SGA
SG ARCHITECTURE, LLC

21 April, 2023 **DESIGN REVIEW APPLICATION | SUPPLEMENTAL INFORMATION**

JOHN FLOYD
Associate Planner
Community Development Department | Planning
22500 Salamo Road
West Linn, OR 97068
p: 503-742-6058
e: jfloyd@westlinnoregon.org

SGA PROJECT NO. 20-119
Design Review Application **DR-23-01**
Supplemental Information Submittal in
Response to Incomplete Notice

DEAR MR. FLOYD,

Please find the following supplemental submittal items in response to your incomplete finding letter of February 5th, 2023. As requested, we have re-submitted the entire application, with supplemental and revised items incorporated into the file.

The following responses describe our specific responses to your comments:

COMMENTS:

1. *Narrative. Please provide a narrative that describes the reason for the replacements and addresses how the project meets each approval criterion. Deficient sections are listed below:*

   a. *a. Please address relevant approval criteria in CDC Chapters 19.030, 19.070, 41.005, 41.020 (if applicable), 41.030, and 46.150.*

   Additional narrative to address the Chapters noted has been included in the application, entitled: "1949 MIXED USE.1949 WILLAMETTE FALLS DRIVE.01.3_CHAPTERS 19, 41, & 46 DESIGN REVIEW SUPPLEMENTAL NARRATIVE".

2. *Building Height. Please call out proposed building heights on all elevations per methodology in CDC 41.005 and 41.030. As a non-habitable projection, Western False Fronts are exempt from the height limit.*

   The drawing "1949 MIXED USE.1949 WILLAMETTE FALLS DRIVE.03_WFD ELEVATION (0420)" has been updated to include illustration of the building's compliance with the 35' height limit standard at a point 5' out from the front of the building/property line per Section 41.005.

3. *Photometric Plan. Please provide a light coverage plan per CDC 55.070(D)(2).*

   The drawing "1949 MIXED USE.1949 WILLAMETTE FALLS DRIVE.10b_Lighting Photometric" has been added to the application.

4. *Material Samples. Please provide a physical sample of the proposed paint colors, fiber cement trim and lap siding, and brick. This is in addition to the electronic samples provided in the application packet.*

   A material board with physical samples has been delivered to your office under separate cover. Further, an updated material sample exhibit "1949 MIXED USE.1949 WILLAMETTE FALLS DRIVE.12_COLORS AND MATERIALS BOARDS (0420)" has been added to the application.

10940 SW Barnes Rd #364
Portland, OR 97225
503.201.0725

5. *TVF&R Service Provider Permit. Per our email correspondence of January 6, 2023, please provide a TVF&R Service Provider Permit.*

   The Exhibit "1949 MIXED USE.1949 WILLAMETTE FALLS DRIVE.01b_TVFR Permit 2023-0010" has been added to the application.

6. *Traffic Impact Analysis. Due to the trip generation rates of the proposed uses and size of the proposed structure, the project is expected to result in greater than 250 average daily trips. Please provide a Traffic Impact Analysis pursuant to CDC Sections 48.025(B)(1) and 55.125, and Section 5.0014 of the West Linn Public Works Design Standards.*

   The Exhibit "1949 MIXED USE.1949 WILLAMETTE FALLS DRIVE.01c_TRAFFIC IMPACT STUDY" has been added to the application.

7. *Proposed Awning Pillars. Please provide the following items of information related to the proposed awnings. For questions regarding these comments, please contact Maryna Asuncion in engineering at 503-722-3436 or MAsuncion@westlinnoregon.gov*

   a. *Awning pillars typically extend to the outside edge of the adjacent sidewalk. We have concerns about the proposed location of the pillars, especially along Willamette Falls Dr. where it looks like the proposed pillars will be in direct conflict with the walking path and the crosswalk. Please demonstrate how the sidewalk will remain ADA accessible.*

   The canopy posts are typically about 7'-6" from the face of the building. This places the posts along Willamette Falls Drive near the middle of the sidewalk, and at the edge of the sidewalk along 12th Street, adjacent to the landscape buffer. The "1949 MIXED USE.1949 WILLAMETTE FALLS DRIVE.03_WFD ELEVATION (0420)" exhibit has been updated to show a minimum 4' wide ADA compliant clear access route along both frontages.

   b. *Due to concerns about potential utility conflicts with the pillars proposed along Willamette Falls Drive, please provide a detail in the plans showing how the posts will be anchored to the sidewalk. Will the posts be embedded in the sidewalk or just anchored/bolted down at the surface of the sidewalk? There may need to be 2 different anchoring details – one for wherever the posts are anchored to concrete and one for where the posts are anchored in landscaped area (i.e. along 12th St.).*

   The Exhibit "1949 MIXED USE.1949 WILLAMETTE FALLS DRIVE.04_12TH STREET ELEVATION (0420)" has been updated to include a footing detail for the canopy posts. The design proposes that the existing sidewalk be removed to the nearest joints, an approximately 3' x 3' x 12'd. footing be poured, and the sidewalk poured back to match the adjacent.

   These footings have been shown on the Ground Floor Plan (see "1949 MIXED USE.1949 WILLAMETTE FALLS DRIVE.03_WFD ELEVATION (0420)"), along with the current site utilities. As shown, there should be little chance of conflict. In addition, the bottom of the footings are proposed at approximately 20" below grade, which should place them well above any utility lines nearby.

   Should a conflict between the footings and the site utilities arise, the Owner will coordinate with the City to reach a mutually satisfactory solution.

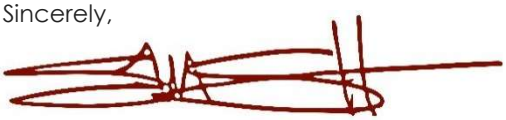
   c. *Please provide a proposed outdoor seating layout along both Willamette Falls Drive and 12th Street, including clear demarcation of the ADA path.*

   The Exhibit "1949 MIXED USE.1949 WILLAMETTE FALLS DRIVE.03_WFD ELEVATION (0420)" exhibit has been updated to show a possible outdoor seating layout. Any outdoor seating would be required to conform to the CDC Section 7.950 "Sidewalk Café Program".

Thank you for your review and consideration, we look forward to any comments you may have.

Please let me know if you have any questions, or if you need any additional information.

Sincerely,



SCOT SUTTON | SG Architecture, LLC
503-347-4685 | ssutton@sg-arch.net

City of West Linn
Planning & Development • 22500 Salamo Rd #1000 • West Linn, Oregon 97068
Telephone 503.656-3535 • westlinnoregon.gov

DEVELOPMENT REVIEW APPLICATION

For Office Use Only			
STAFF CONTACT	PROJECT NO(S).		PRE-APPLICATION NO.
NON-REFUNDABLE FEE(S)	REFUNDABLE DEPOSIT(S)	TOTAL	

Type of Review (Please check all that apply):

- ☐ Annexation (ANX)
- ☐ Appeal and Review (AP)
- ☐ Code Interpretation
- ☐ Conditional Use (CUP)
- ☒ Design Review (DR)
- ☐ Tree Easement Vacation
- ☐ Final Plat or Plan (FP)
- ☐ Flood Management Area
- ☐ Historic Review
- ☐ Legislative Plan or Change
- ☐ Lot Line Adjustment (LLA)
- ☐ Minor Partition (MIP) (Preliminary Plat or Plan)
- ☐ Modification of Approval
- ☐ Non-Conforming Lots, Uses & Structures
- ☐ Planned Unit Development (PUD)
- ☐ Street Vacation
- ☐ Subdivision (SUB)
- ☐ Temporary Uses
- ☐ Time Extension
- ☐ Variance (VAR)
- ☐ Water Resource Area Protection/Single Lot (WAP)
- ☐ Water Resource Area Protection/Wetland (WAP)
- ☐ Willamette & Tualatin River Greenway (WRG)
- ☐ Zone Change

Pre-Application, Home Occupation, Sidewalk Use, Addressing, and Sign applications require different forms, available on the City website.

Site Location/Address:
1919 & 1949 Willamette Falls Drive

Assessor's Map No.: 31E02BA
Tax Lot(s): 31E02BA04300 & 4400
Total Land Area: 15,000 Square Feet +/-

Brief Description of Proposal:
COMMERCIAL MIXED USE BUILDING. NEW CONSTRUCTION. 2 FLOORS + MEZZANINE + BELOW GRADE PARKING AREA

Applicant Name: (please print) SG ARCHITECTURE, LLC (SCOT SUTTON)
Address: 10940 SW Barnes Road #364
City State Zip: Portland, OR 97225
Phone: 503-347-4685
Email: SSUTTON@SG-ARCH.NET

Owner Name (required): (please print) Icon Construction & Development (Darren Gusdorf)
Address: 1969 Willamette Falls Drive, Suite 260
City State Zip: West Linn, OR 97068
Phone: 503.657.0406
Email: darren@iconconstruction.net

Consultant Name: (please print) Theta, LLC (Bruce Goldson)
Address: PO Box 1345
City State Zip: Lake Oswego, OR 97035
Phone: 503-481-8822
Email: thetaengllc@gmail.com

1. All application fees are non-refundable (excluding deposit). **Any overruns to deposit will result in additional billing.**
2. The owner/applicant or their representative should be present at all public hearings.
3. A decision may be reversed on appeal. The permit approval will not be effective until the appeal period has expired.
4. Submit this form and supporting documents through the Submit a Land Use Application web page: https://westlinnoregon.gov/planning/submit-land-use-application

The undersigned property owner(s) hereby authorizes the filing of this application, and authorizes on site review by authorized staff. I hereby agree to comply with all code requirements applicable to my application. Acceptance of this application does not infer a complete submittal. All amendments to the Community Development Code and to other regulations adopted after the application is approved shall be enforced where applicable. Approved applications and subsequent development is not vested under the provisions in place at the time of the initial application.

Applicant's signature — Date: 12-30-2022
Owner's signature ***(required)*** — Date: 12/30/22

CITY OF WEST LINN
PRE-APPLICATION CONFERENCE MEETING
SUMMARY NOTES
May 5, 2022

SUBJECT: Class II Historic Design Review for a new commercial building at 1919/1949 Willamette Falls Dr.

FILE: PA-22-09

ATTENDEES:

Applicant:	Icon Construction & Development; SG Architecture LLC
Staff: (Engineering)	John Floyd (Planning), Lynn Schroder (Planning) , Maryna Asuncsion
Public:	Kathie Halicki (Willamette NA)

The following is a summary of the meeting discussion provided to you from staff meeting notes. Additional information may be provided to address any "follow-up" items identified during the meeting. <u>These comments are PRELIMINARY in nature</u>. Please contact the Planning Department with any questions regarding approval criteria, submittal requirements, or any other planning-related items. Please note disclaimer statement below.

<u>Site Information</u>

Site Address:	1719 & 1749 Willamette Falls Drive
Tax Lot No.:	31E02BA04300 & 4400
Site Area:	15,000 Square Feet +/-
Neighborhood:	Willamette Neighborhood Association
Comp. Plan:	Commercial
Zoning:	General Commercial (GC)
Zoning Overlays:	Willamette Falls Drive Commercial Design District
Applicable CDC Chapters:	Chapter 19: General Commercial (GC)
	Chapter 41: Building Height
	Chapter 46: Off-Street Parking, Loading, and Reservoir Areas
	Chapter 55: Design Review
	Chapter 58: Willamette Falls Drive Commercial Design District
	Chapter 99: Procedures for Decision Making: Quasi-Judicial

<u>Project Details</u>

Demolish two existing structures to be replaced with a three-story commercial building with underground parking. The underground parking will utilize the existing entrance from the adjoining building, as approved in DR-16-01.

<u>Pertinent Factors:</u>

The proposed work will require a Class II Design Review. The Planning Commission is the deciding authority on such applications, following a recommendation by the Historic Review Board.

The existing building located at 1919 Willamette Falls Drive is documented as being a potentially eligible contributing historic resource, but is not part of the City's historic resource inventory and is **not** subject to CDC 25 (Historic District).

Staff has reviewed the concept drawings and has the following preliminary comments:

- The proposed building height was not specified. Please include measurements on the proposed site elevations, consistent with CDC Chapter 41 (Building Height).
- Per CDC 46.140, no off-street parking is required, but any spaces voluntarily provided shall be designed and installed consistent with CDC 46 (Off-Street Parking)
- Internal property lines shall removed prior to construction of the building, per the building official. You may wish to include a property line adjustment with your application.

- A cross-access agreement for the underground garage may be required. However, as the site is not subject to minimum parking agreements, this may only be advised and not required.
- A preliminary review of the project revealed the following design exceptions. Note that this is not an exhaustive list and explanatory findings might justify the absence of an exception:
    - Use of non-wood siding
    - Use of metal canopies

Note that the City Council is nearing finalization of text amendments to CDC Chapter 58 (Willamette Falls Drive Commercial Design District).

Building: For building code and ADA questions, please contact Adam Bernert at abernert@westlinnoregon.gov or 503-742-6054, or Alisha Bloomfield at 503-742-6053 or abloomfield@westlinnoregon.gov.

Engineering: For work in the right of way and utility questions, see attached notes and/or contact Maryna Asuncion at masuncion@westlinnoregon.gov or 503-722-3436.

Tualatin Valley Fire & Rescue: Please contact Jason Arn at jason.arn@tvfr.com or 503-259-1510 with any questions. Note that a Service Provider Permit will need to be presented with the application in order for it to be deemed complete. https://www.tvfr.com/399/Service-Provider-Permit

Process: For the proposal, address the submittal requirements and standards for decision making in the Community Development Code (CDC) chapters:

- Chapter 19: General Commercial (GC)
- Chapter 41: Building Height
- Chapter 46: Off-Street Parking, Loading, and Reservoir Areas
- Chapter 55: Design Review
- Chapter 58: Willamette Falls Drive Commercial Design District (note that updates to this chapter are being adopted under CDC-22-01). https://westlinnoregon.gov/planning/community-development-code-chapters-2-25-58-and-99-historic-code-amendments
- Chapter 99: Procedures for Decision Making: Quasi-Judicial

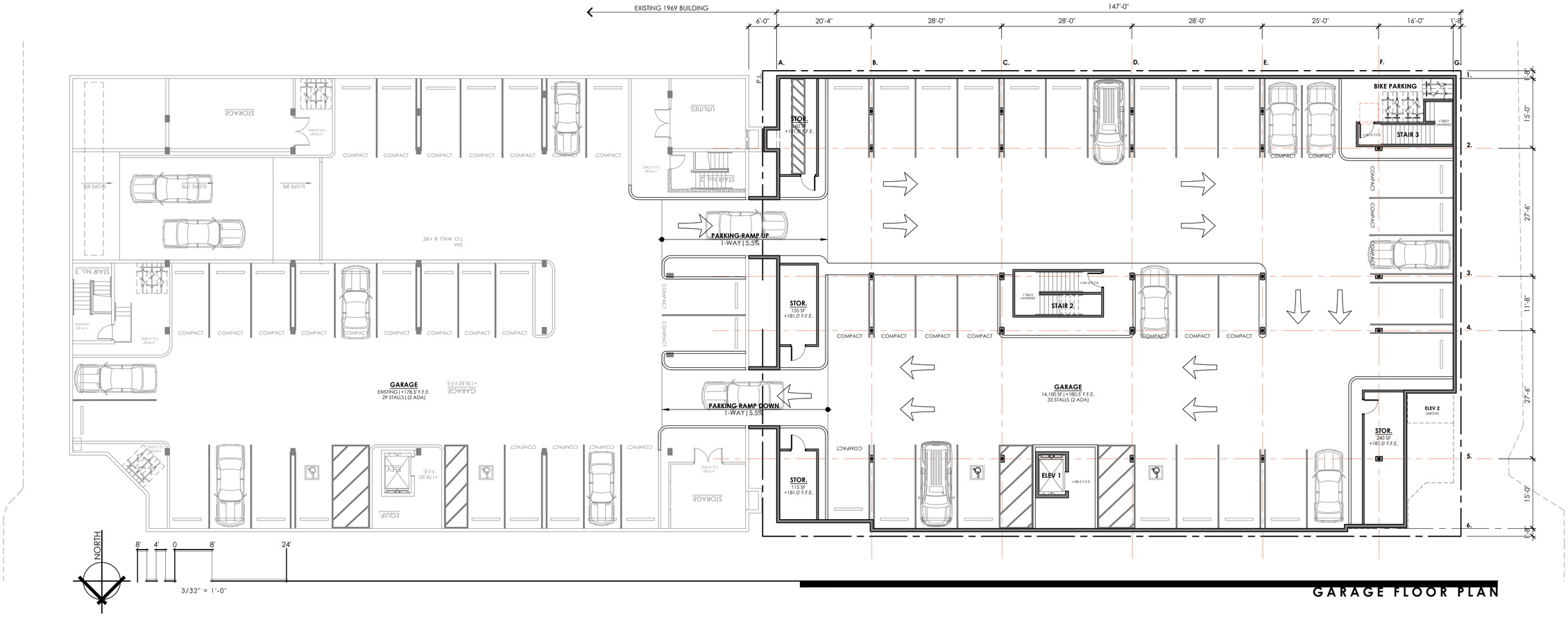
N/A is not an acceptable response to the approval criteria. The submittal requirements may be waived, but the applicant must first identify the specific submittal requirement and request, in letter form, that it be waived by the Planning Manager and must identify the specific grounds for that waiver.

The fee for a Class II Design Review is a deposit of $4,000 plus 4% of construction value ($20,000 maximum). Preliminary approval of a property line adjustment is $800.

Once the application and deposit/fee are submitted, the City has 30 days to determine if the application is complete or not. If the application is not complete, the applicant has 180 days to make it complete or provide written notice to staff that no other information will be provided. Once complete, the City has 120 days from the date of completeness to make a final decision on the application.

Typical land use applications can take 6-10 months from beginning to end.

DISCLAIMER: This summary discussion covers issues identified to date. It does not imply that these are the only issues. The burden of proof is on the applicant to demonstrate that all approval criteria have been met. These notes do not constitute an endorsement of the proposed application ***or provide any assurance of potential outcomes***. Staff responses are based on limited material presented at this pre-application meeting. New issues, requirements, etc. could emerge as the application is developed. Pre-application notes are void after 18 months. After 18 months with no application approved or in process, a new pre-application conference is required. Any changes to the CDC standards may require a different design or submittal.

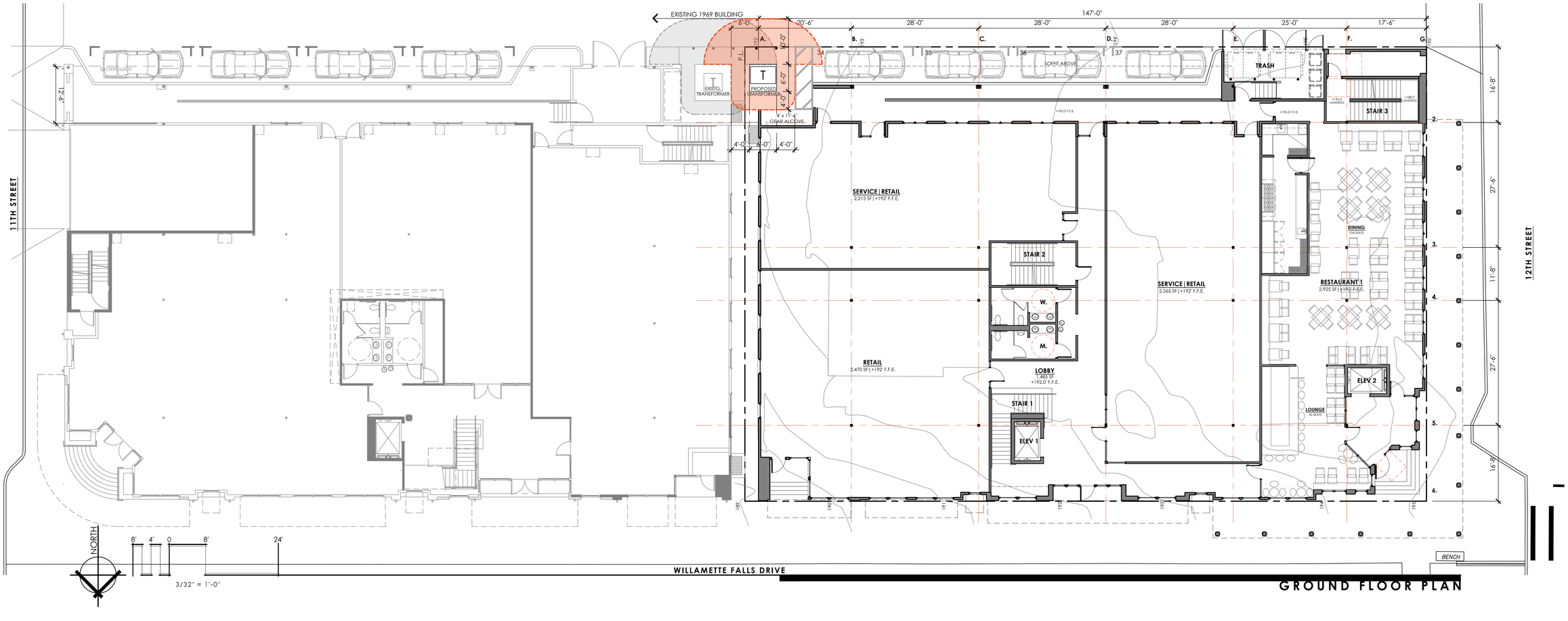


GARAGE FLOOR PLAN

G GARAGE FLOOR PLAN

SGA
SUTTON | GODWIN ARCHITECTURE, LLC
ARCHITECTURE
PLANNING
DESIGN
503.347.4685 | 503.201.0725
www.sg-arch.net

ICON CONSTRUCTION AND DEVELOPMENT



GROUND FLOOR PLAN

WILLAMETTE FALLS DRIVE ELEVATION

1 GROUND FLOOR PLAN + WILLAMETTE FALLS DRIVE ELEVATION

EL 05

1949 WILLAMETTE FALLS DRIVE
WEST LINN, OREGON

ICON CONSTRUCTION AND DEVELOPMENT

CONCEPTUAL PLANS + ELEVATIONS

DECEMBER 2022

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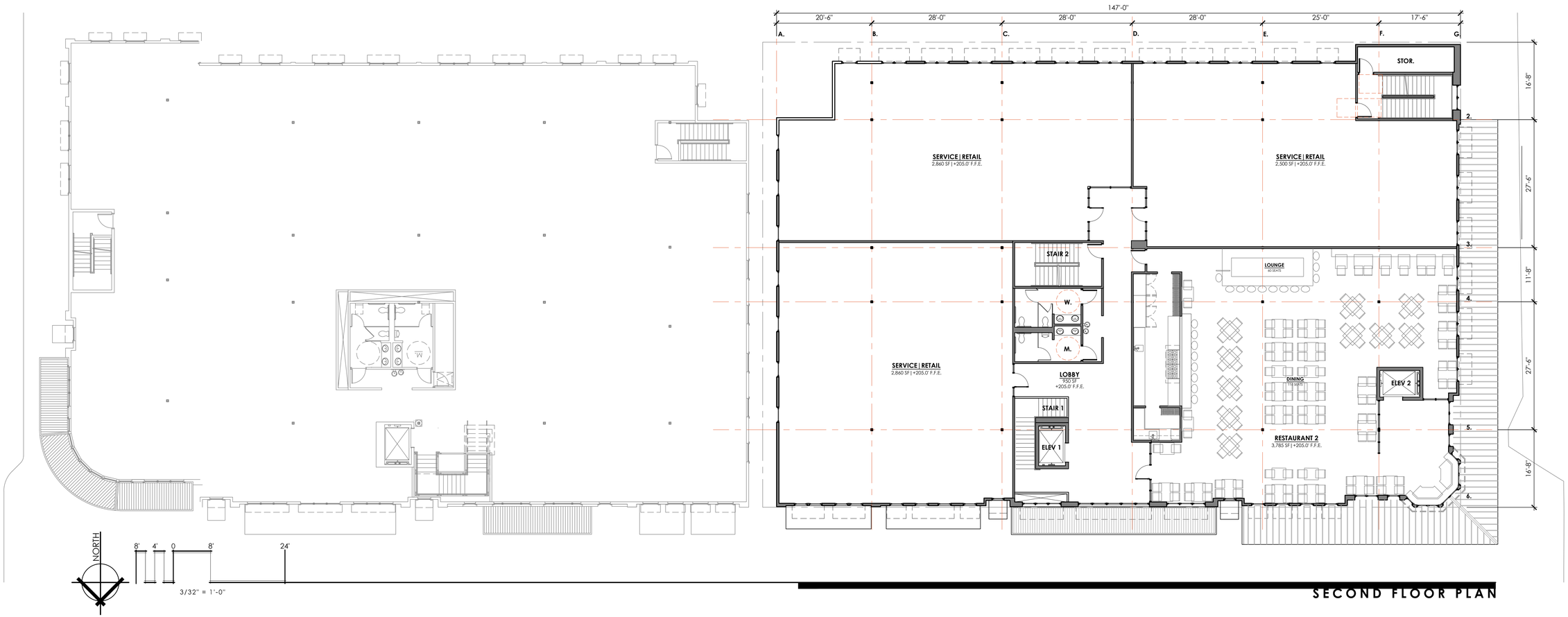
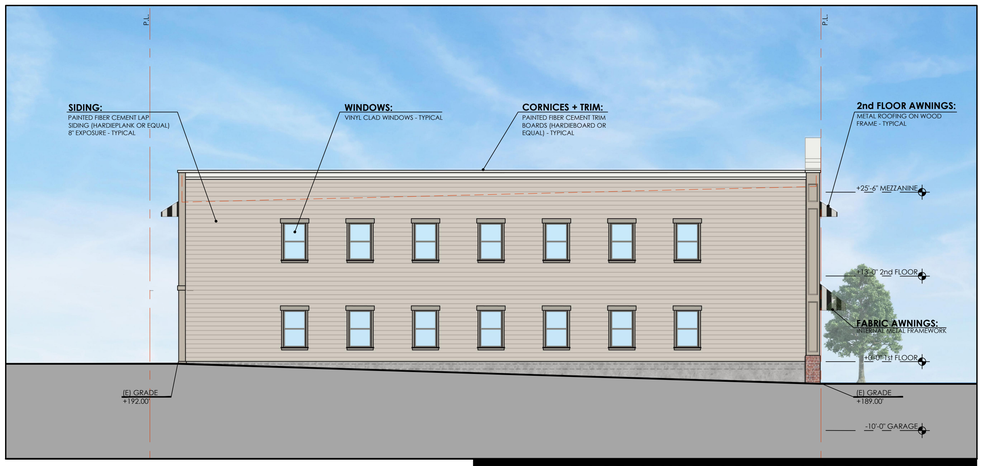


SECOND FLOOR PLAN



EAST (INTERIOR P.L.) ELEVATION

WEST (12th STREET) ELEVATION

2 SECOND FLOOR PLAN + EAST & 12th STREET ELEVATIONS

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ARCHITECTURE
PLANNING
DESIGN
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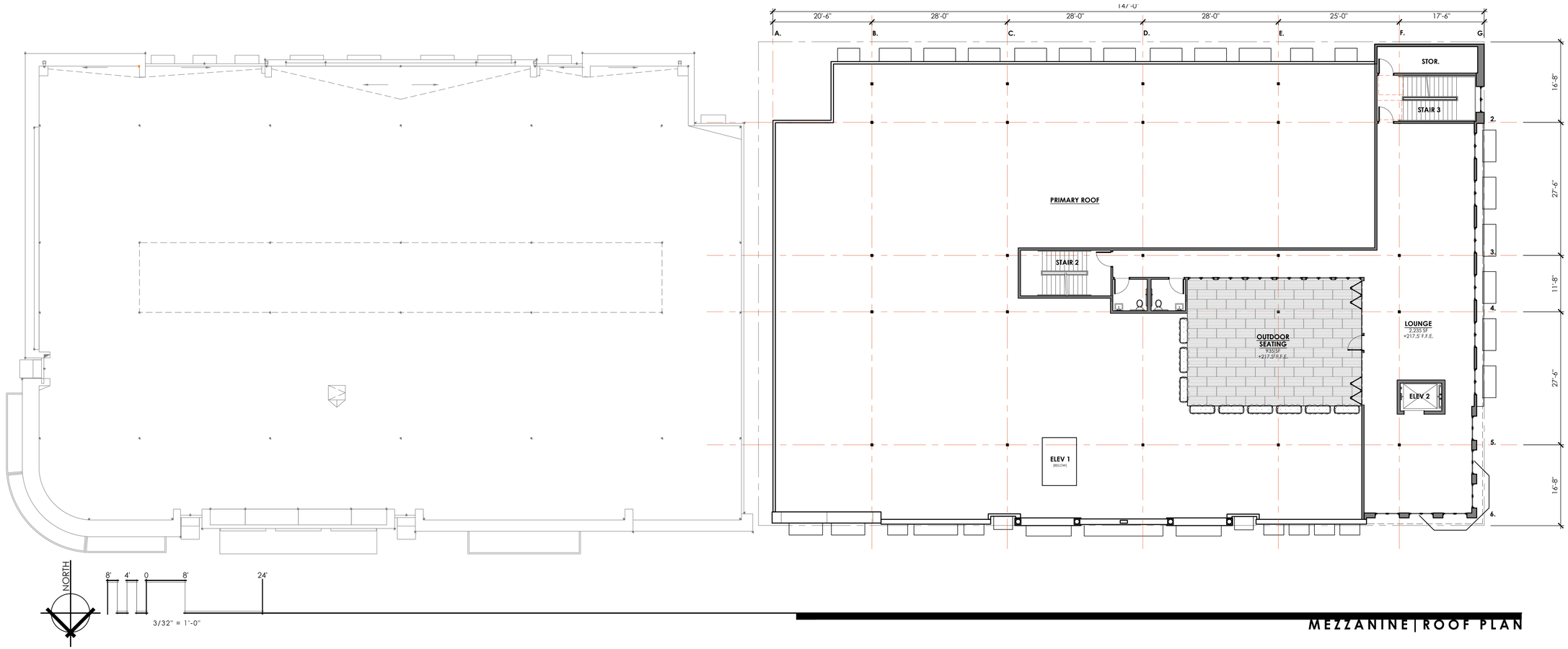
ICON
CONSTRUCTION
AND DEVELOPMENT



MEZZANINE | ROOF PLAN

KNAPPS ALLEY ELEVATION

3 MEZZANINE FLOOR PLAN | ROOF PLAN + KNAPPS ALLEY ELEVATION

EL 05

1949 WILLAMETTE FALLS DRIVE
WEST LINN, OREGON

ICON CONSTRUCTION AND DEVELOPMENT

CONCEPTUAL PLANS + ELEVATIONS

DECEMBER 2022

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EL 05

1949 WILLAMETTE FALLS DRIVE
WEST LINN, OREGON

VIEW FROM 12th + WFD

4 VIEW FROM INTERSECTION OF 12th + WILLAMETTE FALLS DRIVE

ICON
CONSTRUCTION
AND DEVELOPMENT

CONCEPTUAL PLANS + ELEVATIONS

DECEMBER 2022

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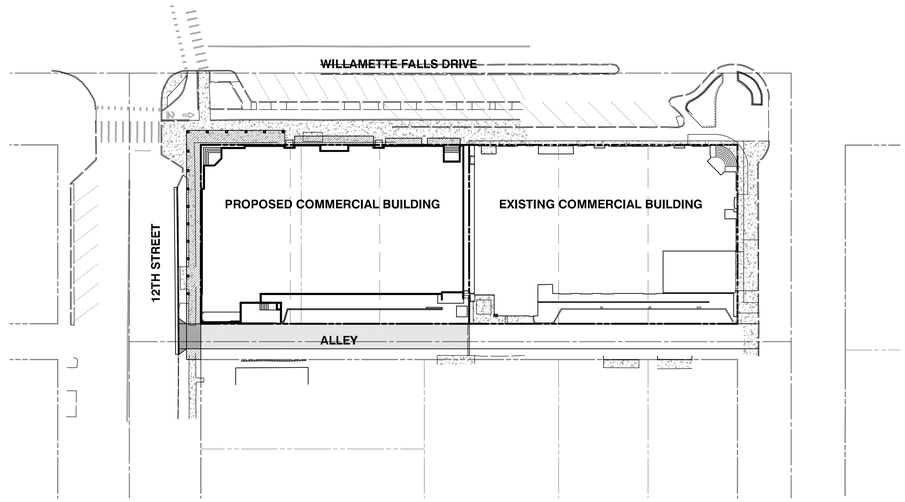
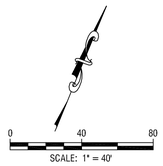
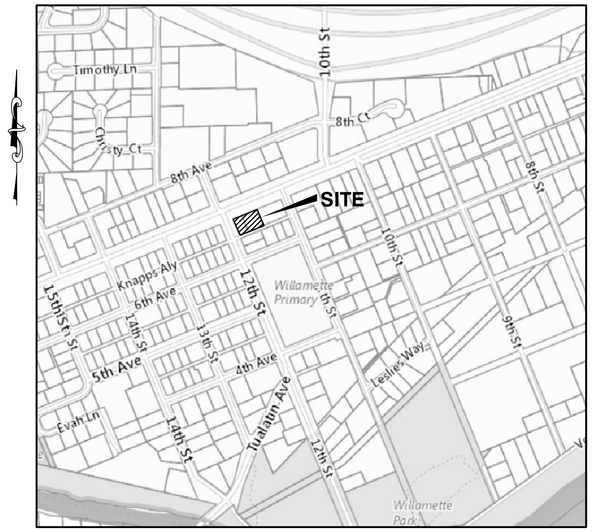


SITE MAP
SCALE: 1" = 40'



WILLAMETTE FALLS MIXED USE
West Linn, Oregon



VICINITY MAP
SCALE: NTS

OWNER/APPLICANT
Icon Construction & Development, LLC
1980 Willamette Falls Drive, Suite 200
West Linn, Oregon 97068
Phone 503-657-0406

ARCHITECT
SGA
10940 SW Barnes Road, No. 364
Portland, Oregon 97225
Phone 503-201-0725

ENGINEERING
Bruce D. Goldson, PE
Theta, LLC
PO Box 1345
Lake Oswego, Oregon 97035
Phone 503-481-8822

SURVEYING
Centerline Concepts, land surveying, Inc.
729 Molalla Ave, Suite 1 &2
Oregon City, Oregon 97045
Phone 503-650-0188

LEGAL
T3S R1E Section 02, TL 4300 & 4400

ADDRESS:
1919 and 1949 Willamette Falls Drive
West Linn, Oregon

SHEET INDEX

1 COVER
2 SITE ANALYSIS
3 SITE AND UTILITY PLAN
4 GRADING AND EROSION CONTROL PLAN

REGISTERED PROFESSIONAL ENGINEER 7120 OREGON JULY 16, 1971 BRUCE D. GOLDSON
PRELIMINARY
EXPIRES: 06/30/2023
SIGNATURE DATE: 12/28/2022

DESIGN REVIEW - COVER

2022-129Z

DESIGNED: BDG			
DRAWN: BJS			
SCALE: 1" = 20'			
DATE: November, 2022			
FILE: Willamette Falls Design Review1	DATE	NO.	REVISION

Theta,llc
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Lake Oswego, Oregon 97035
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email: thetaeng@comcast.net

Icon Construction & Development, LLC
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West Linn, Oregon 97068
PH: (503) 657-0406

1919 and 1949 Willamette Falls Drive
West Linn, Oregon

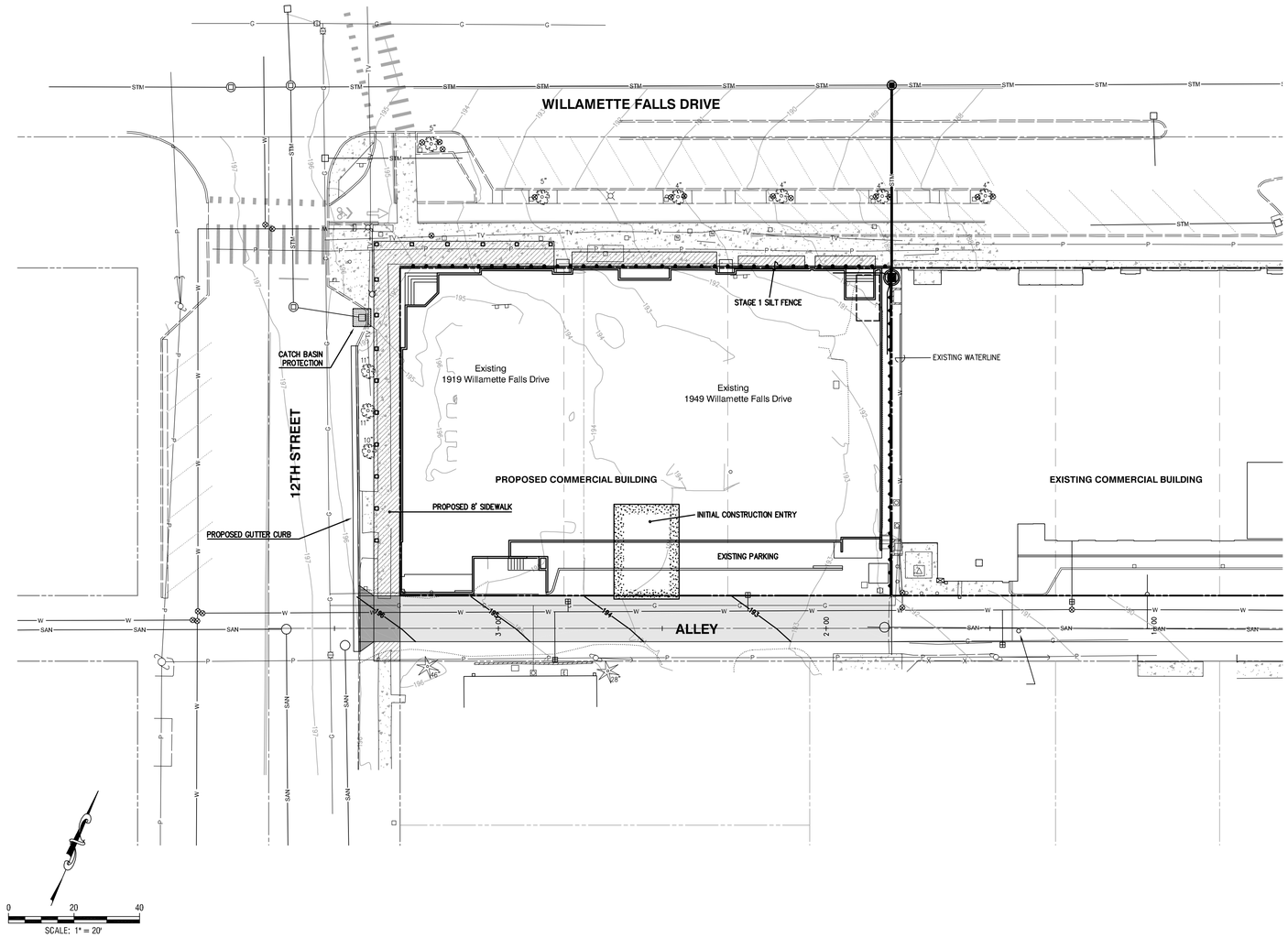
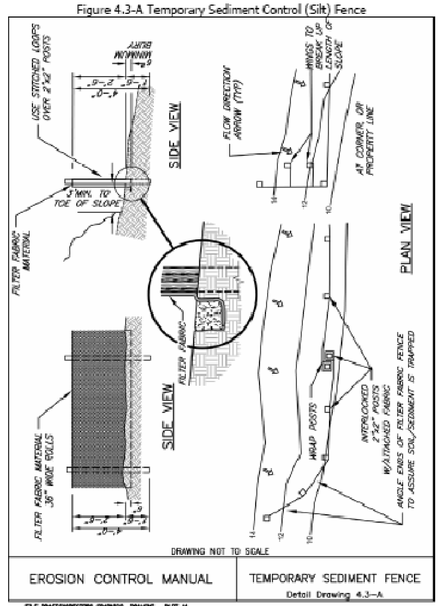


Figure 4.3-A Temporary Sediment Control (Silt) Fence



EROSION CONTROL MANUAL	TEMPORARY SEDIMENT FENCE
	Detail Drawing 4.3-A

FILE ENVIRONMENTAL SERVICES DRAWING PLOT 11

REGISTERED PROFESSIONAL ENGINEER 7120 OREGON JULY 16, 1971 BRUCE D. GOLDSON

PRELIMINARY

EXPIRES: 06/30/2023

SIGNATURE DATE: 12/17/2022

DESIGN REVIEW - GRADING AND EROSION CONTROL PLAN

2022-129Z

DESIGNED: BDG			
DRAWN: BJS			
SCALE: 1" = 20'			
DATE: November, 2022			
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Theta,llc

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1919 and 1949 Willamette Falls Drive
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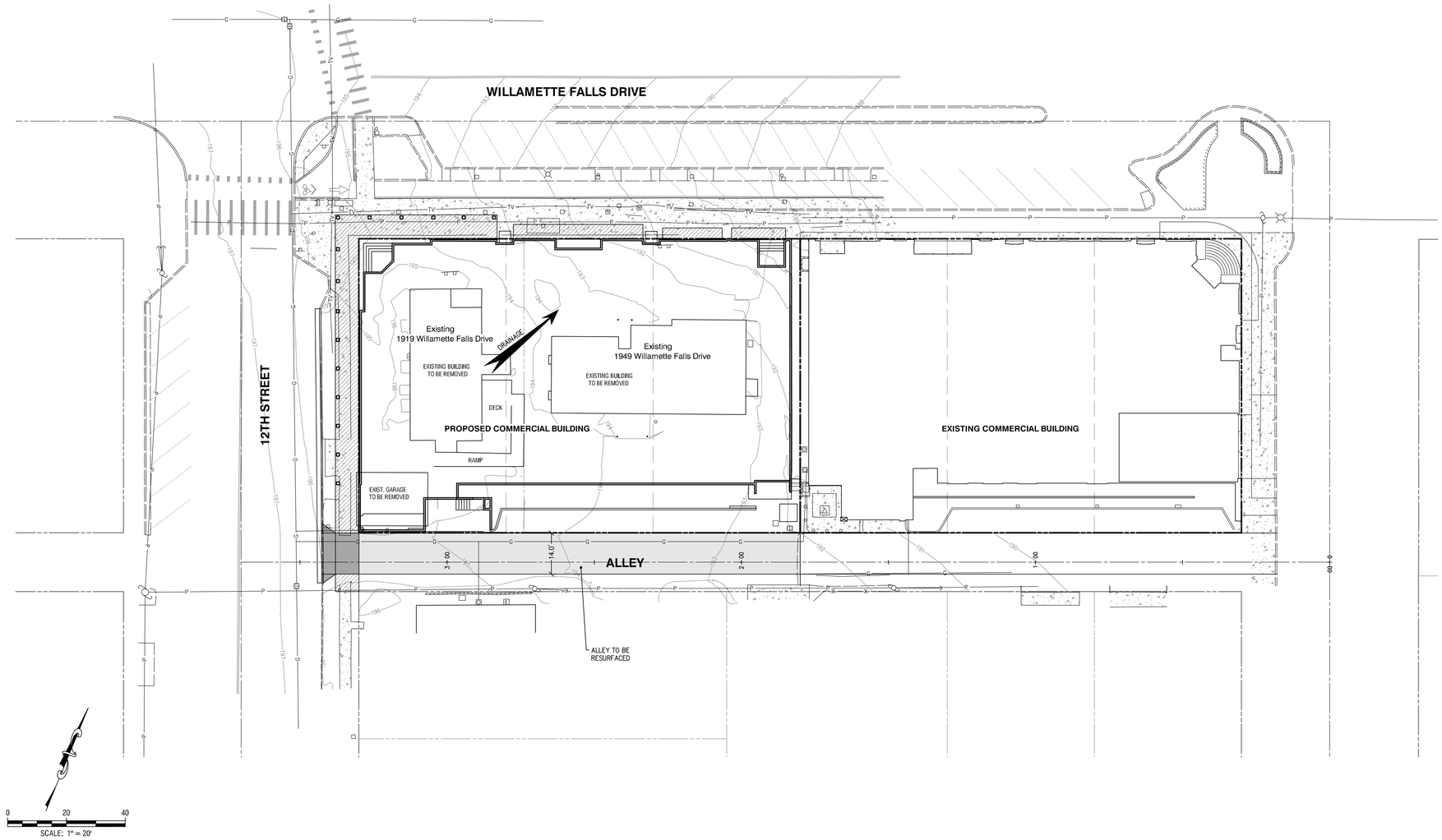
SHEET: 4/4



RESOURCE AREAS:

A NO WETLAND PRESENT
B NOT IN REPARIAN CORRIDOR
C NO STREAMS OR INTERMITTENT WATER WAYS
D NO HABITAT CONSERVATION AREA
E NO ROCK OUTCROPPINGS

NATURAL HAZARD AREAS:

A NOT IN FLOOD PLAIN
B NOT IN WATER RESOURCE AREAS
C NOT IN LANDSLIDE AREA
D NOT IN LANDSLIDE VULNERABLE ANALYSIS AREA

GROSS AREA = 15,000 SQ.FT.

SLOPE ANALYSIS

TYPE I:	(UNDER 15%)	= 15,000 SQ.FT.
TYPE II:	(15% TO 25%)	= 0.00 SQ.FT.
TYPE III:	(25% TO 35%)	= 0.00 SQ.FT.
TYPE IV:	(OVER 35%)	= 0.00 SQ.FT.

REGISTERED PROFESSIONAL ENGINEER 7120 OREGON JULY 16, 1971 BRUCE D. GOLDSON
PRELIMINARY
EXPIRES: 06/30/2023
SIGNATURE DATE: 12/17/2022

DESIGN REVIEW - SITE ANALYSIS

2022-129Z

DESIGNED: BDG			
DRAWN: BJS			
SCALE: 1" = 20'			
DATE: November, 2022			
FILE: Willamette Falls Design Review1	DATE	NO.	REVISION

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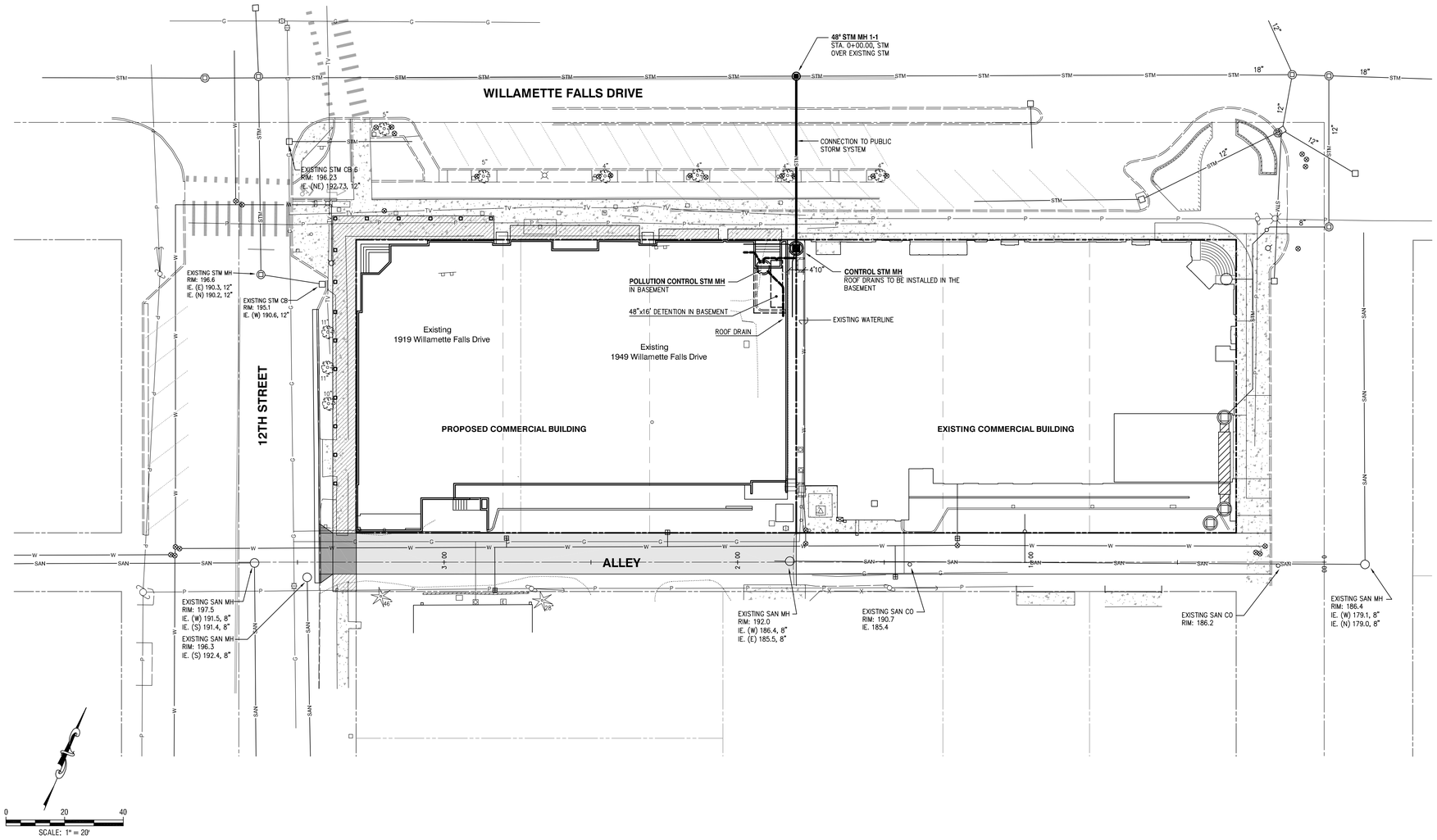
1919 and 1949 Willamette Falls Drive
West Linn, Oregon

SHEET: 2/4



REGISTERED PROFESSIONAL ENGINEER
71281
OREGON
July 16, 1971
BRUCE D. GOLDSON
PRELIMINARY
EXPIRES: 06/30/2023
SIGNATURE DATE: 12/29/2022

2022-129Z

DESIGN REVIEW - SITE AND UTILITY PLAN

DESIGNED: BDG			
DRAWN: BJS			
SCALE: 1" = 20'			
DATE: November, 2022			
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PH: (503) 657-0406

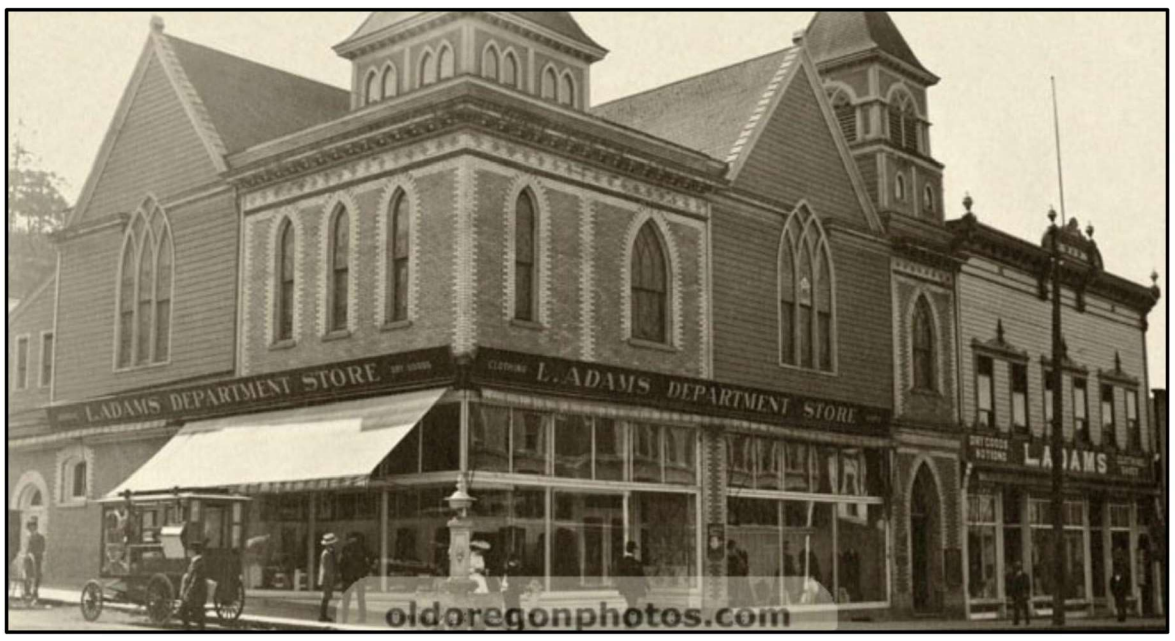
1919 and 1949 Willamette Falls Drive
West Linn, Oregon

SHEET: 3/4

1949 Willamette Falls Drive

Proposed Commercial Mixed Use Building

Willamette Falls Drive &12th Street, West Linn, Oregon



NAME:
L. ADAMS DEPARTMENT STORE

LOCATION:
OREGON CITY

DATE OF CONSTRUCTION:
1912

USE:
DEPARTMENT STORE

PRIMARY MATERIALS IN SUPPORT OF EXCEPTION:
BRICK MASONRY

NAME:
WEINHARD BUILDING

LOCATION:
802 MAIN STREET, OREGON CITY

DATE OF CONSTRUCTION:
1895

USE:
DEPARTMENT STORE

PRIMARY MATERIALS IN SUPPORT OF EXCEPTION:
BRICK MASONRY

NAME:
TVFR STATION No. 59

LOCATION:
1860 WILLAMETTE FALLS DRIVE

DATE OF CONSTRUCTION:
2010

USE:
FIRE STATION

PRIMARY MATERIALS IN SUPPORT OF EXCEPTION:
BRICK MASONRY

NAME:
WILLAMETTE CENTER IV

LOCATION:
1969 WILLAMETTE FALLS DRIVE, WEST LINN

DATE OF CONSTRUCTION:
2019

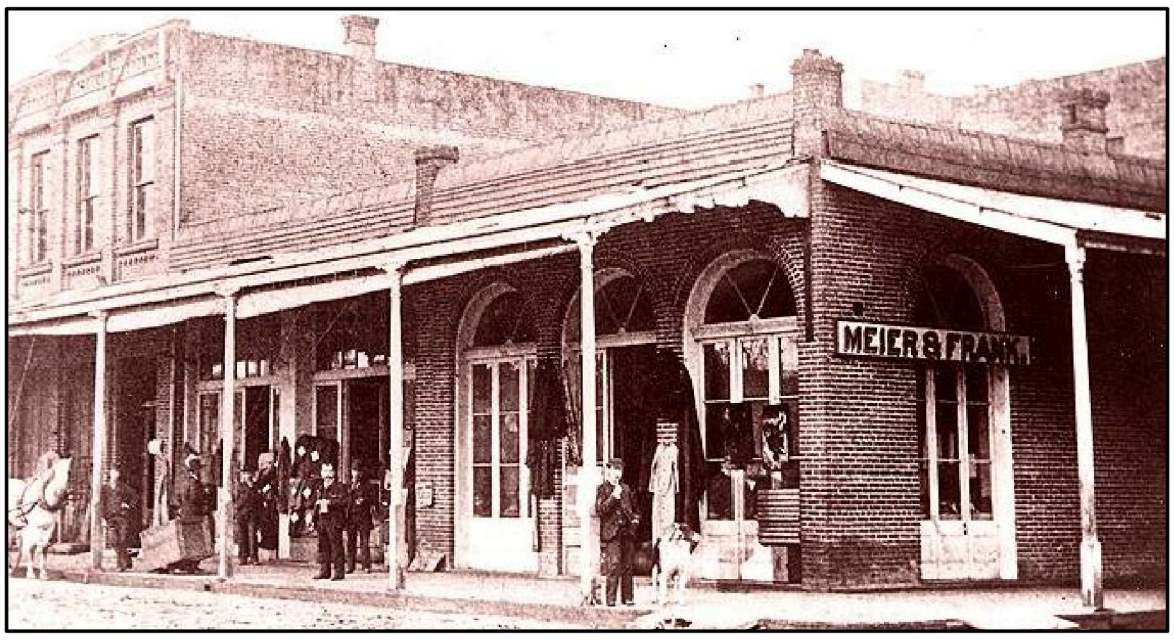
USE:
MIXED USE COMMERCIAL

PRIMARY MATERIALS IN SUPPORT OF EXCEPTION:
BRICK MASONRY

1949 Willamette Falls Drive

Proposed Commercial Mixed Use Building

Willamette Falls Drive &12th Street, West Linn, Oregon



NAME:
MEIER & FRANK ORIGINAL STORE

LOCATION:
SW FRONT & SW AMHILL STREETS, PORTLAND

DATE OF CONSTRUCTION:
1857

USE:
DEPARTMENT STORE

PRIMARY MATERIALS IN SUPPORT OF EXCEPTION:
DECORATIVE CANOPY COLUMNS

NAME:
ORO FINO SALOON

LOCATION:
OAK & STARK STREETS, PORTLAND

DATE OF CONSTRUCTION:
1876

USE:
SALOON

PRIMARY MATERIALS IN SUPPORT OF EXCEPTION:
DECORATIVE CANOPY COLUMNS

NAME:
COMMUNITY OF FAITH CURCH

LOCATION:
1889 WILLAMETTE FALLS DR, WEST LINN

DATE OF CONSTRUCTION:
UNKNOWN

USE:
CHURCH

PRIMARY MATERIALS IN SUPPORT OF EXCEPTION:
DECORATIVE CANOPY COLUMNS

NAME:
LIL' COOPERSTOWN GRILL

LOCATION:
1817 WILLAMETTE FALLS DRIVE, WEST LINN

DATE OF CONSTRUCTION:
UNKNOWN

USE:
RESTAURANT

PRIMARY MATERIALS IN SUPPORT OF EXCEPTION:
DECORATIVE CANOPY COLUMNS

1949 Willamette Falls Drive

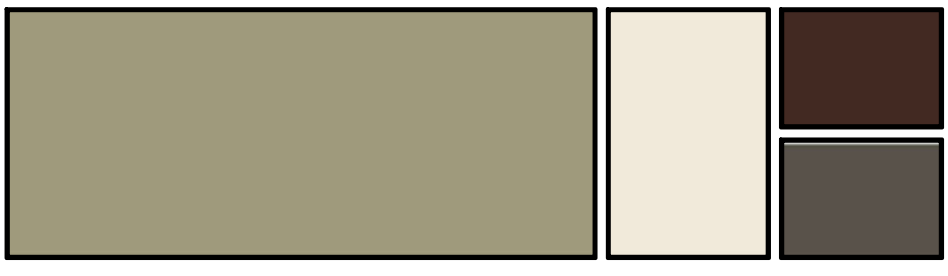
Proposed Commercial Mixed Use Building

Willamette Falls Drive &12th Street, West Linn, Oregon

NOTE: THE COLOR PALETTES SHOWN BELOW ARE REPRESENTATIVE ONLY, SELECTED FROM THE 'AMERICA'S HERITAGE HISTORICAL COLORS' COLLECTION BY SHERWIN WILLIAMS. ACTUAL BUILDING COLORS WILL BE SELECTED FROM THE FULL LINE OF THIS COLLECTION.

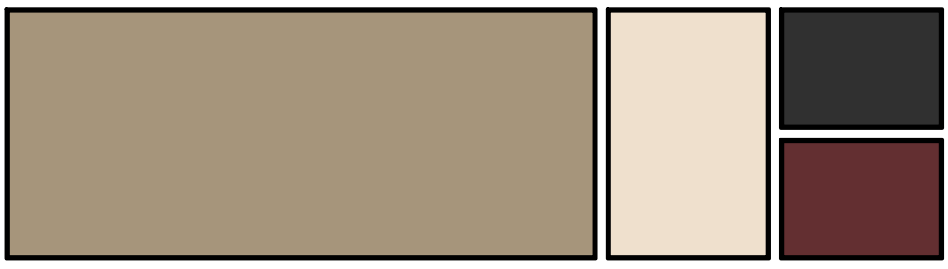
PALETTE: ANTIQUE WHITE

BODY:	SW 6119 | ANTIQUE WHITE
TRIM:	SW 2842 | ROYCROFT SUEDE
ACCENT 1:	SW 7012 | CREAMY
ACCENT 2:	SW 0048 | BUNGLEHOUSE BLUE



PALETTE: COLONIAL REVIVAL GREEN STONE

BODY:	SW 2826 | COLONIAL REVIVAL GREEN STONE
TRIM:	SW 2842 | ROYCROFT SUEDE
ACCENT 1:	SW 7012 | CREAMY
ACCENT 2:	SW 0048 | BUNGLEHOUSE BLUE

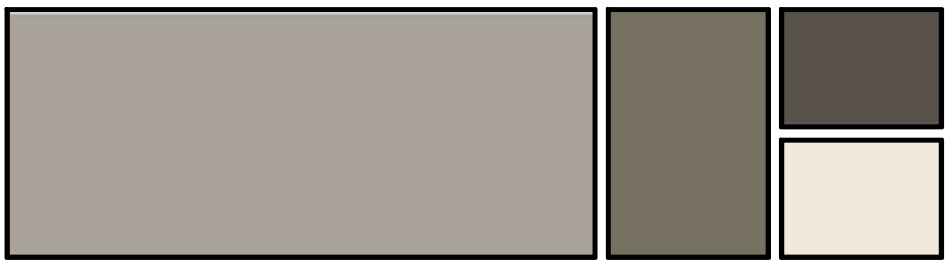


PALETTE: COLONIAL REVIVAL STONE

BODY:	SW 2827 | COLONIAL REVIVAL STONE
TRIM:	SW 2829 | CLASSICAL WHITE
ACCENT 1:	SW 6258 | TRICORN BLACK
ACCENT 2:	SW 2802 | ROOKWOOD RED

PALETTE: DOWNING SLATE

BODY:	SW 2819 | DOWNING SLATE
TRIM:	SW 2813 | DOWNING STRAW
ACCENT 1:	SW 2814 | ROOKWOOD ANTIQUE GOLD
ACCENT 2:	SW 2807 | ROOKWOOD MEDIUM BROWN

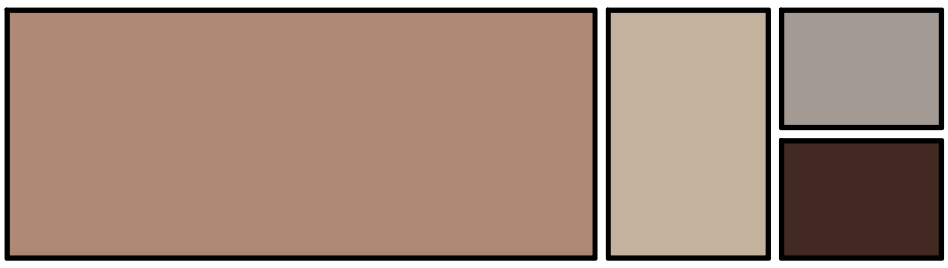


PALETTE: DOWNING STONE

BODY:	SW 2821 | DOWNING STONE
TRIM:	SW 2851 | SAGE GREEN LIGHT
ACCENT 1:	SW 2846 | ROYCROFT BRONZE GREEN
ACCENT 2:	SW 0050 | CLASSIC LIGHT BUFF

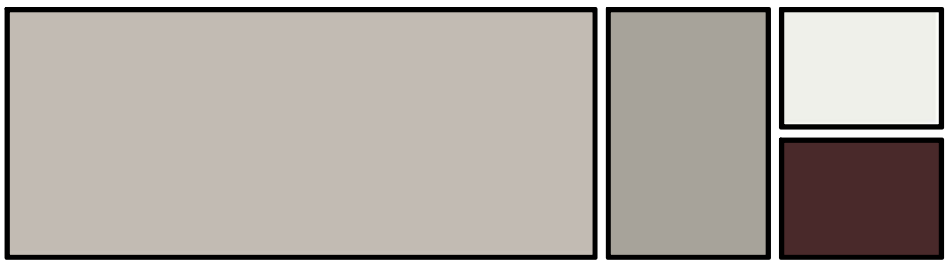
PALETTE: NEEDLEPOINT NAVY

BODY:	SW 0032 | NEEDLEPOINT NAVY
TRIM:	SW 0050 | CLASSIC LIGHT BUFF
ACCENT 1:	SW 2853 | NEW COLONIAL YELLOW
ACCENT 2:	SW 0045 | ANTIQUARIAN BROWN



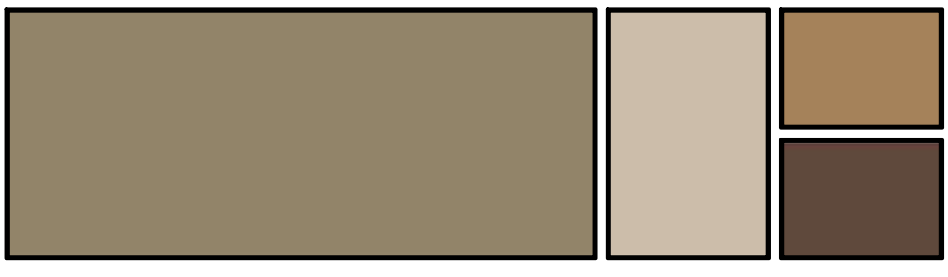
PALETTE: RENWICK ROSE BEIGE

BODY:	SW 2804 | RENWICK ROSE BEIGE
TRIM:	SW 2805 | RENWICK BEIGE
ACCENT 1:	SW 0023 | PEWTER TANKARD
ACCENT 2:	SW 2838 | POLISHED MAHOGANY



PALETTE: ROYCROFT MIST BEIGE

BODY:	SW 2844 | ROYCROFT MISE BEIGE
TRIM:	SW 2821 | DOWNING STONE
ACCENT 1:	SW 7006 | EXTRA WHITE
ACCENT 2:	SW 2801 | ROOKWOOD DARK RED



PALETTE: SHERATON SAGE

BODY:	SW 0014 | SHERATON SAGE
TRIM:	SW 2822 | DOWNING SAND
ACCENT 1:	SW 2814 | ROOKWOOD ANTIQUE GOLD
ACCENT 2:	SW 2856 | FAIRFAX BROWN

COLOR & MATERIAL SCHEDULE | PAINT

December 2022 | Design Review Application | Section 58.080.25

SGA

SG ARCHITECTURE, LLC

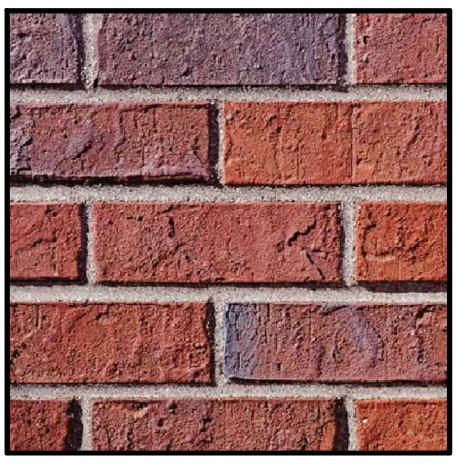
1949 Willamette Falls Drive

Proposed Commercial Mixed Use Building

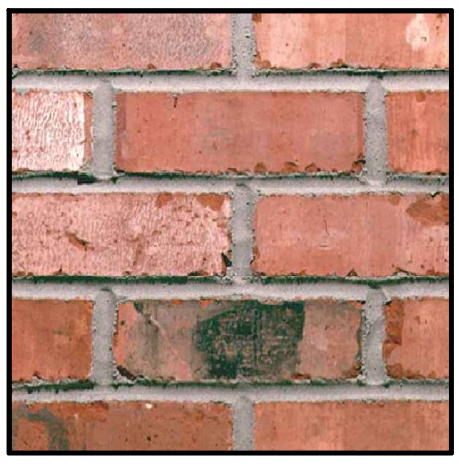
Willamette Falls Drive &12th Street, West Linn, Oregon

NOTE: THE BRICK BLENDS & AWNING FABRICS SHOWN BELOW ARE REPRESENTATIVE ONLY. THEY ARE DRAWN FROM MUTUAL MATERIALS' HISTORICAL BLEND SELECTIONS, AND FROM THE SUNBRELLA FABRIC CATALOG. BRICK BLENDS FOR THE BUILDING WILL BE SELECTED FROM THE FULL RANGE OF HISTORICAL BLENDS AVAILABLE FROM MUTUAL MATERIALS. AWNING FABRIC COLORS WILL BE SELECTED FROM THE FULL RANGE OF SUNBRELLA SELECTIONS.

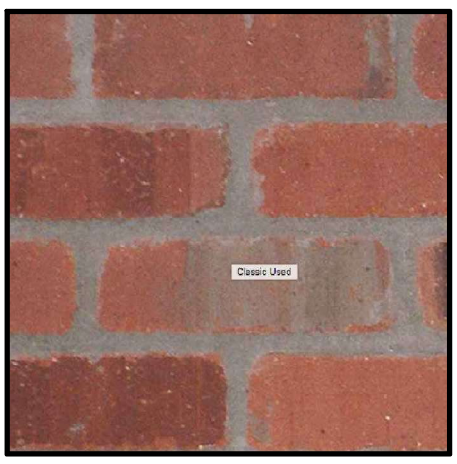
BRICK BLENDS:



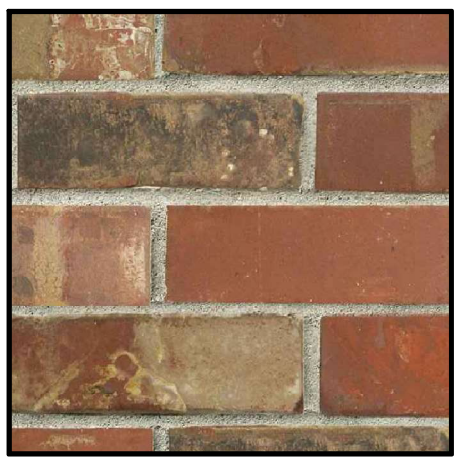
BRICK BLEND:
CEDAR SPRINGS



BRICK BLEND:
MUTUAL USED

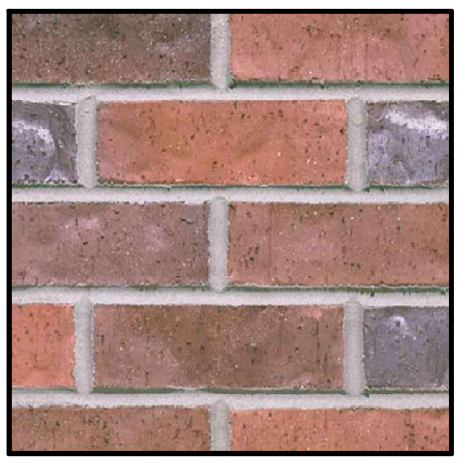


BRICK BLEND:
CLASSIC USED

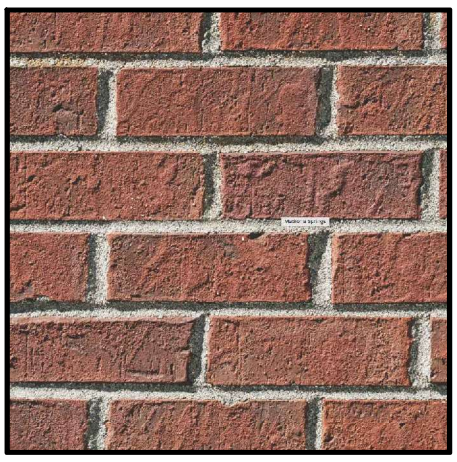


BRICK BLEND:
OLD UNIVERSITY

BRICK BLEND:
HOMESTEAD USED



BRICK BLEND:
PACIFIC HANDMOLD



BRICK BLEND:
MADRONA SPRINGS

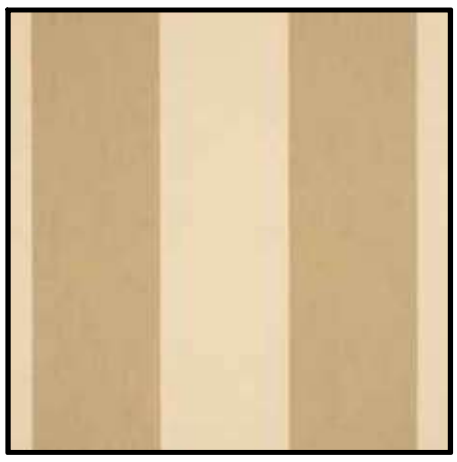
BRICK BLEND:
VANCOUVER USED

AWNING FABRICS:

AWNING FABRIC:
SLATE

AWNING FABRIC:
FERN

AWNING FABRIC:
MAHOGANY



AWNING FABRIC:
MANHATTAN DUNE

COLOR & MATERIAL SCHEDULE | BRICKS & AWNING FABRICS

December 2022 | Design Review Application | Section 58.080.25

SGA
SG ARCHITECTURE, LLC

The Lighting Project

315 Columbia St.

Vancouver WA 98660

360.314.4100

www.tlpnw.com

1949 Willamette

Luminaire Spec Sheets

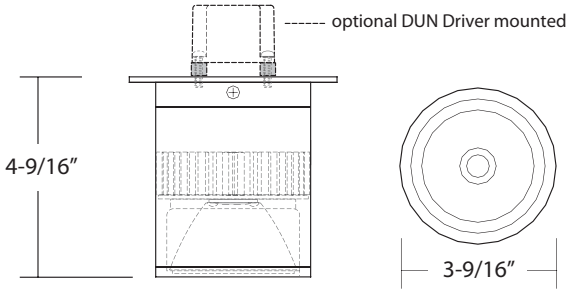
February 24th, 2023

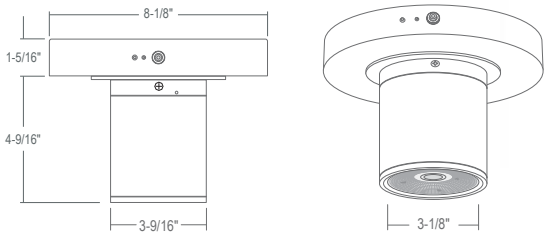
TYPE SD PROJECT 1949 Willamette Falls Dr.

CATALOG#

DL340 : 4" ROUND CEILING DOWNLIGHT (IP65)

1000LM/1500LM (15W/22W)





SPECIFICATION

9W

Application: This DL Series covered ceiling mount down light can be used for surface ceiling or pendant mount in both interior and outdoor settings.Typical locations are in commercial and retail spaces that require lighting from above. Dark Sky compliant.

Housing: Constructed from a round one piece high grade aluminum extrusion with a rectangular extrusion arm, end cap, faceplate and a mounting plate with a powder coat finish. Includes an adjustable led array with optics (rotates 25°), COB LED, reflector and LED driver. Mounting plate is secured to arm with four (4) flat head phillips stainless steel screws. Mounting plate installs onto an electrical junction box. Consult factory for junction box mounting sizes.

Mounting: Fixture includes a mounting bracket for installation directly to a 3-1/2" or 4" octagonal electrical junction-box. Can also be mounted as a 12" - 48" pendant (LPCMDL4).

Faceplate: Round one piece aluminum with powder coat finish, clear tempered glass lens, and silicone o-ring. Faceplate is secured to the housing by threads.

Reflector Construction: Minimum 50,000 hours L70 life based on ANSI TM-21 calculations from LM80 standardized test results. See ordering guide for delivered lumens.

Lumen Maintenance: Minimum 50,000 hours L70 life based on ANSI TM-21 calculations from LM80 standardized test results. See ordering guide for delivered lumens.

Dimming: UE-DUN) UniDim™ dimming option is a universal dimming system that works with most 120V,3-wireELV,2-wireincandescentand120V/277V,5-wire 0-10V fluorescentdimmers. (UE-D10) 0-10V dimming works with most 5-wire, 0-10V dimmers. Factory qualified for use with Leviton IP710-DLZ. (-DIN) dimming option smoothly dims down to 5% of initial light output with flicker-free performance. Works with standard 120V incandescent dimmers.

Electrical: AC 50/60Hz Electronic Direct Current Class 2 driver integrally mounted. Power Factor > 0.90. For cold weather applications (-22°C and above) use -DUN driver option.

