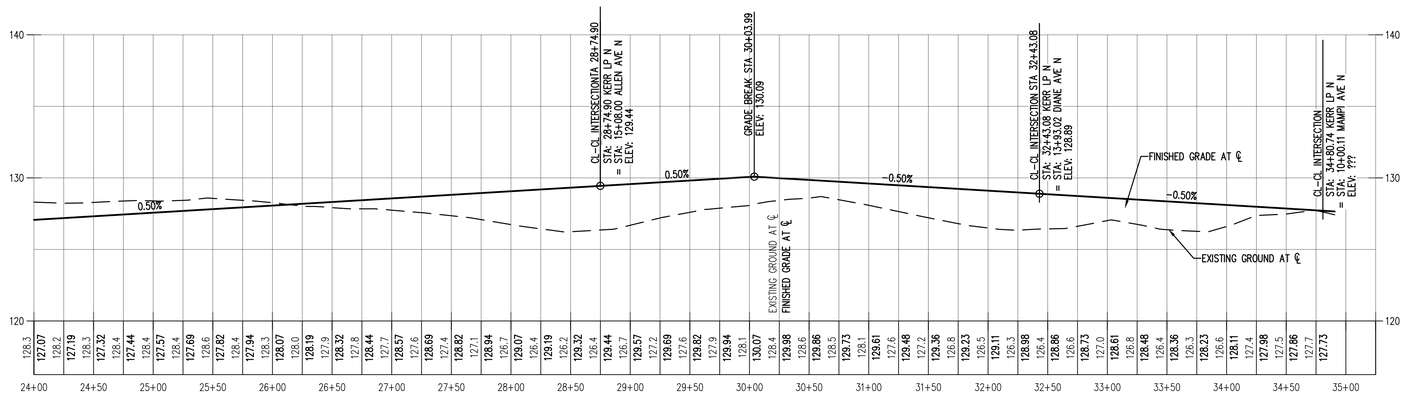
JOB NO.
2494

SHEET NO.
P-10

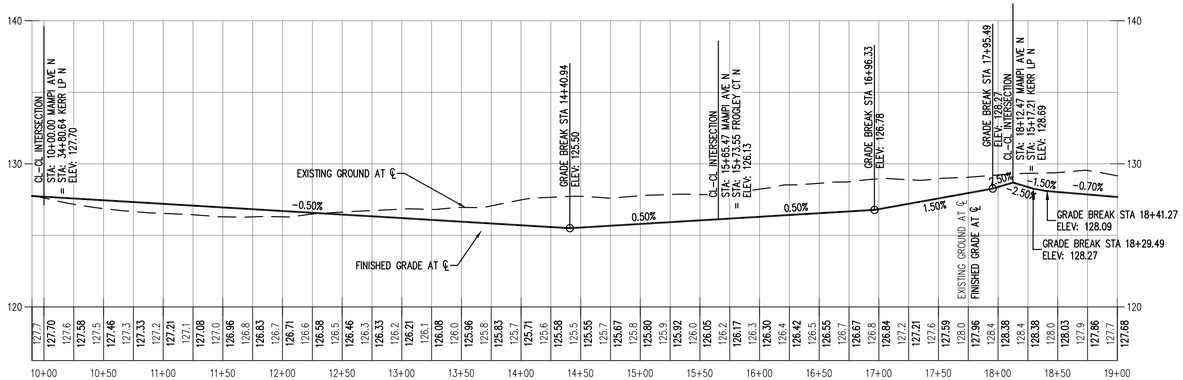


KERR LP N PROFILE
STA: 9+75.00 TO 24+00.00
HORIZ: 1"=60'
VERT: 1"=5'
ALL PROFILE ELEVATIONS BASED ON ROAD CENTERLINE UNLESS NOTED OTHERWISE

* MINIMUM K VALUE LOWERED AT STOP CONTROLLED INTERSECTION (K > 10)



KERR LP N PROFILE
STA: 24+00.00 TO 35+25.00
HORIZ: 1"=60'
VERT: 1"=5'
ALL PROFILE ELEVATIONS BASED ON ROAD CENTERLINE UNLESS NOTED OTHERWISE



MAMPI AVE N PROFILE
STA: 10+00.00 TO 19+00.00
HORIZ: 1"=60'
VERT: 1"=5'
ALL PROFILE ELEVATIONS BASED ON ROAD CENTERLINE UNLESS NOTED OTHERWISE

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RENEWS: 12-31-2027

02-22-2026

Olson Orchards
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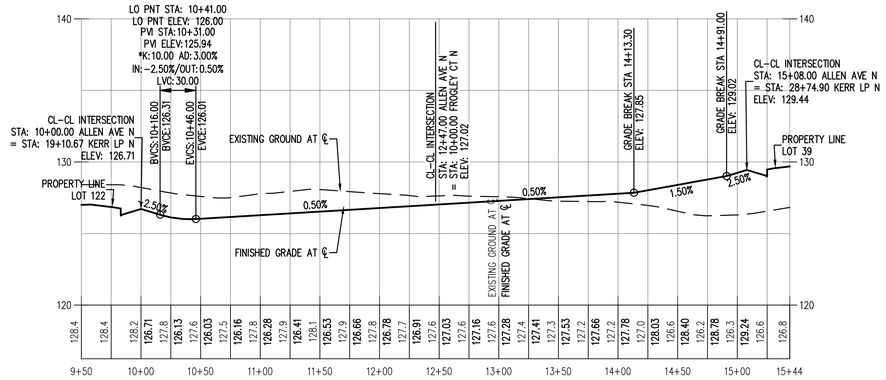
SHEET NAME:
PRELIMINARY STREET PROFILES

DRAWN BY: TDC
CHK'D BY: MDC
DATE: FEBRUARY 2026

REVISIONS:

JOB NO.
2494

SHEET NO.
P-11

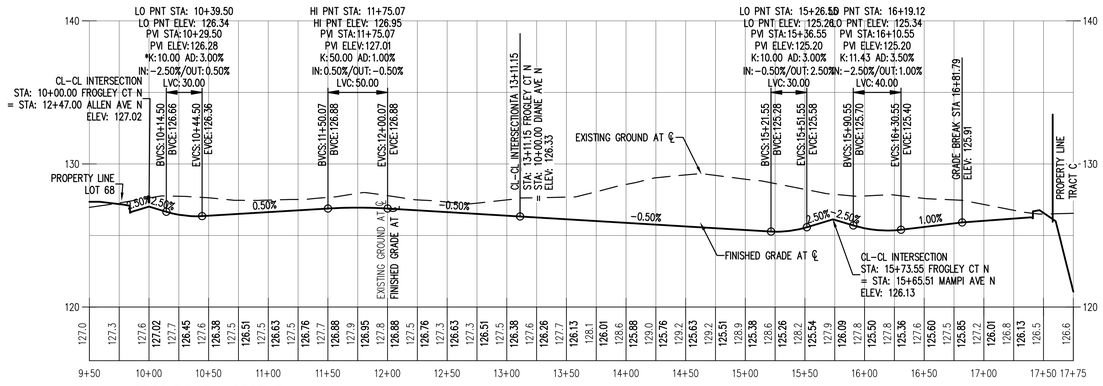


ALLEN AVE N PROFILE

STA: 9+50.00 TO 15+44.00

HORIZ: 1"=60'
VERT: 1"=5'
ALL PROFILE ELEVATIONS BASED ON
ROAD CENTERLINE UNLESS NOTED OTHERWISE

* MINIMUM K VALUE LOWERED AT STOP CONTROLLED INTERSECTION (K > 10)

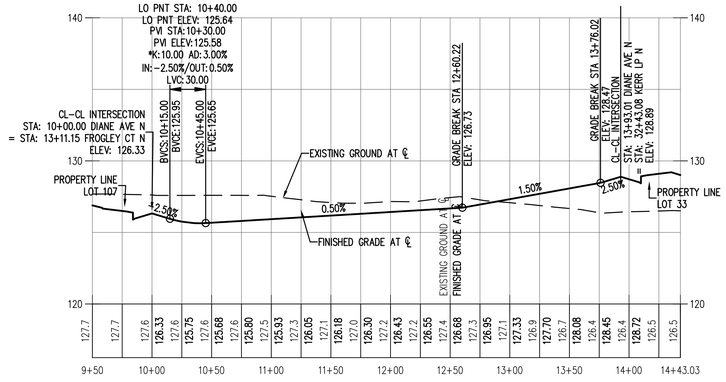


FROGLEY CT N PROFILE

STA: 10+00.00 TO 17+75.00

HORIZ: 1"=60'
VERT: 1"=5'
ALL PROFILE ELEVATIONS BASED ON
ROAD CENTERLINE UNLESS NOTED OTHERWISE

* MINIMUM K VALUE LOWERED AT STOP CONTROLLED INTERSECTION (K > 10)

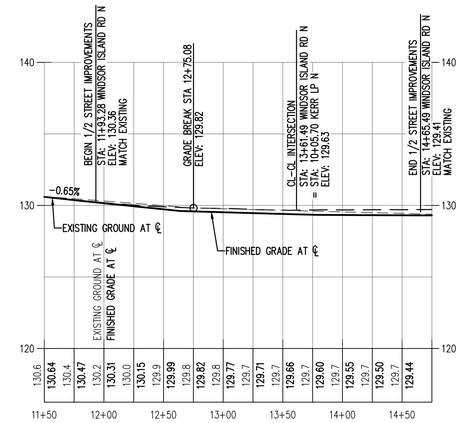


DIANE AVE N PROFILE

STA: 10+00.00 TO 14+43.03

HORIZ: 1"=60'
VERT: 1"=5'
ALL PROFILE ELEVATIONS BASED ON
ROAD CENTERLINE UNLESS NOTED OTHERWISE

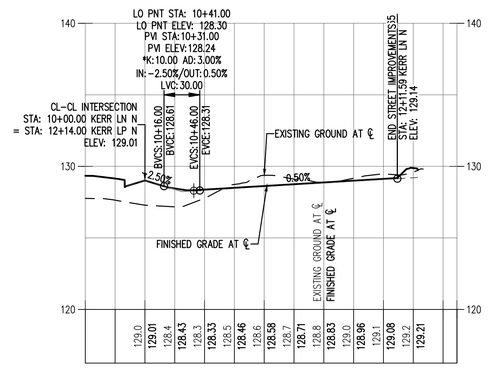
* MINIMUM K VALUE LOWERED AT STOP CONTROLLED INTERSECTION (K > 10)



WINDSOR ISLAND RD N PROFILE

STA: 11+50.00 TO 14+75.00

HORIZ: 1"=60'
VERT: 1"=5'
ALL PROFILE ELEVATIONS BASED ON
ROAD CENTERLINE UNLESS NOTED OTHERWISE



KERR LN N PROFILE

STA: 10+00.00 TO 12+61.65

HORIZ: 1"=60'
VERT: 1"=5'
ALL PROFILE ELEVATIONS BASED ON
ROAD CENTERLINE UNLESS NOTED OTHERWISE

* MINIMUM K VALUE LOWERED AT STOP CONTROLLED INTERSECTION (K > 10)

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Marcus D. Cross
OREGON
JULY 09, 2001
MARCUS D. CROSS
RENEWS: 12-31-2027

02-22-2026

Olson Orchards
Preliminary Subdivision
OREGON
KEIZER

SHEET NAME:
PRELIMINARY STREET PROFILES

DRAWN BY: TDC
CHK'D BY: MDC
DATE: FEBRUARY 2026

REVISIONS:

JOB NO.
2494

SHEET NO.
P-12

N

SCALE: 1"=60 FEET

60 0 12 30 60

ORIGINAL PAGE SIZE: 22" x 34"

TAX LOT 1000
TAX MAP 06.3W.34

TAX LOT 700
TAX MAP 06.3W.34

TAX LOT 5000 TAX MAP 06.3W.34BD
TAX LOT 4900 TAX MAP 06.3W.34BD
TAX LOT 4800 TAX MAP 06.3W.34BD
TAX LOT 4700 TAX MAP 06.3W.34BD
TAX LOT 4600 TAX MAP 06.3W.34BD
TAX LOT 4500 TAX MAP 06.3W.34BD
TAX LOT 4400 TAX MAP 06.3W.34BD
TAX LOT 4300 TAX MAP 06.3W.34BD
TAX LOT 3700 TAX MAP 06.3W.34BD
TAX LOT 3800 TAX MAP 06.3W.34BD
TAX LOT 400 TAX MAP 06.3W.34BD
TAX LOT 300 TAX MAP 06.3W.34BD
TAX LOT 200 TAX MAP 06.3W.34BD
TAX LOT 100 TAX MAP 06.3W.34BD
TAX LOT 2300 TAX MAP 06.3W.34BD
TAX LOT 2200 TAX MAP 06.3W.34BD
TAX LOT 2000 TAX MAP 06.3W.34BD
TAX LOT 1900 TAX MAP 06.3W.34BD
TAX LOT 1600 TAX MAP 06.3W.34

TAX LOT 1301
TAX MAP 06.3W.34

TAX LOT 1300
TAX MAP 06.3W.34

TAX LOT 1100
TAX MAP 06.3W.34

TAX LOT 199
TAX MAP 06.3W.34C

TAX LOT 100
TAX MAP 06.3W.34C

TAX LOT 100
TAX MAP 06.3W.34CA

TRACT C
STORMWATER FACILITY

TRACT A
OPEN SPACE

TRACT B
STORMWATER FACILITY

TRACT D
OPEN SPACE

KERR LP N

ALLEN AVE N

DIANE AVE N

MAMPI AVE N

KERR LN N

WINDSOR ISLAND RD N

APPROXIMATE LOCATION OF WELL PER OREGON WATER RESOURCES DEPARTMENT WELL REPORT MAPPING TOOL (NOT FOUND)

LEGEND

- EXISTING GROUND CONTOUR (1 FT)
- EXISTING GROUND CONTOUR (5 FT)
- FINISHED GRADE CONTOUR (1 FT)
- FINISHED GRADE CONTOUR (5 FT)
- EXISTING CONIFEROUS TREE
- EXISTING DECIDUOUS TREE
- TREE REMOVAL
- TREE PROTECTION/CONSTRUCTION FENCE (TREE PROTECTION AREA)
- SEDIMENT FENCE (TO BE INSTALLED PRIOR TO GRADING)
- DISTURBANCE LIMITS

PACIFIC NATIONAL DEVELOPMENT
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SALEM, OR 97302
(503) 990-7003

R-C RHINE-CROSS GROUP
RHINE-CROSS GROUP LLC
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112 N 5th ST - SUITE 200 - P.O. BOX 909
KLAMATH FALLS, OREGON 97601
Phone: (541) 851-9405 Fax: (541) 273-9200 admin@rc-grp.com

REGISTERED PROFESSIONAL ENGINEER
55,506PE
Marcus D. Cross
OREGON
JULY 09, 2010
MARCUS D. CROSS
RENEWS: 12-31-2027

02-22-2026

Olson Orchards
Preliminary Subdivision

OREGON

KEIZER

SHEET NAME:

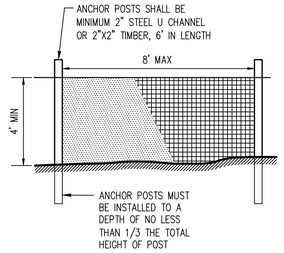
TREE PRESERVATION AND REMOVAL PLAN

DRAWN BY: TDC
CHK'D BY: MDC
DATE: FEBRUARY 2026

REVISIONS:

JOB NO.
2494

SHEET NO.
P-13



NOTES:
1. BLAZE ORANGE PLASTIC MESH FENCE FOR TREE PROTECTION DEVICE OR APPROVED EQUAL.
2. AVOID DAMAGE TO TREE ROOT ZONE. DO NOT DAMAGE OR SEVER LARGE ROOTS WHEN INSTALLING POSTS.
3. DEVICE SHALL BE MAINTAINED THROUGHOUT CONSTRUCTION.

TREE PROTECTION / CONSTRUCTION FENCE

TREE NO.	TYPE	DBH(IN.)	ONSITE/OFFSITE	REMOVE/PRESERVE
10150	DECIDUOUS	28	OFFSITE	PRESERVE
10255	CONIFEROUS	11, 17, 30, 32	OFFSITE	REMOVE
10375	DECIDUOUS	18	OFFSITE	PRESERVE
10402	DECIDUOUS	19	OFFSITE	PRESERVE
10404	DECIDUOUS	15	OFFSITE	PRESERVE
10432	DECIDUOUS	13	OFFSITE	PRESERVE
10485	CONIFEROUS	8	OFFSITE	PRESERVE
10486	CONIFEROUS	22	OFFSITE	PRESERVE
10546	DECIDUOUS	8, 9, 10, 10	OFFSITE	PRESERVE
10547	DECIDUOUS	8, 10	OFFSITE	PRESERVE
10624	DECIDUOUS	95	OFFSITE	PRESERVE
10783	DECIDUOUS	36	OFFSITE	PRESERVE
10857	DECIDUOUS	-	ONSITE	REMOVE
10964	DECIDUOUS	-	OFFSITE	PRESERVE
11078	DECIDUOUS	-	ONSITE	PRESERVE
11087	DECIDUOUS	-	ONSITE	PRESERVE
11149	DECIDUOUS	-	ONSITE	PRESERVE
11174	DECIDUOUS	-	ONSITE	PRESERVE
11179	DECIDUOUS	-	ONSITE	PRESERVE
11190	DECIDUOUS	-	ONSITE	PRESERVE
11205	DECIDUOUS	-	ONSITE	PRESERVE
11206	DECIDUOUS	-	ONSITE	PRESERVE
11220	DECIDUOUS	-	ONSITE	PRESERVE
11221	DECIDUOUS	-	ONSITE	PRESERVE
11236	DECIDUOUS	-	ONSITE	PRESERVE
11237	DECIDUOUS	-	ONSITE	PRESERVE
11328	DECIDUOUS	7, 10	ONSITE	REMOVE
11480	CONIFEROUS	-	OFFSITE	PRESERVE
11482	CONIFEROUS	-	OFFSITE	PRESERVE
11483	CONIFEROUS	-	OFFSITE	PRESERVE
11624	DECIDUOUS	-	OFFSITE	PRESERVE
11892	DECIDUOUS	13	OFFSITE	PRESERVE
11931	DECIDUOUS	8, 10	ONSITE	PRESERVE
11942	DECIDUOUS	20	OFFSITE	PRESERVE
11956	CONIFEROUS	22	OFFSITE	PRESERVE
11964	DECIDUOUS	6, 7	OFFSITE	PRESERVE
11965	CONIFEROUS	20	OFFSITE	PRESERVE
11981	CONIFEROUS	14	OFFSITE	PRESERVE
11982	CONIFEROUS	18	OFFSITE	PRESERVE
11983	DECIDUOUS	8	OFFSITE	PRESERVE
11984	CONIFEROUS	11	OFFSITE	PRESERVE
11985	DECIDUOUS	8	OFFSITE	PRESERVE
11994	DECIDUOUS	6	OFFSITE	PRESERVE
50066	DECIDUOUS	6	ONSITE	REMOVE
50067	DECIDUOUS	38	ONSITE	REMOVE
50070	DECIDUOUS	45	ONSITE	REMOVE
50072	CONIFEROUS	10, 14	ONSITE	REMOVE
50073	CONIFEROUS	18	ONSITE	REMOVE
50074	CONIFEROUS	6	ONSITE	REMOVE
50076	CONIFEROUS	14	ONSITE	REMOVE
50077	CONIFEROUS	24	ONSITE	REMOVE
50078	CONIFEROUS	30	ONSITE	REMOVE
50146	CONIFEROUS	26	ONSITE	REMOVE
50159	CONIFEROUS	6, 6, 6, 10	ONSITE	REMOVE
50160	CONIFEROUS	8	ONSITE	REMOVE
50181	CONIFEROUS	16	ONSITE	REMOVE
50183	CONIFEROUS	14	OFFSITE	PRESERVE
50205	CONIFEROUS	23	OFFSITE	PRESERVE
50206	CONIFEROUS	13	OFFSITE	PRESERVE
50218	DECIDUOUS	32	ONSITE	REMOVE

TOTAL NUMBER OF EXISTING TREES INVENTORIED = 60

TOTAL NUMBER OF EXISTING ONSITE TREES = 29
TOTAL NUMBER OF EXISTING ONSITE TREES TO BE REMOVED = 16
TOTAL NUMBER OF EXISTING ONSITE TREES TO BE PRESERVED = 13

TOTAL NUMBER OF EXISTING OFFSITE TREES = 31
TOTAL NUMBER OF EXISTING OFFSITE TREES TO BE REMOVED = 1
TOTAL NUMBER OF EXISTING OFFSITE TREES TO BE PRESERVED = 30

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REGISTERED PROFESSIONAL ENGINEER
55,506PE
OREGON
JULY 09, 1982
MARCUS D. CROSS
RENEWS: 12-31-2027

02-22-2026

Olson Orchards
Preliminary Subdivision
KEIZER OREGON

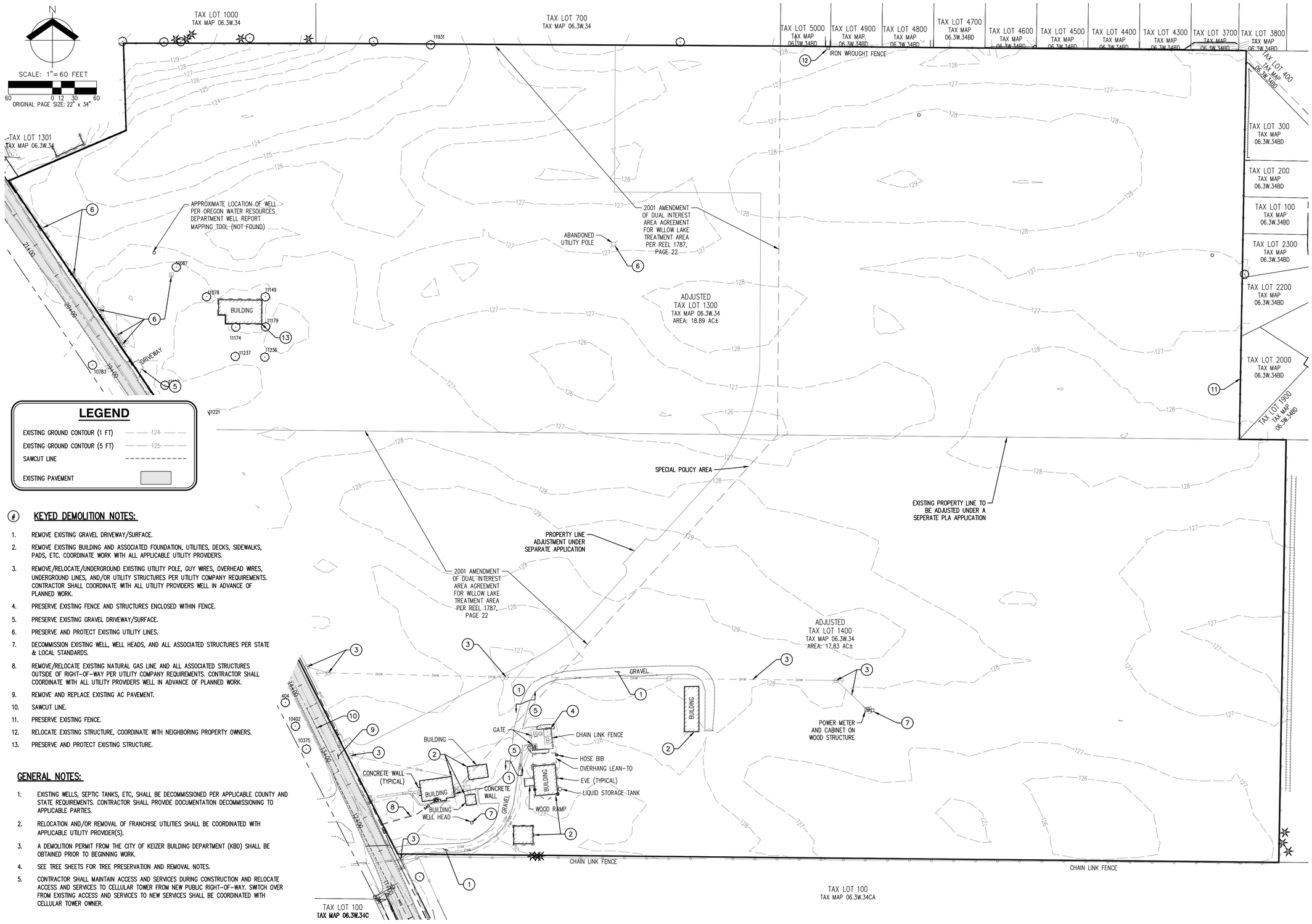
SHEET NAME
TREE PRESERVATION AND REMOVAL TABLE

DRAWN BY: TDC
CHK'D BY: MDC
DATE: FEBRUARY 2026

REVISIONS:

JOB NO.
2494

SHEET NO.
P-14



LEGEND

- EXISTING GROUND CONTOUR (1 FT) — 124 —
- EXISTING GROUND CONTOUR (5 FT) — 125 —
- SAWCUT LINE
- EXISTING PAVEMENT

(#) KEYED DEMOLITION NOTES:

1. REMOVE EXISTING GRAVEL DRIVEWAY/SURFACE.
2. REMOVE EXISTING BUILDING AND ASSOCIATED FOUNDATION, UTILITIES, DECKS, SIDEWALKS, PADS, ETC. COORDINATE WORK WITH ALL APPLICABLE UTILITY PROVIDERS.
3. REMOVE/RELOCATE/UNDERGROUND EXISTING UTILITY POLE, GUY WIRES, OVERHEAD WIRES, UNDERGROUND LINES, AND/OR UTILITY STRUCTURES PER UTILITY COMPANY REQUIREMENTS. CONTRACTOR SHALL COORDINATE WITH ALL UTILITY PROVIDERS WELL IN ADVANCE OF PLANNED WORK.
4. PRESERVE EXISTING FENCE AND STRUCTURES ENCLOSED WITHIN FENCE.
5. PRESERVE EXISTING GRAVEL DRIVEWAY/SURFACE.
6. PRESERVE AND PROTECT EXISTING UTILITY LINES.
7. DECOMMISSION EXISTING WELL, WELL HEADS, AND ALL ASSOCIATED STRUCTURES PER STATE & LOCAL STANDARDS.
8. REMOVE/RELOCATE EXISTING NATURAL GAS LINE AND ALL ASSOCIATED STRUCTURES OUTSIDE OF RIGHT-OF-WAY PER UTILITY COMPANY REQUIREMENTS. CONTRACTOR SHALL COORDINATE WITH ALL UTILITY PROVIDERS WELL IN ADVANCE OF PLANNED WORK.
9. REMOVE AND REPLACE EXISTING AC PAVEMENT.
10. SAWCUT LINE.
11. PRESERVE EXISTING FENCE.
12. RELOCATE EXISTING STRUCTURE, COORDINATE WITH NEIGHBORING PROPERTY OWNERS.
13. PRESERVE AND PROTECT EXISTING STRUCTURE.

GENERAL NOTES:

1. EXISTING WELLS, SEPTIC TANKS, ETC, SHALL BE DECOMMISSIONED PER APPLICABLE COUNTY AND STATE REQUIREMENTS. CONTRACTOR SHALL PROVIDE DOCUMENTATION DECOMMISSIONING TO APPLICABLE PARTIES.
2. RELOCATION AND/OR REMOVAL OF FRANCHISE UTILITIES SHALL BE COORDINATED WITH APPLICABLE UTILITY PROVIDER(S).
3. A DEMOLITION PERMIT FROM THE CITY OF KEIZER BUILDING DEPARTMENT (KBD) SHALL BE OBTAINED PRIOR TO BEGINNING WORK.
4. SEE TREE SHEETS FOR TREE PRESERVATION AND REMOVAL NOTES.
5. CONTRACTOR SHALL MAINTAIN ACCESS AND SERVICES DURING CONSTRUCTION AND RELOCATE ACCESS AND SERVICES TO CELLULAR TOWER FROM NEW PUBLIC RIGHT-OF-WAY. SWITCH OVER FROM EXISTING ACCESS AND SERVICES TO NEW SERVICES SHALL BE COORDINATED WITH CELLULAR TOWER OWNER.