Emergency Options: Emergency LED Battery Back-up available, remotely mounted adjacent to housing by installer. When AC power fails, the device immediately switches to the emergency mode, operating the LEDs for a minimum of 90 minutes. Remote test switch and plate cover included. (-EMAC) is not wet location rated, and must be mounted in a dry area.

Caution: LITON recommends use of surge protectors on the power entering LED Housings. Surge damage is not covered by warranty.

Warranty: Covered by a 5 Year Warranty to be free of defects in materials and craftsmanship. Fixture should not be installed in applications with ambient temperature above 60 degrees C. Doing so will result in reduced lamp life and voided warranty.

Note: Dark sky compliant.

Listing: ETL/ cETL Listed. Suitable for wet location. Assembled in USA. (IP65) IK08 rating for impact resistance

Finish: A 7- stage electrostatic, polymer process provides a finish that delivers outstanding durability, superior anti-aging, resistance to corrosion and UV-degradation. Standard finishes are White, Silver, Basic Bronze, Black. Special order finishes are Light Silver, Dark Grey, Metallic Gold, and Metallic Black[2].

Beam Spread: Available in Wide Flood, 2° Pencil Beam, Narrow Spot, Spot, Flood, and Wall Wash Optic.

LED: Energy efficient Chip-On-Board (COB) Singular LED Light Source provides for smooth uniform light output, eliminating the multiple shadow effect seen by multiple LED Source products. Binned with 4-step MacAdam ellipses as recommended by ANSI Standard. Available in 4000K,1700K[2], 2700K, 2700K 97CRI[2], 3000K, 3000K 97CRI[2], 3500K, and 5000K.

Benefits:

- Energy efficient, low glare LED Chip-On-Board light engine
- Beam spreads include NS, SP, FL, WFL and 2° Pencil Beam
- Emergency back up available
- Singular COB Light Source
- 5 year limited warranty

2022.11.10

FEATURE:

ORDERING EXAMPLE : DL340B-B45-EMAC

DL340	FINISH	LUMEN[1]	BEAM SPREAD	DIMMING	LED	OPTIONS
DL340	W :White	Blank :1000lm (15W)	Blank :Wide Flood	Blank : Non-Dimming (120V)	Blank :4000K	-Blank :None
	S :Silver	-L15 :1500lm (22W)	-B02 :2° Pencil Beam	UE-DUN :UniDim™(120V/277V)[3]	-T17 :1700K[2]	-EMAC :Emergency Back Up
	BZ :Basic Bronze		-B10 :Narrow Spot	UE-D10 : 0-10 Dimming (120V/277V)	-T27 :2700K	-FR :Frosted Lens
	B :Black		-B20 :Spot		-T27-C97 :2700K, 97CRI[2]	-JB :Integral Junction Box[3,5]
	LS :Light Silver[2]		-B45 :Flood	-DIN :2-Wire 10% Triac Dimming (120V)	-T30 :3000K	-LVR :Hex-Cell Louver[2]
	DG :Dark Grey[2]		BWW :Wall Wash Optic		-T30-C97 :3000K, 97CRI[2]	-EMA :Emergency BackPack*
	MG :Metallic Gold[2]				-T35 :3500K	
	MB :Metallic Black[2]				-T50 :5000K	

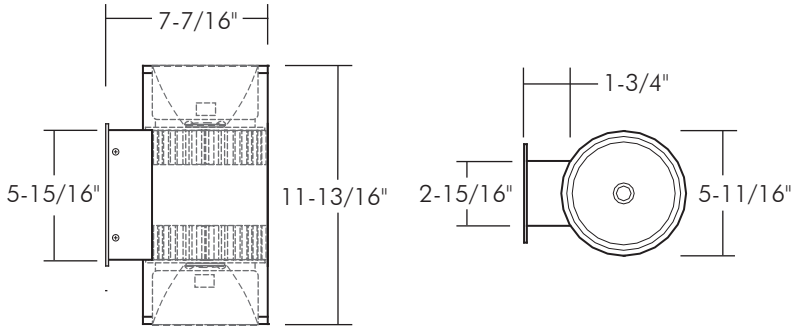
[1](Blank) 1000lm (15W) color temperature is 80CRI minimum, and is not available in 90 plus CRI.(-L15) 1500lm (22W) is 90CRI minimum with optional 97CRI.
[2]Special Order. Minimum order, extended lead time may apply. Consult factory. (Finish options 50 piece minimum. 10-12 week lead time)
[3]DUN Options comes with externally mounted driver. Not for use with Integral Junction Boxes, Flat Junction Boxes or Pendant Systems.
[5]Not available for -JB option
*Only available for (Blank, -L15) with or LPCMDL4 options.

TYPE W1 PROJECT 1949 Willamette Dr.

CATALOG#

WD2360 - 6" ROUND 2-DIRECTION WALL MOUNT (IP65) - 2 X 1000LM/1500LM/2200LM/2600LM

SURFACE 2-DIRECTION WALL MOUNT



SPECIFICATION

Application: This WD2 Series Double directional wall luminaire can be used in both interior and outdoor settings. Typical locations are in commercial and retail spaces that contain walls and/or columns that require directional lighting. Dual reflector design allows for direct and indirect lighting for a single fixture.

Energy efficient Chip-On-Board (COB) Singular LED Light Source provides for smooth uniform light output, eliminating the multiple shadow effect seen by multiple LED Source products. Binned with 4-step MacAdam ellipses as recommended by ANSI Standard.

Housing: Constructed from a round one piece high grade aluminum extrusion with a rectangular extrusion arm, two (2) faceplates and a mounting plate with a powder coat finish. Includes COB LED, reflector and LED driver. Mounting plate is secured to arm with four (4) flat head phillips stainless steel screws. Mounting plate installs onto an electrical junction box. Consult factory for junction box mounting sizes.

Mounting: Fixture includes a mounting bracket for installation directly to a 4" octagonal electrical junction-box.

Faceplate: Round one piece extruded aluminum with powder coat finish, clear tempered glass lens, and silicone o-ring. Faceplate is secured to the housing by threads.

Reflector Construction: One piece, heavy-gauge aluminum reflector prevents ugly dents during shipping and installation. Deeply mounted singular LED provides 50 degree visual cutoff for a glare-free appearance.

Lumen Maintenance: Minimum 50,000 hours L70 life based on ANSI TM-21 calculations from LM80 standardized test results. See ordering guide for delivered lumens.

Dimming: (-DIN) dimming option smoothly dims down to 5% of initial light output with flicker-free performance. Works with standard 120V incandescent dimmers. (UE-D10) 0-10V dimming works with most 5-wire, 0-10V dimmers. Factory qualified for use with Leviton IP710-DLZ. (UE-DUN) option is a universal dimming system that works with most 3-Wire ELV, 2-Wire Incandescent and 120V/277V 5-Wire 0-10V fluorescent dimmers.

Electrical: AC 50/60Hz Electronic Direct Current Class 2 driver integrally mounted. Power Factor > 0.90. For cold weather applications (-22°C and above) use -DUN driver option.

Emergency Options: Emergency LED Battery Back-up available, remotely mounted adjacent to housing by installer. When AC power fails,the device immediately switches to the emergency mode, operating the LEDs for a minimum of 90 minutes. Remote test switch and plate cover included. (-EMAC) is not wet location rated, and must be mounted in a dry area.

Junction Box: The integral surface mounted junction box provides a clean finished look in situations where a recessed junction box is not an option. This feature includes (1) or (2) conduit holes on the side or top for 1/2" weatherproof fitting (by others).

Caution: LITON recommends use of surge protectors on the power entering LED Housings. Surge damage is not covered by warranty.

Warranty: Covered by a 5 Year Warranty to be free of defects in materials and craftsmanship. Fixture should not be installed in applications with ambient temperature above 60 degrees C. Doing so will result in reduced lamp life and voided warranty.

Listing: ETL / cETL Listed. Suitable for wet location. Assembled in USA. (IP65). IK08 rating for impact resistance.

Finish: A 7-stage electrostatic, polymer process provides a finish that delivers outstanding durability, superior anti-aging, resistance to corrosion and UV-degradation Standard finishes are White, Silver, Basic Bronze, Black. Special order finishes are Light Silver, Dark Grey, Metallic Gold and Metallic Black.

Beam (Down): Available in Wide Flood, Narrow Spot, Spot, Flood, Wall Wash, and Type IV (Forward Throw) Optics.

Beam (Up): Available in Wide Flood, 2° Pencil Beam, Narrow Spot, Spot, Flood, Wall Wash, and Type IV (Forward Throw) Optics.

Benefit:

- Daylight Sensor available
- Uniform, low glare illumination
- Durable, corrosion resistant finish
- Emergency back up available
- Singular COB Light Source
- 5 year limited warranty
- Available with Type IV/Forward Throw Option
- UniDim™ option dimming with 2-Wire Incandescent, 3-Wire, ELV or 0-10V Controls

FEATURE: 120V, 277V, Cold Weather, Dedicated LED, Emergency Back Up, Intertek, cULus LISTED, Outdoor, Tamper Resistant, US Assembled, Wet Location

ORDERING EXAMPLE : WD2360B-T27-EMAC

WD2360	FINISH	LUMEN[1]	BEAM (DOWN)	BEAM (UP)	DIMMING	LED	OPTIONS
WD2360	**W** :White	**Blank** :2x1000lm (30W)	**Blank** :Wide Flood	**Blank** :Wide Flood	**Blank** :Non-Dimming (120V)	**Blank** :4000K	**Blank** :None
	S :Silver	**-L15** :2x1500lm (30W)	**-BD02** :2° Pencil Beam	**-BU02** :2° Pencil Beam	**-DIN** :ELV and Triac Dimming (120V)	**-T17** :1700K*	**-JB** :Integral Junction Box 1-Outlet
	BZ :Basic Bronze	**-L20** :2x2200lm (45W)	**-BD10** :Narrow Spot	**-BU10** :Narrow Spot	**UE-D10** :0-10V Dimming (120/277VV)	**-T27** :2700K	**-JB2** :Integral Junction Box 2-Outlet
	B :Black	**-L26** :2x2600lm (64W)	**-BD20** :Spot	**-BU20** :Spot	**UE-DUN** :UniDim™ (120V/277V)	**-T27-C97** :2700K, 97CRI*	**-JBT** :Junction Box, Conduit
	LS :Light Silver*		**-BD45** :Flood	**-BU45** :Flood	**-2CCT** :2-Circuit	**-T30** :3000K	:Top Entry
	DG :Dark Grey*		**-BDWW** :Wall Wash	**-BUWW** :Wall Wash		**-T30-C97** :3000K, 97CRI*	**-SDL** :Integral Daylight Sensor*,***
	MG :Metallic Gold*		**-BDIV** :Type IV (Forward Throw)	**-BUIV** :Type IV (Forward Throw)		**-T35** :3500K	**-EMAC** :Emergency Backup**
	MB :Metallic Black*					**-T50** :5000K	
						-TAM :590nm AMBER	

[1](Blank) 2x1000lm (30W) color temperature is 80CRI minimum, and is not available in 90 plus CRI.
(-L15) 2x1500lm (30W), (-L20) 2x2200lm (45W), and (-L26) 2x2600lm (64W) are 90CRI minimum with optional 97CRI.

*Special Order. Minimum order, extended lead time may apply. Consult factory. (Finish options 50 piece minimum. 10-12 week lead time)
**(-EMAC) Emergency back up is only available for (Blank) 2x1000lm (30W), and (-L15) 2x1500lm (30W).
***(-SDL) Daylight Sensor is for 120V input only.

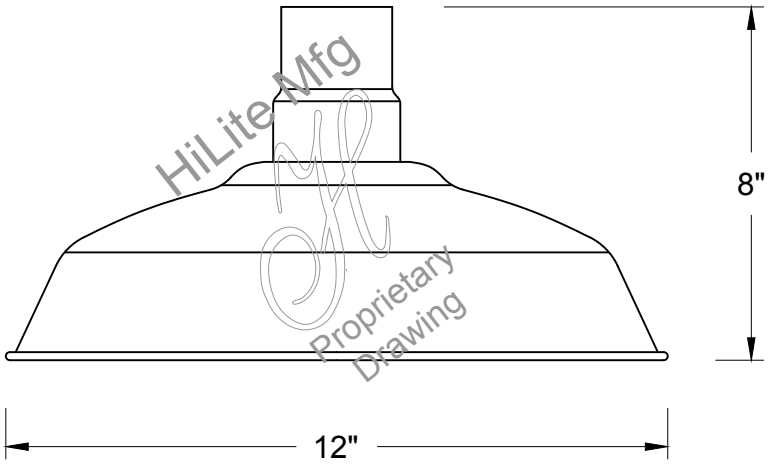
2022.05.17

H-15112

Warehouse Shade Collection

Job Name: 1949 Willamette Falls Dr.
Type: W2
Quantity:

HI-LITE MFG. CO., INC
13450 Monte Vista Avenue
Chino, California 91710
Telephone: (909) 465-1999
Toll Free: (800) 465-0211
Fax: (909) 465-0907
web: www.hilitemfg.com
e-mail: sales@hilitemfg.com



FINISH -Offered in exceptional finishes, comprised of: polyester/polished powder coat, baking enamal liquid, raw metal, or galvanized finishes.

Standard Finishes are: 91(Black), 93(White), 95(Dark Green), 96(Galvanized), BR47(Powder Coat Rust), BK01(Black Texture), GN20(Powder Coat Patina).

Upgraded Finishes are: 29, 66, 82, 90, 92, 94, 97, 99, 100, 103, 104, 105, 110, 112, 113, 114, 115, 117, 118, 119, 120, 127, 128, 129, 133, 134, 135, 136, 138, 139, 140, 11, 98, 101, 102, 137, 121, 122, 123, 124, 125, 126, 01, 22, 25, 33, 77, 89, 24, 44, 48, 49, 15, 16, 55.

For interior finish of fixture refer to color chart on pages 344-348.

MOUNTING - Cord, Stem, Arm, and Flush mounting available.

ACCESSORIES - CGU(Cast Guard and Glass), LCGU(Large Cast Guard and Glass), WGU(Wire Guard and Glass), LWGU(Large Wire Guard and Glass), ARN(Acorn Globe), LARN(Large Acorn Globe), WGR(Wire Guard), SK(Swivel Knuckle) and FX(Flexible tubing for cord mounted fixture only) available.

REFLECTOR - Heavy duty, spun shade, aluminum 6061-0 and/or 1100-0, galvanized 22 gauge, steel 20/22 gauge, copper 032/040 and brass 032/040 construction. Dependant on finish.

SOCKETS/LAMPS - Available in:

Incandescent
- rated 200 watt max/120 volt, medium base.

Compact Fluorescent(CFL)
- rated 13/18/26/32/42/57 watt max/120/277 volt, GX24Q base.

Metal Halide(MH)
- rated 35/50/70/100/150/175 watt max/120/208/240/277 volt, medium base, 4KV socket.

High Pressure Sodium(HPS)
- rated 50/70/100/150 watt max/120/277 volt, medium base.

Light-Emitted Diode(LED)
-See LED specification sheet.

MADE IN THE U.S.A.

Suitable for wet location.
(Except when cord mounted)

c UL us LISTED

Fixture Number					
Project Title	1949 Willamette Falls Dr.	Type	W3	Qty	
Comments					

- White Acrylic Diffuser with Bottom Lens
- Downlight Version with Bottom Louver
- Decorative Metal Panels (See Options)
- Wet Location

OW318 | Seneca

Dimensions and Lamping:

OW318-28 11"A x 28" B x 13.938" D x 6.625" MC x 16" MC2 Weight: 35 lbs.
LN LED: Nominal 35W, 1450 Delivered Lumens
LD LED: Nominal 70W, 5200 Delivered Lumens

LED Color Temperature:

35K 3500K **30K** 3000K **40K** 4000K

Downlight Optics:

BN Narrow Beam (~20°) BW Wide Beam (~50°)
BM Medium Beam (~30°) BX Extra Wide Beam (~90°)

Control:

CLV: Integral Power Supply, 0-10V Dimming to 1%

Voltage:

1 120V **2** 277V **MV** Multi-Volt

Diffusers:

WA Gloss White Acrylic
WM Matte White Acrylic

Standard Finishes:

PAL	Aluminum	**PAB**	Antique Brass	**PYL**	Traffic Yellow (RAL 1023)
PNL	Nickel	**PHB**	Hammered Bronze	**PGR**	Emerald Green (RAL 6001)
PBR	Bronze	**PHC**	Hammered Copper	**PBL**	Signal Blue (RAL 5005)
PLB	Light Bronze	**PHS**	Hammered Silver	**STBD**	To Be Determined
PMB	Medium Bronze	**PSG**	Satin Gold		
PDB	Dark Bronze	**PPA**	Patina		
PSB	Satin Black	**PRD**	Traffic Red (RAL 3020)		
PBB	Brushed Brass	**POR**	Pure Orange (RAL 2004)		

Premium Finishes:

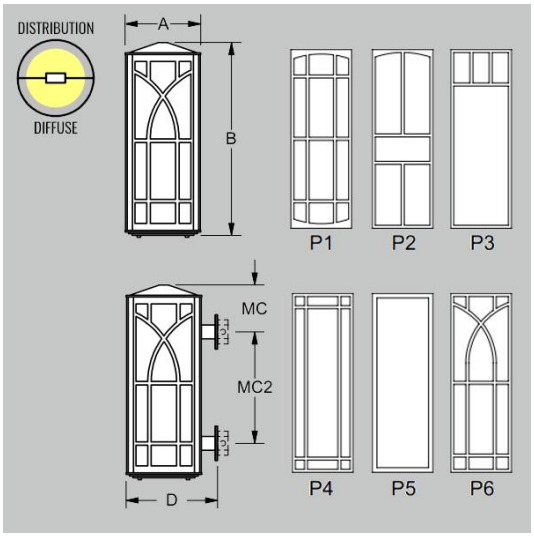
BA	Brushed Aluminum	**PB**	Polished Brass
SN	Satin Nickel	**AB**	Antique Brass
PC	Polished Chrome	**PTBD**	To Be Determined
BB	Brushed Brass		

Panel Options:

P1	P1 Panel	**P3**	P3 Panel	**P5**	P5 Panel
P2	P2 Panel	**P4**	P4 Panel	**P6**	P6 Panel

Other Options:

REM Remote Emergency Power Supply



Notes:

- Custom sizes and finishes available upon request.
- Camman reserves the right to make design changes without prior notice.
- Mounting is to a 4 inch octagonal junction box.
- Photometric information is available at cammanlighting.com

Additional Information

Color Temperature Adjustment	
Color Temperature	**Multiplier**
2700K	.967
3000K	.984
3500K	1.000
4000K	1.032

LED Performance	
Color Rendering Index	80CRI Standard (90CRI Available)
L70 (Projected):	>72,000 hours

Warranty	**5 years** (electrical components retain the component manufacturer warranty).

Camman Plus Customizations

Camman **Standard Plus** products provide an extra degree of freedom to customize most standard products, including dimensions, finish, performance, and adding or removing details. Visit www.cammanlighting.com/plus to learn more about the Plus program, and visit this fixture to see what specific options might be available.

Standard Finishes

MODERN


PAL Aluminum


PNL Nickel


PSB Satin Black

NEUTRAL


PAB Antique Brass


PBB Brushed Brass


PSG Satin Gold


PLB Light Bronze


PMB Medium Bronze


PBR Bronze

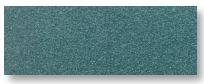

PDB Dark Bronze

TEXTURES


PHS Hammered Silver


PHB Hammered Bronze


PHC Hammered Copper


PPA Patina

COLORS


PRD Traffic Red
(RAL 3020)

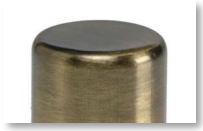

POR Pure Orange
(RAL 2004)


PYL Traffic Yellow
(RAL 1023)


PGR Emerald Green
(RAL 6001)

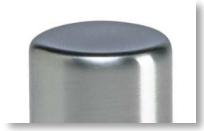

PBL Signal Blue
(RAL 5005)

Premium Finishes


AB Antique Brass


BB Brushed Brass


PB Polished Brass


BA Brushed Aluminum


SN Satin Nickel


PC Polished Chrome

- Colors are for reference only and may vary per monitor.
- See cammanlighting.com/resources for more information, or contact your local rep for finish samples.

Willamette Falls Commercial

1949 Willamette Falls Drive

West Linn, Oregon

PRELIMINARY DRAINAGE REPORT

DECEMBER 2022

EXPIRES: 06/30/2023

SIGNATURE DATE: 12/22/22

Prepared By:

Bruce D. Goldson, PE

Theta, llc

PO Box 1345, Lake Oswego, Oregon 97035

2014-129Z

INDEX

Narrative	pg 2
Summary	pg 2
Regulatory	pg 2
Design Parameters	pg 3
Hydrographic Results	pg 3-8
Summary	pg 8
Appendix	pg 9-11

NARRATIVE ASSUMPTIONS

Existing Conditions:

The subject property of two tax lots (3S 1E 02BA TL 4300 & 4400) with two existing buildings bordered on three sides with public roads and containing 0.34 Acres. The property slopes to the northwesterly direction at approximately 5%. There is sanitary, storm and water service to the property.

Developed Conditions:

A proposed multi-story commercial building is proposed to virtually cover the entire property. With nearly complete lot coverage with impervious area on-site infiltration is not possible. On-site detention and water quality facilities are proposed. The storm discharge will be to the existing public storm system in Willamette Falls Drive

Summary of storm water flow

	2-YEAR	5-YEAR	10-YEAR	25-YEAR
PRE-DEVELOP	0.14 CFS	0.18 CFS	0.22 CFS	0.26 CFS
POST-DEVELOP	0.22 CFS	0.26 CFS	0.30 CFS	0.35 CFS

REGULATORY DESIGN CRITERIA

The storm water quantity management requirements of the City of West Linn.

References

1. King County Department of Public Works, Surface Water Management Division, Hydrographic Programs

Water Quality Facility

Design Parameters

The design storm is a 24 hour standard SCS Type 1A

- 2-year.....2.5 inches
- 5-year.....3.0 inches
- 10-year.....3.4 inches
- 25-year..... 3.9 inches
- 100-year.....4.5 inches

SOIL TYPES

Willamette Silt Loam – type C soil

Time of Concentration

$T = (0.42)[(nL)^{.8}/(p_2)^{.5}(s_0)^{.4}$

Pre-development: $T = (0.42)[(0.15)(80)]^{.8}/(2.5)^{.5}(.03)^{.4} = 6.4$ min (pre)

Assume 5-minutes developed

HYDROGRAPH RESULTS

KING COUNTY DEPARTMENT OF PUBLIC WORKS
Surface Water Management Division
HYDROGRAPH PROGRAMS
Version 4.21B
1 - INFO ON THIS PROGRAM
2 - SBUHYD
3 - MODIFIELD SBUHYD
4 - ROUTE
5 - ROUTE2
6 - ADDHYD
7 - BASEFLOW
8 - PLOTHYD
9 - DTATA
10 - REFAC
11 - RETURN TO DOS

ENTER OPTION:
2
SBUN/SCS METHOD FOR COMPUTING RUNOFF HYDROGRAPH
STORM OPTIONS:
1 - S.C.S. TYPE-1A
2 - 7-DAY DESIGN STORM
3 - STORM DATA FILE
SPECIFY STORM OPTION:
1
S.C.S. TYPE - 1A RAINFALL DISTRIBUTION
ENTER; FREQ(YEAR), DURATION(HOUR), PRECIP(INCHES)

2,24,2.6

Xxxxxxxxxxxxxxxxxxxxxx S.C.S.TYPE-1A DISTRIBUTION xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx

XXXXXXXXXXXX 2-YEAR 24-HOUR STORM xxxx 2.50 "TOTAL PRECIP Xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx/

ENTER: A(PERV),CN(PERV),A(IMPERV),CN(IMPERV),TC FOR BASIN NO. 1

0.21,86,0.13,98,6.4

DATA PRINT OUT:

AREA(ACRES)	PERVIOUS		IMPERVIOUS		TC(MINUTES)
	A	CN	A	CN	
.3	.2	86	.1	98	6.4
PEAK-Q(CFS)	T-PEAK(HRS)		VOL(CU-FT)		
.14	7.83		2019		

ENTER [d:][path]filename[.ext] FOR STORAGE OF COMPUTED HYDROGRAPH:

C:WF2pre

SPECIFY: C - CONTINUE, N - NEWSTORM, P -PRINT, S - STOP

C

ENTER: A(PERV),CN(PERV),A(IMPERV),CN(IMPERV),TC FOR BASIN NO. 1

0.005,86,335,98,5

DATA PRINT OUT:

AREA(ACRES)	PERVIOUS		IMPERVIOUS		TC(MINUTES)
	A	CN	A	CN	
.3	.0	86	.3	98	5.0
PEAK-Q(CFS)	T-PEAK(HRS)		VOL(CU-FT)		
.22	7.67		2783		

ENTER [d:][path]filename[.ext] FOR STORAGE OF COMPUTED HYDROGRAPH:

C:WF2post

SPECIFY: C - CONTINUE, N - NEWSTORM, P - PRINT, S – STOP

n

STORM OPTIONS:

1 - S.C.S. TYPE-1A

2 - 7-DAY DESIGN STORM

3 - STORM DATA FILE

SPECIFY STORM OPTION:

1

ENTER; FREQ(YEAR), DURATION(HOUR), PRECIP(INCHES)

5,24,3.0

Xxxxxxxxxxxxxxxxxxxxxx S.C.S.TYPE-1A DISTRIBUTION xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx

XXXXXXXXXXXX 5-YEAR 24-HOUR STORM xxxx 3.00" TOTAL PRECIP Xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx

---

ENTER: A(PERV),CN(PERV),A(IMPERV),CN(IMPERV),TC FOR BASIN NO. 1

0.21,86,0.13,98,6.4

DATA PRINT OUT:

AREA(ACRES)	PERVIOUS		IMPERVIOUS		TC(MINUTES)
	A	CN	A	CN	
.3	.2	86	.1	98	6.4

PEAK-Q(CFS) T-PEAK(HRS) VOL(CU-FT)
.18 7.83 2573
ENTER [d:][path]filename[.ext] FOR STORAGE OF COMPUTED HYDROGRAPH:
C:WF5pre
SPECIFY: C - CONTINUE, N - NEWSTORM, P - PRINT, S – STOP
c
0.005,86,0.335,98,5
DATA PRINT OUT:

AREA(ACRES)	PERVIOUS		IMPERVIOUS		TC(MINUTES)
	A	CN	A	CN	
.3	.0	86	.3	98	5.0

PEAK-Q(CFS) T-PEAK(HRS) VOL(CU-FT)
.26 7.67 3396
ENTER [d:][path]filename[.ext] FOR STORAGE OF COMPUTED HYDROGRAPH:
C:WF5post
SPECIFY: C - CONTINUE, N - NEWSTORM, P - PRINT, S – STOP
n
STORM OPTIONS:
1 - S.C.S. TYPE-1A
2 - 7-DAY DESIGN STORM
3 - STORM DATA FILE
SPECIFY STORM OPTION:
1
ENTER; FREQ(YEAR), DURATION(HOUR), PRECIP(INCHES)
10,24,3.4
Xxxxxxxxxxxxxxxxxxxxxx S.C.S.TYPE-1A DISTRIBUTION xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx
XXXXXXXXXXX 10-YEAR 24-HOUR STORM xxxx 3.40" TOTAL PRECIP Xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx

---

ENTER: A(PERV),CN(PERV),A(IMPERV),CN(IMPERV),TC FOR BASIN NO. 1
0.21,86,0.13,98,6.4
DATA PRINT OUT:

AREA(ACRES)	PERVIOUS		IMPERVIOUS		TC(MINUTES)
	A	CN	A	CN	
.3	.2	86	.1	98	6.4

PEAK-Q(CFS) T-PEAK(HRS) VOL(CU-FT)
.22 7.83 3026
ENTER [d:][path]filename[.ext] FOR STORAGE OF COMPUTED HYDROGRAPH:
C:WF10pre
SPECIFY: C - CONTINUE, N - NEWSTORM, P - DATA PRINT OUT:
C
ENTER: A(PERV),CN(PERV),A(IMPERV),CN(IMPERV),TC FOR BASIN NO. 1
0.005,86,0.335,98,5

AREA(ACRES)	PERVIOUS		IMPERVIOUS		TC(MINUTES)
	A	CN	A	CN	
.3	.0	86	.3	98	5.0

PEAK-Q(CFS) T-PEAK(HRS) VOL(CU-FT)
.30 7.67 3887
ENTER [d:][path]filename[.ext] FOR STORAGE OF COMPUTED HYDROGRAPH:

C:WF10post
SPECIFY: C - CONTINUE, N - NEWSTORM, P - PRINT, S – STOP
n
STORM OPTIONS:
1 - S.C.S. TYPE-1A
2 - 7-DAY DESIGN STORM
3 - STORM DATA FILE
SPECIFY STORM OPTION:
1
ENTER; FREQ(YEAR), DURATION(HOUR), PRECIP(INCHES)
25,24,3.9
Xxxxxxxxxxxxxxxxxxxxxx S.C.S.TYPE-1A DISTRIBUTION xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx
XXXXXXXXXXXX 25-YEAR 24-HOUR STORM xxxx 3.90" TOTAL PRECIP Xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx

---

ENTER: A(PERV),CN(PERV),A(IMPERV),CN(IMPERV),TC FOR BASIN NO. 1
0.21,86,0.13,98,6.4
DATA PRINT OUT:

AREA(ACRES)	PERVIOUS		IMPERVIOUS		TC(MINUTES)
	A	CN	A	CN	
.3	.2	86	.1	98	6.4
PEAK-Q(CFS)	T-PEAK(HRS)		VOL(CU-FT)		
.26	7.67		3601		

ENTER [d:][path]filename[.ext] FOR STORAGE OF COMPUTED HYDROGRAPH:
C:WF25pre
SPECIFY: C - CONTINUE, N - NEWSTORM, P - DATA PRINT OUT:
C
ENTER: A(PERV),CN(PERV),A(IMPERV),CN(IMPERV),TC FOR BASIN NO. 1
0.005,86,0.335,98,5

AREA(ACRES)	PERVIOUS		IMPERVIOUS		TC(MINUTES)
	A	CN	A	CN	
.3	.0	86	.3	98	5.0
PEAK-Q(CFS)	T-PEAK(HRS)		VOL(CU-FT)		
.35	7.67		4501		

ENTER [d:][path]filename[.ext] FOR STORAGE OF COMPUTED HYDROGRAPH:
C:WF25post

DETENTION SIZING
ENTER OPTION
10
R/D FACILITY DESIGN ROUTINE
SPEFICY TYPE OF R/D FACILTY
1 - POND 4 - INFILTRATION POND
2 - TANK 5 - INFILTRATION TANK
3 -VAULT 6 - GRAVEL TRENCH/BED
2

ENTER: TANK DIAMETER (ft). EFFECTIVE STORAGE DEPTH (ft)

4,4
ENTER: [d:][[atj]filename[.ext] OF PRIMARY DESIGN INFLOW HYDROGRAPH:
C:WF25POST
PRELIMINARY DESIGN INFLOW PEAK = .35 CFS
ENTER PRIMARY DESIGN RELEASE RATE(cfs)
0.26
ENTER NUMBER OF INFLOW HYDROGRAPHS TO BE TESTED FOR PERFORMANCE (5 MAXIMUM)
3
ENTER [d:][path]filename[.ext] OF HYDROGRAPH 1:
C:WF10POST
ENTER TARGET RELEASE RATE (cfs)
0.22
ENTER [d:][path]filename[.ext] OF HYDROGRAPH 2:
C:WF5POST
ENTER TARGET RELEASE RATE (cfs)
0.18
0. ENTER [d:][path]filename[.ext] OF HYDROGRAPH 3:
C:WF2POST
ENTER TARGET RELEASE RATE (cfs)
0.14
ENTER: NUMBER OF ORIFICES, RISER-HEAD (ft), RISER-DIAMETER(in)
2.4.10
RISER OVERFLOW DEPTH FOR PRIMARY PEAK INFLOW= 0.12 FT
SPECIFY ITERATION DISPLAY: Y -YES, N - NO
N
SPECIFY: R - REVIEW/REVISE INPUT, C - CONTINUE
C
INITIAL STORAGE VALUE FOR ITERATION PURPOSES: 1770 CU-FT
BOTTOM ORIFICE: ENTER Q-MAX(cfs)
0.18
DIA. = 1.82INCHES
TOP ORIFICE: ENTER HEIGHT(ft)
3.45
DIA. = 1.72 INCHES

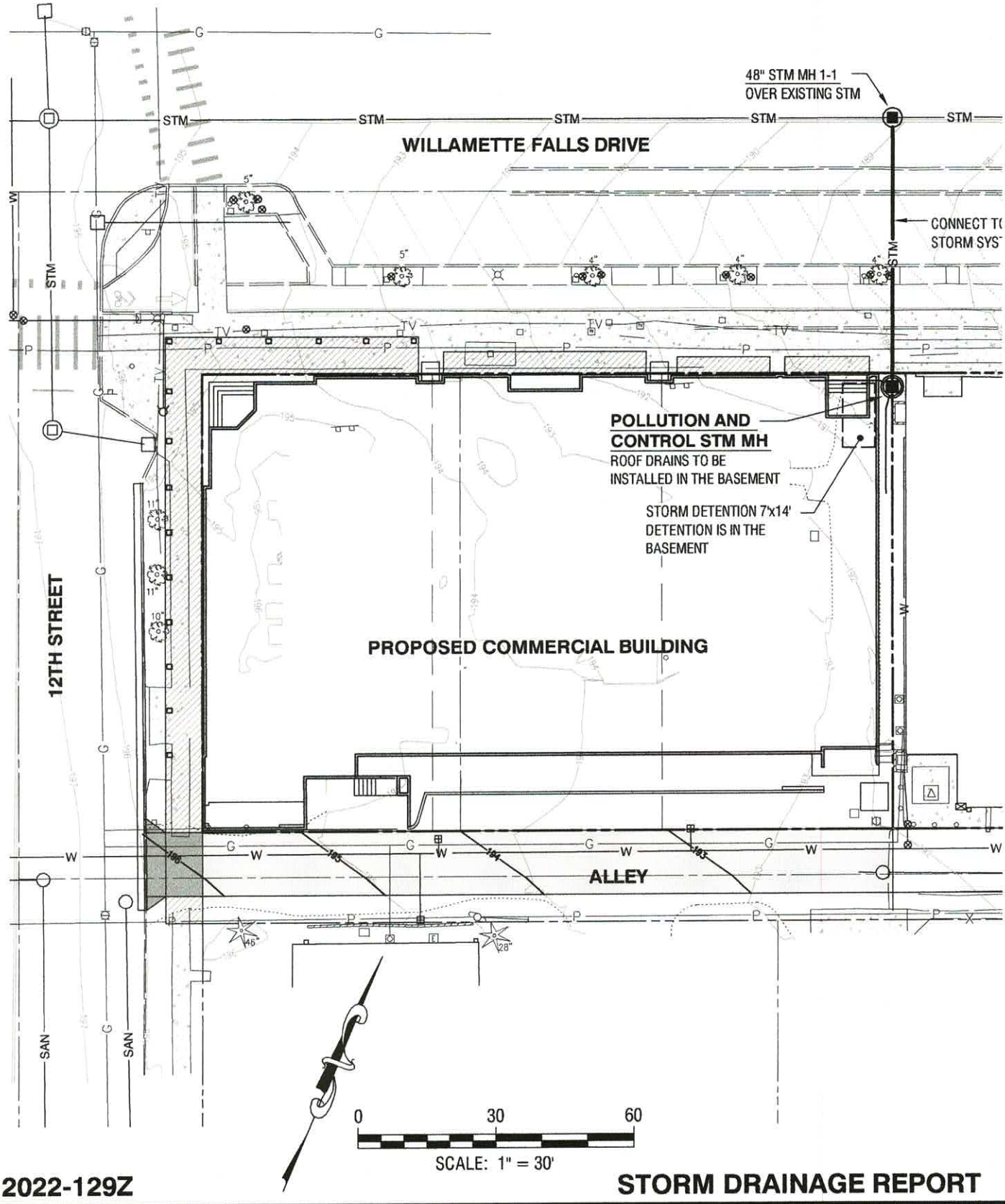
PERFORMANCE:	INFLOW	TARGET-OUTFLOW	ACTUAL-OUTFLOW	PK-STAGE	STORAGE
DESIGN HYD:	.35	.26	.26	3.99	281
TEST HYD 1:	.30	.22	.21	3.32	240
TEST HYD 2:	.26	.18	.21	3.32	240
TEST HYD 3:	.22	.14	.14	2.25	160

SPECIFY: D - DOCUMENT, R -REVISE, A - ADJUST ORIF, E -ENLARGE, S –STOP

DESIGN SUMMARY:

A 48" diameter tank coupled with the pollution manhole is proposed for detention, with two orifices will meet the outflow of the 2, 5 10, and 25 year pre-developed flow rates per the city code. The pollution control manhole is provided ahead of the detention system to trap sediments and floatable from the roof water. Access is provided to the pollution manhole and the detention system via manholes in the garage area and control manhole in the area between the two buildings.

Appendix



2022-129Z

STORM DRAINAGE REPORT

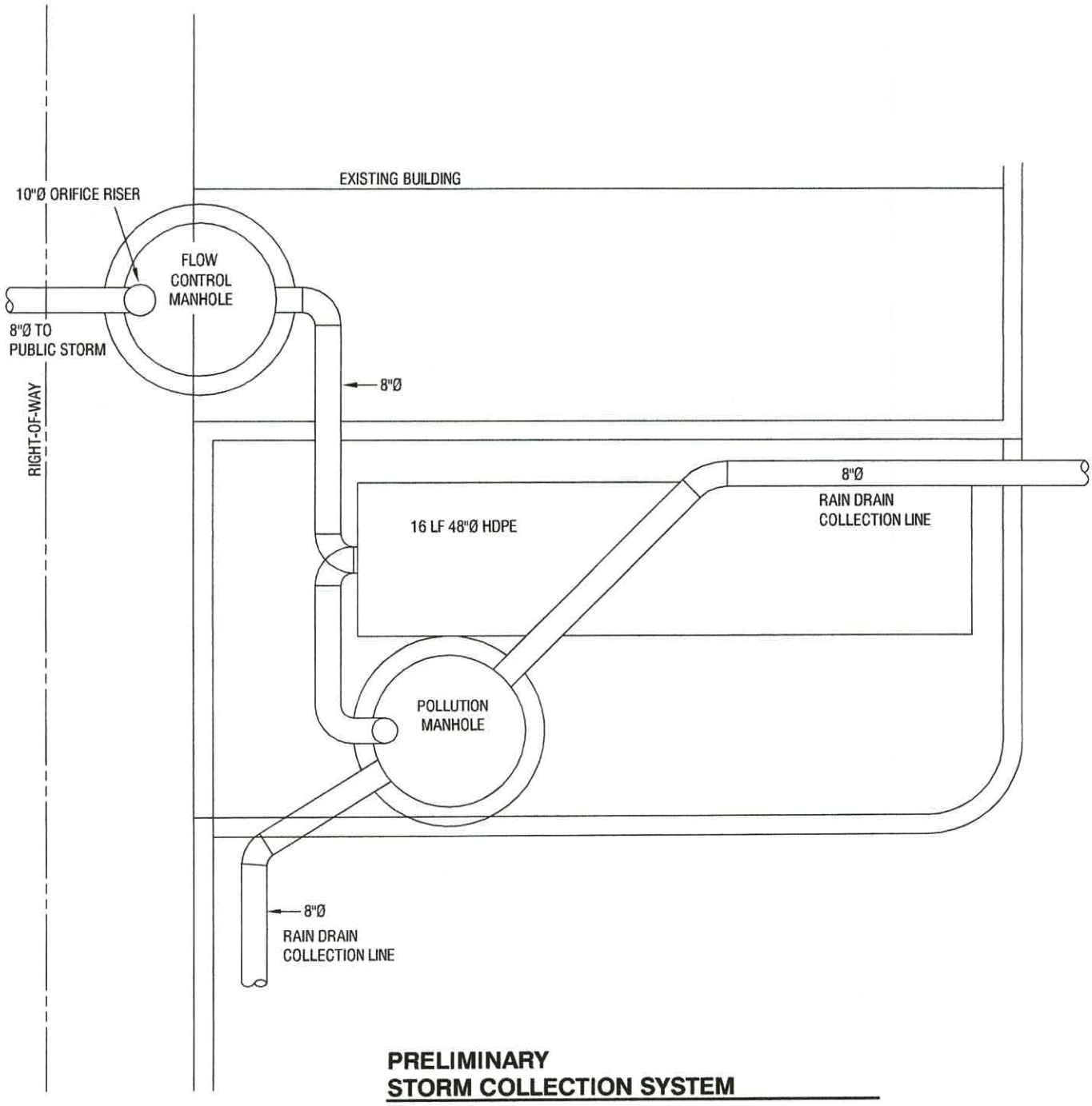
Theta, llc

ENGINEERING - SURVEYING - PLANNING

PO Box 1345
Lake Oswego, Oregon 97035

503-481-8822
email: thetaeng@comcast.net

1919 and 1949 Willamette Falls Drive
West Linn, Oregon



PRELIMINARY
STORM COLLECTION SYSTEM

SCALE: 1" = 4'

2022-129Z

STORM DRAINAGE REPORT

Theta, llc
ENGINEERING - SURVEYING - PLANNING
PO Box 1345
Lake Oswego, Oregon 97035
503-481-8822
email: thetaeng@comcast.net

1919 and 1949 Willamette Falls Drive
West Linn, Oregon

SGA
SUTTON | GODWIN | ARCHITECTURE

May 5, 2022

Request for NHM

Kathie Halicki
Willamette NA - President

RE: Lots: 1919 & 1949 Willamette Falls Drive
Tax Lot No: 31E02BA04300 & 4400
Pre-Application #PA-22-09

Dear Kathie,

SG Architecture, LLC would like to request for a Neighborhood Meeting with the Willamette Neighborhood Association on the earliest available agenda.

We look forward to presenting the project to the NHA and the neighbors. If you have questions, please feel free to call me at 503-201-0725.

Sincerely,
SG Architecture, LLC

Kevin M. Godwin | Partner | 503.201.0725 | kgodwin@sg-arch.net

Email CC: John Floyd (City of West Linn), Darren Gusdorf (ICON)

10940 SW Barnes Rd #364
Portland, OR 97225
503.201.0725

SGA
SUTTON | GODWIN | ARCHITECTURE

July 29, 2022

NOTICE OF NEIGHBORHOOD MEETING

Ms. Kathie Halicki
President - Willamette Neighborhood Association
2307 Falcon Drive
West Linn, Oregon 97068

Ms. Elizabeth Rocchia
Secretary | NA Designee - Willamette Neighborhood Association
957 Willamette Falls Drive
West Linn, Oregon 97068

REF: 1949 Willamette Falls Drive
Existing Addresses: 1919 & 1949 Willamette Falls Drive
West Linn, Oregon

Dear Ms. Halicki and Ms. Rocchia:
Please The following is the text of the letter we are sending to the other WNA officers and neighbors within a 500' radius of the above project location to alert them to our upcoming presentation at the September 14th meeting of the Willamette Neighborhood Association (WNA):

To whom it may concern,
SG Architecture, LLC is representing the applicant regarding the property located at 1919 | 1949 Willamette Falls Drive. In the coming weeks we will be submitting to the City of West Linn a Land Use Application for the construction of a new 2-story building which will house uses allowed in the zone such as office, retail, service, and restaurant.

Prior to submitting the application, we will be presenting more information about the project at the WNA's regularly scheduled meeting at 7:00 PM on September 14th, 2022. Further information regarding time and location of the meeting will be available on the City's website: westlinnoregon.gov/willamette after September 1st. Please note that this item may not be the only item on the agenda for that evening.

You are encouraged to contact the WNA with any questions you wish to relay to the applicant. You may contact **WNA President, Kathie Halicki** at willamette@westlinoregon.gov, Please note that this will be an informal meeting based upon preliminary design plans. These plans may be modified before the application is submitted.

We look forward to discussing this project with you. If you have questions, but will be unable to attend, please feel free to email me at ssutton@sg-arch.net.

10940 SW Barnes Rd #364
Portland, OR 97225
503.201.0725

Sincerely,
SG Architecture, LLC

Scot Sutton – Partner

SGA
SUTTON | GODWIN | ARCHITECTURE

July 29, 2022

NOTICE OF NEIGHBORHOOD MEETING

RE: NOTICE OF NEIGHBORHOOD MEETING
1949 Willamette Falls Drive
Existing Addresses: 1919 & 1949 Willamette Falls Drive
West Linn, Oregon

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We look forward to discussing this project with you. If you have questions, but will be unable to attend, please feel free to email me at ssutton@sg-arch.net.

Sincerely,
SG Architecture, LLC

Scot Sutton – Partner

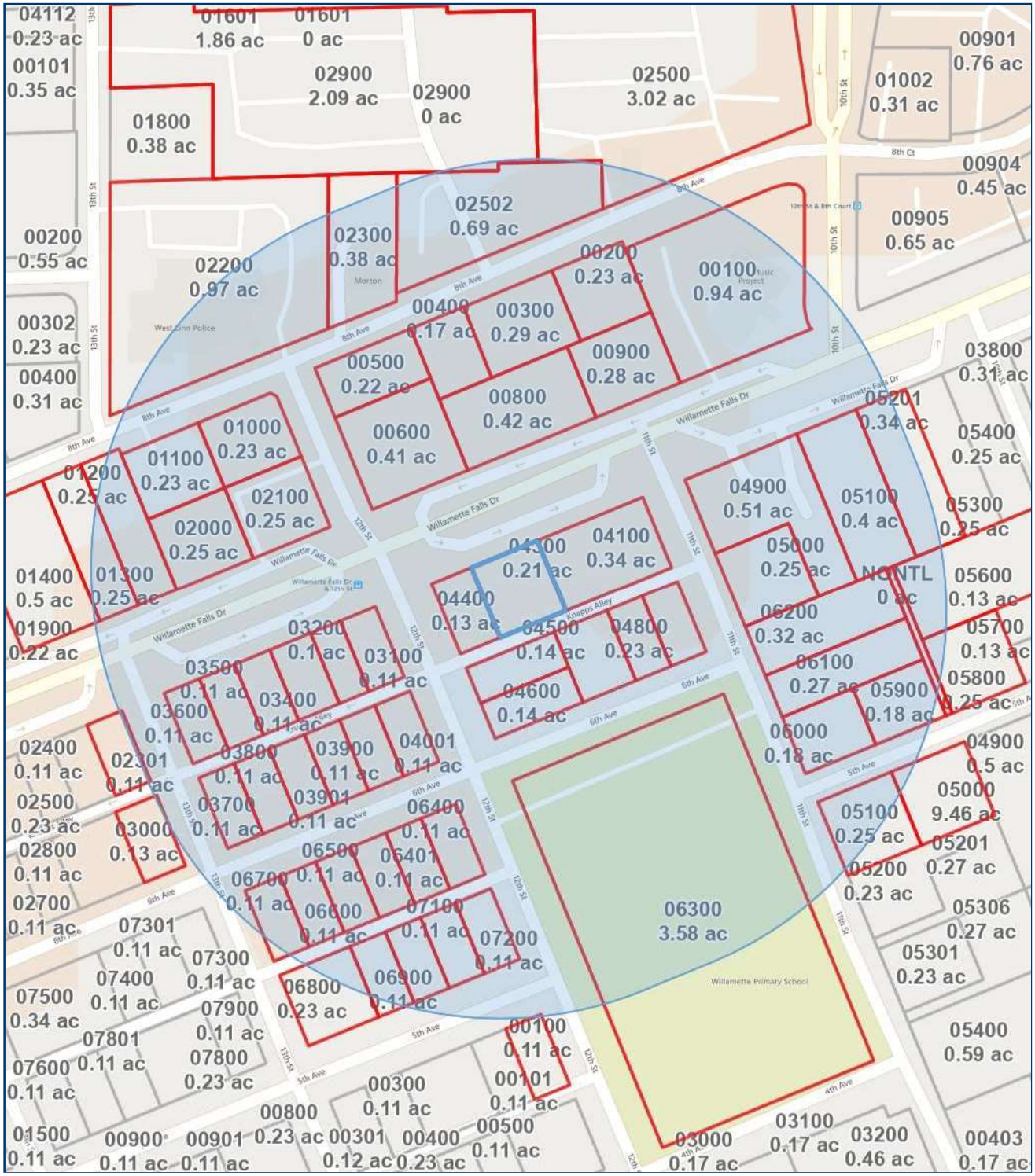
10940 SW Barnes Rd #364
Portland, OR 97225
503.201.0725

First American Title™

500 ft Buffer

1949 Willamette Falls Dr, West Linn, OR 97068

Report Generated: 7/20/2022



31E02BA06800
Marcus & Jenny Malcom
1822 5th Ave
West Linn, OR 97068

31E02BA03800
Loriaux & Choate Teresa
1830 6th Ave
West Linn, OR 97068

31E02BA04900
David Lawrence
Po Box 555
West Linn, OR 97068

31E02BA05900
Jennifer & Vincent Laski
2050 5th Ave
West Linn, OR 97068

31E02BA03300
Byong Kim
4401 Omalley Rd
Anchorage, AK 99507

31E02BA03000
Kari & Molly Kenzie
1790 6th Ave
West Linn, OR 97068

31E02BA07200
Trisha Kelly
1898 5th Ave
West Linn, OR 97068

31E02BA04500
Kyle Junk
1549 12th St
West Linn, OR 97068

31E02BA00500
Jason & Amy Johnston
1693 12th St
West Linn, OR 97068

31E02BA01400
Adam & Shantel Good
19546 Reddaway Ave
Oregon City, OR 97045

31E02BA04100
Adam & Shantel Good
19546 Reddaway Ave
Oregon City, OR 97045

31E02BA04300
Adam & Shantel Good
19546 Reddaway Ave
Oregon City, OR 97045

31E02BA04400
Adam & Shantel Good
19546 Reddaway Ave
Oregon City, OR 97045

31E02BA04800
David Hydes
1980 6th Ave
West Linn, OR 97068

31E02BA06500
Nicolette Hydes
1847 6th Ave
West Linn, OR 97068

31E02BA06900
Rebecca Haynes & Seth Talbot
1870 5th Ave
West Linn, OR 97068

31E02BA06400
Thomas & Lisa Haymore
1891 6th Ave
West Linn, OR 97068

31E02BA00200
Handris Holdings Llc
1980 Willamette Falls Dr STE 200
West Linn, OR 97068

31E02BA00300
Handris Holdings Llc
1980 Willamette Falls Dr STE 200
West Linn, OR 97068

31E02BA00900
Edward Handris
2008 Willamette Falls Dr # B
West Linn, OR 97068

31E02BA03600
Andrew & Linda White
1980 Willamette Falls Dr STE 200
West Linn, OR 97068

31E02AB05100
Jason & Heather Hall
2011 5th Ave
West Linn, OR 97068

31E02AB05000
Erik & Jessica Grimm
2041 5th Ave
West Linn, OR 97068

31E02BA04801
James Estes Iii & Kristen Woofter
1992 6th Ave
West Linn, OR 97068

31E02BA02301
Drd Property Llc
985 SW Long Farm Rd
West Linn, OR 97068

31E02BA06000
Deatherage David W Trustee &
1521 11th St
West Linn, OR 97068

31E02BA05100
Jeffrey Edmondson
2051 Willamette Falls Dr
West Linn, OR 97068

21E35C 02200
City Of West Linn
22500 Salamo Rd STE 100
West Linn, OR 97068

31E02BA06700
Karen Chadwick
1819 6th Ave
West Linn, OR 97068

31E02BA01300
West Linn Building Llc
18835 SW Ebberts Ct
Beaverton, OR 97008

21E35C 02500
Willamette Marketplace Llc
810 NW Marshall St STE 300
Portland, OR 97209

21E35C 02900
Willamette Marketplace Llc
810 NW Marshall St STE 300
Portland, OR 97209

31E02BA00600
Willamette Falls Holdings Llc
1980 Willamette Falls Dr STE 200
West Linn, OR 97068

31E02BA00800
Willamette Falls Holdings Llc
1980 Willamette Falls Dr STE 200
West Linn, OR 97068

31E02BA02100
Willamette Falls Holdings Llc
1980 Willamette Falls Dr STE 200
West Linn, OR 97068

31E02BA03200
Willamette Falls Properties Ll
2130 8th Ct
West Linn, OR 97068

31E02BA07000
Patrick & B White
1872 5th Ave
West Linn, OR 97068

31E02BA06300
West Linn-Wils Sch Dist #3
22210 SW Stafford Rd
Tualatin, OR 97062

31E02BA06600
Jeffrey & K Werley
1831 6th Ave
West Linn, OR 97068

31E02BA07100
Harold Vail Jr
1882 5th Ave
West Linn, OR 97068

31E02BA01100
Tualatin Valley Fire & Rescue
11945 SW 70th Ave
Portland, OR 97223

31E02BA02000
Tualatin Valley Fire & Rescue
11945 SW 70th Ave
Portland, OR 97223

31E02BA03100
Steve Tekander
465 SW Borland Rd
West Linn, OR 97068

31E02BA01000
Dunrobin Properties Llc
Po Box 889
Wilsonville, OR 97070

31E02BA03400
William & Farzaneh Sloan
1022 SW Stephenson Ct
Portland, OR 97219

31E02BA03500
William & Farzaneh Sloan
1022 SW Stephenson Ct
Portland, OR 97219

31E02BA04600
Albert & Laura Secchi
1920 6th Ave
West Linn, OR 97068

31E02BA03900
Daniel & Nicole Schreiber
1870 6th Ave
West Linn, OR 97068

31E02BA04000
Chirstopher & James Rhom
1888 6th Ave
West Linn, OR 97068

31E02BA06200
Paul & Yarrow Reim
1541 11th St
West Linn, OR 97068

31E02BD00100
Jilla & David Piroozmandi
2545 Po Box
, AM

31E02BA06401
Anthony Peyla & Wilson Ralston
1883 6th Ave
West Linn, OR 97068

31E02BA00400
Jennifer Pakula & Scot Gelfand
2500 Crestview Dr
West Linn, OR 97068

31E02BA01200
Pazmol Willamette Properties L & Pamela
1832 Willamette Falls Dr
West Linn, OR 97068

21E35C 02502
Pacific West Bank
2040 8th Ave
West Linn, OR 97068

31E02BA05000
Karin & Peter Obrien
1547 11th St
West Linn, OR 97068

21E35C 02300
Morton Cynthia S Trustee & Morton Don R
20900 S South End Rd
Oregon City, OR 97045

31E02BA04001
Eric Mcdonald
1892 6th Ave
West Linn, OR 97068

31E02BA06100
Margaret Matthies
1531 11th St
West Linn, OR 97068

31E02BA05800
Paul & Karin Marcus
2062 5th Ave
West Linn, OR 97068

31E02BA04700
Ian & Audra Brown
1968 6th Ave
West Linn, OR 97068

31E02BA05201
Maria Blanc-Gonnet
2057 Willamette Falls Dr
West Linn, OR 97068

31E02BA03901
Robert & Lorraine Beegle
1850 6th Ave
West Linn, OR 97068

31E02BA06501
Elien Bates
20020 Marigold Ct APT 20
West Linn, OR 97068

31E02BA05500
Norman & Donna Barnes
1542 10th St
West Linn, OR 97068

31E02BA00100
Bany David C Trustee & Bany Sarah A
2015 8th Ave
West Linn, OR 97068

31E02BA03700
Charles & Sara Ashou
1818 6th Ave
West Linn, OR 97068

31E02BANONTL
Non-Taxlot

,

21E35C 02900
VPC-OR WEST LINN LIMITED
2020 8TH AVE
West Linn, 97068

Neighborhood Meeting
1919 & 1949 Willamette Falls Drive
AFFIDAVIT OF MAILING NOTICE

I Scot Sutton, do swear and affirm that I represent the party initiating interest in a proposed two-story building development affecting the land at 1919 & 1949 Willamette Falls Drive in West Linn, Oregon.

On August 2nd, 2022, and pursuant to Community Development Code Section 99, I caused to have mailed to each of the persons on the attached list, a notice of Neighborhood Meeting to discuss the proposed development of the aforementioned property.

I further state that said notices were enclosed in plainly addressed envelopes to said persons and were deposited on the date indicated above at the United States Post Office with postage prepaid thereon.

Dated this 17TH day of AUGUST, 2022.

Signature
Scot Sutton

Subscribed and sworn to or affirmed, before me this 17 day of August, 2022

Notary Public for the State of Oregon
My Commission Expires: 30 October 2022

OFFICIAL STAMP
OLIVIA IRENE GERAGHTY
NOTARY PUBLIC - OREGON
COMMISSION NO. 980090
MY COMMISSION EXPIRES OCTOBER 30, 2022

UNITED STATES POSTAL SERVICE.

TIGARD
12210 SW MAIN ST
PORTLAND, OR 97223-6222
(800)275-8777

08/02/2022 05:47 PM

Product	Qty	Unit Price	Price
First-Class Mail® Letter West Linn, OR 97068 Weight: 0 lb 0.40 oz Estimated Delivery Date Thu 08/04/2022	1		$0.60
Registered Mail® Amount: $1.00 Tracking #: RE099430533US			$15.25
Total			$15.85
First-Class Mail® Letter West Linn, OR 97068 Weight: 0 lb 0.40 oz Estimated Delivery Date Thu 08/04/2022	1		$0.60
Registered Mail® Amount: $1.00 Tracking #: RE099430547US			$15.25
Total			$15.85
Grand Total:			$31.70
Debit Card Remitted Card Name: VISA Account #: XXXXXXXXXXXX6504 Approval #: 093647 Transaction #: 531 Receipt #: 058259 Debit Card Purchase: $31.70 AID: A0000000980840 AL: US DEBIT PIN: Verified		Chip	$31.70

****
Every household in the U.S. is now eligible to receive a third set of 8 free test kits.

Registered No. RE099430547US

Date Stamp

PORTLAND, OREGON AUG 2022 TIGARD BRANCH USPS

To Be Completed By Post Office		
Postage $ $0.60	Extra Services & Fees (continued) ☐ Signature Confirmation $ ☐ Signature Confirmation Restricted Delivery $	
Extra Services & Fees ☐ Registered Mail $15.25 ☐ Return Receipt (hardcopy) $ $0.00 ☐ Return Receipt (electronic) $ $0.00 ☐ Restricted Delivery $	Total Postage & Fees $ $15.85	
Customer Must Declare Full Value $1.00	Received by 08/02/2022	

Domestic Insurance up to $50,000 is included based upon the **declared value**. International Indemnity is limited. (See Reverse).

OFFICIAL USE

To Be Completed By Customer (Please Print) All Entries Must Be in Ballpoint or Typed

FROM: ICON CONST. + DEVELOPMENT
1969 WILLAMETTE FALLS DR. #260
WEST LINN, OR 97068

TO: KATHY HALICKI
[illegible] FALLS DR.
WEST LINN, OR 97068

PS Form **3806, Registered Mail Receipt** *Copy 1 - Customer*
April 2015, PSN 7530-02-000-9051 *(See Information on Reverse)*
For domestic delivery information, visit our website at *www.usps.com* ®

Registered No. RE099430533US

Date Stamp

PORTLAND, OREGON AUG 2022 TIGARD BRANCH USPS

To Be Completed By Post Office		
Postage $ $0.60	Extra Services & Fees (continued) ☐ Signature Confirmation $ ☐ Signature Confirmation Restricted Delivery $	
Extra Services & Fees ☐ Registered Mail $15.25 ☐ Return Receipt (hardcopy) $ $0.00 ☐ Return Receipt (electronic) $ $0.00 ☐ Restricted Delivery $	Total Postage & Fees $ $15.85	
Customer Must Declare Full Value $1.00	Received by 08/02/2022	

Domestic Insurance up to $50,000 is included based upon the **declared value**. International Indemnity is limited. (See Reverse).

OFFICIAL USE

To Be Completed By Customer (Please Print) All Entries Must Be in Ballpoint or Typed

FROM: ICON CONST. + DEVELOPMENT
1969 WILLAMETTE FALLS DR. #260
WEST LINN, OR 97068

TO: ELIZABETH ROCCHIA
[illegible] WILLAMETTE FALLS DR.
WEST LINN, OR 97068

PS Form **3806, Registered Mail Receipt** *Copy 1 - Customer*
April 2015, PSN 7530-02-000-9051 *(See Information on Reverse)*
For domestic delivery information, visit our website at *www.usps.com* ®

KATHY HAUCKI

USPS Tracking®

FAQs >

Track Another Package +

Remove ×

Tracking Number: RE099430547US

Your item was delivered to an individual at the address at 10:52 am on August 3, 2022 in WEST LINN, OR 97068.

Delivered, Left with Individual

August 3, 2022 at 10:52 am
WEST LINN, OR 97068

Get Updates ⌄

Text & Email Updates ⌄

Tracking History ⌃

August 3, 2022, 10:52 am
Delivered, Left with Individual
WEST LINN, OR 97068
Your item was delivered to an individual at the address at 10:52 am on August 3, 2022 in WEST LINN, OR 97068.

August 3, 2022, 8:38 am
Arrived at Post Office
WEST LINN, OR 97068

August 3, 2022, 8:37 am
Out for Delivery
WEST LINN, OR 97068

August 2, 2022, 11:24 pm
Departed USPS Facility

ELIZABETH ROCCHIA

USPS Tracking®

FAQs >

Track Another Package +

Tracking Number: RE099430533US

Remove ×

Your item was delivered to an individual at the address at 10:56 am on August 6, 2022 in WEST LINN, OR 97068.

Delivered, Left with Individual

August 6, 2022 at 10:56 am
WEST LINN, OR 97068

Get Updates ∨

Text & Email Updates ∨

Tracking History ∧

August 6, 2022, 10:56 am
Delivered, Left with Individual
WEST LINN, OR 97068
Your item was delivered to an individual at the address at 10:56 am on August 6, 2022 in WEST LINN, OR 97068.

August 3, 2022, 10:51 am
Notice Left (No Authorized Recipient Available)
WEST LINN, OR 97068

August 3, 2022, 8:37 am
Out for Delivery
WEST LINN, OR 97068

August 3, 2022, 8:26 am
Arrived at Post Office

Neighborhood Meeting
1919 & 1949 Willamette Falls Drive
AFFIDAVIT OF POSTING NOTICE

I Darren Gusdorf, do swear and affirm that I represent the party initiating interest in a proposed two-story building development affecting the land at 1919 & 1949 Willamette Falls Drive in West Linn, Oregon.

On August 1st, 2022, and pursuant to Community Development Code Section 99, I caused to have posted on the referenced property, a notice of Neighborhood Meeting to discuss the proposed development of the aforementioned property. Photographs of the postings are shown below.

Dated this 8th day of August, 2022

Signature
Darren Gusdorf

Subscribed and sworn to or affirmed, before me this 8 day of August, 2022

Jennie K Engen-Lucas
Notary Public for the State of Oregon

OFFICIAL STAMP
JENNIE KAY ENGEN-LUCAS
NOTARY PUBLIC - OREGON
COMMISSION NO. 984960
MY COMMISSION EXPIRES MARCH 07, 2023

County of Clackamas

My Commission Expires: March 7, 2023

Scot Sutton

From: Kevin Godwin
Sent: Thursday, September 15, 2022 9:26 AM
To: Elizabeth Rocchia; Kathie Halicki
Cc: 'Darren Gusdorf'; Scot Sutton
Subject: Re: draft WNA minutes 9/14/2022

Thank you, Elizabeth & Kathie!

Kevin Godwin | SG Architecture, LLC | partner
10940 SW Barnes Road #364 | Portland, OR 97225 | 503.201.0725
kgodwin@sg-arch.net

From: Elizabeth Rocchia <erocchia@comcast.net>
Sent: Thursday, September 15, 2022 8:46 AM
To: Kathie Halicki <khalicki@msn.com>; Kevin Godwin <kgodwin@sg-arch.net>
Subject: draft WNA minutes 9/14/2022

Willamette NA Minutes September 14, 2022 via Zoom

The meeting was called to order at 7:05 by President, Kathie Halicki.
The Treasury remains at $3.245.52.
The Minutes of the July 13, 2022, meeting were read and approved.
23 persons attending on Zoom.

ICON Construction
A proposed building design for the corner of 12th and Willamette Falls was presented by Scott Sutton and Kevin Godwin of SGA Architects. Images of a street elevation and a floor plan were shared-screened with design elements explained. There will be underground parking for 35 cars that connects with the adjacent ICON building.
The facade design will be compatible with the adjacent ICON building.

Office space and restaurant areas are included. A second story restaurant space is included with a mezzanine/roof area which will be enclosed.

Q: Noise from restaurant music?
A: All will be contained within walls on alley side. Should be no more than ambient noise from WF Drive.
Q: Delivery trucks in the alley?
A: Deliveries will be made from 12th street side in marked area

Main Street
Rebecca announced tonight as the last day of the Summer Market.
Next Wednesday, **Sept 21**, will be a Wine Walk with tickets available as a Main Street fund raiser.
October 1 will be the Arch Bridge Centennial Celebration. West Linn, Oregon City and the Grande Ronde Tribe will each produce art events which will merge at the bridge center.
October 31 will be Halloween events and treats for children. Last year 1300 kids appeared. Volunteers will be welcomed. A donation of $200 will be asked of the WNA at the October meeting.
November 1 will be 'Small Business Saturday' and the lighting of street trees.

Also the Historic Review Board is developing an on line walking tour of the Historic District. Calendar and events are described on the Historic Willamette Website.

Update
Kathie reported two land use applications. Both involve property divisions.
The police station will allow use to use their community room but not their technical equipment.
poll: A vote among those present chose to continue with Zoom and perhaps meet in person twice a year.

The bird scooters are now gone from Willamette.
A Community Attitude Survey is underway: **polco.us/westlinn22op**
Traffic on Hwy 43 will be reduced to one lane during road improvements thru December.

October meeting
A candidate forum is planned. Four candidates have responded and will be given 5 minutes to present and 5 minutes for questions.

The new City Manager, John Williams, will describe TIF, Tax Increment Financing

Lean Liu requested support from the WNA for a community pool citing popularity and reasons for the need. Kathie explained that generating petitions was not the purpose of the WNA and perhaps social media would be a better source for support. We were reminded that bond measures for a community pool had been turned down three times because of costs of construction and maintenance
She will bring a presentation to the WNA in the future.

Athey Creek School issues:
The Brandon Place extension needs a solution for adjacent residents.
The expanding width of WF Drive will cause large and extensive retaining walls in both the West and East entrances to Fields Bridge Park. Is this necessary? Is widening the road beyond a required bike lane necessary?
Attendance at a Transportation Committee meeting to voice concerns is urged.

The meeting adjourned at 8:53
Elizabeth Rocchia
secretary

City of West Linn
Planning & Development • 22500 Salamo Rd #1000 • West Linn, Oregon 97068
Telephone 503.656-3535 • westlinnoregon.gov

DEVELOPMENT REVIEW APPLICATION

For Office Use Only			
STAFF CONTACT	PROJECT NO(S).		PRE-APPLICATION NO.
NON-REFUNDABLE FEE(S)	REFUNDABLE DEPOSIT(S)	TOTAL	

Type of Review (Please check all that apply):

- ☐ Annexation (ANX)
- ☐ Appeal and Review (AP)
- ☐ Code Interpretation
- ☐ Conditional Use (CUP)
- ☒ Design Review (DR)
- ☐ Tree Easement Vacation
- ☐ Final Plat or Plan (FP)
- ☐ Flood Management Area
- ☐ Historic Review
- ☐ Legislative Plan or Change
- ☐ Lot Line Adjustment (LLA)
- ☐ Minor Partition (MIP) (Preliminary Plat or Plan)
- ☐ Modification of Approval
- ☐ Non-Conforming Lots, Uses & Structures
- ☐ Planned Unit Development (PUD)
- ☐ Street Vacation
- ☐ Subdivision (SUB)
- ☐ Temporary Uses
- ☐ Time Extension
- ☐ Variance (VAR)
- ☐ Water Resource Area Protection/Single Lot (WAP)
- ☐ Water Resource Area Protection/Wetland (WAP)
- ☐ Willamette & Tualatin River Greenway (WRG)
- ☐ Zone Change

Pre-Application, Home Occupation, Sidewalk Use, Addressing, and Sign applications require different forms, available on the City website.

Site Location/Address:
1919 & 1949 Willamette Falls Drive

Assessor's Map No.: 31E02BA
Tax Lot(s): 31E02BA04300 & 4400
Total Land Area: 15,000 Square Feet +/-

Brief Description of Proposal:
COMMERCIAL MIXED USE BUILDING. NEW CONSTRUCTION. 2 FLOORS + MEZZANINE + BELOW GRADE PARKING AREA

Applicant Name: (please print) SG ARCHITECTURE, LLC (SCOT SUTTON)
Address: 10940 SW Barnes Road #364
City State Zip: Portland, OR 97225
Phone: 503-347-4685
Email: SSUTTON@SG-ARCH.NET

Owner Name (required): (please print) Icon Construction & Development (Darren Gusdorf)
Address: 1969 Willamette Falls Drive, Suite 260
City State Zip: West Linn, OR 97068
Phone: 503.657.0406
Email: darren@iconconstruction.net

Consultant Name: (please print) Theta, LLC (Bruce Goldson)
Address: PO Box 1345
City State Zip: Lake Oswego, OR 97035
Phone: 503-481-8822
Email: thetaengllc@gmail.com

1. All application fees are non-refundable (excluding deposit). **Any overruns to deposit will result in additional billing.**
2. The owner/applicant or their representative should be present at all public hearings.
3. A decision may be reversed on appeal. The permit approval will not be effective until the appeal period has expired.
4. Submit this form and supporting documents through the Submit a Land Use Application web page: https://westlinnoregon.gov/planning/submit-land-use-application

The undersigned property owner(s) hereby authorizes the filing of this application, and authorizes on site review by authorized staff. I hereby agree to comply with all code requirements applicable to my application. Acceptance of this application does not infer a complete submittal. All amendments to the Community Development Code and to other regulations adopted after the application is approved shall be enforced where applicable. Approved applications and subsequent development is not vested under the provisions in place at the time of the initial application.

Applicant's signature — Date: 12-30-2022
Owner's signature ***(required)*** — Date: 12/30/22

SGA
SUTTON | GODWIN | ARCHITECTURE

December 24, 2022

1949 WILLAMETTE FALLS DRIVE MIXED USE

Mr. John Floyd
Associate Planner
City of West Linn Planning Department
22500 Salamo Road
West Linn, Oregon 97068

RE: 1949 Willamette Falls Drive Mixed Use
Project Description
Existing Addresses: 1919 & 1949 Willamette Falls Drive
West Linn, Oregon

Dear Mr. Floyd:
Please find the following description of the above referenced 1949 Willamette Falls Drive project as part of our overall Design Review Application:

The 1949 Willamette Falls Drive Mixed Use (WFD) project is a proposed 2-story commercial mixed-use building which will encompass the 1919 & 1949 lots. The lot(s) fall under the GC General Commercial zone, within the Willamette Falls Drive Commercial Design District Overlay Zone. The proposed building and uses are allowed within both the primary zone and the overlay. The Owner intends to consolidate the lots as part of the development process.

The building will be constructed as a shell structure, with tenants to occupy after completion. Uses are proposed to be commercial retail, office, restaurant, and other uses allowed in the zone. As the project is located in the overlay zone, it will meet the requirements of Chapter 58 as well as Chapter 19, and will meet the requirements for building height, setbacks, parking, etc.

Please refer to the Chapter 55 & 58 narrative responses to approval criteria, as well as the Architectural and Civil drawings for further description and clarification of the intent of our proposal.

Thank you for your time and consideration, we look forward to discussing this project with you further. If we can answer any questions, please feel free to email me at ssutton@sg-arch.net.

Sincerely,
SG Architecture, LLC

Scot Sutton – Partner

10940 SW Barnes Rd #364
Portland, OR 97225
503.201.0725

City of West Linn
Planning & Development • 22500 Salamo Rd #1000 • West Linn, Oregon 97068
Telephone 503.656-3535 • westlinnoregon.gov

DEVELOPMENT REVIEW APPLICATION

For Office Use Only			
STAFF CONTACT	PROJECT NO(S).		PRE-APPLICATION NO.
NON-REFUNDABLE FEE(S)	REFUNDABLE DEPOSIT(S)	TOTAL	

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- ☐ Historic Review
- ☐ Legislative Plan or Change
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- ☐ Minor Partition (MIP) (Preliminary Plat or Plan)
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- ☐ Street Vacation
- ☐ Subdivision (SUB)
- ☐ Temporary Uses
- ☐ Time Extension
- ☐ Variance (VAR)
- ☐ Water Resource Area Protection/Single Lot (WAP)
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- ☐ Zone Change

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1919 & 1949 Willamette Falls Drive

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Tax Lot(s): 31E02BA04300 & 4400
Total Land Area: 15,000 Square Feet +/-

Brief Description of Proposal:
COMMERCIAL MIXED USE BUILDING. NEW CONSTRUCTION. 2 FLOORS + MEZZANINE + BELOW GRADE PARKING AREA

Applicant Name: (please print) SG ARCHITECTURE, LLC (SCOT SUTTON)
Address: 10940 SW Barnes Road #364
City State Zip: Portland, OR 97225
Phone: 503-347-4685
Email: SSUTTON@SG-ARCH.NET

Owner Name (required): (please print) Icon Construction & Development (Darren Gusdorf)
Address: 1969 Willamette Falls Drive, Suite 260
City State Zip: West Linn, OR 97068
Phone: 503.657.0406
Email: darren@iconconstruction.net

Consultant Name: (please print) Theta, LLC (Bruce Goldson)
Address: PO Box 1345
City State Zip: Lake Oswego, OR 97035
Phone: 503-481-8822
Email: thetaengllc@gmail.com

1. All application fees are non-refundable (excluding deposit). **Any overruns to deposit will result in additional billing.**
2. The owner/applicant or their representative should be present at all public hearings.
3. A decision may be reversed on appeal. The permit approval will not be effective until the appeal period has expired.
4. Submit this form and supporting documents through the Submit a Land Use Application web page: https://westlinnoregon.gov/planning/submit-land-use-application

The undersigned property owner(s) hereby authorizes the filing of this application, and authorizes on site review by authorized staff. I hereby agree to comply with all code requirements applicable to my application. Acceptance of this application does not infer a complete submittal. All amendments to the Community Development Code and to other regulations adopted after the application is approved shall be enforced where applicable. Approved applications and subsequent development is not vested under the provisions in place at the time of the initial application.

Applicant's signature — Date: 12-30-2022
Owner's signature ***(required)*** — Date: 12/30/22

Willamette Falls Mixed Use

West Linn, Oregon

Design Review Class II - Chapter 55

December 2022

55.010 PURPOSE AND INTENT - GENERAL
No response required.

55.020 CLASSES OF DESIGN REVIEW
No response required.

55.025 EXEMPTIONS
No response required.

55.030 ADMINISTRATION AND APPROVAL PROCESS
No response required.

55.040 EXPIRATION OR EXTENSION OF APPROVAL
No response required.

55.050 DESIGN REVIEW AMENDMENT TRIGGER
No response required.

55.060 STAGED OR PHASED DEVELOPMENT
No response required.

55.070 SUBMITTAL REQUIREMENTS
No response required.

55.085 ADDITIONAL INFORMATION REQUIRED AND WAIVER OF REQUIREMENTS
No response required.

55.090 APPROVAL STANDARDS – CLASS I DESIGN REVIEW
No response required.

55.100 APPROVAL STANDARDS – CLASS II DESIGN REVIEW
The approval authority shall make findings with respect to the following criteria when approving, approving with conditions, or denying a Class II design review application.

A. The provisions of the following chapters shall be met:
   1. Chapter 34 CDC, Accessory Structures, Accessory Dwelling Units, and Accessory Uses.
      RESPONSE: There are no accessory structures included as part of this proposal. The requirements of this chapter do not apply.