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REGISTERED PROFESSIONAL ENGINEER
55,506PE
Marcus D. Cross
OREGON
JULY 09, 2001
MARCUS D. CROSS
RENEWS: 12-31-2027
02-22-2026

Olson Orchards
Preliminary Subdivision
KEIZER OREGON

SHEET NAME:
PRELIMINARY DEMOLITION PLAN

DRAWN BY: TDC
CHK'D BY: MDC
DATE: FEBRUARY 2026

REVISIONS:

JOB NO.
2494

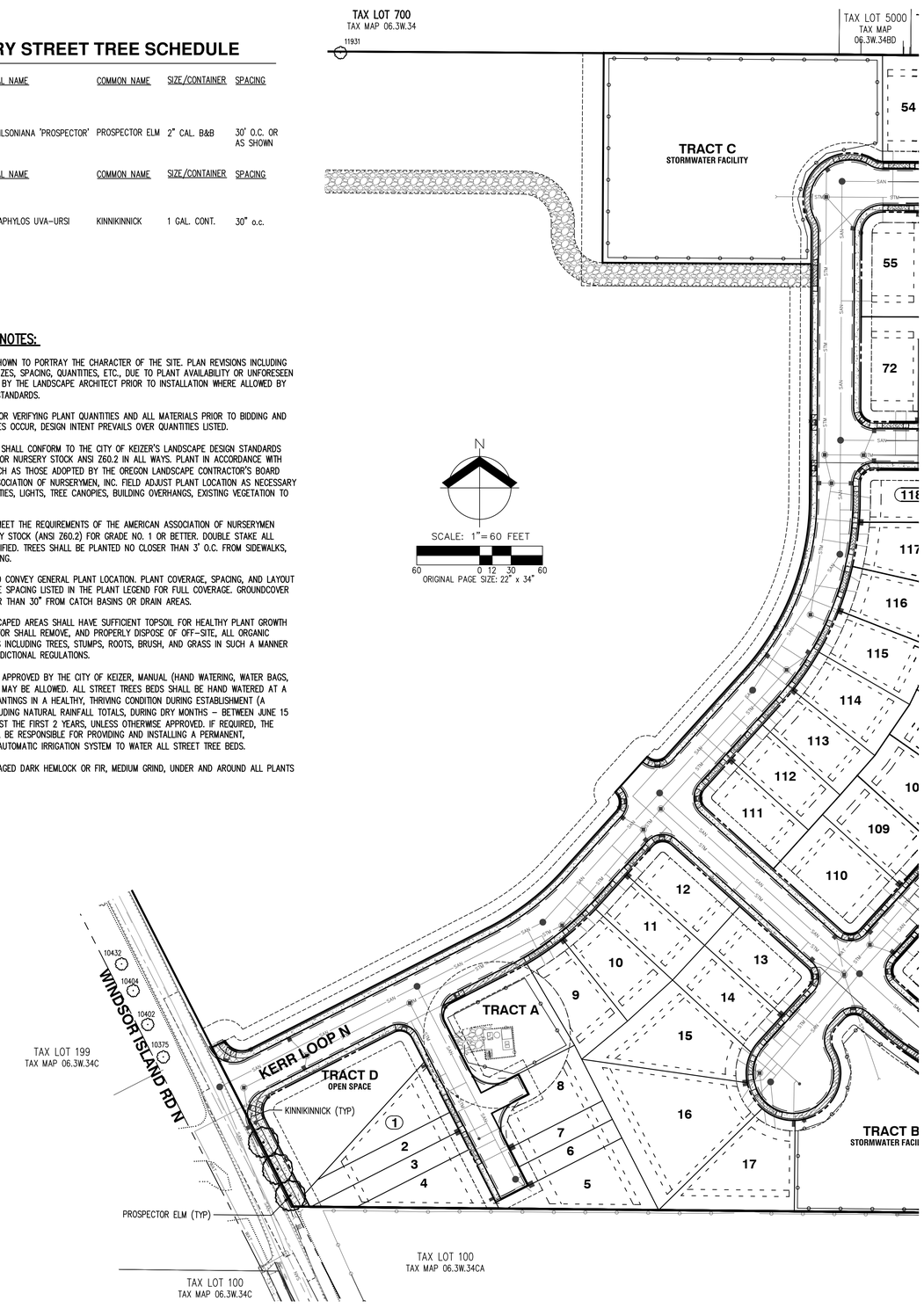
SHEET NO.
P-15

PRELIMINARY STREET TREE SCHEDULE

SYMBOL	QTY	BOTANICAL NAME	COMMON NAME	SIZE/CONTAINER	SPACING
TREES					
	3	ULMUS WILSONIANA 'PROSPECTOR'	PROSPECTOR ELM	2" CAL. B&B	30' O.C. OR AS SHOWN
SYMBOL	QTY	BOTANICAL NAME	COMMON NAME	SIZE/CONTAINER	SPACING
GROUND COVERS					
	177	ARCTOSTAPHYLOS UVA-URSI	KINNIKINNICK	1 GAL. CONT.	30" o.c.

PRELIMINARY LANDSCAPE NOTES:

1. PLANTS AND PLANTINGS ARE SHOWN TO PORTRAY THE CHARACTER OF THE SITE. PLAN REVISIONS INCLUDING CHANGES TO PLANT SPECIES, SIZES, SPACING, QUANTITIES, ETC., DUE TO PLANT AVAILABILITY OR UNFORESEEN SITE CONDITIONS MAY BE MADE BY THE LANDSCAPE ARCHITECT PRIOR TO INSTALLATION WHERE ALLOWED BY THE CITY OF KEIZER'S DESIGN STANDARDS.
2. CONTRACTOR IS RESPONSIBLE FOR VERIFYING PLANT QUANTITIES AND ALL MATERIALS PRIOR TO BIDDING AND CONSTRUCTION. IF DISCREPANCIES OCCUR, DESIGN INTENT PREVAILS OVER QUANTITIES LISTED.
3. ALL PLANTS AND INSTALLATION SHALL CONFORM TO THE CITY OF KEIZER'S LANDSCAPE DESIGN STANDARDS AND TO AMERICAN STANDARD FOR NURSERY STOCK ANSI Z60.2 IN ALL WAYS. PLANT IN ACCORDANCE WITH BEST PRACTICE STANDARDS SUCH AS THOSE ADOPTED BY THE OREGON LANDSCAPE CONTRACTOR'S BOARD (OLCB) AND THE AMERICAN ASSOCIATION OF NURSERYMEN, INC. FIELD ADJUST PLANT LOCATION AS NECESSARY TO AVOID CONFLICTS WITH UTILITIES, LIGHTS, TREE CANOPIES, BUILDING OVERHANGS, EXISTING VEGETATION TO REMAIN, ETC.
4. TREES TO BE PLANTED SHALL MEET THE REQUIREMENTS OF THE AMERICAN ASSOCIATION OF NURSERYMEN (AAN) STANDARDS FOR NURSERY STOCK (ANSI Z60.2) FOR GRADE NO. 1 OR BETTER. DOUBLE STAKE ALL TREES UNLESS OTHERWISE SPECIFIED. TREES SHALL BE PLANTED NO CLOSER THAN 3' O.C. FROM SIDEWALKS, CURBING, OR OTHER HARDSCAPING.
5. HATCHED AREAS ARE MEANT TO CONVEY GENERAL PLANT LOCATION. PLANT COVERAGE, SPACING, AND LAYOUT SHALL BE CONSISTENT WITH THE SPACING LISTED IN THE PLANT LEGEND FOR FULL COVERAGE. GROUNDCOVER SHALL NOT BE PLANTED CLOSER THAN 30" FROM CATCH BASINS OR DRAIN AREAS.
6. SOIL PREPARATION: ALL LANDSCAPED AREAS SHALL HAVE SUFFICIENT TOPSOIL FOR HEALTHY PLANT GROWTH AND ESTABLISHMENT. CONTRACTOR SHALL REMOVE, AND PROPERLY DISPOSE OF OFF-SITE, ALL ORGANIC AND/OR UNSUITABLE MATERIALS INCLUDING TREES, STUMPS, ROOTS, BRUSH, AND GRASS IN SUCH A MANNER TO MEET ALL APPLICABLE JURISDICTIONAL REGULATIONS.
7. IRRIGATION: UNLESS OTHERWISE APPROVED BY THE CITY OF KEIZER, MANUAL (HAND WATERING, WATER BAGS, WATER TRUCK, ETC) IRRIGATION MAY BE ALLOWED. ALL STREET TREES BEDS SHALL BE HAND WATERED AT A RATE TO MAINTAIN ALL THE PLANTINGS IN A HEALTHY, THRIVING CONDITION DURING ESTABLISHMENT (A MINIMUM OF 1" PER WEEK, INCLUDING NATURAL RAINFALL TOTALS, DURING DRY MONTHS – BETWEEN JUNE 15 AND OCTOBER 15), FOR AT LEAST THE FIRST 2 YEARS, UNLESS OTHERWISE APPROVED. IF REQUIRED, THE LANDSCAPE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING AND INSTALLING A PERMANENT, UNDERGROUND 'DESIGN-BUILD' AUTOMATIC IRRIGATION SYSTEM TO WATER ALL STREET TREE BEDS.
8. MULCH: APPLY 3" DEEP WELL-AGED DARK HEMLOCK OR FIR, MEDIUM GRIND, UNDER AND AROUND ALL PLANTS IN PLANTING AREAS.



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JULY 09, 2004
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RENEWS: 12-31-2027
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Olson Orchards
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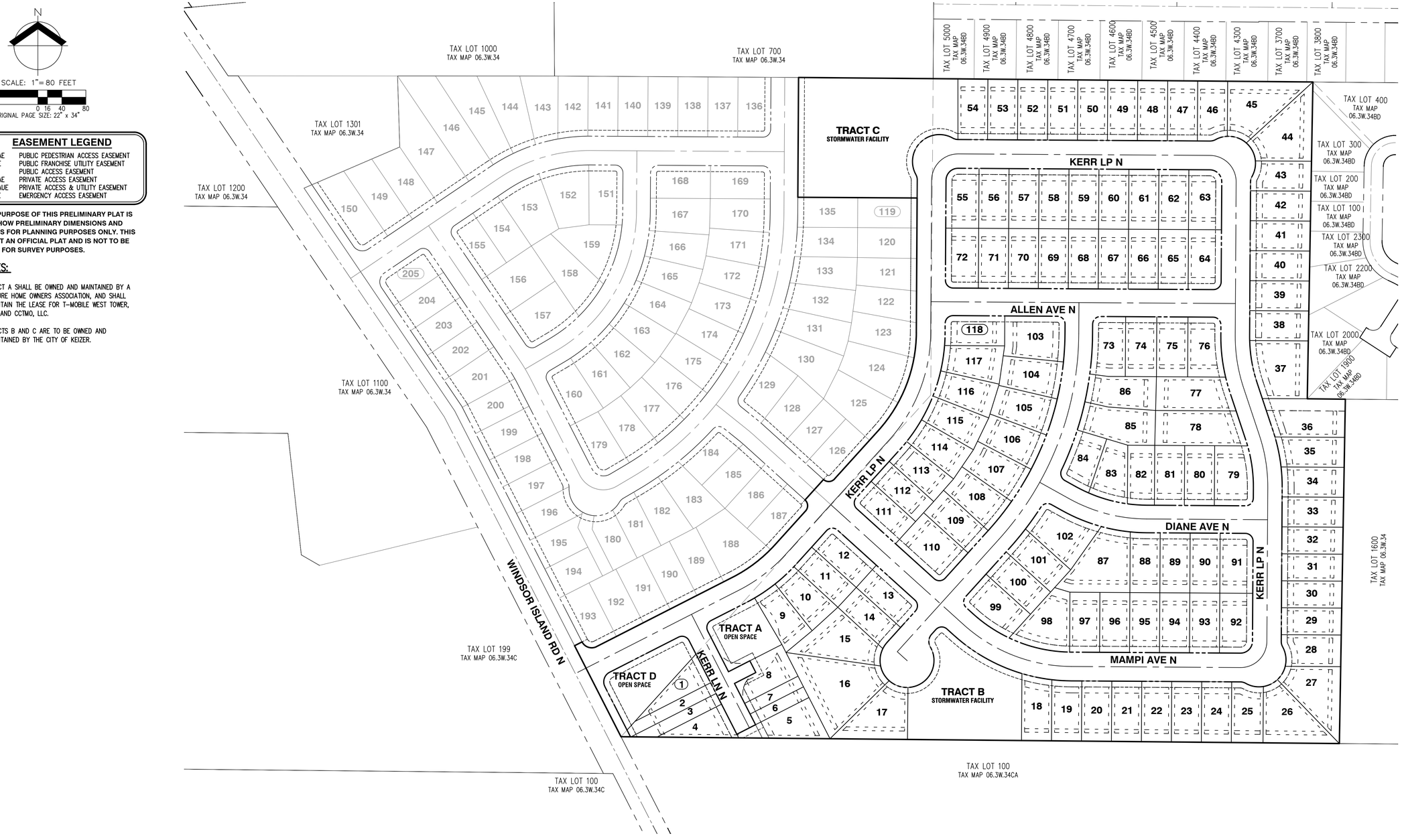
SHEET NAME:
PRELIMINARY STREET TREE PLAN

DRAWN BY: TDC
CHKD BY: MDC
DATE: FEBRUARY 2026

REVISIONS:

JOB NO.
2494

SHEET NO.
P-16



PACIFIC NATIONAL DEVELOPMENT
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R-C RHINE-CROSS GROUP LLC
RHINE-CROSS GROUP
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OREGON
JULY 09, 2001
MARCUS D. CROSS
RENEWS: 12-31-2027
02-22-2026

Olson Orchards Preliminary Subdivision

OREGON

KEIZER

SHEET NAME
CONCEPTUAL OFF-SITE DEVELOPMENT PLAN

DRAWN BY: TDC
CHK'D BY: MDC
DATE: FEBRUARY 2026

REVISIONS:

JOB NO.
2494

SHEET NO.
P-17

EXHIBIT 20

3240 Commercial St. SE, Ste. 140, Salem, OR 97302
Phone (971) 701-2591, Fax (971) 701-2595

December 23, 2025
File Number: 1009057
Report No.: 2
Title Officer: Teri Due
Escrow Officer: Cindy Morse

PRELIMINARY TITLE REPORT

Property Address: 063W340001300 (18.88 Acres), Windsor Island Rd N., Keizer, OR 97303

Policy or Policies to be issued:	**Liability**	**Premium**
Proposed Insured: Pacific National Development, Inc		
2021 ALTA Standard Owner's Policy RESIDENTIAL	$2,484,800.00	$4,328.00
Endorsements: 110		$0.00
Local Government Lien Search		$50.00

We are prepared to issue ALTA (07/01/21) title insurance policy(ies) of Stewart Title Guaranty Company, in the usual form insuring the title to the land described as follows:

Legal description attached hereto and made a part hereof marked Exhibit "A"

and dated as of 12th day of December, 2025 at 7:30 a.m., title is vested in:

John L. Ramey and Diane E. Ramey, as Trustees of the Ramey Family Trust under Agreement dated May 9, 2016, Karen S. Glaser, Trustee , The Karen S. Glaser Irrevocable Family Protection Trust, and Michael A. Kerr and Sandra K. Kerr, Trustees of the Kerr Living Trust dated June 12, 2017, and any amendments thereto

The estate or interest in the land described or referred to in this Preliminary Title Report and covered herein is:

FEE SIMPLE

Except for the items properly cleared through closing, Schedule B of the proposed policy or policies will not insure against loss or damage which may arise by reason of the following:

GENERAL EXCEPTIONS:

1. Taxes or assessments which are not shown as existing liens by the records of any taxing authority that levies taxes or assessments on real property or by the Public Records; proceedings by a public agency which may result in taxes or assessments, or notices of such proceedings, whether or not shown by the records of such agency or by the Public Records.

2. Facts, rights, interests or claims which are not shown by the Public Records but which could be ascertained by an inspection of the Land or by making inquiry of persons in possession thereof.

3. Easements, or claims of easement, not shown by the Public Records; reservations or exceptions in patents or in Acts authorizing the issuance thereof; water rights, claims or title to water.

4. Any encroachment (of existing improvements located on the subject Land onto adjoining Land or of existing improvements located on adjoining Land onto the subject Land) encumbrance, violation, variation, or adverse circumstance affecting the Title that would be disclosed by an accurate and complete land survey of the subject Land.

5. Any lien, or right to a lien, for services, labor, material, equipment rental, or workers compensation heretofore or hereafter furnished, imposed by law and not shown by the Public Records.

EXCEPTIONS 1 THROUGH 5 ABOVE APPLY TO STANDARD COVERAGE POLICIES AND MAY BE MODIFIED OR ELIMINATED ON AN EXTENDED COVERAGE POLICY.

SPECIAL EXCEPTIONS:

6. Taxes deferred, as disclosed by the tax roll, the Land herein described have been zoned or classified for farm use. At any time that said Land is disqualified for such use the property will be subject to additional taxes or penalties and interest.

7. City liens, if any, of the City of Keizer. (None as of December 23 , 2025)

8. The property lies within and is subject to the levies and assessments of the Marion Soil and Water Conservation District.

9. Right, title and interest of the public in and to those portions of the Land lying within roads, streets or highways.

10. Dual Interest Area Agreement for Willow Lake Treatment Plant Area, including the terms and provisions thereof,
Recorded: November 25, 1981
Instrument No.: Reel: 903 Page: 78

Amended by instrument,
Recorded: May 23, 2001
Instrument No.: Reel: 1787 page: 22

11. The Company will require a currently dated Certification of Trust be completed and returned by the Trustee(s) of the Ramey Family Trust under Agreement dated May 9, 2016.

    The Company reserves the right to add additional items or make further requirements after review of the requested documentation.

12. The Company will require a currently dated Certification of Trust be completed and returned by the Trustee(s) of the Karen S. Glaser Irrevocable Family Protection Trust.

    The Company reserves the right to add additional items or make further requirements after review of the requested documentation.

13. The Company will require a currently dated Certification of Trust be completed and returned by the Trustee(s) of the Kerr Living Trust dated June 12, 2017 .

    The Company reserves the right to add additional items or make further requirements after review of the requested documentation.

14. The company will require the following document in order to insure a conveyance, lease, exchange, other disposition or encumbrance by the corporation named below:
    Corporation: Pacific National Development, Inc., a Oregon corporation. An original or certified copy of the resolution of the Board of Directors authorizing the subject transaction.

15. Effect, if any, of a Bargain and Sale Deed,
    From: Sandra K. Kerr and Diane E. Ramey, as equal tenants in common
    To: Olson Sisters LLC, an Oregon limited liability company
    Recorded: September 16, 2024
    Instrument No.: 2024-029131

16. According to the available County Assessor's Office records, the Land is purported to have no improvements and/or is non-owner occupied. Upon confirmation that the seller's identity has been verified, the Company may amend this Preliminary Title Report to add, among other things, additional exceptions or requirements.

INFORMATIONAL NOTES:

A. Taxes assessed under Code No. 24200 Account No. 520270 Map No. 063W340001300
   The 2025-2026 Taxes: $557.30, are paid.

B. **Our examination of the title to the subject property discloses no open Deeds of Trust or Mortgages of record. The accuracy of this conclusion should be confirmed in writing prior to closing of the proposed transaction.**

C. As of the date hereof, there are no matters against the party(ies) shown below which would appear as exceptions to coverage in a title insurance product:
   Parties:
   Pacific National Development Inc., an Oregon Corporation

D. The following are the last deed of record affecting said Land,
Document: Bargain and Sale Deed
Grantor: Michael A. Kerr and Sandra K. Kerr, as tenants by the entirety
Grantee: Michael A. Kerr and Sandra K. Kerr, Trustees of the Kerr Living Trust dated June 12, 2017, and any amendments thereto
Recorded: August 1, 2017
Instrument No.: Reel: 3976 Page: 475

Document: Bargain and Sale Deed
Grantor: Karen S. Glaser, Trustee, the Zillah A. Schooley Trust Agreement dated October 5, 1984
Grantee: Karen S. Glaser, Trustee , The Karen S. Glaser Irrevocable Family Protection Trust
Recorded: April 25, 2017
Instrument No.: Reel: 3938 Page: 304

Document: Deed
Grantor: Diane Elizabeth Ramey
Grantee: John L. Ramey and Diane E. Ramey, as Trustees of the Ramey Family Trust under Agreement dated May 9, 2016
Recorded: June 16, 2016
Instrument No.: Reel: 3828 Page: 282

E. This Report No. 2 was updated to reflect the following changes:
1. Update taxes
2. Update effective date
3. Remove easement

F. Any map or sketch enclosed as an attachment herewith is furnished for information purposes only to assist in property location with reference to streets and other parcels. No representation is made as to accuracy and the company assumes no liability for any loss occurring by reason of reliance thereon.

G. Your application for title insurance was placed by reference to only a street address or tax identification number. Based on our records, we believe that the legal description in this report covers the parcel(s) of Land that you requested. If the legal description is incorrect, the parties to the transaction must notify the Company and/or the settlement company in order to prevent errors and to be certain that the correct parcel(s) of Land will appear on any documents to be recorded in connection with this transaction and on the policy of title insurance.

H. Due to current conflicts or potential conflicts between state and federal law, which conflicts may extend to local law, regarding marijuana, if the transaction to be insured involves property which is currently used or is to be used in connection with a marijuana enterprise, including but not limited to the cultivation, storage, distribution, transport, manufacture, or sale of marijuana and/or products containing marijuana, the Company declines to close or insure the transaction, and this Preliminary Title Report shall automatically be considered null and void and of no force and effect.

THIS PRELIMINARY TITLE REPORT IS NOT AN ABSTRACT OF TITLE, REPORT OF THE CONDITION OF TITLE, LEGAL OPINION, OPINION OF TITLE, OR OTHER REPRESENTATION OF THE STATUS OF TITLE. THE PROCEDURES USED BY THE COMPANY TO DETERMINE INSURABILITY OF THE TITLE, INCLUDING ANY SEARCH AND EXAMINATION, ARE PROPRIETARY TO THE COMPANY, WERE PERFORMED SOLELY FOR THE BENEFIT OF THE COMPANY, AND CREATE NO EXTRACONTRACTUAL LIABILITY TO ANY PERSON, INCLUDING A PROPOSED INSURED.

This report is preliminary to the issuance of a policy of title insurance and shall become null and void unless a policy is issued and the full premium paid.

End of Report

"Superior Service with Commitment and Respect for Customers and Employees"

EXHIBIT “A”
LEGAL DESCRIPTION

Beginning at a point 8.70 chains North 0°45' East of the North boundary of the D.L.C. of John. Ford, No. 39, in T. 6 S.W. 3 W. of the Willamette Meridian, and 15.15 chains North 89°42' East of the Southeast corner of the DLC of James Smart, No. 42. same Township and Range; thence South 89°42' West 34.54 chains to the middle of the Salem and Spong’s Ferry Road; thence North 34° West in said road 9.69 chains; thence North 89°42' East 40.15 chains to the East line of the J.O. Beardsley land; thence South 0°45’ West 8.03 chains to the place of beginning, more or less, situate in Marion County, Oregon.

SAVE AND EXCEPT the following described parcels:
(a) Beginning at an iron pipe which is 999.90 feet North 89°42' East and North 0°07' East 574.20 feet from the Southeast corner of the James Smart Donation Land Claim in Township 6 South, Range 3 West of the Willamette Meridian, in Marion County, Oregon; thence South 89°42' West parallel with the South line of above mentioned Donation Land Claim 821.90 feet to an iron pipe; thence
North 0°07' East 529.30 feet to an iron pipe; thence North 89°42' East 821.90 feet to an iron rod; thence South 0°
07' West 529.30 feet to the place of beginning.

(b) Beginning at a point in the center of Windsor Island Road (Market Road No. 63) which point is the Northwest corner of the land conveyed to Zilllah Anna Schooley and Arleen Elizabeth Olson as shown by deed recorded in Reel 604, Page 359, Deed Records for Marion County, Oregon, in the Donation Land Claim No. 42 of James Smart in Township 6 South, Range 3 West of the Willamette Meridian in Marion County, Oregon, which point bears 8.70 chains North 0 °45' East of the North boundary of the Donation Land Claim of John Ford No. 39, same Township and Range, and 15.15 chains North 89°42' East of
the Southeast corner of the Donation Land Claim of James Smart No. 42, same Township and Range; thence South 89 °42' West 34.54 chains to the middle of the Salem and Spong's Ferry Road (Windsor Island Road); thence North 34° West in said road 9.69 chains to a point marking the True Point of Beginning: thence along the North line of said land, North 89°42; East 308.01 feet to a 5/8 inch iron rod; thence South 2°23'21" East 118.86 feet to a 5/8 inch iron rod; thence South 65°56’18" West 156.42 feet to a 5/8" iron rod; thence continuing South 65°56'18" West 40.49 feet to the centerline of Windsor Island Road;
thence North 34°West 238.14 feet to the place of beginning.

EXHIBIT 21

BILL NO. 028 A BILL FOR ORDINANCE NO. 85-047

AN ORDINANCE SPREADING ASSESSMENTS TO LOWER LABISH TRUNK SEWER LOCAL IMPROVEMENT DISTRICT

SECTION 1. WHEREAS, the City Council did heretofore declare its intention to extend the City of Keizer sewer facilities to serve an area known as "Lower Labish Trunk Sewer Local Improvement District" which is described as follows, to-wit:

Parcel 291, Real Property described in Reel 291, page 421, Marion County Deed Records. Tax Account #49118-835.

Parcel 292, Real Property described in Reel 288, page 758, Marion County Deed Records. Tax Account # 49116-825.

Parcel 293, Real Property described in Reel 300, page 1954, Marion County Deed Records. Tax Account #49113-888.

Parcel 294, Real Property described in Reel 291, page 421, Marion County Deed Records. Tax Account #49002-000.

Parcel 295, Real Property described in Reel 313, page 433, Marion County Deed Records. Tax Account #49094-000.

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FMAGIC

Parcel 296, Real Property described in Reel 704, page 662, Marion County Deed Records. Tax Account #49080-000.

Parcel 297, Real Property described in Reel 187, page 1038, Marion County Deed Records. Tax Account #49054-000.

Parcel 298, Real Property described in Reel 285, page 853, Marion County Deed Records. Tax Account #49023-000.

Parcel 299, Real Property described in Reel 285, page 853, Marion County Deed Records. Tax Account #49024-000.

Parcel 300, Real Property described in Reel 692, page 295, Marion County Deed Records. Tax Account #49025-000.

Parcel 301, Real Property described in Reel 697, page 68, Marion County Deed Records. Tax Account #48995-000.

Parcel 302, Real Property described in Reel 99, page 1241, Marion County Deed Records. Tax Account #48997-000.

Parcel 303, Real Property described in Reel 187, page 1038, Marion County Deed Records. Tax Account #48998-000.

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Parcel 304, Real Property described in Reel 285, page 853, Marion County Deed Records. Tax Account #49000-000.

Parcel 305, Real Property described in Reel 312, page 1626, Marion County Deed Records. Tax Account #49003-000.

Parcel 306, Real Property described in Reel 291, page 421, Marion County Deed Records. Tax Account #49010-000.

Parcel 315, Beginning at an iron pipe on the North line of the John Ford Donation Land Claim No. 40 in Section 34, Township 6 South, Range 3 West of the Willamette Meridian in Marion County, Oregon, marking the Southeast corner of that tract of land conveyed to Roy J. Hoffman by deed recorded in Volume 252, page 195, Deed Records for Marion County, Oregon, which bears North 89°42'00" East 999.10 feet from an iron pipe marking the Southeast corner of the James Smart Donation Land Claim No. 42; thence North 00°09' 14" East along the East line of said Hoffman Tract, 574.44 feet to an iron pipe marking the Northeast corner thereof; thence South 89°43'55" West along the North line of said Hoffman Tract, 758.05 feet to an iron rod; thence South 00°09'14" West, parallel with the East line of said Hoffman Tract, 574.86 feet to an iron rod on the North line of said Ford Claim; thence

North 89 42'00" East along said Claim line, 758.05 feet to the point of beginning and containing 10.000 acres of land, more or less.

which includes constructing approximately 4785 lineal feet of 36 inch sewer pipe, 1750 lineal feet of 21-inch sewer pipe, together with manholes and other appurtenances, a creek crossing and removal of the McNary sewer pump station all in accordance with the Keizer Area Sewer Master Plan 1984 Update and estimates heretofore duly and regularly adopted by the City Council, which are hereby referred to and made a part hereof, and did fix the time and place for hearing protests against the construction of said improvement, and the assessment of the cost thereof, as aforesaid; and

WHEREAS, notice was duly posted and published as required by ordinance; and

WHEREAS, a meeting of the City Council was held at the time and place fixed by public notice for the purpose of considering any such protest and at that time heard and considered all protests submitted relating to the proposed improvement and assessment thereof, and said council has considered the matter and deeming that said construction of said improvement was and is of material benefit to the city, and all the property to be assessed therefore will be benefited by to the extent of $1500 per acre trunk charge (exclusive of routine hook-up fees) did order the letting of bids and the construction of said improvements, and;

WHEREAS, the estimated cost of said improvements has been preliminarily determined to be the sum of $536,023, with the total

assessable acreage being 241.02 acres.

NOW, THEREFORE, the City of Keizer ordains as follows:

SECTION 2. It is hereby determined that the proportionate share of the cost of construction of said improvement, on each parcel and property adjacent to said improvement benefited thereby is the amount set opposite the description of each piece or parcel of land below, and that each piece or parcel of land benefited by the construction of said improvement, to the full extent of the amount so set opposite such piece or parcel and that the respective amounts represent the proportional benefits of said improvement to said respective parcels of property, and the council does hereby declare that each of the parcels of property described below to hereby assessed the amount set opposite each respective description, for the cost of the construction of said improvement.

(1) Summary of cost assessed for the construction of the City of Keizer Sewer facilities to serve the area known as "Lower Labish Trunk Sewer Local Improvement District" which includes constructing a sewer and appurtenances:

Sanitary Sewer - - - - - - - - - - - - - -	$441,683
Contingencies (Legal, Engineering and Administrative costs) - -	$ 94.340
Total Estimated Cost - - - - - - - - - - -	$536,023
Less: City Participation - - - - - - -	$174,493
Total Amount Assessed - - - - - - -	$361,530

(2) The Recorder of the City of Keizer is hereby directed to enter a statement of said several assessments in the docket of city liens of said city and publish a notice thereof by publication in the KEIZERTIMES, a newspaper of general circulation in the City of Keizer, Marion County, Oregon, which notice shall be published twice with the first notice being published not later than 20 days from the date of the enactment hereof; and said Recorder shall send by REgistered or Certified Mail a notice of assessment to the owner of the assessed property within 10 days from the date of the enactment hereof with the notice of assessment reciting the date of the assessment ordinance and stating that upon the failure of the owner of the property assessed to make application to pay the assessment in semi-annual installments with 30 days from the date of the first publication of the notice (in the form required by law and provided by the city) for a period not to exceed ten (10) years, or upon the failure of the owner to pay the assessment in full within 30 days from the date of the assessment ordinance, interest will commence to run on the assessment and the property assessed will be subject to foreclosure. The notice shall also describe the

property assessed, name the owner of the property and state the amount of each assessment. The first semi-annual payment shall be due and payable at the expiration of six months from the date of assessment in the bond lien docket, and subsequent payments at the expiration of each semi-annual period thereafter.

Section 3. The assessments shall bear interest at the rate of 12 percent per annum which shall commence 30 days from the date of enactment hereof. Provided, however, that the interest rate shall be adjusted to a rate not to exceed the rate at which the improvement district's Bancroft Bonds are sold plus one-half of one percent (½%) subsequent to the bond sale.

Section 4. It is hereby adjudged and declared that existing conditions are such that this ordinance is necessary for the immediate preservation of the public peace, health, and safety; and, owing to the urgent necessity of maintaining the public credit, and emergency is declared to exist, and this ordinance shall take effect and be in full force and effect from and after its passage.

PASSED this 22 day of May, 1985

SIGNED this 22 day of May, 1985.