   2. Chapter 38 CDC, Additional Yard Area Required; Exceptions to Yard Requirements; Storage in Yards; Projections into Yards.
      RESPONSE: Per 38.020, where no side yard setback is required. The west wall of the building is set back 3'0" from the property line per the standard. The other sections of this chapter do not apply.

3. Chapter 41 CDC, Building Height, Structures on Steep Lots, Exceptions.
   RESPONSE: All proposed building heights are at or below the maximum allowable by code (35'0").

4. Chapter 42 CDC, Clear Vision Areas.
   RESPONSE: Per section 42.030, this Chapter does not apply in the Willamette Falls Drive Commercial Design District.

5. Chapter 44 CDC, Fences.
   RESPONSE: There are no fences or retaining walls planned as part of this proposal. The requirements of this chapter do not apply.

6. Chapter 46 CDC, Off-Street Parking, Loading and Reservoir Areas.
   RESPONSE: Per section 46.140, no off-street parking spaces are required in the Willamette Falls Drive Commercial Design District.

7. Chapter 48 CDC, Access, Egress and Circulation.
   RESPONSE: The subject property consists of Tax Lots 31E02BA04300 and 31E02BA04400 and has direct access to 12th Street to the west, a platted alley to the south, and Willamette Falls Drive on the north. Vehicle access is proposed via the alley for street parking as well as a driveway cut to underground parking via the existing 1969 Willamette Falls Drive building. An existing public sidewalk on 11th Street and on Willamette Falls Drive provides pedestrian access. Street parking exists along Willamette Falls Drive and bicycle parking is provided on site.

8. Chapter 52 CDC, Signs.
   RESPONSE: All signs will be building wall signs and will be submitted by the tenants under separate permits. All signs will meet the standards for the Willamette Falls Drive Commercial Design District per 52.210.

9. Chapter 54 CDC, Landscaping.
   RESPONSE: Per 58.080, projects in the Willamette Falls Drive Commercial Design District are exempt from the requirement of chapter 54.

B. Relationship to the natural and physical environment.
   1. The buildings and other site elements shall be designed and located so that all heritage trees, as defined in the municipal code, shall be saved. Diseased heritage trees, as determined by the City Arborist, may be removed at his/her direction.
      RESPONSE: There are no heritage or otherwise significant trees existing on the site. The standards of this section do not apply.

   2. All heritage trees, as defined in the municipal code, all trees and clusters of trees ("cluster" is defined as three or more trees with overlapping driplines; however, native oaks need not have an overlapping dripline) that are considered significant by the City Arborist, either individually or in consultation with certified arborists or similarly qualified professionals, based on accepted arboricultural standards including consideration of their size, type, location, health, long term survivability, and/or numbers, shall be protected pursuant to the criteria of subsections (B)(2)(a) through (f) of this section. In cases where there is a difference of opinion on the significance of a tree or tree cluster, the City Arborist's findings shall prevail. It is important to acknowledge that all trees are not significant and, further, that this code section will not necessarily protect all trees deemed significant.

RESPONSE: There are no heritage or otherwise significant trees existing on the site. The standards of this section do not apply.

a. Non-residential and residential projects on Type I and II lands shall protect all heritage trees and all significant trees and tree clusters by either the dedication of these areas or establishing tree conservation easements. Development of Type I and II lands shall require the careful layout of streets, driveways, building pads, lots, and utilities to avoid heritage trees and significant trees and tree clusters, and other natural resources pursuant to this code. The method for delineating the protected trees or tree clusters ("dripline + 10 feet") is explained in subsection (B)(2)(b) of this section. Exemptions of subsections (B)(2)(c), (e), and (f) of this section shall apply.
RESPONSE: There are no heritage or otherwise significant trees existing on the site. The standards of this section do not apply.

b. Non-residential and residential projects on non-Type I and II lands shall set aside up to 20 percent of the area to protect trees and tree clusters that are determined to be significant, plus any heritage trees. Therefore, in the event that the City Arborist determines that a significant tree cluster exists at a development site, then up to 20 percent of the non-Type I and II lands shall be devoted to the protection of those trees, either by dedication or easement. The exact percentage is determined by establishing the driplines of the trees or tree clusters that are to be protected. In order to protect the roots which typically extend further, an additional 10-foot measurement beyond the dripline shall be added. The square footage of the area inside this "dripline plus 10 feet" measurement shall be the basis for calculating the percentage (see figure below). The City Arborist will identify which tree(s) are to be protected. Development of non-Type I and II lands shall also require the careful layout of streets, driveways, building pads, lots, and utilities to avoid significant trees, tree clusters, heritage trees, and other natural resources pursuant to this code. Exemptions of subsections (B)(2)(c), (e), and (f) of this section shall apply. Please note that in the event that more than 20 percent of the non-Type I and II lands comprise significant trees or tree clusters, the developer shall not be required to save the excess trees but is encouraged to do so.
RESPONSE: There are no heritage or otherwise significant trees existing on the site. The standards of this section do not apply.

c. Where stubouts of streets occur on abutting properties, and the extension of those streets will mean the loss of significant trees, tree clusters, or heritage trees, it is understood that tree loss may be inevitable. In these cases, the objective shall be to minimize tree loss. These provisions shall also apply in those cases where access, per construction code standards, to a lot or parcel is blocked by a row or screen of significant trees or tree clusters.
RESPONSE: There are no heritage or otherwise significant trees existing on the site. The standards of this section do not apply.

d. For both non-residential and residential development, the layout shall achieve at least 70 percent of maximum density for the developable net area. The developable net area excludes all Type I and II lands and up to 20 percent of the remainder of the site for the purpose of protection of stands or clusters of trees as defined in subsection (B)(2) of this section.
RESPONSE: There are no heritage or otherwise significant trees existing on the site. The standards of this section do not apply.

e. For arterial and collector street projects, including Oregon Department of Transportation street improvements, the roads and graded areas shall avoid tree clusters

where possible. Significant trees, tree clusters, and heritage tree loss may occur, however, but shall be minimized.
RESPONSE: There are no heritage or otherwise significant trees existing on the site. The standards of this section do not apply.

f. If the protection of significant tree(s) or tree clusters is to occur in an area of grading that is necessary for the development of street grades, per City construction codes, which will result in an adjustment in the grade of over or under two feet, which will then threaten the health of the tree(s), the applicant will submit evidence to the Planning Director that all reasonable alternative grading plans have been considered and cannot work. The applicant will then submit a mitigation plan to the City Arborist to compensate for the removal of the tree(s) on an "inch by inch" basis (e.g., a 48-inch Douglas fir could be replaced by 12 trees, each four-inch). The mix of tree sizes and types shall be approved by the City Arborist.

3. The topography and natural drainage shall be preserved to the greatest degree possible.
RESPONSE: The site slopes at less than 5% and generally from southwest to northeast. Since this is a commercial property almost the entire site will be covered with a building no surface flow will exist after construction. The flow from the new impervious roof will be collected and detained on site and meted with a control structure to the pre-development rates and connected to the public system in the same local drainage basin.

4. The structures shall not be located in areas subject to slumping and sliding. The Comprehensive Plan Background Report's Hazard Map, or updated material as available and as deemed acceptable by the Planning Director, shall be the basis for preliminary determination.
RESPONSE: The West Linn geologic hazard maps (SLIDO) indicates no slumping or sliding in this area.

5. There shall be adequate distance between on-site buildings and on-site and off-site buildings on adjoining properties to provide for adequate light and air circulation and for fire protection.
RESPONSE: On the north, west, and south property boundaries, the proposed building faces onto public ways. On the east property boundary, a 3'-0" setback has been provided (no side yard setback is required in the district), per section 38.020. There will be adequate distance between buildings on adjoining properties to provide adequate light and air circulation and for fire protection.

6. Architecture.

a. The proposed structure(s) scale shall be compatible with the existing structure(s) on site and on adjoining sites. Contextual design is required. Contextual design means respecting and incorporating prominent architectural styles, building lines, roof forms, rhythm of windows, building scale and massing of surrounding buildings in the proposed structure. The materials and colors shall be complementary to the surrounding buildings.
RESPONSE: The architecture for this building meets the standards for the Willamette Falls Drive Commercial Design District found in chapter 58 and thus complies with the standards of this section. Please refer to the building elevations.

b. While there has been discussion in Chapter 24 CDC about transition, it is appropriate that new buildings should architecturally transition in terms of bulk and mass to work with, or fit, adjacent existing buildings. This transition can be accomplished by selecting designs that "step down" or "step up" from small to big structures and vice versa (see figure below).

Transitions may also take the form of carrying building patterns and lines (e.g., parapets, windows, etc.) from the existing building to the new one.
RESPONSE: The subject property is adjacent to a single-story commercial structure across 12th Street, two-story commercial buildings across Willamette Falls Drive, and is adjacent to the two-story 1969 Willamette Falls Drive commercial building to the east. The planned building is a sister design to the 1969 building and is similar in style to those structures across Willamette Falls Drive.

c. Contrasting architecture shall only be permitted when the design is manifestly superior to adjacent architecture in terms of creativity, design, and workmanship, and/or it is adequately separated from other buildings by distance, screening, grade variations, or is part of a development site that is large enough to set its own style of architecture.
RESPONSE: The building's architecture is in accordance with the standards of chapter 58 and is consistent with other buildings in the Willamette Falls Drive Commercial Design District.

d. Human scale is a term that seeks to accommodate the users of the building and the notion that buildings should be designed around the human scale (i.e., their size and the average range of their perception). Human scale shall be accommodated in all designs by, for example, multi-light windows that are broken up into numerous panes, intimately scaled entryways, and visual breaks (exaggerated eaves, indentations, ledges, parapets, awnings, engaged columns, etc.) in the facades of buildings, both vertically and horizontally.

The human scale is enhanced by bringing the building and its main entrance up to the edge of the sidewalk. It creates a more dramatic and interesting streetscape and improves the "height and width" ratio referenced in this section.
RESPONSE: The project design achieves human scale through the use of multi-light windows, intimately scaled entryways, parapets, awnings, and the building's location at the edge of the sidewalk. The façade is divided into distinct sections that emphasize a pleasing height-to-width ratio.

e. The main front elevation of commercial and office buildings shall provide at least 60 percent windows or transparency at the pedestrian level to create more interesting streetscape and window shopping opportunities. One side elevation shall provide at least 30 percent transparency. Any additional side or rear elevation, which is visible from a collector road or greater classification, shall also have at least 30 percent transparency. Transparency on other elevations is optional. The transparency is measured in lineal fashion. For example, a 100-foot-long building elevation shall have at least 60 feet (60 percent of 100 feet) in length of windows. The window height shall be, at minimum, three feet tall. The exception to transparency would be cases where demonstrated functional constraints or topography restrict that elevation from being used. When this exemption is applied to the main front elevation, the square footage of transparency that would ordinarily be required by the above formula shall be installed on the remaining elevations at pedestrian level in addition to any transparency required by a side elevation, and vice versa. The rear of the building is not required to include transparency. The transparency must be flush with the building elevation.
RESPONSE: The front elevation is 147' long with 104' of windows, or 71%. The west elevation is 100' long, with 47' of window or other openings, or 47%. The remaining south and east elevations are exempt from the requirement.

f. Variations in depth and roof line are encouraged for all elevations.

To vary the otherwise blank wall of most rear elevations, continuous flat elevations of over 100 feet in length should be avoided by indents or variations in the wall. The use of decorative brick, masonry, or stone insets and/or designs is encouraged. Another way to vary or soften this elevation is through terrain variations such as an undulating grass area with trees to provide vertical relief.
RESPONSE: The rear elevation is divided into four distinct segments through the use of material changes, decorative pilaster trims, and varying parapet heights.

g. Consideration of the micro-climate (e.g., sensitivity to wind, sun angles, shade, etc.) shall be made for building users, pedestrians, and transit users, including features like awnings.
RESPONSE: On the north and west sides, pedestrians are protected by nearly continuous awnings and canopies, with additional awnings on the south side providing shade for building users. Windows on the east side are shaded by the adjacent 1969 building.

h. The vision statement identified a strong commitment to developing safe and attractive pedestrian environments with broad sidewalks, canopied with trees and awnings.
RESPONSE: The existing publicly constructed sidewalks are tree lined with existing street trees. The building has awnings and canopies over the sidewalk.

i. Sidewalk cafes, kiosks, vendors, and street furniture are encouraged. However, at least a four-foot-wide pedestrian accessway must be maintained per Chapter 53 CDC, Sidewalk Use.
RESPONSE: It is not known at this time if there will be a sidewalk café'. However, the existing sidewalks would provide plenty of room for table seating while maintaining at least a 4'0" pedestrian accessway.

7. Transportation Planning Rule (TPR) compliance. The automobile shall be shifted from a dominant role, relative to other modes of transportation, by the following means:

a. Commercial and office development shall be oriented to the street. At least one public entrance shall be located facing an arterial street; or, if the project does not front on an arterial, facing a collector street; or, if the project does not front on a collector, facing the local street with highest traffic levels. Parking lots shall be placed behind or to the side of commercial and office development. When a large and/or multi-building development is occurring on a large undeveloped tract (three plus acres), it is acceptable to focus internally; however, at least 20 percent of the main adjacent right-of-way shall have buildings contiguous to it unless waived per subsection (B)(7)(c) of this section. These buildings shall be oriented to the adjacent street and include pedestrian-oriented transparencies on those elevations.

For individual buildings on smaller individual lots, at least 30 lineal feet or 50 percent of the building must be adjacent to the right-of-way unless waived per subsection (B)(7)(c) of this section. The elevations oriented to the right-of-way must incorporate pedestrian-oriented transparency.
RESPONSE: 100% of the building elevations fronting on streets are located at the lot line, with multiple entry points along the north (front) elevation.

b. Multi-family projects shall be required to keep the parking at the side or rear of the buildings or behind the building line of the structure as it would appear from the right-of-way inside the multi-family project. For any garage which is located behind the building

line of the structure, but still facing the front of the structure, architectural features such as patios, patio walls, trellis, porch roofs, overhangs, pergolas, etc., shall be used to downplay the visual impact of the garage, and to emphasize the rest of the house and front entry.

The parking may be positioned inside small courtyard areas around which the units are built. These courtyard spaces encourage socialization, defensible space, and can provide a central location for landscaping, particularly trees, which can provide an effective canopy and softening effect on the courtyard in only a few years. Vehicular access and driveways through these courtyard areas is permitted.
RESPONSE: This project is not multi-family so this standard does not apply.

c. Commercial, office, and multi-family projects shall be built as close to the adjacent main right-of-way as practical to facilitate safe pedestrian and transit access. Reduced frontages by buildings on public rights-of-way may be allowed due to extreme topographic (e.g., slope, creek, wetlands, etc.) conditions or compelling functional limitations, not just inconveniences or design challenges.
RESPONSE: 100% of the building elevations fronting onto public rights-of-way are located on the lot lines.

d. Accessways, parking lots, and internal driveways shall accommodate pedestrian circulation and access by specially textured, colored, or clearly defined footpaths at least six feet wide. Paths shall be eight feet wide when abutting parking areas or travel lanes. Paths shall be separated from parking or travel lanes by either landscaping, planters, curbs, bollards, or raised surfaces. Sidewalks in front of storefronts on the arterials and main store entrances on the arterials identified in CDC 85.200(A)(3) shall be 12 feet wide to accommodate pedestrians, sidewalk sales, sidewalk cafes, etc. Sidewalks in front of storefronts and main store entrances in commercial/OBC zone development on local streets and collectors shall be eight feet wide.
RESPONSE: The public sidewalks at the north and west elevations are existing to remain, constructed to City standards.

e. Paths shall provide direct routes that pedestrians will use between buildings, adjacent rights-of-way, and adjacent commercial developments. They shall be clearly identified. They shall be laid out to attract use and to discourage people from cutting through parking lots and impacting environmentally sensitive areas.
RESPONSE: The pedestrian access walkways along the north and west sides of the site are existing public walks that directly connect to adjacent properties.

f. At least one entrance to the building shall be on the main street, or as close as possible to the main street. The entrance shall be designed to identify itself as a main point of ingress/egress.
RESPONSE: There are three primary entries fronting on Willamette Falls Drive.

g. Where transit service exists, or is expected to exist, there shall be a main entrance within a safe and reasonable distance of the transit stop. A pathway shall be provided to facilitate a direct connection.
RESPONSE: There is a bus stop at the corner of Willamette Falls Drive and 12th Street, as well as at Willamette Falls Drive and 11th Street. Both have direct access to the three main entries on the north elevation.

h. Projects shall bring at least part of the project adjacent to or near the main street right-of-way in order to enhance the height-to-width ratio along that particular street. (The

"height-to-width ratio" is an architectural term that emphasizes height or vertical dimension of buildings adjacent to streets. The higher and closer the building is, and the narrower the width of the street, the more attractive and intimate the streetscape becomes.) For every one foot in street width, the adjacent building ideally should be one to two feet higher. This ratio is considered ideal in framing and defining the streetscape.
RESPONSE: The building is located on the lot line along both Willamette Falls Drive and 12th Street. At its tallest point (at the corner of Willamette Falls Drive and 12th Street), the building is 35'0" tall, which is the height limit allowed in the district.

i. These architectural standards shall apply to public facilities such as reservoirs, water towers, treatment plants, fire stations, pump stations, power transmission facilities, etc. It is recognized that many of these facilities, due to their functional requirements, cannot readily be configured to meet these architectural standards. However, attempts shall be made to make the design sympathetic to surrounding properties by landscaping, setbacks, buffers, and all reasonable architectural means.
RESPONSE: This project is a private mixed-use building. The requirements of this standard do not apply.

j. Parking spaces at trailheads shall be located so as to preserve the view of, and access to, the trailhead entrance from the roadway. The entrance apron to the trailhead shall be marked: "No Parking," and include design features to foster trail recognition.
RESPONSE: This project is not located at a trailhead. The requirements of this standard do not apply.

C. Compatibility between adjoining uses, buffering, and screening.
1. In addition to the compatibility requirements contained in Chapter 24 CDC, buffering shall be provided between different types of land uses; for example, buffering between single-family homes and apartment blocks. However, no buffering is required between single-family homes and duplexes or single-family attached units. The following factors shall be considered in determining the adequacy of the type and extent of the buffer:

a. The purpose of the buffer, for example to decrease noise levels, absorb air pollution, filter dust, or to provide a visual barrier.
b. The size of the buffer required to achieve the purpose in terms of width and height.
c. The direction(s) from which buffering is needed.
d. The required density of the buffering.
e. Whether the viewer is stationary or mobile.
RESPONSE: This project has public rights-of-way on three sides. The lot to the east is the same land use as the project site.

2. On-site screening from view from adjoining properties of such things as service areas, storage areas, and parking lots shall be provided and the following factors will be considered in determining the adequacy of the type and extent of the screening:

a. What needs to be screened?
b. The direction from which it is needed.
c. How dense the screen needs to be.
d. Whether the viewer is stationary or mobile.
e. Whether the screening needs to be year-round.
RESPONSE: All trash, storage, and parking are screened or enclosed by building walls.

3. Rooftop air cooling and heating systems and other mechanical equipment shall be screened from view from adjoining properties.

RESPONSE: Rooftop HVAC units are screened by parapets on all sides that will keep the units from being visible from the street.

D. Privacy and noise.
1. Structures which include residential dwelling units shall provide private outdoor areas for each ground floor unit which is screened from view from adjoining units.
2. Residential dwelling units shall be placed on the site in areas having minimal noise exposure to the extent possible. Natural-appearing sound barriers shall be used to lessen noise impacts where noise levels exceed the noise standards contained in West Linn Municipal Code Section 5.487.
3. Structures or on-site activity areas which generate noise, lights, or glare shall be buffered from adjoining residential uses in accordance with the standards in subsection C of this section where applicable.
4. Businesses or activities that can reasonably be expected to generate noise in excess of the noise standards contained in West Linn Municipal Code Section 5.487 shall undertake and submit appropriate noise studies and mitigate as necessary to comply with the code.

If the decision-making authority reasonably believes a proposed use may generate noise exceeding the standards specified in the municipal code, then the authority may require the applicant to supply professional noise studies from time to time during the user's first year of operation to monitor compliance with City standards and permit requirements.

RESPONSE: There are no residential dwelling units planned as part of this project. The requirements of parts 1 and 2 of this standard do not apply. There are no businesses or uses proposed at the time of the submittal that are anticipated to generate noise in excess of the allowable in the requirements. Therefore, parts 3 and 4 of this standard do not apply.

E. Private outdoor area. This section only applies to multi-family projects.
1. In addition to the requirements of residential living, unit shall have an outdoor private area (patio, terrace, porch) of not less than 48 square feet in area;
2. The outdoor space shall be oriented towards the sun where possible; and
3. The area shall be screened or designed to provide privacy for the users of the space.
4. Where balconies are added to units, the balconies shall not be less than 48 square feet, if they are intended to be counted as private outdoor areas.

RESPONSE: This project is not multi-family use. The requirements of this standard do not apply.

F. Shared outdoor recreation areas. This section only applies to multi-family projects and projects with 10 or more duplexes or single-family attached dwellings on lots under 4,000 square feet. In those cases, shared outdoor recreation areas are calculated on the duplexes or single-family attached dwellings only. It also applies to qualifying PUDs under the provisions of CDC 24.170.
1. In addition to the requirements of subsection E of this section, usable outdoor recreation space shall be provided in residential developments for the shared or common use of all the residents in the following amounts:
   a. Studio up to and including two-bedroom units: 200 square feet per unit.
   b. Three or more bedroom units: 300 square feet per unit.
2. The required recreation space may be provided as follows:
   a. It may be all outdoor space; or
   b. It may be part outdoor space and part indoor space; for example, an outdoor tennis court and indoor recreation room; and
   c. Where some or all of the required recreation area is indoor, such as an indoor recreation room, then these indoor areas must be readily accessible to all residents of the

development subject to clearly posted restrictions as to hours of operation and such regulations necessary for the safety of minors.

d. In considering the requirements of this subsection F, the emphasis shall be on usable recreation space. No single area of outdoor recreational space shall encompass an area of less than 250 square feet. All common outdoor recreational space shall be clearly delineated and readily identifiable as such. Small, marginal, and incidental lots or parcels of land are not usable recreation spaces. The location of outdoor recreation space should be integral to the overall design concept of the site and be free of hazards or constraints that would interfere with active recreation.

3. The shared space shall be readily observable to facilitate crime prevention and safety.
RESPONSE: This project is not multi-family use. The requirements of this standard do not apply.

G. Demarcation of public, semi-public, and private spaces. The structures and site improvements shall be designed so that public areas such as streets or public gathering places, semi-public areas, and private outdoor areas are clearly defined in order to establish persons having a right to be in the space, to provide for crime prevention, and to establish maintenance responsibility. These areas may be defined by:
1. A deck, patio, fence, low wall, hedge, or draping vine;
2. A trellis or arbor;
3. A change in level;
4. A change in the texture of the path material;
5. Sign; or
6. Landscaping.

Use of gates to demarcate the boundary between a public street and a private access driveway is prohibited.
RESPONSE: This project is not multi-family use. The requirements of this standard do not apply.

H. Public transit.
1. Provisions for public transit may be required where the site abuts an existing or planned public transit route. The required facilities shall be based on the following:
a. The location of other transit facilities in the area.
b. The size and type of the proposed development.
c. The rough proportionality between the impacts from the development and the required facility.
2. The required facilities shall be limited to such facilities as the following:
a. A waiting shelter with a bench surrounded by a three-sided covered structure, with transparency to allow easy surveillance of approaching buses.
b. A turnout area for loading and unloading designed per regional transit agency standards.
c. Hard-surface paths connecting the development to the waiting and boarding areas.
d. Regional transit agency standards shall, however, prevail if they supersede these standards.
3. The transit stop shall be located as close as possible to the main entrance to the shopping center, public or office building, or multi-family project. The entrance shall not be more than 200 feet from the transit stop with a clearly identified pedestrian link.
4. All commercial business centers (over three acres) and multi-family projects (over 40 units) may be required to provide for the relocation of transit stops to the front of the site if the existing stop is within 200 to 400 yards of the site and the exaction is roughly proportional to the impact of the development. The commercial or multi-family project may be required to provide new facilities in those cases where the nearest stop is over 400 yards away. The transit stop shall be built per subsection (H)(2) of this section.

5. If a commercial business center or multi-family project is adjacent to an existing or planned public transit stop, the parking requirement may be reduced by the multiplier of 0.9, or 10 percent. If a commercial center is within 200 feet of a multi-family project, with over 80 units and pedestrian access, the parking requirement may be reduced by 10 percent or by a 0.90 multiplier.
6. Standards of CDC 85.200(D), Transit Facilities, shall also apply.
RESPONSE: There is an existing bus stop at the corner of Willamette Falls Drive and 11th Street, which is immediately adjacent to the main entry of the building at the northeast corner and is within 200 feet of all primary entries to the building. The stop is constructed with a bench, but without a shelter, consistent with other bus stops in the Willamette Falls Drive Commercial Design District. There is no parking requirement in the district, so parts 4 and 5 of the standard do not apply.

I. Public facilities. An application may only be approved if adequate public facilities will be available to provide service to the property prior to occupancy.
1. Streets. Sufficient right-of-way and slope easement shall be dedicated to accommodate all abutting streets to be improved to the City's Improvement Standards and Specifications. The City Engineer shall determine the appropriate level of street and traffic control improvements to be required, including any off-site street and traffic control improvements, based upon the transportation analysis submitted. The City Engineer's determination of developer obligation, the extent of road improvement and City's share, if any, of improvements and the timing of improvements shall be made based upon the City's systems development charge ordinance and capital improvement program, and the rough proportionality between the impact of the development and the street improvements.

In determining the appropriate sizing of the street in commercial, office, multi-family, and public settings, the street should be the minimum necessary to accommodate anticipated traffic load and needs and should provide substantial accommodations for pedestrians and bicyclists. Road and driveway alignment should consider and mitigate impacts on adjacent properties and in neighborhoods in terms of increased traffic loads, noise, vibrations, and glare.
The realignment or redesign of roads shall consider how the proposal meets accepted engineering standards, enhances public safety, and favorably relates to adjacent lands and land uses. Consideration should also be given to selecting an alignment or design that minimizes or avoids hazard areas and loss of significant natural features (drainageways, wetlands, heavily forested areas, etc.) unless site mitigation can clearly produce a superior landscape in terms of shape, grades, and reforestation, and is fully consistent with applicable code restrictions regarding resource areas.
Streets shall be installed per Chapter 85 CDC standards. The City Engineer has the authority to require that street widths match adjacent street widths. Sidewalks shall be installed per CDC 85.200(A)(3) for commercial and office projects, and CDC 85.200(A)(16) and 92.010(H) for residential projects, and applicable provisions of this chapter. Where streets bisect or traverse water resource areas (WRAs) the street width shall be reduced to the minimum standard of 20 feet (two 10-foot travel lanes) plus four-foot-wide curb flush sidewalks or alternate configurations which are appropriate to site conditions, minimize WRA disturbance or are consistent with an adopted transportation system plan. The street design shall also be consistent with habitat friendly provisions of CDC 32.060(H).
Based upon the City Manager's or Manager's designee's determination, the applicant shall construct or cause to be constructed, or contribute a proportionate share of the costs, for all necessary off-site improvements identified by the transportation analysis commissioned to address CDC 55.125 that are required to mitigate impacts from the proposed development. Proportionate share of the costs shall be determined by the City Manager or Manager's

designee, who shall assume that the proposed development provides improvements in rough proportion to identified impacts of the development.

RESPONSE: All streets adjacent to the project are existing public streets that will remain.

2. Storm detention and treatment and geologic hazards. Per the submittals required by CDC 55.130 and 92.010(E), all proposed storm detention and treatment facilities must comply with the standards for the improvement of public and private drainage systems located in the West Linn Public Works Design Standards, there will be no adverse off-site impacts caused by the development (including impacts from increased intensity of runoff downstream or constrictions causing ponding upstream), and the applicant must provide sufficient factual data to support the conclusions of the submitted plan.

Per the submittals required by CDC 55.130(E), the applicant must demonstrate that the proposed methods of rendering known or potential hazard sites safe for development, including proposed geotechnical remediation, are feasible and adequate to prevent landslides or other damage to property and safety. The review authority may impose conditions, including limits on type or intensity of land use, which it determines are necessary to mitigate known risks of landslides or property damage.

RESPONSE: Storm detention and treatment design complies with the West Linn Public Works Design Standards, see Civil drawings. The project site is not in an area with geologic hazards.

3. Municipal water. A registered civil engineer shall prepare a plan for the provision of water which demonstrates to the City Engineer's satisfaction the availability of sufficient volume, capacity, and pressure to serve the proposed development's domestic, commercial, and industrial fire flows. All plans will then be reviewed by the City Engineer.

RESPONSE: Water facilities serving the project site are existing and will remain.

4. Sanitary sewers. A registered civil engineer shall prepare a sewerage collection system plan which demonstrates sufficient on-site capacity to serve the proposed development. The City Engineer shall determine whether the existing City system has sufficient capacity to serve the development.

RESPONSE: Sewer facilities serving the project site are existing and will remain.

5. Solid waste and recycling storage areas. Appropriately sized and located solid waste and recycling storage areas shall be provided. Metro standards shall be used.

RESPONSE: An appropriately sized solid waste and recycling storage area is provided inside the southwest corner of the building and is accessed from Knapps Alley.

J. Crime prevention and safety/defensible space.

1. Windows shall be located so that areas vulnerable to crime can be surveyed by the occupants.

RESPONSE: Windows overlook the public walks, Knapps Alley, and the service area to the east adjacent to the 1969 building.

2. Interior laundry and service areas shall be located in a way that they can be observed by others.

RESPONSE: No interior laundry is planned for the project.

3. Mailboxes, recycling, and solid waste facilities shall be located in lighted areas having vehicular or pedestrian traffic.

RESPONSE: Mailboxes and trash containers will be located inside the building lobby.

4. The exterior lighting levels shall be selected and the angles shall be oriented towards areas vulnerable to crime.
   RESPONSE: Wall mounted sconces and gooseneck style lights will provide lighting consistent with the other buildings in the district.

5. Light fixtures shall be provided in areas having heavy pedestrian or vehicular traffic and in potentially dangerous areas such as parking lots, stairs, ramps, and abrupt grade changes.
   RESPONSE: Wall mounted sconces and gooseneck style lights will provide lighting consistent with the other buildings in the district.

6. Fixtures shall be placed at a height so that light patterns overlap at a height of seven feet which is sufficient to illuminate a person. All commercial, industrial, residential, and public facility projects undergoing design review shall use low or high pressure sodium bulbs and be able to demonstrate effective shielding so that the light is directed downwards rather than omni-directional. Omni-directional lights of an ornamental nature may be used in general commercial districts only.
   RESPONSE: Wall mounted sconces and gooseneck style lights will provide lighting consistent with the other buildings in the district.

7. Lines of sight shall be reasonably established so that the development site is visible to police and residents.
   RESPONSE: The entire project is located at the property lines. Public sidewalks, Knapps Alley, and the service area between the 1949 and 1969 buildings allow for adequate lines of sight.

8. Security fences for utilities (e.g., power transformers, pump stations, pipeline control equipment, etc.) or wireless communication facilities may be up to eight feet tall in order to protect public safety. No variances are required regardless of location.
   RESPONSE: No fences are planned for the project.

K. Provisions for persons with disabilities.
   1. The needs of a person with a disability shall be provided for. Accessible routes shall be provided between all buildings and accessible site facilities. The accessible route shall be the most practical direct route between accessible building entries, accessible site facilities, and the accessible entry to the site. An accessible route shall connect to the public right-of-way and to at least one on-site or adjacent transit stop (if the area is served by transit). All facilities shall conform to, or exceed, the Americans with Disabilities Act (ADA) standards, including those included in the Uniform Building Code.
      RESPONSE: Accessible parking spaces are provided in the garage and connect to accessible building entries which lead to a fully accessible interior. Additionally, the central entry at the lobby exits onto a public sidewalk that connects to public transit stops. All facilities will comply with ADA requirements.

L. Signs.
   1. Based on considerations of crime prevention and the needs of emergency vehicles, a system of signs for identifying the location of each residential unit, store, or industry shall be established.
      RESPONSE: Building identification signage will be provided to meet the requirements of local emergency service providers.

2. The signs, graphics, and letter styles shall be designed to be compatible with surrounding development, to contribute to a sense of project identity, or, when appropriate, to reflect a sense of the history of the area and the architectural style.
   RESPONSE: Signs are shown for reference only. All signs shall be submitted by the tenant under a separate sign permit prior to installation. Sign styles will comply with the Willamette Falls Drive Commercial Design District.

3. The sign graphics and letter styles shall announce, inform, and designate particular areas or uses as simply and clearly as possible.
   RESPONSE: Signs are shown for reference only. All signs shall be submitted by the tenant under a separate sign permit prior to installation. Sign styles will comply with the Willamette Falls Drive Commercial Design District.

4. The signs shall not obscure vehicle driver's sight distance.
   RESPONSE: Signs are shown for reference only. All signs shall be submitted by the tenant under a separate sign permit prior to installation. Sign styles will comply with the Willamette Falls Drive Commercial Design District.

5. Signs indicating future use shall be installed on land dedicated for public facilities (e.g., parks, water reservoir, fire halls, etc.).
   RESPONSE: Signs are shown for reference only. All signs shall be submitted by the tenant under a separate sign permit prior to installation. Sign styles will comply with the Willamette Falls Drive Commercial Design District.

6. Signs and appropriate traffic control devices and markings shall be installed or painted in the driveway and parking lot areas to identify bicycle and pedestrian routes.
   RESPONSE: Signs are shown for reference only. All signs shall be submitted by the tenant under a separate sign permit prior to installation. Sign styles will comply with the Willamette Falls Drive Commercial Design District.

M. Utilities. The developer shall make necessary arrangements with utility companies or other persons or corporations affected for the installation of underground lines and facilities. Electrical lines and other wires, including but not limited to communication, street lighting, and cable television, shall be placed underground, as practical. The design standards of Tables 1 and 2 above, and of subsection 5.487 of the West Linn Municipal Code relative to existing high ambient noise levels shall apply to this section.
   RESPONSE: All utilities to the site are existing and will remain. The secondary feeds from the main lines to the building will be the only new work.

N. Wireless communication facilities (WCFs). (This section only applicable to WCFs.) WCFs as defined in Chapter 57 CDC may be required to go through Class I or Class II design review. The approval criteria for Class I design review is that the visual impact of the WCF shall be minimal to the extent allowed by Chapter 57 CDC. Stealth designs shall be sufficiently camouflaged so that they are not easily seen by passersby in the public right-of-way or from any adjoining residential unit. WCFs that are classified as Class II design review must respond to all of the approval criteria of this chapter.
   RESPONSE: Not applicable – none proposed.

O. Refuse and recycling standards.
   1. All commercial, industrial and multi-family developments over five units requiring Class II design review shall comply with the standards set forth in these provisions. Modifications to these provisions may be permitted if the Planning Commission determines that the

changes are consistent with the purpose of these provisions and the City receives written evidence from the local franchised solid waste and recycling firm that they are in agreement with the proposed modifications.
RESPONSE: No modifications proposed for this development.

2. Compactors, containers, and drop boxes shall be located on a level Portland cement concrete pad, a minimum of four inches thick, at ground elevation or other location compatible with the local franchise collection firm's equipment at the time of construction. The pad shall be designed to discharge surface water runoff to avoid ponding.
RESPONSE: A concrete slab will be constructed in the enclosed trash enclosure area in which the containers will be placed.

3. Recycling and solid waste service areas.
a. Recycling receptacles shall be designed and located to serve the collection requirements for the specific type of material.
b. The recycling area shall be located in close proximity to the garbage container areas and be accessible to the local franchised collection firm's equipment.
c. Recycling receptacles or shelters located outside a structure shall have lids and be covered by a roof constructed of water and insect-resistive material. The maintenance of enclosures, receptacles and shelters is the responsibility of the property owner.
d. The location of the recycling area and method of storage shall be approved by the local fire marshal.
e. Recycling and solid waste service areas shall be at ground level and/or otherwise accessible to the franchised solid waste and recycling collection firm.
f. Recycling and solid waste service areas shall be used only for purposes of storing solid waste and recyclable materials and shall not be a general storage area to store personal belongings of tenants, lessees, property management or owners of the development or premises.
g. Recyclable material service areas shall be maintained in a clean and safe condition.
RESPONSE: Solid waste containers for the storage of trash and recycling containers provided by the local waste management company. These containers will be provided in an enclosure inside the building. Size of containers and frequency of pick-ups will be determined by the Building Owner and the waste management company.

4. Special wastes or recyclable materials.
   a. Environmentally hazardous wastes defined in ORS 466.005 shall be located, prepared, stored, maintained, collected, transported, and disposed in a manner acceptable to the Oregon Department of Environmental Quality.
   RESPONSE: Hazardous wastes will be handled and disposed of per state law. Cooking grease, if any, will be stored in approved containers within the restaurant.

   b. Containers used to store cooking oils, grease or animal renderings for recycling or disposal shall not be located in the principal recyclable materials or solid waste storage areas. These materials shall be stored in a separate storage area designed for such purpose.
   RESPONSE: Hazardous wastes will be handled and disposed of per state law. Cooking grease, if any, will be stored in approved containers within the restaurant.

5. Screening and buffering.

a. Enclosures shall include a curbed landscape area at least three feet in width on the sides and rear. Landscaping shall include, at a minimum, a continuous hedge maintained at a height of 36 inches.

RESPONSE: The enclosure is fully contained within the building structure. Other screening requirements of this section do not apply.

b. Placement of enclosures adjacent to residentially zoned property and along street frontages is strongly discouraged. They shall be located so as to conceal them from public view to the maximum extent possible.

RESPONSE: The enclosure is fully contained within the building structure. Other screening requirements of this section do not apply.

c. All dumpsters and other trash containers shall be completely screened on all four sides with an enclosure that is comprised of a durable material such as masonry with a finish that is architecturally compatible with the project. Chain link fencing, with or without slats, will not be allowed.

RESPONSE: The enclosure is fully contained within the building structure. Other screening requirements of this section do not apply.

6. Litter receptacles.
   a. Location. Litter receptacles may not encroach upon the minimum required walkway widths.

   RESPONSE: Site furnishings, such as litter receptacles, have not been selected at the time of this application. Future selections will be submitted for approval.

   b. Litter receptacles may not be located within public rights-of-way except as permitted through an agreement with the City in a manner acceptable to the City Attorney or his/her designee.

   RESPONSE: Site furnishings, such as litter receptacles, have not been selected at the time of this application. Future selections will be submitted for approval.

   c. Number. The number and location of proposed litter receptacles shall be based on the type and size of the proposed uses. However, at a minimum, for non-residential uses, at least one external litter receptacle shall be provided for every 25 parking spaces for first 100 spaces, plus one receptacle for every additional 100 spaces. (Ord. 1547, 2007; Ord. 1604 § 52, 2011; Ord. 1613 § 12, 2013; amended during July 2014 supplement; Ord. 1623 § 6, 2014; Ord. 1635 § 26, 2014; Ord. 1636 § 37, 2014)

   RESPONSE: Site furnishings, such as litter receptacles, have not been selected at the time of this application. Future selections will be submitted for approval.

55.110 SITE ANALYSIS

The site analysis shall include:

A. A vicinity map showing the location of the property in relation to adjacent properties, roads, pedestrian and bike ways, transit stops and utility access.

   RESPONSE: See Civil drawings for this information.

B. A site analysis on a drawing at a suitable scale (in order of preference, one inch equals 10 feet to one inch equals 30 feet) which shows:
   1. The property boundaries, dimensions, and gross area.

      RESPONSE: See Civil drawings for this information.

   2. Contour lines at the following minimum intervals:

a. Two-foot intervals for slopes from zero to 25 percent; and
b. Five- or 10-foot intervals for slopes in excess of 25 percent.
RESPONSE: See Civil drawings for this information.

3. A slope analysis which identifies portions of the site according to the slope ranges as follows:
a. Type I (under 15 percent);
b. Type II (between 15 to 25 percent);
c. Type III (between 25 to 35 percent);
d. Type IV (over 35 percent).
RESPONSE: See Civil drawings for this information.

4. The location and width of adjoining streets.
RESPONSE: See Civil drawings for this information and Existing Conditions plan (Survey).

5. The drainage patterns and drainage courses on the site and on adjacent lands.
RESPONSE: See Civil drawings for this information.

6. Potential natural hazard areas including:
a. Floodplain areas pursuant to the site's applicable FEMA Flood Map panel;
b. Water resource areas as defined by Chapter 32 CDC;
c. Landslide areas designated by the Natural Hazard Mitigation Plan, Map 16; and
d. Landslide vulnerable analysis areas, designated by the Natural Hazard Mitigation Plan, Map 17.
RESPONSE: See Civil drawings for this information.

7. Resource areas including:
a. Wetlands;
b. Riparian corridors;
c. Streams, including intermittent and ephemeral streams;
d. Habitat conservation areas; and
e. Large rock outcroppings.
RESPONSE: See Civil drawings for this information.

8. Potential historic landmarks and registered archaeological sites. The existence of such sites on the property shall be verified from records maintained by the Community Development Department and other recognized sources.
RESPONSE: None exist on the site. Further documentation will be provided to the City if requested.

9. Identification information including the name and address of the owner, developer, project designer, lineal scale and north arrow.
RESPONSE: See Civil & Architectural drawings for this information.

10. Identify Type I and II lands in map form. Provide a table which identifies square footage of Type I and II lands also as percentage of total site square footage. (Ord. 1408, 1998; Ord. 1425, 1998; Ord. 1442, 1999; Ord. 1463, 2000; Ord. 1526, 2005; Ord. 1544, 2007; Ord. 1565, 2008; Ord. 1590 § 1, 2009; Ord. 1613 § 13, 2013; Ord. 1621 § 25, 2014; Ord. 1635 § 27, 2014; Ord. 1636 § 38, 2014)

55.120 SITE PLAN
The site plan shall be at the same scale as the site analysis (CDC 55.110) and shall show:

A. The applicant's entire property and the surrounding property to a distance sufficient to determine the relationship between the applicant's property and proposed development and adjacent property and development.
RESPONSE: See provided site plan.

B. Boundary lines and dimensions for the perimeter of the property and the dimensions for all proposed lot or parcel lines.
RESPONSE: See provided site plan.

C. Streams and stream corridors.
RESPONSE: See provided site plan.

D. Identification information, including the name and address of the owner, developer, project designer, lineal scale and north arrow.
RESPONSE: See provided site plan.

E. The location, dimensions, and names of all existing and proposed streets, public pathways, easements on adjacent properties and on the site, and all associated rights-of-way.
RESPONSE: See provided site plan.

F. The location, dimensions and setback distances of all:
1. Existing and proposed structures, improvements, and utility facilities on site; and
2. Existing structures and driveways on adjoining properties.
RESPONSE: See provided site plan.

G. The location and dimensions of:
1. The entrances and exits to the site;
2. The parking and circulation areas;
3. Areas for waste disposal, recycling, loading, and delivery;
4. Pedestrian and bicycle routes, including designated routes, through parking lots and to adjacent rights-of-way;
5. On-site outdoor recreation spaces and common areas;
6. All utilities, including stormwater detention and treatment; and
7. Sign locations.
RESPONSE: See provided site plan.

H. The location of areas to be landscaped. (Ord. 1442, 1999; Ord. 1613 § 14, 2013; Ord. 1622 § 28, 2014; Ord. 1636 § 39, 2014)
RESPONSE: See provided site plan.

55.125 TRANSPORTATION ANALYSIS

Certain development proposals required that a Traffic Impact Analysis (TIA) be provided which may result in modifications to the site plan or conditions of approval to address or minimize any adverse impacts created by the proposal. The purpose, applicability and standards of this analysis are found in CDC 85.170(B)(2). (Ord. 1584, 2008)

RESPONSE: Access to the building is provided via existing public streets that were designed to accommodate the allowable uses in the zone, and parking is not required in the District (although structured parking is provided), so a traffic Impact analysis is not needed.

55.130 GRADING PLAN

The grading and drainage plan shall be at a scale sufficient to evaluate all aspects of the proposal and shall include the following:

A. The location and extent to which grading will take place indicating general contour lines, slope ratios, slope stabilization proposals, and location and height of retaining walls, if proposed.

RESPONSE: The civil site drawings show the existing contours. The proposed building will match the existing grades along the frontages and on the property line to the west. Finish grades are shown on the civil and architectural plans to demonstrate how the building fits with the existing grades

B. A registered civil engineer shall prepare a plan and statement that shall be supported by factual data that clearly shows that there will be no adverse impacts from increased intensity of runoff off site, or the plan and statement shall identify all off-site impacts and measures to mitigate those impacts. The plan and statement shall, at a minimum, determine the off-site impacts from a 10-year storm.

RESPONSE: A preliminary storm report has been prepared to demonstrate how the impervious roof area will be collected into a detention tank with orifices that release storm water at the pre-development rates for the 2 through 25 year events. The storm water from this site will be connected to the public system with an 8-inch line at a point where the public system has a larger 18-inch line representing approximately only 1.6% of the capacity of the public line for the 25-year flow from the development.

C. Storm detention and treatment plans may be required.

RESPONSE: A storm detention tank is proposed as shown within the storm report which will detain the developed flows and discharge at the pre-developed rates for storm events of 2-though 25 years. Because the building covers almost this entire site no infiltration or water quality swales or rain gardens are possible. A storm water pollution control manhole will provide treatment. Roof water generally does not contain harmful pollutants and in most cases is exempt from DEQ regulations for water quality.

D. Identification, information, including the name and address of the owner, developer, project designer, and the project engineer. (Ord. 1463, 2000; Ord. 1613 § 15, 2013; Ord. 1622 § 28, 2014)

RESPONSE: The civil plans provide a listing of the owner/developer, architect, engineer and surveyor with names and contact information.

55.140 ARCHITECTURAL DRAWINGS

This section does not apply to single-family residential subdivisions or partitions, or up to two duplexes or single-family attached dwellings.

Architectural drawings shall be submitted showing:

A. Building elevations and sections tied to curb elevation;

RESPONSE: See provided plans.

B. Building materials: color and type; and

RESPONSE: See provided plans.

C. The name of the architect or designer. (Ord. 1408, 1998; Ord. 1613 § 16, 2013)

RESPONSE: See provided plans.

55.150 LANDSCAPE PLAN

This section does not apply to detached single-family residential subdivisions or partitions, or up to two duplexes or single-family attached dwellings.

A. The landscape plan shall be prepared and shall show the following:
   1. Preliminary underground irrigation system, if proposed;

2. The location and height of fences and other buffering of screening materials, if proposed;
3. The location of terraces, decks, patios, shelters, and play areas, if proposed;
4. The location, size, and species of the existing and proposed plant materials, if proposed; and
5. Building and pavement outlines.
   RESPONSE: Due to the allowable site coverage of 100% the proposed development will not have site landscaping.

B. The landscape plan shall be accompanied by:
   1. The erosion controls that will be used, if necessary;
   2. Planting list; and
   3. Supplemental information as required by the Planning Director or City Arborist. (Ord. 1408, 1998; Ord. 1613 § 17, 2013)
      RESPONSE: No erosion control measures are required for this development. The site is entirely covered by building structure and will not be landscaped.

55.170 EXCEPTIONS TO UNDERLYING ZONE, YARD, PARKING, SIGN PROVISIONS, AND LANDSCAPING PROVISIONS

A. The Planning Director may grant an exception to the dimensional building setback or yard requirements in the applicable zone based on findings that the approval will satisfy the following criteria:
   1. A minor exception that is not greater than 20 percent of the required setback.
   2. A more efficient use of the site.
   3. The preservation of natural features that have been incorporated into the overall design of the project.
   4. No adverse affect to adjoining properties in terms of light, air circulation, noise levels, privacy, and fire hazard.
   5. Safe vehicular and pedestrian access to the site and safe on-site vehicular and pedestrian circulation.
      RESPONSE: No exceptions are being requested as part of this application.

B. The Planning Director may grant an exception to the off-street parking dimensional and minimum number of space requirements in the applicable zone so long as the following criteria are met:
   1. The minor exception is not greater than 10 percent of the required parking;
   2. The application is for a use designed for a specific purpose which is intended to be permanent in nature (for example, a nursing home) and which has a low demand for off-street parking; or
   3. There is an opportunity for sharing parking and there is written evidence that the property owners are willing to enter into a legal agreement; or
   4. Public transportation is available to the site reducing the standards and will not adversely affect adjoining uses, and there is a community interest in the preservation of particular natural feature(s) of the site which make it in the public interest to grant an exception to parking standards.
      RESPONSE: No exceptions are being requested as part of this application.

C. The Planning Director may grant an exception to the sign dimensional requirements in the applicable zone when the following criteria are met:
   1. The minor exception is not greater than 10 percent of the required applicable dimensional standard for signs;
   2. The exception is necessary for adequate identification of the use on the property; and

3. The sign will be compatible with the overall site plan, the structural improvements, and with the structures and uses on adjoining properties.
   RESPONSE: No exceptions are being requested as part of this application.

D. The Planning Director may grant an exception to the landscaping requirements in the applicable zone based on findings that the following criteria will be met:
   1. A minor exception that is not greater than 10 percent of the required landscaped area.
   2. A more efficient use of the site.
   3. The preservation of natural features that have been incorporated into the overall design of the project.
   4. No adverse effect to adjoining property.
      RESPONSE: No exceptions are being requested as part of this application.

55.180 MAINTENANCE

All on-site improvements shall be the ongoing responsibility of the property owner or occupant.
RESPONSE: The applicant acknowledges this responsibility.

55.190 SHARED OPEN SPACE

Where the open space is designated on the plan as common open space, the following shall apply:

A. The open space area shall be shown on the final plan and recorded with the Planning Director.
   RESPONSE: There is no shared open space planned as part of this application.

B. The open space shall be conveyed in accordance with one of the following methods:
   1. By dedication to the City as publicly owned and maintained as open space. Open space proposed for dedication to the City must be acceptable to it with regard to the size, shape, location, improvement, and budgetary and maintenance limitations.
      RESPONSE: There is no shared open space planned as part of this application.

   2. By leasing or conveying title (including beneficial ownership) to a corporation, home association, or other legal entity with the City retaining the development rights to the property. The terms of such lease or other instrument of conveyance must include provisions suitable to the City Attorney for guaranteeing the following:
      a. The continued use of such land for intended purposes.
      b. Continuity of property maintenance.
      c. When appropriate, the availability of funds required for such maintenance.
      d. Adequate insurance protection.
      e. Recovery for loss sustained by casualty and condemnation, or otherwise.
      RESPONSE: There is no shared open space planned as part of this application.

3. By any method that achieves the objectives set forth in subsection (B)(2) of this section.
   RESPONSE: There is no shared open space planned as part of this application.

55.195 ANNEXATION AND STREET LIGHTS

As a condition of approval for design review for any project that is being annexed to the City, the developer and/or homeowners association shall pay for all expenses related to street light energy and maintenance costs until annexed into the City. The approval for any property annexed must state: "This approval is contingent on voter approval of annexation of the subject property." This means that no permit, final plat, or certificate of occupancy may be issued or approved until annexation is complete. (Ord. 1442, 1999; Ord. 1604 § 53, 2011).

RESPONSE: The subject property is located within the city limits. The requirements of this section do not apply.

END OF CHAPTER RESPONSES

1949 Willamette Falls Drive
Proposed Commercial Mixed Use Building
West Linn, Oregon
Design Review Class II Submittal – Chapter 58
December 2022

A. Introduction

The following Narrative, Plans and Supplemental materials will demonstrate that the proposed project is in compliance with the applicable site plan and design *review* standards set forth in the West Linn Community Development Code.

B. Narrative

Icon Development is proposing a new two-story development located at 1949 Willamette Falls Drive- east of 12th Street. The site has one existing structure that will be demolished and is bordered primarily by commercial development with some residential development to the south.

The proposed mixed-use development is two-story office/retail with an underground parking facility. The total building area is approximately 29,080 s.f. of above grade building area and 33 on-site parking spaces have been provided behind and under the building. Summer/Fall 2023 construction start is anticipated.

C. Conformance

I

58.010 PURPOSE
RESPONSE: No Response Required

58.020 IMPLEMENTATION
RESPONSE: No Response Required

58.030 APPLICABILITY
RESPONSE: The project is within the Willamette Falls Drive Commercial Design District boundaries.

58.040 EXEMPTIONS
RESPONSE: No Response Required

58.050 PERMITTED USES
RESPONSE: The project's anticipated uses are permitted in the zone.

58.060 REVIEW BODY
Repealed by Ord. 1597

58.065 APPEALS OF HISTORIC REVIEW BOARD
Repealed by Ord. 1597. (Ord. 1474, 2001)

58.070 APPLICATION AND SUBMITTAL REQUIREMENTS
RESPONSE: No Response Required

58.080 STANDARDS

A. Standards are needed to provide a clear and objective list of design elements that are needed to bring new construction and remodels into conformance with 1880 – 1915 architecture. Buildings of the period saw relatively few deviations in design. Consequently, the Historic Review Board will require conformance with the standards. Deviations or deletions from the standards are addressed in the design exception procedure of this chapter.

B. The use of "neo-designs" or simply contextual designs which only attempt to capture the basic or generalized elements such as building line, massing and form, etc. is not acceptable.

C. The following standards shall apply to new construction and remodels.

1. Dimensional standards:

a. Front: zero-foot setback. Building may not be set back from the property line unless it is consistent with predominant building line.
RESPONSE: The proposed building frontage (north elevation) is located on the property line.

b. Side and Side Street: zero-foot setback. Building may not be set back from the side property line except for side passageway, accessway, or stairway unless fire codes dictate otherwise. The setback shall not exceed six feet. The setback should be consistent with the rhythm of adjacent structures, or at least not deleterious to it. (ORD. 1391)
RESPONSE: East (side) building elevation is located on the property line.

c. Rear: 20-foot setback. Setbacks between 0-20 feet are permitted only if the applicant can demonstrate that he can successfully mitigate any impacts associated with the building in current and future uses as they would relate to abutting residential and other properties.
RESPONSE: The eastern 80% of the South (rear) elevation is set back 5' from the property line, with the remainder set on the property line, all fronting on Knapps Alley. The setback was done on the 1969 building also in an agreement with the residential neighbors across the alley. While the neighbor situation is not the same for the 1949 building, this setback maintains a consistent line along the Alley. The alley provides the separation from adjacent properties to mitigate the impact of this project. Access to employee parking and the trash enclosure will occur from Knapp's Alley as well.

d. Lot coverage: Up to 100 percent of lot may be developed depending upon ability to mitigate impacts upon abutting residential and other uses.
RESPONSE: The proposed lot coverage based on the street level ground floor occupied area is 82%. Based upon the entire built area (building, parking, and service area) the proposed lot coverage is 100%.
Site area = .0344 acres = 15,000 s.f.

2. Minimum landscaping required: Structures in this area are exempt from landscaping requirements as identified in Section 55.100(A)(11)(b), Design Review. The provision of CDC Section 55.100(A)(11)(c)(1-8) shall still apply where parking lots are proposed.
RESPONSE: There is no landscaping required for this project.

3. Building height limitations: Maximum building height shall be 35feet (as measured by this Code), and two stories. False fronts shall be considered as the peak of the building if it exceeds the gable roof ridgeline.
RESPONSE: All proposed building heights are at or below the maximum allowable by code (35'0"). The building consists of a below grade garage, two floors above grade, and a small mezzanine above the second floor at the west end of the building. This is consistent with the underlying GC zone allowing 2-1/2 stories (see 19.070), as well as with IBC Section 505.2, which considers a mezzanine to be a part of the floor below and not a separate story:
"505.2 Mezzanines.
A Mezzanine or mezzanines in compliance with Section 505.2 shall be considered a portion of the story below. Such mezzanines shall not contribute to either the building area or number of stories as regulated by Section 503.1."

4. External ground level or first story minimum height: 10feet to allow transoms.
RESPONSE: The ground level first story height is 13'0" A.F.F to allow for window transoms.

5. *Roof form:* Flat orpitched roofs. Pitched roof ridgeline shall run from the front of the building to the back.
RESPONSE: All proposed flat sloped roofs run from front to back of the building.

6. Building form, scale and depth: Building shall emphasize the vertical through narrow, tall windows (especially on second floor), vertical awning supports, engaged columns, and exaggerated facades creating a height-to-width ratio of I.5:I. Building depth shall be flat, only relieved by awning and cornice projections and the indented doorway.
RESPONSE: The proposed exterior elevations emphasize many vertical elements using tall windows, cornices, and awnings. The second floor has been provided with many windows that align with the main floor below that enhance the "verticality" of each building elevation. Building reliefs have been incorporated throughout the overall design by off- setting the building footprint and providing awnings and cornice projections.

7. Visual Building Breaks: Strong vertical breaks or lines should be regularly spaced every 25 to 50 feet.
RESPONSE: Appropriate spacing and vertical breaks in the building vernacular, have been incorporated into all the building elevations. No vertical spacing exceeds 50'-0" in length (see elevation sheet).

8. Facades: No gables, hipped, orpitched roofs shall be exposed to the street at the front. The "Western false front" shall be the preferred style although variations shall be allowed through a design exemption.
RESPONSE: All roofs are 'flat' for the entire building and are concealed by "Western False Front" facades (see elevations sheet).

9. Cornice: Cornices shall be broad and may include regularly spaced supporting brackets. A cornice is not required, but preferred.
RESPONSE: The cornices along the north elevation are enhanced with supporting brackets. All other cornices are enhanced with framed panel decoration (see elevations & wall section sheets.)

10. Building materials and orientation: Horizontal wood siding in I" X 8" dimensions shall be used for siding. Brick and other materials are permitted only by a design exception under Section 58.090.
RESPONSE: The primary materials list will be:
Primary walls: 1x8 horizontal fiber cement siding (Hardiplank) - painted
Other walls: Brick masonry
Base/Wainscot: Brick masonry
Cornices/trim: Fiber cement trim (Hardieboard) - painted

11. All buildings shall have awnings extending out from building/ace. Awnings are preferred for micro-climate benefits. Ideally, the building will have both transom and awnings, although transoms are not required.

Awnings shall be either canvas or vinyl, or similar approved material, supported by an internal metal framework or metal or wood supported by a curved metal support attached to the building.

Awnings shall extend a minimum of five feet from the facade and along 80 percent of a street facing facade to provide appropriate pedestrian coverage and shall meet ADA requirements. The pitch of the awning shall be I 0-40 degrees. No "bubble-type" awnings are permitted. No backlit awnings are permitted. Canvas or matte finish vinyl, or similar approved ·material awnings may be one color or striped and shall have afree-hangi.ng plain or crenelated valance. Canvas or matte finish vinyl, or similar approved material awnings should not be shared between two structures. Each structure should have its own awning.
RESPONSE: Building awnings will be a combination of self-supporting fabric awnings on the eastern portion of the building, and a self-supporting steel canopy at the central main entry. These awnings and canopy extend approximately 4 feet from the face of the building. A deeper, canopy with metal roofing and decorative columns wraps the western corner and extends south along 12th Street. This canopy will extend out from the building approximately 8-1/2 feet to allow for outdoor seating/dining. All canopies and awnings will be at least 7 feet above the sidewalk.

12. Extruded roofs: As a substitute for an awning, extruded roofs have a 10-40 degree pitch and extend I-2feetfrom the building face just above the transom windows where the first and second stories meet. The roof runs along the entire building frontage. Standard roofing materials are used. Transoms are required with extruded roofs.
RESPONSE: No "extruded roofs" are being proposed. Transom windows will be provided beneath both the fabric awnings and metal canopies.

13. Doors and entryways: The entryway shall be centered in the middle of the building at grade. The buildings on street corners may position their door on the corner at an angle as depicted in the illustration. The doors may be single or double doors. The doors shall be recessed 3-5feet back from the building line. Doors shall have glazing in the upper two-thirds to half of the door. Panels should decorate the lower portions. The entryway shall have windows all the way around at the same level as the other display windows. Wood doors are preferable although alternatives with a dark matte finish may be acceptable.
RESPONSE: Recessed double entrance doors have been provided at the center of the building along with additional recessed entry doors at each end of the building (see elevation and floor plan). The door styles will be full glass light style and will meet the intent of the code.

14. Glazing: Clear glass only. No mirrored or tinted glass. No films applied to glass. Lettering on glass is permitted (see item 25(b) of this section).
RESPONSE: Clear glass is proposed for all windows.

15. Display or pedestrian level windows: Shall extend across at least 80 percent of building front. The windows shall start 1-112 - 2-l/2feet above grade to a height of 7-8 feet, and shall be level with the top of the height of the adjacent entryway area, excluding transom. A single sheet of glass is not permitted. The window shall be broken up into numerous sections, also known as lights. From 1880 onwards, the number of lights was generally no more than six in a pedestrian level window. The frames may be wood or vinyl clad wood, or other materials so long as a matte finish impossible.
RESPONSE: The proposed street level windows and storefronts extend across the entire front elevation (see elevation sheet). On the east end of the building, where the level of the floor is above the sidewalk, the windows are placed close enough to the floor level to allow pedestrians to view into the buildng, thereby meeting the intent of the Code to the extent possible.

16. Second floor and other windows: Double and single hung windows proportionately spaced and centered should be used. Smaller square shaped windows may be permitted (1-1/2 feet – 2 feet per side). A typical window should have a 3:1 height to width ratio for the glass area. There should be a minimum of two lights: "one over one" of equal size. "Two over one" or "four over one" is appropriate.
RESPONSE: The proposed upper level windows have a double-hung appearance, and are provided individually and in groups in sizes to meet the 3:1 standard.

17. Wainscoting: Wainscoting shall be consistent with primary material of the building, typically wood.
RESPONSE: The applicant would like to propose an alternate brick masonry wainscoting instead of the primary Hardie material proposed for the building. This alternative provides for a more durable building base, and is consistent with other buildings along Willamette Falls Drive.

18. *Shutters: Shutters are not allowed.*
RESPONSE: No shutters are proposed.

19. Balconies: No balconies are permitted except on rear of building.
RESPONSE: No balconies are proposed.

20. Exterior stairs: Simple stairs are permitted on the rear or side of the building only.
RESPONSE: All exit stairs are fully enclosed within the building envelope design (see elevation sheet).

21. *Roof mounted mechanical equipment: Equipment shall be screened from view on all sides by normal and consistent architectural features of the building. Section 55.100(A)(4), "Privacy and Noise, "shall apply.*
RESPONSE: The mechanical rooftop units (RTUs) will be located in a structurally designed"mechanical zone" that is located at the middle of the building. This location will allow the parapets to provide adequate screening from below to hide the units (see roof plan sheet). Noise from these units will be consistent with typical commercial buildings along Willamette Falls Drive.

22. Air conditioning: No window type on avenue or street side are permitted. Window mounted air conditioners are not allowed at rear where abutting residential.

RESPONSE: All air conditioning/units will be mounted on the roof (see Item 21).

23. Exterior lighting fixtures: Any lighting fixtures that can be traced to 1880-1915 period is permitted. Simple modern fixtures that are screened and/or do not attract attention are acceptable. Overlay ornate fixtures of the Victorian era are to be discouraged.
RESPONSE: All exterior light fixtures will meet the intent of the code "period fixtures 1880-1915". A cutsheet of the light fixture will be provided to the city for review.

24. Transoms: Transom windows are required with extruded roofs and optional with awnings. Transom windows shall cover the front of the building above, but not beyond, the main display windows and the entryway area. Transoms should be broken up into sections every six inches to three feet in a consistent and equal pattern. Height should not exceed three feet. Transoms may or may not open. False ceilings are allowed behind the transoms.
RESPONSE: The storefront windows proposed will have a metal canopies or fabric awnings above their entire width. No upper separate transom windows are proposed, however the window style will have transom influence by the use of grids and mullions. All window sizes will meet the intent of the code (see elevations).

25. Paint colors: Body color typically included white, cream, or a light, warm color of low intensity. Accents, trims, windows, etc., should be dark-colored. A palette or color wheel, submitted by the applicant, of acceptable 1880 – 1915 period colors shall be the basis for color selection. Colors shall be similar to or consistent with existing buildings within the Willamette Commercial District to establish streetscape continuity. (Ord. 1391, 1996; Ord. 1401, 1997; Ord. 1604 § 59, 2011; Ord. 1613 § 18, 2013; Ord. 1621 § 25, 2014; Ord. 1675 § 47, 2018; Ord. 1735 § 4 (Exh. C), 2022. Formerly 58.090).
RESPONSE: A material and color board is included with this application. Selected colors will be submitted for review prior to installation.

58.090 DESIGN EXCEPTION PROCEDURES

In those circumstances where a design proposal cannot meet the standards, or proposes an alternative to the standard, the Historic Review Board may grant a variance in those cases where one of the following criteria is met:

A. The applicant can demonstrate by review of historical records or photographs that the alternative is correct and appropriate to architecture in the region, and especially West Linn, in 1880-1915.

B. The applicant is incorporating exceptional 1880-1915 architecture into the building which overcompensates for an omission. The emphasis is upon superior design, detail, or workmanship.
RESPONSE: Design Exceptions are requested for the following:
1. **Item: James Hardie (or equal) fiber cement products to substitute for wood siding and trim.**
Criteria A: The proposed materials are designed to accurately represent the appearance of the wood they are replacing. Available in wood grained or smooth textures, when painted they provide high quality wood look.
Criteria B: The proposed fiber cement products are a significant upgrade in quality from natural wood, which makes it a superior design choice. Wood checks, twists, splits, and otherwise fails, necessitating near continuous maintenance. This can cause the building to almost always have portions that have unsightly blemishes

and defects. Wood will typically require replacement after approximately 10 years. The requested substitute is straight and true, without defects, requires no maintenance beyond regularly scheduled painting, and has a lifespan of more than 25 years.

2. **Item: Brick masonry for the eastern segment of the building, vertical pilasters, the lower portion of the western segment, and portions of the building base/wainscot.**
   Criteria A: Brick was a fairly common material in the 1880-1915 time period, and is well represented in the District, appearing on the fire station, the 2008 building across the street from the project, the Community of Faith Church at the corner of 12th Street and Willamette Falls Drive, and the 1969 Willamette Falls Drive building adjacent to the project.
   Criteria B: Brick is a superior material to wood in terms of durability, longevity, and appearance. Its use on this project helps to emphasise the vertical distinctions in a way that adds interest and human scale while elevating the level of detailing of the façade. In addition, at the base of the building it also provides a more durable surface where the building meets the sidewalk and is at greatest risk of damage from passersby, bicycles, delivery carts, and the like.

3. **Item: Columns at the canopy at the west corner of the building.**
   Criteria A: Canopies with column supports were a fairly common design motif in the 1880-1915 time period, and again appear in the District at the Community of Faith Church and the Little Cooperstown Grill.
   Criteria B: In the case of this project, the columns are needed to allow for the deeper covering (8-1/2 feet) which will make outdoor seating/dining possible. In the underlying zone, Chapter 55.100.6.i states that "Sidewalk cafes, kiosks, vendors, and street furniture are encouraged." In addition, the wider cover offers superior protection for pedestrians. This design exception would make the building design far better aesthetically and functionally compared to the typical awning standards.

Willamette Falls Mixed Use

West Linn, Oregon

Design Review Class II – Supplemental Chapter Responses

February 2023

Chapter 19 General Commercial, GC

SECTION 19.030 PERMITTED USES

The following uses are permitted outright in this zone:

RESPONSE: The proposed project is a shell building with a single below-grade parking level. The Applicant/Owner reserves the right to secure tenants of any and all uses permitted in the zone by this section. The Applicant/Owner further reserves the right to secure tenants of any and all uses as permitted in the zone by Section 19.040 Accessory Uses, 19.050 Permitted Under Prescribed Conditions, and 19.060 Conditional Uses.

At this time, the actual tenants are not yet known and may not be known until after the shell building is completed. Prospective tenants will be obligated to meet the requirements of this chapter and the rest of the Community Development Code in order to obtain their own individual tenant improvement permits.

In the near term tenants are *anticipated* to be from (but not limited to) the following outright permitted uses under Section 19.030:

19.030.10. Eating and drinking establishments.
19.030.13. Financial, insurance and real estate services.
19.030.15. General retail services.
19.030.19. Medical and dental services.
19.030.23. Professional and administrative services.

SECTION 19.070 DIMENSIONAL REQUIREMENTS, [for] USES PERMITTED OUTRIGHT AND USES PERMITTED UNDER PRESCRIBED CONDITIONS

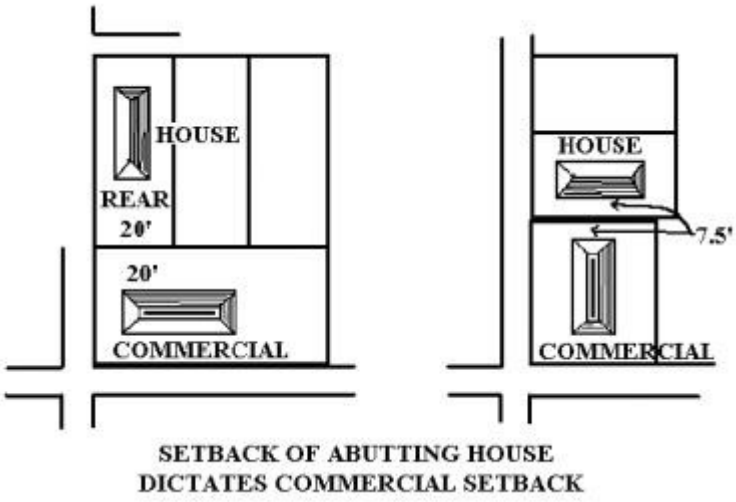
A. Except as may be otherwise provided by the provisions of this code, the following are the requirements for uses within this zone:

1. The minimum front lot line length or the minimum lot width at the front lot line shall be 35 feet.
   RESPONSE: The existing front lot line (Willamette Falls Drive) measures 150'

2. The average minimum lot width shall be 50 feet.
   RESPONSE: The existing front lot line (Willamette Falls Drive) averages not less than 150'

3. The average minimum lot depth shall not be less than 90 feet.
   RESPONSE: The existing lot depth averages not less than 50'

4. Where the use abuts a residential district, except as provided in CDC 58.090(C)(1), the setback distance of the residential zone shall apply.
   RESPONSE: The requirements of CDC 58.090(C)(1) apply to the proposed project. Please refer to our Chapter 58 responses included with this application.



SETBACK OF ABUTTING HOUSE
DICTATES COMMERCIAL SETBACK

5. The maximum lot coverage shall be 50 percent, except as provided in CDC 58.090(C)(1)(d).
RESPONSE: The requirements of CDC 58.090(C)(1)(d) apply to the proposed project. Please refer to our Chapter 58 responses included with this application.

6. The maximum building height shall be two and one-half stories or 35 feet for any structure located within 50 feet of a low or medium density residential zone, and three and one-half stories or 45 feet for any structure located 50 feet or more from a low or medium density residential zone.
RESPONSE: The proposed maximum building height is 2-stories/35'. Please refer to the included Willamette Falls Drive elevation drawing No. 1/EL05.

7. For lot lines that abut an arterial, there shall be no minimum yard dimensions or minimum building setback area, and the maximum building setback shall be 20 feet. The front setback area between the street and the building line shall consist of landscaping or a combination of non-vehicular hardscape areas (covered with impervious surfaces) and landscaped areas. If there are not street trees within the public right-of-way, the front setback area shall include such trees per the requirements of the City Arborist.
RESPONSE: Willamette Falls Drive is classified as a Minor Arterial per the City of West Linn Road Map. Per the criteria, the allowable setback along this street ranges from 0' to 20'. The proposed building sits at a 0' setback.

B. The requirements of subsections (A)(1) through (5) of this section may be modified for developments under the planned unit development provisions of Chapter 24 CDC. (Ord. 1401, 1997; Ord. 1425, 1998; Ord. 1614 § 5, 2013; Ord. 1622 § 24, 2014)
RESPONSE: The proposed project is not part of a planned unit development, the requirements of this paragraph do not apply.

Chapter 41 BUILDING HEIGHT, STRUCTURES ON STEEP LOTS, EXCEPTIONS

SECTION 41.005 DETERMINING HEIGHT OF BUILDING

A. For all zoning districts, building height shall be the vertical distance above a reference datum measured to the highest point of a flat roof or to the deck line of a mansard roof or to the highest gable, ridgeline or peak of a pitched or hipped roof, not including projections above roofs such as cupolas, towers, etc. The reference datum shall be selected by either of the following, whichever yields a greater height of building.

1. For relatively flat sites where there is less than a 10-foot difference in grade between the front and rear of the building, the height of the building shall be measured from grade five feet out from the exterior wall at the front of the building; or

   RESPONSE: The grades at the rear of the building ranges from 192' at the SE corner to 195' at the SW corner, and the grades at the front difference in grade between the front and rear of the building range from 189' at the NE corner to 195' at the NW corner. Thus the difference in grades from front to rear of the building range from 0' to 3' - less than 10'. Please refer to the Architectural Ground Floor Plan on EL05 and the Civil Grading Plan 4/4.

   Per the Standard, the North (Willamette Falls Drive) Elevation (1/EL05) is the elevation to be used in calculating the maximum building height.

2. For steeper lots where there is more than a 10-foot difference in grade between the front and rear of the building, the height of the building is measured from grade at a point five feet out from the exterior wall on the lowest side (front or rear) of the building. One then measures vertically to the peak or ridgeline of the roof to determine the height.

   RESPONSE: This criterion does not apply as described in the response above.

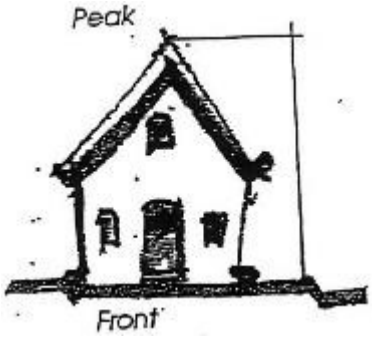
3. Buildings on cross slopes or side slopes are measured at either the front or rear of the building using methods described in subsections (A)(1) and (2) of this definition only.

   Even if the cross slope creates a tall elevation on the side, the method of determining height is not modified.

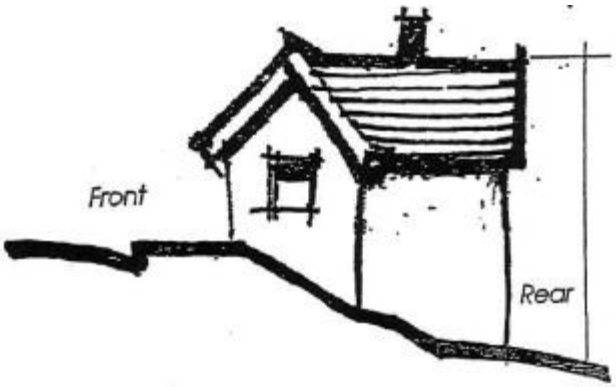
   RESPONSE: This criterion does not apply as described in the response above.

Also see CDC 41.020, Height Exceptions.

Figure 1.



Height of building on relatively flat lot is measured from grade at front of house to peak of roof.



Height of building on steep lots where there is more than a 10-foot difference in elevation between the front and rear of the building is measured from grade at a point five feet out from the front or rear exterior wall on the lowest side of the house to the peak of the building.

Height of building with a cross slope is still measured at either the front or rear by methods described in subsection (A)(1) or (2) of this definition.