Mayor

City Recorder

Assessment No. 1

Zeeb, Stanley M.
c/o Zeeb's Investment Co.
4335 River Road N.
Keizer, Oregon 97303

0.36 Acres

Total Assesment: $ 540

Real property described in Reel 288, Page 758, Marion County Deed Records. Tax Account #49116-825

Assessment No. 2

Fish, Ernest D. and Leah Rae
310 McNary Heights N.
Salem, Oregon 97303

0.66 Acres

Total Assessment: $ 990

Real property described in Reel 300, Page 1954, Marion County Deed Records. Tax Account #49113-888

Assessment No. 3

Hayden Island, Inc.
c/o Tualatin Development Co.
Attn: Vlad Voytilla, General Manager
15300 S.W. 116th Avenue
Tigard, Oregon 97223

Parcel 294
95.62 Acres

Total Parcel Cost: $143,445
Less 10% down payment: $ 14,345
Total Assessment: $129,100

Real property described in Reel 291, Page 421, Marion County Deed Records. Tax Account #49002-000

Assessment No. 4

Jungwirth, Josephine E.
6105 River Road N.E.
Salem, Oregon 97303

8.0 Acres

Total Assessment: $ 12,000 (DEFERRED)

Deferred assessment due and payable to the order of the City of Keizer upon connection to sewer.

Real property described in Reel 313, Page 433, Marion County Deed Records. Tax Account #49094-000

Assessment No. 5

M P Materials
P. O. Box 2261
Salem, Oregon 97308

Parcel 297
2.0 Acres
Total Assessment: $ 3,000

Real property described in Reel 187, Page 1038, Marion County Deed Records. Tax Account #49054-000

Assessment No. 6

Alaska Sand and Gravel Co.
c/o William Staats
P. O. Box 2261
Salem, Oregon 97308

Parcel 298
19.86 Acres
Total Assessment: $ 29,790

Real property described in Reel 285, Page 853, Marion County Deed Records. Tax Account #49023-000

Assessment No. 7

Alaska Sand and Gravel Co.
c/o William Staats
P. O. Box 2261
Salem, Oregon 97308

Parcel 299
0.52 Acres
Total Assessment: $ 780

Real property described in Reel 285, Page 853, Marion County Deed Records. Tax Account #49024-000

Assessment No. 8

M P Materials
P. O. Box 2261
Salem, Oregon 97308

Parcel 300
7.87 Acres
Total Assessment: $ 11,805

Real property described in Reel 692, Page 295, Marion County Deed Records. Tax Account #49025-000

Assessment No. 9

M P Materials
P. O. Box 2261
Salem, Oregon 97308

Parcel 301
2.8 Acres
Total Assessment: $ 4,200

Real property described in Reel 697, Page 68, Marion County Deed Records. Tax Account #48995-000

Assessment No. 10

M P Materials
P. O. Box 2261
Salem, Oregon 97308

Parcel 302
5.02 Acres
Total Assessment: $ 7,530

Real property described in Reel 99, Page 1241, Marion County Deed Records. Tax Account #48997-000

Assessment No. 11

M P Materials
P. O. Box 2261
Salem, Oregon 97308

Parcel 303
21.93 Acres
Total Assessment: $ 32,895

Real property described in Reel 187, Page 1038, Marion County Deed Records. Tax Account #48998-000

Assessment No. 12

Alaska Sand and Gravel
P. O. Box 2261
Salem, Oregon 97308

Parcel 304
10.0 Acres
Total Assessment: $ 15,000

Real property described in Reel 285, Page 853, Marion County Deed Records. Tax Account #49000-000

Assessment No. 13

Hayden Island, Inc.
c/o Tualatin Development Co.
Attn: Vlad Voytilla, General Manager
15300 S.W. 116th Avenue
Tigard, Oregon 97223

Parcel 305
23.75 Acres
Total Parcel Cost: $ 35,625
Less 10% down payment: 3,562
Total Assessment: $ 32,063

Real property described in Reel 312, Page 1626, Marion County Deed Records. Tax Account #49003-000

Assessment No. 14

Hayden Island, Inc.
c/o Tualatin Development Co.
Attn: Vlad Voytilla, General Manager
15300 S.W. 116th Avenue
Tigard, Oregon 97223

Parcel 306
32.62 Acres
Total Parcel Cost: $ 48,930
Less 10% down payment: 4,893
Total Assessment: $ 44,037

Real property described in Reel 291, Page 421, Marion County Deed Records. Tax Account #49010-000

Assessment No. 15

Olson, Arleen
c/o Laack and Vasend
3210 Portland Road N.E.
Salem, Oregon 97305

Parcel 315
10.0 Acres

Total Assessment: $ 15,000

Real property described as beginning at an iron pipe on the North line of the John Ford Donation Land Claim No. 40 in Section 34, Township 6 South, Range 3 West of the Willamette Meridian in Marion County, Oregon, marking the Southeast corner of that tract of land conveyed to Roy J. Hoffman by deed recorded in Volume 252, Page 195, Deed Records for Marion County, Oregon, which bears North 89°42'00" East 999.10 feet from an iron pipe marking the Southeast corner of the James Smart Donation Land Claim No. 42; thence North 00°09'14" East along the East line of said Hoffman Tract, 574.44 feet to an iron pipe marking the Northeast corner thereof; thence South 89°43'55" West along the North line of said Hoffman Tract, 758.05 feet to an iron rod; thence South 00°09'14" West, parallel with the East line of said Hoffman Tract, 574.86 feet to an iron rod on the North line of said Ford Claim; thence North 89°42'00" East along said Claim line, 758.05 feet to the point of beginning and containing 10.000 acres of land, more or less.

Land Use File 2026-05: 5710 Windsor Island Rd N

Comprehensive Plan Map Amendment/Zone Change/Subdivision Application Case

Saalfeld Griggs PC

Sound counsel.
Smart business.

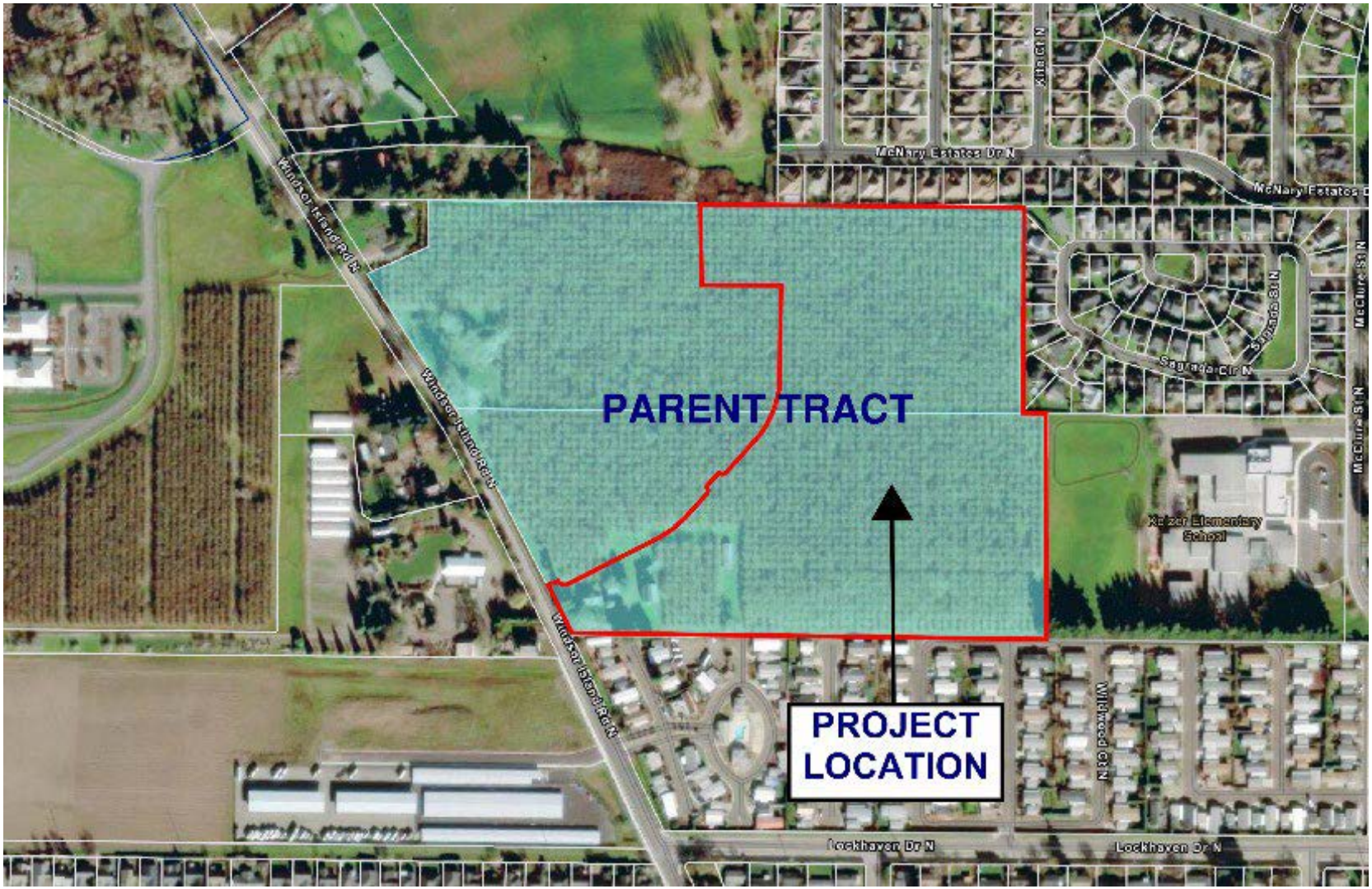
Introduction

- **Applicant**: Pacific National Development Inc.
- **Owner**: Olson Sisters LLC, Karen S Glaser Irrevocable Family Protection Trust 50% & Kerr Living Trust 25% & Ramey Family Trust 25%
- **Representative**: Alan Sorem, Saalfeld Griggs PC
- **Engineering Team**: Rhine Cross Group LLC

Saalfeld Griggs PC

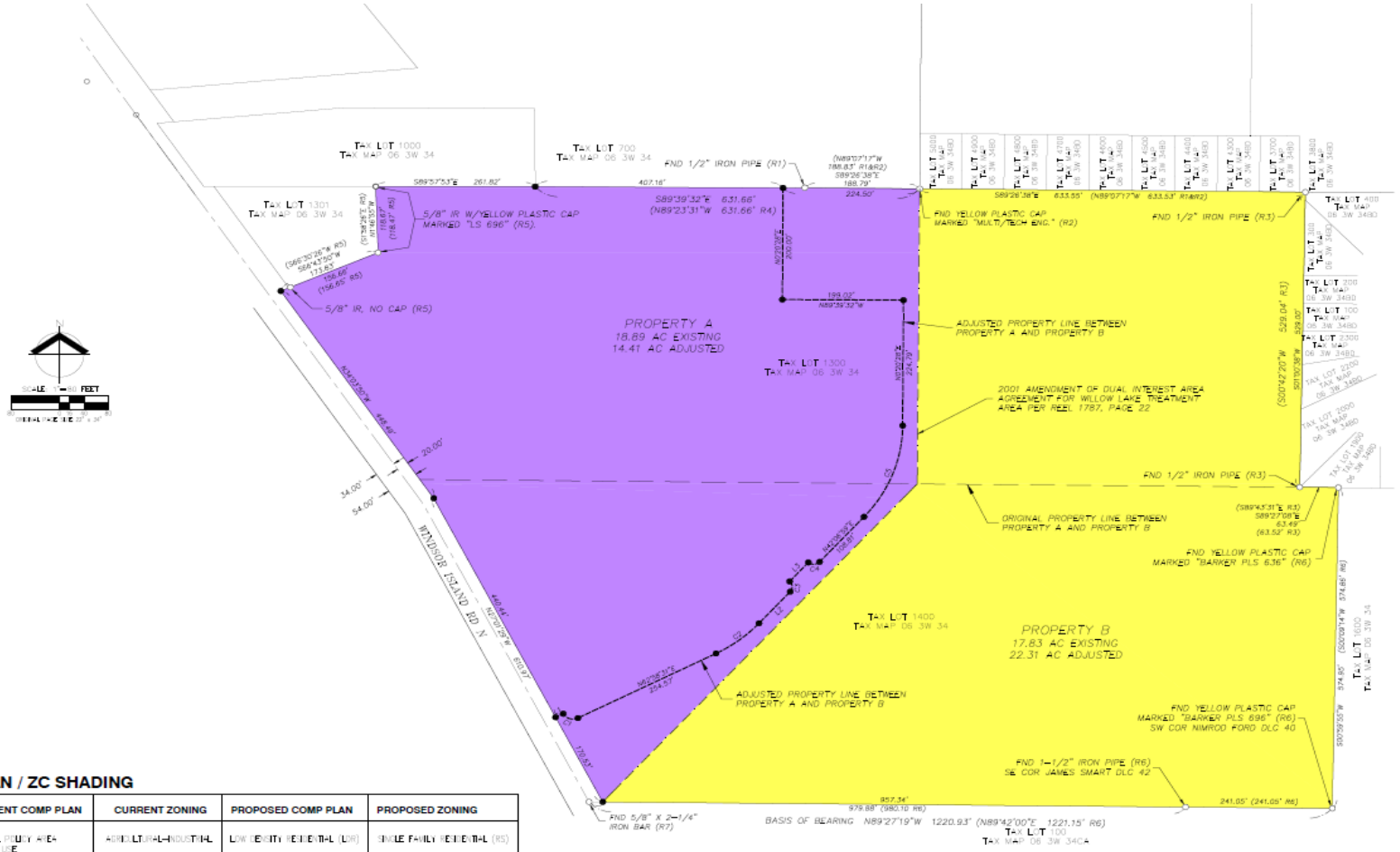
Sound counsel.
Smart business.

Subject Property



Current - Special Policy Area (SPA) limited use designation / Agricultural Industrial (AI) zone

Proposal - Low Density Residential (LDR) designation / Single-Family Residential (RS) – Odor/Noise Impact Overlay zone



COMP PLAN / ZC SHADING

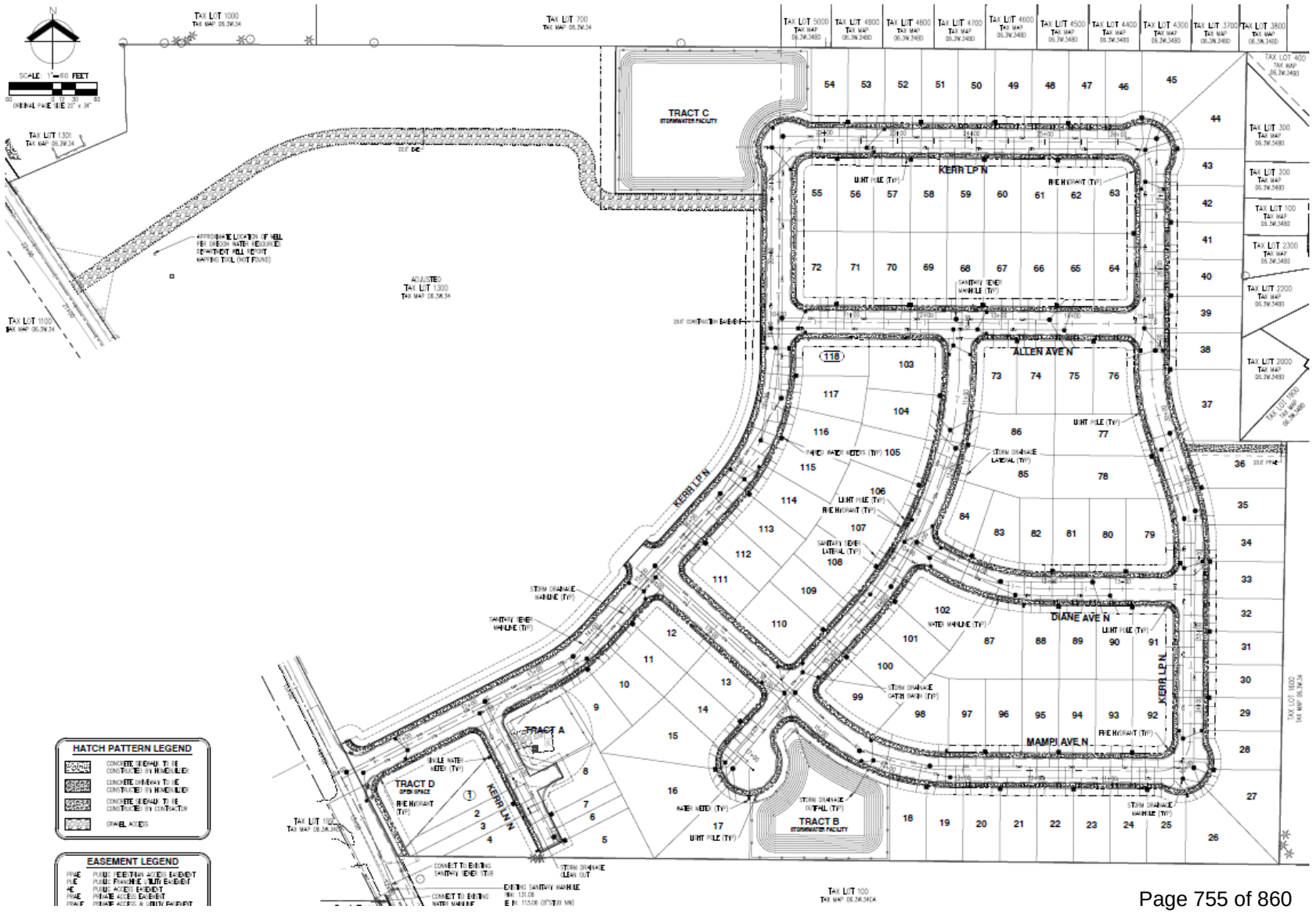
COLOR:	CURRENT COMP PLAN	CURRENT ZONING	PROPOSED COMP PLAN	PROPOSED ZONING
	SPECIAL POLICY AREA LIMITED USE	AGRICULTURAL-INDUSTRIAL	LOW DENSITY RESIDENTIAL (LDR)	SINGLE FAMILY RESIDENTIAL (RS)
	SPECIAL POLICY AREA	AGRICULTURAL-INDUSTRIAL	SPECIAL POLICY AREA	AGRICULTURAL-INDUSTRIAL

Compliance with Goals and Policies

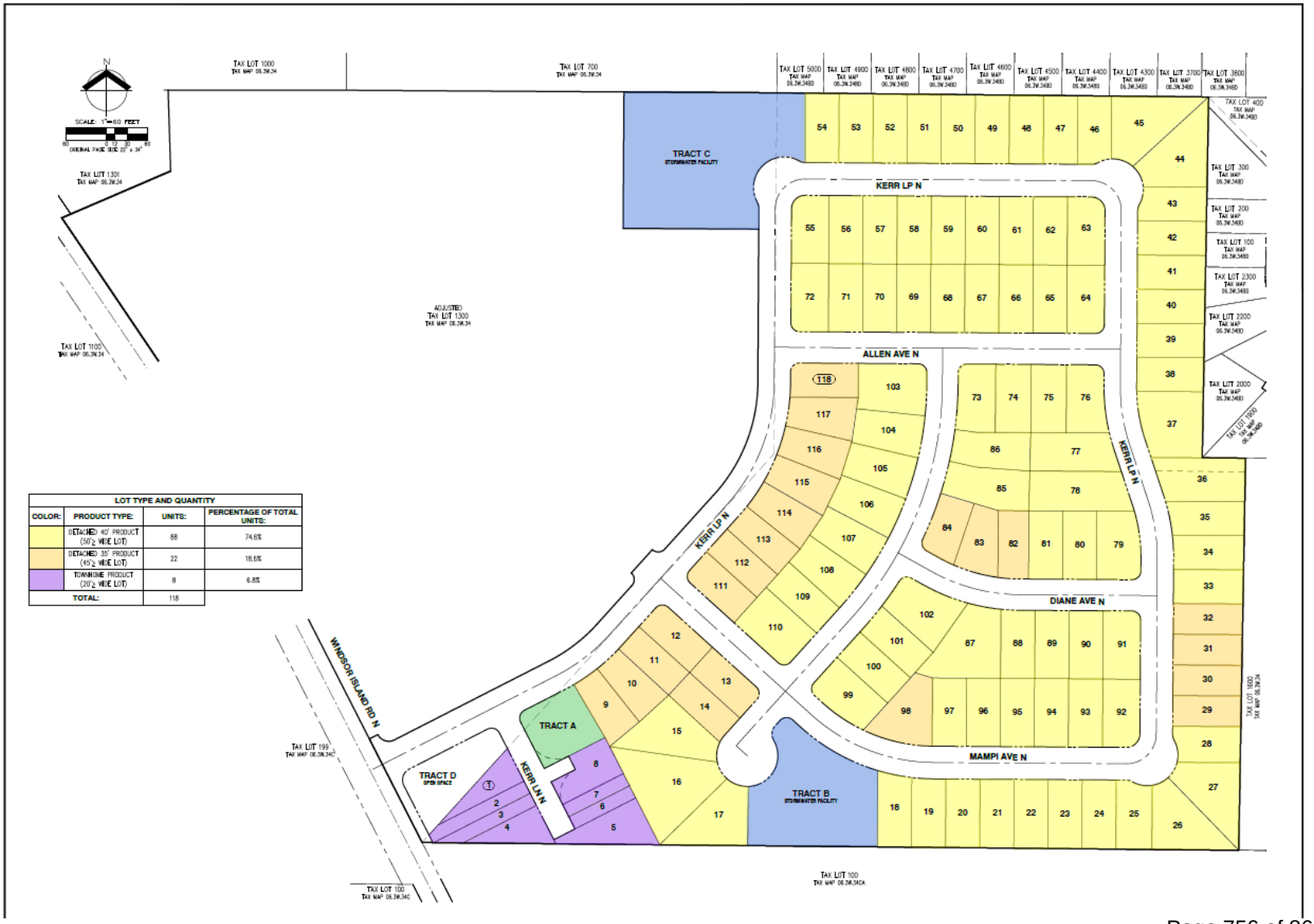
- 118 residential lots allowing for residential dwellings.
- City water and sanitary sewer are available and will serve with appropriate urban services.
- Approval will mitigate deficit of single-family housing without any UGB amendment.
- No significant impact on transportation systems.

Saalfeld Griggs PC
Sound counsel. Smart business.

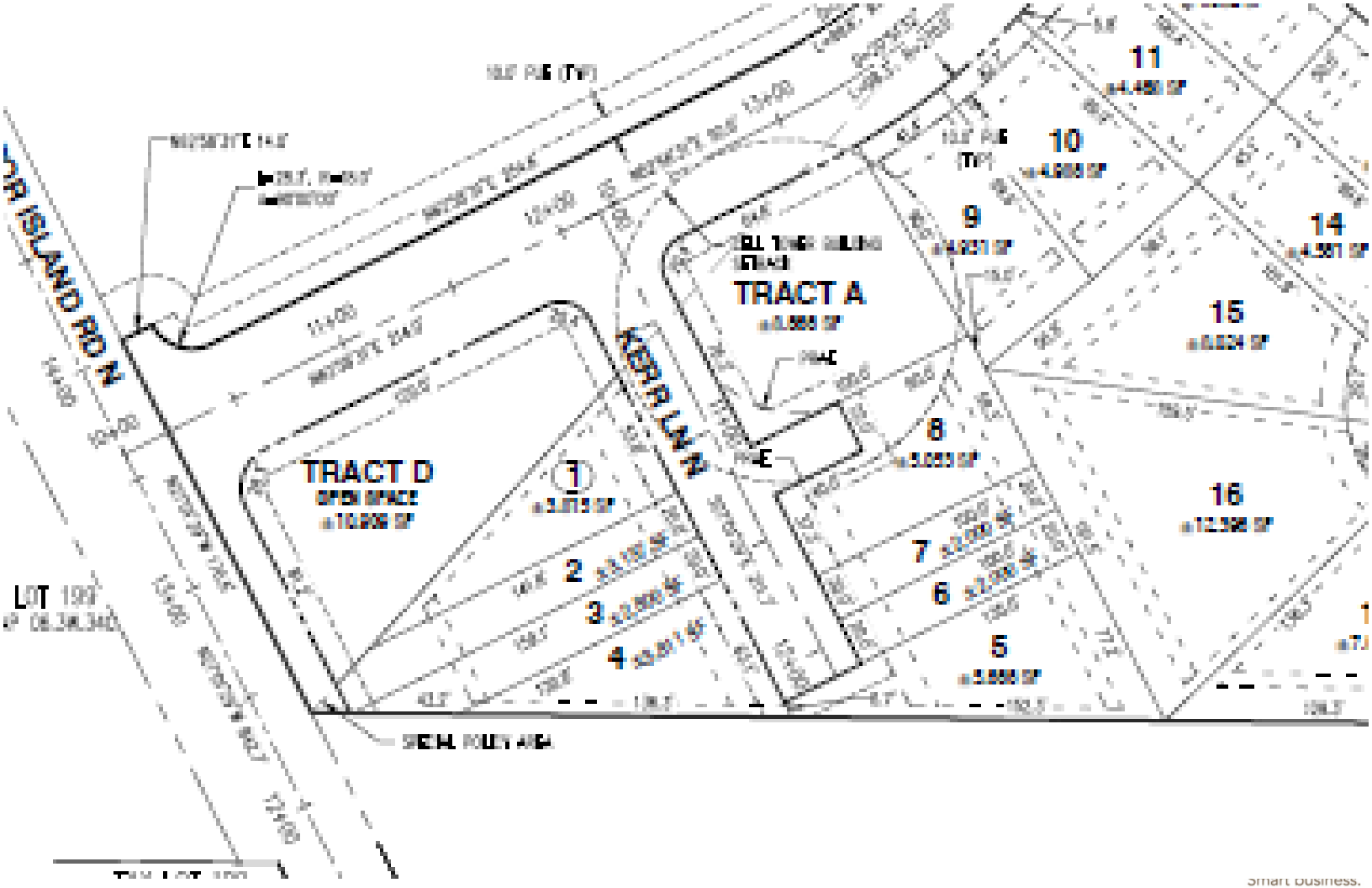
Preliminary Plat – Street and Utility



Layout – Housing Type



Tentative Plat Update



Summary of Updates

- 1951 undeveloped easement was removed from title.
- Legal description for zoning area and comprehensive plan map area will be provided as a condition of approval.
- Lots 1 and 2 were modified along with Tract D clarifying no residential use outside of residential zone and no split zone lots.

Saalfeld Griggs PC
Sound counsel.
Smart business.

Conclusion

- Applicant accepts recommendation of staff and requests Planning Commission recommendation of approval.
- Applicant accepts conditions of approval.

Saalfeld Griggs PC
Sound counsel.
Smart business.

Questions?

Saalfeld Griggs PC

Sound counsel.
Smart business.

July 8, 2026

EXHIBIT 23

Testimony of David Philbrick, Keizer Resident in opposition to the proposed Zoning Change and development.

My concern is that there is not adequate public road capacity available to absorb the impact of the proposed development without unacceptable on-going degradation to pedestrian safety and quality of life for surrounding neighborhoods. This could be addressed by the City of Keizer potentially through SDC funds from this and past developments, but it has not happened in the past, and if nothing is done, then this should not be approved.

Specifically, there is no reasonable east-west connection north of Lockhaven from Windsor Island. All additional east-west traffic from this development will be using Lockhaven or Chemawa. Already, Keizer's Multi-Modal committee has heard significant calls for a safe pedestrian crossing at Lockhaven and Windsor Island. There are no sidewalks on the east side of Windsor Island, and none to the north of Lockhaven. I will focus on the stretch of Lockhaven between 14th and River Road as this is a segment that is already often congested and would see further degradation form the proposed development. No safe pedestrian crossings currently exist on Lockhaven from River Road to 14th. This stretch includes bus stops at Verda on both sides of Lockhaven, with no provisions for pedestrians to cross. It includes a somewhat tricky intersection with Trail that includes no provisions for pedestrians or cyclists even though it is a major connection between the Gubser neighborhood and the shopping center at Lockhaven and River Road. Again, the Keizer's Multi-Modal Committee has heard significant requests to address pedestrian safety at both of these intersections.

There are also no provisions for safe pedestrian walkways or crossings on Trail or Harmony even though there has already been a pedestrian fatality on Trail. These streets are seeing significant increases in traffic from development in the area and from motorists by-passing congestion on Lockhaven. Here too, the Multi-Modal committee has heard multiple complaints from residents concerned about traffic volumes, speeds, and safety.

Under Keizer's development code, provisions 3.108.06 (C and D), 3.109.04 (G), and 3.110.04 (D.) all require that adequate public facilities, services, and transportation networks are in place or are planned to be provided concurrently with the development of the property. Keizer has not addressed the devastating impact from its recent infill development on the mobility, safety, and livability of residents living along Windsor Island, Lockhaven, Harmony, Trail, Verda, and Chemawa. Clearly addressing these impacts is the financial responsibility of this and other developments that have already occurred, but until Keizer has funded and implemented measures to realistically address these impacts it does not have adequate public facilities to incorporate further residential development without unacceptable harm to the existing community. This development should be rejected at this time.

Thank you, David Philbrick

BEFORE THE HEARINGS OFFICER
FOR THE CITY OF KEIZER, OREGON

In the matter of the application of Pacific National Development, Incorporated, for approval of a comprehensive plan map amendment, a zone change, and a subdivision, as to approximately 22.31 acres of land (Olson Orchards)	**Case No. 2026-05** **LAND USE RECOMMENDATION TO CITY COUNCIL**

I. INTRODUCTION AND NATURE OF THE APPLICATION

This matter came before the City of Keizer Hearings Officer on the application of Pacific National Development, Incorporated (herein, "Applicant"), for approval of three land use applications to result in a new residential subdivision. The premises are located at 5710 Windsor Island Road N in the City of Keizer, Oregon (the "Premises"). The Premises are also identified as being located within Township 6 South; Range 3 West; Section 34; tax lots 01300 and 01400.

Applicant requested approval to redesignate and rezone 22.31 acres of land within their greater 36.72 acre parcel, in service of creating a new residential subdivision. The subdivision proposed approximately 118 new lots for residential dwellings, with other non-development tracts for supportive purposes such as storm water retention and infiltration.