(Ord. 1604 § 42, 2011)

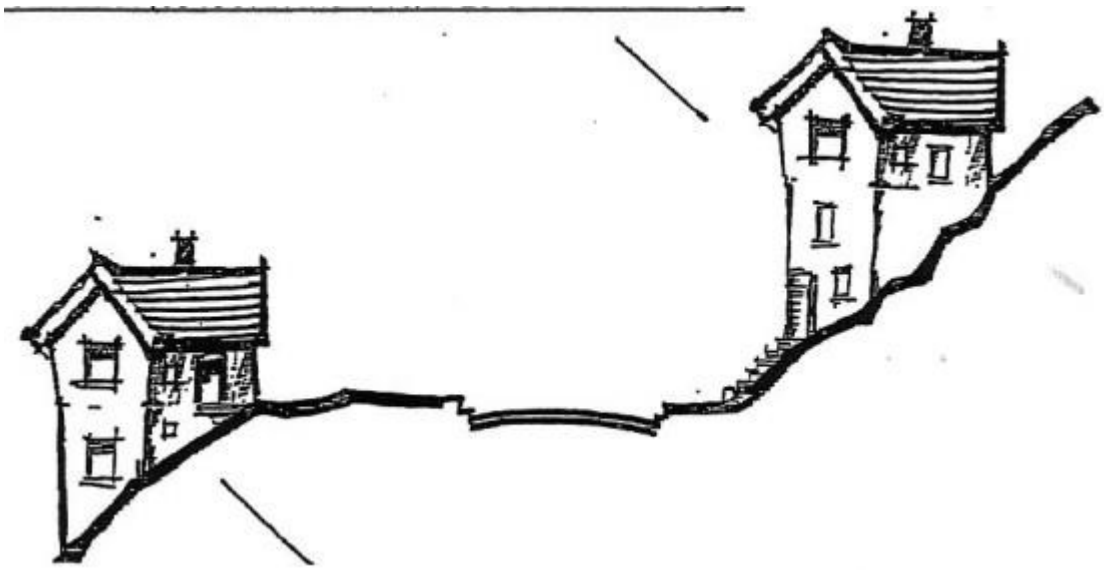
41.020 HEIGHT EXCEPTIONS

A. If the highest grade of a building site which fronts on the downslope side of the street is greater than 10 feet above the lowest grade as measured along the planes of the proposed structure, the total building height may not exceed 45 feet as measured from the lowest grade at a point five feet downhill from the rear of the building, provided the building height does not project more than 24 feet above the average grade of the street. In the R-15, R-20, and R-40 zones the 45-foot height may be increased to 50 feet.

B. If the highest grade of a building site which fronts on the upslope side of the street is greater than 10 feet above the lowest grade, as measured along the planes of the proposed structure, the total building height shall not exceed 45 feet. In the R-15, R-20, and R-40 zones the 45-foot height may be increased to 50 feet.

Height of buildings on uphill slopes where there is more than a 10-foot difference between the rear and front elevation is measured from a point five feet downhill from the front of the building to the peak or dominant ridgeline and shall not exceed 45 feet (50 feet in the R-15, R-20 and R-40 zones).

Figure 2. Height exceptions



Height of buildings on downhill slopes where there is more than a 10-foot difference between the rear and front elevation is measured from a point five feet downhill from the rear of the building to the peak or dominant ridgeline and shall not exceed 45 feet (50 feet in the R-15, R-20 and R-40 zones). Front house height cannot be more than 24 feet above average street grade. (Ord. 1276, 1990; Ord. 1308, 1991; Ord. 1538, 2006; Ord. 1604 § 43, 2011)

RESPONSE: The site does not qualify for height exceptions.

41.030 PROJECTIONS NOT USED FOR HUMAN HABITATION

Projections such as chimneys, spires, domes, elevator shaft housings, towers, aerials, flag poles, and other similar objects not used for human occupancy are not subject to the building height limitations of this code. (Ord. 1604 § 44, 2011)

RESPONSE: There are projections in the form of western false fronts and cornices as prescribed in CDC 58.080. As shown on the Willamette Falls Drive Elevation (1/EL05), all portions of the elevation meet the maximum 35' height standard.

Chapter 46 OFF-STREET PARKING, LOADING AND RESERVOIR AREAS

46.150 DESIGN AND STANDARDS

The following standards apply to the design and improvement of areas used for vehicle parking, storage, loading, and circulation:

A. Design standards.

1. "One standard parking space" means a minimum for a parking stall of eight feet in width and 16 feet in length. These stalls shall be identified as "compact." To accommodate larger cars, 50 percent of the required parking spaces shall have a minimum dimension of nine feet in width and 18 feet in length (nine feet by 18 feet). When multifamily parking stalls back onto a main driveway, the stalls shall be nine feet by 20 feet. Parking for development in water resource areas may have 100 percent compact spaces.

RESPONSE: There are a total of 37 spaces proposed: 33 below grade in the Garage, and 4 parallel spaces located along the south property line. 24 of the 37 (65%) are full size spaces (9' x 18' minimum), with the remaining 13 (35%) being compact (8' x 16' minimum). Please refer to the Garage and Ground Floor Plans.

2. Disabled parking and maneuvering spaces shall be consistent with current federal dimensional standards and subsection B of this section and placed nearest to accessible building entryways and ramps.

RESPONSE: ADA compliant spaces are located immediately adjacent to the elevator, which serves as the most convenient accessible route into the building.

3. *Repealed by Ord. 1622.*

RESPONSE: No Response Required.

4. Service drives shall be designed and constructed to facilitate the flow of traffic, provide maximum safety of traffic access and egress, and maximum safety of pedestrians and vehicular traffic on the site.

RESPONSE: There are no service drives provided as part of the project per CDC 46.140.

5. Each parking and/or loading space shall have clear access, whereby the relocation of other vehicles to utilize the parking space is not required.

RESPONSE: All spaces provided have clear access. Please refer to the Garage Floor Plan (G/EL05).

6. Except for single-family attached and detached residences, any area intended to be used to meet the off-street parking requirements as contained in this chapter shall have all parking spaces clearly marked using a permanent paint. All interior drives and access aisles shall be clearly marked and signed to show direction of flow and maintain vehicular and pedestrian safety. Permeable parking surface spaces may have an alternative delineation for parking spaces.

RESPONSE: All spaces, drive aisles, and pedestrian accessways will be marked with permanent paint as shown on G/EL05 and the Ground Floor Plan on EL05.

7. Except for residential parking, and parking for public parks and trailheads, at least 50 percent of all areas used for the parking and/or storage and/or maneuvering of any vehicle, boat and/or trailer shall be improved with asphalt or concrete surfaces according to the same standards required for the construction and acceptance of City streets. The remainder of the areas used for parking may use a permeable paving surface designed to reduce surface runoff. Parking for public parks or trailheads may use a permeable paving surface designed to reduce surface runoff for all parking areas. Where a parking lot contains both paved and unpaved areas, the paved areas shall be located closest to the use which they serve.

RESPONSE: The entire proposed below grade parking area will be paved with concrete to match the adjacent existing attached 1969 parking lot. The parallel spaces along Knapps Alley are also paved in concrete. Please refer to G/EL05 and the Ground Floor Plan on EL05.

8. Off-street parking spaces for single-family attached and detached residences shall be improved with an asphalt or concrete surface, or a permeable parking surface designed to reduce surface runoff, to specifications as approved by the Building Official. Other parking facilities for single-family homes that are to accommodate additional vehicles, boats, recreational vehicles, and trailers, etc., need not be paved. All parking for multifamily residential development shall be paved with concrete or asphalt. Driveways shall measure at least 20 feet from the back of sidewalk to garage or the end of the parking pad to accommodate cars and sport utility vehicles without the vehicles blocking the public sidewalk.

RESPONSE: This Standard is for residential projects and does not apply to this proposal.

9. Access drives from the street to off-street parking or loading areas shall be designed and constructed to facilitate the flow of traffic and provide maximum safety for pedestrian and vehicular traffic on the site. The number of access drives shall be limited to the minimum that will allow the property to accommodate and service the anticipated traffic. Access drives shall be clearly and permanently marked and defined through use of rails, fences, walls, or other barriers or markers on frontage not occupied by service drives.

RESPONSE: Only the below grade parking is served by an access drive. The proposed design utilizes the existing access drive on 11th Street that was provided with the adjacent 1969 Willamette Falls Drive building to also serve the 1949 project.

10. Access drives shall have a minimum vision clearance as provided in Chapter 42 CDC, Clear Vision Areas.

RESPONSE: The existing access drive meets the Standards, and no changes are proposed.

11. Parking spaces along the boundaries of a parking lot or adjacent to interior landscaped areas or sidewalks shall be provided with a wheel stop at least four inches high located two feet back from the front of the parking stall. Such parking spaces may be provided without wheel stops if the sidewalks or landscaped areas adjacent the parking stalls are two feet wider than the minimum width.

RESPONSE: There are no spaces proposed that meet this criterion.

12. Off-street parking and loading areas shall be drained in accordance with plans and specifications approved by the City Engineer. Storm drainage at commercial sites may also have to be collected to treat oils and other residue.

RESPONSE: All parking areas within the property line will be drained to the detention facility located below the garage floor slab as shown on the Site and Utility Plan, 3/4.

13. Artificial lighting on all off-street parking facilities shall be designed to deflect all light downward away from surrounding residences and so as not to create a hazard to the public use of any road or street.

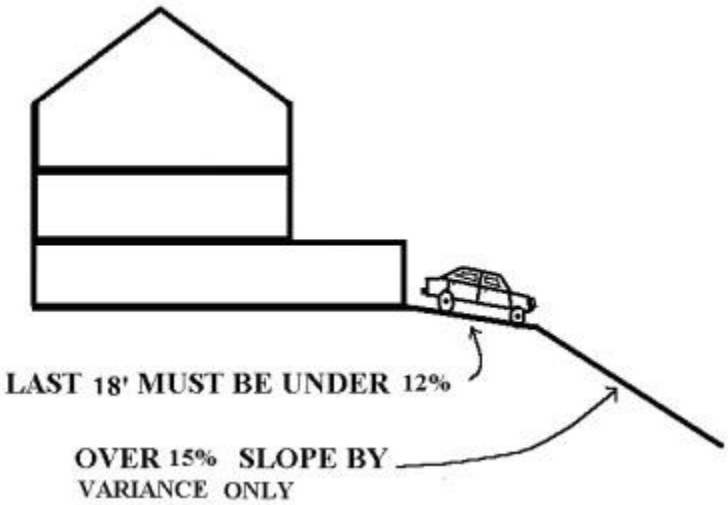
RESPONSE: Lighting for the ground floor level parallel spaces will be provided by downlight fixtures in the soffit above the spaces and will meet requirements to avoid impacting adjacent properties.

14. Directional arrows and traffic control devices which are placed on parking lots shall be identified.

RESPONSE: Directional arrows are shown on the Garage Floor Plan, G/EL05.

15. The maximum driveway grade for single-family housing shall be 15 percent. The 15 percent shall be measured along the centerline of the driveway only. Grades elsewhere along the driveway shall not apply. Variations require approval of a Class II variance by the Planning Commission pursuant to Chapter 75 CDC. Regardless, the last 18 feet in front of the garage must maintain a maximum grade of 12 percent as measured along the centerline of the driveway only. Grades elsewhere along the driveway shall not apply.

RESPONSE: This Standard is for residential projects and does not apply to this proposal.



16. Visitor or guest parking must be identified by painted "GUEST" or "VISITOR."

RESPONSE: This Standard is for residential projects and does not apply to this proposal.

17. The parking area shall have less than a five percent grade. No drainage across adjacent sidewalks or walkways is allowed.

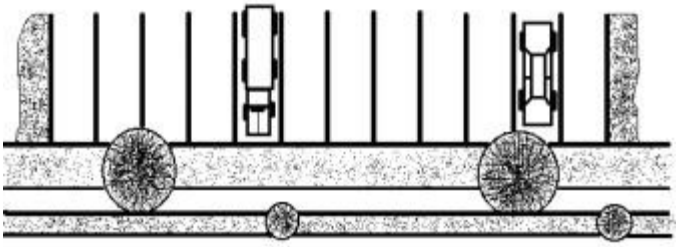
RESPONSE: With the exception of the connecting ramp between the existing and proposed below grade parking areas, all below grade spaces, drive aisles, and pedestrian areas will be sloped at between 1% and 2%. The ground level parallel spaces and pedestrian areas slope from approximately 192.5' to 194.5' across approximately 90', or 3.33% as shown on the Ground Floor Plan on EL05.

18. Commercial, office, industrial, and public parking lots may not occupy more than 50 percent of the main lot frontage of a development site. The remaining frontage shall comprise buildings or landscaping. If over 50 percent of the lineal frontage comprises parking lot, the landscape strip between the right-of-way and parking lot shall be increased to 15 feet wide and shall include terrain variations (e.g., one-foot-high berm) plus landscaping. The defensible space of the parking lot should not be compromised.

RESPONSE: There are no spaces provided in this proposal that occupy the property frontage.

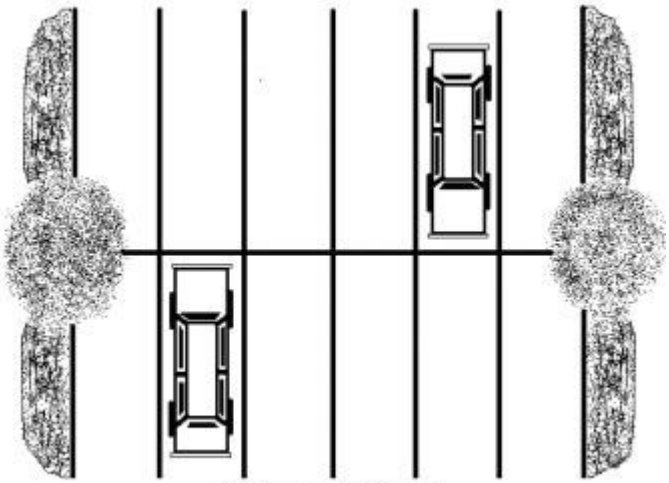
19. Areas of the parking lot improved with asphalt or concrete surfaces shall be designed into areas of 12 or less spaces through the use of defined landscaped area. Groups of 12 or less spaces are defined as:

a. Twelve spaces in a row, provided there are no abutting parking spaces, as in the case when the spaces are abutting the perimeter of the lot; or



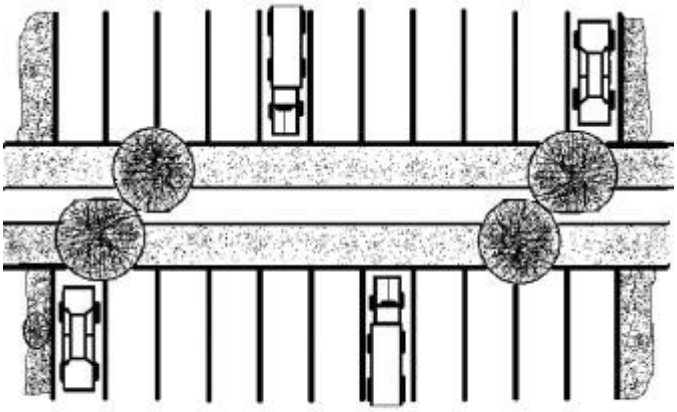
12 SPACES IN A ROW

b. Twelve spaces in a group with six spaces abutting together; or



6 SPACES X 2 = 12

c. Two groups of 12 spaces abutting each other, but separated by a 15-foot-wide landscape area including a six-foot-wide walkway.



12 SPACES X2 WITH LANDSCAPING

RESPONSE: There are no surface spaces proposed in groupings of 12 or more. This Standard does not apply.

d. Parking areas improved with a permeable parking surface may be designed using the configurations shown in subsections (A)(19)(a), (b) and (c) of this section except that groups of up to 18 spaces are allowed.

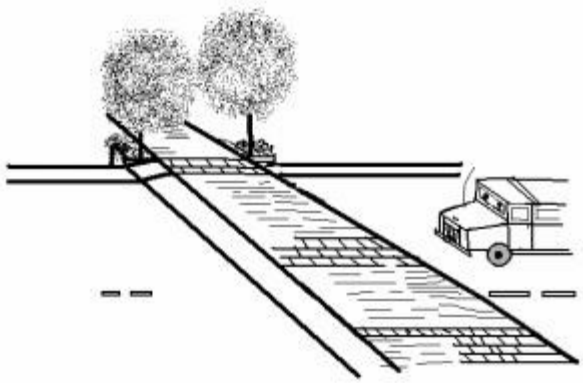
RESPONSE: Permeable paving is not included in this proposal. This Standard does not apply.

e. The requirements of this chapter relating to total parking lot landscaping, landscaping buffers, perimeter landscaping, and landscaping the parking lot islands and interior may be waived or reduced pursuant to CDC 32.110(F) in a WRA application without a variance being required.

RESPONSE: There are no surface spaces proposed in groupings of 12 or more, and landscaping is not possible in the below grade spaces, so this Standard cannot apply.

20. Pedestrian walkways shall be provided in parking areas having 20 or more spaces. Walkways or sidewalks shall be constructed between major buildings/activity areas (an example in multi-family housing: between recreation center, swimming pool, manager's office, park or open space areas, parking lots, etc.) within a development, between adjacent developments and the new development, as feasible, and between major buildings/activity areas within the development and adjacent streets and all adjacent transit stops. Internal parking lot circulation and design should maintain ease of access for pedestrians from streets and transit stops. Walkways shall be constructed using a material that visually contrasts with the parking lot and driveway surface. Walkways shall be further identifiable to pedestrians and motorists by grade separation, walls, curbs, surface texture (surface texture shall not interfere with safe use of wheelchairs, baby carriages, shopping carts, etc.), and/or landscaping. Walkways shall be six feet wide. The arrangement and layout of the paths shall depend on functional requirements.

RESPONSE: The above described connections do not exist as part of this proposal. This Standard does not apply.



RAISED SIDEWALK/TEXTURED SURFACE
AUTOMOBILE BECOMES SUBSERVIENT
TO THE PEDESTRIAN

21. The parking and circulation patterns are easily comprehended and defined. The patterns shall be clear to minimize traffic hazards and congestion and to facilitate emergency vehicles.

RESPONSE: The proposed ground level and garage level parking areas are clearly deliniated for ease of use and to minimize hazards as indicated on G/EL05 and the Ground Floor Plan.

22. The parking spaces shall be close to the related use.

RESPONSE: Ground level parking is located immediately adjacent to building entries along the west side of the building. The Garage level spaces are arranged conveniently surrounding the elevator providing access to the building lobbies.

23. Permeable parking spaces shall be designed and built to City standards.

RESPONSE: Permeable paving is not included in this proposal. This Standard does not apply.

B. Accessible parking standards for persons with disabilities. If any parking is provided for the public or visitors, or both, the needs of the people with disabilities shall be based upon the following standards or current applicable federal standards, whichever are more stringent:

1. Minimum number of accessible parking space requirements (see following table):

RESPONSE: There are a total of 30 proposed spaces, two of which are ADA accessible. The proposed parking complies with the Standard.

MINIMUM REQUIRED NUMBER OF TOTAL PARKING SPACES	TOTAL NUMBER OF ACCESSIBLE SPACES	NUMBER OF VAN-ACCESSIBLE SPACES REQUIRED, OF TOTAL	SPACES SIGNED "WHEELCHAIR USE ONLY"
1 – 25	1	1	–
26 – 50	2	1	–
51 – 75	3	1	–
76 – 100	4	1	–
101 – 150	5	–	1
151 – 200	6	–	1

MINIMUM REQUIRED NUMBER OF TOTAL PARKING SPACES	TOTAL NUMBER OF ACCESSIBLE SPACES	NUMBER OF VAN-ACCESSIBLE SPACES REQUIRED, OF TOTAL	SPACES SIGNED "WHEELCHAIR USE ONLY"
201 – 300	7	–	2
301 – 400	8	–	2
401 –500	9	–	2
501 – 999	2 percent of total spaces	–	1 in every 6 accessible spaces or portion thereof
Over 1,000	20 spaces plus 1 for every 100 spaces, or fraction thereof, over 1,000	–	1 in every 6 spaces or portion thereof

2. Location of parking spaces. Parking spaces for the individual with a disability that serve a particular building shall be located on the shortest possible accessible circulation route to an accessible entrance to a building. In separate parking structures or lots that do not serve a particular building, parking spaces for the persons with disabilities shall be located on the shortest possible circulation route to an accessible pedestrian entrance of the parking facility.

RESPONSE: Both ADA compliant spaces are located immediately adjacent to the elevator, which serves as the most convenient accessible route into the building.

3. Accessible parking space and aisle shall meet ADA vertical and horizontal slope standards.

RESPONSE: As noted above, all slopes in the garage level parking area will be between 1% and 2%, which complies with ADA parking space requirements.

4. Where any differences exist between this section and current federal standards, those standards shall prevail over this code section.

RESPONSE: The proposed ADA spaces meet both the Standards and Federal requirements.

5. One in every eight accessible spaces, but not less than one, shall be served by an access aisle 96 inches wide.

RESPONSE: The ADA space to the north of the elevator has a 96" access aisle.

6. Van-accessible parking spaces shall have an additional sign marked "Van Accessible" mounted below the accessible parking sign. A van-accessible parking space reserved for wheelchair users shall have a sign that includes the words "Wheelchair Use Only." Van-accessible parking shall have an adjacent eight-foot-wide aisle. All other accessible stalls shall have a six-foot-wide aisle. Two vehicles may share the same aisle if it is between them. The vertical clearance of the van space shall be 96 inches.

RESPONSE: The ADA space to the north of the elevator will serve as the van space. All ADA spaces will have signage as required by the jurisdiction(s).

C. Landscaping in parking areas. Reference Chapter 54 CDC, Landscaping.

RESPONSE: There is no landscaping proposed for the parking areas, this Standard does not apply.

D. Bicycle facilities and parking.

1. Provisions shall be made for pedestrian and bicycle ways if such facilities are shown on an adopted plan.

RESPONSE: Bicycle spaces are proposed.

2. Bicycle parking facilities shall either be lockable enclosures in which the bicycle is stored, or secure stationary racks which accommodate bicyclist's locks securing the frame and both wheels. The bicycle parking shall be no more than 50 feet from the entrance to the building, well-lit, observable, and properly signed.

RESPONSE: Bicycle spaces are proposed with industry standard 'U' frames suitable for locking wheels and frames. All spaces are within 50' of entrances to the building.

3. Bicycle parking must be provided in the following amounts:

RESPONSE: While the final distribution of tenant uses are not known at this time, bicycle parking spaces are provided based upon the space uses shown:
Retail – 7250 SF @ .33/1000 SF = 2.39 spaces required
Restaurant – 6710 SF @ 1/1000 SF = 6.71 spaces required
Service – 8220 SF @ .5/1000 SF = 4.11 spaces required
Total bicycle spaces required = 13.21
Total bicycle spaces provided = 14

LAND USE CATEGORY	MINIMUM REQUIRED BICYCLE PARKING SPACES	MINIMUM COVERED AMOUNT
Residential		
Multi-family Residential	1 space per unit	50%
Institutional		
Schools – Elementary	2 spaces per classroom	50%
Schools – Jr. High or Middle Schools	4 spaces per classroom	50%
Schools – Sr. High	2 spaces per classroom	50%
College	1 space per 4 students	50%
Transit Centers/Park & Ride Lots	5% of auto spaces, or 100% of demand, depending on location/accessibility to bicyclists	100%
Religious Institutions	1 space per 40-seat capacity	25%
Hospitals	1 space per 5 beds	50%
Doctor, Dentist Offices	2, or 0.5 spaces per 1,000 gross sq. ft., whichever is greater	25%
Libraries, Museums, Government Offices, etc.	2, or 1.5 spaces per 1,000 gross sq. ft., whichever is greater	25%
Commercial		
Retail Sales	0.33 spaces per 1,000 gross sq. ft.	50%
Auto-oriented Services (including 7-11s)	2, or 0.33 spaces per 1,000 gross sq. ft., whichever is greater	10%
Groceries/Supermarkets	0.33 spaces per 1,000 gross sq. ft./bldg.	10%
Office	2, or 0.5 spaces per 1,000 gross sq. ft., whichever is greater	10%
Quality Restaurant	1 space per 1,000 gross sq. ft.	25%

LAND USE CATEGORY	MINIMUM REQUIRED BICYCLE PARKING SPACES	MINIMUM COVERED AMOUNT
Drive-in Restaurant	2 spaces per 1,000 gross sq. ft.	25%
Shopping Center (by size)	0.33 spaces per 1,000 gross sq. ft./bldg.	50%
Financial Institutions	2, or 0.33 spaces per 1,000 gross sq. ft.	25%
Theaters, Auditoriums, etc.	1 space per 30 seats	25%
Industrial		
Industrial Park	2, or 0.5 spaces per 1,000 gross sq. ft.	50%
Warehouse	2, or 0.1 spaces per 1,000 gross sq. ft.	50%
Manufacturing, etc.	2, or 0.15 spaces per 1,000 gross sq. ft.	50%

E. Office or industrial developments shall be allowed a 10 percent reduction in the number of required parking spaces when the property owner agrees to a demand management program that includes three or more of the following measures:

1. Designate a transportation coordinator responsible for promoting public transit and ride-sharing among employees.
2. Participate in region-wide ride matching program at the site.
3. Provide free transit passes to employees.
4. Provide showers and lockers for employees who commute by bicycle.
5. Charge employees for monthly parking and provide a transportation allowance to employees equal to the parking charge.
6. Install office technology, floorplans, and tenant regulations which are permanent, which effectively arrange for at least 10 percent of the employees to telecommute, thereby reducing employee automobile traffic by 10 percent.

The required demand management measures shall be included as conditions of approval for the proposed project. The property owner or manager shall file an annual affidavit with the City of West Linn stating that ongoing demand management measures required as conditions of approval have not been discontinued.

RESPONSE: The proposal does not intend to avail itself of the 10% reduction.

F. (See Figures 1 and 2 below.)

RESPONSE: All parking in the garage level is 90° with 23' drive aisles.

Figure 1. MINIMUM STANDARDS FOR PARKING LOT LAYOUT

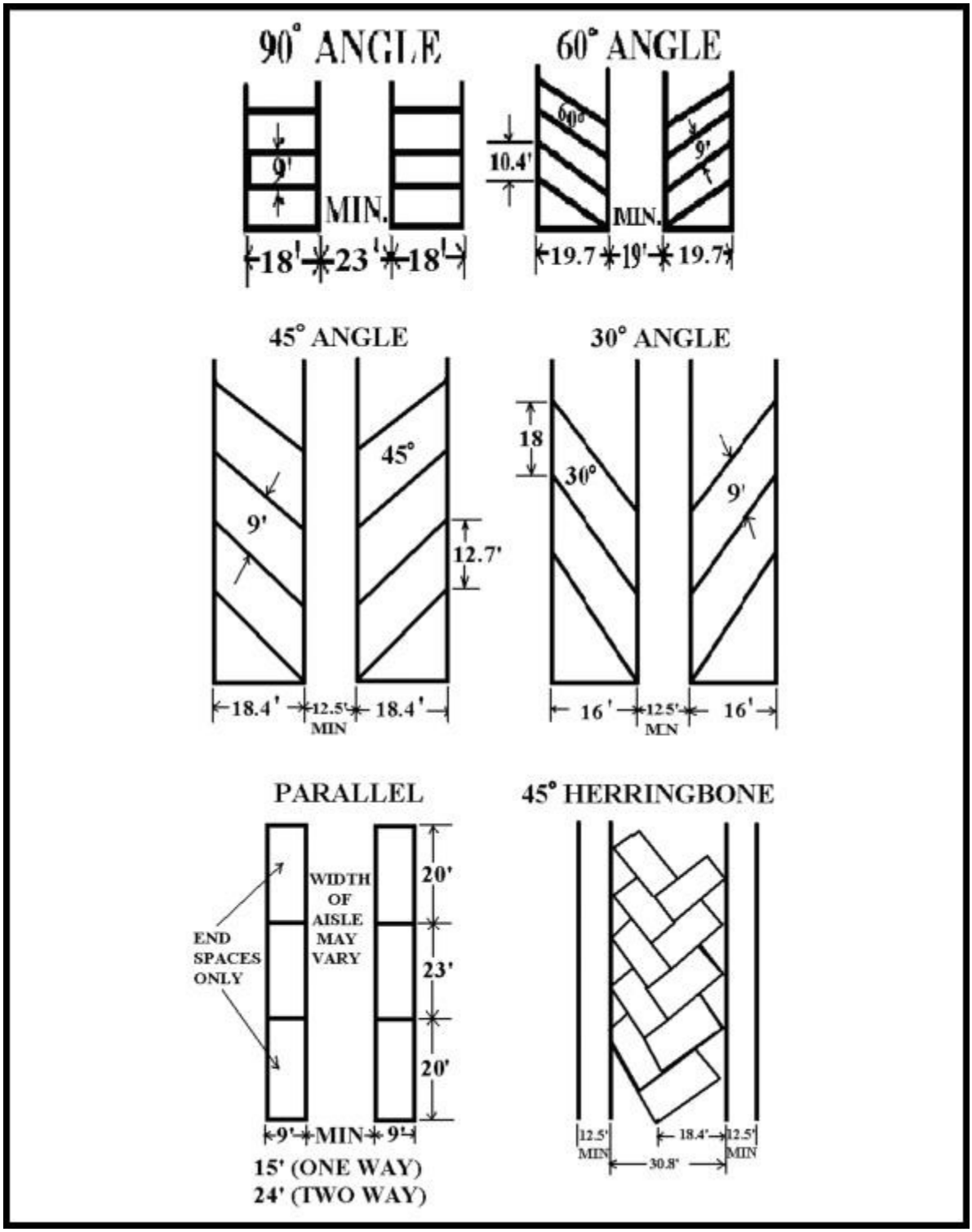
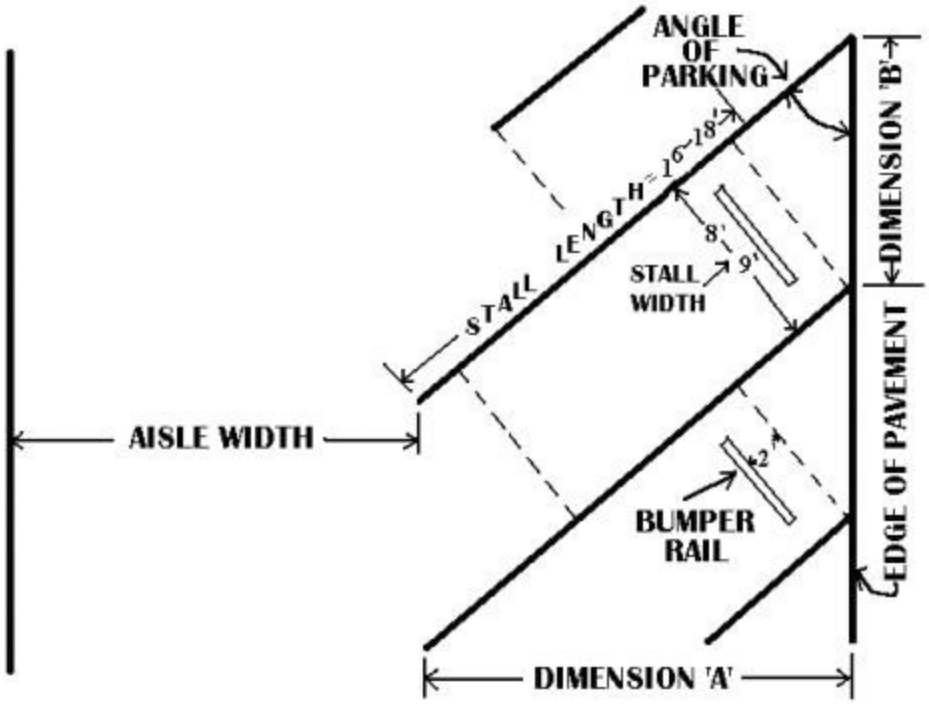


Figure 2. MINIMUM DISTANCE FOR PARKING STALLS



ANGLE OF PARKING	DIRECTION OF PARKING	AISLE WIDTH		DIMENSION 'A'		DIMENSION 'B'	
		STALL WIDTH		STALL WIDTH		STALL WIDTH	
		9.0'	8.0'	9.0'	8.0'	9.0'	8.0'
30°	DRIVE-IN	12.5'	12.5'	16.8'	13.8'	18.0'	16.0'
45°	DRIVE-IN	12.5'	12.5'	19.1'	17.0'	12.7'	11.3'
60°	DRIVE-IN	19.0'	18.0'	20.1'	17.8'	10.4'	9.2'
60°	BACK-IN	17.0'	17.0'	20.1'	17.8'	10.4'	9.2'
90°	DRIVE-IN	23.0'	23.0'	18.0'	16.0'	9.0'	8.0'
90°	BACK-IN	22.0'	22.0'	18.0'	16.0'	9.0'	8.0'

(Ord. 1425, 1998; Ord. 1463, 2000; Ord. 1513, 2005; Ord. 1547, 2007; Ord. 1590 § 1, 2009; Ord. 1604 § 46, 2011; Ord. 1622 § 25, 2014; Ord. 1623 § 4, 2014; Ord. 1635 § 24, 2014; Ord. 1736 § 1 (Exh. A), 2022)

CITY OF WEST LINN
PRE-APPLICATION CONFERENCE MEETING
SUMMARY NOTES
May 5, 2022

SUBJECT: Class II Historic Design Review for a new commercial building at 1919/1949 Willamette Falls Dr.

FILE: PA-22-09

ATTENDEES:

Applicant:	Icon Construction & Development; SG Architecture LLC
Staff: (Engineering)	John Floyd (Planning), Lynn Schroder (Planning) , Maryna Asuncsion
Public:	Kathie Halicki (Willamette NA)

The following is a summary of the meeting discussion provided to you from staff meeting notes. Additional information may be provided to address any "follow-up" items identified during the meeting. <u>These comments are PRELIMINARY in nature</u>. Please contact the Planning Department with any questions regarding approval criteria, submittal requirements, or any other planning-related items. Please note disclaimer statement below.

<u>Site Information</u>

Site Address:	1719 & 1749 Willamette Falls Drive
Tax Lot No.:	31E02BA04300 & 4400
Site Area:	15,000 Square Feet +/-
Neighborhood:	Willamette Neighborhood Association
Comp. Plan:	Commercial
Zoning:	General Commercial (GC)
Zoning Overlays:	Willamette Falls Drive Commercial Design District
Applicable CDC Chapters:	Chapter 19: General Commercial (GC)
	Chapter 41: Building Height
	Chapter 46: Off-Street Parking, Loading, and Reservoir Areas
	Chapter 55: Design Review
	Chapter 58: Willamette Falls Drive Commercial Design District
	Chapter 99: Procedures for Decision Making: Quasi-Judicial

<u>Project Details</u>

Demolish two existing structures to be replaced with a three-story commercial building with underground parking. The underground parking will utilize the existing entrance from the adjoining building, as approved in DR-16-01.

<u>Pertinent Factors:</u>

The proposed work will require a Class II Design Review. The Planning Commission is the deciding authority on such applications, following a recommendation by the Historic Review Board.

The existing building located at 1919 Willamette Falls Drive is documented as being a potentially eligible contributing historic resource, but is not part of the City's historic resource inventory and is **not** subject to CDC 25 (Historic District).

Staff has reviewed the concept drawings and has the following preliminary comments:

- The proposed building height was not specified. Please include measurements on the proposed site elevations, consistent with CDC Chapter 41 (Building Height).
- Per CDC 46.140, no off-street parking is required, but any spaces voluntarily provided shall be designed and installed consistent with CDC 46 (Off-Street Parking)
- Internal property lines shall removed prior to construction of the building, per the building official. You may wish to include a property line adjustment with your application.

- A cross-access agreement for the underground garage may be required. However, as the site is not subject to minimum parking agreements, this may only be advised and not required.
- A preliminary review of the project revealed the following design exceptions. Note that this is not an exhaustive list and explanatory findings might justify the absence of an exception:
    - Use of non-wood siding
    - Use of metal canopies

Note that the City Council is nearing finalization of text amendments to CDC Chapter 58 (Willamette Falls Drive Commercial Design District).

Building: For building code and ADA questions, please contact Adam Bernert at abernert@westlinnoregon.gov or 503-742-6054, or Alisha Bloomfield at 503-742-6053 or abloomfield@westlinnoregon.gov.

Engineering: For work in the right of way and utility questions, see attached notes and/or contact Maryna Asuncion at masuncion@westlinnoregon.gov or 503-722-3436.

Tualatin Valley Fire & Rescue: Please contact Jason Arn at jason.arn@tvfr.com or 503-259-1510 with any questions. Note that a Service Provider Permit will need to be presented with the application in order for it to be deemed complete. https://www.tvfr.com/399/Service-Provider-Permit

Process: For the proposal, address the submittal requirements and standards for decision making in the Community Development Code (CDC) chapters:

- Chapter 19: General Commercial (GC)
- Chapter 41: Building Height
- Chapter 46: Off-Street Parking, Loading, and Reservoir Areas
- Chapter 55: Design Review
- Chapter 58: Willamette Falls Drive Commercial Design District (note that updates to this chapter are being adopted under CDC-22-01). https://westlinnoregon.gov/planning/community-development-code-chapters-2-25-58-and-99-historic-code-amendments
- Chapter 99: Procedures for Decision Making: Quasi-Judicial

N/A is not an acceptable response to the approval criteria. The submittal requirements may be waived, but the applicant must first identify the specific submittal requirement and request, in letter form, that it be waived by the Planning Manager and must identify the specific grounds for that waiver.

The fee for a Class II Design Review is a deposit of $4,000 plus 4% of construction value ($20,000 maximum). Preliminary approval of a property line adjustment is $800.

Once the application and deposit/fee are submitted, the City has 30 days to determine if the application is complete or not. If the application is not complete, the applicant has 180 days to make it complete or provide written notice to staff that no other information will be provided. Once complete, the City has 120 days from the date of completeness to make a final decision on the application.

Typical land use applications can take 6-10 months from beginning to end.

DISCLAIMER: This summary discussion covers issues identified to date. It does not imply that these are the only issues. The burden of proof is on the applicant to demonstrate that all approval criteria have been met. These notes do not constitute an endorsement of the proposed application ***or provide any assurance of potential outcomes***. Staff responses are based on limited material presented at this pre-application meeting. New issues, requirements, etc. could emerge as the application is developed. Pre-application notes are void after 18 months. After 18 months with no application approved or in process, a new pre-application conference is required. Any changes to the CDC standards may require a different design or submittal.

FIRE CODE / LAND USE / BUILDING REVIEW APPLICATION

Tualatin Valley Fire & Rescue

North Operating Center
11945 SW 70th Avenue
Tigard, OR 97223
Phone: 503-649-8577

South Operating Center
8445 SW Elligsen Rd
Wilsonville, OR 97070
Phone: 503-649-8577

REV 6-30-20

Project Information

Applicant Name: SG Architecture ,LLC (Scot Sutton)
Address: 10940 SW Barnes Road #364
Phone: 503-347-4685
Email: ssutton@sg-arch.net
Site Address: 1919 & 1949 Willamette Falls Drive
City: West Linn, OR
Map & Tax Lot #: 31E02BA04300 & 4400
Business Name: Commercial Mixed Use Building
Land Use/Building Jurisdiction: (GC) General Comm.
Land Use/ Building Permit # Pending

Choose from: Beaverton, Tigard, Newberg, Tualatin, North Plains, West Linn, Wilsonville, Sherwood, Rivergrove, Durham, King City, Washington County, Clackamas County, Multnomah County, Yamhill County

Project Description

Demolish two existing structures to be replaced with a +/-15,000 s.f three-story commercial mixed-use building with underground parking. The underground parking will utilize the existing entrance from the adjoining building and connected to the existing underground parking.

Permit/Review Type (check one):

- ☒ Land Use / Building Review - Service Provider Permit
- ☐ Emergency Radio Responder Coverage Install/Test
- ☐ LPG Tank (Greater than 2,000 gallons)
- ☐ Flammable or Combustible Liquid Tank Installation (Greater than 1,000 gallons)
  - * Exception: Underground Storage Tanks (UST) are deferred to DEQ for regulation.
- ☐ Explosives Blasting (Blasting plan is required)
- ☐ Exterior Toxic, Pyrophoric or Corrosive Gas Installation (in excess of 810 cu.ft.)
- ☐ Tents or Temporary Membrane Structures (in excess of 10,000 square feet)
- ☐ Temporary Haunted House or similar
- ☐ OLCC Cannabis Extraction License Review
- ☐ Ceremonial Fire or Bonfire (For gathering, ceremony or other assembly)

For Fire Marshal's Office Use Only

TVFR Permit # 2023-0010
Permit Type: SPP-WestLinn
Submittal Date: 1-21-23
Assigned To: DFM Arn
Due Date: NA
Fees Due: Ø
Fees Paid: Ø

Approval/Inspection Conditions

(For Fire Marshal's Office Use Only)

This section is for application approval only

0430 2-7-23
Fire Marshal or Designee Date

Conditions: See attached plans.

See Attached Conditions: ☐ Yes ☒ No

Site Inspection Required: ☒ Yes ☐ No

This section used when site inspection is required

Inspection Comments:

Final TVFR Approval Signature & Emp ID Date

FS
0

EXISTING CONDITIONS MAP

LOCATED IN THE
N.W. 1/4 SECTION 2, T.3S., R.1E., W.M.
CITY OF WEST LINN, CLACKAMAS COUNTY, OREGON
NOVEMBER 29, 2021 SCALE 1"=10'

SURVEY NOTES:

THE DATUM FOR THIS SURVEY IS BASED UPON A STATIC GPS OBSERVATION OF LOCAL CONTROL POINTS, PROCESSED THROUGH OPUS. DATUM IS NAVD 88.

THE BASIS OF BEARINGS FOR THIS SURVEY IS PER MONUMENTS FOUND AND HELD PER THE PLAT OF "WILLAMETTE FALLS", PLAT RECORDS OF CLACKAMAS COUNTY.

NO WARRANTIES ARE MADE AS TO MATTERS OF UNWRITTEN TITLE, SUCH AS ADVERSE POSSESSION, ESTOPPEL, ACQUIESCENCE, ETC.

NO TITLE REPORT WAS SUPPLIED OR USED IN THE PREPARATION OF THIS MAP.

THE UNDERGROUND UTILITIES AS SHOWN ON THIS MAP HAVE BEEN LOCATED FROM FIELD SURVEY OF ABOVE GROUND STRUCTURES AND AS MARKED BY ONE CALL TICKET NUMBER 21320741 DATED NOVEMBER 16, 2021. THE SURVEYOR MAKES NO GUARANTEE THAT THE UNDERGROUND UTILITIES SHOWN COMPRISE ALL SUCH UTILITIES IN THE AREA, EITHER IN SERVICE OR ABANDONED. THE SURVEYOR FURTHER DOES NOT WARRANT THAT THE UNDERGROUND UTILITIES ARE IN THE EXACT LOCATION INDICATED, ALTHOUGH HE DOES CERTIFY THAT THEY ARE LOCATED AS ACCURATELY AS POSSIBLE FROM INFORMATION AVAILABLE. THE SURVEYOR HAS NOT PHYSICALLY LOCATED THE UNDERGROUND UTILITIES. SUBSURFACE AND ENVIRONMENTAL CONDITIONS WERE NOT EXAMINED OR CONSIDERED AS A PART OF THIS SURVEY. NO STATEMENT IS MADE CONCERNING THE EXISTENCE OF UNDERGROUND OR OVERHEAD CONTAINERS OR FACILITIES THAT MAY AFFECT THE USE OR DEVELOPMENT OF THIS TRACT. THIS SURVEY DOES NOT CONSTITUTE A TITLE SEARCH BY SURVEYOR.

LEGEND:

Some Symbols shown may not be used on map

- DECIDUOUS TREE
- EVERGREEN TREE
- STORM SEWER MANHOLE
- CATCH BASIN
- CURB INLET
- AREA DRAIN
- DITCH INLET
- SANITARY SEWER CLEANOUT
- SANITARY SEWER MANHOLE
- WATER MANHOLE
- WATER METER
- WATER VALVE
- HOSE BIB
- IRRIGATION CONTROL VALVE
- GAS VALVE
- GAS METER
- MAILBOX
- UTILITY RISER
- UTILITY BOX
- TELEPHONE MANHOLE
- TELEPHONE RISER
- STORM OUTFALL
- SIGN
- BOLLARD
- FOUND MONUMENT
- DOWN SPOUT TO STORM SYSTEM
- TRAFFIC SIGNAL POLE
- UTILITY POLE
- LIGHT POLE
- GUY WIRE
- ELECTRIC BOX
- ELECTRIC METER
- TRANSFORMER
- ELECTRIC RISER
- HEAT PUMP
- GATE POST
- CABLE TV BOX
- CABLE TV RISER
- OVERHEAD LINE
- GAS LINE
- ELECTRICAL LINE
- COMMUNICATIONS LINE
- SANITARY SEWER LINE
- STORM DRAIN LINE
- WATER LINE
- FENCELINE
- HANDRAIL
- CONCRETE SURFACE
- ASPHALT SURFACE
- CONCRETE PAVERS

EXISTING FIRE HYDRANT

TVF&R Tualatin Valley Fire & Rescue
APPROVED PLANS
APPROVAL OF PLANS IS NOT AN APPROVAL OF OMISSIONS OR OVERSIGHTS
Jason Arn Gonella
Deputy Fire Marshal II
TVF&R Permit #2023-0010

SIGNED ON: 29 NOV 21

REGISTERED PROFESSIONAL LAND SURVEYOR
OREGON
JULY 13, 2004
TOBY G. BOLDEN
60377LS
RENEWS: DECEMBER 31, 2021

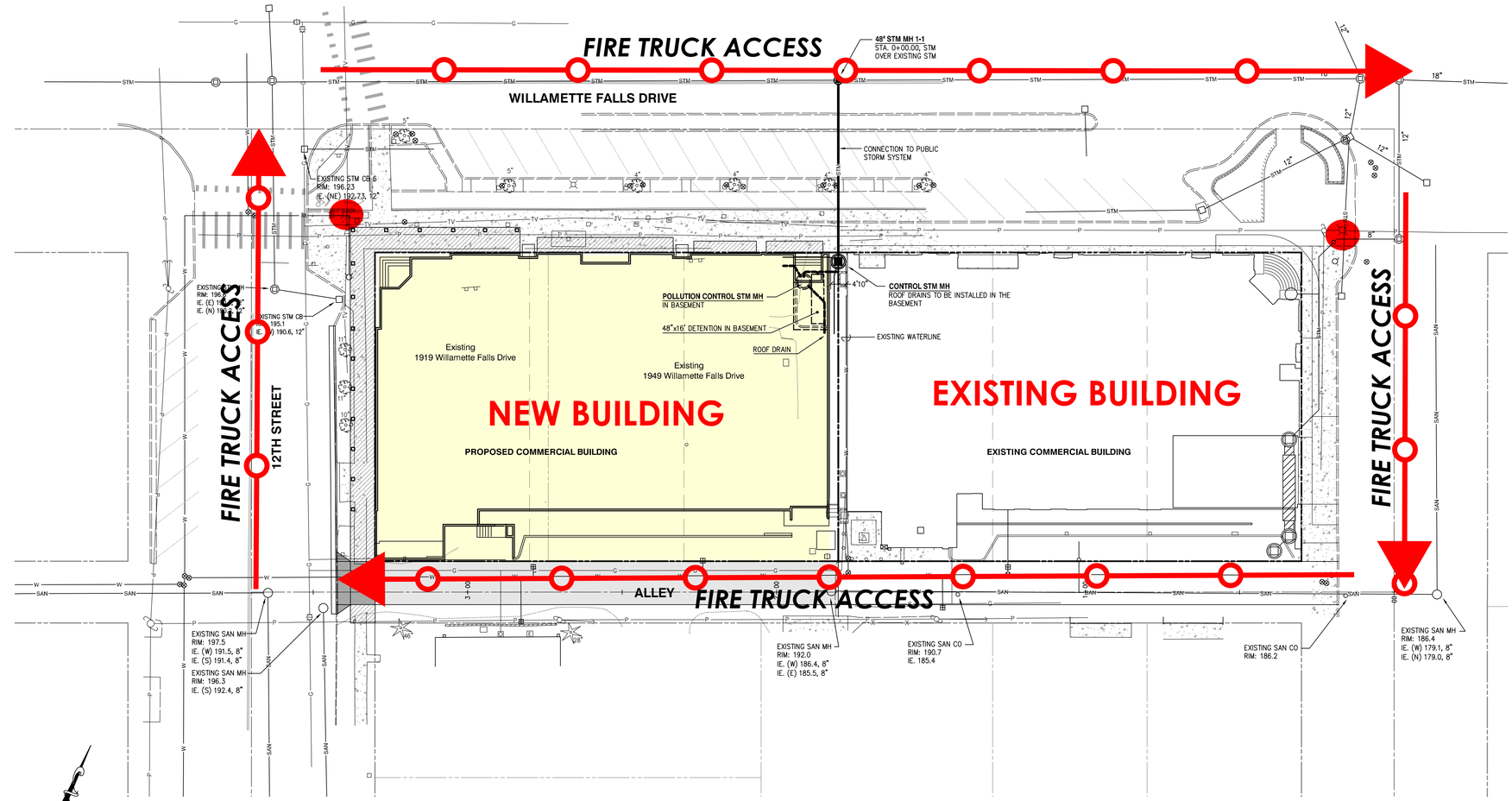
GRAPHIC SCALE
10 0 5 10 20
(IN FEET)
1 INCH = 10 FT.

CENTERLINE CONCEPTS
LAND SURVEYING, INC.
19376 MOLALLA AVE., SUITE 120
OREGON CITY, OREGON 97045
PHONE 503.650.0188 FAX 503.650.0189

PLOTTED: M:\PROJECTS\CCN-WILLAMETTE FALLS DR-1919 & 1949\DWG\ECM-C3D.dwg

UTILITY | FIRE TRUCK ACCESS PLAN

FS 01



EXISTING FIRE HYDRANT

TVF&R Tualatin Valley Fire & Rescue
APPROVED PLANS
APPROVAL OF PLANS IS NOT AN APPROVAL OF OMISSIONS OR OVERSIGHTS
Deputy Fire Marshal II
TVF&R Permit #2023-0010

REGISTERED PROFESSIONAL ENGINEER
71281
OREGON
January 16, 1971
BRUCE D. GOLDSON
PRELIMINARY
EXPIRES: 06/30/2023
SIGNATURE DATE: 12/29/2022

DESIGN REVIEW - SITE AND UTILITY PLAN

2022-129Z

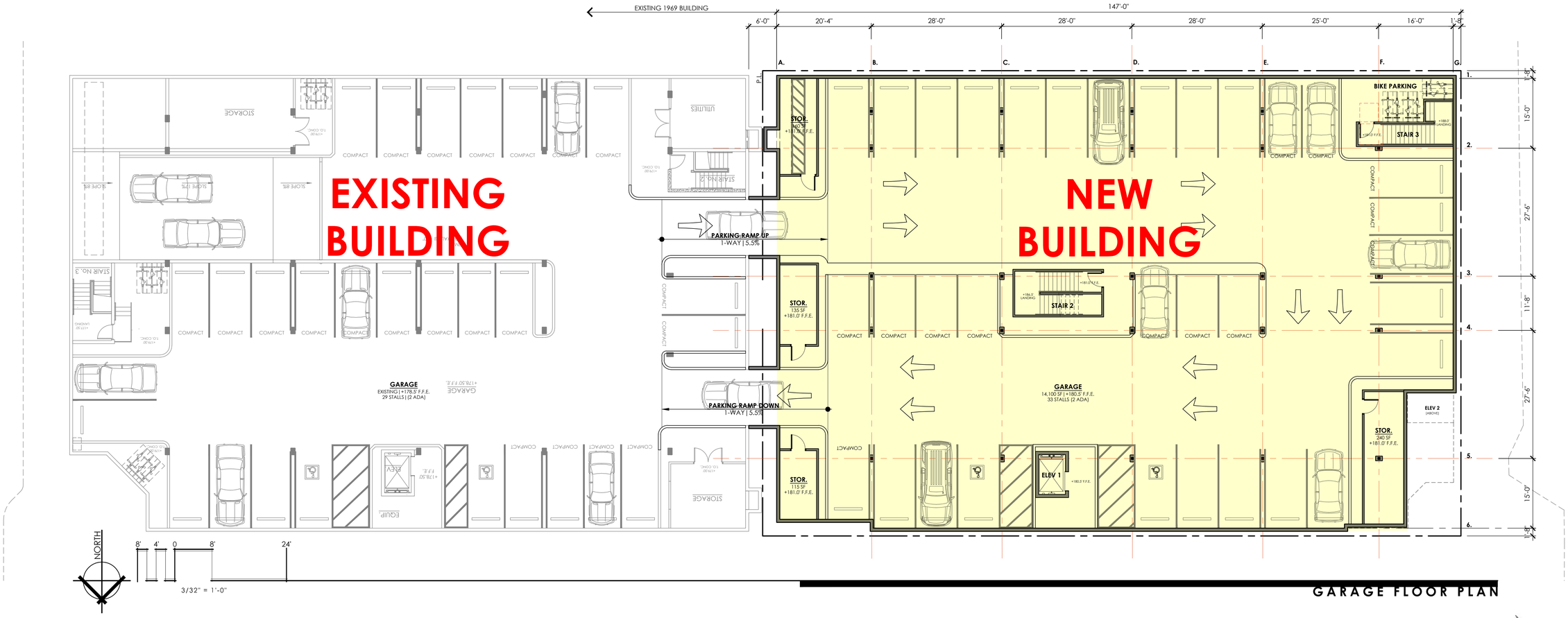
DESIGNED: BDG			
DRAWN: BJS			
SCALE: 1" = 20'			
DATE: November, 2022			
FILE: Willamette Falls Design Review1	DATE	NO.	REVISION

Theta,llc
ENGINEERING - SURVEYING - PLANNING
PO Box 1345
Lake Oswego, Oregon 97035
503/481-8822
email: thetaeng@comcast.net

Icon Construction & Development, LLC
1980 Willamette Falls Drive, Suite 200
West Linn, Oregon 97068
PH: (503) 657-0406

1919 and 1949 Willamette Falls Drive
West Linn, Oregon

SHEET: 3/4



GARAGE FLOOR PLAN

TVF&R Tualatin Valley Fire & Rescue

APPROVED PLANS

APPROVAL OF PLANS IS NOT AN APPROVAL OF OMISSIONS OR OVERSIGHTS.

Deputy Fire Marshal II

TVF&R Permit #2023-0010

G GARAGE FLOOR PLAN

CONCEPTUAL PLANS + ELEVATIONS

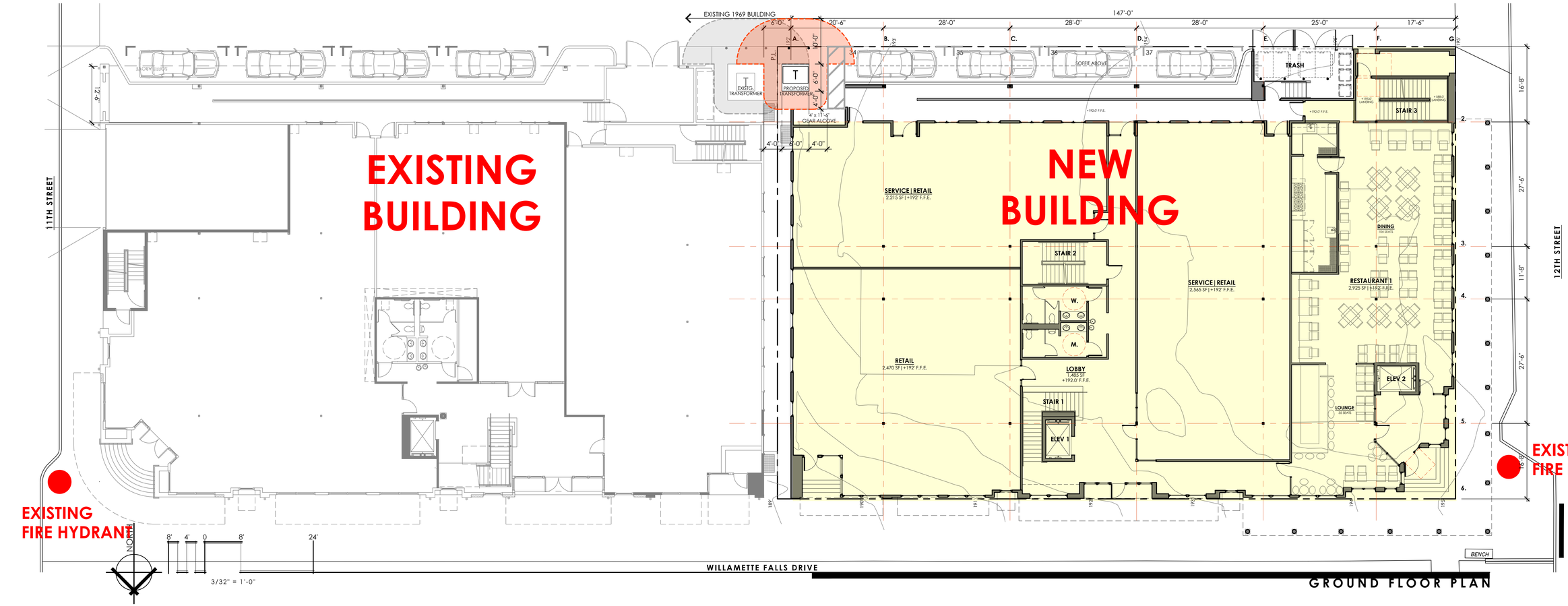
DECEMBER 2022

SGA
SUTTON | GODWIN ARCHITECTURE, LLC
ARCHITECTURE
PLANNING
DESIGN
503.347.4685 | 503.201.0725
www.sg-arch.net

FS 02

1949 WILLAMETTE FALLS DRIVE
WEST LINN, OREGON

ICON CONSTRUCTION AND DEVELOPMENT



1 GROUND FLOOR PLAN + WILLAMETTE FALLS DRIVE ELEVATION

CONCEPTUAL PLANS + ELEVATIONS

DECEMBER 2022

FS 03

1949 WILLAMETTE FALLS DRIVE
WEST LINN, OREGON

ICON CONSTRUCTION AND DEVELOPMENT

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APPROVED PLANS
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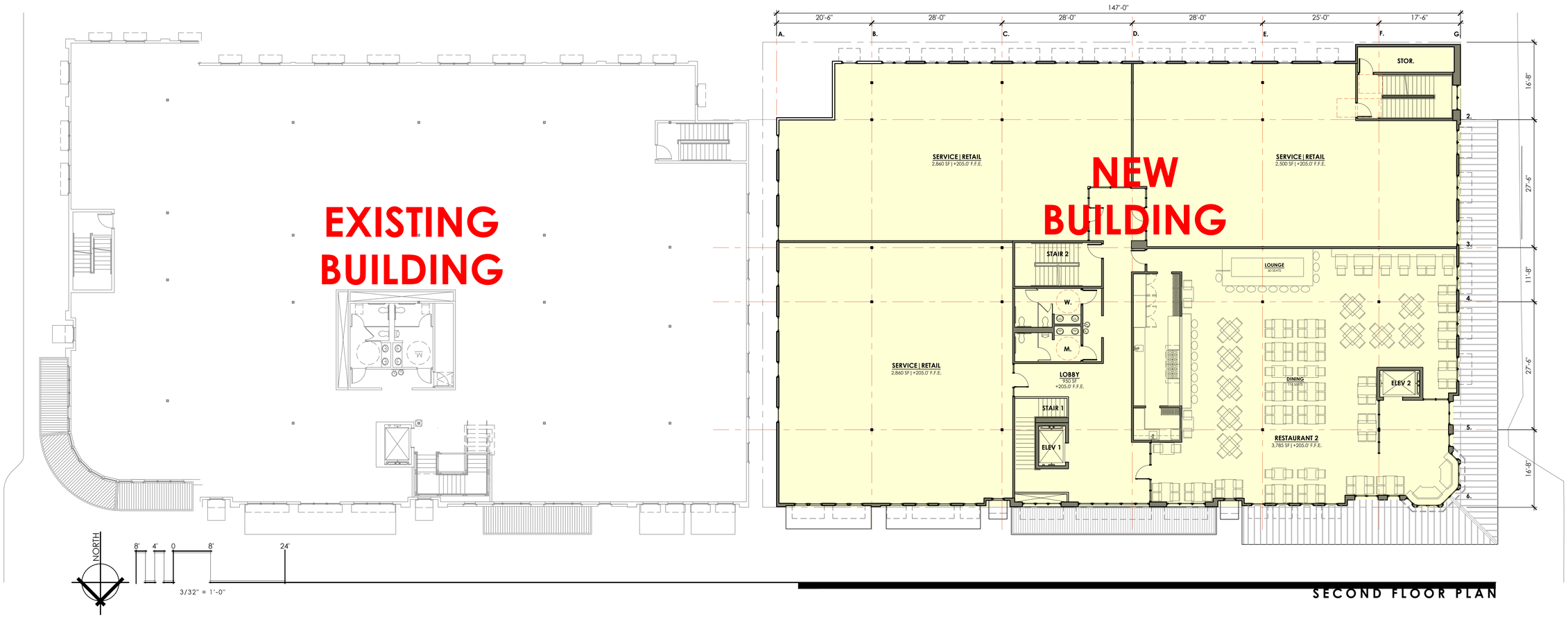
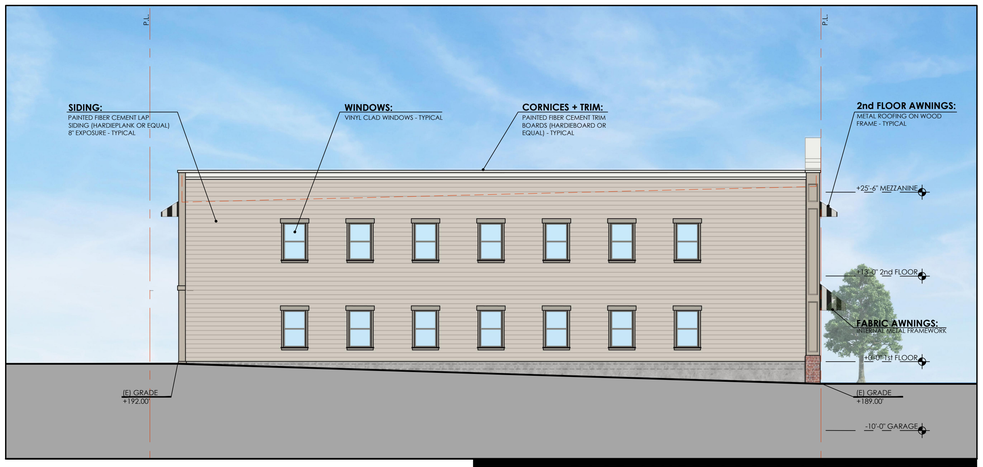


SECOND FLOOR PLAN



EAST (INTERIOR P.L.) ELEVATION

WEST (12th STREET) ELEVATION

2 SECOND FLOOR PLAN + EAST & 12th STREET ELEVATIONS

CONCEPTUAL PLANS + ELEVATIONS

DECEMBER 2022

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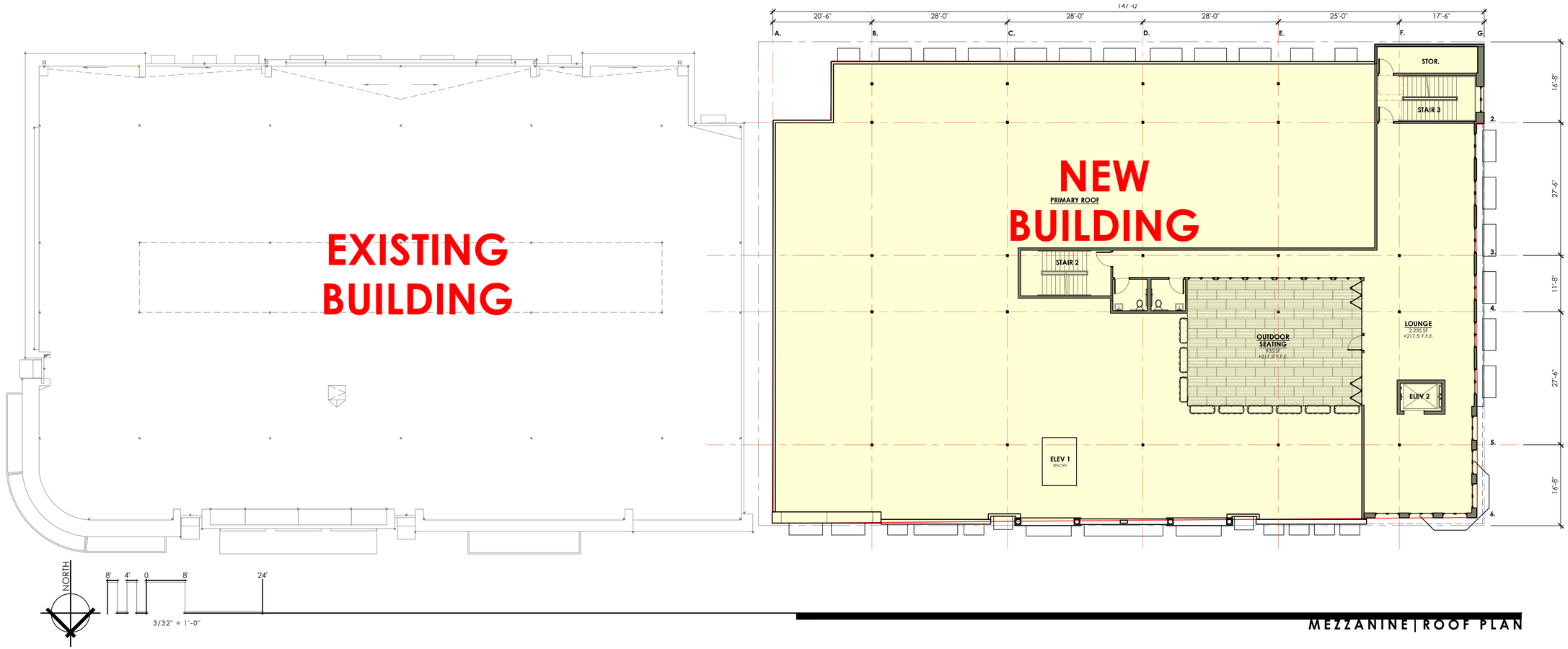

MEZZANINE | ROOF PLAN

KNAPPS ALLEY ELEVATION

3 MEZZANINE FLOOR PLAN | ROOF PLAN + KNAPPS ALLEY ELEVATION

CONCEPTUAL PLANS + ELEVATIONS

DECEMBER 2022

FS 05

1949 WILLAMETTE FALLS DRIVE
WEST LINN, OREGON

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1949 WILLAMETTE FALLS DRIVE
WEST LINN, OREGON

VIEW FROM 12th + WFD

4 VIEW FROM INTERSECTION OF 12th + WILLAMETTE FALLS DRIVE

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CONCEPTUAL PLANS + ELEVATIONS

DECEMBER 2022

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WILLAMETTE FALLS DRIVE COMMERCIAL BUILDING
TRAFFIC IMPACT STUDY

WEST LINN, OREGON

PREPARED FOR:
Icon Construction and Development, LLC

PREPARED BY:
Michael Ard, PE
Ard Engineering

DATE:
April 24, 2023

21370 SW Langer Farms Parkway, Suite 142, Sherwood, OR 97140 - (503)862-6960

TABLE OF CONTENTS

Executive Summary 3

Project Description & Location 4

Existing Conditions 6

Site Trips 13

Future Conditions Analysis 17

Safety Analysis 25

Conclusions 28

Appendix 29

EXECUTIVE SUMMARY

1. A property located on the south side of Willamette Falls Drive immediately east of 12st Street in West Linn, Oregon is proposed for development with a mixed-use commercial building with a gross floor area of 28,872 square feet. The site will utilize underground parking connecting to the existing underground lot serving the property immediately to the east and will also use on-street parking at surface level.

2. Upon completion of the proposed development the subject property is projected to generate up to 76 new site trips during the morning peak hour, 91 trips during the evening peak hour, and 1,094 new daily site trips.

3. Based on the operational analysis, the signalized study intersections and the intersection of Willamette Falls Drive at 11th Street currently operate acceptably and are projected to continue to operate acceptably under year 2025 traffic conditions either with or without the addition of site trips from the proposed development. Additionally, construction of a new planned roundabout at the intersection of Willamette Falls Drive at 10th Street is projected to ensure that the intersection will operate acceptably under year 2025 traffic conditions either with or without the addition of sit trips from the proposed development. No mitigations are necessary or recommended for these intersections in conjunction with the proposed development.

4. The intersection of Willamette Falls Drive at 12th Street is projected to operate within capacity but at level of service "E" during the morning and evening peak hours under year 2025 traffic conditions either with or without the addition of site trips from the proposed development. Although a traffic signal cannot be installed at the intersection at this time, it is recommended that a traffic signal be installed once signal warrants are met. It is recommended that the developer pay a proportionate share contribution of $2,488 toward the future signalization cost based on the projected impacts at this location.

5. As described in the City's Transportation System Plan, the intersection of 10th Street at 8th Avenue/8th Court is projected to operate at level of service F, but below capacity under future traffic conditions. Since the intersection is projected to operate better under year 2025 conditions with the addition of site trips from the proposed development than under existing conditions and since further improvements will require acquisition of a crossover easement connecting to Willamette Falls Drive across property not under the control of the current development, no further mitigation beyond installation of the planned turning-movement restrictions is recommended for this intersection at this time.

6. Based on the crash data, the study intersections are currently operating acceptably with respect to safety. No specific safety improvements are recommended based on crash history.

7. Based on the warrant analysis, traffic signal warrants are currently met for the intersection of Willamette Falls Drive and 10th Street. However, this intersection is planned for installation of a roundabout, which is projected to adequately accommodate anticipated traffic volumes and patterns. No other traffic signals or turn lanes are recommended in conjunction with the proposed development.

PROJECT DESCRIPTION & LOCATION

INTRODUCTION

A property located on the north side of Willamette Falls Drive west of 12th Street in West Linn is proposed for development with a 29,000 square foot commercial building. The proposed building will contain a mix of retail and office uses on two primary floors, with a smaller 3rd-floor lounge and underground parking. The parking lot will be accessed via a connection to the existing underground parking lot serving the building immediately west of the project site.

This report addresses the impacts of the proposed development on the surrounding street system. Based on discussions with the City of West Linn staff, an operational and safety analysis was conducted for the intersections of:

- Willamette Falls Drive at 12th Street;
- Willamette Falls Drive at 11th Street;
- Willamette Falls Drive at 10th Street;
- 10th Street at 8th Avenue/8th Court;
- 10th Street at the I-205 Southbound Ramps;
- 10th Street at the I-205 Northbound Ramps; and
- 10th Street at Blankenship Road/Salamo Road.

The purpose of this analysis is to determine whether the surrounding transportation system is capable of safely and efficiently supporting the proposed use and to identify any necessary improvements and mitigations.

SITE LOCATION AND STUDY AREA DESCRIPTION

The project site is in the southeast corner of the intersection of Willamette Falls Drive at 12th Street. The subject property is currently occupied by the Hasson Company Realtors office at 1949 Willamette Falls Drive and the Cole | Tait PC law offices at 1919 Willamette Falls Drive. Existing uses in the site vicinity include a variety of commercial uses along Willamette Falls Drive and 10th Street, and a mix of commercial and residential uses in the surrounding areas.

Willamette Falls Drive is classified by the City of West Linn as a Minor Arterial. In the site vicinity it has a three-lane cross-section, with one through lane in each travel direction and a center left-turn lane. Angled on-street parking, protected bike lanes and sidewalks are provided on both sides of the roadway. It has a posted speed limit of 20 mph within the central business district. The roadway width is reduced to two lanes without on-street parking or sidewalks east of 10th Street, where the speed limit increases to 45 mph. Similarly, the roadway width is reduced to two lanes without on-street parking or sidewalks west of 16th Street, where the speed limit is increased to 30 mph.

12th Street is classified by the City of West Linn as a Local Street north of Willamette Falls Drive and as a Collector south of Willamette Falls Drive. It has a two-lane cross-section with one through travel lane in each direction and a 25-mph speed limit. On-street parking and sidewalks are in place on both sides of the roadway. A 20-mph school speed zone applies between 7:00 AM and 5:00 PM on school

days near the Willamette Primary School campus, which is located on the east side of 12th Street between 4th Avenue and 6th Avenue.

11th Street is classified by the City of West Linn as a Local Street. It has a two-lane cross-section with one through travel lane in each direction and is subject to a statutory residential speed limit of 25 mph. On-street parking and sidewalks are in place on both sides of the roadway in the site vicinity. Again, a 20-mph school speed zone is in place near the Willamette Primary School campus.

10th Street is classified by the City of West Linn as a Minor Arterial. The cross-section varies between three and four lanes for two-way traffic. Continuous sidewalks and partial bike lanes are in place along the west side of the roadway, and partial sidewalks and bike lanes are in place along the east side of the roadway. No on-street parking is provided.

8th Avenue/8th Court is classified by the City of West Linn as a Local Street. It generally has a two-lane cross-section with a single travel lane in each direction; however, turn lanes are added at 10th Street. Continuous sidewalks are available on 8th Court, and partial sidewalks are in place on both sides of 8th Avenue. Some on-street parking is available where the roadway width can accommodate it.

Interstate 205 and the associated freeway ramps serving 10th Street operate under the jurisdiction of the Oregon Department of Transportation. I-205 has a posted speed limit of 65 mph along the main line west of 10th Street, which reduces to 55 mph east of 10th Street. The freeway offramps have 45 mph advisory exit speeds posted, and the on-ramps have ramp metering systems in place.

Blankenship Road is classified by the City of West Linn as a Collector. Near 10th Street it generally has a three-lane cross-section with one through lane in each direction and a center two-way left-turn lane, with a posted speed limit of 25 mph. Existing bike lanes are in place on both sides of the roadway, and continuous sidewalks are provided along the south side of the road. On the north side, partial sidewalks are provided where the adjacent land has been developed; however, no sidewalks are provided along the undeveloped frontages on both sides of Tannler Drive.

Salamo Road intersects 10th Street opposite Blankenship Road and extends to the east up the hill. It is classified by the City of West Linn as a Minor Arterial. It has a two-lane cross-section with one through travel lane in each direction and a posted speed limit of 40 mph. Bike lanes and sidewalks are not provided along the roadway in the vicinity of 10th Street.

EXISTING CONDITIONS

The intersection of Willamette Falls Drive at 12th Street is a four-way intersection operating under all-way stop control. The eastbound and westbound approaches each have a left-turn lane and a shared through/right lane. The northbound and southbound approaches each have a single, shared lane for all turning movements. Marked crosswalks and cross-bikes (designated bicycle crossings adjacent and parallel to the pedestrian crosswalks) are in place on each intersection approach.

The intersection of Willamette Falls Drive at 11th Street is a T-intersection controlled by a stop sign on the northbound 11th Street approach. Marked crosswalks and cross-bikes are in place across the east and south sides of the intersection. The crossing on the west side of the intersection is closed. Each intersection approach has a single, shared lane for all turning movements.

The intersection of Willamette Falls Drive at 10th Street is a T-intersection operating under all-way stop control. Marked crosswalks are in place crossing the north and west sides of the intersection. The southbound approach has a left-turn lane and a right-turn lane. The westbound approach has a single, shared through/right lane. The eastbound approach has a left-turn lane and a dedicated through lane.

The intersection of 10th Street at 8th Avenue/8th Court is a four-way intersection operating under stop control for the eastbound and westbound approaches. Through traffic traveling along 10th Street does not stop. The northbound approach has a single, shared lane for all turning movements. The southbound and eastbound approaches each have a left-turn lane and a shared through/right lane. The westbound approach has a shared left/through lane and a dedicated right-turn lane. Crosswalks are in place on the west, south and east legs of the intersection. The north side pedestrian crossing is closed.