II. CRITERIA FOR DECISION

The standards and criteria that apply to the subdivision arise under Keizer Development Code (KDC) and the City of Keizer Comprehensive Plan. The Staff Report dated July 1, 2026, amended as described at the public hearing, fully recited the criteria and explained pertinent rationales and intentions embodied therein.

III. PUBLIC HEARING

Following public notice, the City of Keizer (City) held a public hearing on the application on July 8, 2026. The Planning Department file was made a part of the record, as was the audio recording of the proceedings.

The Applicant was represented by attorney Alan Sorem of Saalfeld Griggs, PC. City Staff were represented by Planning Director Shane Witham, City Engineer Lyle Misbach, Public Works Director Keare Blaylock, and Assistant Planner Dina Horner.

At the beginning of the hearing, I made the declarations required by ORS 197.797. I had no biases or conflicts of interest to report. I disclosed that I made a prehearing site visit to the subject property, including perusal of existing terrain and rights of way, existing structures, and some of the existing orchard trees.

I also disclosed that during my site visit I was approached by a City of Salem employee named Scott Fleming, who is assigned to work at the nearby Willow Lake Wastewater Treatment Plant and who also lives near the subject property. Mr. Fleming pointed out to me the publicly-known information that certain of the orchard trees are blighted such that the trees cannot realistically be saved or replanted. He expressed his awareness that the owners had applied for City of Keizer entitlements, and mentioned he might attend the public hearing. Nothing that Mr. Fleming shared with me was beyond the scope of publicly-known information.

My prehearing declarations also identified the criteria in the Staff Report; directed any comments be addressed to those criteria; and cautioned attendees that failure to raise issues or arguments in a manner that allowed persons to respond could preclude further appeal based on such issues. No person objected to the jurisdiction of the City or its hearings officer as to the application.

Planning Director Witham summarized the application. He explained how the Cities of Salem and Keizer, along with Marion County, created their Dual Interest Area Agreement for the treatment plant, and the agreement established a Special Policy Area (SPA) in the vicinity of the plant. He explained that the agreement prohibits residential development in the SPA, and instead reserves the SPA for agricultural zoning. He further explained that the property's current zoning—City of Keizer Agricultural Industrial (AI)—was created for properties in the SPA.

Planning Director Witham also identified that the SPA overlies some of the project site. He identified that of the property owners' total 36.72 acre landholding, a lesser amount—22.31 acres—could be developed for residential uses.

Turning to his Staff Report, planning director Witham amended the report in two particulars. First, he identified hearing Exhibit 14 and explained that it corrects a "cut and paste" effort on page 4 of the report. Second, he identified that proposed approval conditions 38, 29, and 40 were cumulative and recommended they be stricken. I find both corrections appropriate and adopt them in this Council recommendation.[1]

Applicant's attorney Alan Sorem appeared with Mark Cross, the applicant's engineer of record. The applicant explained their proposal and identified highlights from their application. They explained that the project's streets and stormwater treatment could exist in the SPA, as those are not habitable developments. They explained that support tracts A through D could be

[1] Later, I noticed there was no Condition #33 in the report. This Recommendation adjusts that as well.

administered by a homeowners' association (HOA), and identified that the project could be serviced by a class 2 HOA.

Applicant submitted additional information into the record during their presentation. They first submitted a modified plan set designated Exhibit 19. They also submitted Exhibit 20, an Amerititle title report for the subject property; Exhibit 21, City of Keizer ordinance no. 85-047, as to sewer assessments; and Exhibit 22, a copy of Applicant's PowerPoint presentation slides used at the hearing.

Too, Applicant discussed a former easement between two properties, characterizing its original farming purpose as having lapsed. Applicant also explained that the title report in Exhibit 20 has documented the removal of the easement. Finally, Applicant asked the City to revisit its proposed approval condition requiring a street light Local Improvement District (LID).

After the Applicant testified, several members of the public testified. Some of the testimony raised issues challenging approval of the three applications. I address those challenges in Section 4 of this recommendation.

IV. FACTS AND FINDINGS

I have carefully considered the information in the Staff Report, the application, and the 23 exhibits in the record. Moreover, I have considered the testimony and evidence presented at the public hearing. After taking the matter under advisement, I issue the following findings and Council recommendation.

A. Summary of findings and conditions

First, I find that the application properly identified the Premises by location and ownership. The Premises contain certain existing structures which will be removed. Within the terms of this Recommendation, the KDC, and other applicable regulations, Applicant proposes to develop residential dwellings on the approved lots.

Next, as Staff has explained, the property is bordered to the north by Phase 20 of McNary Estates residential development, and by land within the SPA which will remain undevelopable. Property to the east contains residential development at the Medium Density Residential designation, with Limited Density Residential zoning. Also to the east is property designated Elementary School and developed with a school. To the south there is a developed Manufactured Home Park at the Medium High Density designation. Finally, to the west there are properties within the SPA and zoned AI.

Third, I find the 141-page Staff Report to be a thorough, balanced, and reasoned explication of the criteria for all three applications, and the evidence that relates to the criteria. The Staff

Report does an exemplary job of presenting a neutral yet thorough explanation of how the applications, with conditions, satisfy the criteria. I incorporate by reference the Staff Report in its entirety, as revised at the hearing, as the backbone of facts, findings and conclusions in support of my recommendation.

B. Applicant's acceptance of right-of-way dedication

I find that the applicant's representative entered an oral statement into the record that Applicant accepted the City's approval conditions, including conditions requiring dedications to the public.

C. Supplemental findings

In addition to the incorporated findings within the Staff Report, I make the following supplemental findings that add to the incorporated findings. In the event of a conflict between the incorporated and supplemental findings, I intend that the supplemental finding control.

1. Findings as to the statewide 120-day rule

Oregon law provides that land use applications for a "permit, limited land use decision[,] or zone change," must receive final city action within 120 days after the application is deemed complete. ORS 227.178(1).

This "120-day rule," is subject to an important exception. Under ORS 227.188(3), applications to change a comprehensive plan map are "not subject to the provisions" of the 120 day rule.

Here, while the requested zone change or subdivision—on their own—might be within the 120 day rule, the zone change and subdivision were, at the applicant's request, bundled with the requested change to the comprehensive plan map. Because the applications are unified, and because the zone change and subdivision would be unapprovable without the comprehensive plan map change, I conclude that the rezone and subdivision have lost their status under the 120-day rule. Thus, the 120-day rule does not apply to any component of this unified application.

2. Supplemental Goal 9 findings—the economy of the state

The subject application reveals a policy tension in the City of Keizer. On the one hand, the city has a net need for employment land, especially commercial and institutional lands. The Comprehensive Plan identified a shortfall of 63.3 gross acres above and beyond what the remaining buildable employment land can accommodate. On the other hand, the city's most recent housing needs analysis identified a need for 4,513 new housing units to accommodate forecast population growth. Applicant's proposal to remove approximately 22.3 acres of AI zoning from its employment lands inventory surfaces an important question for the parties and Council: how ought the city to evaluate the tension in these apparently competing land needs?

To my view, the proposed amendment to the comprehensive plan map exists at a balance point in the competing public policies, and resolves the tension in ways that are acceptable under Goal 9. As a first point, the AI zone is one of the least intensive uses of industrial land. As Applicant and Staff have recognized, industries allowed in the AI zone include transportation and warehousing that have "relatively low employees per acre ratios." KDC section 2.115.01.

Second, the AI zone itself is something of a creature of agreement between the Cities of Keizer and Salem, to accommodate the wastewater treatment plant. When previously the Olsen Orchards acreage was in active agricultural use for walnuts, filberts, apples, and other crops, Council might expect to have seen development of agricultural support services or nurseries—again, at low employee per acre ratios. Evidence in the record has persuaded me that the agricultural value of the project site has become economically low, relative to the costs needed to remediate the blighted plantings or replace them with different stock.

With these reductions in agricultural values, the comparative tipping point lowers in relation to changing the AI designation to something non-industrial. This is not a case where the city would be losing high employee to acre lands such as industrial park or industrial campus.

Finally, Applicant's analysis of the city's needs jibes with these realities. Applicant provided analysis in Figure 11 on page 14 of their application, comparing Keizer's projected new land need to 2033. In their analysis, the city's need for pure industrial land was at or near zero acres. But, the city's need for residential land stood at around 267 acres.

Accordingly, I believe that these applications resolve the policy tension in ways that meet the city's needs for future residential land, at the least intrusive loss of low-intensity industrial land.

It is worth mention to Council that in the ever-present social tension between owned and rented housing units, the subdivision proposal illustrates that the development site will increase potential for ownership units. The subdivision will add 110 lots for single family residential, and 8 lots for attached residential development. It is true that Applicant has discretion to develop a variety of housing types on the 118 lots. However, the development as a whole has potential of adding new ownership units to Keizer's housing stock.

In conclusion, I agree with Applicant and Staff that the applications satisfy Goal 9.

3. Arguments and statements of project opponents

At the hearing, members of the public raised or amplified several issues in opposition to the applications. I believe it will be most helpful to Council to categorize these objections.

- <u>The project site needs to be bordered to the north by an eight-foot fence or wall</u>

Some witnesses testified that the project needs to be separated by a wall or fence from existing development to the north. It is understandable that a change from orchard use to new homes would be a significant visual and intensity change. I also heard and accept testimony that the future houses, on the subject site, could be constructed at an elevation and with grading that places their ground floors higher in elevation relative to existing houses to the north.

Under the KDC, the resulting subdivision will establish single family residential development. As such, it will border existing single family residential development. The KDC does not have criteria that touch or concern fencing in such a case where "like borders like." Thus, there are no criteria which could support conditioning the application to require fencing or walls. City staff recommended that project opponents seek accommodation from the developer, and I agree.

- <u>The subdivision should not be allowed to develop two story homes adjacent to the northerly subdivision</u>

On similar premises, some witnesses objected to construction of two-story homes on the north side of the project site. The KDC does not contain provisions that regulate number of stories. Instead, the KDC establishes a 35-foot building height across the whole zoning district. Thus, there are no criteria which could support such a condition.

- <u>The project will adversely affect traffic safety and speeding</u>

There was testimony which asserted that developing the subdivision on Windsor Island Drive will amplify existing traffic safety problems and speeding issues. As a focus area, some testimony also asserted that the development will exacerbate traffic safety issues due to the lack of sidewalk connectivity on Windsor Island Drive.

I was not presented with any decisional criteria which might be failed due to these criticisms. Indeed, there was important contrasting testimony and evidence. Commentators identified the mini storage parcel near Lockhaven Drive as desirable for a sidewalk, however there is insufficient right-of-way at that location to install sidewalks. Commentators also explained that there is no mechanism to effect what would be cost-prohibitive eminent domain to acquire additional right-of-way, and engineer it at the terrain for public use.

Moreover, the city's engineer and public works director testified that they are aware of speed and safety issues in the vicinity. They testified that they are already interested in seeking a speed zone order from the Oregon Department of Transportation for streets in the vicinity. Too, they testified that they will be aware if traffic or speeds "warrant" the installation of any new traffic control devices such as signalized crosswalks.

Staff testified that the proposed approval conditions could be viewed as allowing the city to require additional safety measures, should the subdivision proposal seem to warrant that during

the permitting process. Staff also testified that intersection improvements currently almost always receive painted crosswalk striping.

It is important to express to Council that despite the lack of decisional criteria on these points, the public is informed and motivated to engage with the city inside or outside the context of this land use decision. In particular, members of the city's multi-modal committee expressed concerns to the city and others. I refer Council to Exhibit 23, the testimony of David Philbrick, as an excellent and well-informed summary of the public's position.

- <u>The project needs additional connectivity</u>

There were also criticisms that the project does not supply enough public street or sidewalk connectivity. These criticisms did not particularly resonate with me, or jibe with the evidence. For one thing, the development proposes a significant internal street circulation system given the size and number of lots. Applicant's narrative explained that the development will provide a street stub to the undeveloped part of the site, providing future connectivity. The development will also provide connectivity to Windsor Island Drive with new streets that intersect existing streets at approximately 90-degree angles, evidencing connectivity.

Moreover, the development will increase internal pedestrian and bicycle connectivity in this neighborhood. The site plans indicate that Applicant will construct pedestrian access from the development, to the nearby Keizer Elementary School.

In conclusion, I can identify no evidence or criteria which would require additional connectivity.

- <u>The project interferes with an easement between properties</u>

There was testimony, or at least questions, about the existence and meaning of an easement between the subject property and other parcels to the north. The Applicant explained this issue to my satisfaction. It appears that a farm-related easement was created by the then-owners for a 1951-era farm use, but this use did not materialize. The applicant explained that the party which was benefitted by the easement abandoned the easement by never using it. Much later, around 1995 when other subdivisions were platted, then-current development officially acknowledged abandonment of the easement. This extinguished the easement under common law principles.

The applicant offered a title report of the subject property as Exhibit 20. The report confirms that the easement is no longer in the deed record.

Thus, whatever evidentiary or regulatory value the easement might have provided in earlier decades, the easement is long gone and a legal relic. As a result, the issue provides no basis for decision or conditions as to the applications.

- Applicant's objection to phrasing of streetlight local improvement district condition

Applicant lodged an objection to phrasing of a proposed condition that requires Applicant to create a street lighting LID. The LID would ensure installation and future maintenance of adequate lighting for the development frontage of Windsor Island Road, to the satisfaction of Collector street standards. The objection was expressed in terms, that the Applicant is not the responsible party for directing an LID, but could waive remonstrance as to LID formation.

This objection is not completely well taken. An LID may be initiated by landowners, as well as Council. At present, Applicant is not just the landowner, but is the party in the position to control and guide any future development. The proposed condition relies on Applicant to ensure the LID process is undertaken. In fact I have enhanced the condition to specify that no occupancy permits may issue, for any new residences, until the condition is fully satisfied and the street lighting is installed, energized, and operable.

V. DECISION AND CONDITIONS OF APPROVAL

I conclude that the record as a whole contains substantial evidence, including but not limited to the application, Staff Report with attachments, and testimonial evidence. The substantial evidence indicates that all elements of the proposal comply with all applicable criteria.

Accordingly, I recommend that Council **APPROVE** the application subject to the Conditions of Approval set forth below. Applicant shall complete these conditions, including review and approval by the appropriate department, prior to the stated timelines. Compliance with the Conditions of Approval shall be the sole responsibility of the applicant and/or property owner.

General:

1. The Keizer Development Code requires the developer to connect to public utility services. The Development Code also requires all utility services to be placed below ground. These requirements apply to this request. Further, the developer is responsible for all utility connection costs. The City's System Development Charges for park development, water system improvements and transportation improvements shall be the fee in place at the time of building permit applications. These Development charges, as well as those involving the extension of sewer, water, and storm drainage, will apply to this request.

2. The Comprehensive Plan Map amendment and Zone Change will be effective upon recordation of the subdivision plat. Parcels and tracts shall not be "split" zoned and must be designated and zoned as full parcels or tracts. No residentially designated or zoned parcels or tracts are allowed to be located within the Special Policy Area. For reference, the area is shown on the applicant's materials and is shown in the exhibits accompanying the City of Salem's comments.

3. The development of the property shall comply with all applicable requirements of the Keizer Development Code, other applicable City regulations and the building requirements of the Marion County Building Inspection Division.

4. In accordance with the Dual Interest Area Agreement (2001) concurrence of the final location of Comprehensive Plan Map Amendment and Zoning boundary change must be obtained from the City of Salem and Keizer. This requires joint review and agreement that boundary lines are accurate and that no residential development is proposed within the Special Policy Area.

5. The Comprehensive Map Amendment and Zone Change is only approved for the land located outside the Special Policy Area as established by the Willow Lake Settlement agreement and Dual Interest Area Agreement.

6. Prior to plat approval, the property owner shall record a document granting an easement and a waiver of claims with regard to impacts from the Willow Lake Wastewater Treatment Plant. The easement/waiver shall be approved by the City Attorney and shall be referenced on the subdivision plat.

7. Lot 1 and Lot 2 must be reconfigured so no portion of either of those residential lots are within the Special Policy Area. In addition, Tract A and Tract C must be clearly identified as non-residential use and designated and zoned consistent with the boundary of the Special Policy Area.

8. No vehicular access to Windsor Island Road from any individual lots within the subdivision will be allowed. This restriction shall be noted on the plat or through other methods which will assure future owners are aware of the restriction.

Prior to acceptance of the final plat map for review: (Public Works)

9. It will be the responsibility of the Applicant to locate any existing water services and meters that serve the subject Property and provide evidence that these are available for reuse or that they will be abandoned according to City requirements.

10. Any existing wells on the Subject Property shall be abandoned in accordance with the Oregon State Water Resources Department requirements. The Applicant shall provide evidence to the Public Works Department that any abandonment of existing wells has been completed in accordance with such requirements

11. The 12-inch water main within Windsor Island Road N shall be extended to the north line of the Subject Property.

12. The Applicant's engineer shall provide engineered calculations per the Keizer Development Standards (KDS) to demonstrate the adequacy of the new water distribution system to provide domestic service and fire flows to each lot within the proposed subdivision. If the required flows cannot be met under the current design, modifications to the main layout will

be required.

13. The location of all water mains, appurtenances, services, and meters shall be reviewed for approval by the Public Works Department and shall be constructed within the public right-of-way or a City water easement and in conformance with the KDS.

14. Development plans shall be reviewed by Keizer Fire District regarding adequate location of fire hydrants. All fire hydrants, including the proposed hydrant shown on the Development plan, shall be served by an 8-inch or larger water main.

15. Any septic tanks and drainfields located on the Subject Property and within the City of Keizer shall be abandoned according to the requirements of the appropriate agency and evidence of compliance submitted to the City prior to issuance of any building permits on the Subject Property.

16. The location of all sanitary sewer mains, structures, and services shall be reviewed for approval by the Public Works Department and shall be constructed within the public right-of-way or a City sanitary sewer easement and in conformance with the KDS.

17. City of Salem approval is also required for all sanitary sewer mains, structures, and services prior to the start of construction. Prior to submitting plans to the City of Salem, the Applicant's engineer shall submit sanitary sewer plans to the City of Keizer Public Works Department for review and determination of compliance with the City's overall requirements. The Applicant will need to provide evidence that the Salem sewer permit has been issued prior to the City of Keizer approving and issuing the construction permit.

18. As shown on the preliminary plans for the Development, the Applicant shall dedicate right-of-way along the Windsor Island Road N frontage to equal 34 feet from the right-of-way centerline.

19. The Applicant shall construct or otherwise demonstrate the street improvements along the Development side of Windsor Island Road N meet the standard Collector street section outlined in the TSP and in conformance with the KDS: 20 feet from roadway (right-of-way) centerline to the face of curb, including a 5-foot-wide (including curb) planter strip, 6-foot-wide property-line sidewalks, street lighting, and street trees.

20. Paved transitions shall be designed and constructed, in conformance with the KDS, at each end of the half-street improvements along the Subject Property frontage of Windsor Island Road N.

21. As shown on the preliminary plan, the existing driveway approach onto Windsor Island Road N shall be closed and new curb and sidewalk constructed with the required street improvements.

22. The Applicant shall construct a 6-foot-wide property line sidewalk on the far side of Windsor Island Road N along the Subject Property frontage, extending the existing 6-foot-

wide City sidewalk from the south development to the north line of the Subject Property frontage. These improvements shall include accessible connections, in conformance with Public Right-of-Way Accessibility Guidelines (PROWAG) requirements between the sidewalk and the crosswalks created by the new intersection.

23. The proposed local roadway and associated transportation improvements shall be reviewed for approval by the Public Works Department and shall be constructed within the public right-of-way and in conformance with the KDS.

24. Upon completion of street improvements, centerline monuments shall be established and protected in monument boxes at every street intersection and all points of curvature and points of tangency of street centerlines. The City Engineer may also specify elevation bench marks to be placed if the existing bench marks are not sufficient to determine the local datum.

25. Public Works has reviewed the Preliminary Storm Report provided with this Application. The information provided demonstrates that the proposed storm system can reasonably conform with the requirements of the KDS. The Applicant's engineer shall submit a final overall storm drainage plan and design calculations, demonstrating conformance to the KDS, for review and approval by the City prior to the issuance of any construction permits related to the Development.

26. As discussed in the Preliminary Storm Report, the stormwater collection, conveyance, treatment, and retention facilities shall be designed to accommodate new impervious surfaces in the rights-of-way and City easements, and both new and future impervious surfaces on all proposed lots.

27. A grading and drainage plan shall be developed for the Subject Property in conformance with the KDS. The plan shall include details of adequate stormwater conveyance from all contributing areas across the Subject Property and shall include existing elevations and proposed lot corner elevations. The plan shall be submitted to and approved by the Public Works Department prior to the issuance of any erosion control or construction permits for the Development.

28. Though not shown on the preliminary plan, any proposed Underground Injection Control (UIC) systems shall be registered with DEQ and documentation of this registration provided to the City prior to approval of the proposed storm drainage system or issuance of any construction permits for the Development. In addition, these UIC systems shall be required to be farther than a two-year time of travel from any existing wells on or near the property. (refer to OAR 340-044-0018)

29. A pre-design meeting with City Public Works staff is required prior to the submittal of public improvement plans to either the City of Keizer or the City of Salem for review.

30. Construction permits are required for any construction within a public street, right-of-way, or City easement, for any public infrastructure on private property, and for erosion control

and stormwater management on private property.

31. Erosion control permits shall be obtained from the City prior to the disturbance of any soil on the Subject Property.

32. Street opening permits are required for any work, within the City right-of-way or easements, that is not covered by a construction permit.

33. An improvement agreement in a form acceptable to the City shall be completed and an executed copy submitted to the City prior to issuance of permits for construction of public improvements.

34. A pre-construction conference is required, in coordination with City staff, prior to commencement of any construction under permits issued by the City. (KCS 108.02.00)

35. The Applicant shall coordinate the location of individual or cluster box unit (CBU) mailboxes with the U.S. Postal Service and Postmaster General.

36. Electricity, gas, and communications services to serve the subdivision shall be installed underground and pursuant to the requirements of the utility company(ies) serving the Development.

Prior to Preliminary Plat Approval:

37. A detailed preliminary plat shall be submitted to the Marion County Surveyor's Office for review. The Marion County Surveyor's Office will then submit the preliminary plat to Keizer for review. The Preliminary Plat must be submitted for review prior to submittal of a final plat.

a. Subdivision name must be approved per Oregon Revised Statue 92.090.
b. Must be surveyed and platted per Oregon Revised Statue 92.050.
c. Subdivision plat must be submitted for review.
d. Checking fee and recording fees required.
e. Per Oregon Revised Statue 92.065 remaining monumentation bond may be required if some of the plat monuments have not been set and/or the installation of street and utility improvements has not been completed, or other conditions or circumstances cause the delay (or resetting) of monumentation.
f. A current or updated title report must be submitted at the time of review. Title reports shall be no less than 15 days old at the time of approval of the plat by the Surveyor's Office, which may require additional updated reports.

<u>The detailed preliminary plat shall include the following provisions:</u>

a. The preliminary plat shall substantially conform to the proposed subdivision request. Lot 1 and 2 shall be modified so as not to encroach into the SPA.

b. Lots shall comply with all area and dimension requirements for the proposed underlying zone.
c. Include all engineering elements as required by the Department of Public Works requirements.
d. For all public water mains, fire hydrants and any public sewer mains located within the subject property (if located outside platted rights-of-way) easements will be required and will need to be recorded. These easements shall meet the City of Keizer or City of Salem (where applicable) Design Standards and shall be shown on the subdivision plat.
e. 10' wide public utility easements (PUE) shall be shown along all dedicated rights-of-way.
f. Include a signature line for the City Engineer, Planning Director, and City Manager

38. Street names are required to be submitted to the Planning Department for approval prior to the preliminary plat, and must be shown on the preliminary plat.

39. With the preliminary plat, a copy of any proposed CC&R's, Owners Agreements, Articles and By-Laws shall be submitted to the Planning Department for review by the City Attorney as outlined in Section 3.108.07 of the Keizer Development Code. The following information should be included within the instrument(s):

g. Information regarding streetscape and replacement tree requirements for each lot

h. Information on restriction of vehicular access to Windsor Island Road from individual lots within the subdivision

i. Information regarding the odor/impact overlay zone and the easement/waiver provisions on the property.

The following conditions shall be addressed on the final plat when submitted to the City for review: (Public Works)

40. As shown in the preliminary plan, the Applicant shall dedicate right-of-way along the development side of Windsor Island Road N to half of the 68-foot-wide right-of-way (34 feet measured from the right-of-way centerline) along the Subject Property frontage.

41. A 10-foot public utility easement (PUE) shall be dedicated along the Subject Property frontage of Windsor Island Road N, as well as along the frontage of all the local streets within the Development.

42. The Applicant shall obtain creation of a street lighting Local Improvement District (LID) for the subdivision to address installation and future maintenance of adequate lighting for the development frontage of Windsor Island Road N meeting Collector street standards. No occupancy permits may be issued for the residential buildings until this condition is satisfied and the required lighting is installed, energized, and operational.

Prior to Final Plat approval (Mylar):

43. Upon approval of the detailed preliminary plat and engineering plans, a final plat for the subdivision, which conforms to the preliminary plat approval, must be submitted for review to Marion County Surveyor's Office.

44. Upon approval of the preliminary agreement, a final copy of any CC&R's, Homeowner Agreements, or other instrument shall be submitted to the Planning Department which conforms to the agreements submitted during preliminary plat approval.

45. The existing dwelling and outbuildings must be removed prior to final plat approval.

46. A final Tree Removal and Replacement Plan must be submitted to the Planning department for review and approval to confirm the total number of trees removed and required to be planted. The plan shall include the number of replacement and streetscape trees to be planted on each of the individual lots. Significant trees must be replaced at a 2:1 ratio.

47. The final plat for the subdivision shall be recorded within 2 years from the date of final decision on this application. A one-year extension may be approved by the Planning Director. Requests for extensions must be received in writing at least thirty days prior to the one-year time period.

48. The pedestrian/bicycle connection to Keizer Elementary School must be constructed.

The following conditions of approval shall be completed before City approval and signature of the final plat map: (Public Works)

49. The Subject Property is located outside of the original Keizer Sewer District. The Applicant will be required to pay a Sewer Acreage Fee of $7,460.00 per acre, unless they can provide evidence that the Fee has already been paid for this property.

50. The Applicant shall complete and submit to the City an executed (signed, sworn, and recorded) Private Stormwater Maintenance Agreement for all private stormwater facilities prior to the first occurrence of either: recording of the Development plat; putting the stormwater facilities into operation; or the release of any building occupancy certificates.

Prior to Obtaining Building Permit Final or Occupancy:

51. The residential address requirements found in the Oregon Uniform Fire Code shall be completed as approved by the Keizer Fire District and City of Keizer Planning Department.

52. Replacement trees and streetscape trees shall be installed on each lot prior to obtaining final inspection approval. Trees shall be planted according to the requirements of the Keizer Development Code and as outlined in the final approved tree removal and replacement plan.

The following condition of approval shall be completed prior to City support of occupancy or other finalization for any building permit application on the Subject Property for the proposed Development: (Public Works)

53. All of the required public improvements and associated individual services shall be completed in substantial conformance with the final plat map and construction permits, and accepted by Public Works, prior to City support of occupancy of any building permit for an occupied structure.

DATED: July 22, 2026



Theodore Naemura
Hearings Officer

Existing Hearings Officer Recommended Condition:

22. The Applicant shall construct a 6-foot-wide property line sidewalk on the far side of Windsor Island Road N along the Subject Property frontage, extending the existing 6-foot-wide City sidewalk from the south development to the north line of the Subject Property frontage. These improvements shall include accessible connections, in conformance with Public Right-of-Way Accessibility Guidelines (PROWAG) requirements between the sidewalk and the crosswalks created by the new intersection.

Public Works Proposed Condition:

Prior to acceptance of the final plat map for review: (Public Works)

22. Applicant shall enter into an Improvement Agreement obligating Applicant to construct one of two (*see* 22.a. or 22b) accessible pedestrian and bicycle route improvements within eighteen (18) months of recordation of the final plat. If the City is successful in obtaining additional right-of-way and/or a public easement along the east side of Windsor Island Road N prior to Public Works approval of the development construction drawings, the Applicant shall be required to construct the improvements outlined in option 22.a. If the right-of-way and/or public easement cannot be obtained, the Applicant will be required to construct the improvements outlined in option 22.b. In either case, all pedestrian and bicycle improvements shall be designed and constructed consistent with KDS and Public Right-of-Way Accessibility Guidelines (PROWAG) requirements:

    22.a. Eastside Multi-Use Path Improvement (City Acquisition of ROW): The Applicant's engineer shall prepare a preliminary design for a multi-use pathway along the east side of Windsor Island Road N of the roadway, to provide accessible facilities between the proposed development and Lockhaven Drive NE. These improvements shall include the pathway, pavement widening and curbs along the east side of Windsor Island Road N consistent with the TSP requirement for the roadway, an improved and accessible driveway connection for the existing manufactured home park on the intervening property, and collection and management of stormwater runoff from the added impervious areas. The preliminary design shall include identification of additional property area necessary to construct the improvements along the frontage of 5510 Windsor Island Road N, for the City's use in obtaining this area as noted above. Once the preliminary design is complete, the Applicant's engineer shall evaluate the crosswalks at the proposed new intersection, based on the existing traffic volumes and posted speed along the roadway, and provide a design for either enhancing or closing these crosswalks, consistent with the Oregon Department of Transportation Traffic Manual and the KDS, for review and approval by the Director.

    22.b Crosswalk and Westside Sidewalk Extension: The Applicant's engineer shall instead design an accessible and safe pedestrian and bicycle route utilizing the 6-foot-wide sidewalk along the west side of Windsor Island Road N, for review and approval by the Director. The design shall address pedestrian and bicycle movements across Windsor Island Road N at both the proposed intersection and the intersection with Lockhaven Drive N. The proposed intersection and accessible route shall be constructed in accordance with the Director-approved design. Once the preliminary design is complete, the Applicant's engineer shall

evaluate the crosswalks at the proposed new intersection, based on the existing traffic volumes and posted speed along the roadway, and provide a design for enhancing the crosswalks, consistent with the Oregon Department of Transportation Traffic Manual and the KDS, for review and approval by the Director.