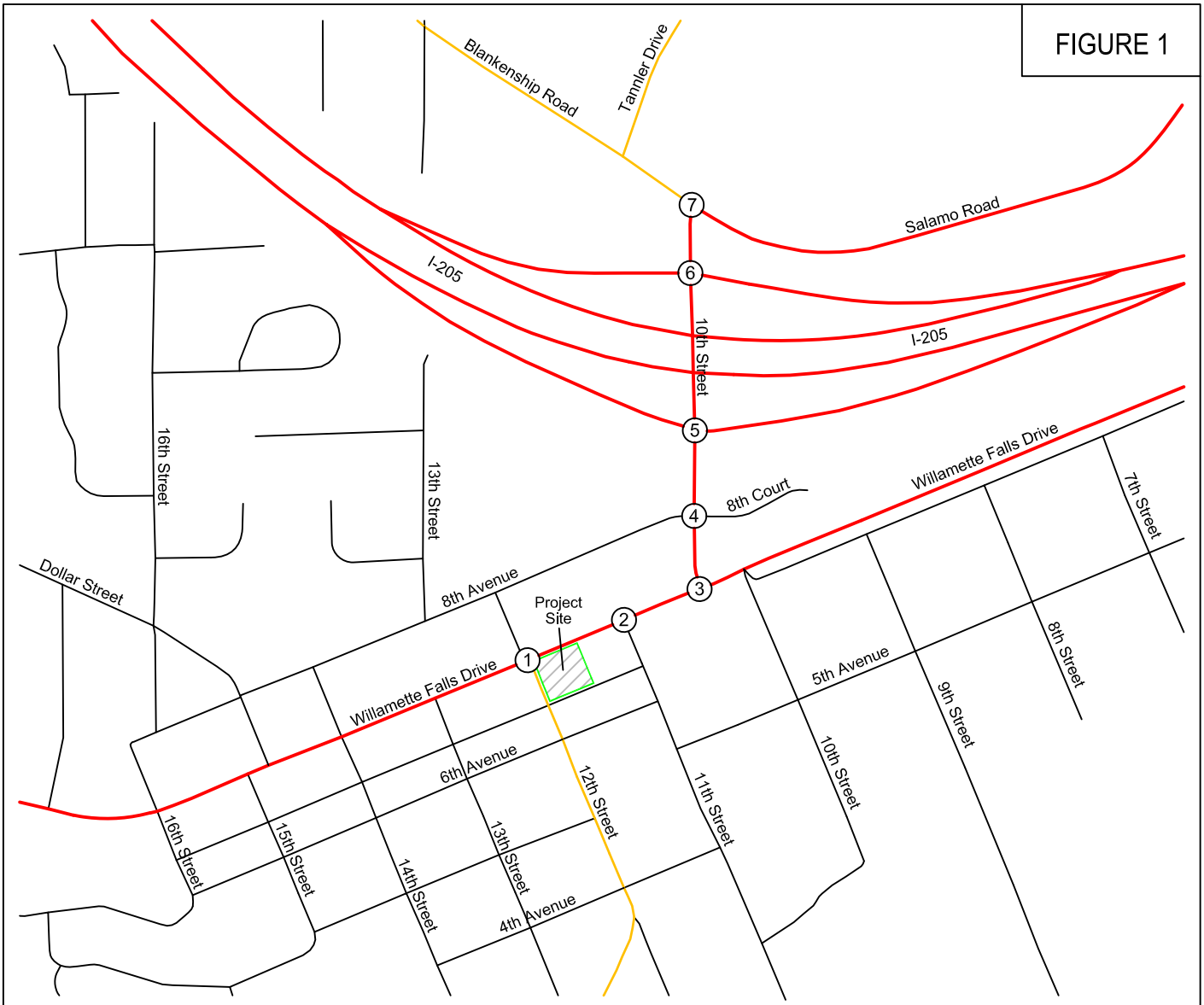
The intersection of 10th Street at the I-205 Northbound Ramps is a four-way intersection controlled by a traffic signal. The I-205 ramp legs operate as one-way road segments accommodating eastbound traffic only. The northbound approach has a through lane and a right-turn lane. The southbound approach has a left-turn lane and a dedicated through lane. The eastbound approach has a shared left/through lane and a dedicated right-turn lane. Marked crosswalks are in place on the west, south and east legs of the intersection. The north side pedestrian crossing is closed.

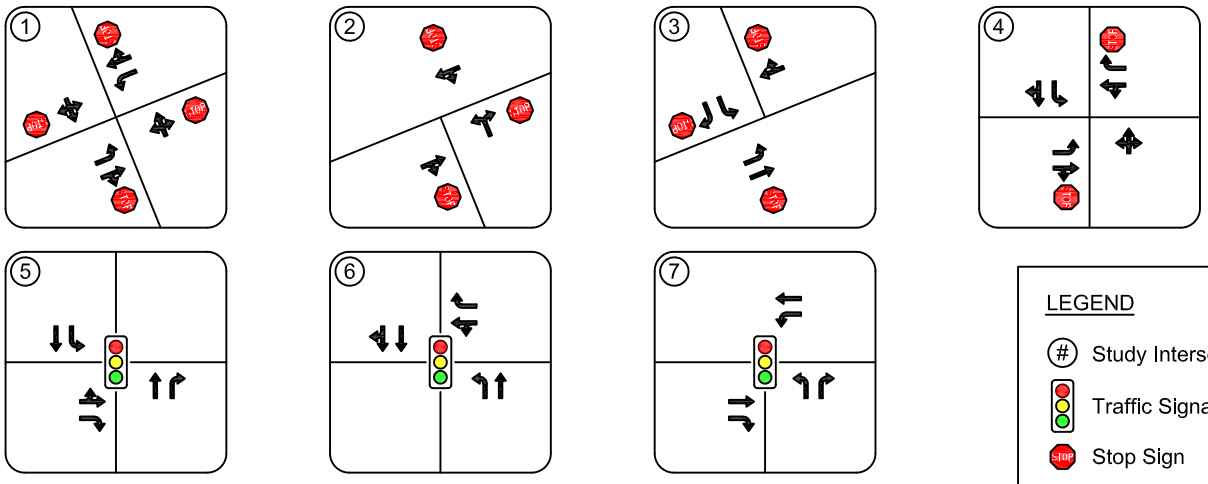
The intersection of 10th Street at the I-205 Southbound Ramps is again a four-way intersection controlled by a traffic signal. The I-205 ramp legs operate as one-way road segments accommodating westbound traffic only. The northbound approach has a left-turn lane and a dedicated through lane. The southbound approach has a dedicated through lane and a shared through/right lane. The westbound approach has a shared left/through lane and a dedicated right-turn lane. Marked crosswalks are in place on the west, south and east legs of the intersection. The north side pedestrian crossing is closed.

The intersection of 10th Street at Blankenship Road/Salamo Road is a signalized T-intersection. The northbound approach has a left-turn lane and a right-turn lane. The eastbound approach has a dedicated through lane and a channelized right-turn lane. The westbound approach has a left-turn lane and a through lane. Marked crosswalks are in place on the east and south sides of the intersection. The west side crosswalk is closed.

A vicinity map displaying the project site, vicinity streets, and the study intersections including lane configurations is provided in Figure 1 on page 7.

FIGURE 1





LEGEND

(#) Study Intersection

Traffic Signal

STOP Stop Sign

VICINITY MAP
Study Intersections
Lane Configurations and Traffic Control

PUBLIC TRANSIT

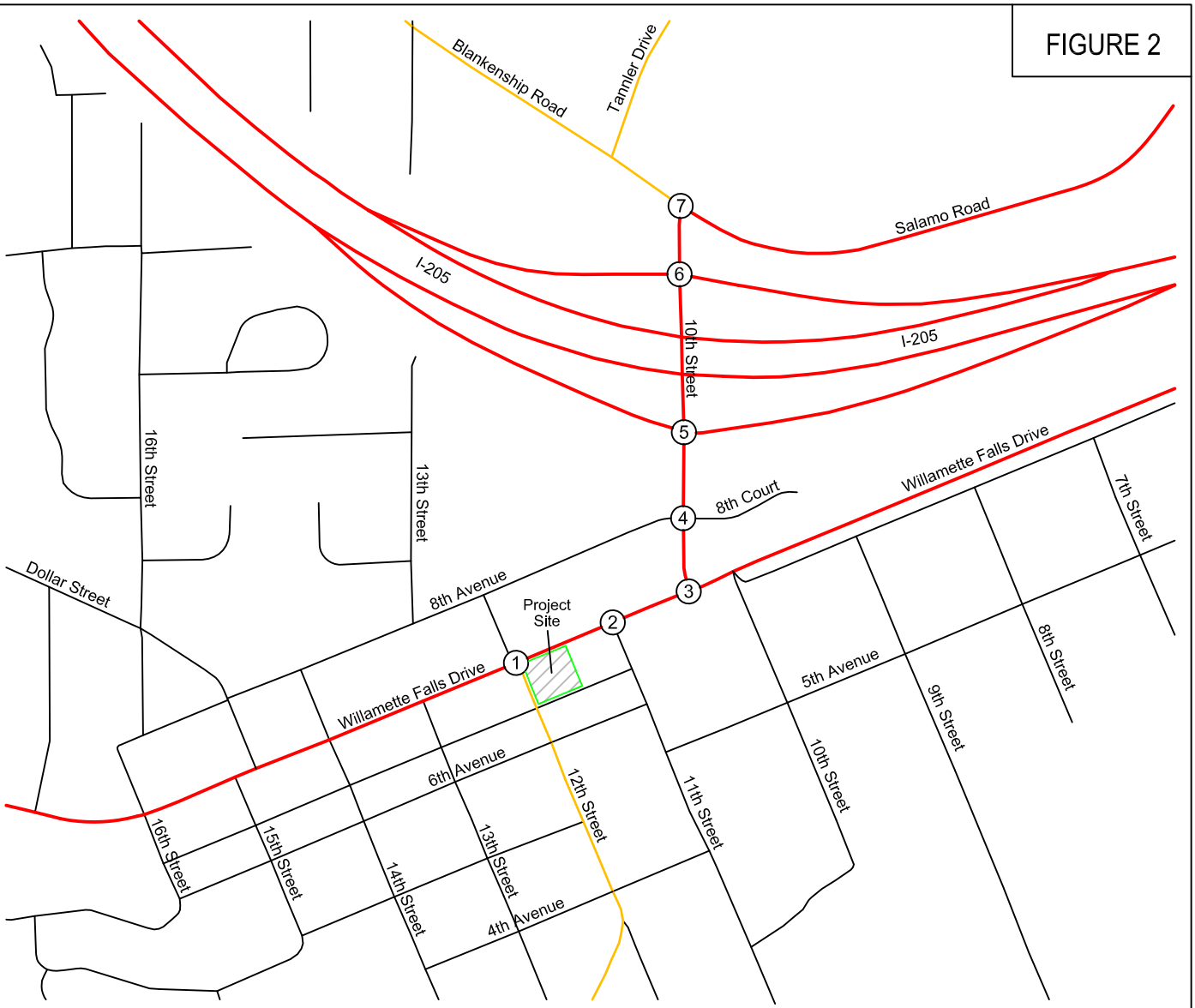
Tri-Met bus route 154 – Willamette/Clackamas Heights provides transit service along Willamette Falls Drive, 10th Street, and Blankenship Road. The transit stop nearest the proposed development is located on the south side of Willamette Falls Drive immediately west of 12th Street. The route provides a connection between West Linn and the Oregon City Transit Center for access to the greater Tri-Met transit network. Service is available on weekdays from 6:00 AM to 7:00 PM, with service approximately once per hour. Weekend service is not available.

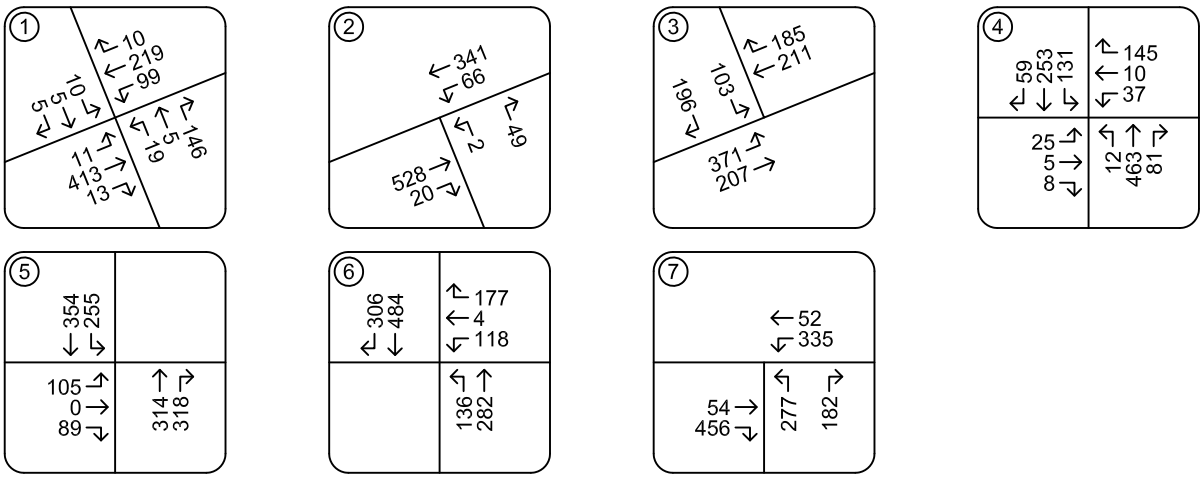
TRAFFIC COUNT DATA

Traffic counts were conducted at the study intersections on Wednesday April 12th, 2023, from 7:00 to 9:00 AM and from 4:00 to 6:00 PM. The count data was examined to determine the systemwide peak hour for both the morning and evening peak hour periods. The morning peak hour occurred from 7:35 to 8:35 AM, while the evening peak hour occurred from 4:20 to 5:20 PM. Data was used from the highest-volume hour for each of the two analysis periods.

Figure 2 on page 9 shows the existing year 2023 traffic volumes during the morning peak hour for the study intersections. Figure 3 on page 10 shows the existing year 2023 traffic volumes during the evening peak hour.

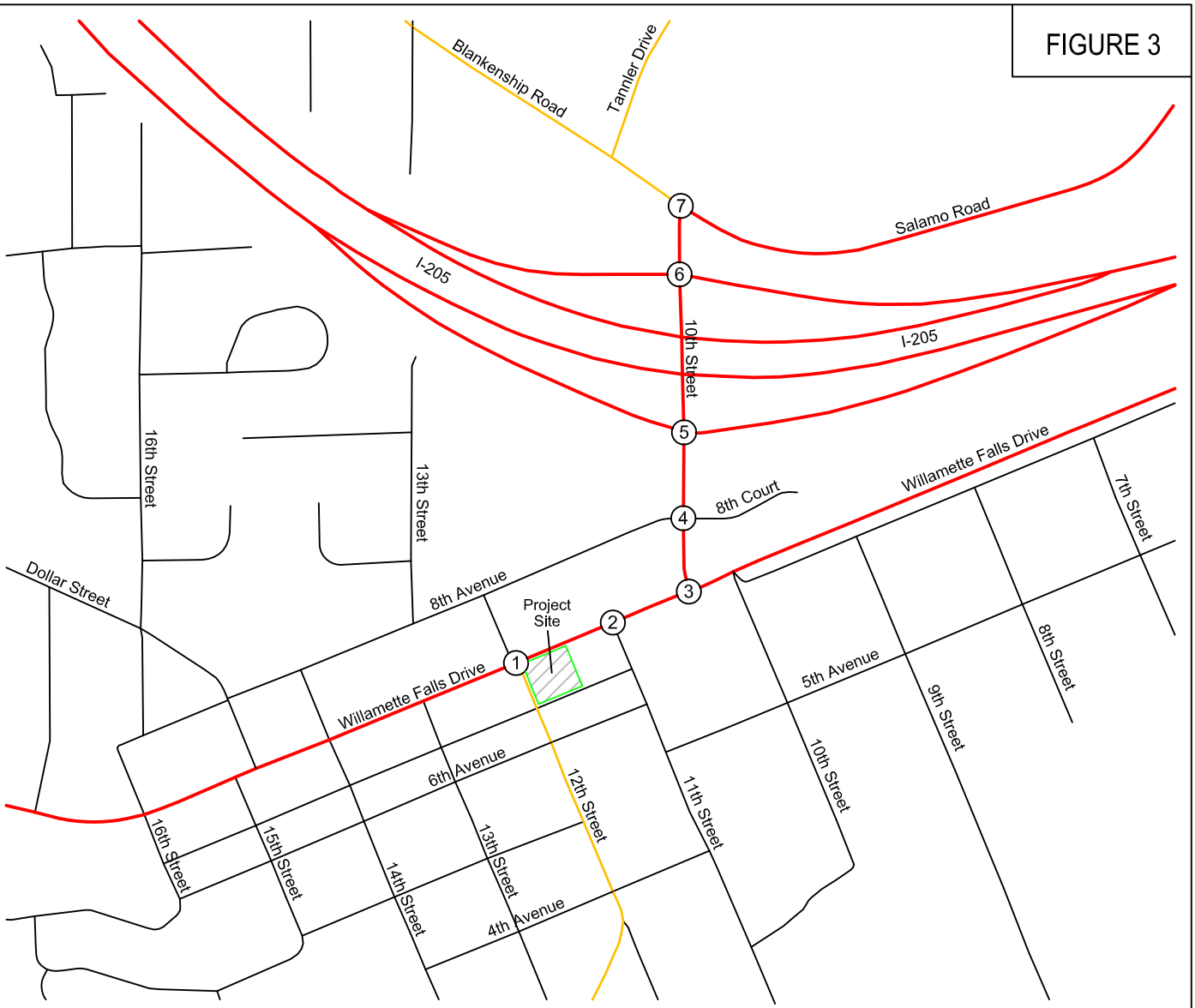
FIGURE 2

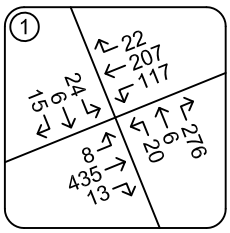


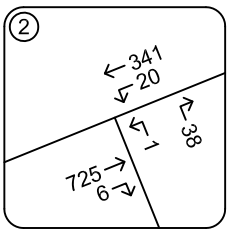


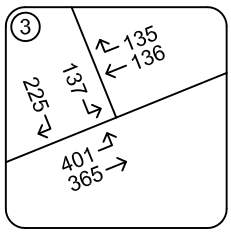
TURNING MOVEMENT VOLUMES
2023 Existing Conditions
Morning Peak Hour

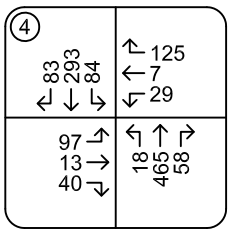
FIGURE 3

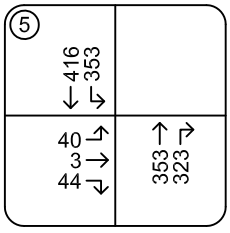


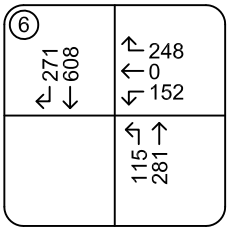


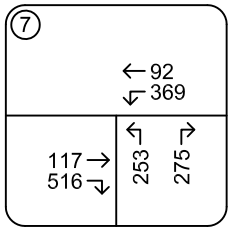












TRAFFIC VOLUMES
2023 Existing Conditions
Evening Peak Hour

OPERATIONAL ANALYSIS

An operational analysis was conducted for the study intersections using Synchro 10 software, with outputs calculated based on the *HIGHWAY CAPACITY MANUAL, 6th Edition.* The analysis was conducted for the weekday morning and evening peak hours.

The purpose of the existing conditions analysis is to establish how the study area intersections operate currently and allow for calibration of the operational analysis if required.

The results of the operational analysis are reported based on delay, Level of Service (LOS), and volume-to-capacity ratio (v/c). Delays are reported in seconds. Level of service is reported as a letter grade and can range from A to F, with level of service A representing nearly free-flow conditions and level of service F representing high delays and severe congestion. A report of level of service D generally indicates moderately high but tolerable delays, and typically occurs prior to reaching intersection capacity. For unsignalized intersections, the v/c represents the portion of the available intersection capacity that is being utilized on the worst intersection approach. For signalized intersections, it indicates the portion of the overall intersection's capacity that is being used. A v/c ratio of 1.0 would indicate that the intersection is operating at capacity.

Due to close intersection spacing and the need to maintain coordinated timing, the intersection of 10th Street at Blankenship Road/Salamo Road operates using the same traffic signal controller that controls the intersection of 10th Street at the I-205 Southbound ramps. The signal timing plan for these intersections was obtained from the Oregon Department of Transportation to accurately reflect the timing and interaction of these intersections. Operational standards for these two intersections as well as the intersection of 10th Street at the I-205 Northbound ramps are established under the Oregon Highway Plan. These intersections are required to operate with a v/c ratio of 0.85 or less during the peak hours.

The remaining study intersections operate under the jurisdiction of the City of West Linn and are required to operate at level of service D or better.

A summary of the existing conditions operational analysis is provided in Table 1 on the following page. For the unsignalized intersections the reported delays and levels-of-service represent the approach lane which experiences the highest delays. For the signalized intersections, the reported delays, levels-of-service, and v/c ratios represent the operation of the overall intersection.

Detailed capacity analysis worksheets are provided in the technical appendix.

Based on the analysis, the signalized study intersections are currently operating acceptably per the respective ODOT and City of West Linn standards. The intersection of Willamette Falls Drive at 11th Street is also operating acceptably. However, the intersections of Willamette Falls Drive at 12th Street, Willamette Falls Drive at 10th Street, and 10th Street at 8th Avenue/8th Court do not currently meet the City of West Linn's minimum level of service D standard under existing conditions. Accordingly, some form of improvements will be required for these intersections either with or without construction of the proposed development.

Table 1 - Operational Analysis Summary: Year 2023 Existing Conditions

Intersection	AM Peak Hour			PM Peak Hour		
	Delay	LOS	v/c	Delay	LOS	v/c
Willamette Falls Drive at 12th Street	33.9	D	0.86	36.1	E	0.85
Willamette Falls Drive at 11th Street	16.1	C	0.17	16.1	C	0.12
Willamette Falls Drive at 10th Street	38.4	E	0.85	31.8	D	0.80
10th St. at 8th Ave./8th Ct.	97.6	F	0.45	121.5	F	0.87
10th St. at I-205 Northbound Ramps	10.1	B	0.46	8.8	A	0.49
10th St. at I-205 Southbound Ramps	31.9	C	0.58	27.1	C	0.62
10th St. at Blankenship Rd./Salamo Rd.	23.5	C	0.61	31.4	C	0.64

SITE TRIPS

The proposed commercial building will have a gross floor area of 28,872 square feet. Specific users have not yet been identified for the building, which will be designed to accommodate a mix of office, retail and restaurant uses. As such, while we cannot determine a precise trip generation estimate for the unknown future mix of uses, we can provide a low and high estimate of trip generation to determine the likely range within which future site traffic volumes will fall.

Prior to calculating the expected increase in site trips associated with the future building, a trip estimate was prepared for the existing uses on the site. Under existing conditions, two office buildings are operating within the subject property, including a real estate office and a law office. The two buildings have a combined floor area of approximately 3,250 square feet. To estimate the number of trips generated by the current site uses, trip data from the *TRIP GENERATION MANUAL, 11th Edition*, published by the Institute of Transportation Engineers was used. The trip data was for land use code 710, *General Office*, and was calculated for the gross floor area of 3,250 square feet. Based on the analysis, the existing site uses generate 5 trips during the morning peak hour, 5 trips during the evening peak hour, and 36 daily site trips. These existing trips were subtracted from the projected future site trips in order to represent the anticipated increase in traffic resulting from the proposed development.

The high trip generation estimate was prepared assuming that the building areas which are labelled as potential restaurant space and the lounge area designated in the site plan will all be occupied by a high-turnover sit-down restaurant. Under this development scenario, the building areas would consist of 10,599 square feet of restaurant space, 9,608 square feet of retail space, and 8,665 square feet of office space. The trip estimate for this development scenario was prepared using trip data for land use codes 932, *High-Turnover Sit-Down Restaurant*, 821, *Shopping Plaza*, and 710, *General Office Building*. The trip generation calculations are provided in Table 2 below, with detailed trip generation worksheets for each land use category provided in the attached technical appendix.

Based on the detailed calculations, the high estimate of trips for the proposed use would consist of 76 added trips during the morning peak hour and 91 added trips during the evening peak hour.

Table 2 - High Estimate Trip Generation Summary

	AM Peak Hour			PM Peak Hour			Daily
	In	Out	Total	In	Out	Total	Total
10,599 sf Restaurant	56	45	101	59	37	96	1136
- Pass-By Trips (43%)	-22	-22	-44	-21	-21	-42	-488
9,608 sf Shopping Plaza	11	6	17	25	25	50	648
- Pass-By Trips (40%)	-3	-3	-6	-10	-10	-20	-260
8,665 sf General Office Building	11	2	13	2	10	12	94
- Existing Office Site Trips	-4	-1	-5	-1	-4	-5	-36
Net Site Trips	**49**	**27**	**76**	**54**	**37**	**91**	**1,094**

For the low estimate of trip generation, it was assumed that the site would develop without a restaurant. Under this development scenario the proposed building was assumed to develop with 15,403 square feet of retail uses and 13,469 square feet of office space. The trip estimate for this development

scenario was prepared using trip data for land use codes 821, *Shopping Plaza*, and 710, *General Office Building*. The trip generation calculations are provided in Table 3 below, again with detailed trip generation worksheets for each land use category provided in the attached technical appendix.

Based on the detailed calculations, the low estimate of trips for the proposed use would consist of 32 added trips during the morning peak hour and 62 added trips during the evening peak hour.

Table 3 - Low Estimate Trip Generation Summary

	AM Peak Hour			PM Peak Hour			Daily
	In	Out	Total	In	Out	Total	Total
15,403 sf Shopping Plaza	17	10	27	39	41	80	1040
- Pass-By Trips (40%)	-5	-5	-10	-16	-16	-32	-416
13,469 sf General Office Building	17	3	20	3	16	19	146
- Existing Office Site Trips	-4	-1	-5	-1	-4	-5	-36
Total Site Trips	25	7	32	25	37	62	734

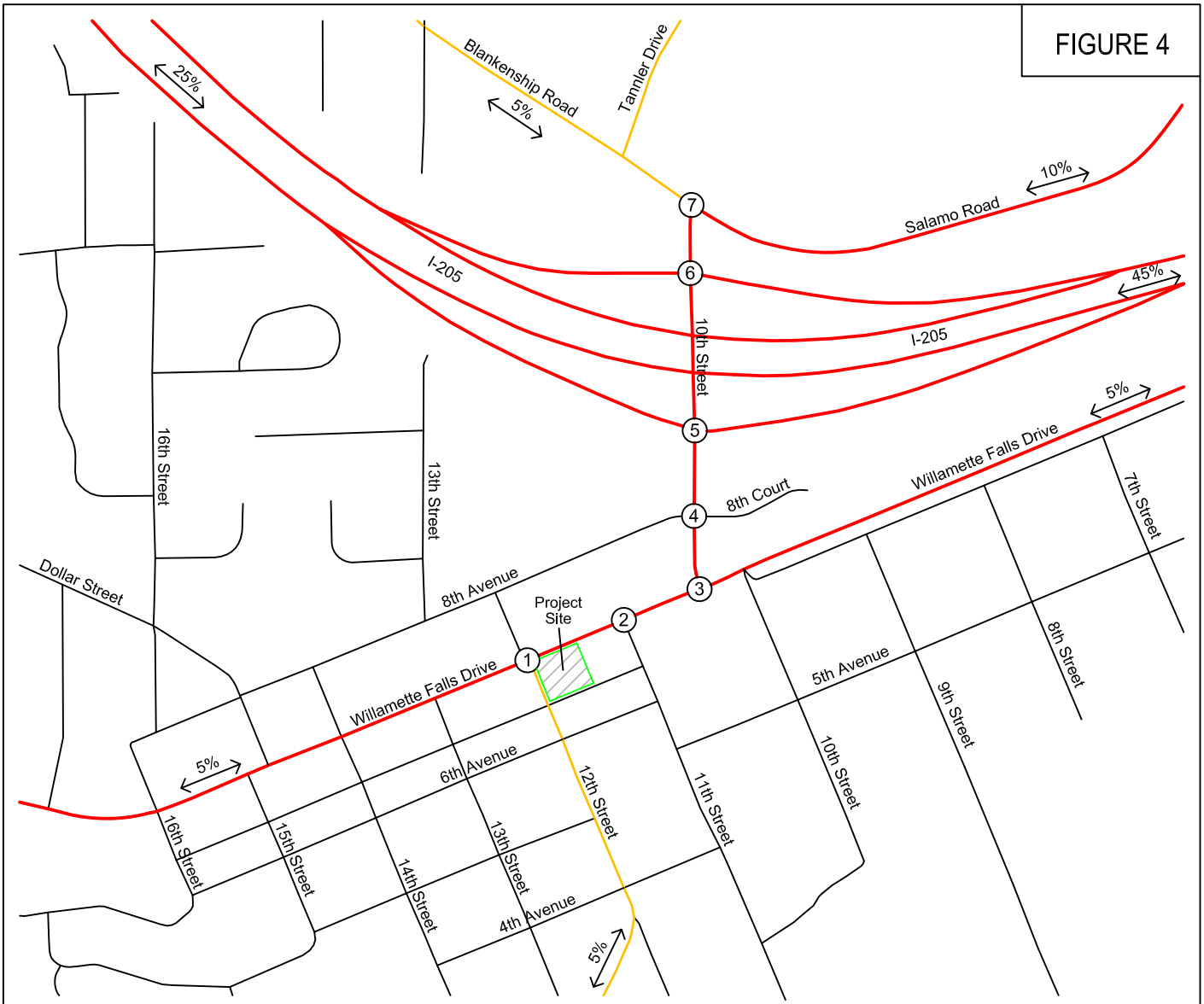
TRIP DISTRIBUTION

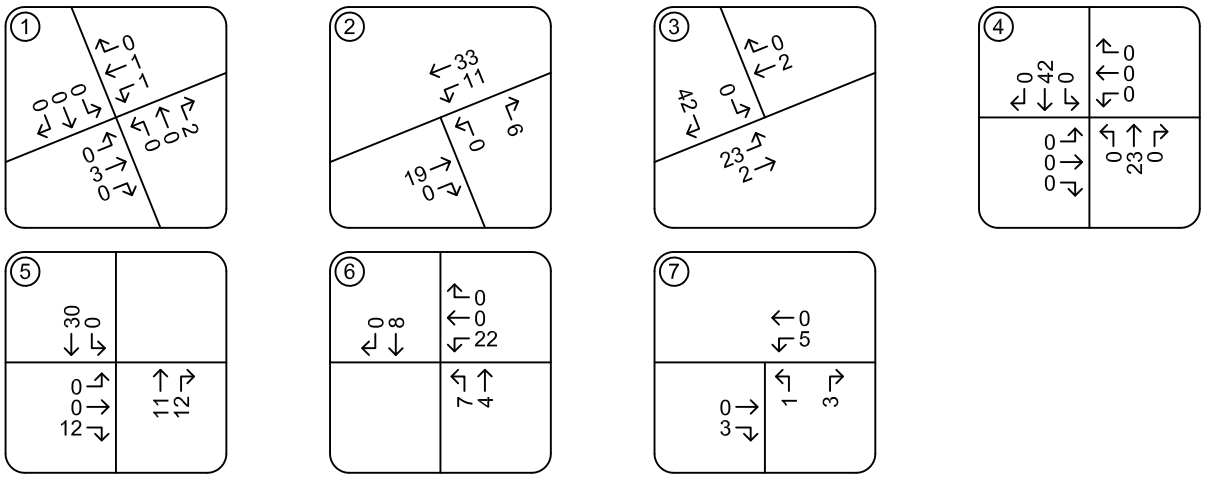
In order to maintain a conservative analysis, it was assumed that the site may develop with traffic volumes matching those projected under the "High Estimate of Trip Generation" scenario.

It is projected that the majority of the site trips generated by the proposed development will travel to and from Interstate 205 when visiting the project site. Based on the existing travel trends in the site vicinity it is projected that 45 percent of site trips will travel to and from the east on I-205, while 25 percent will travel to and from the west on I-205. Approximately 10 percent of site trips are projected to travel to and from the northeast via Salamo Road. Five percent of site trips are projected to travel to and from the northwest on Blankenship Road, five percent are projected to travel to and from the south on 12th Street/Tualatin Avenue, and five percent are projected to travel in each direction on Willamette Falls Drive.

The trip distribution percentages and trip assignment for the primary trips resulting from the proposed development are shown in Figures 4 and 5 on pages 15 and 16.

FIGURE 4


Blankenship Road
Tannler Drive
25%
5%
10%
Salamo Road
I-205
45%
I-205
10th Street
16th Street
13th Street
5%
Willamette Falls Drive
7th Street
8th Court
Dollar Street
8th Avenue
Project Site
5th Avenue
8th Street
9th Street
Willamette Falls Drive
5%
6th Avenue
12th Street
11th Street
10th Street
16th Street
15th Street
14th Street
13th Street
4th Avenue
5%


1
2
3
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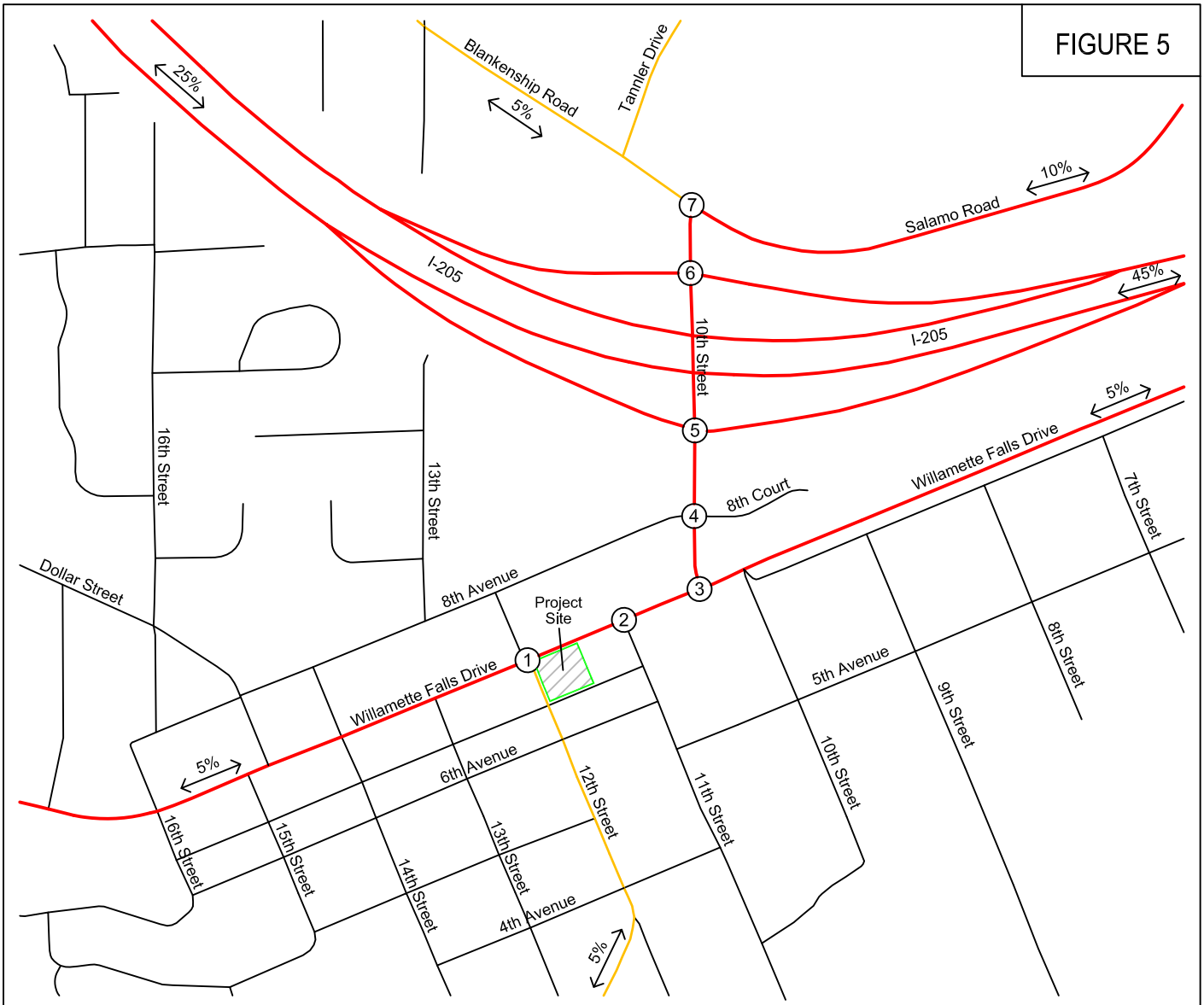
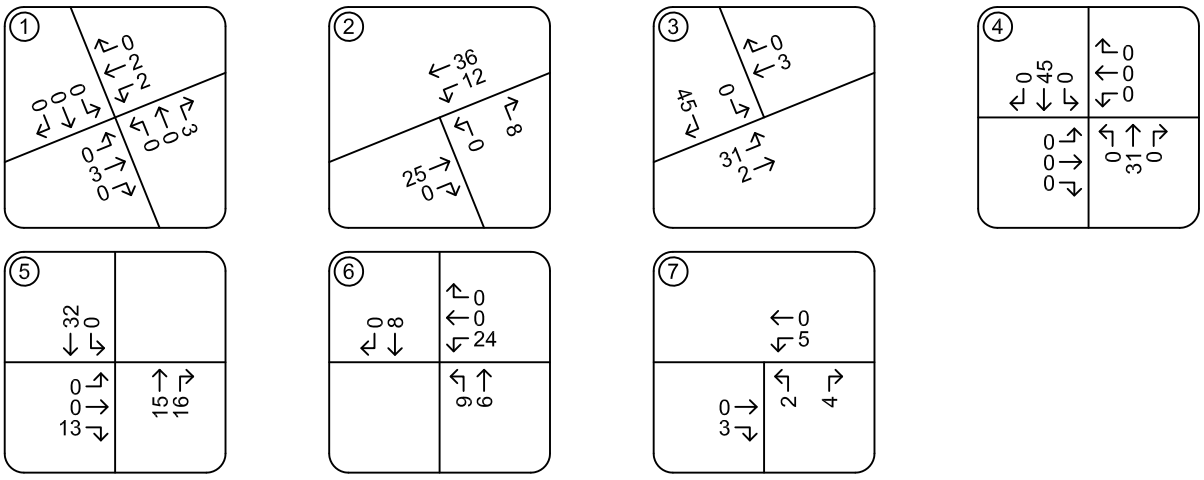
7

FIGURE 5





	TRAFFIC VOLUMES Proposed Development - Site Trips Evening Peak Hour	PAGE 16

FUTURE CONDITIONS ANALYSIS

BACKGROUND VOLUMES

In order to determine the expected impact of site trips on the study area intersections, it is necessary to compare traffic conditions both with and without the addition of the projected traffic from the proposed development. This comparison is made for future traffic conditions at the time of project completion. It is anticipated that the proposed use will be completed and occupied within two years. Accordingly, the analysis was conducted for year 2025 traffic conditions.

Prior to adding the projected site trips to the study intersections, the existing traffic volumes were adjusted to account for background traffic growth over time. Based on data from ODOT's Future Volume Tables, the growth rate for traffic volumes on Interstate 205 in the site vicinity was calculated to be 1.89 percent per year (linear). This growth rate was applied to the I-205 ramp volumes. All other turning movements had a growth factor of 2 percent per year (exponential) applied.

No in-process developments which will add to the traffic volumes at the study area intersections were identified. Accordingly, the background growth projections represent the overall increases in traffic anticipated under background traffic conditions.

In addition to background growth, some fully funded improvements are scheduled for construction which will be completed prior to occupancy of the proposed development. These improvements include the installation of a single-lane roundabout at the intersection of Willamette Falls Drive and 10th Street, as well as installation of diverter islands which will restrict turning movements at the intersection of 10th Street and 8th Avenue/8th Court. A diagram showing the planned roadway improvements at these intersections as well as diagrams showing the impact of resulting trip diversions are provided in the attached technical appendix.

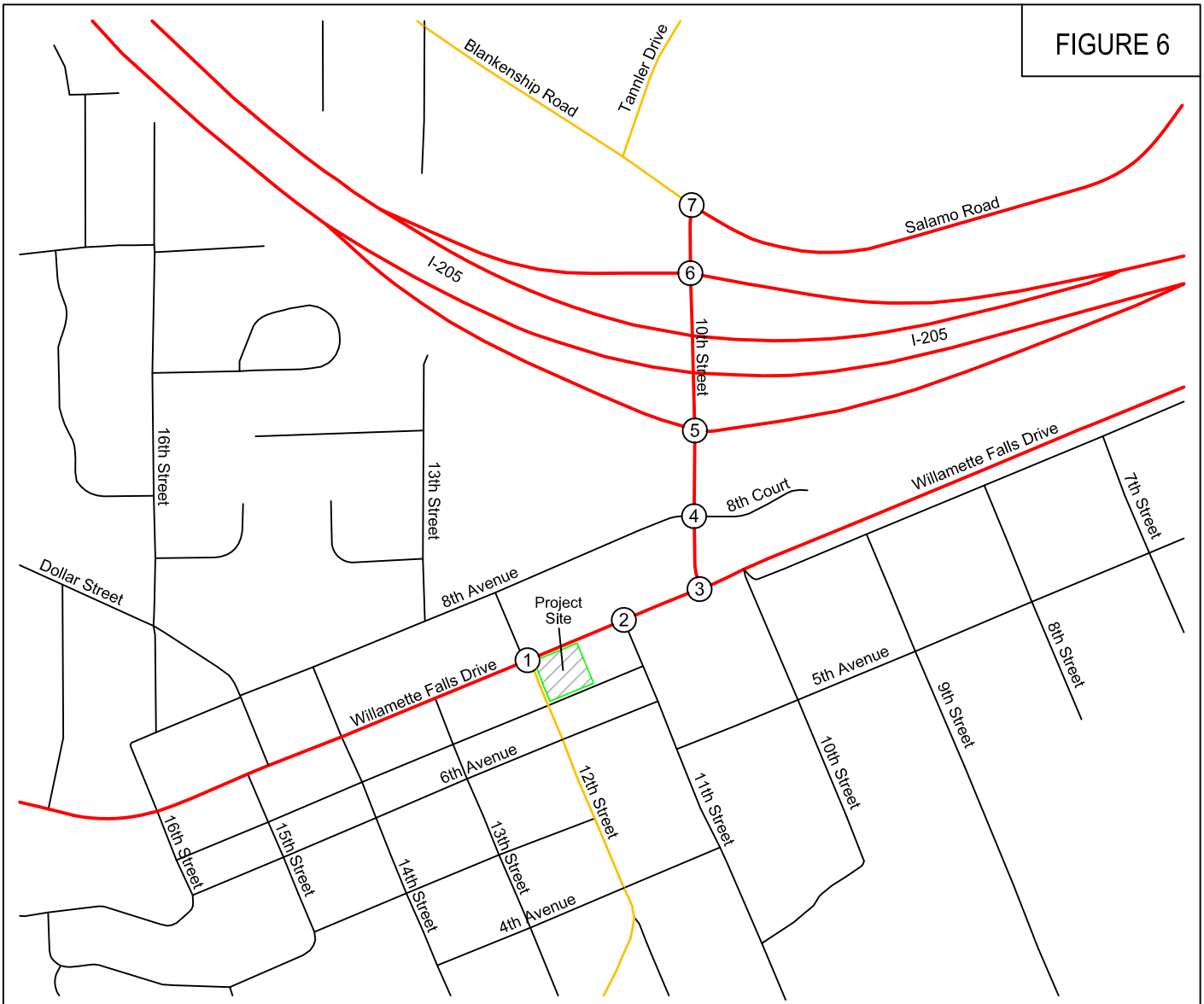
Figures 6 and 7 on pages 18 and 19 show the projected year 2025 background traffic volumes at the study intersections during the morning and evening peak hours, respectively.

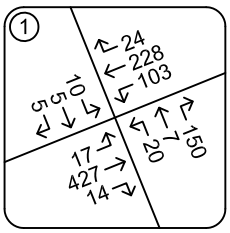
BACKGROUND VOLUMES PLUS SITE TRIPS

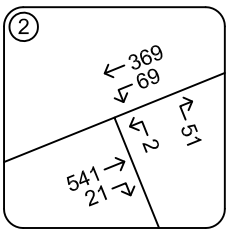
Peak hour trips calculated to be generated by the proposed development were added to the projected year 2025 background traffic volumes to obtain the year 2025 total traffic volumes following completion of the proposed residential development.

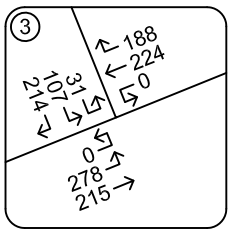
Figures 8 and 9 on pages 20 and 21 show the projected year 2025 peak hour volumes including background growth and site trips from the proposed development for the morning and evening peak hours, respectively.

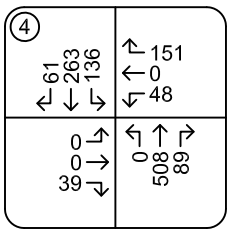
FIGURE 6

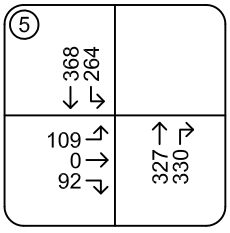


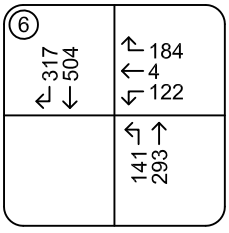


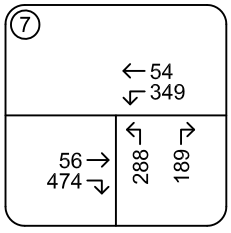










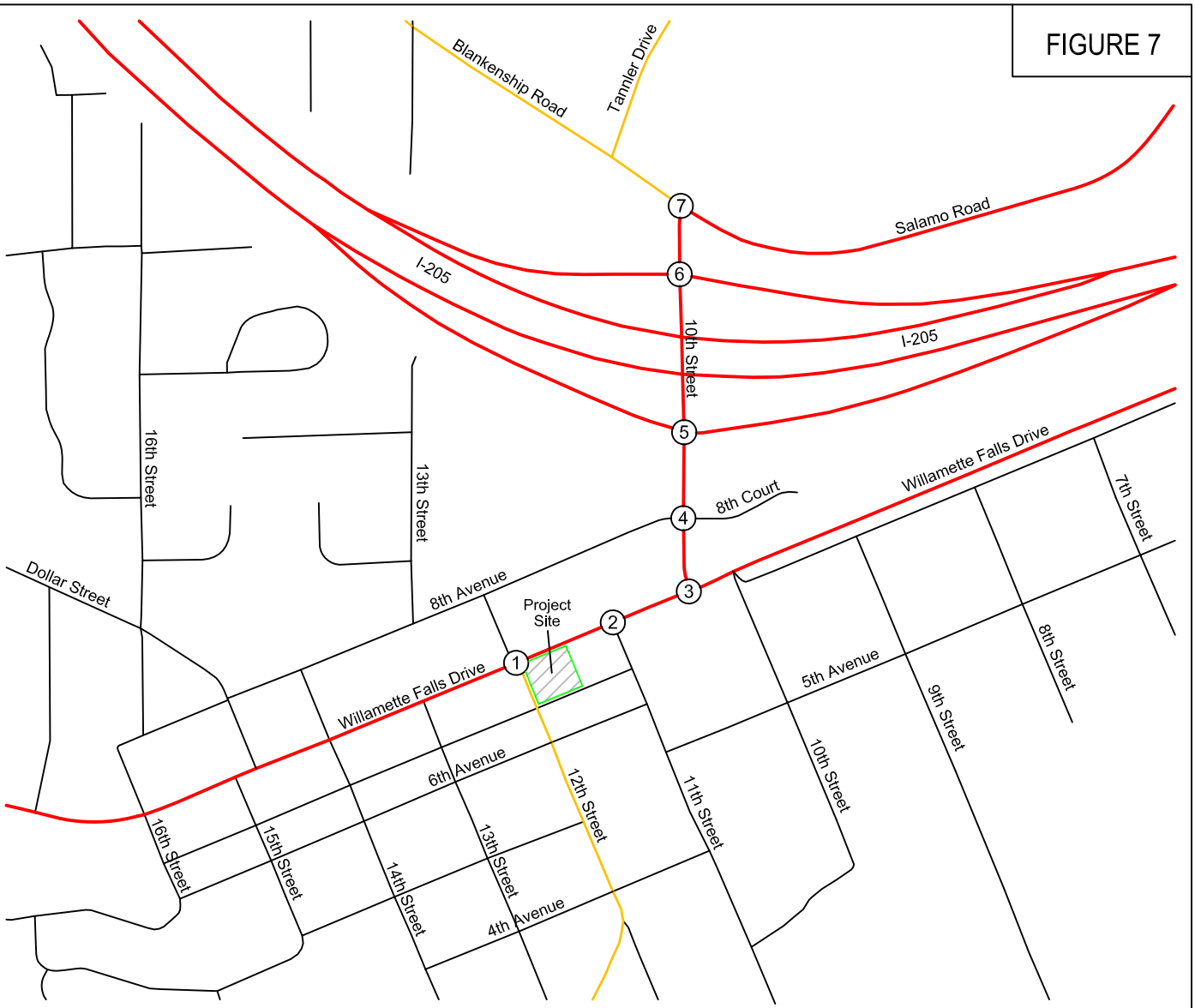


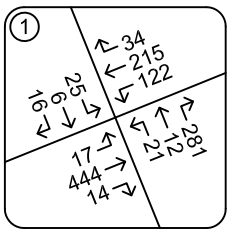
Background growth calculated over 2 years at:
1.86% per year (linear) for I-205 Ramps
2.00% per year (exponential) for all others

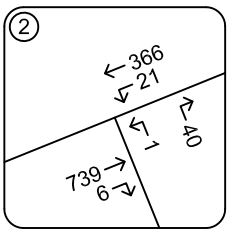
Background volumes also account for re-routing of trips due to planned intesection improvements (See Figures 10 and 11 in technical appendix)

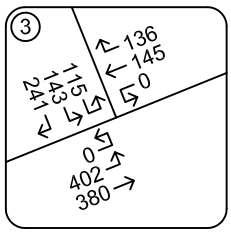
TRAFFIC VOLUMES
2025 Background Conditions
Morning Peak Hour

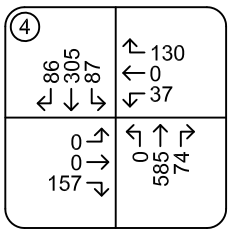
FIGURE 7

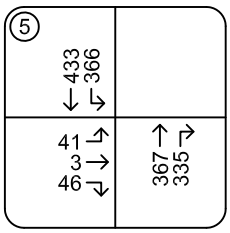


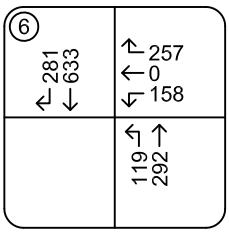


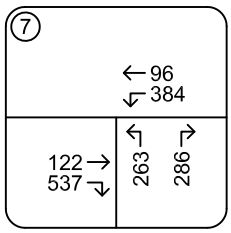










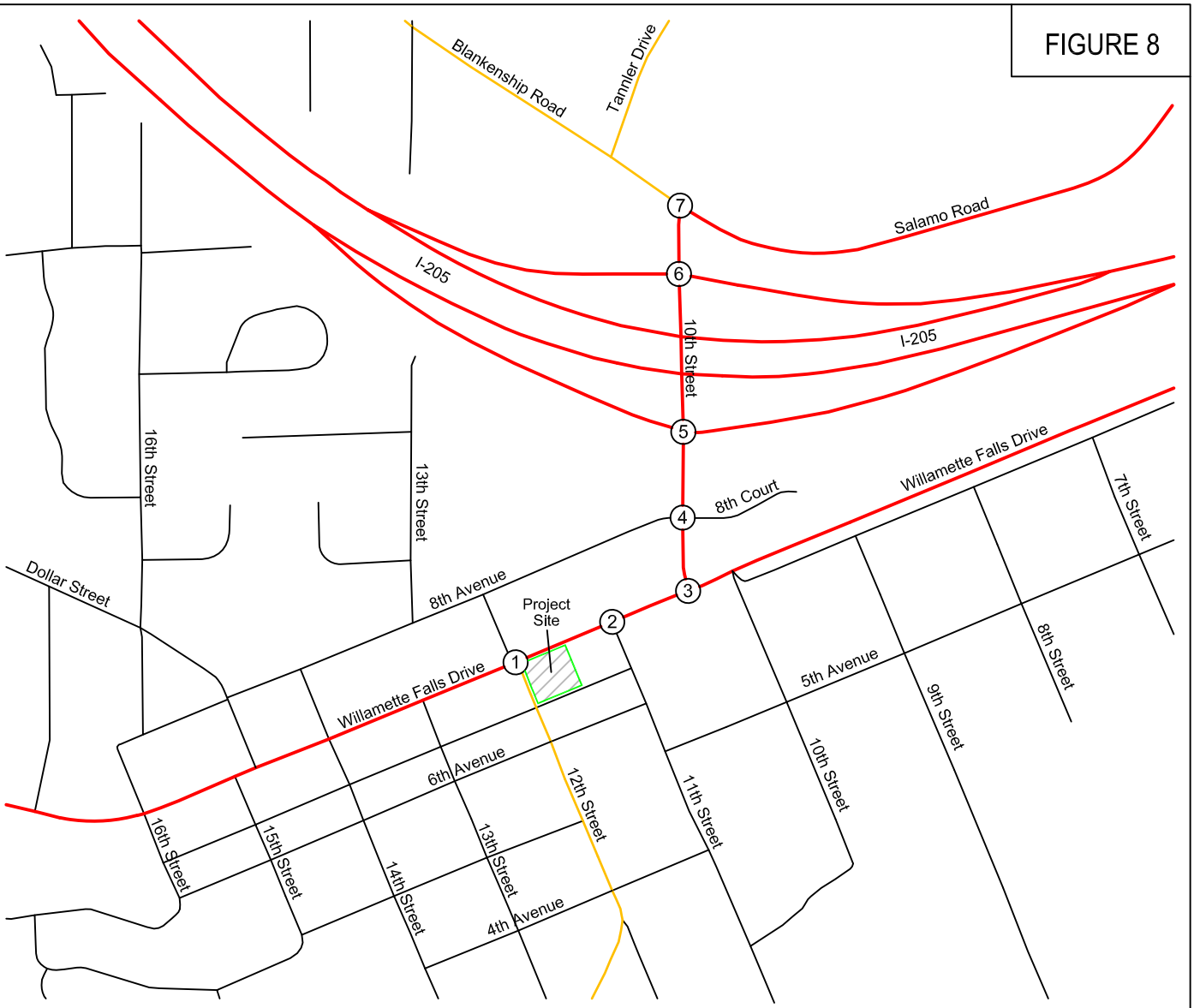


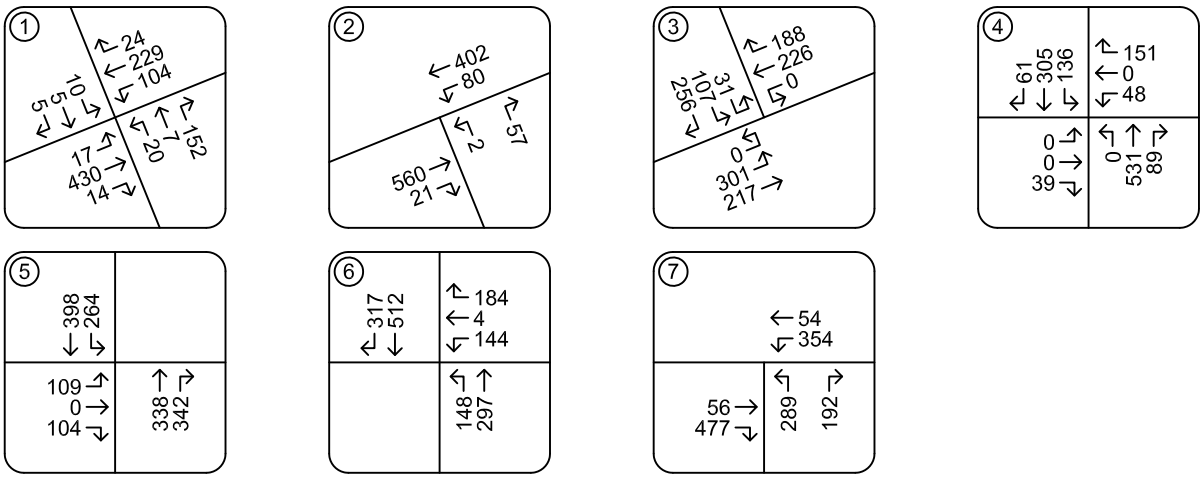
Background growth calculated over 2 years at:
1.86% per year (linear) for I-205 Ramps
2.00% per year (exponential) for all others

Background volumes also account for re-routing of trips due to planned intesection improvements (See Figures 10 and 11 in technical appendix)

TRAFFIC VOLUMES
2025 Background Conditions
Evening Peak Hour

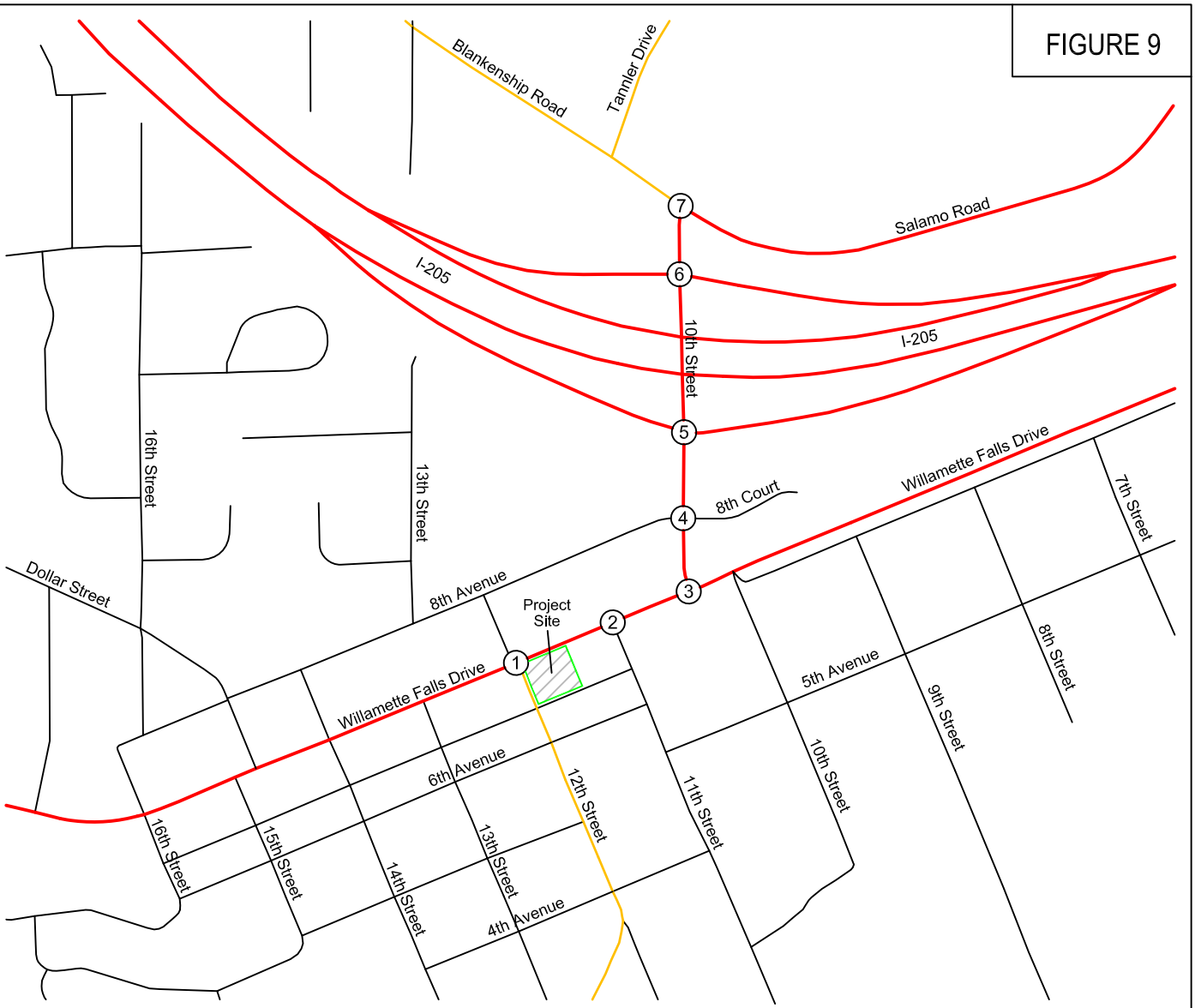
FIGURE 8

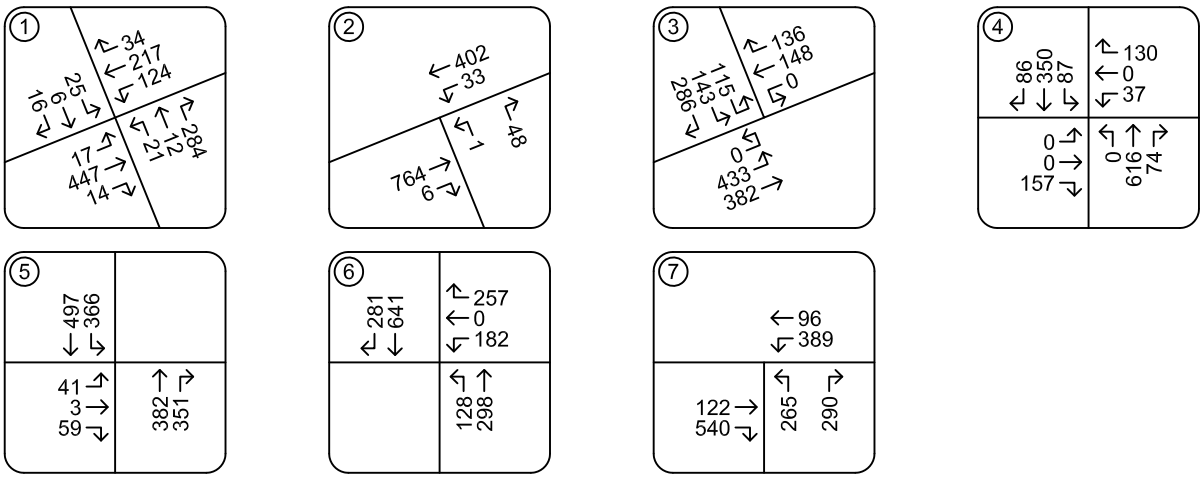




	TRAFFIC VOLUMES 2025 Background Plus Site Trips Conditions Morning Peak Hour	PAGE 20

FIGURE 9





TRAFFIC VOLUMES
2025 Background Plus Site Trips Conditions
Evening Peak Hour

PAGE
21

OPERATIONAL ANALYSIS

The operational analysis for future traffic conditions was again conducted using Synchro analysis software, with outputs based on the analysis methodologies contained in the *HIGHWAY CAPACITY MANUAL*. The analysis was prepared for the intersections' morning and evening peak hours.

The results of the operational analysis are summarized in Table 4 below. Detailed analysis worksheets are also included in the technical appendix.

Table 4 - Operational Analysis Summary: Year 2025 Future Conditions

Intersection	AM Peak Hour			PM Peak Hour		
	Delay	LOS	v/c	Delay	LOS	v/c
Willamette Falls Dr. at 12th St.						
2025 Background Conditions	40.6	E	0.90	41.7	E	0.89
2025 Background plus Site	42.4	E	0.91	43.3	E	0.89
Willamette Falls Dr. at 11th St.						
2025 Background Conditions	16.5	C	0.18	16.5	C	0.13
2025 Background plus Site	17.4	C	0.20	17.4	C	0.16
Willamette Falls Dr. at 10th St.						
2025 Background Conditions	11.5	B	0.55	22.5	C	0.83
2025 Background plus Site	12.2	B	0.56	25.7	D	0.87
10th St. at 8th Ave./8th Ct.						
2025 Background Conditions	74.7	F	0.54	66.3	F	0.40
2025 Background plus Site	94.6	F	0.62	80.9	F	0.46
10th St. at I-205 NB Ramps						
2025 Background Conditions	10.2	B	0.48	9.0	A	0.51
2025 Background plus Site	10.4	B	0.49	9.3	A	0.51
10th St. at I-205 SB Ramps						
2025 Background Conditions	33.1	C	0.60	27.8	C	0.64
2025 Background plus Site	36.5	D	0.63	29.5	C	0.66
10th St. at Blankenship Rd./Salamo Rd.						
2025 Background Conditions	24.5	C	0.64	34.7	C	0.67
2025 Background plus Site	24.9	C	0.65	36.7	D	0.68

Based on the results of the operational analysis, the signalized study intersections, the roundabout at the intersection of Willamette Falls Drive and 10th Street, and the intersection of Willamette Falls Drive at 11th Street are projected to continue to operate acceptably through 2025 either with or without the addition of site trips from the proposed development. The intersections of Willamette Falls Drive at 12th Street and 10th Street at 8th Avenue/8th Court which failed to meet the City of West Linn's performance standard of level of service D or better under year 2023 existing conditions are again projected to operate with levels of service exceeding acceptable under year 2025 traffic conditions either with or without the addition of site trips from the proposed development. Accordingly, some form of mitigation is appropriate for these intersections.

MITIGATION DESCRIPTIONS AND PROPORTIONATE SHARE CONTRIBUTION ANALYSIS

For the two intersections which are projected to exceed the City of West Linn's operational standards, mitigations were previously identified in the City's 2016 Transportation System Plan. These planned mitigations were examined to determine whether they will be sufficient to restore acceptable operation. Additionally, projected costs from the City's Transportation System Plan were used to calculate appropriate proportionate share contributions for each intersection improvement.

Willamette Falls Drive at 12th Street

The intersection of Willamette Falls Drive at 12th Street is currently operating at level of service D during the morning peak hour and level of service E during the evening peak hour. Under year 2025 traffic conditions, the intersection is projected to operate at level of service E during the morning and evening peak hours either with or without the addition of site trips from the proposed development. The 2016 Transportation System Plan indicates that a new traffic signal should be installed at this intersection once it is warranted (TSP Project M3). The projected cost of the traffic signal was $300,000.

Based on the high estimate of trip generation, the proposed development is projected to add 10 trips through the intersection during the evening peak hour. This represents 0.83% of the 1,206 trips projected to travel through the intersection under year 2025 background plus site trips conditions. If the developer contributes a proportionate share of the cost, the contribution would be $2,488 for this intersection.

10th Street at 8th Avenue/8th Court

The intersection of 10th Street at 8th Avenue/8th Court is currently operating at level of service F during the morning and evening peak hours. It is projected to continue to operate at level of service F under year 2025 traffic conditions either with or without the addition of site trips from the proposed development. However, with construction of the planned pork-chop island on the west side of the intersection converting the west leg to right-in, right-out only, the intersection is projected to operate better under the "background plus site trips" scenario than under existing conditions. The westbound approach from 8th Court is projected to continue to operate with high delays, but well within intersection capacity.

The 2016 Transportation System Plan acknowledges that, "The westbound approach to the 10th Street/8th Avenue-Court intersection is expected to operate at LOS F, but below capacity during the weekday p.m. peak hour under future traffic conditions with the planned improvements. Providing a crossover easement from 8th Court to Willamette Falls Drive for public ingress and egress will be necessary to provide relief to this intersection by providing an alternative access and secondary emergency access." The crossover easement is depicted in the Transportation System Plan as extending from the current roadway end to intersect Willamette Falls Drive west of the 9th Street alignment and is designated as TSP Project M19. Notably, this project has no projected cost to the city, since it is anticipated that the connection will be made in association with future development within the properties where the easement will be placed. Accordingly, the calculated proportionate share contribution based on the site trips added to the intersection would be zero for the proposed development.

Mitigation Summary

The intersection of 10th Street at Willamette Falls Drive is projected to operate acceptably with the planned and funded roundabout in place.

The intersection of 10th Street at 8th Avenue/8th Court is projected to operate better with completion of the planned roadway improvements and the addition of site trips from the proposed development than under existing conditions, and further mitigation will be provided in conjunction with future redevelopment within the properties where a future easement for connection to Willamette Falls Drive will be placed.

The intersection of Willamette Falls Drive at 12th Street is projected to operate at Level of Service E; however, the planned traffic signal for this intersection cannot be installed until traffic signal warrants are met. Accordingly, it is appropriate that the developer provide a proportionate share contribution toward the future signalization cost.

Based on the detailed analysis, payment of Transportation System Development Charges is projected to be sufficient to offset the impacts of the proposed mixed-use commercial development. No other operational mitigations are necessary or recommended in conjunction with the proposed development.

SAFETY ANALYSIS

CRASH DATA ANALYSIS

Using data obtained from the Oregon Department of Transportation, a review of the five most recent years of available crash history (from January 2016 through December 2020) was performed for the study intersections. The crash data was evaluated based on the number, type, and severity of collisions, as well as the intersection crash rate. Crash rates allow comparison of relative safety risks at intersections with different lane configurations, volumes, and traffic control devices by accounting for both the number of crashes that occur during the study period and the number of vehicles that traveled through the intersection during that period. Crash rates are calculated using the standard assumption that evening peak hour volumes are approximately 10 percent of the average daily traffic volume at an intersection. The crash rates were compared to statewide crash rates for similar intersection types in order to identify any locations with crash rates in excess of the 90th percentile.

The intersection of Willamette Falls Drive at 12th Street had three reported collisions during the five-year analysis period. These included one turning-movement collision, one angle collision, and one pedestrian collision. The pedestrian collision occurred when an eastbound driver failed to see and yield to a crossing pedestrian in the dark. The crash resulted in a "possible injury/complaint of pain" from the pedestrian. Overall the intersection crashes resulted in no serious injuries or fatalities, and two reports of a "possible injury/complaint of pain". The crash rate for the intersection was calculated to be 0.143 crashes per million entering vehicles. This is well below the 90th percentile crash rate of 0.408 crashes per million entering vehicles for unsignalized, four-way urban intersections in Oregon.

The intersection of Willamette Falls Drive at 11th Street had one reported collision during the five-year analysis period. It was a bicycle collision that occurred when a westbound driver failed attempting to parallel park failed to yield to a westbound cyclist. The crash resulted in a non-incapacitating injury to the cyclist. Subsequent to this crash in 2018, the roadway was redesigned to provide protected bike lanes behind angled parking, so the conflict type that occurred is unlikely to occur in the future. The crash rate for the intersection was calculated to be 0.048 crashes per million entering vehicles. This is well below the 90th percentile crash rate of 0.293 crashes per million entering vehicles for unsignalized, three-way urban intersections in Oregon.

The intersection of Willamette Falls Drive at 10th Street had four reported collisions during the five-year analysis period. These included one turning-movement collision, one angle collision, one rear-end collision, and one pedestrian collision. The pedestrian collision occurred when an eastbound driver turning left onto 10th Street failed to yield to a crossing pedestrian in the crosswalk. The crash resulted in a "possible injury/complaint of pain" from the pedestrian. Overall, the intersection crashes resulted in no serious injuries or fatalities, and two reports of a "possible injury/complaint of pain". The crash rate for the intersection was calculated to be 0.157 crashes per million entering vehicles. This is well below the 90th percentile crash rate of 0.293 crashes per million entering vehicles for unsignalized, three-way urban intersections in Oregon.

The intersection of 10th Street at 8th Avenue/8th Court had 6 reported crashes during the five-year analysis period. These included three angle collisions, two rear-end collisions, and one turning-movement collision. The crashes resulted in no serious injuries or fatalities, and two reports of a

"possible injury/complaint of pain". The crash rate for the intersection was calculated to be 0.251 crashes per million entering vehicles. This is well below the 90th percentile crash rate of 0.408 crashes per million entering vehicles for urban unsignalized four-way intersections in the state of Oregon.

The intersection of 10th Street at the I-205 Northbound Ramps had four reported crashes during the five-year analysis period. These included three rear-end collisions and one turning-movement collision. The crashes resulted in no serious injuries or fatalities, and two reports of a "possible injury/complaint of pain". The crash rate for the intersection was calculated to be 0.143 crashes per million entering vehicles. This is well below the 90th percentile crash rate of 0.860 crashes per million entering vehicles for urban signalized four-way intersections in the state of Oregon.

The intersection of 10th Street at the I-205 Southbound Ramps had three reported crashes during the five-year analysis period. All three were rear-end collisions. The crashes resulted in no serious injuries or fatalities, and two reports of a "possible injury/complaint of pain". The crash rate for the intersection was calculated to be 0.098 crashes per million entering vehicles. This is well below the 90th percentile crash rate of 0.860 crashes per million entering vehicles for urban signalized four-way intersections in the state of Oregon.

The intersection of 10th Street at Blankenship Road/Salamo Road had six reported crashes during the five-year analysis period. These included two turning-movement collisions, two rear-end collisions, one fixed-object (run off road) collision and one head-on collision. The head-on collision occurred when an eastbound driver failed to maintain their lane, drifting left and striking a westbound vehicle that was stopped while waiting to turn left onto 10th Street. The crash resulted in a non-incapacitating injury to the northbound driver. No other injuries were reported at this intersection. The crash rate for the intersection was calculated to be 0.203 crashes per million entering vehicles. This is well below the 90th percentile crash rate of 0.509 crashes per million entering vehicles for urban signalized four-way intersections in the state of Oregon.

Based on the crash data, the study intersections are currently operating acceptably with respect to safety. No specific safety improvements are recommended based on the crash data.

TRAFFIC SIGNAL WARRANT ANALYSIS

Traffic signal warrants were examined for the unsignalized study intersections. Detailed analysis worksheets for each intersection are included in the attached technical appendix.

The intersections of Willamette Falls Drive at 12th Street, Willamette Falls Drive at 11th Street, and 10th Street at 8th Avenue/8th Court are not projected to meet traffic signal warrants under year 2025 traffic conditions either with or without the addition of site trips from the proposed development. Accordingly, installation of traffic signals is not recommended for these intersections.

The intersection of Willamette Falls Drive at 10th Street was identified as meeting traffic signal warrants in the 2016 Transportation System Plan, which showed that even under year 2015 traffic conditions installation of a traffic signal could be considered. The installation of a new traffic signal would also be warranted under year 2025 traffic conditions with completion of the proposed development. However, the intersection is planned for conversion to a roundabout in the near future

under a project which has already been designed and funded. Installation of a roundabout serves as a substitute for signalization. With conversion of the intersection to a roundabout, the intersection is projected to operate acceptably under year 2025 conditions either with or without the addition of site trips from the proposed development. Accordingly, a traffic signal is not projected to be needed at this location.

LEFT TURN LANE WARRANT ANALYSIS

Left turn lane warrants were also examined for the major-street approaches to the unsignalized study intersections. Left-turn lane warrants are intended to evaluate whether a meaningful safety benefit may be expected if the turning vehicles are provided with turn lane within the street, allowing left-turning drivers to move out of the through travel lane so that following vehicles may pass without conflicts.

The intersections of Willamette Falls Drive at 12th Street and Willamette Falls Drive at 10th Street already have dedicated left-turn lanes in place for all major-street left-turn movements. Accordingly, no analysis was needed for these intersections.

For the intersection of Willamette Falls Drive at 11th Street, the space that could be allocated for a westbound left-turn lane is utilized by the eastbound left-turn lane which serves Willamette Falls Drive at 10th Street. The 10th Street intersection's left-turn volumes are significantly higher than the westbound left-turn volumes at 11th Street. Additionally, drivers have the option to turn at other intersections when traveling westbound, whereas no reasonable alternative routes are available for eastbound drivers turning left onto 10th Street. Finally, interruptions to the flow of through traffic along the 20-mph Willamette Falls Drive corridor are common and acceptable, since the corridor accommodates angled parking which frequently requires through vehicles to stop. Based on these factors, installation of a westbound left-turn lane on Willamette Falls Boulevard at 11th Street is not recommended.

For the intersection of 10th Street at 8th Avenue/8th Court, the planned improvements currently being implemented include the installation of a pork-chop diverter island on the west side of the intersection which will restrict turning movements to right-in, right-out only. Since northbound left-turns will no longer be permitted at this intersection, installation of a northbound left-turn lane is not recommended.