City Council Meeting Date: August 17, 2026

To: Mayor Clark and City Council Members

Thru: Adam J. Brown, City Manager

From: Keare Blaylock, Public Works Director

Subject: Authorize Oregon DEQ Grant Application for Willow Lake Stormwater Project

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Proposed Motion

I move the City Council authorize the City Manager, or designee, to apply to the Oregon Department of Environmental Quality Sewer Overflow and Stormwater Reuse Municipal Grants Program for up to $400,000 for the Willow Lake Stormwater Realignment Project.

I. Summary

City Council authorization is requested to apply to the Oregon Department of Environmental Quality Sewer Overflow and Stormwater Reuse Municipal Grants Program for up to $400,000 for the Willow Lake Stormwater Realignment Project. The project would replace deteriorating stormwater pipe on Willow Lake Road N and retrofit the Lydia Street vegetated stormwater facility to improve system reliability, permit compliance, conveyance capacity, and water-quality treatment. This action authorizes application submission only; subsequent actions requiring Council approval will return to Council.

II. Background

A. The project is located in north-west Keizer, approximately one mile from the Willamette River, and spans stormwater systems at Willow Lake Road N and Lydia Street N.

B. The stormwater pipe serving the subdivisions on Willow Lake Road N is aging out and at risk of failure. Additionally, upstream and connected to the Willow Lake stormwater pipe is a series of vegetated stormwater facilities (VSFs) on Lydia Street N, which are approaching the end of their functional lifespan and need to be reconstructed or retrofit.

C. The project scope includes realignment of the Willow Lake stormwater pipe to the public right-of-way where it will be conveyed to a new regional treatment facility at the west end of the subdivision. The project also includes retrofitting the VSFs on Lydia St. N, which also convey stormwater to the Willow Lake storm line.

D. Design of the Willow Lake Stormwater System is the first phase of the improvements

and a prerequisite for a planned regional stormwater treatment facility.

III. Current Situation

A. The Willow Lake storm pipe presents risks of uncontrolled discharge, localized flooding, property damage, and pollutant loading to the Willamette River. The Lydia VSFs are operating at capacity as infiltration rates have slowed due to sedimentation over time. Both piped and vegetated assets are compromised and in need of repair/replacement.

B. The scope of the project includes engineering, design, and construction of the stormwater pipe realignment, vegetated stormwater facility retrofit, and addition of a regional treatment facility.

C. Council authorization will enable staff to submit the grant application prior to the deadline, September 14, 2026. Any grant acceptance, appropriation, final local match commitment, grant agreement, or procurement authorization requiring Council action will return to Council.

IV. Analysis

A. **Strategic Impact** - The grant will help fund the design of the project and advance the City's CIP strategy for the regional Willow Lake Stormwater System.

B. **Financial** - The estimated total funding needed for project design is estimated at $450,000. The proposed grant request is up to $400,000 with an anticipated non-federal match of approximately $50,000 from stormwater utility fund revenue. The final match amount and source require confirmation through the City's capital planning and budget approval processes. Authorization to apply does not appropriate funds or commit the local match.

C. **Timing** - The deadline for the grant application is September 14, 2026. Authorization at this meeting would allow staff to finalize the scope, budget, certifications, and other application materials. The anticipated schedule provides for a project start in FY 2027/28, with construction completion targeted FY 2031/32.

D. **Policy/Legal** - Only the Council can authorize the City Manager or designee to apply for grants.

V. Alternatives

A. Authorize Submission with Modifications – Council could modify the proposed scope, grant request, or anticipated local match. Modifications could affect timely submission.

B. Take No Action – The City would not submit the application during this funding cycle. Potential Benefit: No application or potential matching-fund obligation would proceed. The City would need to identify another funding source or defer the priority improvements.

VI. Recommendation

Staff recommends that the City Council authorize the City Manager, or designee, to apply for up to $400,000, subject to final confirmation, for the Willow Lake Realignment Project and to execute documents necessary to submit the application.

Attachments

1. ATT_CC_DEQ Grant App_08-10-2026

Clear Form

State of Oregon
DEQ Department of Environmental Quality

Sewer overflow and stormwater reuse municipal grants program.

Organization information

Questions	Answers
Organizational name:	
Address:	
City, state, zip:	
Phone:	(123) 123-1234
Email:	

System for award management / unique entity identifier

Questions	Answers
Does the organization have a SAM/UEI number?	Choose from list
If Yes enter here:	
If No, will the organization obtain a SAM/UEI number within one year of application?	Choose from list

Organization Type

Question	Answer
Type of organization (select from list): If not listed fill-in	Choose from list

Award experience

Questions	Answers
Has the organization received federal funding for similar programs in the past?	Choose from list
Has the organization complied with all conditions of prior awards?	Choose from list
Has the organization had one or more audit findings for non-compliance in the past five years?	Choose from list

If the organization has received an audit finding for non-compliance, please provide the finding and corrections made by the organization.

Answer to questions above

Is the organization able to providing the following

Questions	Answers
Able to follow application guidance as outlined laid out in 2 CRF Part 200?	Choose from list
Able to attend quarterly check-ins with grant administrator?	Choose from list
Will comply with Build America Buy America (BABA) requirements if applicable?	Choose from list
Does the organization anticipate challenges with reporting requirements?	Choose from list

Continue on next page.

Please describe any anticipated reporting challenges. If no challenges are anticipated please mark as N/A.

Answer to questions above

Organization cost and finances

Questions	Answers
Does the organization have a system to evaluate cost and determine if they are reasonable for the purpose of this project?	List
Does the organization have policies and procedures for expending funds consistently?	List
Does the organization have policies and procedures for maintaining financial tracking of these funds?	List
Does the organization have a record retention policy?	List
How are records managed by the organization? (Digital, Physical, or Both)	List

Other organizational information

Questions	Answers
Does the organization receive more than $25 million in federal funds annually?	List

Questions	Answers
If yes, is this financial information unloaded into SAM.gov?	List

*Note: If the information is not in SAM's, the organization must complete this step prior to receiving the award.

Project information

Questions	Answers
Project name:	
Project type:	
Does this project have a storm-water permit?	Choose from list
Is this project to maintain permit compliance?	Choose from list
Is this project in response to permit non-compliance?	Choose from list
Please list all applicable stormwater permit numbers below:	

Project location

Questions	Answers
Address:	
City:	
Zip code:	
Lat:	
Long:	

Project timeline

Questions	Answers
Project start date:	
Estimated completion date:	

Continue on next page.

Project description

Answer to question above

How does this project support permit compliance

Answer to question above

How does this project support water quality?

Answer to question above

Award Information

Questions	Answers
Requested grant funding:	
Overall project funding needed:	

Project budget

Questions	Answers
Personnel services:	
Subcontracts:	
Services / Supplies:	
Equipment:	
Indirect:	
Project Total:	

Continue on next page.

Other funding sources

What sources of non-federal match will the organization use if needed?

Answer to question above

Project Staff

If titles are different than listed below, please note them in the name line.

Presiding official

Questions	Answers
Name and title	
Address	
City, State, Zip:	
Phone:	
Email	

Continue on next page

Grant single point of contact

Questions	Answers
Name and title	
Address	
City, State, Zip:	
Phone:	
Email	

Consulting engineer

Questions	Answers
Name and title	
Address	
City, State, Zip:	
Phone:	
Email	

Environmental review manger

Questions	Answers
Name and title	
Address	
City, State, Zip:	
Phone:	
Email	

Authorized representative

Questions	Answers
Name and title	
Signature	
Date:	

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City Council Meeting Date: August 17, 2026

To: Mayor Clark and City Council Members

Thru: Adam J. Brown, City Manager

From: Joseph Lindsay, City Attorney

Subject: Recognition of Neighborhood Associations

Proposed Motion

I move that the City Council adopt Ordinance No. 2026-___ Relating to Recognition of Neighborhood Associations (if necessary: as amended); Amending Keizer Code Chapter 2, Article VIII

I. Summary

In the aftermath of the April 13, 2026, work session, the City Council directed staff to amend some specific wording in the neighborhood association ordinance in the Keizer Code. The matter was also before the City Council at its June 15, 2026 meeting. On August 3, 2026, the City Council again discussed amendments and further ordered staff to make a few additional changes to be considered at a future meeting.

II. Background

A. Keizer Code Chapter 2, Article VIII deals with recognition of neighborhood associations in the city of Keizer. The Keizer City Council met with representatives of all the existing neighborhood associations in a work session on April 13, 2026, for feedback and input into how these groups can work together.

B. The matter was brought before the Keizer City Council at its June 15, 2026 meeting and the Council directed staff to make additional amendments and bring the revisions back at a future date.

C. The matter was brought before the Keizer City Council at its August 3, 2026 meeting and the Council directed staff to make additional amendments and bring the revisions back at a future date.

III. Current Situation

A. At the April 13, 2026, work session, City Council directed staff to amend some specific wording in the neighborhood association ordinance to reflect changes sought by the associations and the councilors. One change was to revise the city's

responsibilities relating to the city's website. Another was to include standards that meetings should adhere to city suggested access and ADA compliance and that the boundaries shall be reviewed every three years by the neighborhood associations. The Council also moved to change when the annual reports by the neighborhood associations should be made.

B. Since the April work session, some other ideas and suggestions have been brought to the attention of the legal department. These are: whether official websites for neighborhood associations need to be truly public (not requiring befriending on Facebook), whether all meetings should be consistent by being held in-person at the event center with the online option utilizing the owl, and whether the City should require advanced permission before any use of other entities' logos by a neighborhood association in marketing or social media.

C. The matter was brought before the Council at its June 15, 2026 regular meeting. Several members of the neighborhood associations spoke about the revisions and Council directed staff to further refine the ordinance to reflect changes sought by the associations and the councilors.

D. At the August 3, 2026 regular meeting, some other ideas and suggestions were brought up. Those have also been incorporated into the suggested amendments presented herein.

IV. Analysis

A. **Strategic Impact** - No strategic impact.
B. **Financial** - City funding of neighborhood associations is tied to the neighborhood associations meeting the standards for recognition set by the City Council.
C. **Timing** - No particular timing needed.
D. **Policy/Legal** - Only the Council can amend the Keizer Code.

V. Alternatives

A. Adopt the ordinance as presented.

B. Adopt the ordinance as amended.

C. Do nothing.

VI. Recommendation

Staff recommends adopting the ordinance with the suggested amendments.

Attachments

1. ORD_CC_Amending Chapter 2 Article VIII - Neighborhood Associations_8 17 2026
2. EXH_CC_ARTICLE_VIII.___RECOGNITION_OF_NEIGHBORHOOD_ASSOCIATIONS_8 17 2026

A BILL ORDINANCE NO. 2026-_____

FOR

AN ORDINANCE

RELATING TO RECOGNITION OF NEIGHBORHOOD ASSOCIATIONS; AMENDING KEIZER CODE CHAPTER 2, ARTICLE VIII

The City of Keizer ordains as follows:

Section 1. Keizer Code Chapter 2, Article VIII is hereby amended as set forth in Exhibit A, attached hereto and by this reference incorporated herein.

Section 2. In preparing this ordinance for publication and distribution, the City Recorder shall not alter the sense, meaning, effect or substance of this ordinance, but within such limitations, may:

(a) Renumber sections and parts of sections of the ordinance;

(b) Rearrange sections;

(c) Change reference numbers to agree with renumbered chapters, sections or other parts;

(d) Delete references to repealed sections;

(e) Substitute the proper subsection, section or chapter, or other division numbers;

(f) Change capitalization and spelling for the purpose of uniformity;

(g) Add headings for purposes of grouping like sections together for ease of reference; and

Keizer City Attorney
930 Chemawa Road NE
PO Box 21000
Keizer, Oregon 97307
503-856-3433

(h) Correct manifest clerical, grammatical or typographic errors.

Section 3. Each section of this ordinance, and any part thereof, is severable, and if any part of this ordinance is held invalid by a court of competent jurisdiction, the remainder of this ordinance shall remain in full force and effect.

Section 4. This Ordinance shall take effect thirty (30) days after its passage.

PASSED this _____ day of _____, 2026.

SIGNED this _____ day of _____, 2026.

_____
Mayor

_____
City Recorder

Keizer City Attorney
930 Chemawa Road NE
PO Box 21000
Keizer, Oregon 97307
503-856-3433

ARTICLE VIII. RECOGNITION OF NEIGHBORHOOD ASSOCIATIONS

Sec. 2-270. Purpose.

This article is intended to recognize that neighborhood associations are an important part of the involvement and volunteerism of the residents of the community in city government. Active neighborhood associations enhance the city's resident involvement program and provide an important two-way channel for information relative to the activities of the city. This article is intended to provide a framework for establishment and recognition of neighborhood associations and to acknowledge such associations as legitimate representatives of the residents and issues within their boundaries.

(Ord. No. 2024-875, § 1, 5-20-2024)

Sec. 2-271. Neighborhood associations.

A neighborhood association is any group of people organized within a geographical area for the purpose of studying and acting on issues affecting neighborhood and citywide livability and government operations, and that also actively solicits broad involvement by all residents within the association's boundary. A recognized neighborhood association is one that has been found by the city council to satisfy the standards of this article.

(Ord. No. 2024-875, § 2, 5-20-2024)

Sec. 2-272. Recognition.

The city council may officially recognize a neighborhood association as described in sections 2-273 and 2-274. For a recognized neighborhood association, the city will do the following, at a minimum:

(1) Email the association requests for comments and public hearing notices for all planning, zoning, and subdivision activities within its boundaries, unless specifically required by law to mail.

(2) Provide a notify me service on the city's website for ~~Email~~ the association to obtain notices of other city issues that may result in action being taken impacting property or the residents within the association boundary, unless specifically required by law to mail.

(3) Provide a subscription service on the city's website for ~~Email~~ the association to obtain agendas for all city commissions, boards, and city council meetings.

(4) Solicit the input of the association at early stages of major decision making, such as annual budget preparation and amendments to the comprehensive plan.

(5) Recognize the association as having standing in land use cases within its boundaries or within adjacent areas where there is a direct impact when input from the affected neighborhood association is received by the city ahead of or during any de novo hearing on the matter.

(6) Provide assistance in publicizing the activities of the association through press releases, city publications, and other media as resources allow.

(7) If a neighborhood association applies for and obtains the least costly local post office box option, the city will reimburse it for that cost out of the amount budgeted for the neighborhood association.

(8) If budgeted funds are available, a neighborhood association can seek reimbursement from the city funds dedicated to them in accordance with the neighborhood association reimbursement policy established by the council and provided by the finance department.

(Ord. No. 2024-875, § 3, 5-20-2024)

Sec. 2-273. Process for recognition.

A neighborhood association may petition the city council for official recognition. If the council finds that the standards outlined in section 2-274 are met, the association may be recognized by resolution.

(Ord. No. 2024-875, § 4, 5-20-2024)

Sec. 2-274. Standards for recognition.

The following standards must be met by a neighborhood association seeking and maintaining recognition:

(1) *Bylaws.* The association shall adopt bylaws that contain the following provisions at a minimum:

a. Any person who resides, operates a business, or owns property within the boundary shall be a member with the right to participate and vote.

b. Membership or participation shall not be limited based on any protected class under state or federal law.

c. There shall be no dues, but voluntary contributions may be solicited.

d. The association shall hold an annual general meeting, with the time, date, and place of the meeting widely publicized throughout the neighborhood prior to the meeting. Other general meetings may be held as desired.

e. Regular meetings of the association board shall be held at a publicized date, time, and place. The in-person meetings shall be held at the event center utilizing audio-video technology for any on-line participation if requested. All association board meetings shall be open to the public. All members present may vote on issues with the results recorded ~~separately from votes of the association board~~.

f. Association meetings shall be held at a publicized date, time, and place. The in-person meetings shall be held at the event center utilizing audio-video technology for any on-line participation if requested. All association meetings shall be open to the public. All members present may vote on issues with the results recorded.

g~~f~~. Minutes shall be taken of all association meetings and all general board ~~and general~~ meetings in a compatible~~city-suggested~~ manner with the city that adheres to ADA compliance, with the minutes made available to any person so requesting. A copy of the minutes shall be filed with the city recorder within thirty days after adoption.

g. The association shall have a board of directors with a president, vice president, and secretary who shall be elected annually by those present at the annual meeting. The association may establish additional elected positions on the board. The board roster, including names and contact information shall be filed with the city recorder. The association shall provide an address to the city for mailing purposes. The board of directors shall fill any officer position vacancies by the third meeting following the vacancy to meet the required three board positions. For additional vacancies, the bylaws must address what is considered timely in filling additional board positions above the minimum three officers.

h. A copy of the bylaws shall be reviewed for compliance by the city council upon initial adoption and any amendments made by the neighborhood association.

i. The bylaws shall be filed with the city recorder and maintained and updated to reflect amendments by the neighborhood association.

(2) *Boundary.* The association shall adopt by motion a fixed geographic boundary meeting the following general guidelines:

a. The neighborhood should generally encompass at least 300 dwelling units or smaller clearly defined areas.

b. The neighborhood should generally encompass a logical geographic and social area with generally rectangular boundaries and without any gerrymandering.

c. The neighborhood should generally focus on a single elementary school attendance area.

d. Neighborhood boundaries should generally follow natural or human-made barriers, such as creeks and arterial streets. When a boundary must follow a local street, it should follow rear property lines rather than divide the neighborhood between houses facing each other.

e. The boundary should encompass adjacent vacant or underdeveloped land.

f. The boundary should extend to the city limits.

g. The boundary should leave no isolated areas or pockets not included in another neighborhood association's boundary.

h. The council shall have the final determination of a neighborhood's boundary and is not necessarily bound to the above guidelines. This determination shall be reflected in the resolution of recognition.

(3) *Responsibilities.* The following responsibilities must be assumed and carried out by a neighborhood association:

a. The association must strive to accurately represent the best interest of its members when expressing neighborhood opinion, recommendations, and concerns before any public body.

b. The association solicits the participation or input of all members through newsletters, media coverage, personal contact, flyer distribution, and social media. Associations must maintain an active and up-to-date online presence that adheres to city council social media standards. All official webpages shall maintain at least three administrators having access to the site and its contents. Any website and/or other social media pages need to be open to the public and not require friending or joining in order to access posts. Any use of another entity's logos or names will be permitted by that entity in advance of the use.

c. The association must not post any non-official minutes of any city boards, commissions, task forces, or committees. Only official adopted city minutes should be posted to avoid conflicting information.

d~~c~~. The association must actively engage with city government through participation, input, and recommendations on issues brought to it by the city or initiated by the neighborhood itself.

e~~d~~. The association must hold regular board and general meetings, with timely, appropriate notification to members. The association must maintain at least a minimum attendance of three members at regular, general meetings.

f~~e~~. The association must strive to improve the livability of the neighborhood and of the community as a whole through education, activities, projects, and participation.

g~~f~~. The association must attend an annual joint session with the city council on a date set by the city, customarily in March.

(Ord. No. 2024-875, § 5, 5-20-2024; Ord. No. 2025-891, § 1(Exh. A), 5-5-2025)

Sec. 2-275. Maintaining recognition—Annual report.

A recognized neighborhood association shall make an annual report regarding the previous calendar year to the city council at a council meeting between January~~March~~ 1 and February 28~~April 30~~ each year. This report may be in writing (with a ten page maximum) or presented orally. A written report is preferred. The report shall include at least the following elements:

(1) A listing of all meetings with attendance noted.

(2) A brief summary of all issues dealt with by the association.

(3) A summary of special association activities outside regular meetings.

(4) A report of all efforts to solicit the participation and input of all members of the association.

(5) An analysis of the association's success in meeting its responsibilities as outlined in section 2-274(3).

(6) An affirmation that the association is in compliance with the neighborhood's bylaws at the time of the annual report.

(7) Any updates to the neighborhood's bylaws.

(Ord. No. 2024-875, § 6, 5-20-2024; Ord. No. 2025-891, § 1(Exh. A), 5-5-2025)

Sec. 2-276. Maintaining recognition—Council action.

If the council finds the association has continued to meet the requirements for recognition as outlined in section 2-274, it can, by motion, extend recognition for an additional year.

(Ord. No. 2024-875, § 7, 5-20-2024)

Sec. 2-277. Terminating recognition.

At any time, the council may consider an association's alleged failure to meet the requirements for recognition. If the council finds the association has not continued to meet the requirements for recognition as outlined in section 2-274, the council may, by resolution, revoke recognition.

(Ord. No. 2024-875, § 8, 5-20-2024)

Secs. 2-278—2-302. Reserved.

City Council Meeting Date: August 17, 2026

To: Mayor Clark and City Council Members

Thru: Adam J. Brown, City Manager

From: Joseph Lindsay, City Attorney

Subject: Memorandum of Concern

Proposed Motion

I move to approve the memorandum of concern (as written OR as amended).

I. Summary

At the August 3, 2026, general meeting, the Keizer City Council voted to accept the recommendation of the Internal Oversight Committee and directed the City Attorney to produce a draft memorandum of concern for the Council's consideration at the next general meeting on August 17, 2026. This is the draft memorandum for City Council consideration.

II. Background

A. The Keizer City Council created an Internal Oversight Committee on June 15, 2026, to have an inquiry into Councilor Juran's complaint about the Mayor. After ordering, conducting, and receiving in investigation report on this matter, the Committee voted unanimously on the findings of misconduct in the report, the Committee voted to recommend the sanction of a memorandum of concern to the City Council.

B. At the August 3, 2026, general meeting, the Keizer City Council voted to accept the recommendation of the Internal Oversight Committee and directed the City Attorney to produce a draft memorandum of concern for the Council's consideration at the next general meeting on August 17, 2026.

III. Current Situation

A. This is the draft memorandum for City Council consideration.

IV. Analysis

A. **Strategic Impact** - NA

B. **Financial** - There is no financial cost to approve this memorandum.

C. **Timing** -
This is the meeting that the draft was to be presented to the City Council.

D. **Policy/Legal** - The City Council enforces its own Rules of Procedure. Under Rule 16.1, a memorandum of concern is one of the sanctions that the City Council can take against one of its members.

V. Alternatives

A. Approve the memorandum as written.

B. Approve the memorandum as amended.

C. Ask for staff to entirely re-draft the memorandum before approval.

D. Don't approve the memorandum.

VI. Recommendation

Staff recommends approval of the memorandum of concern at this meeting. If the Council wants different language, then it should approve the memorandum as amended.

Attachments

1. memo of concern Aug 2026

City of Keizer

Phone: (503) 390-3700 • Fax: (503) 393-9437
930 Chemawa Rd. N.E. • P.O. Box 21000 • Keizer, OR 97307-1000

Mayor Cathy Clark
Councilor President Shaney Starr Councilor Dan Kohler
Councilor Kyle Juran Councilor Soraida Cross
Councilor Lore Christopher Councilor Marlene Parsons

August, 17, 2026

TO: Mayor Cathy Clark

FROM: Keizer City Council

RE: Memorandum of Concern

Mayor Clark,

At the general meeting of the Keizer City Council on August 3, 2026, four members of the Keizer City Council voted to follow the recommendation of the Internal Oversight Committee in issuing this memorandum of concern in accordance with the Keizer City Council Rules of Procedure Rule 16.1.

This recommendation was based on an investigation conclusion of an outside attorney investigator that found by a preponderance of the evidence that you were in violation of Rules 5.2 and 15.1 of the Keizer City Council Rules of Procedure. Specifically, the investigator found that you violated Rule 5.2 in your conduct towards Councilor Kohler and violated Rule 15.1 when contacting HR Director Klever about your concerns regarding Councilor Kohler's comments.

Upon its issuance, this memorandum of concern serves to remind you as a member of the Keizer City Council about the necessity of following the Rules of Procedure and importantly reiterates to all members to hold each other accountable to the standards we set for ourselves. This memorandum is a final action by the Keizer City Council on this matter.

The Keizer City Council

City Council Meeting Date: August 17, 2026

To: Mayor Clark and City Council Members

Thru: Adam J. Brown, City Manager

From: Joseph Lindsay, City Attorney

Subject: Sunset Internal Oversight Committee

Proposed Motion

I move that the Keizer City Council sunset the Internal Oversight Committee.

I. Summary

On June 15, 2026, the City Council appointed a three-member inquiry work group (Internal Oversight Committee) led by Council President Starr, with Councilors Christopher and Juran. The group completed their work August 3, 2026. With the work of the Committee complete, it is appropriate to consider sunsetting the Committee.

II. Background

A. The Internal Oversight Committee met on June 17, June 18 and July 22, 2026.

B. The Council received and accepted the recommendation from the Internal Oversight Committee on August 3, 2026.

III. Current Situation

A. With the work of the Internal Oversight Committee now complete, it is appropriate to consider sunsetting the Internal Oversight Committee.

IV. Analysis

A. **Strategic Impact** - No strategic impact.

B. **Financial** - Does not apply.

C. **Timing** - The Internal Oversight Committee has completed its work.

D. **Policy/Legal** - The Internal Oversight Committee was created by the City Council by motion and can be eliminated or altered by the City Council by motion.

V. Alternatives

A. Sunset the Internal Oversight Committee.

B. Take no action and allow the Internal Oversight Committee to continue.

VI. Recommendation

Staff recommends that the City Council sunset the Internal Oversight Commitee.

Attachments

None

City Council Meeting Date: August 17, 2026

To: Mayor Clark and City Council Members

Thru: Adam J. Brown, City Manager

From: Adam Brown, City Manager

Subject: Legislative Agenda

Proposed Motion

I move that the Keizer City Council adopt the Legislative Agenda as presented and that the City Manager be allowed to submit the top five priorities to the League of Oregon Cities and that the City Manager be authorized to submit letters of support as needed during the session for all of the nine (9) topics and direction approved by the Council.

I. Summary

The Keizer City Council met in work session on August 10, 2026 to review legislative priorities for the 2027 Oregon State legislative session. The Council approved priorities for a legislative agenda.

II. Background

A. Each year, the League of Oregon Cities comes up with a list of legislatie priorities for which they will advocate for, or in some cases resist on behalf of Oregon cities. To priorize the league's lobbying activities, they offer cities an opportunity to select their top five priorities out of a list and summary of each of 29 policy areas. They then focus their efforts on the most important of the ranked items.

B. The City Council was given the summary of priorities in advance so they could individually prioritize issues through a survey. This gave the Council a starting point for an in-person discussion.

III. Current Situation

A. The Council held a work session on August 10, 2026, to discuss ranking the legislative priorities.

B. Council identified the top five to submit to the League of Oregon Cities as:
   1. Public Meeting's Law Clarity
   2. Land Availability and Land Use Streamlining

3. Maintain Local Control of Safe, Modern Right-of-Way
4. Administrative Procedures Act Reform
5. Alcohol Taxation

C. The Council also added these additional four policy areas to the city's advocacy, so that if a bill comes up under one of these areas that is consistent with the direction provided in the legislative summary, staff is able to submit timely support without having to wait for or schedule a special council meeting.
   1. Infrastructure Funding
   2. Support Municipal Cybersecurity Proficiency
   3. 2027 Transportation Package
   4. Targeting Prevailing Wage Changes

D. The City Manager will submit the top five upon approval by the Council.

IV. Analysis

A. **Strategic Impact** - These legislative policies do overlap the City's Strategic Plan. Specifically, the support for land availability and land streamlining efforts may support the City's desire to consider changes to the Urban Growth Boundary. Also, the infrastructure funding aimed at water systems may support our goal to update the water master plan and water main replacement.
B. **Financial** - Approval of this item does not have any direct financial impact.
C. **Timing** - The City Manager will be able to submit Keizer's priorities before the League of Oregon City's deadline. Also, staff is able to submit timely support on any of the nine items throughout the session without having to wait for or schedule a special council meeting.
D. **Policy/Legal** - It is the City Council's purview to establish legislative advocacy.

V. Alternatives

A. Approve the lists as presented from the work session.
B. Modify and approve the list according to discussion and changes had at the meeting.

VI. Recommendation

Staff recommends approval of the legislative agenda as approved by the Council at the work session.

Attachments

1. 2026_Legislative_Voter_Guide_FINAL

League of Oregon Cities

2026 Member Voter Guide

2027-28 LOC Legislative Priorities

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2026 Member Voter Guide

Background: The LOC policy committees are the foundation of the League's policy development process. Each even-numbered year, the LOC appoints city officials to serve on these committees. They receive informational briefings, analyze policy and technical issues, and ultimately recommend positions and strategies for the upcoming two-year legislative cycle. We want to acknowledge officials that dedicated their time and expertise to develop the priorities – *thank you* for supporting the LOC in crafting a strong agenda to support our legislative work.

This year, seven committees identified 27 legislative policy priorities to advance to the full membership and LOC Board of Directors. It's important to understand that the issues that do not rise to the top based on member ranking are not diminished with respect to their value to the policy committee or the LOC's advocacy. These issues will still be key components of the LOC's legislative portfolio for the next two years.

Ballot/Voting Process: Each city is asked to review the recommendations from the each of the policy committees and provide input to the LOC Board of Directors, which will formally adopt the LOC's 2027-28 legislative agenda. While each city may have a different process when evaluating the issues, it's important for cities to engage with their mayor and entire council to ensure the issues are evaluated and become a shared set of priorities. During its October meeting, the LOC Board will formally adopt a set of priorities based on the ranking process through the survey and their evaluation.

Each city is permitted **one** ballot submission. **Once your city has reviewed the proposed legislative priorities, please complete the electronic ballot to indicate the top five (5) issues that your city would like the LOC to focus on during the 2027-28 legislative cycle**. The lead administrative staff member (city manager, city recorder, etc.) will be provided with a link to the electronic ballot. If your city did not receive a ballot link or needs an alternative way to vote, please reach out to Meghyn Fahndrich at mfahndrich@orcities.org and Nicole Stingh at nstingh@orcities.org.

Important Deadline: The deadline for submitting your city's vote is **5 p.m. on Friday, September 25, 2026.**

Broadband, Cybersecurity, Artificial Intelligence (AI), and Telecommunications Committee

LOC Contact: Greg Miller, gmiller@orcities.org

PROMOTE THE EQUITABLE DEVELOPMENT OF SUSTAINABLE TELECOM INFRASTRUCTURE

RECOMMENDATION: The LOC recognizes and has prioritized broadband access, and telecom infrastructure more broadly, as an "essential service" and will advocate for affordable, safe, reliable, high-speed infrastructure development and access in every city. This includes but is not limited to: supporting expansion of service options for municipalities; increasing rural cellular infrastructure; and maintaining open access to networks that provide choice to community members.