Based on the analysis, no new left-turn lanes are recommended in conjunction with the proposed development.

CONCLUSIONS

Based on the operational analysis, the signalized study intersections and the intersection of Willamette Falls Drive at 11th Street currently operate acceptably and are projected to continue to operate acceptably under year 2025 traffic conditions either with or without the addition of site trips from the proposed development. Additionally, construction of a new planned roundabout at the intersection of Willamette Falls Drive at 10th Street is projected to ensure that the intersection will operate acceptably under year 2025 traffic conditions either with or without the addition of sit trips from the proposed development. No mitigations are necessary or recommended for these intersections in conjunction with the proposed development.

The intersection of Willamette Falls Drive at 12th Street is projected to operate within capacity but at level of service "E" during the morning and evening peak hours under year 2025 traffic conditions either with or without the addition of site trips from the proposed development. Although a traffic signal cannot be installed at the intersection at this time, it is recommended that a traffic signal be installed once signal warrants are met. It is recommended that the developer pay a proportionate share contribution of $2,488 toward the future signalization cost based on the projected impacts at this location.

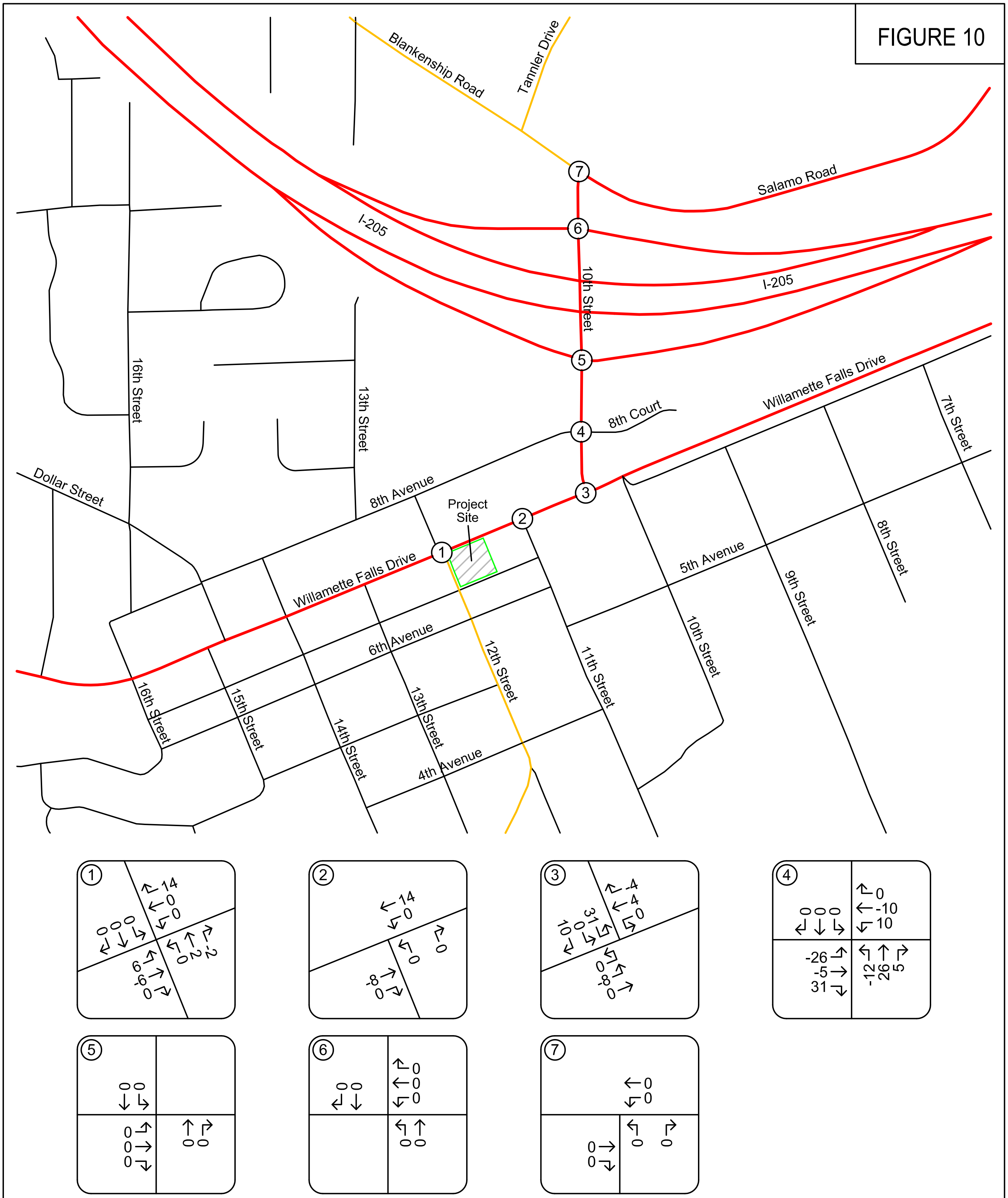
As described in the City's Transportation System Plan, the intersection of 10th Street at 8th Avenue/8th Court is projected to operate at level of service F, but below capacity under future traffic conditions. Since the intersection is projected to operate better under year 2025 conditions with the addition of site trips from the proposed development than under existing conditions and since further improvements will require acquisition of a crossover easement connecting to Willamette Falls Drive across property not under the control of the current development, no further mitigation beyond installation of the planned turning-movement restrictions is recommended for this intersection at this time.

Based on the crash data, the study intersections are currently operating acceptably with respect to safety. No specific safety improvements are recommended based on crash history.

Based on the warrant analysis, traffic signal warrants are currently met for the intersection of Willamette Falls Drive and 10th Street. However, this intersection is planned for installation of a roundabout, which is projected to adequately accommodate anticipated traffic volumes and patterns. No other traffic signals or turn lanes are recommended in conjunction with the proposed development.

APPENDIX

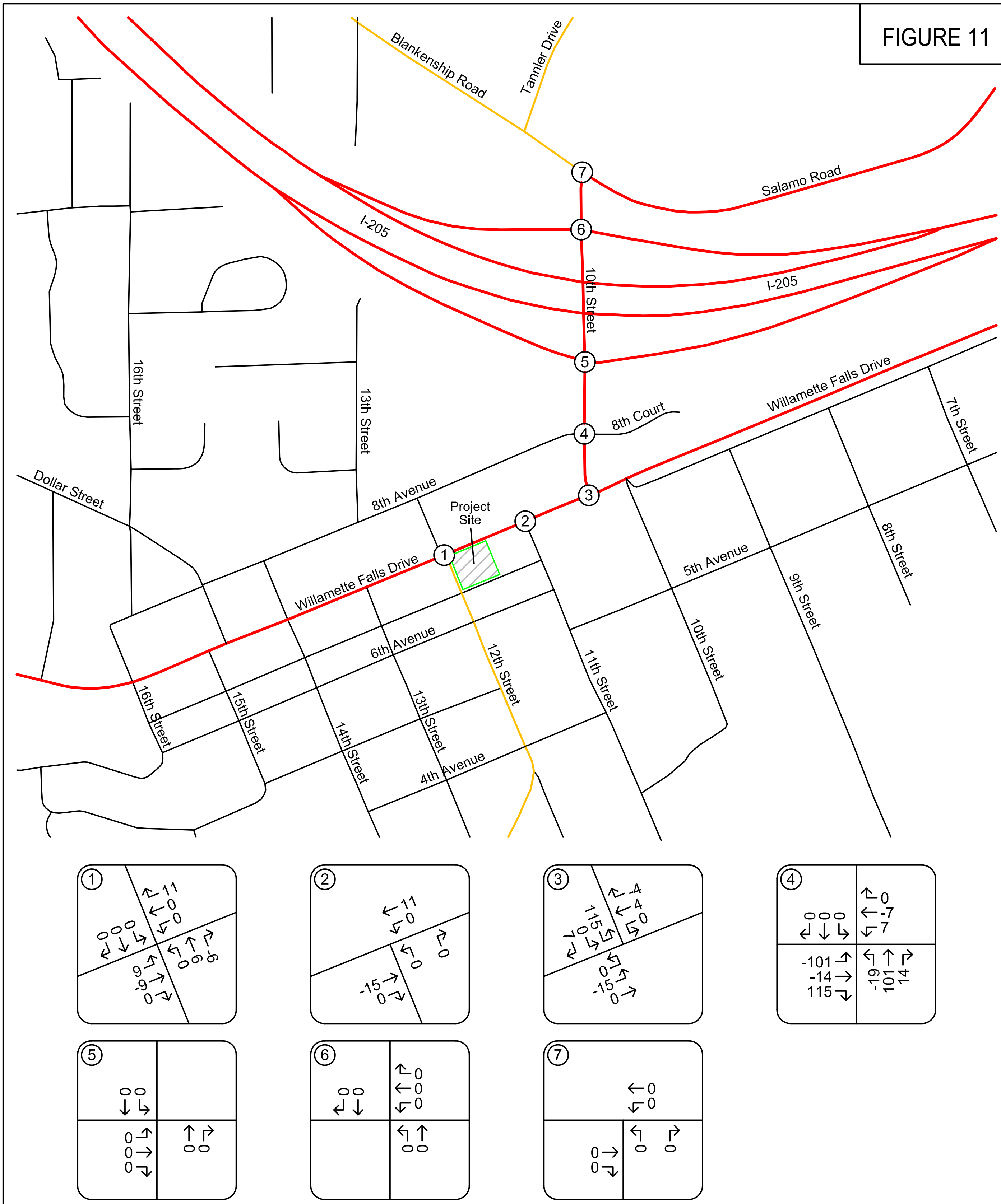
FIGURE 10



TRAFFIC VOLUMES
Re-routed Trips Resulting from Intersection Improvements
Morning Peak Hour

PAGE
APP1

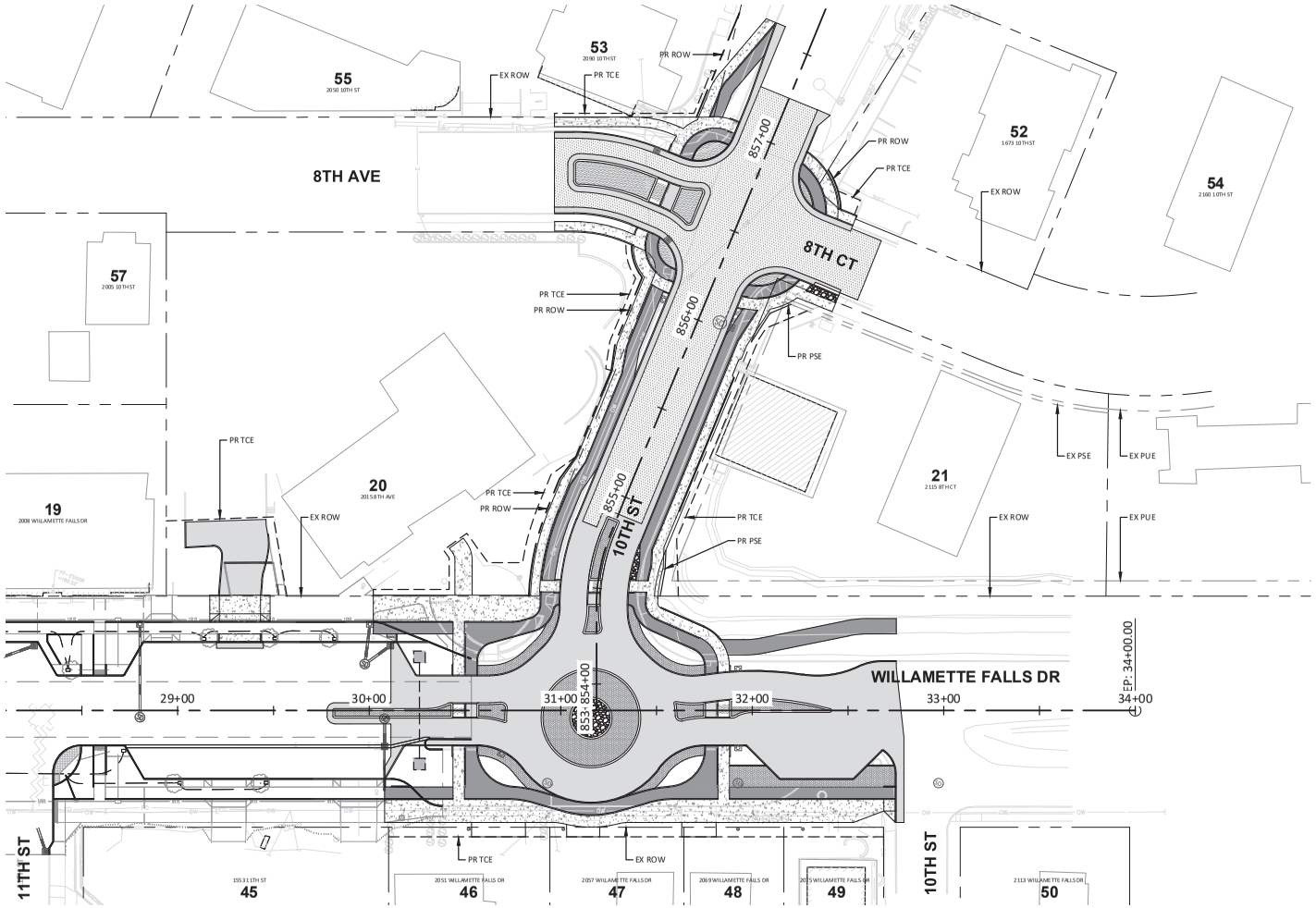
FIGURE 11



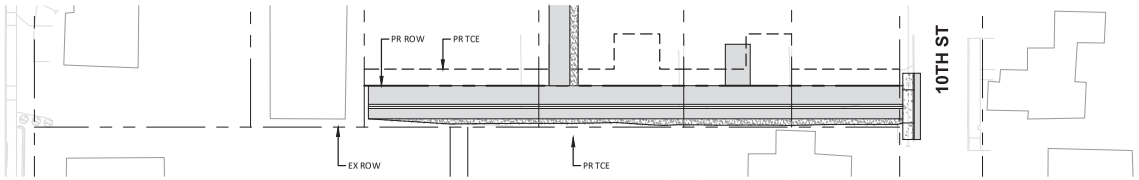
TRAFFIC VOLUMES

Re-routed Trips Resulting from Intersection Improvements
Evening Peak Hour

PAGE
APP2



PLAN VIEW



ALLEY PLAN VIEW

LEGEND

EX = EXISTING
PR = PROPOSED
ROW = RIGHT-OF-WAY
TCE = TEMPORARY CONSTRUCTION EASEMENT
PUE = PUBLIC UTILITY EASEMENT
PSE = PUBLIC SIDEWALK EASEMENT

0 30 60 120
SCALE: 1" = 60'

ROW ACQUISITION PLAN
10TH & SALAMO - PHASE 2A
WEST LINN, OREGON

Harper Houf Peterson Righellis Inc.
ENGINEERS ♦ PLANNERS
LANDSCAPE ARCHITECTS ♦ SURVEYORS
205 SE Spokane Street, Suite 200, Portland, OR 97202
phone: 503.221.1131 www.hhpr.com fax: 503.221.1171

City of West Linn

REGISTERED PROFESSIONAL ENGINEER
86,200
OREGON
JAN. 10, 2017
JAMES S. HOUF
EXPIRES: 6/30/23

DESIGNED: HHPR TEAM	SHEET NO. A03
DRAWN: HHPR TEAM	
CHECKED: BRA/JSH	
DATE: 1-27-2023	JOB NO. CWL-02

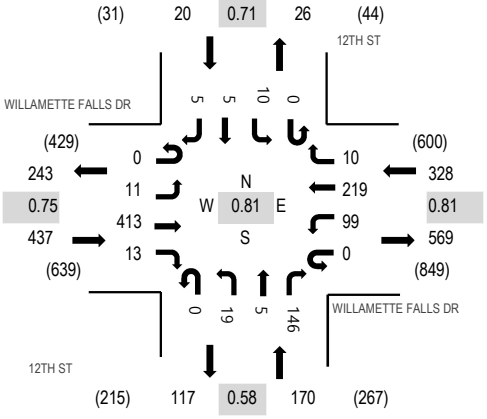
DRAWING NAME: CWL02-PH2A-A03-ROW ACQUISITION PLAN.DWG

ALL TRAFFIC DATA SERVICES
(303) 216-2439
www.alltrafficdata.net

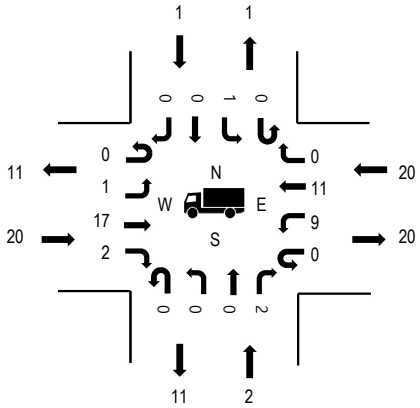
Location: 1 12TH ST & WILLAMETTE FALLS DR AM
Date: Wednesday, April 12, 2023
Peak Hour: 07:35 AM - 08:35 AM
Peak 15-Minutes: 07:45 AM - 08:00 AM

Peak Hour

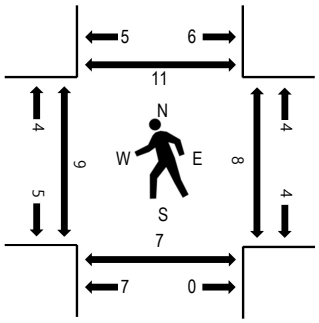
Motorized Vehicles



Heavy Vehicles



Pedestrians



Note: Total study counts contained in parentheses.

	HV%	PHF
EB	4.6%	0.75
WB	6.1%	0.81
NB	1.2%	0.58
SB	5.0%	0.71
All	4.5%	0.81

Traffic Counts - Motorized Vehicles

Interval Start Time	WILLAMETTE FALLS DR Eastbound				WILLAMETTE FALLS DR Westbound				12TH ST Northbound				12TH ST Southbound					Rolling Hour
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total	
7:00 AM	0	0	7	0	0	6	10	1	0	1	0	6	0	2	0	0	33	749
7:05 AM	0	0	14	2	0	4	11	0	0	0	0	6	0	1	0	0	38	806
7:10 AM	0	0	9	0	0	3	14	1	0	2	1	5	0	1	0	0	36	856
7:15 AM	0	0	19	1	0	5	7	1	0	0	0	8	0	0	0	0	41	901
7:20 AM	0	0	16	1	0	7	17	1	0	0	1	5	0	0	0	0	48	933
7:25 AM	0	0	19	2	0	10	9	3	0	0	1	7	0	0	0	0	51	939
7:30 AM	0	0	20	0	0	8	18	2	0	0	1	5	0	0	0	0	54	947
7:35 AM	0	0	23	1	0	13	18	0	0	0	1	9	0	2	1	0	68	955
7:40 AM	0	1	28	5	0	15	18	0	0	4	0	12	0	0	0	2	85	938
7:45 AM	0	1	39	2	0	9	25	0	0	4	0	14	0	1	0	0	95	923
7:50 AM	0	2	39	1	0	8	26	1	0	4	0	24	0	1	0	1	107	870
7:55 AM	0	1	36	0	0	11	17	0	0	5	0	23	0	0	0	0	93	816
8:00 AM	0	0	41	0	0	7	20	1	0	0	0	18	0	1	2	0	90	788
8:05 AM	0	1	46	0	0	7	21	1	0	1	1	8	0	2	0	0	88	
8:10 AM	0	1	52	0	0	10	8	1	0	0	0	8	0	1	0	0	81	
8:15 AM	0	1	44	0	0	3	10	3	0	0	0	11	0	1	0	0	73	
8:20 AM	0	1	21	1	0	5	14	2	0	0	1	7	0	0	1	1	54	
8:25 AM	0	1	22	1	0	9	20	0	0	1	0	4	0	0	1	0	59	
8:30 AM	0	1	22	2	0	2	22	1	0	0	2	8	0	1	0	1	62	
8:35 AM	0	0	13	3	0	5	17	0	0	1	0	10	0	0	1	1	51	
8:40 AM	0	0	24	1	0	12	20	2	0	1	0	7	0	3	0	0	70	
8:45 AM	0	0	8	0	0	9	14	0	0	1	1	8	0	1	0	0	42	
8:50 AM	0	0	12	1	0	9	20	1	0	2	0	8	0	0	0	0	53	
8:55 AM	0	0	27	3	0	5	19	1	0	1	0	8	0	1	0	0	65	
Count Total	0	11	601	27	0	182	395	23	0	28	10	229	0	19	6	6	1,537	
Peak Hour	0	11	413	13	0	99	219	10	0	19	5	146	0	10	5	5	955	

Traffic Counts - Heavy Vehicles, Bicycles on Road, and Pedestrians/Bicycles on Crosswalk

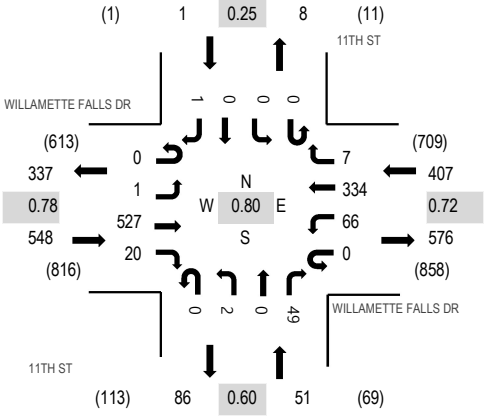
Interval Start Time	Heavy Vehicles					Interval Start Time	Bicycles on Roadway					Interval Start Time	Pedestrians/Bicycles on Crosswalk				
	EB	NB	WB	SB	Total		EB	NB	WB	SB	Total		EB	NB	WB	SB	Total
7:00 AM	0	1	2	0	3	7:00 AM	0	0	0	0	0	7:00 AM	0	2	0	0	2
7:05 AM	0	0	2	0	2	7:05 AM	0	0	0	0	0	7:05 AM	0	0	0	2	2
7:10 AM	0	0	2	0	2	7:10 AM	0	0	0	0	0	7:10 AM	0	2	0	3	5
7:15 AM	3	1	0	0	4	7:15 AM	0	0	0	0	0	7:15 AM	0	2	0	1	3
7:20 AM	0	0	1	0	1	7:20 AM	0	0	0	0	0	7:20 AM	0	0	0	2	2
7:25 AM	1	0	0	0	1	7:25 AM	0	0	0	0	0	7:25 AM	2	0	0	1	3
7:30 AM	0	0	1	0	1	7:30 AM	0	0	0	0	0	7:30 AM	0	1	0	1	2
7:35 AM	1	0	3	0	4	7:35 AM	0	0	0	0	0	7:35 AM	2	1	0	0	3
7:40 AM	2	0	0	0	2	7:40 AM	0	0	0	0	0	7:40 AM	2	0	0	1	3
7:45 AM	0	0	2	0	2	7:45 AM	0	0	0	0	0	7:45 AM	3	1	0	0	4
7:50 AM	1	0	2	0	3	7:50 AM	0	0	0	0	0	7:50 AM	1	4	0	1	6
7:55 AM	3	1	1	0	5	7:55 AM	0	0	0	0	0	7:55 AM	0	0	2	2	4
8:00 AM	4	0	4	0	8	8:00 AM	0	0	0	0	0	8:00 AM	0	0	1	2	3
8:05 AM	1	0	2	0	3	8:05 AM	0	0	0	0	0	8:05 AM	0	0	2	0	2
8:10 AM	3	0	0	0	3	8:10 AM	0	0	0	0	0	8:10 AM	0	1	0	0	1
8:15 AM	2	0	0	0	2	8:15 AM	0	0	0	0	0	8:15 AM	1	0	0	0	1
8:20 AM	1	0	1	0	2	8:20 AM	0	0	0	0	0	8:20 AM	0	0	1	2	3
8:25 AM	1	0	3	0	4	8:25 AM	0	0	0	0	0	8:25 AM	0	0	2	1	3
8:30 AM	1	1	2	1	5	8:30 AM	0	0	0	0	0	8:30 AM	0	0	0	2	2
8:35 AM	1	1	1	1	4	8:35 AM	0	0	0	0	0	8:35 AM	0	1	0	1	2
8:40 AM	1	0	0	0	1	8:40 AM	0	0	0	0	0	8:40 AM	0	0	0	1	1
8:45 AM	0	0	3	0	3	8:45 AM	0	0	0	0	0	8:45 AM	0	0	0	2	2
8:50 AM	0	0	2	0	2	8:50 AM	0	0	0	0	0	8:50 AM	0	1	1	0	2
8:55 AM	2	0	2	0	4	8:55 AM	0	0	0	0	0	8:55 AM	0	0	0	0	0
Count Total	28	5	36	2	71	Count Total	0	0	0	0	0	Count Total	11	16	9	25	61
Peak Hour	20	2	20	1	43	Peak Hour	0	0	0	0	0	Peak Hour	9	7	8	11	35

ALL TRAFFIC DATA SERVICES
(303) 216-2439
www.alltrafficdata.net

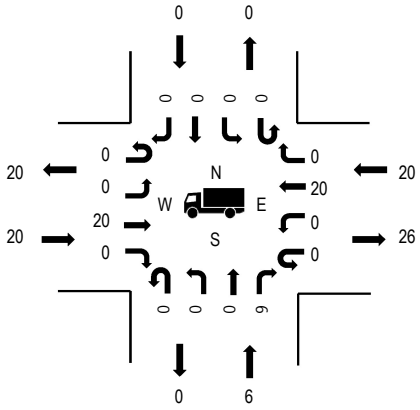
Location: 2 11TH ST & WILLAMETTE FALLS DR AM
Date: Wednesday, April 12, 2023
Peak Hour: 07:35 AM - 08:35 AM
Peak 15-Minutes: 07:40 AM - 07:55 AM

Peak Hour

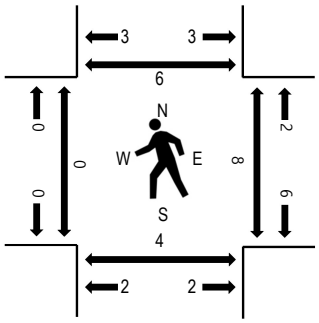
Motorized Vehicles



Heavy Vehicles



Pedestrians



Note: Total study counts contained in parentheses.

	HV%	PHF
EB	3.6%	0.78
WB	4.9%	0.72
NB	11.8%	0.60
SB	0.0%	0.25
All	4.6%	0.80

Traffic Counts - Motorized Vehicles

Interval Start Time	WILLAMETTE FALLS DR Eastbound				WILLAMETTE FALLS DR Westbound				11TH ST Northbound				11TH ST Southbound					Rolling Hour
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total	
7:00 AM	0	0	15	0	0	2	20	1	0	0	0	0	0	0	0	0	38	786
7:05 AM	0	0	21	0	0	1	13	0	0	0	0	0	0	0	0	0	35	850
7:10 AM	0	0	16	0	0	1	19	0	0	0	0	2	0	0	0	0	38	898
7:15 AM	0	0	26	0	0	1	12	0	0	0	0	3	0	0	0	0	42	952
7:20 AM	0	0	20	0	0	0	28	0	0	0	0	4	0	0	0	0	52	983
7:25 AM	0	0	25	0	0	1	19	0	0	0	0	2	0	0	0	0	47	985
7:30 AM	0	0	23	1	0	3	28	0	0	0	0	1	0	0	0	0	56	1,001
7:35 AM	0	0	23	6	0	8	30	0	0	1	0	1	0	0	0	0	69	1,007
7:40 AM	0	0	36	5	0	20	31	1	0	0	0	6	0	0	0	1	100	989
7:45 AM	0	0	41	8	0	11	35	0	0	1	0	10	0	0	0	0	106	951
7:50 AM	0	0	61	0	0	9	34	0	0	0	0	6	0	0	0	0	110	888
7:55 AM	0	1	58	0	0	3	26	1	0	0	0	4	0	0	0	0	93	837
8:00 AM	0	0	56	0	0	5	33	0	0	0	0	8	0	0	0	0	102	809
8:05 AM	0	0	49	0	0	0	28	0	0	0	0	6	0	0	0	0	83	
8:10 AM	0	0	66	0	0	2	23	1	0	0	0	0	0	0	0	0	92	
8:15 AM	0	0	54	0	0	0	16	0	0	0	0	3	0	0	0	0	73	
8:20 AM	0	0	26	1	0	1	23	0	0	0	0	3	0	0	0	0	54	
8:25 AM	0	0	26	0	0	3	31	2	0	0	0	1	0	0	0	0	63	
8:30 AM	0	0	31	0	0	4	24	2	0	0	0	1	0	0	0	0	62	
8:35 AM	0	0	19	0	0	6	24	0	0	0	0	2	0	0	0	0	51	
8:40 AM	0	0	28	1	0	2	28	0	0	0	0	3	0	0	0	0	62	
8:45 AM	0	0	17	0	0	2	22	1	0	0	0	1	0	0	0	0	43	
8:50 AM	0	0	21	1	0	0	37	0	0	0	0	0	0	0	0	0	59	
8:55 AM	0	0	33	1	0	4	26	1	0	0	0	0	0	0	0	0	65	
Count Total	0	1	791	24	0	89	610	10	0	2	0	67	0	0	0	1	1,595	
Peak Hour	0	1	527	20	0	66	334	7	0	2	0	49	0	0	0	1	1,007	

Traffic Counts - Heavy Vehicles, Bicycles on Road, and Pedestrians/Bicycles on Crosswalk

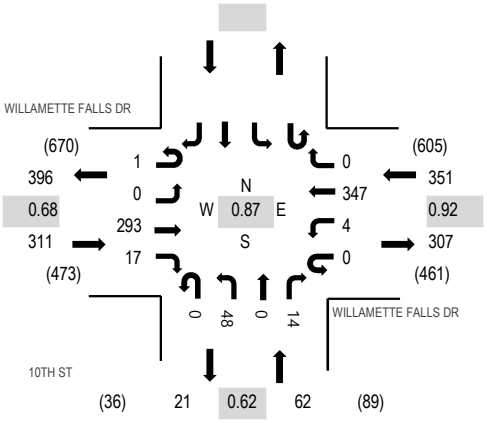
Interval Start Time	Heavy Vehicles					Interval Start Time	Bicycles on Roadway					Interval Start Time	Pedestrians/Bicycles on Crosswalk				
	EB	NB	WB	SB	Total		EB	NB	WB	SB	Total		EB	NB	WB	SB	Total
7:00 AM	1	0	2	0	3	7:00 AM	0	0	0	0	0	7:00 AM	0	0	0	0	0
7:05 AM	0	0	1	0	1	7:05 AM	0	0	0	0	0	7:05 AM	0	0	0	3	3
7:10 AM	0	0	2	0	2	7:10 AM	0	0	0	0	0	7:10 AM	0	0	1	1	2
7:15 AM	4	0	0	0	4	7:15 AM	0	0	0	0	0	7:15 AM	0	2	1	1	4
7:20 AM	0	0	1	0	1	7:20 AM	0	0	0	0	0	7:20 AM	0	0	1	1	2
7:25 AM	1	0	0	0	1	7:25 AM	0	0	0	0	0	7:25 AM	0	0	0	0	0
7:30 AM	0	0	1	0	1	7:30 AM	0	0	0	0	0	7:30 AM	0	3	0	1	4
7:35 AM	1	1	3	0	5	7:35 AM	0	0	0	0	0	7:35 AM	0	0	0	0	0
7:40 AM	0	2	0	0	2	7:40 AM	0	0	0	0	0	7:40 AM	0	0	4	1	5
7:45 AM	0	1	2	0	3	7:45 AM	0	0	0	0	0	7:45 AM	0	0	0	0	0
7:50 AM	1	1	2	0	4	7:50 AM	0	0	0	0	0	7:50 AM	0	2	2	2	6
7:55 AM	3	1	1	0	5	7:55 AM	0	0	0	0	0	7:55 AM	0	0	0	0	0
8:00 AM	4	0	4	0	8	8:00 AM	0	0	0	0	0	8:00 AM	0	0	0	1	1
8:05 AM	1	0	2	0	3	8:05 AM	0	0	0	0	0	8:05 AM	0	1	0	2	3
8:10 AM	3	0	0	0	3	8:10 AM	0	0	0	0	0	8:10 AM	0	1	2	0	3
8:15 AM	2	0	0	0	2	8:15 AM	0	0	0	0	0	8:15 AM	0	0	0	0	0
8:20 AM	1	0	2	0	3	8:20 AM	0	0	0	0	0	8:20 AM	0	0	0	0	0
8:25 AM	1	0	2	0	3	8:25 AM	0	0	0	0	0	8:25 AM	0	0	0	0	0
8:30 AM	3	0	2	0	5	8:30 AM	0	0	0	0	0	8:30 AM	0	0	0	0	0
8:35 AM	1	1	1	0	3	8:35 AM	0	0	0	0	0	8:35 AM	0	0	0	2	2
8:40 AM	1	0	0	0	1	8:40 AM	0	0	0	0	0	8:40 AM	0	0	0	0	0
8:45 AM	0	0	3	0	3	8:45 AM	0	0	0	0	0	8:45 AM	0	0	0	0	0
8:50 AM	0	0	2	0	2	8:50 AM	0	0	0	0	0	8:50 AM	0	0	1	1	2
8:55 AM	2	0	2	0	4	8:55 AM	0	0	0	0	0	8:55 AM	0	0	0	0	0
Count Total	30	7	35	0	72	Count Total	0	0	0	0	0	Count Total	0	9	12	16	37
Peak Hour	20	6	20	0	46	Peak Hour	0	0	0	0	0	Peak Hour	0	4	8	6	18

ALL TRAFFIC DATA SERVICES
(303) 216-2439
www.alltrafficdata.net

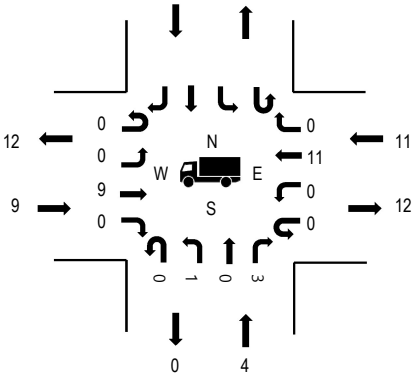
Location: 3 10TH ST & WILLAMETTE FALLS DR AM
Date: Wednesday, April 12, 2023
Peak Hour: 07:35 AM - 08:35 AM
Peak 15-Minutes: 08:10 AM - 08:25 AM

Peak Hour

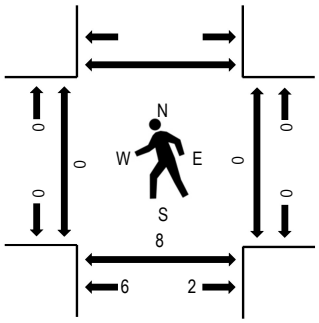
Motorized Vehicles



Heavy Vehicles



Pedestrians



Note: Total study counts contained in parentheses.

	HV%	PHF
EB	2.9%	0.68
WB	3.1%	0.92
NB	6.5%	0.62
SB		
All	3.3%	0.87

Traffic Counts - Motorized Vehicles

Interval Start Time	WILLAMETTE FALLS DR Eastbound				WILLAMETTE FALLS DR Westbound				10TH ST Northbound				Southbound				Total	Rolling Hour
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right		
7:00 AM	0	0	5	0	0	0	10	0	0	3	0	0					18	541
7:05 AM	0	0	12	0	0	0	17	0	0	0	0	1					30	587
7:10 AM	0	0	9	2	0	1	20	0	0	5	0	1					38	614
7:15 AM	0	0	20	1	0	0	21	0	0	3	0	0					45	646
7:20 AM	0	0	16	2	0	0	27	0	0	0	0	0					45	678
7:25 AM	0	0	13	2	0	0	15	0	0	2	0	1					33	693
7:30 AM	0	0	15	0	0	1	21	0	0	2	0	1					40	708
7:35 AM	0	0	11	0	0	1	24	0	0	7	0	2					45	724
7:40 AM	0	0	15	3	0	0	30	0	0	7	0	0					55	718
7:45 AM	0	0	22	4	0	0	28	0	0	8	0	2					64	709
7:50 AM	1	0	27	2	0	0	34	0	0	4	0	1					69	680
7:55 AM	0	0	23	2	0	0	29	0	0	4	0	1					59	651
8:00 AM	0	0	24	2	0	1	33	0	0	4	0	0					64	626
8:05 AM	0	0	31	0	0	1	21	0	0	2	0	2					57	
8:10 AM	0	0	40	2	0	0	23	0	0	3	0	2					70	
8:15 AM	0	0	41	0	0	1	29	0	0	3	0	3					77	
8:20 AM	0	0	25	2	0	0	30	0	0	3	0	0					60	
8:25 AM	0	0	15	0	0	0	33	0	0	0	0	0					48	
8:30 AM	0	0	19	0	0	0	33	0	0	3	0	1					56	
8:35 AM	0	0	8	0	0	0	30	0	0	1	0	0					39	
8:40 AM	0	0	19	1	0	0	25	0	0	1	0	0					46	
8:45 AM	0	0	10	1	0	0	22	0	0	2	0	0					35	
8:50 AM	0	0	11	1	0	0	25	0	0	3	0	0					40	
8:55 AM	0	0	12	2	0	1	18	0	0	1	0	0					34	
Count Total	1	0	443	29	0	7	598	0	0	71	0	18					1,167	
Peak Hour	1	0	293	17	0	4	347	0	0	48	0	14					724	

Traffic Counts - Heavy Vehicles, Bicycles on Road, and Pedestrians/Bicycles on Crosswalk

Interval Start Time	Heavy Vehicles					Interval Start Time	Bicycles on Roadway					Interval Start Time	Pedestrians/Bicycles on Crosswalk				
	EB	NB	WB	SB	Total		EB	NB	WB	SB	Total		EB	NB	WB	SB	Total
7:00 AM	1	0	0		1	7:00 AM	0	0	0		0	7:00 AM	0	0	0		0
7:05 AM	1	0	0		1	7:05 AM	0	0	0		0	7:05 AM	0	0	0		0
7:10 AM	0	0	1		1	7:10 AM	0	0	0		0	7:10 AM	0	0	0		0
7:15 AM	2	0	0		2	7:15 AM	0	0	0		0	7:15 AM	0	0	0		0
7:20 AM	0	0	0		0	7:20 AM	0	0	0		0	7:20 AM	0	0	0		0
7:25 AM	1	0	0		1	7:25 AM	0	0	0		0	7:25 AM	0	0	0		0
7:30 AM	0	0	0		0	7:30 AM	0	0	0		0	7:30 AM	0	0	0		0
7:35 AM	0	0	0		0	7:35 AM	0	0	0		0	7:35 AM	0	0	0		0
7:40 AM	0	1	0		1	7:40 AM	0	0	0		0	7:40 AM	0	3	0		3
7:45 AM	0	0	1		1	7:45 AM	0	0	0		0	7:45 AM	0	0	0		0
7:50 AM	0	0	1		1	7:50 AM	0	0	0		0	7:50 AM	0	1	0		1
7:55 AM	0	0	0		0	7:55 AM	0	0	0		0	7:55 AM	0	0	0		0
8:00 AM	0	0	1		1	8:00 AM	0	0	0		0	8:00 AM	0	1	0		1
8:05 AM	2	2	2		6	8:05 AM	0	0	0		0	8:05 AM	0	1	0		1
8:10 AM	2	0	1		3	8:10 AM	0	0	0		0	8:10 AM	0	0	0		0
8:15 AM	3	1	1		5	8:15 AM	0	0	0		0	8:15 AM	0	2	0		2
8:20 AM	0	0	1		1	8:20 AM	0	0	0		0	8:20 AM	0	0	0		0
8:25 AM	0	0	3		3	8:25 AM	0	0	0		0	8:25 AM	0	1	0		1
8:30 AM	2	0	0		2	8:30 AM	0	0	0		0	8:30 AM	0	0	0		0
8:35 AM	0	0	3		3	8:35 AM	0	0	0		0	8:35 AM	0	0	0		0
8:40 AM	1	0	1		2	8:40 AM	0	0	0		0	8:40 AM	0	1	0		1
8:45 AM	0	0	0		0	8:45 AM	0	0	0		0	8:45 AM	0	0	0		0
8:50 AM	0	0	0		0	8:50 AM	0	0	0		0	8:50 AM	0	0	0		0
8:55 AM	1	0	0		1	8:55 AM	0	0	0		0	8:55 AM	0	0	0		0
Count Total	16	4	16		36	Count Total	0	0	0		0	Count Total	0	10	0		10
Peak Hour	9	4	11		24	Peak Hour	0	0	0		0	Peak Hour	0	9	0		9

ALL TRAFFIC DATA SERVICES
(303) 216-2439
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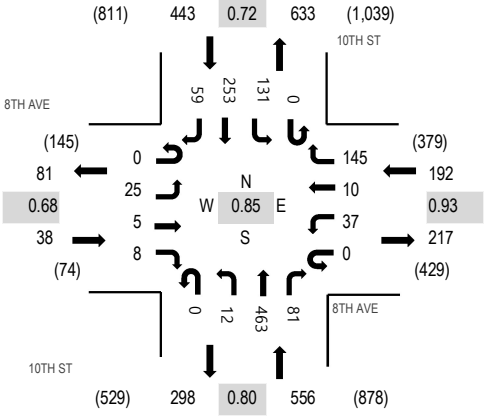
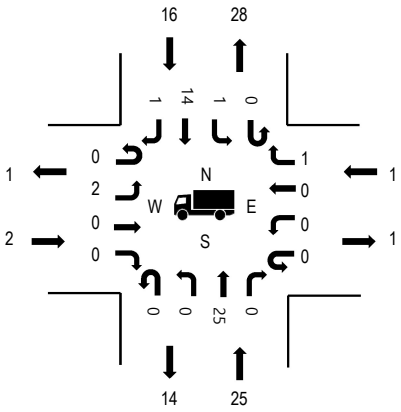
Location: 4 10TH ST & 8TH AVE AM
Date: Wednesday, April 12, 2023
Peak Hour: 07:35 AM - 08:35 AM
Peak 15-Minutes: 07:40 AM - 07:55 AM

Peak Hour

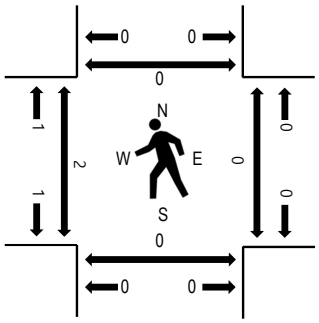
Motorized Vehicles



Heavy Vehicles



Pedestrians



Note: Total study counts contained in parentheses.

	HV%	PHF
EB	5.3%	0.68
WB	0.5%	0.93
NB	4.5%	0.80
SB	3.6%	0.72
All	3.6%	0.85

Traffic Counts - Motorized Vehicles

Interval Start Time	8TH AVE Eastbound				8TH AVE Westbound				10TH ST Northbound				10TH ST Southbound					Rolling Hour
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total	
7:00 AM	0	1	0	0	0	3	0	9	0	0	9	9	0	11	18	0	60	1,061
7:05 AM	0	2	1	0	0	2	0	10	0	1	17	6	0	9	10	4	62	1,110
7:10 AM	0	2	0	0	0	4	1	11	0	1	21	4	0	10	11	4	69	1,150
7:15 AM	0	3	1	0	0	5	1	14	0	0	22	9	0	15	10	4	84	1,180
7:20 AM	0	3	0	0	0	3	1	10	0	0	20	5	0	11	18	0	71	1,180
7:25 AM	0	1	0	0	0	2	1	15	0	0	18	4	0	12	11	4	68	1,193
7:30 AM	0	3	0	0	0	5	1	11	0	0	18	9	0	10	15	3	75	1,222
7:35 AM	0	2	0	0	0	2	1	13	0	0	27	4	0	17	33	6	105	1,229
7:40 AM	0	1	0	1	0	6	0	13	0	0	39	7	0	11	33	4	115	1,203
7:45 AM	0	0	0	1	0	2	2	14	0	4	48	3	0	10	34	6	124	1,185
7:50 AM	0	4	1	1	0	3	1	10	0	0	53	5	0	12	22	9	121	1,146
7:55 AM	0	5	1	1	0	1	1	16	0	0	50	7	0	9	11	5	107	1,092
8:00 AM	0	3	1	0	0	3	0	9	0	1	51	7	0	9	19	6	109	1,081
8:05 AM	0	1	1	0	0	1	1	14	0	1	39	11	0	9	22	2	102	
8:10 AM	0	3	1	1	0	1	1	11	0	1	44	4	0	9	19	4	99	
8:15 AM	0	2	0	3	0	2	1	6	0	2	34	8	0	10	12	4	84	
8:20 AM	0	0	0	0	0	4	0	13	0	0	21	12	0	13	16	5	84	
8:25 AM	0	2	0	0	0	7	1	16	0	2	26	6	0	13	20	4	97	
8:30 AM	0	2	0	0	0	5	1	10	0	1	31	7	0	9	12	4	82	
8:35 AM	0	6	0	1	0	2	1	10	0	2	14	6	0	17	15	5	79	
8:40 AM	0	3	0	2	0	2	3	19	0	2	31	4	0	11	16	4	97	
8:45 AM	0	1	0	0	0	7	1	11	0	2	22	5	0	10	21	5	85	
8:50 AM	0	3	0	0	0	3	0	11	0	0	18	4	0	6	18	4	67	
8:55 AM	0	1	1	1	0	0	0	8	0	2	28	9	0	13	26	7	96	
Count Total	0	54	8	12	0	75	20	284	0	22	701	155	0	266	442	103	2,142	
Peak Hour	0	25	5	8	0	37	10	145	0	12	463	81	0	131	253	59	1,229	

Traffic Counts - Heavy Vehicles, Bicycles on Road, and Pedestrians/Bicycles on Crosswalk

Interval Start Time	Heavy Vehicles					Interval Start Time	Bicycles on Roadway					Interval Start Time	Pedestrians/Bicycles on Crosswalk				
	EB	NB	WB	SB	Total		EB	NB	WB	SB	Total		EB	NB	WB	SB	Total
7:00 AM	0	1	0	2	3	7:00 AM	0	0	0	0	0	7:00 AM	0	0	0	0	0
7:05 AM	0	0	0	2	2	7:05 AM	0	0	0	0	0	7:05 AM	0	0	0	0	0
7:10 AM	1	1	0	2	4	7:10 AM	0	0	0	0	0	7:10 AM	0	1	0	0	1
7:15 AM	1	3	0	0	4	7:15 AM	0	0	0	0	0	7:15 AM	0	0	0	0	0
7:20 AM	0	0	0	1	1	7:20 AM	0	0	0	0	0	7:20 AM	0	0	0	0	0
7:25 AM	0	0	0	1	1	7:25 AM	0	0	0	0	0	7:25 AM	0	0	0	0	0
7:30 AM	0	0	0	0	0	7:30 AM	0	0	0	0	0	7:30 AM	0	2	2	0	4
7:35 AM	0	1	1	3	5	7:35 AM	0	0	0	0	0	7:35 AM	1	0	0	0	1
7:40 AM	0	4	0	0	4	7:40 AM	0	0	0	0	0	7:40 AM	0	0	0	0	0
7:45 AM	0	3	0	2	5	7:45 AM	0	0	0	0	0	7:45 AM	0	0	0	0	0
7:50 AM	0	1	0	1	2	7:50 AM	0	0	0	0	0	7:50 AM	0	0	0	0	0
7:55 AM	0	5	0	0	5	7:55 AM	0	0	0	0	0	7:55 AM	0	0	0	0	0
8:00 AM	2	4	0	3	9	8:00 AM	0	0	0	0	0	8:00 AM	0	0	0	0	0
8:05 AM	0	1	0	2	3	8:05 AM	0	0	0	0	0	8:05 AM	0	0	0	0	0
8:10 AM	0	1	0	0	1	8:10 AM	0	0	0	0	0	8:10 AM	0	0	0	0	0
8:15 AM	0	2	0	1	3	8:15 AM	0	0	0	0	0	8:15 AM	1	0	0	0	1
8:20 AM	0	1	0	1	2	8:20 AM	0	0	0	0	0	8:20 AM	0	0	0	0	0
8:25 AM	0	1	0	2	3	8:25 AM	0	0	0	0	0	8:25 AM	0	0	0	0	0
8:30 AM	0	1	0	1	2	8:30 AM	0	0	0	0	0	8:30 AM	1	0	0	0	1
8:35 AM	0	3	0	0	3	8:35 AM	0	0	0	0	0	8:35 AM	0	0	0	0	0
8:40 AM	1	2	0	0	3	8:40 AM	0	0	0	0	0	8:40 AM	0	0	0	0	0
8:45 AM	0	0	0	4	4	8:45 AM	0	0	0	0	0	8:45 AM	0	0	0	0	0
8:50 AM	0	0	0	2	2	8:50 AM	0	0	0	0	0	8:50 AM	0	0	0	1	1
8:55 AM	0	1	0	3	4	8:55 AM	0	0	0	0	0	8:55 AM	0	1	0	0	1
Count Total	5	36	1	33	75	Count Total	0	0	0	0	0	Count Total	3	4	2	1	10
Peak Hour	2	25	1	16	44	Peak Hour	0	0	0	0	0	Peak Hour	3	0	0	0	3

ALL TRAFFIC DATA SERVICES
(303) 216-2439
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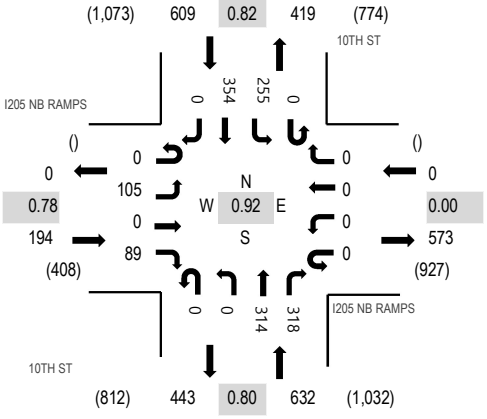
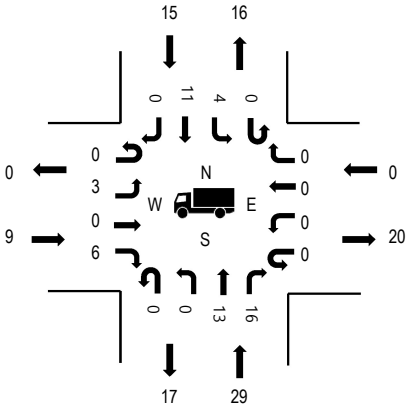
Location: 5 10TH ST & I205 NB RAMPS AM
Date: Wednesday, April 12, 2023
Peak Hour: 07:35 AM - 08:35 AM
Peak 15-Minutes: 07:45 AM - 08:00 AM

Peak Hour

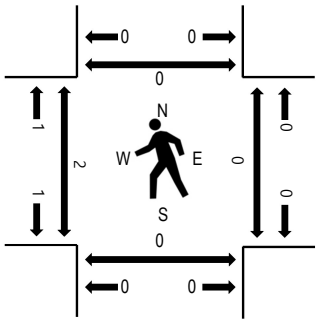
Motorized Vehicles



Heavy Vehicles



Pedestrians



Note: Total study counts contained in parentheses.

	HV%	PHF
EB	4.6%	0.78
WB	0.0%	0.00
NB	4.6%	0.80
SB	2.5%	0.82
All	3.7%	0.92

Traffic Counts - Motorized Vehicles

Interval Start Time	I205 NB RAMPS Eastbound				I205 NB RAMPS Westbound				10TH ST Northbound				10TH ST Southbound					Rolling Hour
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total	
7:00 AM	0	10	0	5	0	0	0	0	0	0	13	9	0	17	23	0	77	1,196
7:05 AM	0	4	0	6	0	0	0	0	0	0	16	12	0	15	18	0	71	1,255
7:10 AM	0	6	0	7	0	0	0	0	0	0	24	6	0	10	18	0	71	1,309
7:15 AM	0	10	0	14	0	0	0	0	0	0	26	14	0	18	15	0	97	1,366
7:20 AM	0	5	0	4	0	0	0	0	0	0	14	21	0	17	24	0	85	1,381
7:25 AM	0	3	0	4	0	0	0	0	0	0	22	10	0	19	24	0	82	1,395
7:30 AM	0	4	0	2	0	0	0	0	0	0	23	9	0	19	26	0	83	1,414
7:35 AM	0	7	0	7	0	0	0	0	0	0	22	17	0	18	49	0	120	1,435
7:40 AM	0	2	0	6	0	0	0	0	0	0	30	23	0	15	42	0	118	1,406
7:45 AM	0	6	0	6	0	0	0	0	0	0	32	28	0	21	44	0	137	1,394
7:50 AM	0	6	0	7	0	0	0	0	0	0	38	29	0	16	35	0	131	1,363
7:55 AM	0	9	0	6	0	0	0	0	0	0	35	36	0	19	19	0	124	1,320
8:00 AM	0	11	0	8	0	0	0	0	0	0	22	37	0	32	26	0	136	1,317
8:05 AM	0	9	0	7	0	0	0	0	0	0	23	36	0	23	27	0	125	
8:10 AM	0	10	0	9	0	0	0	0	0	0	18	39	0	29	23	0	128	
8:15 AM	0	10	0	4	0	0	0	0	0	0	22	24	0	31	21	0	112	
8:20 AM	0	12	0	12	0	0	0	0	0	0	18	14	0	20	23	0	99	
8:25 AM	0	11	0	9	0	0	0	0	0	0	24	13	0	17	27	0	101	
8:30 AM	0	12	0	8	0	0	0	0	0	0	30	22	0	14	18	0	104	
8:35 AM	0	10	0	10	0	0	0	0	0	0	20	10	0	15	26	0	91	
8:40 AM	0	14	0	12	0	0	0	0	0	0	30	20	0	11	19	0	106	
8:45 AM	0	10	0	14	0	0	0	0	0	0	21	14	0	24	23	0	106	
8:50 AM	0	16	0	9	0	0	0	0	0	0	19	13	0	14	17	0	88	
8:55 AM	0	19	0	16	0	0	0	0	0	0	16	18	0	19	33	0	121	
Count Total	0	216	0	192	0	0	0	0	0	0	558	474	0	453	620	0	2,513	
Peak Hour	0	105	0	89	0	0	0	0	0	0	314	318	0	255	354	0	1,435	

Traffic Counts - Heavy Vehicles, Bicycles on Road, and Pedestrians/Bicycles on Crosswalk

Interval Start Time	Heavy Vehicles					Interval Start Time	Bicycles on Roadway					Interval Start Time	Pedestrians/Bicycles on Crosswalk				
	EB	NB	WB	SB	Total		EB	NB	WB	SB	Total		EB	NB	WB	SB	Total
7:00 AM	2	1	0	1	4	7:00 AM	0	0	0	0	0	7:00 AM	1	0	0	0	1
7:05 AM	3	0	0	1	4	7:05 AM	0	0	0	0	0	7:05 AM	0	0	0	0	0
7:10 AM	1	2	0	2	5	7:10 AM	0	0	0	0	0	7:10 AM	0	0	0	0	0
7:15 AM	2	3	0	0	5	7:15 AM	0	0	0	0	0	7:15 AM	0	0	0	0	0
7:20 AM	1	1	0	1	3	7:20 AM	0	0	0	0	0	7:20 AM	0	0	0	0	0
7:25 AM	0	0	0	1	1	7:25 AM	0	0	0	0	0	7:25 AM	0	0	0	0	0
7:30 AM	0	0	0	0	0	7:30 AM	0	0	0	0	0	7:30 AM	0	0	0	0	0
7:35 AM	1	2	0	3	6	7:35 AM	0	0	0	0	0	7:35 AM	1	0	0	0	1
7:40 AM	1	4	0	0	5	7:40 AM	0	0	0	0	0	7:40 AM	0	0	0	0	0
7:45 AM	0	3	0	2	5	7:45 AM	0	0	0	0	0	7:45 AM	0	0	0	0	0
7:50 AM	0	1	0	1	2	7:50 AM	0	0	0	0	0	7:50 AM	0	0	0	0	0
7:55 AM	1	5	0	1	7	7:55 AM	0	0	0	0	0	7:55 AM	0	0	0	0	0
8:00 AM	1	6	0	2	9	8:00 AM	0	0	0	0	0	8:00 AM	0	0	0	0	0
8:05 AM	0	1	0	2	3	8:05 AM	0	0	0	0	0	8:05 AM	0	0	0	0	0
8:10 AM	0	1	0	1	2	8:10 AM	0	0	0	0	0	8:10 AM	0	0	0	0	0
8:15 AM	1	2	0	2	5	8:15 AM	0	0	0	0	0	8:15 AM	0	0	0	0	0
8:20 AM	1	1	0	1	3	8:20 AM	0	0	0	0	0	8:20 AM	1	0	0	0	1
8:25 AM	2	1	0	0	3	8:25 AM	0	0	0	0	0	8:25 AM	0	0	0	0	0
8:30 AM	1	2	0	0	3	8:30 AM	0	0	0	0	0	8:30 AM	1	0	0	0	1
8:35 AM	1	3	0	0	4	8:35 AM	0	0	0	0	0	8:35 AM	0	0	0	0	0
8:40 AM	1	1	0	0	2	8:40 AM	0	0	0	0	0	8:40 AM	0	0	0	0	0
8:45 AM	3	0	0	0	3	8:45 AM	0	0	0	0	0	8:45 AM	0	0	0	0	0
8:50 AM	3	0	0	2	5	8:50 AM	0	0	0	0	0	8:50 AM	0	0	0	0	0
8:55 AM	1	1	0	2	4	8:55 AM	0	0	0	0	0	8:55 AM	0	0	0	0	0
Count Total	27	41	0	25	93	Count Total	0	0	0	0	0	Count Total	4	0	0	0	4
Peak Hour	9	29	0	15	53	Peak Hour	0	0	0	0	0	Peak Hour	3	0	0	0	3

ALL TRAFFIC DATA SERVICES
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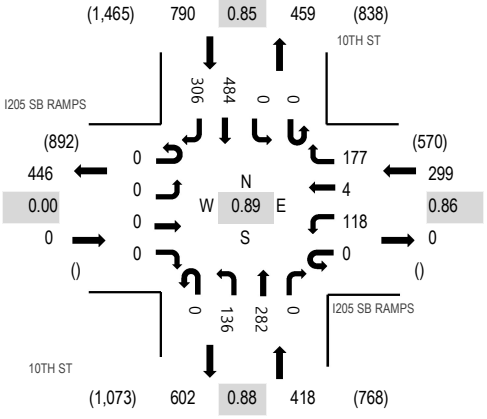
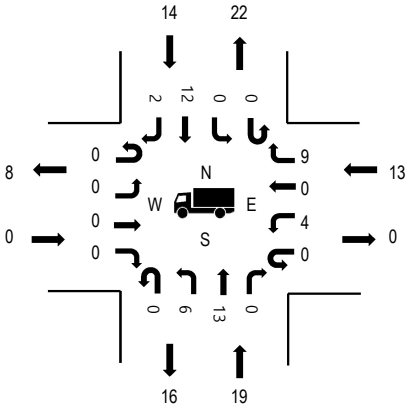
Location: 6 10TH ST & I205 SB RAMPS AM
Date: Wednesday, April 12, 2023
Peak Hour: 07:35 AM - 08:35 AM
Peak 15-Minutes: 07:35 AM - 07:50 AM

Peak Hour

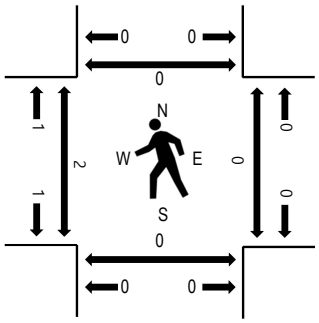
Motorized Vehicles



Heavy Vehicles



Pedestrians



Note: Total study counts contained in parentheses.

	HV%	PHF
EB	0.0%	0.00
WB	4.3%	0.86
NB	4.5%	0.88
SB	1.8%	0.85
All	3.1%	0.89

Traffic Counts - Motorized Vehicles

Interval Start Time	I205 SB RAMPS Eastbound				I205 SB RAMPS Westbound				10TH ST Northbound				10TH ST Southbound					Rolling Hour
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total	
7:00 AM	0	0	0	0	0	15	0	14	0	4	17	0	0	0	26	29	105	1,362
7:05 AM	0	0	0	0	0	8	0	6	0	9	11	0	0	0	23	35	92	1,380
7:10 AM	0	0	0	0	0	9	0	13	0	12	14	0	0	0	20	26	94	1,423
7:15 AM	0	0	0	0	0	6	0	9	0	11	22	0	0	0	31	20	99	1,440
7:20 AM	0	0	0	0	0	10	0	7	0	19	7	0	0	0	27	35	105	1,467
7:25 AM	0	0	0	0	0	7	0	7	0	12	11	0	0	0	35	28	100	1,470
7:30 AM	0	0	0	0	0	8	0	14	0	8	15	0	0	0	45	17	107	1,501
7:35 AM	0	0	0	0	0	11	0	7	0	13	22	0	0	0	56	27	136	1,507
7:40 AM	0	0	0	0	0	16	0	18	0	12	14	0	0	0	40	34	134	1,482
7:45 AM	0	0	0	0	0	12	0	14	0	17	27	0	0	0	47	36	153	1,466
7:50 AM	0	0	0	0	0	13	0	11	0	16	29	0	0	0	38	22	129	1,434
7:55 AM	0	0	0	0	0	8	0	14	0	9	25	0	0	0	34	18	108	1,420
8:00 AM	0	0	0	0	0	4	0	13	0	7	29	0	0	0	50	20	123	1,441
8:05 AM	0	0	0	0	0	6	1	15	0	18	21	0	0	0	49	25	135	
8:10 AM	0	0	0	0	0	6	2	10	0	7	18	0	0	0	44	24	111	
8:15 AM	0	0	0	0	0	9	1	17	0	7	25	0	0	0	43	24	126	
8:20 AM	0	0	0	0	0	12	0	13	0	10	20	0	0	0	29	24	108	
8:25 AM	0	0	0	0	0	13	0	24	0	14	23	0	0	0	30	27	131	
8:30 AM	0	0	0	0	0	8	0	21	0	6	29	0	0	0	24	25	113	
8:35 AM	0	0	0	0	0	9	1	13	0	14	20	0	0	0	37	17	111	
8:40 AM	0	0	0	0	0	10	1	15	0	14	29	0	0	0	19	30	118	
8:45 AM	0	0	0	0	0	10	0	18	0	7	21	0	0	0	35	30	121	
8:50 AM	0	0	0	0	0	6	0	25	0	12	19	0	0	0	30	23	115	
8:55 AM	0	0	0	0	0	14	0	16	0	6	36	0	0	0	31	26	129	
Count Total	0	0	0	0	0	230	6	334	0	264	504	0	0	0	843	622	2,803	
Peak Hour	0	0	0	0	0	118	4	177	0	136	282	0	0	0	484	306	1,507	

Traffic Counts - Heavy Vehicles, Bicycles on Road, and Pedestrians/Bicycles on Crosswalk

Interval Start Time	Heavy Vehicles					Interval Start Time	Bicycles on Roadway					Interval Start Time	Pedestrians/Bicycles on Crosswalk				
	EB	NB	WB	SB	Total		EB	NB	WB	SB	Total		EB	NB	WB	SB	Total
7:00 AM	0	1	1	0	2	7:00 AM	0	0	0	0	0	7:00 AM	0	0	0	0	0
7:05 AM	0	2	2	0	4	7:05 AM	0	0	0	0	0	7:05 AM	0	0	0	0	0
7:10 AM	0	1	2	0	3	7:10 AM	0	0	0	0	0	7:10 AM	0	0	0	0	0
7:15 AM	0	5	0	1	6	7:15 AM	0	0	0	0	0	7:15 AM	0	0	0	0	0
7:20 AM	0	1	2	0	3	7:20 AM	0	0	0	0	0	7:20 AM	0	0	0	0	0
7:25 AM	0	0	0	2	2	7:25 AM	0	0	0	0	0	7:25 AM	0	0	0	0	0
7:30 AM	0	0	0	0	0	7:30 AM	0	0	0	0	0	7:30 AM	0	0	0	0	0
7:35 AM	0	2	0	3	5	7:35 AM	0	0	0	0	0	7:35 AM	1	0	0	0	1
7:40 AM	0	3	2	0	5	7:40 AM	0	0	0	0	0	7:40 AM	0	0	0	0	0
7:45 AM	0	2	1	0	3	7:45 AM	0	0	0	0	0	7:45 AM	0	0	0	0	0
7:50 AM	0	1	2	3	6	7:50 AM	0	0	0	0	0	7:50 AM	0	0	0	0	0
7:55 AM	0	2	0	1	3	7:55 AM	0	0	0	0	0	7:55 AM	0	0	0	0	0
8:00 AM	0	0	2	1	3	8:00 AM	0	0	0	0	0	8:00 AM	0	0	0	0	0
8:05 AM	0	2	1	3	6	8:05 AM	0	0	0	0	0	8:05 AM	0	0	0	0	0
8:10 AM	0	2	0	1	3	8:10 AM	0	0	0	0	0	8:10 AM	0	0	0	0	0
8:15 AM	0	3	2	2	7	8:15 AM	0	0	0	0	0	8:15 AM	0	0	0	0	0
8:20 AM	0	1	1	0	2	8:20 AM	0	0	0	0	0	8:20 AM	1	0	0	0	1
8:25 AM	0	0	2	0	2	8:25 AM	0	0	0	0	0	8:25 AM	0	0	0	0	0
8:30 AM	0	1	0	0	1	8:30 AM	0	0	0	0	0	8:30 AM	1	0	0	0	1
8:35 AM	0	4	1	0	5	8:35 AM	0	0	0	0	0	8:35 AM	0	0	0	0	0
8:40 AM	0	0	1	0	1	8:40 AM	0	0	0	0	0	8:40 AM	0	0	0	0	0
8:45 AM	0	0	2	2	4	8:45 AM	0	0	0	0	0	8:45 AM	0	0	0	0	0
8:50 AM	0	1	1	1	3	8:50 AM	0	0	0	0	0	8:50 AM	0	0	0	0	0
8:55 AM	0	0	2	2	4	8:55 AM	0	0	0	0	0	8:55 AM	0	0	0	0	0
Count Total	0	34	27	22	83	Count Total	0	0	0	0	0	Count Total	3	0	0	0	3
Peak Hour	0	19	13	14	46	Peak Hour	0	0	0	0	0	Peak Hour	3	0	0	0	3

ALL TRAFFIC DATA SERVICES
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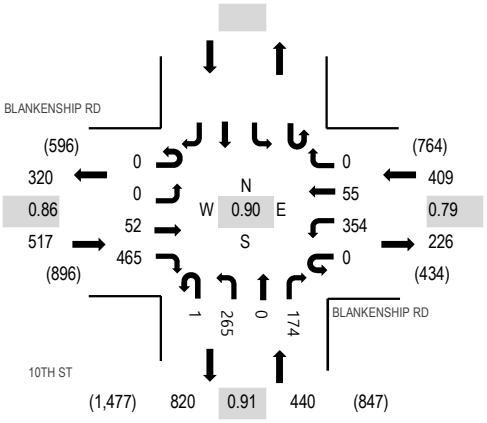
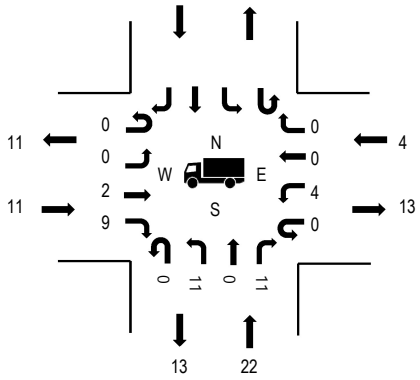
Location: 7 10TH ST & BLANKENSHIP RD AM
Date: Wednesday, April 12, 2023
Peak Hour: 07:30 AM - 08:30 AM
Peak 15-Minutes: 07:35 AM - 07:50 AM

Peak Hour

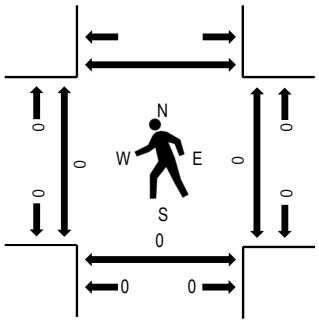
Motorized Vehicles



Heavy Vehicles



Pedestrians



Note: Total study counts contained in parentheses.

	HV%	PHF
EB	2.1%	0.86
WB	1.0%	0.79
NB	5.0%	0.91
SB		
All	2.7%	0.90

Traffic Counts - Motorized Vehicles

Interval Start Time	BLANKENSHIP RD Eastbound				BLANKENSHIP RD Westbound				10TH ST Northbound				Southbound				Total	Rolling Hour
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right		
7:00 AM	0	0	1	33	0	20	0	0	0	18	0	15					87	1,188
7:05 AM	0	0	1	30	0	26	2	0	0	14	0	3					76	1,220
7:10 AM	0	0	1	26	0	24	3	0	0	14	0	11					79	1,266
7:15 AM	0	0	1	34	0	15	3	0	0	20	0	15					88	1,293
7:20 AM	0	0	1	31	0	35	6	0	0	6	0	7					86	1,329
7:25 AM	0	0	2	30	0	30	3	0	0	16	0	4					85	1,343
7:30 AM	0	0	2	34	0	39	5	0	0	16	0	12					108	1,366
7:35 AM	0	0	9	44	0	39	2	0	0	16	0	13					123	1,357
7:40 AM	0	0	3	41	0	35	1	0	0	23	0	9					112	1,330
7:45 AM	0	0	1	49	0	42	12	0	0	22	0	19					145	1,328
7:50 AM	0	0	4	38	0	19	2	0	0	23	0	16					102	1,294
7:55 AM	0	0	4	27	0	20	5	0	0	23	0	18					97	1,298
8:00 AM	0	0	8	41	0	28	4	0	0	23	0	15					119	1,319
8:05 AM	0	0	2	48	0	25	8	0	0	26	0	13					122	
8:10 AM	0	0	7	43	0	27	2	0	0	18	0	9					106	
8:15 AM	0	0	7	44	0	22	5	0	0	23	0	23					124	
8:20 AM	0	0	3	25	0	31	7	0	1	18	0	15					100	
8:25 AM	0	0	2	31	0	27	2	0	0	34	0	12					108	
8:30 AM	0	0	4	25	0	20	2	0	0	28	0	20					99	
8:35 AM	0	0	2	28	0	25	6	0	0	18	0	17					96	
8:40 AM	0	0	3	26	0	27	8	0	0	27	0	19					110	
8:45 AM	0	0	4	33	0	32	3	0	0	18	0	21					111	
8:50 AM	0	0	5	25	0	26	5	0	0	20	0	25					106	
8:55 AM	0	0	4	29	0	27	7	0	0	29	0	22					118	
Count Total	0	0	81	815	0	661	103	0	1	493	0	353					2,507	
Peak Hour	0	0	52	465	0	354	55	0	1	265	0	174					1,366	

Traffic Counts - Heavy Vehicles, Bicycles on Road, and Pedestrians/Bicycles on Crosswalk

Interval Start Time	Heavy Vehicles					Interval Start Time	Bicycles on Roadway					Interval Start Time	Pedestrians/Bicycles on Crosswalk				
	EB	NB	WB	SB	Total		EB	NB	WB	SB	Total		EB	NB	WB	SB	Total
7:00 AM	0	1	0		1	7:00 AM	0	0	0		0	7:00 AM	0	0	0		0
7:05 AM	0	2	0		2	7:05 AM	0	0	0		0	7:05 AM	0	0	0		0
7:10 AM	0	2	0		2	7:10 AM	0	0	0		0	7:10 AM	0	0	0		0
7:15 AM	0	5	1		6	7:15 AM	0	0	0		0	7:15 AM	0	0	0		0
7:20 AM	0	2	0		2	7:20 AM	0	0	0		0	7:20 AM	0	0	0		0
7:25 AM	3	0	0		3	7:25 AM	0	0	0		0	7:25 AM	0	0	0		0
7:30 AM	0	1	0		1	7:30 AM	0	0	0		0	7:30 AM	0	0	0		0
7:35 AM	2	1	1		4	7:35 AM	0	0	0		0	7:35 AM	0	0	0		0
7:40 AM	0	4	0		4	7:40 AM	0	0	0		0	7:40 AM	0	0	0		0
7:45 AM	1	2	0		3	7:45 AM	0	0	0		0	7:45 AM	0	0	0		0
7:50 AM	2	2	1		5	7:50 AM	0	0	0		0	7:50 AM	0	0	0		0
7:55 AM	0	2	1		3	7:55 AM	0	0	0		0	7:55 AM	0	0	0		0
8:00 AM	1	0	0		1	8:00 AM	0	0	0		0	8:00 AM	0	0	0		0
8:05 AM	1	1	1		3	8:05 AM	0	0	0		0	8:05 AM	0	0	0		0
8:10 AM	2	2	0		4	8:10 AM	0	0	0		0	8:10 AM	0	0	0		0
8:15 AM	2	4	0		6	8:15 AM	0	0	0		0	8:15 AM	0	0	0		0
8:20 AM	0	1	0		1	8:20 AM	0	0	0		0	8:20 AM	0	0	0		0
8:25 AM	0	2	0		2	8:25 AM	0	0	0		0	8:25 AM	0	0	0		0
8:30 AM	0	0	0		0	8:30 AM	0	0	0		0	8:30 AM	0	0	0		0
8:35 AM	0	3	0		3	8:35 AM	0	0	0		0	8:35 AM	0	0	0		0
8:40 AM	0	1	0		1	8:40 AM	0	0	0		0	8:40 AM	0	0	0		0
8:45 AM	1	1	1		3	8:45 AM	0	0	0		0	8:45 AM	0	0	0		0
8:50 AM	2	2	0		4	8:50 AM	0	0	0		0	8:50 AM	0	0	0		0
8:55 AM	1	0	1		2	8:55 AM	0	0	0		0	8:55 AM	0	0	0		0
Count Total	18	41	7		66	Count Total	0	0	0		0	Count Total	0	0	0		0
Peak Hour	11	22	4		37	Peak Hour	0	0	0		0	Peak Hour	0	0	0		0

ALL TRAFFIC DATA SERVICES
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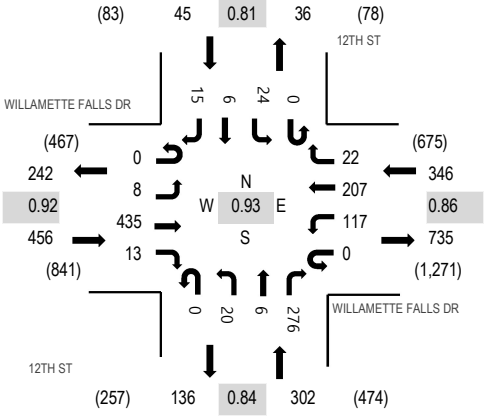
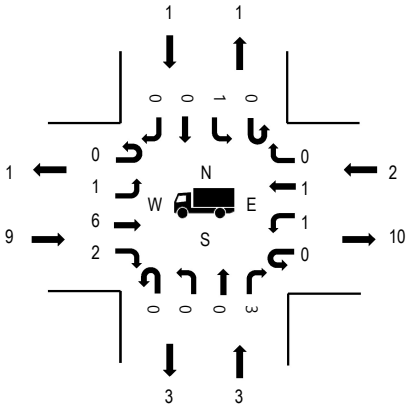
Location: 1 12TH ST & WILLAMETTE FALLS DR PM
Date: Wednesday, April 12, 2023
Peak Hour: 04:20 PM - 05:20 PM
Peak 15-Minutes: 04:30 PM - 04:45 PM

Peak Hour

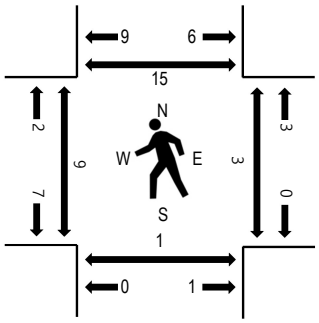
Motorized Vehicles



Heavy Vehicles



Pedestrians



Note: Total study counts contained in parentheses.