Background: Advancements in telecommunications technology have ushered in unprecedent investments in infrastructure development aimed at providing broadband access and other communication modalities to all. Deploying infrastructure in Oregon must be done equitably across the state's diverse landscape and focus on addressing current coverage gaps as well as statewide infrastructure that serves all.

MAINTAIN LOCAL CONTROL OF A SAFE, MODERN RIGHT OF WAY

RECOMMENDATION: The LOC will oppose any legislation seeking to preempt local control of municipal rights-of-way (ROW). The LOC will also support legislation aimed at codifying home rule management of the local ROW and the revenue derived from use of the ROW, while encouraging ROW users to timely upgrade and replace their infrastructure lost to natural disaster.

Background: Home rule authority and local ROW management allow local governments to safely manage ROW issues that arise after work is complete, and when the ROW work-related permit may no longer be in effect. It ensures that utilities installing facilities in the ROW have financial protections like insurance in place, which help protect the public using the ROW and other entities whose infrastructure may be damaged during utility work. It ensures that local taxpayers will not have to pay costs associated with utilities' use of the ROW. It also ensures accountability through a variety of enforcement mechanisms.

SUPPORT EQUITABLE ACCESS TO TECHNOLOGY

RECOMMENDATION: The LOC will support policies such as the Oregon Lifeline Program to ensure digital inclusion. The LOC will also continue to monitor implementation of the

U.S. Department of Justice's website accessibility rule implementation and support municipal resource opportunities for accessibility. Finally, the LOC will support funding for programs that increase digital skills, equity, and adoption.

Background: All individuals regardless of physical, financial, or any other barrier have a right to access advancements in telecom technology.

SUPPORT RESPONSIBLE MUNICIPAL USE OF TECHNOLOGY

RECOMMENDATION: The LOC will support legislation that acknowledges forward-thinking regulations, taking into account the rapid evolution of telecom systems. The LOC may also support agency policy options that include municipal telecom resilience and concepts such as municipal AI assessments, and an "AI Sandbox" to further understanding of AI risks and other technological advancements in a controlled environment. In this work, the LOC will work to prevent unfunded mandates.

Background: Advancements in technology, including but not limited to AI, have demonstrated operational efficiencies, yet those come with risks if not implemented correctly and used safely. The LOC is cautiously optimistic about the use of AI and other tools that increase service and operational efficiency, but recognizes that some regulation may be necessary to define appropriate municipal uses and foster an atmosphere of responsibility and data safety.

SUPPORT MUNICIPAL CYBERSECURITY PROFICIENCY

RECOMMENDATION: The LOC opposes unfunded mandates and will advocate for technical support and funding to give all cities access to innovative technology, enhanced state programs, cybersecurity notification resources and assistance protecting critical infrastructure and data during cyber-attacks.

Background: Cybercriminals target municipalities as vulnerable systems holding valuable personal data and financial records. Historical underfunding of cybersecurity, antiquated system architecture, and lack of cybersecurity training contribute to the increasing trend in municipal cyberattacks. Cyberattacks can impact services with dire consequences for residents. Hackers typically look for the easiest entry path, and local governments often lack the resources to respond.

General Government Committee

LOC Contact: Charlie Conrad, cconrad@orcities.org

ADMINISTRATIVE PROCEDURES ACT REFORM

RECOMMENDATION: The LOC will advocate for the comprehensive modernization of the Oregon Administrative Procedures Act (APA) to restore regulatory transparency, strict alignment with legislative intent, and meaningful public accountability across all state agencies. This advocacy should include:

- Standardizing the rulemaking process across all state agencies to eliminate regulatory fragmentation;
- Strengthening public and expert participation in all rulemaking and workgroup processes;
- Establishing independent oversight and auditing of fiscal impact statements;
- Limiting and restricting the use of emergency rulemaking to actual crises; and
- Reforming judicial deference standards to ensure state agencies remain answerable to elected leaders and voters.

Background: Established in 1971, the Oregon APA is the legal framework that dictates how state agencies create regulations. However, the system has not seen a major update in decades, resulting in an unpredictable regulatory environment. Because there is no single standard for all agencies, different departments often pass conflicting rules that make compliance incredibly difficult for organizations on the ground. Furthermore, many key agencies report to independent boards rather than the governor, which creates an accountability vacuum. Recent state court decisions have compounded the issue by granting agencies broad leeway, ruling that their regulations do not strictly have to align with the original legislative intent.

This regulatory breakdown directly impacts local governments. When uncoordinated state agencies issue overlapping or conflicting rules, cities are left trapped in the middle—forced to navigate a maze of contradictory mandates that drain municipal staff time and stretch city budgets. Furthermore, because recent court rulings have stripped away traditional checks on administrative reach, cities have lost the ability to challenge flawed, 'one-size-fits-all' state regulations that ignore local realities. This loss of local control and financial stability necessitates reform. Protecting municipal home rule, ensuring local voices are actually heard during the rulemaking process, and restoring a sense of predictability and fairness to how state policies are implemented on the ground is necessary.

PUBLIC MEETINGS LAW CLARITY

RECOMMENDATION: The LOC will advocate for a comprehensive statutory reset of the Oregon Public Meetings Law to restore operational functionality and practicality for local governments while protecting public transparency. This priority includes the following provisions:

- Establishing an Intentionality Requirement: Limit serial meeting violations strictly to actions taken "knowingly and intentionally" to protect volunteer elected officials from penalties for good-faith, inadvertent errors.
- Streamlining Complaint Enforcement: Authorize the Oregon Government Ethics Commission (OGEC) to immediately dismiss incomplete, trivial, or bad-faith complaints.
- Holding the Right Entity Accountable: Shift personal liability for purely administrative errors—such as delayed meeting notices—away from individual elected officials and onto the public body as an institution.
- Expanding the "Cure" Process: Provide flexible, accessible avenues for local governments to address and correct procedural complaints, including decision rescission or public acknowledgement with a corrective action plan.
- Right-Sizing Training Requirements: Reform mandatory compliance training to occur once per elected term rather than annually, while allowing incoming officials to complete the requirement prior to being sworn in.

Background: Oregon's Public Meetings Law prohibits local elected officials from deliberating in private, a rule that includes a ban on "serial meetings," where separate, smaller discussions are held over time that may add up to a quorum. Recent Oregon Government Ethics Commission (OGEC) rules and training on this topic have created widespread confusion, leaving public officials deeply uncertain about how they can communicate with each other, their residents, or the media. A diverse work group of local leaders and legislators spent months negotiating a bipartisan fix during the 2026 legislative session, but Governor Kotek ultimately vetoed the bill, calling for stakeholders to return to the drawing board for the 2027 session. Today, the interpretation of this law remains highly contentious, and ongoing discrepancies create massive structural ambiguities and political tensions, making it incredibly difficult for local leaders to effectively govern.

To make the public meetings law workable, several practical fixes are urgently needed to save taxpayer resources and provide clarity to local officials. The current system: forces volunteer leaders to face personal liability for minor staff mistakes like late meeting notices; offers no clear way for cities to self-correct simple procedural errors; and requires repetitive annual training. To keep local governments functioning, the state

must shield individual officials from administrative liability, allow the OGEC's staff to quickly dismiss trivial or bad-faith complaints, create a clear path for cities to self-correct honest mistakes, and right-size compliance training to once per elected term.

Housing, Land Use, and Community Development Committee

LOC Contact: Alexandra Ring, aring@orcities.org

FUNDING AND COORDINATION FOR SHELTER AND HOMELESS RESPONSE

RECOMMENDATION: The LOC opposes cuts to the state shelter system funding and supports continued state investments in a comprehensive homeless response system to fund eviction prevention, shelter, and rehousing. These investments should include:

- Strengthening our coordinated regional homeless response;
- Funding a range of shelter types in cities across the state, including alternative shelter models, safe parking programs; and
- Funding eviction prevention, rapid rehousing, outreach, case management, staffing and administrative support, and other related services.

Background: The LOC recognizes that to end homelessness, a cross-sector coordinated approach to delivering services, housing, and programs is needed. Cities are not social service providers and largely do not have the additional revenue sources to fund new services outside their core services, amid ongoing budget cuts. Despite historic legislative investments in recent years, communities continue to struggle to support and rehouse Oregonians experiencing homelessness. In 2025, the Legislature passed HB 3644, which created the Statewide Shelter Program, a comprehensive funding program for state supported local shelters based in regional coordination. In addition to the statutory framework, the Legislature passed a funding package of $204 million to support sheltering efforts in the 2025-2027 biennium, with $102 million as the new baseline level of funding for all biennium through 2034. In a tight budget environment, the Legislature's ability and interest in continuing these investments is unclear.

As Oregon continues to face increasing rates of unsheltered homelessness, the LOC is committed to strengthening a regionally based, state-supported homeless response system to ensure all Oregonians can equitably access stable housing and maintain secure, thriving communities. Regional coordination is key to the system's success, and the state, cities, and counties must be part of the solution together.

FULL FUNDING AND STREAMLINING FOR HOUSING PRODUCTION

RECOMMENDATION: The LOC will seek opportunities to address structural barriers to

production of different housing options at the regional and state level. This includes:

- Streamlining state agency programs, directives, funding metrics, and grant timelines that impact development;
- Accurate tracking of units produced on the ground, rather than units unlocked;
- Aligning state programs with local capital improvement and budget timelines; and
- Increasing connections between affordable housing resources at Oregon Housing and Community Services (OHCS) with the land use directives in the Oregon Housing Needs Analysis (OHNA) and Climate Friendly and Equitable Communities (CFEC) programs at the Oregon Department of Land Conservation and Development (DLCD).

Additionally, the LOC will advocate maintaining and increasing state investments to support the development and preservation of a range of needed housing types and affordability, including:

- Publicly supported affordable housing and related services;
- Affordable homeownership;
- Permanent supportive housing;
- Affordable modular and manufactured housing;
- Middle housing types; and
- Moderate-income workforce housing development.

Background: Recent legislation and executive orders have made significant changes to the state's land use planning process, including new housing production directives for cities and counties. And yet, housing production levels remain below our state's current needs. The state should prioritize implementation, funding, and coordination of existing programs in the 2027-2028 legislative sessions before considering any new policies, including direct funding for housing production to address the underlying economic challenges that prevent production.

LAND AVAILABILITY AND LAND USE STREAMLINING

RECOMMENDATION: The LOC supports updates and streamlining statutes to better support good land use planning and land availability for all needs. This includes:

- Refining land use statutes to provide more clarity and legal certainty for cities;
- Clarifying wetland statutes and inventories to allow efficient and orderly urbanization of land within urban growth boundaries (UGBs);
- Streamlining UGB expansion and swap processes for residential, commercial, and

industrial land;

- Improving urban reserves process and land prioritization; and
- Funding for technical assistance for code audits and updates to comply with new state statutes.

Background: Oregon's land use system has undergone substantial change over the past decade, without revisions to the underlying structure. Years of layering legislation with different requirements and new interpretations of existing law have increased regulatory complexity that cities must navigate to be compliant within Oregon's land use system. Complying with state land use laws has become expensive, time-consuming and confusing, and prevents cities from having sufficient land for all needs (housing, industrial, and commercial). This has created challenges for ensuring that communities have sufficient supplies of land for all types of development, impacting other the housing and economic development priorities of the state.

Energy and Environment Committee

LOC Contact: Greg Miller, gmiller@orcities.org

INVEST IN COMMUNITY ENERGY RESILIENCE/DISASTER PLANNING

RECOMMENDATION: The LOC will engage in efforts to provide planning resources, technical assistance and funding to cities preparing to withstand, maintain and recover their energy needs in the event of a disaster. This includes resources for energy efficiency and/or local energy generation like biomass, solar, hydro, biogas, and generators. It also includes virtual power plants, microgrids, energy storage, and other solutions that help cities and their communities increase energy resilience.

Background: Frequency and severity of natural disasters and growing regional energy shortages have demonstrated the potential to cripple Oregon communities during an emergency. Intentional disaster planning and community energy resource development can be costly, but will contribute to Oregon cities' resilience and ongoing viability during floods, seismic events, drought, wildfires, and energy brown/blackouts.

SUPPORT EXPEDITED LOCAL RENEWABLE ENERGY GENERATION

RECOMMENDATION: The LOC will continue to support traditional large renewable energy development and transmission projects while mitigating impacts on local control. To support Oregon clean/renewable energy targets and increased capacity, the LOC also supports local initiatives to develop alternative/renewable energy sources that fit the needs of each city.

Background: Recent studies of projected Pacific Northwest energy load growth in the next five years show a projected shortfall of 3GW (3,000,000kw) by 2030. That shortfall compounds by 2035. Viability of Oregon cities depends upon increased reliable energy generation.

SUPPORT INCREASED ENERGY TRANSMISSION CAPACITY

RECOMMENDATION: The LOC will explore and support initiatives that increase renewable energy transmission while mitigating impacts on local control.

Background: Large scale renewable energy is largely produced east of the Cascade divide. Maximizing current transmission and developing new capacity to make renewable energy available to all regions is an important factor in achieving equitable community energy resilience while meeting Oregon decarbonization and climate goals.

MAINTAIN AFFORDABLE ENERGY WHILE SUPPORTING GRID HARDENING AND MODERNIZATION

RECOMMENDATION: The LOC will support initiatives that balance necessary grid modernization against manageable rate increases for cities and residents.

Background: Growing and modernizing Oregon's aging electric grid is necessary. However, upgrades and increased capacity are challenging. Utilities are not insulated from recent inflation and face unprecedented increases in equipment and infrastructure costs. Customers are also seeing increased rates due to rising utility infrastructure costs and spending on wildfire mitigation.

RESOURCE PROGRAMS FOR ENERGY EFFICIENCY PLANNING AND PROJECT DEVELOPMENT

RECOMMENDATION: The LOC will support legislation that further supports Community Renewable Energy Programs, Green Bank Concepts, Home Energy Rebates, Solar and Storage Rebates, Electrification Incentives.

Background: Oregon's 241 incorporated cities are at the forefront of delivering on Oregon's climate and energy goals: building decarbonization, energy efficiency and renewable energy generation. These mandates, while important, fall largely upon local governments that are perpetually constrained financially. Continued legislative allocations to support climate/energy programs and local governments will be paramount to continue taking the incremental steps necessary to achieve the state's 2030 greenhouse gas reduction targets and 2040 emissions elimination goals.

SUPPORT ADMINISTRATIVE CAPACITY

RECOMMENDATION: The LOC will support state budgets that increase targeted agency capacity needed to adequately and efficiently provide technical assistance, permitting and resources to municipalities related to state and federal energy and climate goals. This includes fully funded and staffed local programs dedicated to implementation of state climate and decarbonization initiatives, especially those related to guidance derived from federal agencies.

Background: Looming large in the Pacific Northwest are concerns about federal energy policies and utility capabilities to meet Oregon's clean energy targets. Additional capacity at the state level will support communities that are navigating changing guidance and requirements.

Finance, Taxation, and Economic Development Committee

LOC Contact: Colette Tipper, ctipper@orcities.org

TARGETED PREVAILING WAGE CHANGES

RECOMMENDATION: The LOC will advocate for targeted changes to prevailing wage requirements that: recognize urgent needs for Oregon communities; consider the impact of inflation; and maintain the original intent of Oregon's prevailing wage law. This includes supporting reoccurring legislation to exempt publicly financed facilities aimed at addressing the housing crisis (affordable housing, shelters, day centers) and the lack of childcare, as well as efforts to address mounting infrastructure needs impacting housing and economic development. The LOC will support additional clarity around split determination issues that are impacting growth, ensuring cities can proactively prepare for growth without impacting future, private developments.

Background: Prevailing wage rates are minimum hourly rates a contractor must pay its employees under public works contracts; and while there are federal and state prevailing wage rates, the recommendation above impacts state prevailing wage laws. The wage rates vary by occupation and region, with the rates being set by the Oregon Bureau of Labor & Industries (BOLI). Oregon law requires prevailing wages to be paid on a project if it hits one of two specific triggers: the public agency trigger or the public funding trigger:

1. Public Agency Trigger - If a project meets the definition of a "public works" under ORS 2798C.800(6)(a) and the total cost of the project is $50,000 or more. Examples of qualifying projects include roads, buildings, and improvements – whether it's new construction, renovation, painting, demolition, or the removal of hazardous waste. The $50,000 threshold was set in 2005. If adjusted for inflation, the threshold would be roughly $86,000.
2. Public Funding Trigger - A project might be private, but it uses $750,000 or more of

taxpayer money. The same types of projects qualify for the public funding trigger. Note: there are very specific exceptions of public money being used that do not trigger prevailing wages (see ORS 279C.810(1)(a) and OAR 839-025-0004(11)(b)). The $750,000 threshold was set in 2007. If adjusted for inflation, the threshold would be roughly $1.2 million.

Additionally, Oregon law states that in the case of public-private partnerships, BOLI shall divide the project to separate the private and public aspects of the project. The public aspects of the project will be subject to prevailing wage, while the private aspects will not. This recently impacted developments in the Willamette Valley. Developable lots with publicly funded infrastructure should not mean that private projects automatically prevail.

ALCOHOL REVENUE MODERNIZATION

RECOMMENDATION: The LOC will advocate for alcohol tax revenue modernization that generates increased shared revenues for cities. This includes support for recommendations from the HB 3610 Task Force on Alcohol Pricing to increase beer and wine taxes while preserving the existing 34% revenue-sharing distribution to cities. This may also include legislation removing the preemption on local alcohol taxes.

Background: Cities have significant public safety costs related to alcohol consumption and must receive revenue commensurate to the cost of providing services related to alcohol. In considering an increase, the LOC will balance the economic and consumer pressures impacting breweries across the state.

Oregon is a control state and the Oregon Liquor and Cannabis Commission (OLCC, formerly known as the Oregon Liquor Control Commission) acts as the sole importer and distributor of liquor. Cities and other local governments are preempted from imposing alcohol taxes. In exchange, cities receive approximately 34% share of net state alcohol revenues. The OLCC has also imposed a 50-cent surcharge per bottle of liquor since the 2009-2011 biennium, which is directed towards the state's general fund. Oregon's beer tax has not increased since 1978 and is $2.60 per barrel, which equates to about 8.4 cents per gallon, or less than 5 cents on a six-pack. Oregon's wine tax is 67 cents per gallon and 77 cents per gallon on dessert wines. Oregon has one of the lowest beer taxes in the country (source) and the wine tax is closer to national average (source).

EMERGENCY COMMUNICATION SYSTEM RESOURCES

RECOMMENDATION: The LOC will support legislation enhancing the effectiveness of the state's emergency communications system through an increase in the 9-1-1 tax. Inflationary factors have lessened the impact of the emergency communications tax. State estimates indicate that this revenue covered 40% of dispatch center costs, but that

figure is inaccurate, with some communities receiving as little as 20-25%.

Background: Oregon's 9-1-1 tax was increased to $1.00 per line or prepaid transaction effective January 1, 2020, and further increased to $1.25 effective January 1, 2021. Before this change from 2019's HB 2449, the rate had been 75 cents since 1995. The new tax increase on 9-1-1 expires January 1, 2030. Most cities will not receive this state shared revenue directly, as the city share is directed to the public safety answering point (PSAP) provider connected to the statewide network, and most of these are managed by counties or a regional entity, rather than a city. The PSAPs are only partially funded through the state's Emergency Communications Tax, with the balance of operating costs coming primarily from property taxes. Local governments receive approximately 60% of 9-1-1 taxes, but the taxes generally covered less than 25% of the costs of total PSAP operations before the recent rate increases. Ratios of individual PSAP costs to taxes received vary. The local government share of the state tax is distributed 1% to each county, with the remainder distributed per capita.

STRENGTHENING ECONOMIC AND WORKFORCE DEVELOPMENT

RECOMMENDATION: The LOC will support efforts to modernize and strengthen Oregon's existing economic development programs while advocating to maintain local flexibility and autonomy over local revenues. The LOC's advocacy includes strengthening and increasing funding for current state programs like Enterprise Zones (EZ), Long Term Rural Enterprise Zone (LTREZ), the Strategic Investment Program (SIP), the Industrial Site Loan Fund, Brownfield programs, and infrastructure programs, as well as new efforts to support a healthy economy.

The LOC will also support efforts to strengthen Oregon's workforce development initiatives that help to meet critical workforce shortages experienced by public and private employers throughout the state. The LOC will advocate for policies and investments that strengthen local talent pipelines, expand access to workforce education and training, and help communities recruit and retain the skilled workforce needed to support and grow a healthy economy.

Background: Communities across the state have leveraged local economic development incentive programs (Enterprise Zones (EZ), Long Term Rural Enterprise Zone (LTREZ), Strategic Investment Program (SIP), etc.) to support strong local economies, community investment, and long-term economic growth. These programs are intentionally designed to provide local governments with flexibility to attract and retain industries that align with local economic priorities, infrastructure capacity, and workforce needs. The EZ and LTREZ programs provide local governments the option to offer a temporary full exemption from property taxes for qualified new business investment, while the SIP program allows local governments to offer a 15-year partial exemption on the value of new property exceeding a specified investment threshold.

These incentive programs are critical tools for maintaining Oregon's national competitiveness and generating substantial long-term benefits through job creation, enhanced economic activity, infrastructure investment, and increased tax revenues. Local governments absorb the primary impact of temporary property tax exemptions and provide the infrastructure and public services necessary to support development, while the state realizes significant revenue gains through increased income tax collections and broader economic activity generated by these investments. As the state increasingly benefits from local economic development efforts, it should also be a stronger financial partner in supporting and sustaining these programs. Preserving local discretion, predictability, and flexibility within economic development programs remains essential to ensuring communities can effectively compete for and support major economic development opportunities.

Public and private employers across the state are having trouble filling critical workforce needs. As an example, Oregon respondents to the 2025 Associated General Contractors of America Workforce Survey indicate that 56% expect to hire new employees and 54% have increased headcount in the last year. However, 52% of respondents report trouble hiring due to a lack of qualified and credentialed candidates. This challenge rings true for cities. Cities have reported trouble filling wastewater treatment positions due to lack of qualified candidates, while community colleges are neglecting to start programs because of the high cost of running them.

Transportation Committee

LOC Contact: Nicole Stingh, nstingh@orcities.org

2027 TRANSPORTATION PACKAGE

RECOMMENDATION: The LOC supports a robust transportation package that supports Oregon's multi-jurisdictional, multi-modal, and safety-oriented transportation system. Recognizing that Oregonians don't always know who owns what route they rely on, any revenue should support our shared transportation system. The LOC believes this is most effective through a statewide revenue source rather than more administratively burdensome and inequitable local revenue methods that are unable to ensure that all users pay their fair share (including through user fees).

Cities and locally owned transportation systems rely on a strong state partner to meet our shared goals of a system that moves people from "point a to point b" safely and effectively. In addition, the conditions of state and county routes impact cities by both directing additional traffic on city streets and affecting how residents get to where they need to go safely. This requires system expansion to be secondary to restoring funds in grant programs and transit services, protecting existing programs, and an overall focus on operation and maintenance.

Background: After a failed package in 2025, efforts are underway on a 2027 package to address the known need for state, county, and city infrastructure. The State Highway Fund (SHF) is the primary revenue source for the state's transportation infrastructure, and comes from various sources, including gas and diesel tax, weight mile tax, vehicle registration fees, vehicle title fees, and driver's license fees. These funds are distributed using a 50-30-20 formula, with 50% going to the state, 30% to counties, and 20% to cities. Continued investment in transportation infrastructure is critical for public safety objectives such as the Safe Routes to Schools and the Great Streets programs. In addition to those grant programs, local communities rely on the Statewide Transportation Improvement Fund and Oregon Community Paths resources. These programs are essential in cities to support efficient, convenient, safe, cost-effective transportation systems that are open to all members of our communities.

CAUTIOUS ADOPTION OF AUTONOMOUS VEHICLES

RECOMMENDATION: The LOC will advocate for necessary tools to support communities as autonomous vehicles (AVs) come to Oregon, particularly for private for-hire AVs. Cities are proactively and cautiously preparing for new technology, like autonomous vehicles, and it's crucial to get the regulations right to ensure proper coordination, alignment between all stakeholders, and flexibility as the technology is evolving rapidly.

AVs will impact city goals and requirements, ultimately impacting their transportation system plans. Cities must not be preempted in their ability to permit (as it relates to private for-hire AVs) and regulate the use of this new technology on city infrastructure. Cities should have the ability to:

- Ensure AVs follow the rules of the road and can receive traffic violations like human drivers, and that law enforcement officials are trained on ways to disengage an AV;
- Require geofenced areas to have operational standards based on the local needs or goals (like limiting 0 passenger trips), to accommodate special events, or to address infrastructure challenges that prevent safe deployment of technology;
- Allow revenue generation to offset costs for training law enforcement and first responders; and
- Limit the number of AVs that are allowed to operate in a city, potentially scaling up as predetermined performance benchmarks are reached.

At the same time, the LOC supports federal authority to determine if and when an AV is street ready. In addition, the state should determine cyber safety standards, insurance requirements, vehicle registration, and other activities.

Background: With new technologies comes new and unforeseen challenges and opportunities. AVs offer the ability to improve traffic safety by limiting human error, as

industry data shows. AVs could also promote other economic activity and create access to our transportation system. At the same time, there are key risks to mitigate as we learn lessons from cities across the nation that have operated with AVs. One lesson – a slow rollout will help companies identify and address issues as they arise. From navigating weather to power outages, San Francisco transportation officials have learned a lot and shared that with the LOC's Transportation Policy Committee. Despite AVs being in operation for years, the California Department of Motor Vehicles recently created rules around traffic citations for AVs nearly two years after their state legislature passed authorizing legislation. Oregon would benefit from waiting until the technology has advanced, being a fast follower rather than an early adapter. In addition, Oregon should balance support for industry and competition with public trust and public good.

In addition, for more than 40 years, the state of Oregon has recognized that for-hire services like taxis and other vehicles for-hire are a necessary part of the transportation system and has left regulation to local authorities (see ORS 221.485, ORS 221.495). Private for-hire AVs should have higher standards for city regulation versus privately owned vehicles.

CITY SUPPORTED STREET SIGN TRADITIONS

RECOMMENDATION: The LOC will advocate to allow cities to support community activities and fundraisers through signs on light poles. Many cities hang signs on street light poles to recognize holidays, and in some cases these signs are sold as a fundraiser to support chambers, downtown organizations, or other community causes (examples include Mother's Day flowers and Christmas ornaments). State statute prevents this if the sign is visible from a state highway. The LOC will work to create flexibility for cities to support these fundraisers even if they are visible from a state highway.

Background: State statute prevents "advertising signs" within view of state highways, even if they are not on state right-of-way. The state considers advertising to be any exchange of compensation, regardless of its intended purpose. While this is a long-standing statute that is not actively consistently enforced, it has recently prevented one community from supporting a fundraiser for their downtown association. The LOC Transportation Policy Committee is flexible on the solutions and has directed staff to work with the Oregon Department of Transportation on bill language to address this in the least administratively burdensome manner, which will likely include a waiver for fundraising efforts that are endorsed by a city.

Water and Wastewater Committee

LOC Contact: Michael Martin, mmartin@orcities.org

INFRASTRUCTURE FUNDING

RECOMMENDATION: The LOC will advocate for increased and sustained investments in drinking water, wastewater, stormwater, and water reuse infrastructure needed to support housing production, economic development, public health, and environmental protection. This includes: expanding flexible, low-cost financing tools that reduce ratepayer burden; supporting infrastructure capacity needed for housing and economic development; investing in aquifer storage and recovery projects; protecting system development charge authority; and sustaining infrastructure financing programs, including the Special Public Works Fund, which help communities address critical infrastructure needs. The LOC will advocate for policies that recognize the increasing costs associated with regulatory compliance, environmental protection, and workforce needs.

Background: Water infrastructure (drinking water, wastewater, stormwater, and reuse) is essential to supporting housing production, economic development, public health, and environmental protection in communities across Oregon. Cities own and operate drinking water, wastewater, stormwater, and water reuse systems that require ongoing investment to maintain reliability, comply with state and federal regulations, and serve existing and future residents.

The 2024 LOC Infrastructure Survey identified approximately $6.4 billion in water infrastructure needs statewide. Cities continue to face increasing costs associated with aging infrastructure, regulatory compliance, environmental requirements, workforce challenges, and inflationary factors.

Without adequate infrastructure capacity, communities may struggle to accommodate needed housing development and economic growth. State investments should support direct infrastructure projects and proven financing programs that help communities plan, construct, and upgrade critical facilities. State programs like the Special Public Works Fund play an important role in helping communities address critical infrastructure needs.

WATER REUSE

RECOMMENDATION: The LOC will advocate for policies and investments that support the development and expansion of water reuse projects throughout Oregon. This includes: funding for planning, design, and construction; clear and predictable regulatory pathways; and technical assistance for local governments. The LOC will support

maintaining local flexibility to implement community-specific reuse solutions that protect public health and environmental quality.

Background: The Legislature has recognized the value of water reuse through House Bill 2169 (2025). Despite growing interest in water reuse, many communities face financial, technical, and regulatory barriers that limit the development of water reuse. Cities need funding, technical assistance, and regulatory certainty to evaluate and implement reuse projects that meet local needs. As Oregon continues to invest in water infrastructure and community resilience, water reuse should be recognized as an important tool that complements existing water management strategies and helps communities achieve long-term sustainability goals.

RATEPAYER ASSISTANCE

RECOMMENDATION: The LOC will advocate for improved affordability for drinking water and wastewater customers while maintaining the financial stability necessary to operate, maintain, and improve local utility systems. This includes state-supported water and wastewater ratepayer assistance programs, and policies that consider affordability impacts on residents.

Background: Cites face the challenge of balancing affordability for residents with the investments necessary to maintain safe and reliable utility systems. State-supported ratepayer assistance programs and increased participating in infrastructure funding can help reduce financial burdens on households while preserving the financial sustainability of local utilities and ensuring continued access to essential water services. In 2025, the Legislature introduced House Bill 3527, which requested $11 million to continue funding the program, but the bill did not advance out of the budget committee.