	HV%	PHF
EB	2.0%	0.92
WB	0.6%	0.86
NB	1.0%	0.84
SB	2.2%	0.81
All	1.3%	0.93

Traffic Counts - Motorized Vehicles

Interval Start Time	WILLAMETTE FALLS DR Eastbound				WILLAMETTE FALLS DR Westbound				12TH ST Northbound				12TH ST Southbound					Rolling Hour
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total	
4:00 PM	0	1	27	1	0	11	18	3	0	1	0	20	0	4	0	2	88	1,082
4:05 PM	0	2	22	0	0	9	13	4	0	0	0	15	0	2	0	1	68	1,079
4:10 PM	0	3	34	1	0	5	11	1	0	1	1	11	0	6	0	2	76	1,107
4:15 PM	0	2	36	0	0	4	14	1	0	1	0	10	0	2	0	0	70	1,124
4:20 PM	0	2	41	0	0	11	12	1	0	2	0	23	0	4	0	0	96	1,149
4:25 PM	0	3	35	1	0	15	16	2	0	1	0	16	0	4	1	0	94	1,125
4:30 PM	0	1	37	2	0	13	20	1	0	1	0	22	0	1	1	1	100	1,116
4:35 PM	0	0	37	1	0	10	21	3	0	0	1	33	0	1	2	2	111	1,097
4:40 PM	0	0	45	1	0	3	17	3	0	1	2	21	0	4	0	0	97	1,062
4:45 PM	0	0	31	2	0	10	16	3	0	2	1	29	0	2	0	2	98	1,024
4:50 PM	0	1	35	0	0	10	21	2	0	2	0	18	0	3	1	4	97	1,015
4:55 PM	0	0	31	0	0	8	15	2	0	4	1	23	0	1	1	1	87	1,000
5:00 PM	0	1	31	2	0	7	16	2	0	1	0	21	0	2	0	2	85	991
5:05 PM	0	0	34	2	0	10	22	0	0	2	0	22	0	2	0	2	96	
5:10 PM	0	0	40	1	0	9	13	3	0	1	0	25	0	0	0	1	93	
5:15 PM	0	0	38	1	0	11	18	0	0	3	1	23	0	0	0	0	95	
5:20 PM	0	2	31	2	0	6	9	1	0	0	1	16	0	2	1	1	72	
5:25 PM	0	4	27	2	0	10	20	3	0	0	2	17	0	0	0	0	85	
5:30 PM	0	2	29	1	0	5	25	1	0	0	0	15	0	1	1	1	81	
5:35 PM	0	0	21	2	0	14	19	0	0	4	0	13	0	3	0	0	76	
5:40 PM	0	0	18	2	0	7	23	1	0	1	0	7	0	0	0	0	59	
5:45 PM	0	0	36	1	0	13	19	0	0	0	1	17	0	1	0	1	89	
5:50 PM	0	2	32	0	0	10	20	4	0	0	0	8	0	3	1	2	82	
5:55 PM	0	0	41	1	0	11	14	0	0	2	0	8	0	1	0	0	78	
Count Total	0	26	789	26	0	222	412	41	0	30	11	433	0	49	9	25	2,073	
Peak Hour	0	8	435	13	0	117	207	22	0	20	6	276	0	24	6	15	1,149	

Traffic Counts - Heavy Vehicles, Bicycles on Road, and Pedestrians/Bicycles on Crosswalk

Interval Start Time	Heavy Vehicles					Interval Start Time	Bicycles on Roadway					Interval Start Time	Pedestrians/Bicycles on Crosswalk				
	EB	NB	WB	SB	Total		EB	NB	WB	SB	Total		EB	NB	WB	SB	Total
4:00 PM	0	0	0	0	0	4:00 PM	0	0	0	0	0	4:00 PM	1	0	0	2	3
4:05 PM	1	1	0	0	2	4:05 PM	0	0	0	0	0	4:05 PM	1	0	0	4	5
4:10 PM	1	0	0	0	1	4:10 PM	0	1	0	0	1	4:10 PM	0	1	0	1	2
4:15 PM	1	0	0	0	1	4:15 PM	0	0	0	0	0	4:15 PM	0	0	0	1	1
4:20 PM	1	0	1	0	2	4:20 PM	0	0	1	0	1	4:20 PM	1	0	0	0	1
4:25 PM	2	0	0	1	3	4:25 PM	0	0	0	0	0	4:25 PM	0	0	0	0	0
4:30 PM	1	1	0	0	2	4:30 PM	0	0	0	0	0	4:30 PM	1	0	0	0	1
4:35 PM	2	0	0	0	2	4:35 PM	0	0	0	0	0	4:35 PM	0	0	0	0	0
4:40 PM	0	0	0	0	0	4:40 PM	0	0	0	0	0	4:40 PM	0	0	1	4	5
4:45 PM	0	0	0	0	0	4:45 PM	0	0	0	0	0	4:45 PM	2	0	0	1	3
4:50 PM	1	0	1	0	2	4:50 PM	0	0	0	0	0	4:50 PM	0	0	0	1	1
4:55 PM	0	1	0	0	1	4:55 PM	0	0	0	0	0	4:55 PM	0	0	0	2	2
5:00 PM	1	0	0	0	1	5:00 PM	0	0	0	0	0	5:00 PM	0	1	2	3	6
5:05 PM	0	0	0	0	0	5:05 PM	0	0	0	1	1	5:05 PM	0	0	0	0	0
5:10 PM	1	0	0	0	1	5:10 PM	0	0	0	0	0	5:10 PM	3	0	0	4	7
5:15 PM	0	1	0	0	1	5:15 PM	0	0	0	0	0	5:15 PM	2	0	0	0	2
5:20 PM	0	0	0	0	0	5:20 PM	0	0	0	0	0	5:20 PM	2	0	0	4	6
5:25 PM	0	0	0	0	0	5:25 PM	0	0	0	0	0	5:25 PM	0	0	0	0	0
5:30 PM	1	0	0	0	1	5:30 PM	0	0	0	0	0	5:30 PM	0	0	0	5	5
5:35 PM	0	1	0	0	1	5:35 PM	0	0	0	0	0	5:35 PM	2	1	1	2	6
5:40 PM	0	0	2	0	2	5:40 PM	0	0	0	0	0	5:40 PM	0	1	0	0	1
5:45 PM	0	0	0	0	0	5:45 PM	0	0	0	0	0	5:45 PM	0	0	2	1	3
5:50 PM	2	0	0	0	2	5:50 PM	0	0	0	0	0	5:50 PM	0	3	2	1	6
5:55 PM	0	0	0	0	0	5:55 PM	0	0	0	0	0	5:55 PM	3	0	1	4	8
Count Total	15	5	4	1	25	Count Total	0	1	1	1	3	Count Total	18	7	9	40	74
Peak Hour	9	3	2	1	15	Peak Hour	0	0	1	1	2	Peak Hour	9	1	3	15	28

ALL TRAFFIC DATA SERVICES
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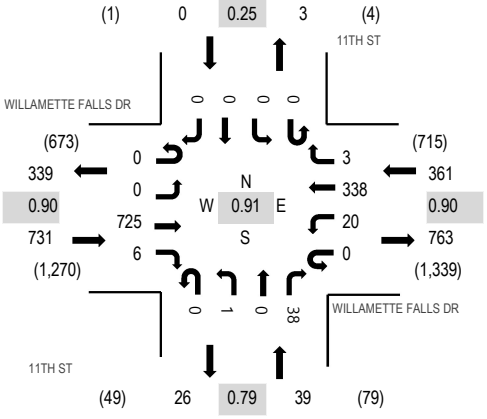
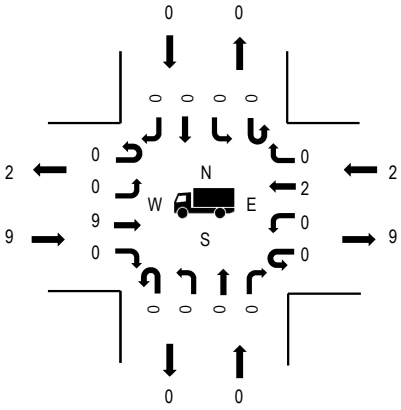
Location: 2 11TH ST & WILLAMETTE FALLS DR PM
Date: Wednesday, April 12, 2023
Peak Hour: 04:20 PM - 05:20 PM
Peak 15-Minutes: 04:30 PM - 04:45 PM

Peak Hour

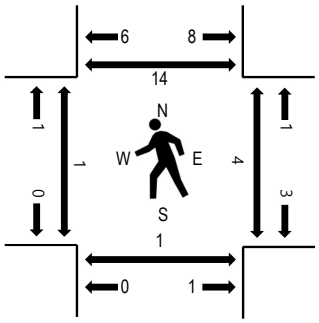
Motorized Vehicles



Heavy Vehicles



Pedestrians



Note: Total study counts contained in parentheses.

	HV%	PHF
EB	1.2%	0.90
WB	0.6%	0.90
NB	0.0%	0.79
SB	0.0%	0.25
All	1.0%	0.91

Traffic Counts - Motorized Vehicles

Interval Start Time	WILLAMETTE FALLS DR Eastbound				WILLAMETTE FALLS DR Westbound				11TH ST Northbound				11TH ST Southbound					Rolling Hour
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total	
4:00 PM	0	0	51	0	0	0	30	0	0	0	0	2	0	0	0	0	83	1,069
4:05 PM	0	0	38	0	0	1	27	0	0	0	0	3	0	0	0	0	69	1,071
4:10 PM	0	0	53	0	0	0	16	0	0	0	0	3	0	0	0	1	73	1,098
4:15 PM	0	0	49	1	0	3	20	1	0	0	0	5	0	0	0	0	79	1,117
4:20 PM	0	0	63	2	0	4	25	0	0	0	0	5	0	0	0	0	99	1,131
4:25 PM	0	0	55	0	0	1	30	0	0	0	0	4	0	0	0	0	90	1,110
4:30 PM	0	0	57	1	0	4	34	0	0	0	0	1	0	0	0	0	97	1,097
4:35 PM	0	0	72	0	0	3	32	0	0	0	0	4	0	0	0	0	111	1,087
4:40 PM	0	0	69	0	0	1	25	0	0	0	0	7	0	0	0	0	102	1,051
4:45 PM	0	0	62	0	0	0	23	0	0	1	0	2	0	0	0	0	88	1,003
4:50 PM	0	0	56	0	0	2	37	1	0	0	0	1	0	0	0	0	97	1,013
4:55 PM	0	0	54	1	0	0	22	0	0	0	0	4	0	0	0	0	81	999
5:00 PM	0	0	54	1	0	3	24	1	0	0	0	2	0	0	0	0	85	996
5:05 PM	0	0	58	0	0	0	32	1	0	0	0	5	0	0	0	0	96	
5:10 PM	0	0	62	1	0	0	28	0	0	0	0	1	0	0	0	0	92	
5:15 PM	0	0	63	0	0	2	26	0	0	0	0	2	0	0	0	0	93	
5:20 PM	0	0	52	0	0	1	23	0	0	0	0	2	0	0	0	0	78	
5:25 PM	0	0	45	0	0	2	30	0	0	0	0	0	0	0	0	0	77	
5:30 PM	0	0	45	0	0	5	33	0	0	0	0	4	0	0	0	0	87	
5:35 PM	0	0	35	0	0	1	33	0	0	0	0	6	0	0	0	0	75	
5:40 PM	0	0	24	0	0	3	23	0	0	0	0	4	0	0	0	0	54	
5:45 PM	0	0	54	0	0	2	38	0	0	0	0	4	0	0	0	0	98	
5:50 PM	0	0	41	0	0	2	35	0	0	1	0	4	0	0	0	0	83	
5:55 PM	0	0	50	1	0	1	24	0	0	0	0	2	0	0	0	0	78	
Count Total	0	0	1,262	8	0	41	670	4	0	2	0	77	0	0	0	1	2,065	
Peak Hour	0	0	725	6	0	20	338	3	0	1	0	38	0	0	0	0	1,131	

Traffic Counts - Heavy Vehicles, Bicycles on Road, and Pedestrians/Bicycles on Crosswalk

Interval Start Time	Heavy Vehicles					Interval Start Time	Bicycles on Roadway					Interval Start Time	Pedestrians/Bicycles on Crosswalk				
	EB	NB	WB	SB	Total		EB	NB	WB	SB	Total		EB	NB	WB	SB	Total
4:00 PM	0	0	0	0	0	4:00 PM	0	0	0	0	0	4:00 PM	0	0	0	1	1
4:05 PM	2	0	0	0	2	4:05 PM	0	0	0	0	0	4:05 PM	0	0	0	2	2
4:10 PM	1	0	0	0	1	4:10 PM	0	0	0	0	0	4:10 PM	0	0	0	1	1
4:15 PM	1	0	1	0	2	4:15 PM	0	0	1	0	1	4:15 PM	1	0	0	0	1
4:20 PM	1	0	1	0	2	4:20 PM	0	0	0	0	0	4:20 PM	0	0	0	0	0
4:25 PM	2	0	0	0	2	4:25 PM	0	0	0	0	0	4:25 PM	0	0	0	0	0
4:30 PM	2	0	0	0	2	4:30 PM	0	0	0	0	0	4:30 PM	0	0	0	0	0
4:35 PM	1	0	0	0	1	4:35 PM	0	0	0	0	0	4:35 PM	0	0	0	0	0
4:40 PM	0	0	0	0	0	4:40 PM	0	0	0	0	0	4:40 PM	1	0	0	4	5
4:45 PM	0	0	0	0	0	4:45 PM	0	0	0	0	0	4:45 PM	0	0	0	1	1
4:50 PM	1	0	1	0	2	4:50 PM	0	0	0	0	0	4:50 PM	0	0	0	1	1
4:55 PM	0	0	0	0	0	4:55 PM	0	0	0	0	0	4:55 PM	0	0	0	2	2
5:00 PM	0	0	0	0	0	5:00 PM	0	0	0	0	0	5:00 PM	0	1	1	1	3
5:05 PM	0	0	0	0	0	5:05 PM	0	0	0	0	0	5:05 PM	0	0	0	1	1
5:10 PM	1	0	0	0	1	5:10 PM	0	0	0	0	0	5:10 PM	0	0	3	4	7
5:15 PM	1	0	0	0	1	5:15 PM	0	0	0	0	0	5:15 PM	0	0	0	0	0
5:20 PM	0	0	0	0	0	5:20 PM	0	0	0	0	0	5:20 PM	0	0	0	3	3
5:25 PM	0	0	0	0	0	5:25 PM	0	0	0	0	0	5:25 PM	0	2	2	3	7
5:30 PM	1	1	0	0	2	5:30 PM	0	0	0	0	0	5:30 PM	0	1	0	0	1
5:35 PM	0	0	0	0	0	5:35 PM	0	0	0	0	0	5:35 PM	0	0	0	4	4
5:40 PM	0	0	2	0	2	5:40 PM	0	0	0	0	0	5:40 PM	0	2	2	0	4
5:45 PM	0	0	0	0	0	5:45 PM	0	0	0	0	0	5:45 PM	0	3	0	2	5
5:50 PM	2	0	0	0	2	5:50 PM	0	0	0	0	0	5:50 PM	0	0	0	0	0
5:55 PM	0	0	0	0	0	5:55 PM	0	0	0	0	0	5:55 PM	0	2	2	3	7
Count Total	16	1	5	0	22	Count Total	0	0	1	0	1	Count Total	2	11	10	33	56
Peak Hour	9	0	2	0	11	Peak Hour	0	0	0	0	0	Peak Hour	1	1	4	14	20

ALL TRAFFIC DATA SERVICES
(303) 216-2439
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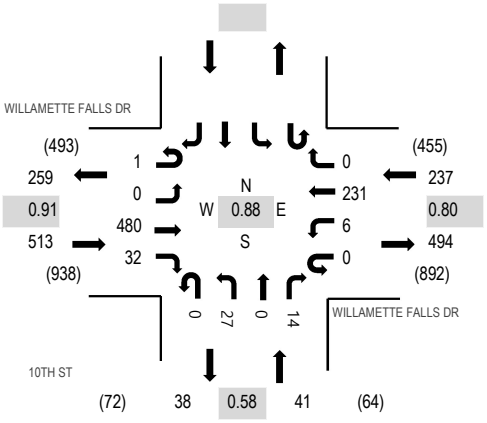
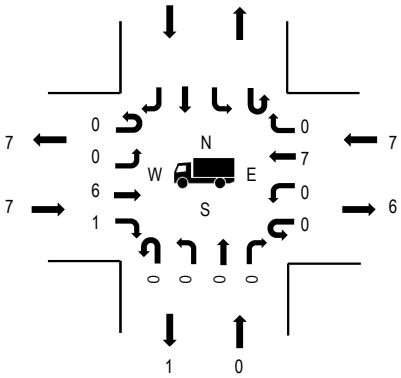
Location: 3 10TH ST & WILLAMETTE FALLS DR PM
Date: Wednesday, April 12, 2023
Peak Hour: 04:00 PM - 05:00 PM
Peak 15-Minutes: 04:25 PM - 04:40 PM

Peak Hour

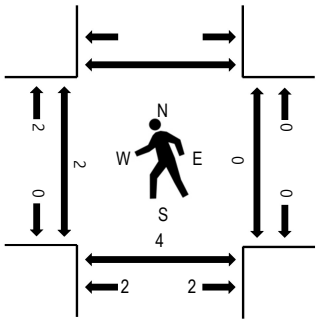
Motorized Vehicles



Heavy Vehicles



Pedestrians



Note: Total study counts contained in parentheses.

	HV%	PHF
EB	1.4%	0.91
WB	3.0%	0.80
NB	0.0%	0.58
SB		
All	1.8%	0.88

Traffic Counts - Motorized Vehicles

Interval Start Time	WILLAMETTE FALLS DR Eastbound				WILLAMETTE FALLS DR Westbound				10TH ST Northbound				Southbound				Total	Rolling Hour
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right		
4:00 PM	1	0	39	1	0	0	24	0	0	1	0	1					67	791
4:05 PM	0	0	34	3	0	1	15	0	0	2	0	0					55	770
4:10 PM	0	0	39	2	0	1	11	0	0	1	0	0					54	770
4:15 PM	0	0	36	3	0	0	14	0	0	3	0	0					56	784
4:20 PM	0	0	41	3	0	0	20	0	0	5	0	4					73	788
4:25 PM	0	0	52	1	0	1	16	0	0	2	0	4					76	778
4:30 PM	0	0	40	3	0	1	28	0	0	2	0	1					75	755
4:35 PM	0	0	42	3	0	1	26	0	0	2	0	1					75	749
4:40 PM	0	0	40	5	0	0	21	0	0	3	0	0					69	714
4:45 PM	0	0	35	4	0	0	21	0	0	5	0	2					67	681
4:50 PM	0	0	48	1	0	1	25	0	0	0	0	1					76	678
4:55 PM	0	0	34	3	0	0	10	0	0	1	0	0					48	657
5:00 PM	0	0	25	2	0	0	17	0	0	2	0	0					46	666
5:05 PM	0	0	29	4	0	0	19	0	0	2	0	1					55	
5:10 PM	0	0	40	5	0	0	22	0	0	1	0	0					68	
5:15 PM	0	0	39	3	0	0	16	0	0	2	0	0					60	
5:20 PM	0	0	41	2	0	0	19	0	0	0	0	1					63	
5:25 PM	0	0	33	2	0	0	16	0	0	2	0	0					53	
5:30 PM	0	0	37	2	0	0	27	0	0	2	0	1					69	
5:35 PM	0	0	24	1	0	1	13	0	0	1	0	0					40	
5:40 PM	0	0	16	3	0	0	16	0	0	1	0	0					36	
5:45 PM	0	0	40	1	0	1	19	0	0	2	0	1					64	
5:50 PM	0	0	32	3	0	0	18	0	0	2	0	0					55	
5:55 PM	0	0	38	3	0	1	13	0	0	2	0	0					57	
Count Total	1	0	874	63	0	9	446	0	0	46	0	18					1,457	
Peak Hour	1	0	480	32	0	6	231	0	0	27	0	14					791	

Traffic Counts - Heavy Vehicles, Bicycles on Road, and Pedestrians/Bicycles on Crosswalk

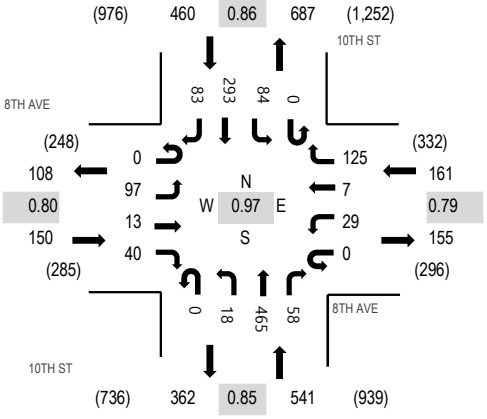
Interval Start Time	Heavy Vehicles					Interval Start Time	Bicycles on Roadway					Interval Start Time	Pedestrians/Bicycles on Crosswalk				
	EB	NB	WB	SB	Total		EB	NB	WB	SB	Total		EB	NB	WB	SB	Total
4:00 PM	1	0	0		1	4:00 PM	0	0	0		0	4:00 PM	0	0	0		0
4:05 PM	0	0	0		0	4:05 PM	0	0	0		0	4:05 PM	0	0	0		0
4:10 PM	1	0	0		1	4:10 PM	0	0	0		0	4:10 PM	0	1	0		1
4:15 PM	0	0	1		1	4:15 PM	0	0	0		0	4:15 PM	0	0	0		0
4:20 PM	0	0	2		2	4:20 PM	0	0	0		0	4:20 PM	0	0	0		0
4:25 PM	2	0	2		4	4:25 PM	0	0	0		0	4:25 PM	2	2	0		4
4:30 PM	1	0	0		1	4:30 PM	0	0	0		0	4:30 PM	0	0	0		0
4:35 PM	0	0	0		0	4:35 PM	0	0	0		0	4:35 PM	0	0	0		0
4:40 PM	0	0	1		1	4:40 PM	0	0	0		0	4:40 PM	0	0	0		0
4:45 PM	0	0	0		0	4:45 PM	0	0	0		0	4:45 PM	0	1	0		1
4:50 PM	2	0	1		3	4:50 PM	0	0	0		0	4:50 PM	0	0	0		0
4:55 PM	0	0	0		0	4:55 PM	0	0	0		0	4:55 PM	0	0	0		0
5:00 PM	0	0	0		0	5:00 PM	0	0	0		0	5:00 PM	0	0	0		0
5:05 PM	0	0	0		0	5:05 PM	0	0	0		0	5:05 PM	0	0	0		0
5:10 PM	0	0	0		0	5:10 PM	0	0	0		0	5:10 PM	0	0	0		0
5:15 PM	0	0	1		1	5:15 PM	0	0	0		0	5:15 PM	0	1	0		1
5:20 PM	0	0	1		1	5:20 PM	0	0	0		0	5:20 PM	0	0	0		0
5:25 PM	0	0	0		0	5:25 PM	0	0	0		0	5:25 PM	0	2	0		2
5:30 PM	1	0	0		1	5:30 PM	0	0	0		0	5:30 PM	0	0	0		0
5:35 PM	0	0	0		0	5:35 PM	0	0	0		0	5:35 PM	0	0	0		0
5:40 PM	0	0	0		0	5:40 PM	0	0	0		0	5:40 PM	0	0	0		0
5:45 PM	0	0	0		0	5:45 PM	0	0	0		0	5:45 PM	0	3	0		3
5:50 PM	1	0	1		2	5:50 PM	0	0	0		0	5:50 PM	0	0	0		0
5:55 PM	0	0	0		0	5:55 PM	0	0	0		0	5:55 PM	0	0	0		0
Count Total	9	0	10		19	Count Total	0	0	0		0	Count Total	2	10	0		12
Peak Hour	7	0	7		14	Peak Hour	0	0	0		0	Peak Hour	2	4	0		6

ALL TRAFFIC DATA SERVICES
(303) 216-2439
www.alltrafficdata.net

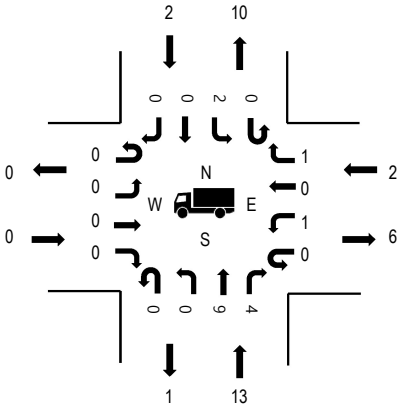
Location: 4 10TH ST & 8TH AVE PM
Date: Wednesday, April 12, 2023
Peak Hour: 04:20 PM - 05:20 PM
Peak 15-Minutes: 04:35 PM - 04:50 PM

Peak Hour

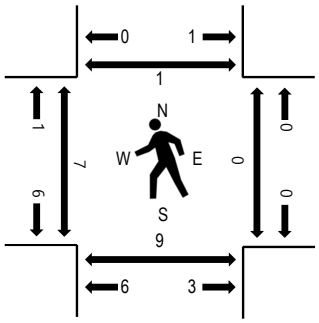
Motorized Vehicles



Heavy Vehicles



Pedestrians



Note: Total study counts contained in parentheses.

	HV%	PHF
EB	0.0%	0.80
WB	1.2%	0.79
NB	2.4%	0.85
SB	0.4%	0.86
All	1.3%	0.97

Traffic Counts - Motorized Vehicles

Interval Start Time	8TH AVE Eastbound				8TH AVE Westbound				10TH ST Northbound				10TH ST Southbound					Rolling Hour
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total	
4:00 PM	0	15	0	2	0	2	0	10	0	2	32	6	0	7	24	10	110	1,290
4:05 PM	0	12	1	5	0	2	1	8	0	2	22	5	0	9	26	22	115	1,304
4:10 PM	0	15	0	3	0	8	1	16	0	2	29	3	0	9	13	13	112	1,303
4:15 PM	0	5	0	4	0	1	0	15	0	0	31	4	0	5	19	10	94	1,291
4:20 PM	0	3	0	2	0	2	0	14	0	1	45	8	0	8	35	7	125	1,312
4:25 PM	0	11	1	8	0	0	1	12	0	0	24	1	0	7	33	5	103	1,285
4:30 PM	0	5	3	2	0	6	1	6	0	3	42	3	0	8	18	6	103	1,278
4:35 PM	0	9	2	1	0	5	0	8	0	0	41	7	0	9	26	9	117	1,294
4:40 PM	0	7	1	2	0	2	1	13	0	1	47	5	0	6	21	3	109	1,277
4:45 PM	0	5	0	4	0	0	1	9	0	1	52	5	0	10	18	7	112	1,257
4:50 PM	0	7	2	5	0	3	1	11	0	1	27	5	0	5	34	3	104	1,256
4:55 PM	0	9	0	1	0	4	1	7	0	3	29	3	0	6	17	6	86	1,251
5:00 PM	0	10	0	4	0	2	0	13	0	2	52	2	0	6	21	12	124	1,242
5:05 PM	0	17	1	3	0	2	0	15	0	3	33	8	0	2	23	7	114	
5:10 PM	0	9	2	4	0	1	0	9	0	1	38	3	0	6	21	6	100	
5:15 PM	0	5	1	4	0	2	1	8	0	2	35	8	0	11	26	12	115	
5:20 PM	0	9	2	3	0	1	2	9	0	0	33	2	0	8	22	7	98	
5:25 PM	0	11	1	5	0	3	0	11	0	1	25	3	0	6	25	5	96	
5:30 PM	0	4	0	3	0	2	1	15	0	3	31	5	0	6	38	11	119	
5:35 PM	0	5	1	2	0	1	0	11	0	0	27	7	0	10	26	10	100	
5:40 PM	0	4	1	3	0	1	0	8	0	0	24	3	0	13	24	8	89	
5:45 PM	0	2	0	3	0	4	0	15	0	2	31	1	0	10	34	9	111	
5:50 PM	0	6	0	0	0	5	1	9	0	0	30	3	0	8	28	9	99	
5:55 PM	0	3	0	5	0	3	0	5	0	2	27	0	0	2	24	6	77	
Count Total	0	188	19	78	0	62	13	257	0	32	807	100	0	177	596	203	2,532	
Peak Hour	0	97	13	40	0	29	7	125	0	18	465	58	0	84	293	83	1,312	

Traffic Counts - Heavy Vehicles, Bicycles on Road, and Pedestrians/Bicycles on Crosswalk

Interval Start Time	Heavy Vehicles					Interval Start Time	Bicycles on Roadway					Interval Start Time	Pedestrians/Bicycles on Crosswalk				
	EB	NB	WB	SB	Total		EB	NB	WB	SB	Total		EB	NB	WB	SB	Total
4:00 PM	1	0	0	1	2	4:00 PM	0	0	0	0	0	4:00 PM	0	0	0	0	0
4:05 PM	0	1	0	0	1	4:05 PM	0	0	0	0	0	4:05 PM	1	0	0	0	1
4:10 PM	0	1	0	0	1	4:10 PM	0	1	1	0	2	4:10 PM	0	1	0	0	1
4:15 PM	0	1	0	1	2	4:15 PM	0	0	0	0	0	4:15 PM	0	1	0	0	1
4:20 PM	0	2	0	0	2	4:20 PM	0	0	0	0	0	4:20 PM	0	1	0	1	2
4:25 PM	0	2	0	0	2	4:25 PM	0	0	0	0	0	4:25 PM	0	1	2	0	3
4:30 PM	0	2	1	1	4	4:30 PM	0	0	0	0	0	4:30 PM	0	0	0	0	0
4:35 PM	0	2	1	1	4	4:35 PM	0	0	0	0	0	4:35 PM	0	0	0	0	0
4:40 PM	0	1	0	0	1	4:40 PM	0	0	0	0	0	4:40 PM	0	0	0	0	0
4:45 PM	0	0	0	0	0	4:45 PM	0	0	0	0	0	4:45 PM	1	6	0	0	7
4:50 PM	0	1	0	0	1	4:50 PM	0	0	0	0	0	4:50 PM	0	0	0	0	0
4:55 PM	0	0	0	0	0	4:55 PM	0	0	0	0	0	4:55 PM	1	0	0	0	1
5:00 PM	0	0	0	0	0	5:00 PM	0	0	0	0	0	5:00 PM	0	0	0	0	0
5:05 PM	0	0	0	0	0	5:05 PM	0	0	0	0	0	5:05 PM	1	0	0	0	1
5:10 PM	0	0	0	0	0	5:10 PM	0	0	0	0	0	5:10 PM	0	1	0	0	1
5:15 PM	0	3	0	0	3	5:15 PM	0	0	0	0	0	5:15 PM	4	0	0	0	4
5:20 PM	0	1	1	0	2	5:20 PM	0	0	0	0	0	5:20 PM	0	0	0	0	0
5:25 PM	1	0	0	0	1	5:25 PM	0	0	0	0	0	5:25 PM	0	0	0	0	0
5:30 PM	0	1	1	0	2	5:30 PM	0	0	0	0	0	5:30 PM	0	2	0	0	2
5:35 PM	0	0	0	1	1	5:35 PM	0	0	0	0	0	5:35 PM	0	0	0	0	0
5:40 PM	0	0	0	3	3	5:40 PM	0	0	0	0	0	5:40 PM	0	0	0	0	0
5:45 PM	0	0	1	0	1	5:45 PM	0	0	0	0	0	5:45 PM	0	0	0	0	0
5:50 PM	0	2	0	0	2	5:50 PM	0	0	0	0	0	5:50 PM	0	0	0	0	0
5:55 PM	0	0	0	0	0	5:55 PM	0	0	0	0	0	5:55 PM	0	0	0	0	0
Count Total	2	20	5	8	35	Count Total	0	1	1	0	2	Count Total	8	13	2	1	24
Peak Hour	0	13	2	2	17	Peak Hour	0	0	0	0	0	Peak Hour	7	9	2	1	19

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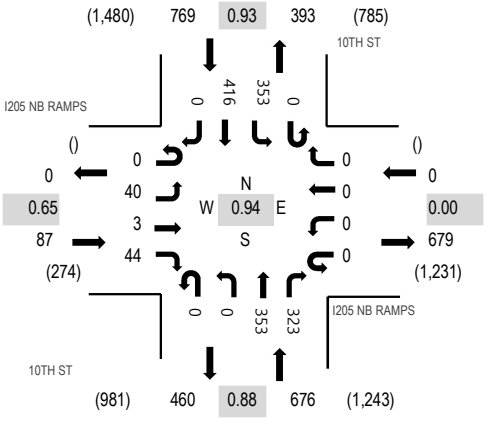
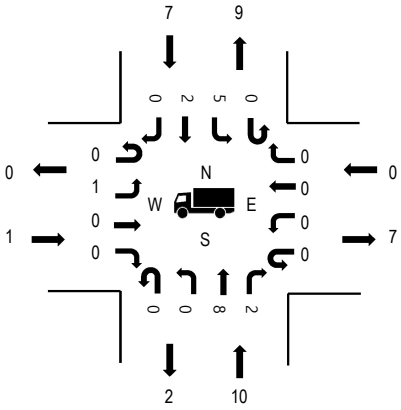
Location: 5 10TH ST & I205 NB RAMPS PM
Date: Wednesday, April 12, 2023
Peak Hour: 04:20 PM - 05:20 PM
Peak 15-Minutes: 05:05 PM - 05:20 PM

Peak Hour

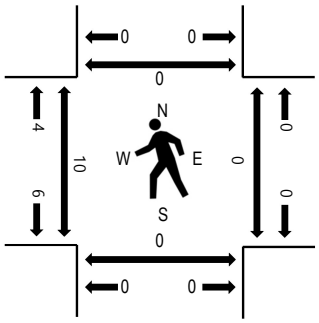
Motorized Vehicles



Heavy Vehicles



Pedestrians



Note: Total study counts contained in parentheses.

	HV%	PHF
EB	1.1%	0.65
WB	0.0%	0.00
NB	1.5%	0.88
SB	0.9%	0.93
All	1.2%	0.94

Traffic Counts - Motorized Vehicles

Interval Start Time	I205 NB RAMPS Eastbound				I205 NB RAMPS Westbound				10TH ST Northbound				10TH ST Southbound					Rolling Hour
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total	
4:00 PM	0	8	0	8	0	0	0	0	0	0	35	20	0	18	36	0	125	1,501
4:05 PM	0	7	0	13	0	0	0	0	0	0	24	16	0	31	42	0	133	1,512
4:10 PM	0	2	0	7	0	0	0	0	0	0	34	27	0	32	28	0	130	1,517
4:15 PM	0	4	0	6	0	0	0	0	0	0	24	32	0	29	30	0	125	1,517
4:20 PM	0	6	0	5	0	0	0	0	0	0	35	23	0	32	42	0	143	1,532
4:25 PM	0	3	0	4	0	0	0	0	0	0	28	25	0	30	42	0	132	1,501
4:30 PM	0	2	0	4	0	0	0	0	0	0	28	18	0	30	30	0	112	1,492
4:35 PM	0	2	0	2	0	0	0	0	0	0	28	33	0	25	40	0	130	1,524
4:40 PM	0	4	0	4	0	0	0	0	0	0	29	33	0	30	24	0	124	1,511
4:45 PM	0	2	1	1	0	0	0	0	0	0	33	38	0	23	36	0	134	1,499
4:50 PM	0	1	0	8	0	0	0	0	0	0	30	18	0	22	34	0	113	1,496
4:55 PM	0	2	0	4	0	0	0	0	0	0	19	21	0	27	27	0	100	1,496
5:00 PM	0	3	0	3	0	0	0	0	0	0	26	35	0	36	33	0	136	1,496
5:05 PM	0	6	1	2	0	0	0	0	0	0	35	30	0	31	33	0	138	
5:10 PM	0	6	1	4	0	0	0	0	0	0	34	27	0	30	28	0	130	
5:15 PM	0	3	0	3	0	0	0	0	0	0	28	22	0	37	47	0	140	
5:20 PM	0	3	0	8	0	0	0	0	0	0	22	24	0	28	27	0	112	
5:25 PM	0	4	1	6	0	0	0	0	0	0	29	23	0	28	32	0	123	
5:30 PM	0	11	0	8	0	0	0	0	0	0	20	28	0	31	46	0	144	
5:35 PM	0	3	0	6	0	0	0	0	0	0	25	16	0	25	42	0	117	
5:40 PM	0	9	0	11	0	0	0	0	0	0	21	18	0	18	35	0	112	
5:45 PM	0	11	0	7	0	0	0	0	0	0	21	20	0	26	46	0	131	
5:50 PM	0	10	0	15	0	0	0	0	0	0	24	23	0	11	30	0	113	
5:55 PM	0	11	0	8	0	0	0	0	0	0	30	11	0	16	24	0	100	
Count Total	0	123	4	147	0	0	0	0	0	0	662	581	0	646	834	0	2,997	
Peak Hour	0	40	3	44	0	0	0	0	0	0	353	323	0	353	416	0	1,532	

Traffic Counts - Heavy Vehicles, Bicycles on Road, and Pedestrians/Bicycles on Crosswalk

Interval Start Time	Heavy Vehicles					Interval Start Time	Bicycles on Roadway					Interval Start Time	Pedestrians/Bicycles on Crosswalk				
	EB	NB	WB	SB	Total		EB	NB	WB	SB	Total		EB	NB	WB	SB	Total
4:00 PM	0	0	0	2	2	4:00 PM	0	0	0	0	0	4:00 PM	1	0	0	0	1
4:05 PM	1	1	0	0	2	4:05 PM	0	0	0	0	0	4:05 PM	0	0	0	0	0
4:10 PM	0	1	0	0	1	4:10 PM	0	0	0	0	0	4:10 PM	0	0	0	0	0
4:15 PM	0	1	0	1	2	4:15 PM	0	0	0	0	0	4:15 PM	1	0	0	0	1
4:20 PM	0	1	0	0	1	4:20 PM	0	0	0	0	0	4:20 PM	0	0	0	0	0
4:25 PM	0	3	0	0	3	4:25 PM	0	0	0	0	0	4:25 PM	0	0	0	0	0
4:30 PM	0	1	0	1	2	4:30 PM	0	0	0	0	0	4:30 PM	0	0	0	0	0
4:35 PM	0	1	0	1	2	4:35 PM	0	0	0	0	0	4:35 PM	0	0	0	0	0
4:40 PM	0	2	0	0	2	4:40 PM	0	0	0	0	0	4:40 PM	0	0	0	0	0
4:45 PM	0	0	0	1	1	4:45 PM	0	0	0	0	0	4:45 PM	1	0	0	0	1
4:50 PM	0	1	0	0	1	4:50 PM	0	0	0	0	0	4:50 PM	1	0	0	0	1
4:55 PM	0	0	0	1	1	4:55 PM	0	0	0	0	0	4:55 PM	1	0	0	0	1
5:00 PM	1	0	0	0	1	5:00 PM	0	0	0	0	0	5:00 PM	0	0	0	0	0
5:05 PM	0	0	0	1	1	5:05 PM	0	0	0	0	0	5:05 PM	1	0	0	0	1
5:10 PM	0	0	0	1	1	5:10 PM	0	0	0	0	0	5:10 PM	0	0	0	0	0
5:15 PM	0	1	0	1	2	5:15 PM	0	0	0	0	0	5:15 PM	6	0	0	0	6
5:20 PM	0	2	0	0	2	5:20 PM	0	0	0	0	0	5:20 PM	0	0	0	0	0
5:25 PM	0	1	0	0	1	5:25 PM	0	0	0	0	0	5:25 PM	1	0	0	0	1
5:30 PM	0	0	0	0	0	5:30 PM	0	0	0	0	0	5:30 PM	0	0	0	0	0
5:35 PM	0	1	0	2	3	5:35 PM	0	0	0	0	0	5:35 PM	0	0	0	0	0
5:40 PM	0	0	0	3	3	5:40 PM	0	0	0	0	0	5:40 PM	0	0	0	0	0
5:45 PM	0	1	0	0	1	5:45 PM	0	0	0	0	0	5:45 PM	0	0	0	0	0
5:50 PM	1	2	0	0	3	5:50 PM	0	0	0	0	0	5:50 PM	0	0	0	0	0
5:55 PM	0	0	0	1	1	5:55 PM	0	0	0	0	0	5:55 PM	0	0	0	0	0
Count Total	3	20	0	16	39	Count Total	0	0	0	0	0	Count Total	13	0	0	0	13
Peak Hour	1	10	0	7	18	Peak Hour	0	0	0	0	0	Peak Hour	10	0	0	0	10

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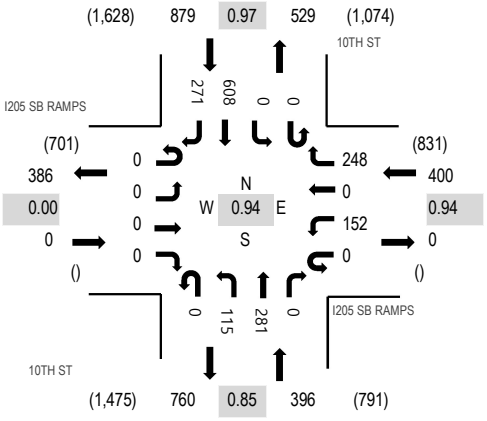
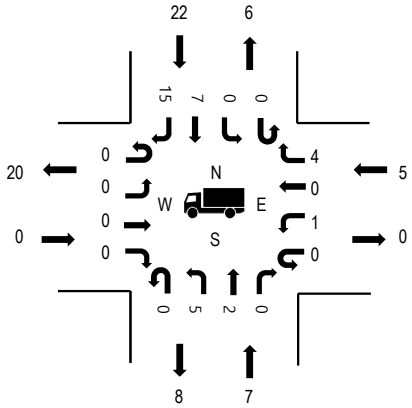
Location: 6 10TH ST & I205 SB RAMPS PM
Date: Wednesday, April 12, 2023
Peak Hour: 04:20 PM - 05:20 PM
Peak 15-Minutes: 05:05 PM - 05:20 PM

Peak Hour

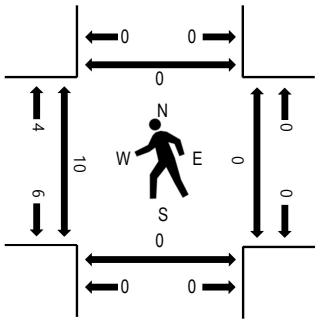
Motorized Vehicles



Heavy Vehicles



Pedestrians



Note: Total study counts contained in parentheses.

	HV%	PHF
EB	0.0%	0.00
WB	1.3%	0.94
NB	1.8%	0.85
SB	2.5%	0.97
All	2.0%	0.94

Traffic Counts - Motorized Vehicles

Interval Start Time	I205 SB RAMPS Eastbound				I205 SB RAMPS Westbound				10TH ST Northbound				10TH ST Southbound					Rolling Hour
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total	
4:00 PM	0	0	0	0	0	17	0	21	0	8	22	0	0	0	39	23	130	1,640
4:05 PM	0	0	0	0	0	13	0	20	0	12	32	0	0	0	57	17	151	1,647
4:10 PM	0	0	0	0	0	14	0	19	0	11	20	0	0	0	48	21	133	1,659
4:15 PM	0	0	0	0	0	10	0	15	0	9	22	0	0	0	55	22	133	1,662
4:20 PM	0	0	0	0	0	12	0	25	0	9	22	0	0	0	59	20	147	1,675
4:25 PM	0	0	0	0	0	11	0	15	0	17	28	0	0	0	59	15	145	1,654
4:30 PM	0	0	0	0	0	15	0	19	0	5	22	0	0	0	41	25	127	1,638
4:35 PM	0	0	0	0	0	8	0	16	0	7	21	0	0	0	59	25	136	1,666
4:40 PM	0	0	0	0	0	14	0	23	0	8	25	0	0	0	48	18	136	1,647
4:45 PM	0	0	0	0	0	12	0	20	0	7	33	0	0	0	37	37	146	1,637
4:50 PM	0	0	0	0	0	13	0	11	0	8	15	0	0	0	46	32	125	1,629
4:55 PM	0	0	0	0	0	11	0	29	0	7	22	0	0	0	41	21	131	1,620
5:00 PM	0	0	0	0	0	15	0	16	0	9	14	0	0	0	63	20	137	1,610
5:05 PM	0	0	0	0	0	13	0	24	0	20	30	0	0	0	52	24	163	
5:10 PM	0	0	0	0	0	16	0	24	0	8	24	0	0	0	46	18	136	
5:15 PM	0	0	0	0	0	12	0	26	0	10	25	0	0	0	57	16	146	
5:20 PM	0	0	0	0	0	11	0	22	0	6	22	0	0	0	50	15	126	
5:25 PM	0	0	0	0	0	16	0	26	0	8	17	0	0	0	45	17	129	
5:30 PM	0	0	0	0	0	20	0	19	0	9	30	0	0	0	57	20	155	
5:35 PM	0	0	0	0	0	19	0	16	0	9	19	0	0	0	43	11	117	
5:40 PM	0	0	0	0	0	22	0	23	0	6	19	0	0	0	32	24	126	
5:45 PM	0	0	0	0	0	14	0	26	0	5	23	0	0	0	54	16	138	
5:50 PM	0	0	0	0	0	12	1	18	0	9	35	0	0	0	29	12	116	
5:55 PM	0	0	0	0	0	13	0	24	0	7	35	0	0	0	25	17	121	
Count Total	0	0	0	0	0	333	1	497	0	214	577	0	0	0	1,142	486	3,250	
Peak Hour	0	0	0	0	0	152	0	248	0	115	281	0	0	0	608	271	1,675	

Traffic Counts - Heavy Vehicles, Bicycles on Road, and Pedestrians/Bicycles on Crosswalk

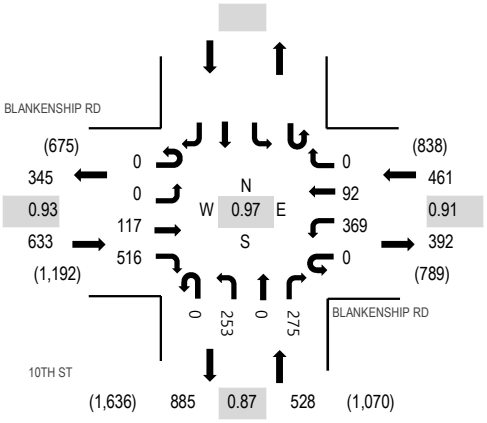
Interval Start Time	Heavy Vehicles					Interval Start Time	Bicycles on Roadway					Interval Start Time	Pedestrians/Bicycles on Crosswalk				
	EB	NB	WB	SB	Total		EB	NB	WB	SB	Total		EB	NB	WB	SB	Total
4:00 PM	0	1	1	1	3	4:00 PM	0	0	0	0	0	4:00 PM	1	0	0	0	1
4:05 PM	0	1	1	1	3	4:05 PM	0	0	0	0	0	4:05 PM	0	0	0	0	0
4:10 PM	0	0	0	3	3	4:10 PM	0	0	0	0	0	4:10 PM	1	0	0	0	1
4:15 PM	0	2	1	2	5	4:15 PM	0	0	0	0	0	4:15 PM	0	0	0	0	0
4:20 PM	0	0	0	2	2	4:20 PM	0	0	0	0	0	4:20 PM	0	0	0	0	0
4:25 PM	0	4	2	0	6	4:25 PM	0	0	0	0	0	4:25 PM	0	0	0	0	0
4:30 PM	0	0	0	1	1	4:30 PM	0	0	0	0	0	4:30 PM	0	0	0	0	0
4:35 PM	0	2	0	4	6	4:35 PM	0	0	0	0	0	4:35 PM	0	0	0	0	0
4:40 PM	0	0	0	1	1	4:40 PM	0	0	0	0	0	4:40 PM	0	0	0	0	0
4:45 PM	0	0	1	3	4	4:45 PM	0	0	0	0	0	4:45 PM	1	0	0	0	1
4:50 PM	0	0	0	3	3	4:50 PM	0	0	0	0	0	4:50 PM	1	0	0	0	1
4:55 PM	0	0	1	2	3	4:55 PM	0	0	0	0	0	4:55 PM	1	0	0	0	1
5:00 PM	0	0	0	1	1	5:00 PM	0	0	0	0	0	5:00 PM	0	0	0	0	0
5:05 PM	0	1	0	3	4	5:05 PM	0	0	0	0	0	5:05 PM	0	0	0	0	0
5:10 PM	0	0	1	1	2	5:10 PM	0	0	0	0	0	5:10 PM	5	0	0	0	5
5:15 PM	0	0	0	1	1	5:15 PM	0	0	0	0	0	5:15 PM	2	0	0	0	2
5:20 PM	0	2	0	1	3	5:20 PM	0	0	0	0	0	5:20 PM	0	0	0	0	0
5:25 PM	0	0	0	1	1	5:25 PM	0	0	0	0	0	5:25 PM	0	0	0	0	0
5:30 PM	0	0	0	0	0	5:30 PM	0	0	0	0	0	5:30 PM	1	0	0	0	1
5:35 PM	0	1	1	1	3	5:35 PM	0	0	0	0	0	5:35 PM	0	0	0	0	0
5:40 PM	0	0	1	1	2	5:40 PM	0	0	0	0	0	5:40 PM	0	0	0	0	0
5:45 PM	0	0	0	0	0	5:45 PM	0	0	0	0	0	5:45 PM	0	0	0	0	0
5:50 PM	0	3	0	0	3	5:50 PM	0	0	0	0	0	5:50 PM	0	0	0	0	0
5:55 PM	0	0	0	0	0	5:55 PM	0	0	0	0	0	5:55 PM	0	0	0	0	0
Count Total	0	17	10	33	60	Count Total	0	0	0	0	0	Count Total	13	0	0	0	13
Peak Hour	0	7	5	22	34	Peak Hour	0	0	0	0	0	Peak Hour	10	0	0	0	10

ALL TRAFFIC DATA SERVICES
(303) 216-2439
www.alltrafficdata.net

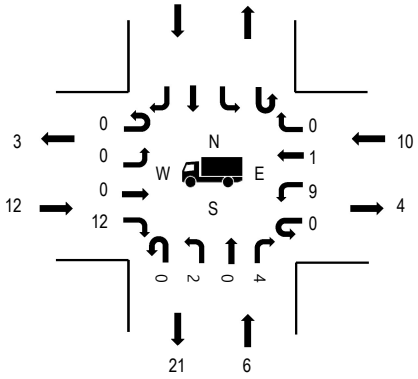
Location: 7 10TH ST & BLANKENSHIP RD PM
Date: Wednesday, April 12, 2023
Peak Hour: 04:20 PM - 05:20 PM
Peak 15-Minutes: 04:35 PM - 04:50 PM

Peak Hour

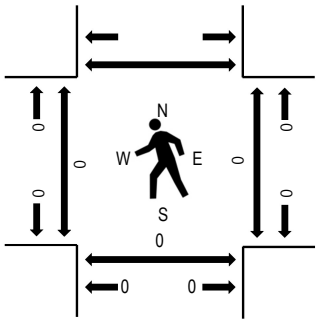
Motorized Vehicles



Heavy Vehicles



Pedestrians



Note: Total study counts contained in parentheses.

	HV%	PHF
EB	1.9%	0.93
WB	2.2%	0.91
NB	1.1%	0.87
SB		
All	1.7%	0.97

Traffic Counts - Motorized Vehicles

Interval Start Time	BLANKENSHIP RD Eastbound				BLANKENSHIP RD Westbound				10TH ST Northbound				Southbound				Total	Rolling Hour
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right		
4:00 PM	0	0	8	26	0	38	11	0	0	14	0	27					124	1,597
4:05 PM	0	0	18	41	0	29	5	0	0	24	0	26					143	1,604
4:10 PM	0	0	6	41	0	33	9	0	0	22	0	20					131	1,598
4:15 PM	0	0	5	60	0	16	8	0	0	19	0	19					127	1,603
4:20 PM	0	0	12	43	0	37	8	0	0	14	0	27					141	1,622
4:25 PM	0	0	8	46	0	28	7	0	0	27	0	22					138	1,608
4:30 PM	0	0	8	34	0	33	5	0	0	22	0	16					118	1,595
4:35 PM	0	0	14	48	0	38	12	0	0	14	0	22					148	1,613
4:40 PM	0	0	1	35	0	28	13	0	0	26	0	19					122	1,576
4:45 PM	0	0	11	51	0	22	5	0	0	28	0	32					149	1,566
4:50 PM	0	0	10	45	0	40	7	0	0	9	0	15					126	1,543
4:55 PM	0	0	7	35	0	28	9	0	0	30	0	21					130	1,524
5:00 PM	0	0	14	46	0	33	7	0	0	19	0	12					131	1,503
5:05 PM	0	0	5	49	0	27	4	0	0	21	0	31					137	
5:10 PM	0	0	14	38	0	31	5	0	0	21	0	27					136	
5:15 PM	0	0	13	46	0	24	10	0	0	22	0	31					146	
5:20 PM	0	0	15	46	0	18	5	0	0	18	0	25					127	
5:25 PM	0	0	13	33	0	33	6	0	0	23	0	17					125	
5:30 PM	0	0	6	48	0	27	2	0	0	30	0	23					136	
5:35 PM	0	0	16	37	0	19	9	0	0	12	0	18					111	
5:40 PM	0	0	6	32	0	25	3	0	0	25	0	21					112	
5:45 PM	0	0	13	34	0	31	3	0	0	19	0	26					126	
5:50 PM	0	0	4	22	0	22	4	0	0	27	0	28					107	
5:55 PM	0	0	6	23	0	17	4	0	0	28	0	31					109	
Count Total	0	0	233	959	0	677	161	0	0	514	0	556					3,100	
Peak Hour	0	0	117	516	0	369	92	0	0	253	0	275					1,622	

Traffic Counts - Heavy Vehicles, Bicycles on Road, and Pedestrians/Bicycles on Crosswalk

Interval Start Time	Heavy Vehicles					Interval Start Time	Bicycles on Roadway					Interval Start Time	Pedestrians/Bicycles on Crosswalk				
	EB	NB	WB	SB	Total		EB	NB	WB	SB	Total		EB	NB	WB	SB	Total
4:00 PM	0	0	1		1	4:00 PM	0	0	0		0	4:00 PM	0	0	0		0
4:05 PM	0	1	1		2	4:05 PM	0	0	0		0	4:05 PM	0	0	0		0
4:10 PM	1	1	2		4	4:10 PM	0	0	0		0	4:10 PM	0	0	0		0
4:15 PM	0	1	2		3	4:15 PM	0	0	0		0	4:15 PM	0	0	0		0
4:20 PM	0	0	2		2	4:20 PM	0	0	0		0	4:20 PM	0	0	0		0
4:25 PM	0	3	0		3	4:25 PM	0	0	0		0	4:25 PM	0	0	0		0
4:30 PM	1	0	1		2	4:30 PM	0	0	0		0	4:30 PM	0	0	0		0
4:35 PM	3	1	1		5	4:35 PM	0	0	0		0	4:35 PM	0	0	0		0
4:40 PM	1	0	0		1	4:40 PM	0	0	0		0	4:40 PM	0	0	0		0
4:45 PM	1	0	2		3	4:45 PM	0	0	0		0	4:45 PM	0	0	0		0
4:50 PM	0	0	2		2	4:50 PM	0	0	0		0	4:50 PM	0	0	0		0
4:55 PM	2	1	0		3	4:55 PM	0	0	0		0	4:55 PM	0	0	0		0
5:00 PM	1	0	0		1	5:00 PM	0	0	0		0	5:00 PM	0	0	0		0
5:05 PM	1	0	2		3	5:05 PM	0	0	0		0	5:05 PM	0	0	0		0
5:10 PM	1	1	0		2	5:10 PM	0	0	0		0	5:10 PM	0	0	0		0
5:15 PM	1	0	0		1	5:15 PM	0	0	0		0	5:15 PM	0	0	0		0
5:20 PM	0	2	1		3	5:20 PM	0	0	0		0	5:20 PM	0	0	0		0
5:25 PM	0	0	2		2	5:25 PM	0	0	0		0	5:25 PM	0	0	0		0
5:30 PM	0	0	0		0	5:30 PM	0	0	0		0	5:30 PM	0	0	0		0
5:35 PM	0	0	1		1	5:35 PM	0	0	0		0	5:35 PM	0	0	0		0
5:40 PM	1	0	0		1	5:40 PM	0	0	0		0	5:40 PM	0	0	0		0
5:45 PM	0	0	0		0	5:45 PM	0	0	0		0	5:45 PM	0	0	0		0
5:50 PM	0	1	0		1	5:50 PM	0	0	0		0	5:50 PM	0	0	0		0
5:55 PM	1	0	0		1	5:55 PM	0	0	0		0	5:55 PM	0	0	0		0
Count Total	15	12	20		47	Count Total	0	0	0		0	Count Total	0	0	0		0
Peak Hour	12	6	10		28	Peak Hour	0	0	0		0	Peak Hour	0	0	0		0

Intersection	
Intersection Delay, s/veh	22.1
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	11	413	13	99	219	10	19	5	146	10	5	5
Future Vol, veh/h	11	413	13	99	219	10	19	5	146	10	5	5
Peak Hour Factor	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81
Heavy Vehicles, %	5	5	5	6	6	6	2	2	2	5	5	5
Mvmt Flow	14	510	16	122	270	12	23	6	180	12	6	6
Number of Lanes	1	1	0	1	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	2	2
HCM Control Delay	33.3	13.2	12.1	10.4
HCM LOS	D	B	B	B

Lane	NBLn1	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1
Vol Left, %	11%	100%	0%	100%	0%	50%
Vol Thru, %	3%	0%	97%	0%	96%	25%
Vol Right, %	86%	0%	3%	0%	4%	25%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	170	11	426	99	229	20
LT Vol	19	11	0	99	0	10
Through Vol	5	0	413	0	219	5
RT Vol	146	0	13	0	10	5
Lane Flow Rate	210	14	526	122	283	25
Geometry Grp	2	7	7	7	7	2
Degree of Util (X)	0.345	0.024	0.856	0.222	0.472	0.048
Departure Headway (Hd)	5.921	6.388	5.86	6.553	6.014	6.985
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	604	560	615	546	597	509
Service Time	3.986	4.133	3.604	4.305	3.766	5.079
HCM Lane V/C Ratio	0.348	0.025	0.855	0.223	0.474	0.049
HCM Control Delay	12.1	9.3	33.9	11.2	14.1	10.4
HCM Lane LOS	B	A	D	B	B	B
HCM 95th-tile Q	1.5	0.1	9.5	0.8	2.5	0.2

Intersection	
Int Delay, s/veh	1.4

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	528	20	66	341	2	49
Future Vol, veh/h	528	20	66	341	2	49
Conflicting Peds, #/hr	0	4	12	0	4	12
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	80	80	80	80	80	80
Heavy Vehicles, %	4	4	5	5	12	12
Mvmt Flow	660	25	83	426	3	61

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	697	0	1281	697
Stage 1	-	-	-	-	685	-
Stage 2	-	-	-	-	596	-
Critical Hdwy	-	-	4.15	-	6.52	6.32
Critical Hdwy Stg 1	-	-	-	-	5.52	-
Critical Hdwy Stg 2	-	-	-	-	5.52	-
Follow-up Hdwy	-	-	2.245	-	3.608	3.408
Pot Cap-1 Maneuver	-	-	885	-	174	424
Stage 1	-	-	-	-	482	-
Stage 2	-	-	-	-	531	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	875	-	150	414
Mov Cap-2 Maneuver	-	-	-	-	150	-
Stage 1	-	-	-	-	477	-
Stage 2	-	-	-	-	464	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1.5	16.1
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	387	-	-	875	-
HCM Lane V/C Ratio	0.165	-	-	0.094	-
HCM Control Delay (s)	16.1	-	-	9.5	0
HCM Lane LOS	C	-	-	A	A
HCM 95th %tile Q(veh)	0.6	-	-	0.3	-

Intersection	
Intersection Delay, s/veh	26.3
Intersection LOS	D

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	371	207	211	185	103	196
Future Vol, veh/h	371	207	211	185	103	196
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Heavy Vehicles, %	6	6	5	5	7	7
Mvmt Flow	436	244	248	218	121	231
Number of Lanes	1	1	1	0	1	1

Approach	EB	WB	SB
Opposing Approach	WB	EB	
Opposing Lanes	1	2	0
Conflicting Approach Left	SB		WB
Conflicting Lanes Left	2	0	1
Conflicting Approach Right		SB	EB
Conflicting Lanes Right	0	2	2
HCM Control Delay	29.8	30	14.5
HCM LOS	D	D	B

Lane	EBLn1	EBLn2	WBLn1	SBLn1	SBLn2
Vol Left, %	100%	0%	0%	100%	0%
Vol Thru, %	0%	100%	53%	0%	0%
Vol Right, %	0%	0%	47%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	371	207	396	103	196
LT Vol	371	0	0	103	0
Through Vol	0	207	211	0	0
RT Vol	0	0	185	0	196
Lane Flow Rate	436	244	466	121	231
Geometry Grp	7	7	4	7	7
Degree of Util (X)	0.852	0.441	0.803	0.271	0.437
Departure Headway (Hd)	7.024	6.514	6.204	8.047	6.817
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	515	550	582	445	526
Service Time	4.797	4.287	4.268	5.822	4.591
HCM Lane V/C Ratio	0.847	0.444	0.801	0.272	0.439
HCM Control Delay	38.4	14.4	30	13.8	14.8
HCM Lane LOS	E	B	D	B	B
HCM 95th-tile Q	8.9	2.2	7.9	1.1	2.2

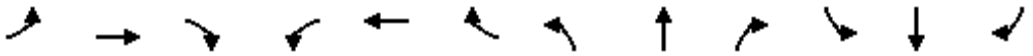
Intersection	
Int Delay, s/veh	7.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	25	5	8	37	10	145	12	463	81	131	253	59
Future Vol, veh/h	25	5	8	37	10	145	12	463	81	131	253	59
Conflicting Peds, #/hr	2	0	2	0	0	0	2	0	0	0	0	2
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	-	-	-	125	-	-	-	115	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	85	85	85	85	85	85	85	85	85	85	85	85
Heavy Vehicles, %	5	5	5	1	1	1	5	5	5	4	4	4
Mvmt Flow	29	6	9	44	12	171	14	545	95	154	298	69

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1357	1311	337	1271	1298	595	369	0	0	640	0	0
Stage 1	643	643	-	621	621	-	-	-	-	-	-	-
Stage 2	714	668	-	650	677	-	-	-	-	-	-	-
Critical Hdwy	7.15	6.55	6.25	7.11	6.51	6.21	4.15	-	-	4.14	-	-
Critical Hdwy Stg 1	6.15	5.55	-	6.11	5.51	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.15	5.55	-	6.11	5.51	-	-	-	-	-	-	-
Follow-up Hdwy	3.545	4.045	3.345	3.509	4.009	3.309	2.245	-	-	2.236	-	-
Pot Cap-1 Maneuver	124	157	698	145	162	506	1173	-	-	935	-	-
Stage 1	457	464	-	477	481	-	-	-	-	-	-	-
Stage 2	418	452	-	460	454	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	66	128	695	119	132	505	1171	-	-	935	-	-
Mov Cap-2 Maneuver	66	128	-	119	132	-	-	-	-	-	-	-
Stage 1	447	387	-	468	472	-	-	-	-	-	-	-
Stage 2	264	443	-	373	378	-	-	-	-	-	-	-

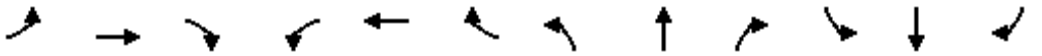
Approach	EB	WB	NB	SB
HCM Control Delay, s	71	25.8	0.2	2.8
HCM LOS	F	D		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	1171	-	-	66	257	122	505	935	-	-
HCM Lane V/C Ratio	0.012	-	-	0.446	0.06	0.453	0.338	0.165	-	-
HCM Control Delay (s)	8.1	0	-	97.6	19.9	56.9	15.7	9.6	-	-
HCM Lane LOS	A	A	-	F	C	F	C	A	-	-
HCM 95th %tile Q(veh)	0	-	-	1.7	0.2	2	1.5	0.6	-	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	105	0	89	0	0	0	0	314	318	255	354	0
Future Volume (vph)	105	0	89	0	0	0	0	314	318	255	354	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0	5.0					5.0	5.0	5.0	5.0	
Lane Util. Factor		1.00	1.00					1.00	1.00	1.00	1.00	
Frpb, ped/bikes		1.00	0.97					1.00	1.00	1.00	1.00	
Flpb, ped/bikes		0.99	1.00					1.00	1.00	1.00	1.00	
Frt		1.00	0.85					1.00	0.85	1.00	1.00	
Flt Protected		0.95	1.00					1.00	1.00	0.95	1.00	
Satd. Flow (prot)		1704	1495					1810	1538	1752	1845	
Flt Permitted		0.95	1.00					1.00	1.00	0.39	1.00	
Satd. Flow (perm)		1704	1495					1810	1538	728	1845	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	114	0	97	0	0	0	0	341	346	277	385	0
RTOR Reduction (vph)	0	0	86	0	0	0	0	0	146	0	0	0
Lane Group Flow (vph)	0	114	11	0	0	0	0	341	200	277	385	0
Confl. Peds. (#/hr)	2		2									
Heavy Vehicles (%)	5%	5%	5%	0%	0%	0%	5%	5%	5%	3%	3%	3%
Bus Blockages (#/hr)	3	0	0	0	0	0	0	0	0	0	0	0
Turn Type	Perm	NA	Perm					NA	Perm	pm+pt	NA	
Protected Phases		8						6		5	2	
Permitted Phases	8		8						6	2		
Actuated Green, G (s)		7.0	7.0					23.8	23.8	42.5	42.5	
Effective Green, g (s)		7.0	7.0					23.8	23.8	42.5	42.5	
Actuated g/C Ratio		0.12	0.12					0.40	0.40	0.71	0.71	
Clearance Time (s)		5.0	5.0					5.0	5.0	5.0	5.0	
Vehicle Extension (s)		2.3	2.3					6.9	6.9	2.3	6.9	
Lane Grp Cap (vph)		200	175					724	615	755	1317	
v/s Ratio Prot								c0.19		c0.08	0.21	
v/s Ratio Perm		0.07	0.01						0.13	0.18		
v/c Ratio		0.57	0.07					0.47	0.32	0.37	0.29	
Uniform Delay, d1		24.8	23.3					13.2	12.3	3.7	3.1	
Progression Factor		1.00	1.00					1.00	1.00	1.00	1.00	
Incremental Delay, d2		2.7	0.1					1.7	1.1	0.2	0.4	
Delay (s)		27.5	23.4					14.9	13.4	3.9	3.5	
Level of Service		C	C					B	B	A	A	
Approach Delay (s)		25.6			0.0			14.1			3.7	
Approach LOS		C			A			B			A	

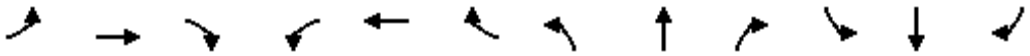
Intersection Summary			
HCM 2000 Control Delay	11.2	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.46		
Actuated Cycle Length (s)	59.5	Sum of lost time (s)	15.0
Intersection Capacity Utilization	52.1%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	105	0	89	0	0	0	0	314	318	255	354	0
Future Volume (veh/h)	105	0	89	0	0	0	0	314	318	255	354	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99				1.00		1.00	1.00		1.00
Parking Bus, Adj	0.99	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1826	1826	1826				0	1826	1826	1856	1856	0
Adj Flow Rate, veh/h	114	0	97				0	341	346	277	385	0
Peak Hour Factor	0.92	0.92	0.92				0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	5	5	5				0	5	5	3	3	0
Cap, veh/h	210	0	188				0	773	655	598	1223	0
Arrive On Green	0.12	0.00	0.12				0.00	0.42	0.42	0.13	0.66	0.00
Sat Flow, veh/h	1718	0	1536				0	1826	1547	1767	1856	0
Grp Volume(v), veh/h	114	0	97				0	341	346	277	385	0
Grp Sat Flow(s),veh/h/ln	1718	0	1536				0	1826	1547	1767	1856	0
Q Serve(g_s), s	2.9	0.0	2.7				0.0	6.1	7.6	3.5	4.1	0.0
Cycle Q Clear(g_c), s	2.9	0.0	2.7				0.0	6.1	7.6	3.5	4.1	0.0
Prop In Lane	1.00		1.00				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	210	0	188				0	773	655	598	1223	0
V/C Ratio(X)	0.54	0.00	0.52				0.00	0.44	0.53	0.46	0.31	0.00
Avail Cap(c_a), veh/h	752	0	672				0	1198	1016	1342	1223	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	18.9	0.0	18.8				0.0	9.3	9.8	5.6	3.4	0.0
Incr Delay (d2), s/veh	1.3	0.0	1.3				0.0	1.8	3.0	0.3	0.7	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
%ile BackOfQ(50%),veh/ln	1.0	0.0	0.9				0.0	2.2	2.5	0.8	0.9	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	20.2	0.0	20.1				0.0	11.2	12.8	5.9	4.0	0.0
LnGrp LOS	C	A	C				A	B	B	A	A	A
Approach Vol, veh/h		211						687			662	
Approach Delay, s/veh		20.2						12.0			4.8	
Approach LOS		C						B			A	

Timer - Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		35.1			10.8	24.4		10.6				
Change Period (Y+Rc), s		5.0			5.0	5.0		5.0				
Max Green Setting (Gmax), s		30.0			25.0	30.0		20.0				
Max Q Clear Time (g_c+I1), s		6.1			5.5	9.6		4.9				
Green Ext Time (p_c), s		6.8			0.5	9.8		0.5				

Intersection Summary			
HCM 6th Ctrl Delay		10.1	
HCM 6th LOS		B	



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	118	4	177	136	282	0	0	484	306
Future Volume (vph)	0	0	0	118	4	177	136	282	0	0	484	306
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)					5.5	5.5	5.5	5.5			5.5	
Lane Util. Factor					1.00	1.00	1.00	1.00			0.95	
Frpb, ped/bikes					1.00	1.00	1.00	1.00			0.99	
Flpb, ped/bikes					1.00	1.00	1.00	1.00			1.00	
Frt					1.00	0.85	1.00	1.00			0.94	
Flt Protected					0.95	1.00	0.95	1.00			1.00	
Satd. Flow (prot)					1742	1553	1719	1810			3298	
Flt Permitted					0.95	1.00	0.95	1.00			1.00	
Satd. Flow (perm)					1742	1553	1719	1810			3298	
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	0	0	0	133	4	199	153	317	0	0	544	344
RTOR Reduction (vph)	0	0	0	0	0	177	0	0	0	0	79	0
Lane Group Flow (vph)	0	0	0	0	137	22	153	317	0	0	809	0
Confl. Peds. (#/hr)							2					2
Heavy Vehicles (%)	0%	0%	0%	4%	4%	4%	5%	5%	5%	2%	2%	2%
Turn Type				Split	NA	Prot	Prot	NA			NA	
Protected Phases				7	7	7	1	5			2 3 4	
Permitted Phases												
Actuated Green, G (s)					13.8	13.8	12.7	30.5			82.8	
Effective Green, g (s)					13.8	13.8	12.7	30.5			82.8	
Actuated g/C Ratio					0.11	0.11	0.10	0.24			0.66	
Clearance Time (s)					5.5	5.5	5.5	5.5				
Vehicle Extension (s)					2.3	2.3	2.3	5.2				
Lane Grp Cap (vph)					191	170	173	438			2170	
v/s Ratio Prot					c0.08	0.01	0.09	c0.18			c0.25	
v/s Ratio Perm												
v/c Ratio					0.72	0.13	0.88	0.72			0.37	
Uniform Delay, d1					54.1	50.6	55.8	43.8			9.7	
Progression Factor					1.00	1.00	1.00	1.00			0.53	
Incremental Delay, d2					10.9	0.2	37.0	7.3			0.0	
Delay (s)					65.0	50.8	92.8	51.1			5.2	
Level of Service					E	D	F	D			A	
Approach Delay (s)		0.0			56.6			64.7			5.2	
Approach LOS		A			E			E			A	

Intersection Summary			
HCM 2000 Control Delay	31.9	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.58		
Actuated Cycle Length (s)	125.8	Sum of lost time (s)	27.5
Intersection Capacity Utilization	51.3%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

HCM 6th Edition methodology does not support clustered intersections.

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	54	456	335	52	277	182
Future Volume (vph)	54	456	335	52	277	182
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	5.5	5.5	6.0	5.5	5.5
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	1863	1583	1770	1863	1719	1538
Flt Permitted	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (perm)	1863	1583	1770	1863	1719	1538
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	61	512	376	58	311	204
RTOR Reduction (vph)	0	134	0	0	0	44
Lane Group Flow (vph)	61	378	376	58	311	160
Heavy Vehicles (%)	2%	2%	2%	2%	5%	5%
Turn Type	NA	custom	Prot	NA	Prot	custom
Protected Phases	4	4 5 7	3	8	5 6 7	3 5 6 7
Permitted Phases		4				5 6 7
Actuated Green, G (s)	16.1	71.4	33.7	54.8	59.5	98.7
Effective Green, g (s)	16.1	71.4	33.7	54.8	59.5	98.7
Actuated g/C Ratio	0.13	0.57	0.27	0.44	0.47	0.78
Clearance Time (s)	5.5		5.5	6.0		
Vehicle Extension (s)	2.3		2.3	2.3		
Lane Grp Cap (vph)	238	898	474	811	813	1206
v/s Ratio Prot	0.03	c0.24	c0.21	0.03	c0.18	0.10
v/s Ratio Perm						
v/c Ratio	0.26	0.42	0.79	0.07	0.38	0.13
Uniform Delay, d1	49.5	15.4	42.8	20.7	21.3	3.3
Progression Factor	1.00	1.00	1.00	1.00	0.31	0.00
Incremental Delay, d2	2.6	0.7	12.8	0.2	0.5	0.1
Delay (s)	52.0	16.2	55.6	20.9	7.1	0.1
Level of Service	D	B	E	C	A	A
Approach Delay (s)	20.0			51.0	4.3	
Approach LOS	B			D	A	

Intersection Summary			
HCM 2000 Control Delay	23.5	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.61		
Actuated Cycle Length (s)	125.8	Sum of lost time (s)	27.5
Intersection Capacity Utilization	56.0%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

HCM 6th Edition methodology does not support clustered intersections.