WATER WORKFORCE DEVELOPMENT

RECOMMENDATION: The LOC will advocate for investments in workforce development programs that support the recruitment, training, certification, and retention of drinking water and wastewater professionals. This includes: support for operator-in-training and apprenticeship programs; certification and reciprocity improvements; regional training opportunities; and funding that helps communities develop and maintain a qualified water workforce.

Background: Oregon cities depend on certified operators and other utility professionals to provide safe drinking water, protect water quality, maintain regulatory compliance, and operate increasingly complex infrastructure systems. Water utilities across the state face growing challenges of recruiting, training, and retaining qualified personnel.

Investments in workforce development, training infrastructure, and career pathways will

help ensure communities have the skilled workforce necessary to operate and maintain critical water infrastructure systems. The Legislature recently recognized the importance of this workforce with House Bill 4007 (2026), which established a “Water Professionals Appreciation Week” annually in October.

THE NCS™

THE NATIONAL COMMUNITY SURVEY™

Keizer, OR

The National Community Survey

Report of Results
2026

Report by:

National Research Center

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About The NCS™

The National Community Survey™ (The NCS™) report is about the "livability" of Keizer. A livable community is a place that is not simply habitable, but that is desirable. It is not only where people do live, but where they want to live. The NCS was developed by the experts from National Research Center at Polco in partnership with the International City/County Management Association (ICMA) and has been administered in hundreds of communities across the United States.

Great communities are partnerships of the government, private sector, community-based organizations, and residents, all geographically connected. The NCS focuses on the livability of Keizer by categorizing survey questions into the ten main "facets" of community livability shown below, in addition to ratings for quality of life and local governance. These facets have been identified through years of extensive survey research as those that are most impactful to residents' quality of life.

- Economy
- Mobility
- Community Design
- Utilities
- Safety
- Natural Environment
- Parks and Recreation
- Health and Wellness
- Education, Arts, and Culture
- Community Connection

The report provides the opinions of a representative sample of 396 residents of the City of Keizer collected from March 2nd, 2026 to April 27th, 2026. The margin of error around any reported percentage is 5% for all respondents. Survey results were weighted so that the demographic profile of respondents was representative of the demographic profile of adults in Keizer.

Reporting Results

For the most part, the percentages presented in this report represent the “percent positive.” Most commonly, the percent positive is the combination of the top two most positive response options (excellent/good, very safe/somewhat safe, etc.). On many of the questions in the survey, respondents may answer “don’t know.” The proportion of respondents giving a "don't know" response is shown in the full set of responses included in the “Complete Data” section; however, these responses have been removed from the analyses presented in the main body of the report. Therefore, the tables and graphs display the responses from respondents who had an opinion about a specific item.

Benchmark Comparisons

Polco’s database of comparative resident opinion is comprised of resident perspectives gathered in surveys from over 400 communities whose residents evaluated the same kinds of topics on The NCS. The comparison evaluations include surveys from the past five years. If a jurisdiction has conducted multiple efforts in the past five years, only the most recent survey is included in the benchmark database. Polco adds the latest results quickly upon survey completion, keeping the benchmark data fresh and relevant. The communities in the database represent a wide geographic and population range.

In each tab, Keizer's results are noted as being “higher” than the benchmark, “lower” than the benchmark, or “similar” to the benchmark, meaning that the average rating given by Keizer residents is within 10 points of the rolling national average. Being rated as “higher” or “lower” than the benchmark means that Keizer's average rating for a particular item was more than 10 points different than the benchmark. If a rating was “much higher” or “much lower,” then Keizer's average rating was more than 20 points different when compared to the benchmark.

In addition to these national benchmarks, comparisons were also made to a smaller cohort of communities that align more closely to the demographics in Keizer. This cohort included Twin Falls (Idaho), Albany, Ashland, Clatsop County, Corvallis, Oregon City, Tigard, Tualatin, West Linn and Wilsonville (Oregon), Bainbridge Island, Issaquah, Lacey, Lakewood, Lynnwood, Mercer Island, Mountlake Terrace, Puyallup and Richland (Washington), Benicia, El Cerrito, Menlo Park, Santa Cruz and South Lake Tahoe (California). Comparisons to these communities can be found throughout the report and in the Custom Benchmarks tab.

Methods

Selecting Survey Recipients

All households within the City of Keizer were eligible to participate in the survey. A list of all households within the zip codes serving Keizer was purchased from Polco's mailing vendor, based on updated listings from the United States Postal Service.

Since some of the zip codes that serve Keizer households may also serve addresses that lie outside of the community, the exact geographic location of each housing unit was compared to community boundaries using the most current municipal boundary file. Addresses located outside of Keizer boundaries were removed from the list of potential households to survey. Each address identified as being within City boundaries was further identified as being within one of the six areas. From that list, addresses were randomly selected as survey recipients, with multi-family housing units sampled at a rate of 5:3 compared to single family housing units.

Conducting the Random Sample Survey

The 6,000 randomly selected households received mailings beginning on March 2nd, 2026 and data collection for the survey remained open for eight weeks. The first mailing was a postcard inviting the household to participate in the survey online. The next mailing contained a cover letter with instructions, the survey questionnaire, and a postage-paid return envelope. All mailings included a web link to give residents the opportunity to respond to the survey online, as well as QR codes to further encourage participation.

The survey was available in English and Spanish. All mailings contained paragraphs in both languages instructing participants on how to access the survey in their preferred language.

About 2% of the 6,000 mailed invitations were returned because the household address was vacant or the postal service was unable to deliver the survey as addressed. Of the remaining 5,853 households that received the invitations to participate, 396 completed the survey, providing an overall response rate of 7%. Of the 396 responses, 394 were completed in English and 2 were completed in Spanish.The response rate was calculated using AAPOR's response rate #2 for mailed surveys of unnamed persons.[1]

It is customary to describe the precision of estimates by a "level of confidence" and accompanying "confidence interval" (or margin of error). A traditional level of confidence, and the one used here, is 95%. The 95% confidence interval quantifies the sampling error or imprecision of the survey results based on the total number of responses received. This is because *some* residents' opinions are relied on to estimate *all* residents' opinions. The margin of error for the City of Keizer survey is no greater than plus or minus five percentage points around any given percent reported for all respondents (396 completed surveys).

Conducting the Open Participation Survey

In addition to the randomly selected "probability sample" of households, a link to an online open-participation survey was publicized by the City of Keizer. The open-participation survey was identical to the random sample survey, with two small updates; it asked a question to confirm the respondent was a resident of Keizer and also a question about where they heard about the survey.

The open-participation survey was open to all city residents and became available on March 30th, 2026. The survey remained open for four weeks and 108 responses were received. The data presented in the following report excludes the open participation survey data, but the online report includes a tab which provides the complete open participation results.

Analyzing the Data

Responses from mailed surveys were entered into an electronic dataset using a “key and verify” method, where all responses are entered twice and compared to each other. Any discrepancies were resolved in comparison to the original survey form. Range checks as well as other forms of quality control were also performed. Responses from surveys completed on Polco were downloaded and merged with the mailed survey responses.

The survey datasets were analyzed using all or some of a combination of the Statistical Package for the Social Sciences (SPSS), R, Python, and Tableau.

The demographics of the survey respondents were compared to those found in the 2020 Census and 2024 American Community Survey estimates for adults in the City of Keizer. The primary objective of weighting survey data is to make the survey respondents reflective of the larger population of the community. The characteristics used for weighting were age, sex, race, Hispanic origin, housing type, housing tenure, and area. No adjustments were made for design effects. Weights were calculated using an iterative, multiplicative raking model known as the ANES Weighting Algorithm.[2] The results of the weighting scheme for the probability sample are presented in the following table.

Polco aligns demographic labels with those used by the U.S. Census for reporting purposes, when possible. Some categories (age, race/Hispanic origin, housing type, and length of residency) are combined into smaller subgroups.

		Unweighted	Weighted	Target[3]
Age	18-34	**7%**	**30%**	**30%**
	35-54	**20%**	**32%**	**32%**
	55+	**73%**	**38%**	**38%**
Area	Greater Gubser Neighborhood Association	**25%**	**21%**	**21%**
	Greater North East Keizer Neighborhood Association	**7%**	**12%**	**12%**
	No Neighborhood Association	**30%**	**24%**	**24%**
	Northwest Keizer Neighborhood Association	**8%**	**11%**	**11%**
	Southeast Neighborhood Association	**10%**	**15%**	**15%**
	West Keizer Neighborhood Association	**19%**	**17%**	**17%**
Hispanic origin	No, not of Hispanic, Latino/a/x, or Spanish origin	**94%**	**80%**	**80%**
	Yes, I consider myself to be of Hispanic, Latino/a/x, or Spanish origin	**6%**	**20%**	**20%**
Housing tenure	Own	**84%**	**63%**	**63%**
	Rent	**16%**	**37%**	**37%**
Housing type	Attached	**19%**	**35%**	**35%**
	Detached	**81%**	**65%**	**65%**
Race & Hispanic origin	Not white alone	**14%**	**27%**	**27%**
	White alone, not Hispanic or Latino	**86%**	**73%**	**73%**
Sex	Man	**38%**	**46%**	**46%**
	Woman	**62%**	**54%**	**54%**
Sex/age	Man 18-34	**3%**	**13%**	**13%**
	Man 35-54	**6%**	**16%**	**16%**
	Man 55+	**28%**	**17%**	**17%**
	Woman 18-34	**4%**	**17%**	**17%**
	Woman 35-54	**14%**	**16%**	**16%**
	Woman 55+	**44%**	**21%**	**21%**

Study Limitations

All public opinion research is subject to unmeasured error. While the methodologies employed for this survey were designed to minimize this error as much as possible, these other sources of potential error should be acknowledged, and can include non-response error, coverage error, recall bias, and social desirability bias.

Non-response error arises when those who were selected to participate in the survey did not do so, and may have different opinions or experiences that survey responders. For general resident surveys, where the results are meant to be generalized to the entire adult population living in households, the mailing lists based on the Delivery Sequence File from the United States Post Office may exclude certain types of housing units, such as those in multi-family buildings where mail is addressed to a named resident at the address rather than to a specific unit or where residents only receive their mail at a post office box and the geographic location of a residence cannot be determined, there may be a *coverage error*, although for most locations, this is minimal. Respondents may not perfectly remember their experiences in the past year (such as participation in social or civic events, for example), and for some survey items, they may answer in ways they think cast their responses in a more favorable light (*recall bias* and *social desirability bias*).

Survey Validity

See the Polco Knowledge Base article on survey validity at https://blog.polco.us/polco-knowledgebase/margin-of-error-and-confidence-level-in-survey-results

Contact

The City of Keizer funded this research. Please contact Adam Brown of the City of Keizer at brownA@keizeror.gov if you have any questions about the survey.

1. See AAPOR's Standard Definitions for more information at https://aapor.org/standards-and-ethics/standard-definitions/
2. Pasek, J. (2014). ANES Weighting Algorithm. Retrieved from https://surveyinsights.org/wp-content/uploads/2014/07/Full-anesrake-paper.pdf
3. Targets come from the 2020 Census and 2024 American Community Survey

Key Findings

Community Strengths

Residents see Keizer as a strong place to live and raise children.

• About three-fourths reported a positive view of the overall quality of life (75%).

• Roughly 8 in 10 respondents gave favorable marks to Keizer as a place to live (80%) and raise children (82%).

• About 9 in 10 respondents said they would recommend living in Keizer to someone who asks (85%).

Community members feel safe in the places they go day to day.

• About 7 in 10 respondents offered positive feedback on the overall feeling of safety (70%).

• About 9 in 10 residents said they felt safe in their neighborhood during the day (90%).

• Roughly 8 in 10 respondents felt safe in Keizer's downtown/commercial area during the day (81%).

• About 8 in 10 participants indicated they felt safe from violent crime (78%), and fire, flood, or other natural disaster (84%).

Parks, cleanliness, and environmental services help support quality of life.

• About 7 in 10 residents gave favorable ratings to the overall quality of natural environment (74%) and the overall quality of parks and recreation opportunities (71%).

• Nearly 3 in 4 community members described City parks (73%) and the overall quality of the natural environment (74%) as excellent or good.

• Over 7 in 10 respondents expressed positive views of Keizer's cleanliness (71%), recycling (72%), and yard waste pick-up (76%).

Focus Areas

Economic opportunity and affordability remain key areas to strengthen.

• About 3 in 10 residents rated employment opportunities positively (27%); this result was lower than the national benchmark, though similar to the custom benchmark.

• About half of respondents viewed Keizer as a place to work positively (51%).

• About 4 in 10 community members gave favorable marks to cost of living (36%), though this was similar to both benchmarks.

• Fewer than 4 in 10 respondents rated Keizer as a place to visit favorably (38%), lower than the national and custom benchmarks.

Education, arts, and culture results suggest residents want more options.

• About 3 in 10 respondents rated overall opportunities for education, culture, and the arts positively (35%), lower than the national and custom benchmarks.

• About 4 in 10 residents said opportunities to attend cultural/arts/music activities were excellent or good (44%), lower than both benchmarks.

• Fewer than 3 in 10 community members offered positive reviews of adult educational opportunities (29%), lower than the national and custom benchmarks.

• Just over half of respondents gave favorable marks to public library services (53%), much lower than both the national and custom benchmarks.

Community design, mobility choices, and recreation amenities show room for improvement.

• About 4 in 10 respondents rated public places where people want to spend time positively (42%), lower than the national benchmark while similar to the custom benchmark.

• While roughly 7 in 10 residents rated ease of travel by car positively (72%), fewer expressed positive views of ease of travel by public transportation (43%) and ease of travel by bicycle (36%).

• Just over half of respondents rated the availability of paths and walking trails positively (53%) and shared positive feedback about recreational opportunities (55%); both were lower than the national and custom benchmarks.

• About 3 in 10 residents rated the availability of affordable quality housing positively (28%), similar to the national and custom benchmarks.

Other Notable Results

Residents emphasize public safety priorities and rely on a mix of online and community channels for city information.

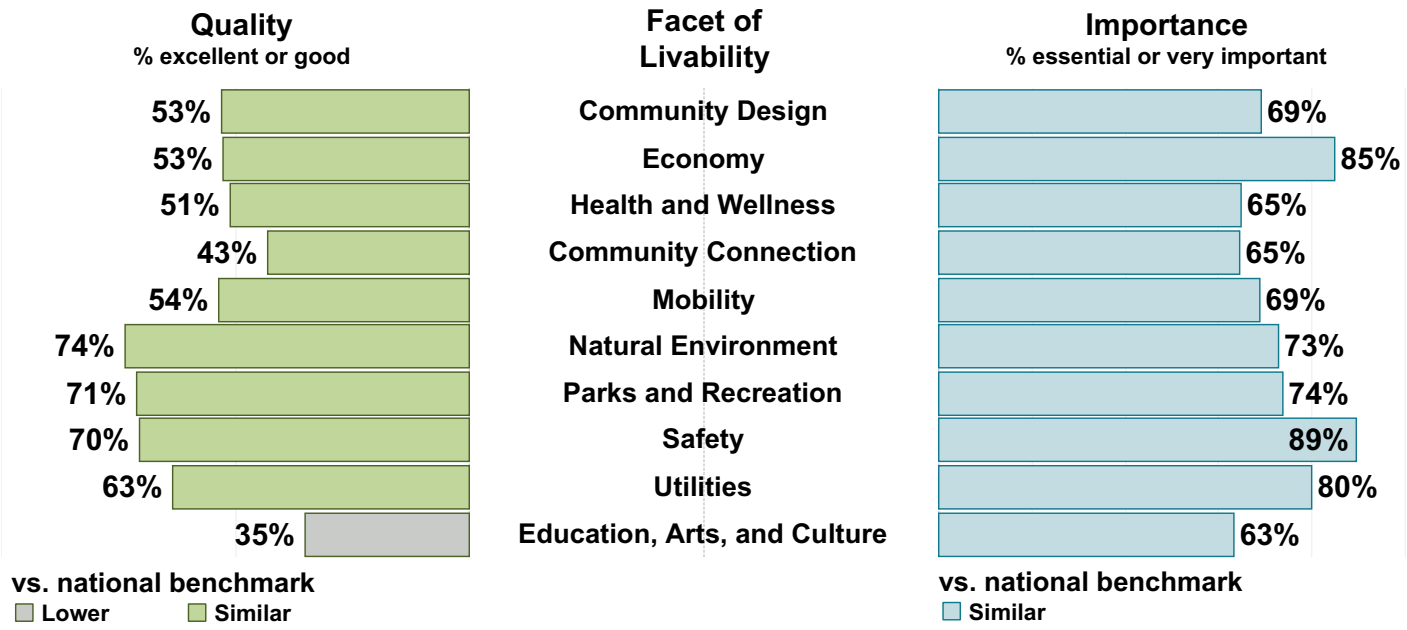
• Over 9 in 10 respondents said it was important for the City to focus on Public Safety (e.g., police, fire, emergency response) (90%), and roughly 8 in 10 prioritized Transportation & Infrastructure (e.g., streets, traffic, utilities) (83%) and Operational Efficiency & Quality of Service (e.g., cost-effective services, responsiveness) (83%).
• About 7 in 10 respondents supported continuing fluoride treatment of the City's drinking water (75%).
• Many residents named the City website (87%), social media (Facebook, YouTube, Instagram) (82%), and word-of-mouth (82%) as major or minor sources for city information.

Facets of Livability

Every jurisdiction must balance limited resources while meeting resident needs and striving to optimize community livability. To this end, it is helpful to know what aspects of the community are most important to residents and which they perceive as being of higher or lower quality. It is especially helpful to know when a facet of livability is conside..

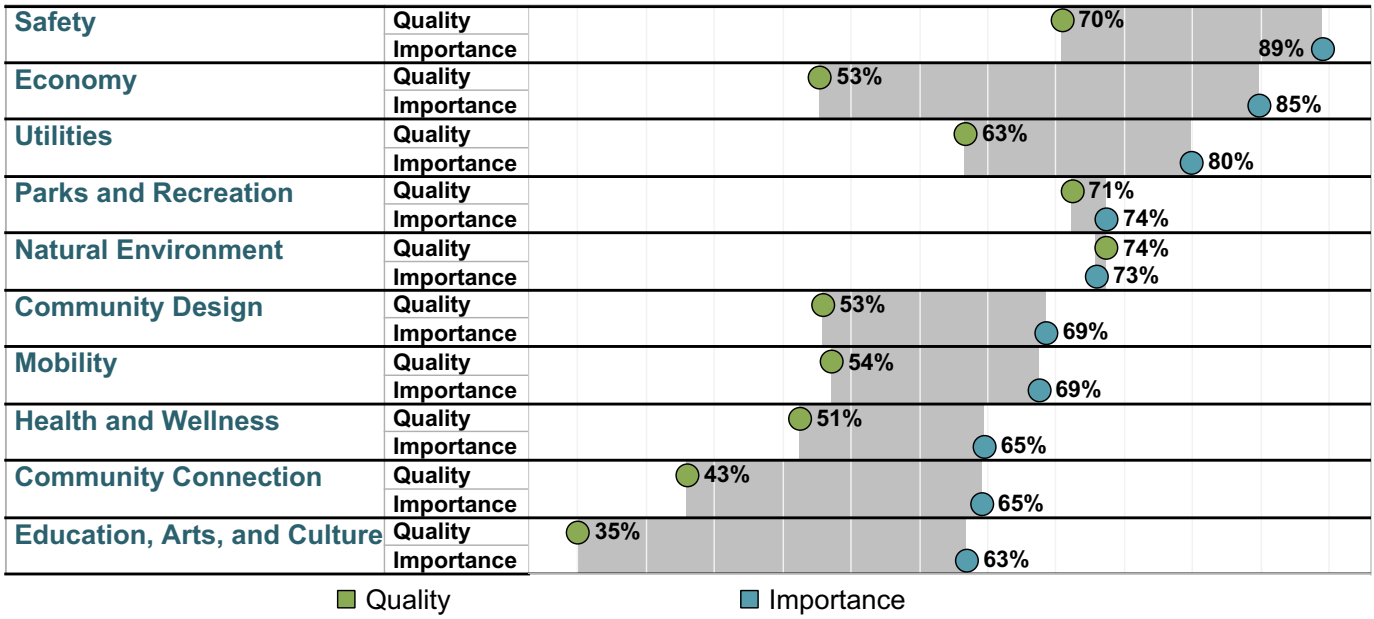
Quality and Importance by the Numbers

The chart below shows the proportion of respondents who provided excellent or good quality ratings for each of the ten facets of community livability (shown in green). Also displayed are the importance ratings for each of the ten facets (percent essential or very important, shown in blue). Finally, the shading in each chart corresponds with the national benchmark comparison.



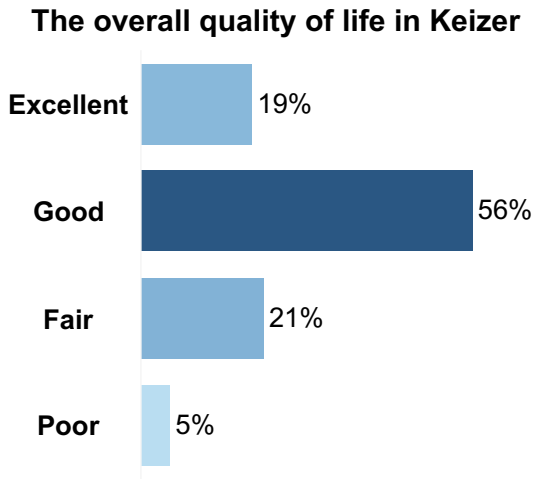
Quality/Importance Gap Analysis

The gap analysis chart below shows the same data as above; however, this chart illustrates the differences in quality and importance ratings for each facet, as well as the absolute ratings for each.



Quality of Life

Measuring community livability starts with assessing the quality of life of those who live there, and ensuring that the community is attractive, accessible, and welcoming to all.



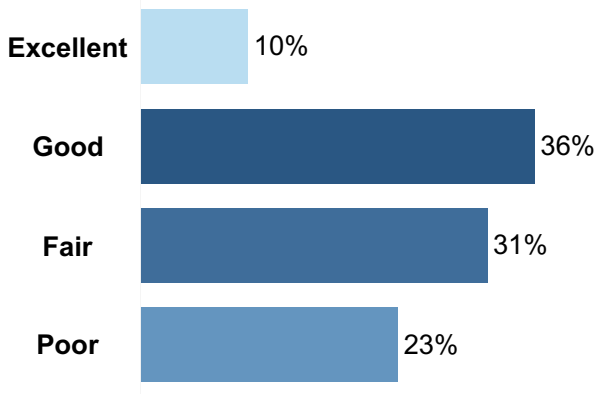
Please rate each of the following aspects of quality of life in Keizer. **(% excellent or good)**		**vs. national benchmark[7]**	**vs. custom benchmark[8]**
Keizer as a place to live	80%	Similar	Similar
The overall quality of life in Keizer	75%	Similar	Similar
Please indicate how likely or unlikely you are to do each of the following. **(% very or somewhat likely)**			
Recommend living in Keizer to someone who asks	85%	Similar	Similar
Please rate each of the following in the Keizer community. **(% excellent or good)**			
Overall image or reputation of Keizer	66%	Similar	Similar

7. Comparison to the national benchmark is shown. If no comparison is available, this is left blank.
8. Comparison to the custom benchmark is shown. A description of the custom benchmark cohort can be found in the About section of the report. If no comparison is available, this is left blank.

Governance

Strong local governments deliver results that meet residents' needs, use resources effectively, and respond to both current and future community priorities.

Overall confidence in Keizer government



Please rate the quality of each of the following services in Keizer.
(% excellent or good)

		vs. national benchmark[9]	vs. custom benchmark[10]
Overall customer service by Keizer employees (police, receptionists, planners, etc.)	76%	Similar	Similar
Public information services	52%	Similar	Similar

Please rate the following categories of Keizer government performance.
(% excellent or good)

Treating residents with respect	58%	Similar	Similar
Treating all residents fairly	55%	Similar	Similar
Generally acting in the best interest of the community	54%	Similar	Similar
The overall direction that Keizer is taking	53%	Similar	Similar
Being honest	53%	Similar	Similar
Informing residents about issues facing the community	46%	Similar	Similar
Overall confidence in Keizer government	45%	Similar	Similar
Being open and transparent to the public	44%	Similar	Similar
The value of services for the taxes paid to Keizer	43%	Similar	Similar
The job Keizer government does at welcoming resident involvement	40%	Similar	Similar

Please indicate whether or not you have done each of the following in the last 12 months.
(% yes)

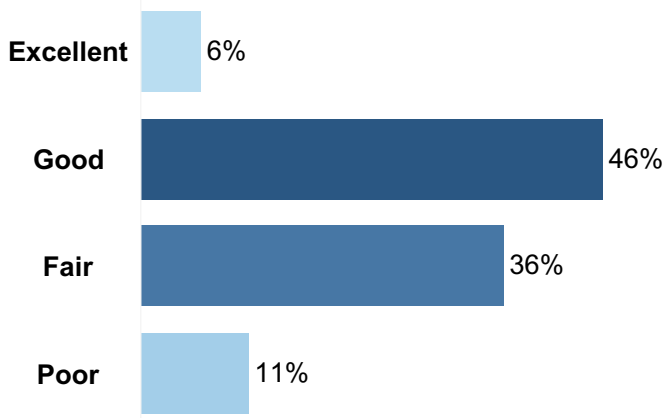
Contacted the City of Keizer (in-person, phone, email, or web) for help or information	33%	Lower	Similar
Watched (online or on television) a local public meeting	24%	Similar	Similar
Attended a local public meeting (of local elected officials like City Council or County Commissioners, advisory boards, town halls, HOA, neighborhood watch, etc.)	17%	Similar	Similar
Contacted Keizer elected officials (in-person, phone, email, or web) to express your opinion	14%	Similar	Similar

9. Comparison to the national benchmark is shown. If no comparison is available, this is left blank.
10. Comparison to the custom benchmark is shown. A description of the custom benchmark cohort can be found in the About section of the report. If no comparison is available, this is left blank.

Economy

Local governments work together with private and nonprofit businesses, and with the community at large, to foster sustainable growth, create jobs, and promote a thriving local economy.

Overall economic health of Keizer



Please rate each of the following aspects of quality of life in Keizer.
(% excellent or good)

		vs. national benchmark[11]	vs. custom benchmark[12]
Keizer as a place to work	51%	Similar	Similar
Keizer as a place to visit	38%	Lower	Lower

Please rate each of the following characteristics as they relate to Keizer as a whole.
(% excellent or good)

Overall economic health of Keizer	53%	Similar	Similar

Please rate each of the following in the Keizer community.
(% excellent or good)

Shopping opportunities	51%	Similar	Similar
Cost of living in Keizer	36%	Similar	Similar
Employment opportunities	27%	Lower	Similar

Please rate the quality of each of the following services in Keizer.
(% excellent or good)

Economic development	42%	Similar	Similar

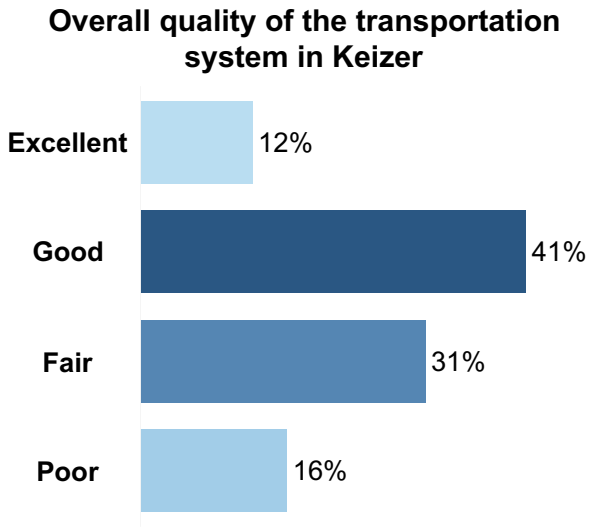
What impact, if any, do you think the economy will have on your family income in the next 6 months? Do you think the impact will be:
(% very or somewhat positive)

What impact, if any, do you think the economy will have on your family income in the next 6 months?	16%	Similar	Similar

11. Comparison to the national benchmark is shown. If no comparison is available, this is left blank.
12. Comparison to the custom benchmark is shown. A description of the custom benchmark cohort can be found in the About section of the report. If no comparison is available, this is left blank.

Mobility

The ability of residents to move about their community with ease plays an important role in the overall quality of life for everyone who lives, works, and spends time there.



Please rate each of the following characteristics as they relate to Keizer as a whole.
(% excellent or good)

		vs. national benchmark[13]	vs. custom benchmark[14]
Overall quality of the transportation system (auto, bicycle, foot, bus) in Keizer	54%	Similar	Similar

Please also rate each of the following in the Keizer community.
(% excellent or good)

Ease of travel by car in Keizer	72%	Similar	Similar
Ease of walking in Keizer	52%	Similar	Similar
Traffic flow on major streets	49%	Similar	Similar
Ease of travel by public transportation in Keizer	43%	Similar	Similar
Ease of travel by bicycle in Keizer	36%	Similar	Similar

Please rate the quality of each of the following services in Keizer.
(% excellent or good)

Street lighting	66%	Similar	Similar
Street cleaning	66%	Similar	Similar
Street repair	54%	Similar	Similar
Traffic enforcement	51%	Similar	Similar
Traffic signal timing	50%	Similar	Similar
Sidewalk maintenance	48%	Similar	Similar

Please indicate whether or not you have done each of the following in the last 12 months.
(% yes)

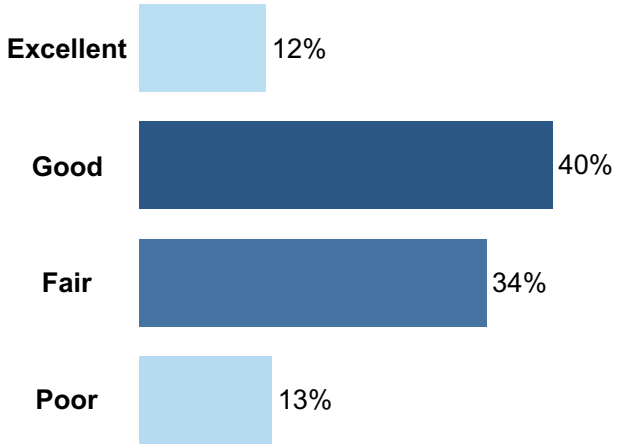
Walked or biked instead of driving	57%	Similar	Lower
Carpooled with other adults or children instead of driving alone	55%	Similar	Similar
Used bus or other public transportation instead of driving	19%	Similar	Lower

13. Comparison to the national benchmark is shown. If no comparison is available, this is left blank.
14. Comparison to the custom benchmark is shown. A description of the custom benchmark cohort can be found in the About section of the report. If no comparison is available, this is left blank.

Community Design

A well-designed community enhances the quality of life for its residents by encouraging smart land use and zoning, ensuring that affordable housing is accessible to all, and supporting development that suits residents' needs.

Overall design or layout of Keizer's residential and commercial areas



Please rate each of the following characteristics as they relate to Keizer as a whole.
(% excellent or good)

		vs. national benchmark[15]	vs. custom benchmark[16]
Overall design or layout of Keizer's residential and commercial areas (e.g., homes, buildings, streets, parks, etc.)	53%	Similar	Similar

Please rate the quality of each of the following services in Keizer.
(% excellent or good)

Code enforcement (weeds, abandoned buildings, etc.)	46%	Similar	Similar

Please also rate each of the following in the Keizer community.
(% excellent or good)

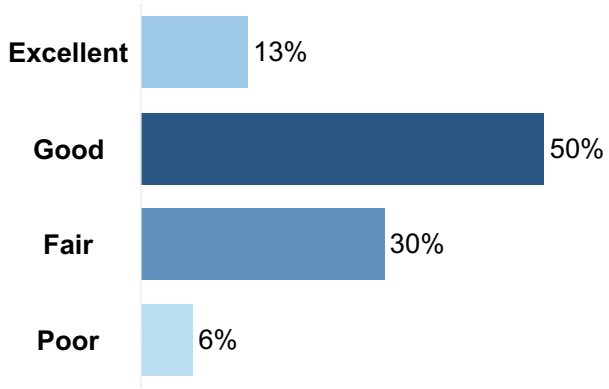
Overall appearance of Keizer	60%	Similar	Similar
Preservation of the historical or cultural character of the community	57%	Similar	Similar
Variety of housing options	47%	Similar	Similar
Overall quality of new development in Keizer	43%	Similar	Similar
Public places where people want to spend time	42%	Lower	Similar
Availability of affordable quality housing	28%	Similar	Similar

15. Comparison to the national benchmark is shown. If no comparison is available, this is left blank.
16. Comparison to the custom benchmark is shown. A description of the custom benchmark cohort can be found in the About section of the report. If no comparison is available, this is left blank.

Utilities

Access to essential services like water, gas, electricity, and internet is crucial for safeguarding the physical health, economic stability, and overall well-being of the communities they support.

Overall quality of the utility infrastructure in Keizer



Please rate the quality of each of the following services in Keizer.
(% excellent or good)

		vs. national benchmark[17]	vs. custom benchmark[18]
Garbage collection	81%	Similar	Similar
Sewer services	78%	Similar	Similar
Storm water management (storm drainage, levees, etc.)	73%	Similar	Similar
Drinking water	66%	Similar	Similar
Utility billing	63%	Similar	Similar

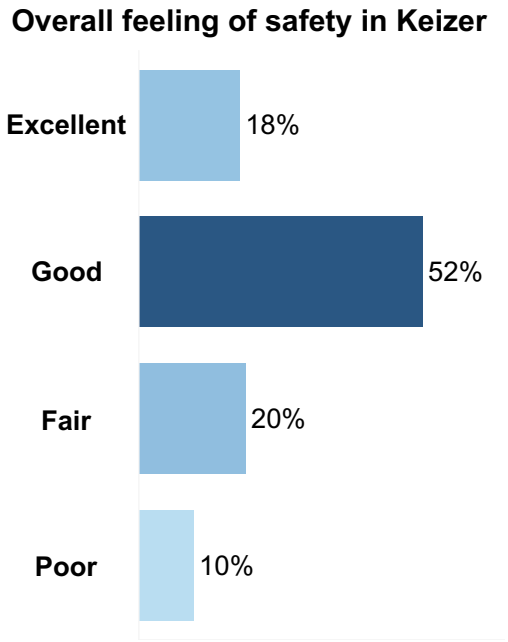
Please rate each of the following characteristics as they relate to Keizer as a whole.
(% excellent or good)

Overall quality of the utility infrastructure in Keizer (water, sewer, storm water, electric/gas, broadband)	63%	Similar	Similar

17. Comparison to the national benchmark is shown. If no comparison is available, this is left blank.
18. Comparison to the custom benchmark is shown. A description of the custom benchmark cohort can be found in the About section of the report. If no comparison is available, this is left blank.

Safety

Public safety is one of the most important responsibilities of local governments, as every resident deserves to feel safe and secure both in their neighborhoods and across the wider community. The provision of strong, reliable safety services is essential to ensuring a high quality of life.



Please rate each of the following characteristics as they relate to Keizer as a whole.
(% excellent or good)

		vs. national benchmark[19]	vs. custom benchmark[20]
Overall feeling of safety in Keizer	70%	Similar	Similar
Please rate how safe or unsafe you feel: **(% very or somewhat safe)**			
In your neighborhood during the day	90%	Similar	Similar
From fire, flood, or other natural disaster	84%	Similar	Similar
In Keizer's downtown/commercial area during the day	81%	Similar	Similar
From violent crime	78%	Similar	Similar
From property crime	65%	Similar	Similar

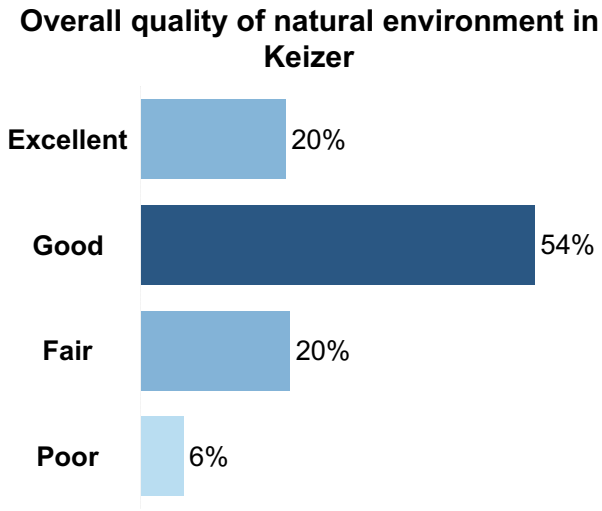
Please rate the quality of each of the following services in Keizer.
(% excellent or good)

Police services	73%	Similar	Similar
Crime prevention	60%	Similar	Similar
Emergency preparedness (services that prepare the community for natural disasters or other emergency situations)	53%	Similar	Similar

19. Comparison to the national benchmark is shown. If no comparison is available, this is left blank.
20. Comparison to the custom benchmark is shown. A description of the custom benchmark cohort can be found in the About section of the report. If no comparison is available, this is left blank.

Natural Environment

The natural spaces in which residents live and experience their communities has a direct and profound effect on quality of life. The natural environment plays a vital role in the health and well-being of residents.



Please rate each of the following characteristics as they relate to Keizer as a whole.
(% excellent or good)

		vs. national benchmark[21]	vs. custom benchmark[22]
Overall quality of natural environment in Keizer	74%	Similar	Similar

Please also rate each of the following in the Keizer community.
(% excellent or good)

Cleanliness of Keizer	71%	Similar	Similar
Water resources (lakes, ponds, riverways, etc.)	65%	Similar	Similar

Please rate the quality of each of the following services in Keizer.
(% excellent or good)

Yard waste pick-up	76%	Similar	Similar
Recycling	72%	Similar	Similar
Preservation of natural areas (open space, farmlands, and greenbelts)	52%	Similar	Similar

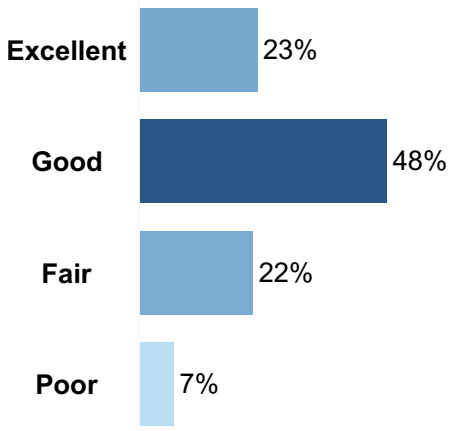
21. Comparison to the national benchmark is shown. If no comparison is available, this is left blank.
22. Comparison to the custom benchmark is shown. A description of the custom benchmark cohort can be found in the About section of the report. If no comparison is available, this is left blank.

Parks and Recreation

"There are no communities that pride themselves on their quality of life, promote themselves as a desirable location for businesses to relocate, or maintain that they are environmental stewards of their natural resources, without such communities having a robust, active system of parks and recreation programs for public use and enjoyment."

-National Recreation and Park Association

Overall quality of the parks and recreation opportunities



Please rate each of the following characteristics as they relate to Keizer as a whole.
(% excellent or good)

		vs. national benchmark[23]	vs. custom benchmark[24]
Overall quality of parks and recreation opportunities	71%	Similar	Similar

Please also rate each of the following in the Keizer community.
(% excellent or good)

Recreational opportunities	54%	Lower	Lower
Availability of paths and walking trails	53%	Lower	Lower

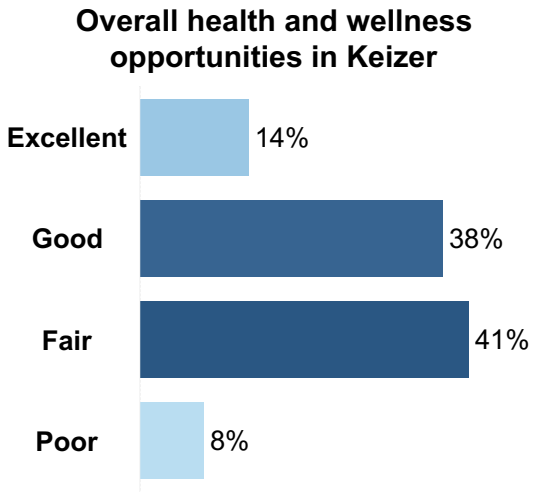
Please rate the quality of each of the following services in Keizer.
(% excellent or good)

City parks	73%	Similar	Similar
Recreation centers or facilities	50%	Similar	Similar

23. Comparison to the national benchmark is shown. If no comparison is available, this is left blank.
24 Comparison to the custom benchmark is shown. A description of the custom benchmark cohort can be found in the About section of the report..

Health and Wellness

The features and amenities of a community directly influence residents' health and well-being, shaping their overall quality of life.



Please rate each of the following characteristics as they relate to Keizer as a whole.
(% excellent or good)

		vs. national benchmark[25]	vs. custom benchmark[26]
Overall health and wellness opportunities in Keizer	51%	Similar	Similar

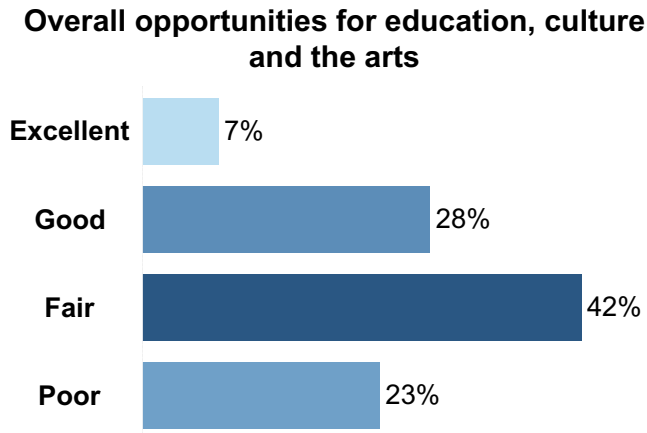
Please rate your overall health.
(% excellent or very good)

Please rate your overall health.	66%	Similar	Similar

25. Comparison to the national benchmark is shown. If no comparison is available, this is left blank.
26. Comparison to the custom benchmark is shown. A description of the custom benchmark cohort can be found in the About section of the report. If no comparison is available, this is left blank.

Education, Arts, and Culture

Participation in the arts, in educational opportunities, and in cultural activities is linked to increased civic engagement, greater social tolerance, and enhanced enjoyment of the local community.



Please rate each of the following characteristics as they relate to Keizer as a whole.
(% excellent or good)

		vs. national benchmark[27]	vs. custom benchmark[28]
Overall opportunities for education, culture, and the arts	35%	Lower	Lower

Please also rate each of the following in the Keizer community.
(% excellent or good)

Opportunities to attend special events and festivals	56%	Similar	Similar
Community support for the arts	50%	Similar	Similar
Opportunities to attend cultural/arts/music activities	44%	Lower	Lower
Adult educational opportunities	29%	Lower	Lower

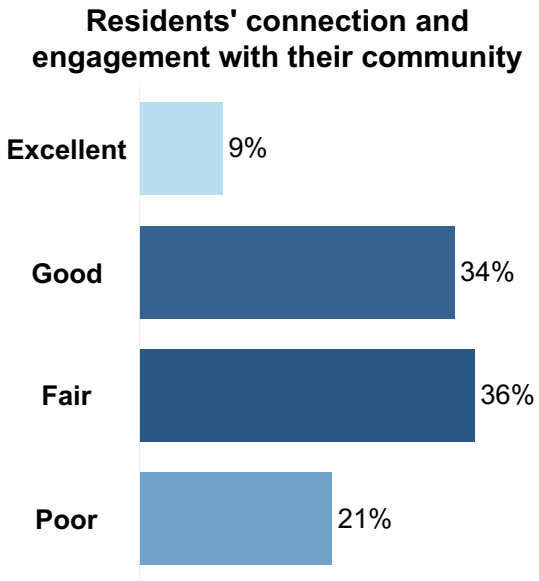
Please rate the quality of each of the following services in Keizer.
(% excellent or good)

Library services	53%	Much lower	Much lower

27. Comparison to the national benchmark is shown. If no comparison is available, this is left blank.
28. Comparison to the custom benchmark is shown. A description of the custom benchmark cohort can be found in the About section of the repor..

Community Connection

Community connection reflects residents' sense of belonging. When residents feel welcomed and encouraged to participate, they are more likely to feel engaged and connected to their community.



Please rate each of the following aspects of quality of life in Keizer.
(% excellent or good)

		vs. national benchmark[29]	vs. custom benchmark[30]
Keizer as a place to raise children	82%	Similar	Similar
Keizer as a place to retire	61%	Similar	Similar

Please rate each of the following characteristics as they relate to Keizer as a whole.
(% excellent or good)

Residents' connection and engagement with their community	43%	Similar	Similar

Please rate the job you feel the Keizer community does at each of the following.
(% excellent or good)

Making all residents feel welcome	59%	Similar	Similar
Valuing/respecting residents from diverse backgrounds	53%	Similar	Similar
Taking care of vulnerable residents (elderly, disabled, homeless, etc.)	49%	Similar	Similar
Attracting people from diverse backgrounds	48%	Similar	Similar

Please also rate each of the following in the Keizer community.
(% excellent or good)

Opportunities to volunteer	65%	Similar	Similar
Opportunities to participate in community matters	54%	Similar	Similar
Sense of civic/community pride	49%	Similar	Similar
Opportunities to participate in social events and activities	48%	Lower	Similar

Please indicate whether or not you have done each of the following in the last 12 months.
(% yes)

Volunteered your time to some group/activity in Keizer	27%	Similar	Similar
Campaigned or advocated for a local issue, cause, or candidate	16%	Similar	Similar

29. Comparison to the national benchmark is shown. If no comparison is available, this is left blank.
30. Comparison to the custom benchmark is shown. A description of the custom benchmark cohort can be found in the About section of the report. If no comparison is available, this is left blank.

Custom Questions

Below are the complete set of responses to each custom question on the survey. By default, “don’t know” responses are excluded.

The City is finalizing its strategic priorities for the coming years. How important is it to you that the City focus on each of the following?	Public Safety (e.g., police, fire, emergency response)	Essential	65%
		Very important	26%
		Somewhat important	5%
		Not at all important	4%
	Transportation & Infrastructure (e.g., streets, traffic, utilities)	Essential	44%
		Very important	38%
		Somewhat important	15%
		Not at all important	3%
	Operational Efficiency & Quality of Service (e.g., cost-effective services, responsiveness)	Essential	41%
		Very important	41%
		Somewhat important	15%
		Not at all important	3%
	Community Growth (e.g., housing, population, long-term planning)	Essential	39%
		Very important	29%
		Somewhat important	25%
		Not at all important	7%
	Economic & Community Development (e.g., local businesses, jobs, downtown vitality)	Essential	34%
		Very important	42%
		Somewhat important	22%
		Not at all important	3%
	Engaged Community (e.g., public input, civic participation)	Essential	25%
		Very important	42%
		Somewhat important	29%
		Not at all important	3%
	The City currently adds fluoride to the municipal water system and is considering discontinuing this practice. Overall, do you support or oppose continuing fluoride treatment of the City's drinking water?	Strongly support	51%
		Somewhat support	24%
		Somewhat oppose	10%
		Strongly oppose	15%

Please indicate how much of a source, if at all, you consider each of the following to be for obtaining information about City of Keizer government and its activities, events, and services.	City website	Major source	64%
		Minor source	23%
		Not a source	13%
	Social media (Facebook, YouTube, Instagram)	Major source	52%
		Minor source	30%
		Not a source	17%
	Newsprint	Major source	36%
		Minor source	44%
		Not a source	21%
	Word-of-mouth	Major source	33%
		Minor source	49%
		Not a source	18%
	Talking with city officials	Major source	33%
		Minor source	33%
		Not a source	34%
	Live council/board broadcasts	Major source	29%
		Minor source	34%
		Not a source	37%
	K23 television channel	Major source	12%
		Minor source	36%
		Not a source	52%

The City of Keizer 2026 Community Survey

Please complete this survey if you are an adult (age 18 or older). Your responses are confidential and no identifying information will be shared.

1. Please rate each of the following aspects of quality of life in Keizer.

	Excellent	Good	Fair	Poor	Don't know
Keizer as a place to live	1	2	3	4	5
Keizer as a place to raise children	1	2	3	4	5
Keizer as a place to work	1	2	3	4	5
Keizer as a place to visit	1	2	3	4	5
Keizer as a place to retire	1	2	3	4	5
The overall quality of life in Keizer	1	2	3	4	5

2. Please rate each of the following characteristics as they relate to Keizer as a whole.

	Excellent	Good	Fair	Poor	Don't know
Overall economic health of Keizer	1	2	3	4	5
Overall quality of the transportation system (auto, bicycle, foot, bus) in Keizer	1	2	3	4	5
Overall design or layout of Keizer's residential and commercial areas (e.g., homes, buildings, streets, parks, etc.)	1	2	3	4	5
Overall quality of the utility infrastructure in Keizer (water, sewer, storm water, electric/gas, broadband)	1	2	3	4	5
Overall feeling of safety in Keizer	1	2	3	4	5
Overall quality of natural environment in Keizer	1	2	3	4	5
Overall quality of parks and recreation opportunities	1	2	3	4	5
Overall health and wellness opportunities in Keizer	1	2	3	4	5
Overall opportunities for education, culture, and the arts	1	2	3	4	5
Residents' connection and engagement with their community	1	2	3	4	5

3. Please indicate how likely or unlikely you are to do each of the following.

	Very likely	Somewhat likely	Somewhat unlikely	Very unlikely	Don't know
Recommend living in Keizer to someone who asks	1	2	3	4	5

4. Please rate how safe or unsafe you feel:

	Very safe	Somewhat safe	Neither safe nor unsafe	Somewhat unsafe	Very unsafe	Don't know
In your neighborhood during the day	1	2	3	4	5	6
In Keizer's commercial area during the day	1	2	3	4	5	6
From property crime	1	2	3	4	5	6
From violent crime	1	2	3	4	5	6
From fire, flood, or other natural disaster	1	2	3	4	5	6

5. Please rate the job you feel the Keizer community does at each of the following.

	Excellent	Good	Fair	Poor	Don't know
Making all residents feel welcome	1	2	3	4	5
Attracting people from diverse backgrounds	1	2	3	4	5
Valuing/respecting residents from diverse backgrounds	1	2	3	4	5
Taking care of vulnerable residents (elderly, disabled, homeless, etc.)	1	2	3	4	5

6. Please rate each of the following in the Keizer community.

	Excellent	Good	Fair	Poor	Don't know
Employment opportunities	1	2	3	4	5
Shopping opportunities	1	2	3	4	5
Cost of living in Keizer	1	2	3	4	5
Overall image or reputation of Keizer	1	2	3	4	5

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7. Please also rate each of the following in the Keizer community.

	Excellent	Good	Fair	Poor	Don't know
Traffic flow on major streets	1	2	3	4	5
Ease of travel by car in Keizer	1	2	3	4	5
Ease of travel by public transportation in Keizer	1	2	3	4	5
Ease of travel by bicycle in Keizer	1	2	3	4	5
Ease of walking in Keizer	1	2	3	4	5
Preservation of the historical or cultural character of the community	1	2	3	4	5
Public places where people want to spend time	1	2	3	4	5
Variety of housing options	1	2	3	4	5
Availability of affordable quality housing	1	2	3	4	5
Overall quality of new development in Keizer	1	2	3	4	5
Overall appearance of Keizer	1	2	3	4	5
Cleanliness of Keizer	1	2	3	4	5
Water resources (lakes, ponds, riverways, etc.)	1	2	3	4	5
Availability of paths and walking trails	1	2	3	4	5
Recreational opportunities	1	2	3	4	5
Opportunities to attend cultural/arts/music activities	1	2	3	4	5
Community support for the arts	1	2	3	4	5
Adult educational opportunities	1	2	3	4	5
Sense of civic/community pride	1	2	3	4	5
Opportunities to participate in social events and activities	1	2	3	4	5
Opportunities to attend special events and festivals	1	2	3	4	5
Opportunities to volunteer	1	2	3	4	5
Opportunities to participate in community matters	1	2	3	4	5

8. Please indicate whether or not you have done each of the following in the last 12 months.

	No	Yes
Contacted the City of Keizer (in-person, phone, email, or web) for help or information	1	2
Contacted Keizer elected officials (in-person, phone, email, or web) to express your opinion	1	2
Attended a local public meeting (of local elected officials like City Council or County Commissioners, advisory boards, town halls, HOA, neighborhood watch, etc.)	1	2
Watched (online or on television) a local public meeting	1	2
Volunteered your time to some group/activity in Keizer	1	2
Campaigned or advocated for a local issue, cause, or candidate	1	2
Voted in your most recent local election	1	2
Used bus or other public transportation instead of driving	1	2
Carpooled with other adults or children instead of driving alone	1	2
Walked or biked instead of driving	1	2

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9. Please rate the quality of each of the following services in Keizer.

	Excellent	Good	Fair	Poor	Don't know
Public information services	1	2	3	4	5
Economic development	1	2	3	4	5
Traffic enforcement	1	2	3	4	5
Traffic signal timing	1	2	3	4	5
Street repair	1	2	3	4	5
Street cleaning	1	2	3	4	5
Street lighting	1	2	3	4	5
Sidewalk maintenance	1	2	3	4	5
Code enforcement (weeds, abandoned buildings, etc.)	1	2	3	4	5
Garbage collection	1	2	3	4	5
Drinking water	1	2	3	4	5
Sewer services	1	2	3	4	5
Storm water management (storm drainage, levees, etc.)	1	2	3	4	5
Utility billing	1	2	3	4	5
Police services	1	2	3	4	5
Crime prevention	1	2	3	4	5
Emergency preparedness (services that prepare the community for natural disasters or other emergency situations)	1	2	3	4	5
Preservation of natural areas (open space, farmlands, and greenbelts)	1	2	3	4	5
Recycling	1	2	3	4	5
Yard waste pick-up	1	2	3	4	5
City parks	1	2	3	4	5
Recreation centers or facilities	1	2	3	4	5
Library services	1	2	3	4	5
Overall customer service by Keizer employees (police, receptionists, planners, etc.)	1	2	3	4	5

10. Please rate the following categories of Keizer government performance.

	Excellent	Good	Fair	Poor	Don't know
The value of services for the taxes paid to Keizer	1	2	3	4	5
The overall direction that Keizer is taking	1	2	3	4	5
The job Keizer government does at welcoming resident involvement	1	2	3	4	5
Overall confidence in Keizer government	1	2	3	4	5
Generally acting in the best interest of the community	1	2	3	4	5
Being honest	1	2	3	4	5
Being open and transparent to the public	1	2	3	4	5
Informing residents about issues facing the community	1	2	3	4	5
Treating all residents fairly	1	2	3	4	5
Treating residents with respect	1	2	3	4	5

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11. Please rate how important, if at all, you think it is for the Keizer community to focus on each of the following in the coming two years.

	Essential	Very important	Somewhat important	Not at all important
Overall economic health of Keizer	1	2	3	4
Overall quality of the transportation system (auto, bicycle, foot, bus) in Keizer	1	2	3	4
Overall design or layout of Keizer's residential and commercial areas (e.g., homes, buildings, streets, parks, etc.)	1	2	3	4
Overall quality of the utility infrastructure in Keizer (water, sewer, storm water, electric/gas, broadband)	1	2	3	4
Overall feeling of safety in Keizer	1	2	3	4
Overall quality of natural environment in Keizer	1	2	3	4
Overall quality of parks and recreation opportunities	1	2	3	4
Overall health and wellness opportunities in Keizer	1	2	3	4
Overall opportunities for education, culture, and the arts	1	2	3	4
Residents' connection and engagement with their community	1	2	3	4

12. The City is finalizing its strategic priorities for the coming years. How important is it to you that the City focus on each of the following?

	Essential	Very important	Somewhat important	Not at all important
Public Safety (e.g., police, fire, emergency response)	1	2	3	4
Transportation & Infrastructure (e.g., streets, traffic, utilities)	1	2	3	4
Economic & Community Development (e.g., local businesses, jobs, downtown vitality)	1	2	3	4
Operational Efficiency & Quality of Service (e.g., cost-effective services, responsiveness)	1	2	3	4
Engaged Community (e.g., public input, civic participation)	1	2	3	4
Community Growth (e.g., housing, population, long-term planning)	1	2	3	4

13. The City currently adds fluoride to the municipal water system and is considering discontinuing this practice. Overall, do you support or oppose continuing fluoride treatment of the City's drinking water?

❍ Strongly support ❍ Somewhat support ❍ Somewhat oppose ❍ Strongly oppose

14. Please indicate how much of a source, if at all, you consider each of the following to be for obtaining information about City of Keizer government and its activities, events, and services.

	Major source	Minor source	Not a source
City website	1	2	3
K23 television channel	1	2	3
Live council/board broadcasts	1	2	3
Talking with city officials	1	2	3
Word-of-mouth	1	2	3
Social media (Facebook, YouTube, Instagram)	1	2	3
Newsprint	1	2	3

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Our last questions are about you and your household.
Again, all of your responses to this survey are confidential and no identifying information will be shared.

D1. In general, how many times do you:

	Several times a day	Once a day	A few times a week	Every few weeks	Less often or never	Don't know
Access the internet from your home using a computer, laptop, or tablet computer	1	2	3	4	5	6
Access the internet from your cell phone	1	2	3	4	5	6
Visit social media sites such as Facebook, Instagram, X (formerly Twitter), Nextdoor, etc.	1	2	3	4	5	6
Use or check email	1	2	3	4	5	6
Share your opinions online	1	2	3	4	5	6
Shop online	1	2	3	4	5	6

D2. Please rate your overall health.

❍ Excellent ❍ Very good ❍ Good ❍ Fair ❍ Poor

D3. What impact, if any, do you think the economy will have on your family income in the next 6 months? Do you think the impact will be:

❍ Very positive ❍ Somewhat positive ❍ Neutral ❍ Somewhat negative ❍ Very negative

D4. How many years have you lived in Keizer?

❍ Less than 2 years
❍ 2-5 years
❍ 6-10 years
❍ 11-20 years
❍ More than 20 years

D5. Which best describes the building you live in?

❍ Single-family detached home
❍ Townhouse or duplex (may share walls but no units above or below you)
❍ Condominium or apartment (have units above or below you)
❍ Mobile home
❍ Other

D6. Do you rent or own your home?

❍ Rent
❍ Own

D7. About how much is your monthly housing cost for the place you live (including rent, mortgage payment, property tax, property insurance, and homeowners' association (HOA) fees)?

❍ Less than $300
❍ $300 to $599
❍ $600 to $999
❍ $1,000 to $1,499
❍ $1,500 to $2,499
❍ $2,500 to $3,999
❍ $4,000 to $6,999
❍ $7,000 to $9,999
❍ $10,000 or more

D8. Do any children 17 or under live in your household?

❍ No ❍ Yes

D9. Are you or any other members of your household aged 65 or older?

❍ No ❍ Yes

D10. How much do you anticipate your household's total income before taxes will be for the current year? (Please include in your total income money from all sources for all persons living in your household.)

❍ Less than $25,000
❍ $25,000 to $49,999
❍ $50,000 to $74,999
❍ $75,000 to $99,999
❍ $100,000 to $149,999
❍ $150,000 to $199,999
❍ $200,000 to $299,999
❍ $300,000 or more

D11. Are you of Hispanic, Latino/a/x, or Spanish origin?

❍ No ❍ Yes

D12. What is your race? (Mark one or more races to indicate what race you consider yourself to be.)

❑ American Indian or Alaskan Native
❑ Asian
❑ Black or African American
❑ Native Hawaiian or Other Pacific Islander
❑ White
❑ A race not listed

D13. In which category is your age?

❍ 18-24 years
❍ 25-34 years
❍ 35-44 years
❍ 45-54 years
❍ 55-64 years
❍ 65-74 years
❍ 75 years or older

D14. What is your gender?

❍ Woman
❍ Man
❍ Identify in another way → go to D14a

D14a. If you identify in another way, how would you describe your gender?

❍ Agender/I don't identify with any gender
❍ Genderqueer/gender fluid
❍ Non-binary
❍ Transgender man
❍ Transgender woman
❍ Two-spirit
❍ Identify in another way

Thank you! Please return the completed survey in the postage-paid envelope to:
National Research Center, Inc., PO Box 14050, Houston, TX 77221-9904

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