Intersection	
Intersection Delay, s/veh	22.9
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	8	435	13	117	207	22	20	6	276	24	6	15
Future Vol, veh/h	8	435	13	117	207	22	20	6	276	24	6	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, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	9	468	14	126	223	24	22	6	297	26	6	16
Number of Lanes	1	1	0	1	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	2	2
HCM Control Delay	35.6	13.7	15.9	11.2
HCM LOS	E	B	C	B

Lane	NBLn1	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1
Vol Left, %	7%	100%	0%	100%	0%	53%
Vol Thru, %	2%	0%	97%	0%	90%	13%
Vol Right, %	91%	0%	3%	0%	10%	33%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	302	8	448	117	229	45
LT Vol	20	8	0	117	0	24
Through Vol	6	0	435	0	207	6
RT Vol	276	0	13	0	22	15
Lane Flow Rate	325	9	482	126	246	48
Geometry Grp	2	7	7	7	7	2
Degree of Util (X)	0.541	0.017	0.857	0.249	0.447	0.098
Departure Headway (Hd)	5.993	6.938	6.407	7.113	6.533	7.292
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	601	519	568	504	552	490
Service Time	4.035	4.638	4.107	4.86	4.28	5.36
HCM Lane V/C Ratio	0.541	0.017	0.849	0.25	0.446	0.098
HCM Control Delay	15.9	9.8	36.1	12.2	14.5	11.2
HCM Lane LOS	C	A	E	B	B	B
HCM 95th-tile Q	3.2	0.1	9.3	1	2.3	0.3

Intersection	
Int Delay, s/veh	0.7

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	725	6	20	341	1	38
Future Vol, veh/h	725	6	20	341	1	38
Conflicting Peds, #/hr	0	2	5	0	2	5
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	797	7	22	375	1	42

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	809	0	1227	811
Stage 1	-	-	-	-	806	-
Stage 2	-	-	-	-	421	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	817	-	197	379
Stage 1	-	-	-	-	439	-
Stage 2	-	-	-	-	662	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	813	-	189	375
Mov Cap-2 Maneuver	-	-	-	-	189	-
Stage 1	-	-	-	-	437	-
Stage 2	-	-	-	-	638	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.5	16.1
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	366	-	-	813	-
HCM Lane V/C Ratio	0.117	-	-	0.027	-
HCM Control Delay (s)	16.1	-	-	9.6	0
HCM Lane LOS	C	-	-	A	A
HCM 95th %tile Q(veh)	0.4	-	-	0.1	-

Intersection	
Intersection Delay, s/veh	21.3
Intersection LOS	C

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	401	365	136	135	137	225
Future Vol, veh/h	401	365	136	135	137	225
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles, %	3	3	2	2	3	3
Mvmt Flow	427	388	145	144	146	239
Number of Lanes	1	1	1	0	1	1

Approach	EB	WB	SB
Opposing Approach	WB	EB	
Opposing Lanes	1	2	0
Conflicting Approach Left	SB		WB
Conflicting Lanes Left	2	0	1
Conflicting Approach Right		SB	EB
Conflicting Lanes Right	0	2	2
HCM Control Delay	26.7	15.3	14.2
HCM LOS	D	C	B

Lane	EBLn1	EBLn2	WBLn1	SBLn1	SBLn2
Vol Left, %	100%	0%	0%	100%	0%
Vol Thru, %	0%	100%	50%	0%	0%
Vol Right, %	0%	0%	50%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	401	365	271	137	225
LT Vol	401	0	0	137	0
Through Vol	0	365	136	0	0
RT Vol	0	0	135	0	225
Lane Flow Rate	427	388	288	146	239
Geometry Grp	7	7	4	7	7
Degree of Util (X)	0.803	0.676	0.498	0.314	0.435
Departure Headway (Hd)	6.774	6.266	6.223	7.76	6.536
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	533	575	579	462	551
Service Time	4.526	4.017	4.272	5.517	4.292
HCM Lane V/C Ratio	0.801	0.675	0.497	0.316	0.434
HCM Control Delay	31.8	21.2	15.3	14.1	14.3
HCM Lane LOS	D	C	C	B	B
HCM 95th-tile Q	7.7	5.1	2.8	1.3	2.2

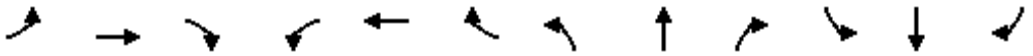
Intersection	
Int Delay, s/veh	12.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	97	13	40	29	7	125	18	465	58	84	293	83
Future Vol, veh/h	97	13	40	29	7	125	18	465	58	84	293	83
Conflicting Peds, #/hr	8	0	16	9	0	1	16	0	9	1	0	8
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	-	-	-	125	-	-	-	115	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	97	97	97	97	97	97	97	97	97	97	97	97
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	100	13	41	30	7	129	19	479	60	87	302	86

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1158	1121	377	1118	1134	526	404	0	0	548	0	0
Stage 1	535	535	-	556	556	-	-	-	-	-	-	-
Stage 2	623	586	-	562	578	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	173	206	670	184	203	552	1155	-	-	1021	-	-
Stage 1	529	524	-	515	513	-	-	-	-	-	-	-
Stage 2	474	497	-	512	501	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	115	179	650	146	177	543	1137	-	-	1012	-	-
Mov Cap-2 Maneuver	115	179	-	146	177	-	-	-	-	-	-	-
Stage 1	508	472	-	499	496	-	-	-	-	-	-	-
Stage 2	345	481	-	419	451	-	-	-	-	-	-	-

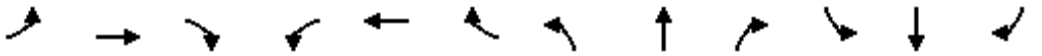
Approach	EB	WB	NB	SB
HCM Control Delay, s	84.1	18.8	0.3	1.6
HCM LOS	F	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	1137	-	-	115	395	151	543	1012	-	-
HCM Lane V/C Ratio	0.016	-	-	0.87	0.138	0.246	0.237	0.086	-	-
HCM Control Delay (s)	8.2	0	-	121.5	15.6	36.4	13.7	8.9	-	-
HCM Lane LOS	A	A	-	F	C	E	B	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-	5.3	0.5	0.9	0.9	0.3	-	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	40	3	44	0	0	0	0	353	323	353	416	0
Future Volume (vph)	40	3	44	0	0	0	0	353	323	353	416	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0	5.0					5.0	5.0	5.0	5.0	
Lane Util. Factor		1.00	1.00					1.00	1.00	1.00	1.00	
Frpb, ped/bikes		1.00	0.90					1.00	1.00	1.00	1.00	
Flpb, ped/bikes		0.92	1.00					1.00	1.00	1.00	1.00	
Frt		1.00	0.85					1.00	0.85	1.00	1.00	
Flt Protected		0.96	1.00					1.00	1.00	0.95	1.00	
Satd. Flow (prot)		1644	1426					1863	1583	1770	1863	
Flt Permitted		0.96	1.00					1.00	1.00	0.37	1.00	
Satd. Flow (perm)		1644	1426					1863	1583	687	1863	
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)	43	3	47	0	0	0	0	376	344	376	443	0
RTOR Reduction (vph)	0	0	44	0	0	0	0	0	130	0	0	0
Lane Group Flow (vph)	0	46	3	0	0	0	0	376	214	376	443	0
Confl. Peds. (#/hr)	10		10									
Turn Type	Perm	NA	Perm					NA	Perm	pm+pt	NA	
Protected Phases		8						6		5	2	
Permitted Phases	8		8						6	2		
Actuated Green, G (s)		3.7	3.7					24.7	24.7	46.4	46.4	
Effective Green, g (s)		3.7	3.7					24.7	24.7	46.4	46.4	
Actuated g/C Ratio		0.06	0.06					0.41	0.41	0.77	0.77	
Clearance Time (s)		5.0	5.0					5.0	5.0	5.0	5.0	
Vehicle Extension (s)		2.3	2.3					6.9	6.9	2.3	6.9	
Lane Grp Cap (vph)		101	87					765	650	831	1438	
v/s Ratio Prot								0.20		c0.13	0.24	
v/s Ratio Perm		0.03	0.00						0.14	c0.22		
v/c Ratio		0.46	0.03					0.49	0.33	0.45	0.31	
Uniform Delay, d1		27.2	26.5					13.1	12.1	3.1	2.0	
Progression Factor		1.00	1.00					1.00	1.00	1.00	1.00	
Incremental Delay, d2		1.9	0.1					1.7	1.0	0.2	0.4	
Delay (s)		29.1	26.6					14.8	13.1	3.4	2.5	
Level of Service		C	C					B	B	A	A	
Approach Delay (s)		27.9			0.0			14.0			2.9	
Approach LOS		C			A			B			A	

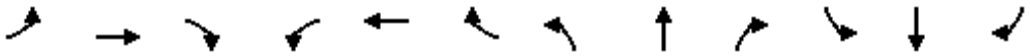
Intersection Summary			
HCM 2000 Control Delay	9.2	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.49		
Actuated Cycle Length (s)	60.1	Sum of lost time (s)	15.0
Intersection Capacity Utilization	75.5%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	40	3	44	0	0	0	0	353	323	353	416	0
Future Volume (veh/h)	40	3	44	0	0	0	0	353	323	353	416	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.96				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
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870				0	1870	1870	1870	1870	0
Adj Flow Rate, veh/h	43	3	47				0	376	344	376	443	0
Peak Hour Factor	0.94	0.94	0.94				0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2				0	2	2	2	2	0
Cap, veh/h	151	11	138				0	799	677	643	1295	0
Arrive On Green	0.09	0.09	0.09				0.00	0.43	0.43	0.16	0.69	0.00
Sat Flow, veh/h	1670	117	1524				0	1870	1585	1781	1870	0
Grp Volume(v), veh/h	46	0	47				0	376	344	376	443	0
Grp Sat Flow(s),veh/h/ln	1787	0	1524				0	1870	1585	1781	1870	0
Q Serve(g_s), s	1.1	0.0	1.3				0.0	6.6	7.3	4.6	4.4	0.0
Cycle Q Clear(g_c), s	1.1	0.0	1.3				0.0	6.6	7.3	4.6	4.4	0.0
Prop In Lane	0.93		1.00				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	162	0	138				0	799	677	643	1295	0
V/C Ratio(X)	0.28	0.00	0.34				0.00	0.47	0.51	0.59	0.34	0.00
Avail Cap(c_a), veh/h	776	0	662				0	1218	1032	1330	1295	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	19.6	0.0	19.7				0.0	9.5	9.7	5.7	2.9	0.0
Incr Delay (d2), s/veh	0.6	0.0	0.9				0.0	2.0	2.7	0.5	0.7	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
%ile BackOfQ(50%),veh/ln	0.4	0.0	0.4				0.0	2.5	2.5	1.0	0.9	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	20.1	0.0	20.5				0.0	11.4	12.4	6.2	3.6	0.0
LnGrp LOS	C	A	C				A	B	B	A	A	A
Approach Vol, veh/h		93						720			819	
Approach Delay, s/veh		20.3						11.9			4.8	
Approach LOS		C						B			A	

Timer - Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		36.9			12.2	24.7		9.2				
Change Period (Y+Rc), s		5.0			5.0	5.0		5.0				
Max Green Setting (Gmax), s		30.0			25.0	30.0		20.0				
Max Q Clear Time (g_c+I1), s		6.4			6.6	9.3		3.3				
Green Ext Time (p_c), s		7.9			0.7	10.4		0.2				

Intersection Summary												
HCM 6th Ctrl Delay			8.8									
HCM 6th LOS			A									



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	152	0	248	115	281	0	0	608	271
Future Volume (vph)	0	0	0	152	0	248	115	281	0	0	608	271
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)					5.5	5.5	5.5	5.5			5.5	
Lane Util. Factor					1.00	1.00	1.00	1.00			0.95	
Frpb, ped/bikes					1.00	1.00	1.00	1.00			0.98	
Flpb, ped/bikes					1.00	1.00	1.00	1.00			1.00	
Frt					1.00	0.85	1.00	1.00			0.95	
Flt Protected					0.95	1.00	0.95	1.00			1.00	
Satd. Flow (prot)					1787	1599	1770	1863			3285	
Flt Permitted					0.95	1.00	0.95	1.00			1.00	
Satd. Flow (perm)					1787	1599	1770	1863			3285	
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)	0	0	0	162	0	264	122	299	0	0	647	288
RTOR Reduction (vph)	0	0	0	0	0	228	0	0	0	0	36	0
Lane Group Flow (vph)	0	0	0	0	162	36	122	299	0	0	899	0
Confl. Peds. (#/hr)							10					10
Heavy Vehicles (%)	0%	0%	0%	1%	1%	1%	2%	2%	2%	3%	3%	3%
Turn Type				Split	NA	Prot	Prot	NA			NA	
Protected Phases				7	7	7	1	5			2 3 4	
Permitted Phases												
Actuated Green, G (s)					16.3	16.3	12.2	28.7			73.9	
Effective Green, g (s)					16.3	16.3	12.2	28.7			73.9	
Actuated g/C Ratio					0.14	0.14	0.10	0.24			0.62	
Clearance Time (s)					5.5	5.5	5.5	5.5				
Vehicle Extension (s)					2.3	2.3	2.3	5.2				
Lane Grp Cap (vph)					244	219	181	449			2041	
v/s Ratio Prot					c0.09	0.02	0.07	c0.16			c0.27	
v/s Ratio Perm												
v/c Ratio					0.66	0.17	0.67	0.67			0.44	
Uniform Delay, d1					48.7	45.3	51.4	40.8			11.7	
Progression Factor					1.00	1.00	1.00	1.00			0.59	
Incremental Delay, d2					5.7	0.2	8.2	5.1			0.1	
Delay (s)					54.4	45.5	59.7	45.8			6.9	
Level of Service					D	D	E	D			A	
Approach Delay (s)		0.0			48.9			49.8			6.9	
Approach LOS		A			D			D			A	

Intersection Summary			
HCM 2000 Control Delay	27.1	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.62		
Actuated Cycle Length (s)	118.9	Sum of lost time (s)	27.5
Intersection Capacity Utilization	54.3%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

HCM 6th Edition methodology does not support clustered intersections.

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	117	516	369	92	253	275
Future Volume (vph)	117	516	369	92	253	275
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	5.5	5.5	6.0	5.5	5.5
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	1863	1583	1770	1863	1787	1599
Flt Permitted	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (perm)	1863	1583	1770	1863	1787	1599
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	121	532	380	95	261	284
RTOR Reduction (vph)	0	119	0	0	0	29
Lane Group Flow (vph)	121	413	380	95	261	255
Heavy Vehicles (%)	2%	2%	2%	2%	1%	1%
Turn Type	NA	custom	Prot	NA	Prot	custom
Protected Phases	4	4 5 7	3	8	5 6 7	3 5 6 7
Permitted Phases		4				5 6 7
Actuated Green, G (s)	16.1	72.1	25.6	46.7	60.7	91.8
Effective Green, g (s)	16.1	72.1	25.6	46.7	60.7	91.8
Actuated g/C Ratio	0.14	0.61	0.22	0.39	0.51	0.77
Clearance Time (s)	5.5		5.5	6.0		
Vehicle Extension (s)	2.3		2.3	2.3		
Lane Grp Cap (vph)	252	959	381	731	912	1234
v/s Ratio Prot	0.06	c0.26	c0.21	0.05	0.15	c0.16
v/s Ratio Perm						
v/c Ratio	0.48	0.43	1.00	0.13	0.29	0.21
Uniform Delay, d1	47.5	12.5	46.6	23.1	16.7	3.7
Progression Factor	1.00	1.00	1.00	1.00	0.37	0.02
Incremental Delay, d2	6.4	0.7	45.5	0.4	0.3	0.2
Delay (s)	54.0	13.2	92.1	23.5	6.6	0.2
Level of Service	D	B	F	C	A	A
Approach Delay (s)	20.7			78.4	3.2	
Approach LOS	C			E	A	

Intersection Summary			
HCM 2000 Control Delay	31.4	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.64		
Actuated Cycle Length (s)	118.9	Sum of lost time (s)	27.5
Intersection Capacity Utilization	61.6%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

HCM 6th Edition methodology does not support clustered intersections.

Trip Generation Calculation Worksheet

Land Use Description: High-Turnover (Sit-Down) Restaurant
ITE Land Use Code: 932
Independent Variable: Gross Floor Area
Quantity: 10.6 Thousand Square Feet

Summary of ITE Trip Generation Data

AM Peak Hour of Adjacent Street Traffic
Trip Rate: 9.57 trips per ksf
Directional Distribution: 55% Entering 45% Exiting

PM Peak Hour of Adjacent Street Traffic
Trip Rate: 9.05 trips per ksf
Directional Distribution: 61% Entering 39% Exiting

Total Weekday Traffic
Trip Rate: 107.20 trips per ksf
Directional Distribution: 50% Entering 50% Exiting

Site Trip Generation Calculations

10.6 ksf High-Turnover Restaurant

	Entering	Exiting	Total
AM Peak Hour	56	45	101
PM Peak Hour	59	37	96
Weekday	568	568	1136

Data Source: *Trip Generation Manual, 11th Edition* , Institute of Transportation Engineers, 2021

Trip Generation Calculation Worksheet

Land Use Description: Shopping Plaza (40-150k) Supermarket No
ITE Land Use Code: 821
Independent Variable: Gross Floor Area
Quantity: 9.6 Thousand Square Feet

Summary of ITE Trip Generation Data

AM Peak Hour of Adjacent Street Traffic
Trip Rate: 1.73 trips per ksf
Directional Distribution: 62% Entering 38% Exiting

PM Peak Hour of Adjacent Street Traffic
Trip Rate: 5.19 trips per ksf
Directional Distribution: 49% Entering 51% Exiting

Total Weekday Traffic
Trip Rate: 67.52 trips per ksf
Directional Distribution: 50% Entering 50% Exiting

Site Trip Generation Calculations

9.6 ksf Shopping Plaza (40-150k)

	Entering	Exiting	Total
AM Peak Hour	11	6	17
PM Peak Hour	25	25	50
Weekday	324	324	648

Data Source: *Trip Generation Manual, 11th Edition* , Institute of Transportation Engineers, 2021

Trip Generation Calculation Worksheet

Land Use Description: General Office Building
ITE Land Use Code: 710
Independent Variable: Gross Floor Area
Quantity: 8.665 Thousand Square Feet

Summary of ITE Trip Generation Data

AM Peak Hour of Adjacent Street Traffic
Trip Rate: 1.52 trips per ksf
Directional Distribution: 86% Entering 14% Exiting

PM Peak Hour of Adjacent Street Traffic
Trip Rate: 1.44 trips per ksf
Directional Distribution: 16% Entering 84% Exiting

Total Weekday Traffic
Trip Rate: 10.84 trips per ksf
Directional Distribution: 50% Entering 50% Exiting

Site Trip Generation Calculations

8.665 ksf General Office Building

	Entering	Exiting	Total
AM Peak Hour	11	2	13
PM Peak Hour	2	10	12
Weekday	47	47	94

Data Source: *Trip Generation Manual, 11th Edition* , Institute of Transportation Engineers, 2021

Trip Generation Calculation Worksheet

Land Use Description: Shopping Plaza (40-150k) Supermarket No
ITE Land Use Code: 821
Independent Variable: Gross Floor Area
Quantity: 15.4 Thousand Square Feet

Summary of ITE Trip Generation Data

AM Peak Hour of Adjacent Street Traffic
Trip Rate: 1.73 trips per ksf
Directional Distribution: 62% Entering 38% Exiting

PM Peak Hour of Adjacent Street Traffic
Trip Rate: 5.19 trips per ksf
Directional Distribution: 49% Entering 51% Exiting

Total Weekday Traffic
Trip Rate: 67.52 trips per ksf
Directional Distribution: 50% Entering 50% Exiting

Site Trip Generation Calculations

15.4 ksf Shopping Plaza (40-150k)

	Entering	Exiting	Total
AM Peak Hour	17	10	27
PM Peak Hour	39	41	80
Weekday	520	520	1040

Data Source: *Trip Generation Manual, 11th Edition* , Institute of Transportation Engineers, 2021

Trip Generation Calculation Worksheet

Land Use Description: General Office Building
ITE Land Use Code: 710
Independent Variable: Gross Floor Area
Quantity: 13.469 Thousand Square Feet

Summary of ITE Trip Generation Data

AM Peak Hour of Adjacent Street Traffic
Trip Rate: 1.52 trips per ksf
Directional Distribution: 86% Entering 14% Exiting

PM Peak Hour of Adjacent Street Traffic
Trip Rate: 1.44 trips per ksf
Directional Distribution: 16% Entering 84% Exiting

Total Weekday Traffic
Trip Rate: 10.84 trips per ksf
Directional Distribution: 50% Entering 50% Exiting

Site Trip Generation Calculations

13.469 ksf General Office Building

	Entering	Exiting	Total
AM Peak Hour	17	3	20
PM Peak Hour	3	16	19
Weekday	73	73	146

Data Source: *Trip Generation Manual, 11th Edition* , Institute of Transportation Engineers, 2021

* 2041 Future Volume values may not match 2041 TransGIS/TVT Web volumes due to FHWA requirements that there be no negative growth values. This requirement is not valid in some areas of Oregon.

Site id	HWY	MP	DIR	HS	Description	2017	2019	2021	2041*	RSQ
3016	064	0.76	1		East of Pacific Highway No. 1 (I-5) [1.04 miles] {Stafford ATR, Sta. 03-016}			81600	107700	MODEL
2770	064	3.66	1		East of Wankers Corner Interchange (Stafford Road) [0.50 mile]			80500	110000	MODEL
2771	064	7.00	1		East of 10th Street, (South West Linn Interchange Connector No. 3) [0.60 mile]			83600	115200	MODEL
2772	064	9.12	1		East of Oswego Highway (OR43) West Linn Interchange [0.30 mile]			96000	127700	MODEL
2773	064	9.69	1		East of Pacific Highway East (OR99E), Oregon City Interchange [0.40 mile]			107000	138900	MODEL
2774	064	10.75	1		South of SE 82nd Drive (OR213 South Jct.) Gladstone Interchange [0.30 mile]			136700	170100	MODEL
2775	064	12.27	1		South of Clackamas Highway (OR224), South Clackamas Interchange [0.40 mile]			121500	145600	MODEL
2776	064	12.97	1		North of Clackamas Highway (OR224), South Clackamas Interchange [0.30 mile]			126300	147500	MODEL
2777	064	13.38	1		North of SE 82nd Drive/OR213 (North Jct.), Lake Road Interchange [0.20 mile]			123200	146400	MODEL
2778	064	13.88	1		South of Sunnyside Road Interchange [0.70 mile]			102200	121000	MODEL
2779	064	15.84	1		South of Johnson Creek Boulevard Interchange [0.40 mile]			132500	153700	MODEL
2780	064	17.45	1		South of Foster Road Interchange [0.40 mile]			138800	154100	MODEL
26022	064	18.25	1		South of Mt. Hood Highway No. 26 (US26) [0.87 mile] {Lents ATR, Sta. 26-022}			146100	166300	MODEL
2782	064	20.11	1		North of Division Street Interchange [0.50 mile]			163100	186900	MODEL
26018	064	20.51	1		South of SE Washington Street Undercrossing [0.09 mile] {Yamhill ATR, Sta. 26-018}			144900	168100	MODEL
2784	064	20.87	1		At Burnside Street Undercrossing			127000	147800	MODEL

Intersection	
Intersection Delay, s/veh	25.3
Intersection LOS	D

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	17	427	14	103	228	24	20	7	150	10	5	5
Future Vol, veh/h	17	427	14	103	228	24	20	7	150	10	5	5
Peak Hour Factor	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81
Heavy Vehicles, %	5	5	5	6	6	6	2	2	2	5	5	5
Mvmt Flow	21	527	17	127	281	30	25	9	185	12	6	6
Number of Lanes	1	1	0	1	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	2	2
HCM Control Delay	39.4	14.3	12.7	10.7
HCM LOS	E	B	B	B

Lane	NBLn1	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1
Vol Left, %	11%	100%	0%	100%	0%	50%
Vol Thru, %	4%	0%	97%	0%	90%	25%
Vol Right, %	85%	0%	3%	0%	10%	25%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	177	17	441	103	252	20
LT Vol	20	17	0	103	0	10
Through Vol	7	0	427	0	228	5
RT Vol	150	0	14	0	24	5
Lane Flow Rate	219	21	544	127	311	25
Geometry Grp	2	7	7	7	7	2
Degree of Util (X)	0.368	0.038	0.901	0.235	0.525	0.05
Departure Headway (Hd)	6.06	6.489	5.959	6.655	6.079	7.299
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	590	550	604	538	591	494
Service Time	4.137	4.246	3.716	4.419	3.843	5.299
HCM Lane V/C Ratio	0.371	0.038	0.901	0.236	0.526	0.051
HCM Control Delay	12.7	9.5	40.6	11.5	15.4	10.7
HCM Lane LOS	B	A	E	B	C	B
HCM 95th-tile Q	1.7	0.1	11	0.9	3	0.2

Intersection	
Int Delay, s/veh	1.5

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	541	21	69	369	2	51
Future Vol, veh/h	541	21	69	369	2	51
Conflicting Peds, #/hr	0	4	12	0	4	12
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	80	80	80	80	80	80
Heavy Vehicles, %	4	4	5	5	12	12
Mvmt Flow	676	26	86	461	3	64

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	714	0	1338	713
Stage 1	-	-	-	-	701	-
Stage 2	-	-	-	-	637	-
Critical Hdwy	-	-	4.15	-	6.52	6.32
Critical Hdwy Stg 1	-	-	-	-	5.52	-
Critical Hdwy Stg 2	-	-	-	-	5.52	-
Follow-up Hdwy	-	-	2.245	-	3.608	3.408
Pot Cap-1 Maneuver	-	-	872	-	161	415
Stage 1	-	-	-	-	474	-
Stage 2	-	-	-	-	508	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	862	-	137	406
Mov Cap-2 Maneuver	-	-	-	-	137	-
Stage 1	-	-	-	-	469	-
Stage 2	-	-	-	-	438	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1.5	16.5
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	378	-	-	862	-
HCM Lane V/C Ratio	0.175	-	-	0.1	-
HCM Control Delay (s)	16.5	-	-	9.6	0
HCM Lane LOS	C	-	-	A	A
HCM 95th %tile Q(veh)	0.6	-	-	0.3	-

Intersection	
Intersection Delay, s/veh	9.9
Intersection LOS	A

Approach	EB	WB	SB
Entry Lanes	1	1	1
Conflicting Circle Lanes	1	1	1
Adj Approach Flow, veh/h	580	485	412
Demand Flow Rate, veh/h	615	509	440
Vehicles Circulating, veh/h	170	382	277
Vehicles Exiting, veh/h	547	403	614
Ped Vol Crossing Leg, #/h	1	0	0
Ped Cap Adj	1.000	1.000	1.000
Approach Delay, s/veh	9.6	11.5	8.5
Approach LOS	A	B	A

Lane	Left	Left	Left
Designated Moves	LT	TR	LR
Assumed Moves	LT	TR	LR
RT Channelized			
Lane Util	1.000	1.000	1.000
Follow-Up Headway, s	2.609	2.609	2.609
Critical Headway, s	4.976	4.976	4.976
Entry Flow, veh/h	615	509	440
Cap Entry Lane, veh/h	1160	935	1040
Entry HV Adj Factor	0.943	0.952	0.937
Flow Entry, veh/h	580	485	412
Cap Entry, veh/h	1094	890	975
V/C Ratio	0.530	0.545	0.423
Control Delay, s/veh	9.6	11.5	8.5
LOS	A	B	A
95th %tile Queue, veh	3	3	2

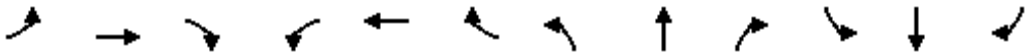
Intersection	
Int Delay, s/veh	6.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	39	48	0	151	0	508	89	136	263	61
Future Vol, veh/h	0	0	39	48	0	151	0	508	89	136	263	61
Conflicting Peds, #/hr	2	0	2	0	0	0	2	0	0	0	0	2
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	0	0	-	125	-	-	-	115	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	85	85	85	85	85	85	85	85	85	85	85	85
Heavy Vehicles, %	5	5	5	1	1	1	5	5	5	4	4	4
Mvmt Flow	0	0	46	56	0	178	0	598	105	160	309	72

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	-	-	349	1341	-	651	-	0	0	703	0	0
Stage 1	-	-	-	651	-	-	-	-	-	-	-	-
Stage 2	-	-	-	690	-	-	-	-	-	-	-	-
Critical Hdwy	-	-	6.25	7.11	-	6.21	-	-	-	4.14	-	-
Critical Hdwy Stg 1	-	-	-	6.11	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	6.11	-	-	-	-	-	-	-	-
Follow-up Hdwy	-	-	3.345	3.509	-	3.309	-	-	-	2.236	-	-
Pot Cap-1 Maneuver	0	0	688	130	0	470	0	-	-	885	-	-
Stage 1	0	0	-	459	0	-	0	-	-	-	-	-
Stage 2	0	0	-	437	0	-	0	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	-	-	685	104	-	470	-	-	-	885	-	-
Mov Cap-2 Maneuver	-	-	-	104	-	-	-	-	-	-	-	-
Stage 1	-	-	-	459	-	-	-	-	-	-	-	-
Stage 2	-	-	-	333	-	-	-	-	-	-	-	-

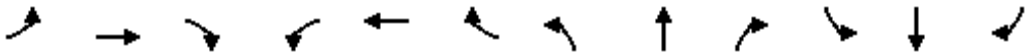
Approach	EB	WB	NB	SB
HCM Control Delay, s	10.6	31.1	0	2.9
HCM LOS	B	D		

Minor Lane/Major Mvmt	NBT	NBR	EBLn1	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	-	-	685	104	470	885	-	-
HCM Lane V/C Ratio	-	-	0.067	0.543	0.378	0.181	-	-
HCM Control Delay (s)	-	-	10.6	74.7	17.2	10	-	-
HCM Lane LOS	-	-	B	F	C	A	-	-
HCM 95th %tile Q(veh)	-	-	0.2	2.5	1.7	0.7	-	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	109	0	92	0	0	0	0	327	330	264	368	0
Future Volume (vph)	109	0	92	0	0	0	0	327	330	264	368	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0	5.0					5.0	5.0	5.0	5.0	
Lane Util. Factor		1.00	1.00					1.00	1.00	1.00	1.00	
Frpb, ped/bikes		1.00	0.97					1.00	1.00	1.00	1.00	
Flpb, ped/bikes		0.99	1.00					1.00	1.00	1.00	1.00	
Frt		1.00	0.85					1.00	0.85	1.00	1.00	
Flt Protected		0.95	1.00					1.00	1.00	0.95	1.00	
Satd. Flow (prot)		1704	1495					1810	1538	1752	1845	
Flt Permitted		0.95	1.00					1.00	1.00	0.38	1.00	
Satd. Flow (perm)		1704	1495					1810	1538	705	1845	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	118	0	100	0	0	0	0	355	359	287	400	0
RTOR Reduction (vph)	0	0	88	0	0	0	0	0	145	0	0	0
Lane Group Flow (vph)	0	118	12	0	0	0	0	355	214	287	400	0
Confl. Peds. (#/hr)	2		2									
Heavy Vehicles (%)	5%	5%	5%	0%	0%	0%	5%	5%	5%	3%	3%	3%
Bus Blockages (#/hr)	3	0	0	0	0	0	0	0	0	0	0	0
Turn Type	Perm	NA	Perm					NA	Perm	pm+pt	NA	
Protected Phases		8						6		5	2	
Permitted Phases	8		8						6	2		
Actuated Green, G (s)		7.1	7.1					24.2	24.2	43.2	43.2	
Effective Green, g (s)		7.1	7.1					24.2	24.2	43.2	43.2	
Actuated g/C Ratio		0.12	0.12					0.40	0.40	0.72	0.72	
Clearance Time (s)		5.0	5.0					5.0	5.0	5.0	5.0	
Vehicle Extension (s)		2.3	2.3					6.9	6.9	2.3	6.9	
Lane Grp Cap (vph)		200	176					726	617	748	1321	
v/s Ratio Prot								c0.20		c0.09	0.22	
v/s Ratio Perm		0.07	0.01						0.14	0.19		
v/c Ratio		0.59	0.07					0.49	0.35	0.38	0.30	
Uniform Delay, d1		25.2	23.7					13.4	12.5	3.8	3.1	
Progression Factor		1.00	1.00					1.00	1.00	1.00	1.00	
Incremental Delay, d2		3.3	0.1					1.8	1.2	0.2	0.5	
Delay (s)		28.6	23.7					15.2	13.7	4.0	3.5	
Level of Service		C	C					B	B	A	A	
Approach Delay (s)		26.4			0.0			14.5			3.7	
Approach LOS		C			A			B			A	

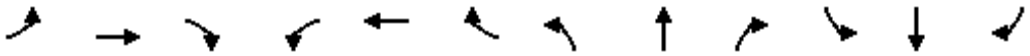
Intersection Summary			
HCM 2000 Control Delay	11.5	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.48		
Actuated Cycle Length (s)	60.3	Sum of lost time (s)	15.0
Intersection Capacity Utilization	53.6%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	109	0	92	0	0	0	0	327	330	264	368	0
Future Volume (veh/h)	109	0	92	0	0	0	0	327	330	264	368	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99				1.00		1.00	1.00		1.00
Parking Bus, Adj	0.99	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1826	1826	1826				0	1826	1826	1856	1856	0
Adj Flow Rate, veh/h	118	0	100				0	355	359	287	400	0
Peak Hour Factor	0.92	0.92	0.92				0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	5	5	5				0	5	5	3	3	0
Cap, veh/h	208	0	186				0	785	665	594	1233	0
Arrive On Green	0.12	0.00	0.12				0.00	0.43	0.43	0.13	0.66	0.00
Sat Flow, veh/h	1718	0	1535				0	1826	1547	1767	1856	0
Grp Volume(v), veh/h	118	0	100				0	355	359	287	400	0
Grp Sat Flow(s),veh/h/ln	1718	0	1535				0	1826	1547	1767	1856	0
Q Serve(g_s), s	3.0	0.0	2.9				0.0	6.4	8.0	3.6	4.3	0.0
Cycle Q Clear(g_c), s	3.0	0.0	2.9				0.0	6.4	8.0	3.6	4.3	0.0
Prop In Lane	1.00		1.00				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	208	0	186				0	785	665	594	1233	0
V/C Ratio(X)	0.57	0.00	0.54				0.00	0.45	0.54	0.48	0.32	0.00
Avail Cap(c_a), veh/h	736	0	658				0	1174	995	1314	1233	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	19.4	0.0	19.3				0.0	9.4	9.9	5.7	3.3	0.0
Incr Delay (d2), s/veh	1.5	0.0	1.5				0.0	1.9	3.1	0.4	0.7	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
%ile BackOfQ(50%),veh/ln	1.1	0.0	0.9				0.0	2.4	2.7	0.8	1.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	20.8	0.0	20.8				0.0	11.3	13.0	6.1	4.0	0.0
LnGrp LOS	C	A	C				A	B	B	A	A	A
Approach Vol, veh/h		218						714			687	
Approach Delay, s/veh		20.8						12.2			4.9	
Approach LOS		C						B			A	

Timer - Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		36.0			11.0	25.0		10.6				
Change Period (Y+Rc), s		5.0			5.0	5.0		5.0				
Max Green Setting (Gmax), s		30.0			25.0	30.0		20.0				
Max Q Clear Time (g_c+I1), s		6.3			5.6	10.0		5.0				
Green Ext Time (p_c), s		7.1			0.5	10.0		0.5				

Intersection Summary			
HCM 6th Ctrl Delay		10.2	
HCM 6th LOS		B	



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	122	4	184	141	293	0	0	504	317
Future Volume (vph)	0	0	0	122	4	184	141	293	0	0	504	317
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)					5.5	5.5	5.5	5.5			5.5	
Lane Util. Factor					1.00	1.00	1.00	1.00			0.95	
Frpb, ped/bikes					1.00	1.00	1.00	1.00			0.99	
Flpb, ped/bikes					1.00	1.00	1.00	1.00			1.00	
Frt					1.00	0.85	1.00	1.00			0.94	
Flt Protected					0.95	1.00	0.95	1.00			1.00	
Satd. Flow (prot)					1742	1553	1719	1810			3299	
Flt Permitted					0.95	1.00	0.95	1.00			1.00	
Satd. Flow (perm)					1742	1553	1719	1810			3299	
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	0	0	0	137	4	207	158	329	0	0	566	356
RTOR Reduction (vph)	0	0	0	0	0	184	0	0	0	0	78	0
Lane Group Flow (vph)	0	0	0	0	141	23	158	329	0	0	844	0
Confl. Peds. (#/hr)							2					2
Heavy Vehicles (%)	0%	0%	0%	4%	4%	4%	5%	5%	5%	2%	2%	2%
Turn Type				Split	NA	Prot	Prot	NA			NA	
Protected Phases				7	7	7	1	5			2 3 4	
Permitted Phases												
Actuated Green, G (s)					13.9	13.9	12.8	30.8			83.0	
Effective Green, g (s)					13.9	13.9	12.8	30.8			83.0	
Actuated g/C Ratio					0.11	0.11	0.10	0.24			0.66	
Clearance Time (s)					5.5	5.5	5.5	5.5				
Vehicle Extension (s)					2.3	2.3	2.3	5.2				
Lane Grp Cap (vph)					191	171	174	441			2169	
v/s Ratio Prot					c0.08	0.01	0.09	c0.18			c0.26	
v/s Ratio Perm												
v/c Ratio					0.74	0.13	0.91	0.75			0.39	
Uniform Delay, d1					54.4	50.7	56.1	44.1			9.9	
Progression Factor					1.00	1.00	1.00	1.00			0.59	
Incremental Delay, d2					12.7	0.2	42.1	8.2			0.1	
Delay (s)					67.1	50.9	98.2	52.3			5.9	
Level of Service					E	D	F	D			A	
Approach Delay (s)		0.0			57.5			67.2			5.9	
Approach LOS		A			E			E			A	

Intersection Summary			
HCM 2000 Control Delay	33.1	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.60		
Actuated Cycle Length (s)	126.2	Sum of lost time (s)	27.5
Intersection Capacity Utilization	52.7%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

HCM 6th Edition methodology does not support clustered intersections.

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	56	474	349	54	288	189
Future Volume (vph)	56	474	349	54	288	189
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	5.5	5.5	6.0	5.5	5.5
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	1863	1583	1770	1863	1719	1538
Flt Permitted	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (perm)	1863	1583	1770	1863	1719	1538
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	63	533	392	61	324	212
RTOR Reduction (vph)	0	129	0	0	0	45
Lane Group Flow (vph)	63	404	392	61	324	167
Heavy Vehicles (%)	2%	2%	2%	2%	5%	5%
Turn Type	NA	custom	Prot	NA	Prot	custom
Protected Phases	4	4 5 7	3	8	5 6 7	3 5 6 7
Permitted Phases		4				5 6 7
Actuated Green, G (s)	16.0	71.7	33.7	54.7	60.0	99.2
Effective Green, g (s)	16.0	71.7	33.7	54.7	60.0	99.2
Actuated g/C Ratio	0.13	0.57	0.27	0.43	0.48	0.79
Clearance Time (s)	5.5		5.5	6.0		
Vehicle Extension (s)	2.3		2.3	2.3		
Lane Grp Cap (vph)	236	899	472	807	817	1208
v/s Ratio Prot	0.03	c0.26	c0.22	0.03	c0.19	0.11
v/s Ratio Perm						
v/c Ratio	0.27	0.45	0.83	0.08	0.40	0.14
Uniform Delay, d1	49.8	15.8	43.6	20.9	21.4	3.2
Progression Factor	1.00	1.00	1.00	1.00	0.30	0.00
Incremental Delay, d2	2.8	0.8	15.5	0.2	0.5	0.1
Delay (s)	52.6	16.6	59.1	21.1	7.0	0.1
Level of Service	D	B	E	C	A	A
Approach Delay (s)	20.4			54.0	4.3	
Approach LOS	C			D	A	

Intersection Summary			
HCM 2000 Control Delay	24.5	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.64		
Actuated Cycle Length (s)	126.2	Sum of lost time (s)	27.5
Intersection Capacity Utilization	57.9%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

HCM 6th Edition methodology does not support clustered intersections.

Intersection	
Intersection Delay, s/veh	25.4
Intersection LOS	D

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	17	444	14	122	215	34	21	12	281	25	6	16
Future Vol, veh/h	17	444	14	122	215	34	21	12	281	25	6	16
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, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	18	477	15	131	231	37	23	13	302	27	6	17
Number of Lanes	1	1	0	1	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	2	2
HCM Control Delay	40.6	14.7	17.3	11.5
HCM LOS	E	B	C	B

Lane	NBLn1	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1
Vol Left, %	7%	100%	0%	100%	0%	53%
Vol Thru, %	4%	0%	97%	0%	86%	13%
Vol Right, %	89%	0%	3%	0%	14%	34%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	314	17	458	122	249	47
LT Vol	21	17	0	122	0	25
Through Vol	12	0	444	0	215	6
RT Vol	281	0	14	0	34	16
Lane Flow Rate	338	18	492	131	268	51
Geometry Grp	2	7	7	7	7	2
Degree of Util (X)	0.576	0.036	0.892	0.265	0.495	0.106
Departure Headway (Hd)	6.146	7.05	6.518	7.27	6.659	7.527
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	587	508	556	495	541	475
Service Time	4.188	4.791	4.259	5.018	4.407	5.596
HCM Lane V/C Ratio	0.576	0.035	0.885	0.265	0.495	0.107
HCM Control Delay	17.3	10.1	41.7	12.6	15.8	11.5
HCM Lane LOS	C	B	E	B	C	B
HCM 95th-tile Q	3.6	0.1	10.3	1.1	2.7	0.4

Intersection	
Int Delay, s/veh	0.7

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	739	6	21	366	1	40
Future Vol, veh/h	739	6	21	366	1	40
Conflicting Peds, #/hr	0	2	5	0	2	5
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	812	7	23	402	1	44

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	824	0	1271	826
Stage 1	-	-	-	-	821	-
Stage 2	-	-	-	-	450	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	806	-	185	372
Stage 1	-	-	-	-	432	-
Stage 2	-	-	-	-	642	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	802	-	177	368
Mov Cap-2 Maneuver	-	-	-	-	177	-
Stage 1	-	-	-	-	430	-
Stage 2	-	-	-	-	617	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.5	16.5
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	359	-	-	802	-
HCM Lane V/C Ratio	0.126	-	-	0.029	-
HCM Control Delay (s)	16.5	-	-	9.6	0
HCM Lane LOS	C	-	-	A	A
HCM 95th %tile Q(veh)	0.4	-	-	0.1	-

Intersection	
Intersection Delay, s/veh	15.6
Intersection LOS	C

Approach	EB	WB	SB
Entry Lanes	1	1	1
Conflicting Circle Lanes	1	1	1
Adj Approach Flow, veh/h	832	299	533
Demand Flow Rate, veh/h	857	305	549
Vehicles Circulating, veh/h	284	568	157
Vehicles Exiting, veh/h	421	573	716
Ped Vol Crossing Leg, #/h	3	0	0
Ped Cap Adj	1.000	1.000	1.000
Approach Delay, s/veh	22.5	9.8	8.2
Approach LOS	C	A	A

Lane	Left	Left	Left
Designated Moves	LT	TR	LR
Assumed Moves	LT	TR	LR
RT Channelized			
Lane Util	1.000	1.000	1.000
Follow-Up Headway, s	2.609	2.609	2.609
Critical Headway, s	4.976	4.976	4.976
Entry Flow, veh/h	857	305	549
Cap Entry Lane, veh/h	1033	773	1176
Entry HV Adj Factor	0.971	0.980	0.972
Flow Entry, veh/h	832	299	533
Cap Entry, veh/h	1002	758	1142
V/C Ratio	0.830	0.395	0.467
Control Delay, s/veh	22.5	9.8	8.2
LOS	C	A	A
95th %tile Queue, veh	10	2	3

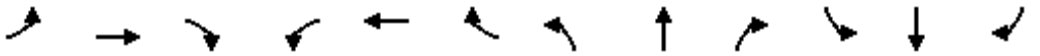
Intersection	
Int Delay, s/veh	5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	157	37	0	130	0	585	74	87	305	86
Future Vol, veh/h	0	0	157	37	0	130	0	585	74	87	305	86
Conflicting Peds, #/hr	8	0	16	9	0	1	16	0	9	1	0	8
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	0	0	-	125	-	-	-	115	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	97	97	97	97	97	97	97	97	97	97	97	97
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	162	38	0	134	0	603	76	90	314	89

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	-	-	383	1286	-	651	-	0	0	688	0	0
Stage 1	-	-	-	650	-	-	-	-	-	-	-	-
Stage 2	-	-	-	636	-	-	-	-	-	-	-	-
Critical Hdwy	-	-	6.22	7.12	-	6.22	-	-	-	4.12	-	-
Critical Hdwy Stg 1	-	-	-	6.12	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	6.12	-	-	-	-	-	-	-	-
Follow-up Hdwy	-	-	3.318	3.518	-	3.318	-	-	-	2.218	-	-
Pot Cap-1 Maneuver	0	0	664	141	0	469	0	-	-	906	-	-
Stage 1	0	0	-	458	0	-	0	-	-	-	-	-
Stage 2	0	0	-	466	0	-	0	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	-	-	649	95	-	465	-	-	-	898	-	-
Mov Cap-2 Maneuver	-	-	-	95	-	-	-	-	-	-	-	-
Stage 1	-	-	-	458	-	-	-	-	-	-	-	-
Stage 2	-	-	-	310	-	-	-	-	-	-	-	-

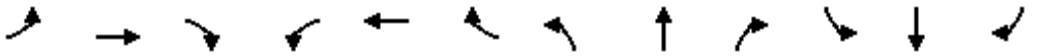
Approach	EB	WB	NB	SB
HCM Control Delay, s	12.4	27	0	1.7
HCM LOS	B	D		

Minor Lane/Major Mvmt	NBT	NBR	EBLn1	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	-	-	649	95	465	898	-	-
HCM Lane V/C Ratio	-	-	0.249	0.402	0.288	0.1	-	-
HCM Control Delay (s)	-	-	12.4	66.3	15.8	9.5	-	-
HCM Lane LOS	-	-	B	F	C	A	-	-
HCM 95th %tile Q(veh)	-	-	1	1.6	1.2	0.3	-	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	41	3	46	0	0	0	0	367	335	366	433	0
Future Volume (vph)	41	3	46	0	0	0	0	367	335	366	433	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0	5.0					5.0	5.0	5.0	5.0	
Lane Util. Factor		1.00	1.00					1.00	1.00	1.00	1.00	
Frpb, ped/bikes		1.00	0.92					1.00	1.00	1.00	1.00	
Flpb, ped/bikes		0.94	1.00					1.00	1.00	1.00	1.00	
Frt		1.00	0.85					1.00	0.85	1.00	1.00	
Flt Protected		0.96	1.00					1.00	1.00	0.95	1.00	
Satd. Flow (prot)		1678	1458					1863	1583	1770	1863	
Flt Permitted		0.96	1.00					1.00	1.00	0.35	1.00	
Satd. Flow (perm)		1678	1458					1863	1583	647	1863	
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)	44	3	49	0	0	0	0	390	356	389	461	0
RTOR Reduction (vph)	0	0	45	0	0	0	0	0	132	0	0	0
Lane Group Flow (vph)	0	47	4	0	0	0	0	390	224	389	461	0
Confl. Peds. (#/hr)	10		10									
Turn Type	Perm	NA	Perm					NA	Perm	pm+pt	NA	
Protected Phases		8						6		5	2	
Permitted Phases	8		8						6	2		
Actuated Green, G (s)		5.1	5.1					24.7	24.7	46.8	46.8	
Effective Green, g (s)		5.1	5.1					24.7	24.7	46.8	46.8	
Actuated g/C Ratio		0.08	0.08					0.40	0.40	0.76	0.76	
Clearance Time (s)		5.0	5.0					5.0	5.0	5.0	5.0	
Vehicle Extension (s)		2.3	2.3					6.9	6.9	2.3	6.9	
Lane Grp Cap (vph)		138	120					743	631	799	1408	
v/s Ratio Prot								0.21		c0.13	0.25	
v/s Ratio Perm		0.03	0.00						0.14	c0.23		
v/c Ratio		0.34	0.03					0.52	0.36	0.49	0.33	
Uniform Delay, d1		26.8	26.1					14.1	13.0	3.8	2.4	
Progression Factor		1.00	1.00					1.00	1.00	1.00	1.00	
Incremental Delay, d2		0.9	0.1					2.0	1.2	0.3	0.5	
Delay (s)		27.7	26.2					16.2	14.2	4.0	2.9	
Level of Service		C	C					B	B	A	A	
Approach Delay (s)		26.9			0.0			15.2			3.4	
Approach LOS		C			A			B			A	

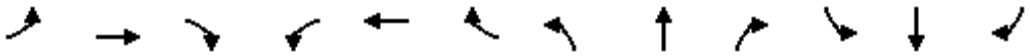
Intersection Summary			
HCM 2000 Control Delay	10.0	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.51		
Actuated Cycle Length (s)	61.9	Sum of lost time (s)	15.0
Intersection Capacity Utilization	77.3%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	41	3	46	0	0	0	0	367	335	366	433	0
Future Volume (veh/h)	41	3	46	0	0	0	0	367	335	366	433	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.96				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
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870				0	1870	1870	1870	1870	0
Adj Flow Rate, veh/h	44	3	49				0	390	356	389	461	0
Peak Hour Factor	0.94	0.94	0.94				0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2				0	2	2	2	2	0
Cap, veh/h	152	10	139				0	807	684	638	1303	0
Arrive On Green	0.09	0.09	0.09				0.00	0.43	0.43	0.16	0.70	0.00
Sat Flow, veh/h	1673	114	1523				0	1870	1585	1781	1870	0
Grp Volume(v), veh/h	47	0	49				0	390	356	389	461	0
Grp Sat Flow(s),veh/h/ln	1787	0	1523				0	1870	1585	1781	1870	0
Q Serve(g_s), s	1.2	0.0	1.4				0.0	7.1	7.8	4.8	4.7	0.0
Cycle Q Clear(g_c), s	1.2	0.0	1.4				0.0	7.1	7.8	4.8	4.7	0.0
Prop In Lane	0.94		1.00				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	163	0	139				0	807	684	638	1303	0
V/C Ratio(X)	0.29	0.00	0.35				0.00	0.48	0.52	0.61	0.35	0.00
Avail Cap(c_a), veh/h	758	0	646				0	1191	1009	1299	1303	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	20.0	0.0	20.1				0.0	9.6	9.8	6.0	2.9	0.0
Incr Delay (d2), s/veh	0.6	0.0	0.9				0.0	2.1	2.8	0.6	0.8	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
%ile BackOfQ(50%),veh/ln	0.4	0.0	0.5				0.0	2.7	2.6	1.0	0.9	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	20.6	0.0	21.0				0.0	11.7	12.6	6.5	3.6	0.0
LnGrp LOS	C	A	C				A	B	B	A	A	A
Approach Vol, veh/h		96						746			850	
Approach Delay, s/veh		20.8						12.1			5.0	
Approach LOS		C						B			A	

Timer - Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		37.8			12.5	25.3		9.3				
Change Period (Y+Rc), s		5.0			5.0	5.0		5.0				
Max Green Setting (Gmax), s		30.0			25.0	30.0		20.0				
Max Q Clear Time (g_c+I1), s		6.7			6.8	9.8		3.4				
Green Ext Time (p_c), s		8.3			0.7	10.6		0.2				

Intersection Summary			
HCM 6th Ctrl Delay		9.0	
HCM 6th LOS		A	



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	158	0	257	119	292	0	0	633	281
Future Volume (vph)	0	0	0	158	0	257	119	292	0	0	633	281
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)					5.5	5.5	5.5	5.5			5.5	
Lane Util. Factor					1.00	1.00	1.00	1.00			0.95	
Frpb, ped/bikes					1.00	1.00	1.00	1.00			0.98	
Flpb, ped/bikes					1.00	1.00	1.00	1.00			1.00	
Frt					1.00	0.85	1.00	1.00			0.95	
Flt Protected					0.95	1.00	0.95	1.00			1.00	
Satd. Flow (prot)					1787	1599	1770	1863			3285	
Flt Permitted					0.95	1.00	0.95	1.00			1.00	
Satd. Flow (perm)					1787	1599	1770	1863			3285	
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)	0	0	0	168	0	273	127	311	0	0	673	299
RTOR Reduction (vph)	0	0	0	0	0	236	0	0	0	0	36	0
Lane Group Flow (vph)	0	0	0	0	168	37	127	311	0	0	936	0
Confl. Peds. (#/hr)							10					10
Heavy Vehicles (%)	0%	0%	0%	1%	1%	1%	2%	2%	2%	3%	3%	3%
Turn Type				Split	NA	Prot	Prot	NA			NA	
Protected Phases				7	7	7	1	5			2 3 4	
Permitted Phases												
Actuated Green, G (s)					16.2	16.2	12.4	29.1			74.3	
Effective Green, g (s)					16.2	16.2	12.4	29.1			74.3	
Actuated g/C Ratio					0.14	0.14	0.10	0.24			0.62	
Clearance Time (s)					5.5	5.5	5.5	5.5				
Vehicle Extension (s)					2.3	2.3	2.3	5.2				
Lane Grp Cap (vph)					242	216	183	454			2044	
v/s Ratio Prot					c0.09	0.02	0.07	c0.17			c0.28	
v/s Ratio Perm												
v/c Ratio					0.69	0.17	0.69	0.69			0.46	
Uniform Delay, d1					49.2	45.7	51.7	41.0			11.9	
Progression Factor					1.00	1.00	1.00	1.00			0.62	
Incremental Delay, d2					7.3	0.2	9.6	5.6			0.1	
Delay (s)					56.6	45.9	61.2	46.6			7.4	
Level of Service					E	D	E	D			A	
Approach Delay (s)		0.0			50.0			50.9			7.4	
Approach LOS		A			D			D			A	

Intersection Summary			
HCM 2000 Control Delay	27.8	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.64		
Actuated Cycle Length (s)	119.4	Sum of lost time (s)	27.5
Intersection Capacity Utilization	55.9%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

HCM 6th Edition methodology does not support clustered intersections.

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	122	537	384	96	263	286
Future Volume (vph)	122	537	384	96	263	286
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	5.5	5.5	6.0	5.5	5.5
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	1863	1583	1770	1863	1787	1599
Flt Permitted	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (perm)	1863	1583	1770	1863	1787	1599
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	126	554	396	99	271	295
RTOR Reduction (vph)	0	116	0	0	0	27
Lane Group Flow (vph)	126	438	396	99	271	268
Heavy Vehicles (%)	2%	2%	2%	2%	1%	1%
Turn Type	NA	custom	Prot	NA	Prot	custom
Protected Phases	4	4 5 7	3	8	5 6 7	3 5 6 7
Permitted Phases		4				5 6 7
Actuated Green, G (s)	16.1	72.4	25.6	46.7	61.2	92.3
Effective Green, g (s)	16.1	72.4	25.6	46.7	61.2	92.3
Actuated g/C Ratio	0.13	0.61	0.21	0.39	0.51	0.77
Clearance Time (s)	5.5		5.5	6.0		
Vehicle Extension (s)	2.3		2.3	2.3		
Lane Grp Cap (vph)	251	959	379	728	915	1236
v/s Ratio Prot	0.07	c0.28	c0.22	0.05	0.15	c0.17
v/s Ratio Perm						
v/c Ratio	0.50	0.46	1.04	0.14	0.30	0.22
Uniform Delay, d1	47.9	12.8	46.9	23.4	16.7	3.7
Progression Factor	1.00	1.00	1.00	1.00	0.37	0.06
Incremental Delay, d2	7.0	0.8	58.4	0.4	0.3	0.2
Delay (s)	54.9	13.6	105.3	23.8	6.5	0.4
Level of Service	D	B	F	C	A	A
Approach Delay (s)	21.2			89.0	3.3	
Approach LOS	C			F	A	

Intersection Summary			
HCM 2000 Control Delay	34.7	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.67		
Actuated Cycle Length (s)	119.4	Sum of lost time (s)	27.5
Intersection Capacity Utilization	63.7%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

HCM 6th Edition methodology does not support clustered intersections.

Intersection	
Intersection Delay, s/veh	26.1
Intersection LOS	D

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	17	430	14	104	229	24	20	7	152	10	5	5
Future Vol, veh/h	17	430	14	104	229	24	20	7	152	10	5	5
Peak Hour Factor	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81
Heavy Vehicles, %	5	5	5	6	6	6	2	2	2	5	5	5
Mvmt Flow	21	531	17	128	283	30	25	9	188	12	6	6
Number of Lanes	1	1	0	1	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	2	2
HCM Control Delay	41	14.4	12.8	10.7
HCM LOS	E	B	B	B

Lane	NBLn1	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1
Vol Left, %	11%	100%	0%	100%	0%	50%
Vol Thru, %	4%	0%	97%	0%	91%	25%
Vol Right, %	85%	0%	3%	0%	9%	25%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	179	17	444	104	253	20
LT Vol	20	17	0	104	0	10
Through Vol	7	0	430	0	229	5
RT Vol	152	0	14	0	24	5
Lane Flow Rate	221	21	548	128	312	25
Geometry Grp	2	7	7	7	7	2
Degree of Util (X)	0.373	0.038	0.91	0.238	0.529	0.05
Departure Headway (Hd)	6.077	6.506	5.976	6.675	6.099	7.334
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	588	549	603	537	587	491
Service Time	4.155	4.263	3.733	4.44	3.864	5.334
HCM Lane V/C Ratio	0.376	0.038	0.909	0.238	0.532	0.051
HCM Control Delay	12.8	9.5	42.2	11.5	15.6	10.7
HCM Lane LOS	B	A	E	B	C	B
HCM 95th-tile Q	1.7	0.1	11.3	0.9	3.1	0.2

Intersection	
Int Delay, s/veh	1.6

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	560	21	80	402	2	57
Future Vol, veh/h	560	21	80	402	2	57
Conflicting Peds, #/hr	0	4	12	0	4	12
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	80	80	80	80	80	80
Heavy Vehicles, %	4	4	5	5	12	12
Mvmt Flow	700	26	100	503	3	71

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	738	0	1432	737
Stage 1	-	-	-	-	725	-
Stage 2	-	-	-	-	707	-
Critical Hdwy	-	-	4.15	-	6.52	6.32
Critical Hdwy Stg 1	-	-	-	-	5.52	-
Critical Hdwy Stg 2	-	-	-	-	5.52	-
Follow-up Hdwy	-	-	2.245	-	3.608	3.408
Pot Cap-1 Maneuver	-	-	855	-	141	402
Stage 1	-	-	-	-	462	-
Stage 2	-	-	-	-	471	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	845	-	116	393
Mov Cap-2 Maneuver	-	-	-	-	116	-
Stage 1	-	-	-	-	457	-
Stage 2	-	-	-	-	392	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1.6	17.4
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	364	-	-	845	-
HCM Lane V/C Ratio	0.203	-	-	0.118	-
HCM Control Delay (s)	17.4	-	-	9.8	0
HCM Lane LOS	C	-	-	A	A
HCM 95th %tile Q(veh)	0.7	-	-	0.4	-

Intersection	
Intersection Delay, s/veh	10.5
Intersection LOS	B

Approach	EB	WB	SB
Entry Lanes	1	1	1
Conflicting Circle Lanes	1	1	1
Adj Approach Flow, veh/h	609	487	461
Demand Flow Rate, veh/h	645	511	492
Vehicles Circulating, veh/h	170	410	279
Vehicles Exiting, veh/h	601	405	642
Ped Vol Crossing Leg, #/h	1	0	0
Ped Cap Adj	1.000	1.000	1.000
Approach Delay, s/veh	10.1	12.2	9.4
Approach LOS	B	B	A

Lane	Left	Left	Left
Designated Moves	LT	TR	LR
Assumed Moves	LT	TR	LR
RT Channelized			
Lane Util	1.000	1.000	1.000
Follow-Up Headway, s	2.609	2.609	2.609
Critical Headway, s	4.976	4.976	4.976
Entry Flow, veh/h	645	511	492
Cap Entry Lane, veh/h	1160	908	1038
Entry HV Adj Factor	0.944	0.952	0.938
Flow Entry, veh/h	609	487	461
Cap Entry, veh/h	1095	865	973
V/C Ratio	0.556	0.563	0.474
Control Delay, s/veh	10.1	12.2	9.4
LOS	B	B	A
95th %tile Queue, veh	4	4	3

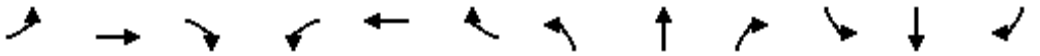
Intersection	
Int Delay, s/veh	6.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	39	48	0	151	0	531	89	136	305	61
Future Vol, veh/h	0	0	39	48	0	151	0	531	89	136	305	61
Conflicting Peds, #/hr	2	0	2	0	0	0	2	0	0	0	0	2
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	0	0	-	125	-	-	-	115	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	85	85	85	85	85	85	85	85	85	85	85	85
Heavy Vehicles, %	5	5	5	1	1	1	5	5	5	4	4	4
Mvmt Flow	0	0	46	56	0	178	0	625	105	160	359	72

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	-	-	399	1418	-	678	-	0	0	730	0	0
Stage 1	-	-	-	678	-	-	-	-	-	-	-	-
Stage 2	-	-	-	740	-	-	-	-	-	-	-	-
Critical Hdwy	-	-	6.25	7.11	-	6.21	-	-	-	4.14	-	-
Critical Hdwy Stg 1	-	-	-	6.11	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	6.11	-	-	-	-	-	-	-	-
Follow-up Hdwy	-	-	3.345	3.509	-	3.309	-	-	-	2.236	-	-
Pot Cap-1 Maneuver	0	0	644	115	0	454	0	-	-	865	-	-
Stage 1	0	0	-	444	0	-	0	-	-	-	-	-
Stage 2	0	0	-	410	0	-	0	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	-	-	642	91	-	454	-	-	-	865	-	-
Mov Cap-2 Maneuver	-	-	-	91	-	-	-	-	-	-	-	-
Stage 1	-	-	-	444	-	-	-	-	-	-	-	-
Stage 2	-	-	-	310	-	-	-	-	-	-	-	-

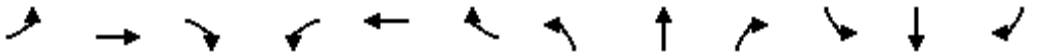
Approach	EB	WB	NB	SB
HCM Control Delay, s	11	36.4	0	2.7
HCM LOS	B	E		

Minor Lane/Major Mvmt	NBT	NBR	EBLn1	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	-	-	642	91	454	865	-	-
HCM Lane V/C Ratio	-	-	0.071	0.621	0.391	0.185	-	-
HCM Control Delay (s)	-	-	11	94.6	17.9	10.1	-	-
HCM Lane LOS	-	-	B	F	C	B	-	-
HCM 95th %tile Q(veh)	-	-	0.2	2.9	1.8	0.7	-	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	109	0	104	0	0	0	0	338	342	264	398	0
Future Volume (vph)	109	0	104	0	0	0	0	338	342	264	398	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0	5.0					5.0	5.0	5.0	5.0	
Lane Util. Factor		1.00	1.00					1.00	1.00	1.00	1.00	
Frpb, ped/bikes		1.00	0.97					1.00	1.00	1.00	1.00	
Flpb, ped/bikes		0.99	1.00					1.00	1.00	1.00	1.00	
Frt		1.00	0.85					1.00	0.85	1.00	1.00	
Flt Protected		0.95	1.00					1.00	1.00	0.95	1.00	
Satd. Flow (prot)		1704	1495					1810	1538	1752	1845	
Flt Permitted		0.95	1.00					1.00	1.00	0.38	1.00	
Satd. Flow (perm)		1704	1495					1810	1538	694	1845	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	118	0	113	0	0	0	0	367	372	287	433	0
RTOR Reduction (vph)	0	0	100	0	0	0	0	0	143	0	0	0
Lane Group Flow (vph)	0	118	13	0	0	0	0	367	229	287	433	0
Confl. Peds. (#/hr)	2		2									
Heavy Vehicles (%)	5%	5%	5%	0%	0%	0%	5%	5%	5%	3%	3%	3%
Bus Blockages (#/hr)	3	0	0	0	0	0	0	0	0	0	0	0
Turn Type	Perm	NA	Perm					NA	Perm	pm+pt	NA	
Protected Phases		8						6		5	2	
Permitted Phases	8		8						6	2		
Actuated Green, G (s)		7.2	7.2					25.1	25.1	44.0	44.0	
Effective Green, g (s)		7.2	7.2					25.1	25.1	44.0	44.0	
Actuated g/C Ratio		0.12	0.12					0.41	0.41	0.72	0.72	
Clearance Time (s)		5.0	5.0					5.0	5.0	5.0	5.0	
Vehicle Extension (s)		2.3	2.3					6.9	6.9	2.3	6.9	
Lane Grp Cap (vph)		200	175					742	630	739	1326	
v/s Ratio Prot								c0.20		c0.09	0.23	
v/s Ratio Perm		0.07	0.01						0.15	0.19		
v/c Ratio		0.59	0.08					0.49	0.36	0.39	0.33	
Uniform Delay, d1		25.6	24.0					13.4	12.5	3.9	3.2	
Progression Factor		1.00	1.00					1.00	1.00	1.00	1.00	
Incremental Delay, d2		3.3	0.1					1.8	1.2	0.2	0.5	
Delay (s)		28.9	24.1					15.2	13.7	4.1	3.7	
Level of Service		C	C					B	B	A	A	
Approach Delay (s)		26.6			0.0			14.4			3.8	
Approach LOS		C			A			B			A	

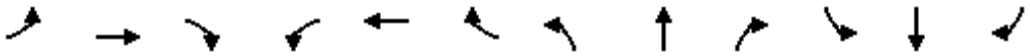
Intersection Summary			
HCM 2000 Control Delay	11.6	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.49		
Actuated Cycle Length (s)	61.2	Sum of lost time (s)	15.0
Intersection Capacity Utilization	75.3%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	109	0	104	0	0	0	0	338	342	264	398	0
Future Volume (veh/h)	109	0	104	0	0	0	0	338	342	264	398	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99				1.00		1.00	1.00		1.00
Parking Bus, Adj	0.99	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1826	1826	1826				0	1826	1826	1856	1856	0
Adj Flow Rate, veh/h	118	0	113				0	367	372	287	433	0
Peak Hour Factor	0.92	0.92	0.92				0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	5	5	5				0	5	5	3	3	0
Cap, veh/h	207	0	185				0	796	675	586	1240	0
Arrive On Green	0.12	0.00	0.12				0.00	0.44	0.44	0.13	0.67	0.00
Sat Flow, veh/h	1718	0	1535				0	1826	1547	1767	1856	0
Grp Volume(v), veh/h	118	0	113				0	367	372	287	433	0
Grp Sat Flow(s),veh/h/ln	1718	0	1535				0	1826	1547	1767	1856	0
Q Serve(g_s), s	3.1	0.0	3.3				0.0	6.7	8.5	3.6	4.8	0.0
Cycle Q Clear(g_c), s	3.1	0.0	3.3				0.0	6.7	8.5	3.6	4.8	0.0
Prop In Lane	1.00		1.00				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	207	0	185				0	796	675	586	1240	0
V/C Ratio(X)	0.57	0.00	0.61				0.00	0.46	0.55	0.49	0.35	0.00
Avail Cap(c_a), veh/h	726	0	648				0	1157	980	1295	1240	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	19.7	0.0	19.8				0.0	9.4	9.9	5.8	3.4	0.0
Incr Delay (d2), s/veh	1.5	0.0	2.0				0.0	1.9	3.2	0.4	0.8	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
%ile BackOfQ(50%),veh/ln	1.1	0.0	1.1				0.0	2.5	2.8	0.8	1.1	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	21.2	0.0	21.8				0.0	11.3	13.1	6.1	4.2	0.0
LnGrp LOS	C	A	C				A	B	B	A	A	A
Approach Vol, veh/h		231						739			720	
Approach Delay, s/veh		21.5						12.2			5.0	
Approach LOS		C						B			A	

Timer - Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		36.6			11.0	25.7		10.7				
Change Period (Y+Rc), s		5.0			5.0	5.0		5.0				
Max Green Setting (Gmax), s		30.0			25.0	30.0		20.0				
Max Q Clear Time (g_c+I1), s		6.8			5.6	10.5		5.3				
Green Ext Time (p_c), s		7.7			0.5	10.2		0.5				

Intersection Summary			
HCM 6th Ctrl Delay		10.4	
HCM 6th LOS		B	



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	144	4	184	148	297	0	0	512	317
Future Volume (vph)	0	0	0	144	4	184	148	297	0	0	512	317
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)					5.5	5.5	5.5	5.5			5.5	
Lane Util. Factor					1.00	1.00	1.00	1.00			0.95	
Frpb, ped/bikes					1.00	1.00	1.00	1.00			0.99	
Flpb, ped/bikes					1.00	1.00	1.00	1.00			1.00	
Frt					1.00	0.85	1.00	1.00			0.94	
Flt Protected					0.95	1.00	0.95	1.00			1.00	
Satd. Flow (prot)					1742	1553	1719	1810			3301	
Flt Permitted					0.95	1.00	0.95	1.00			1.00	
Satd. Flow (perm)					1742	1553	1719	1810			3301	
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	0	0	0	162	4	207	166	334	0	0	575	356
RTOR Reduction (vph)	0	0	0	0	0	184	0	0	0	0	75	0
Lane Group Flow (vph)	0	0	0	0	166	23	166	334	0	0	856	0
Confl. Peds. (#/hr)							2					2
Heavy Vehicles (%)	0%	0%	0%	4%	4%	4%	5%	5%	5%	2%	2%	2%
Turn Type				Split	NA	Prot	Prot	NA			NA	
Protected Phases				7	7	7	1	5			2 3 4	
Permitted Phases												
Actuated Green, G (s)					13.9	13.9	13.0	30.7			82.8	
Effective Green, g (s)					13.9	13.9	13.0	30.7			82.8	
Actuated g/C Ratio					0.11	0.11	0.10	0.24			0.66	
Clearance Time (s)					5.5	5.5	5.5	5.5				
Vehicle Extension (s)					2.3	2.3	2.3	5.2				
Lane Grp Cap (vph)					191	171	177	440			2165	
v/s Ratio Prot					c0.10	0.01	c0.10	c0.18			c0.26	
v/s Ratio Perm												
v/c Ratio					0.87	0.13	0.94	0.76			0.40	
Uniform Delay, d1					55.3	50.7	56.2	44.3			10.1	
Progression Factor					1.00	1.00	1.00	1.00			0.60	
Incremental Delay, d2					31.1	0.2	49.1	8.9			0.1	
Delay (s)					86.4	50.9	105.3	53.2			6.1	
Level of Service					F	D	F	D			A	
Approach Delay (s)		0.0			66.7			70.5			6.1	
Approach LOS		A			E			E			A	

Intersection Summary			
HCM 2000 Control Delay	36.5	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.63		
Actuated Cycle Length (s)	126.2	Sum of lost time (s)	27.5
Intersection Capacity Utilization	54.5%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

HCM 6th Edition methodology does not support clustered intersections.

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	56	477	354	54	289	192
Future Volume (vph)	56	477	354	54	289	192
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	5.5	5.5	6.0	5.5	5.5
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	1863	1583	1770	1863	1719	1538
Flt Permitted	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (perm)	1863	1583	1770	1863	1719	1538
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	63	536	398	61	325	216
RTOR Reduction (vph)	0	127	0	0	0	46
Lane Group Flow (vph)	63	409	398	61	325	170
Heavy Vehicles (%)	2%	2%	2%	2%	5%	5%
Turn Type	NA	custom	Prot	NA	Prot	custom
Protected Phases	4	4 5 7	3	8	5 6 7	3 5 6 7
Permitted Phases		4				5 6 7
Actuated Green, G (s)	16.1	71.7	33.7	54.8	59.9	99.1
Effective Green, g (s)	16.1	71.7	33.7	54.8	59.9	99.1
Actuated g/C Ratio	0.13	0.57	0.27	0.43	0.47	0.79
Clearance Time (s)	5.5		5.5	6.0		
Vehicle Extension (s)	2.3		2.3	2.3		
Lane Grp Cap (vph)	237	899	472	808	815	1207
v/s Ratio Prot	0.03	c0.26	c0.22	0.03	c0.19	0.11
v/s Ratio Perm						
v/c Ratio	0.27	0.45	0.84	0.08	0.40	0.14
Uniform Delay, d1	49.7	15.9	43.8	20.9	21.5	3.3
Progression Factor	1.00	1.00	1.00	1.00	0.30	0.00
Incremental Delay, d2	2.7	0.8	16.6	0.2	0.5	0.1
Delay (s)	52.4	16.7	60.4	21.1	7.0	0.1
Level of Service	D	B	E	C	A	A
Approach Delay (s)	20.4			55.1	4.2	
Approach LOS	C			E	A	

Intersection Summary			
HCM 2000 Control Delay	24.9	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.65		
Actuated Cycle Length (s)	126.2	Sum of lost time (s)	27.5
Intersection Capacity Utilization	58.3%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

HCM 6th Edition methodology does not support clustered intersections.

Intersection	
Intersection Delay, s/veh	26.2
Intersection LOS	D

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	17	447	14	124	217	34	21	12	284	25	6	16
Future Vol, veh/h	17	447	14	124	217	34	21	12	284	25	6	16
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, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	18	481	15	133	233	37	23	13	305	27	6	17
Number of Lanes	1	1	0	1	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	2	2
HCM Control Delay	42.1	14.9	17.6	11.6
HCM LOS	E	B	C	B

Lane	NBLn1	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1
Vol Left, %	7%	100%	0%	100%	0%	53%
Vol Thru, %	4%	0%	97%	0%	86%	13%
Vol Right, %	90%	0%	3%	0%	14%	34%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	317	17	461	124	251	47
LT Vol	21	17	0	124	0	25
Through Vol	12	0	447	0	217	6
RT Vol	284	0	14	0	34	16
Lane Flow Rate	341	18	496	133	270	51
Geometry Grp	2	7	7	7	7	2
Degree of Util (X)	0.584	0.036	0.901	0.27	0.502	0.106
Departure Headway (Hd)	6.173	7.079	6.546	7.299	6.69	7.575
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	583	506	555	492	537	472
Service Time	4.213	4.82	4.288	5.048	4.438	5.647
HCM Lane V/C Ratio	0.585	0.036	0.894	0.27	0.503	0.108
HCM Control Delay	17.6	10.1	43.3	12.7	16	11.6
HCM Lane LOS	C	B	E	B	C	B
HCM 95th-tile Q	3.7	0.1	10.6	1.1	2.8	0.4

Intersection	
Int Delay, s/veh	0.9

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	764	6	33	402	1	48
Future Vol, veh/h	764	6	33	402	1	48
Conflicting Peds, #/hr	0	2	5	0	2	5
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	840	7	36	442	1	53

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	852	0	1365	854
Stage 1	-	-	-	-	849	-
Stage 2	-	-	-	-	516	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	787	-	162	358
Stage 1	-	-	-	-	419	-
Stage 2	-	-	-	-	599	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	783	-	151	355
Mov Cap-2 Maneuver	-	-	-	-	151	-
Stage 1	-	-	-	-	417	-
Stage 2	-	-	-	-	561	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.7	17.4
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	345	-	-	783	-
HCM Lane V/C Ratio	0.156	-	-	0.046	-
HCM Control Delay (s)	17.4	-	-	9.8	0
HCM Lane LOS	C	-	-	A	A
HCM 95th %tile Q(veh)	0.5	-	-	0.1	-

Intersection	
Intersection Delay, s/veh	17.5
Intersection LOS	C

Approach	EB	WB	SB
Entry Lanes	1	1	1
Conflicting Circle Lanes	1	1	1
Adj Approach Flow, veh/h	867	302	581
Demand Flow Rate, veh/h	893	308	598
Vehicles Circulating, veh/h	284	602	160
Vehicles Exiting, veh/h	473	575	750
Ped Vol Crossing Leg, #/h	3	0	0
Ped Cap Adj	1.000	1.000	1.000
Approach Delay, s/veh	25.7	10.4	9.0
Approach LOS	D	B	A

Lane	Left	Left	Left
Designated Moves	LT	TR	LR
Assumed Moves	LT	TR	LR
RT Channelized			
Lane Util	1.000	1.000	1.000
Follow-Up Headway, s	2.609	2.609	2.609
Critical Headway, s	4.976	4.976	4.976
Entry Flow, veh/h	893	308	598
Cap Entry Lane, veh/h	1033	747	1172
Entry HV Adj Factor	0.971	0.980	0.972
Flow Entry, veh/h	867	302	581
Cap Entry, veh/h	1002	732	1140
V/C Ratio	0.865	0.412	0.510
Control Delay, s/veh	25.7	10.4	9.0
LOS	D	B	A
95th %tile Queue, veh	11	2	3

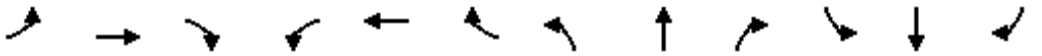
Intersection	
Int Delay, s/veh	5.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	157	37	0	130	0	616	74	87	350	86
Future Vol, veh/h	0	0	157	37	0	130	0	616	74	87	350	86
Conflicting Peds, #/hr	8	0	16	9	0	1	16	0	9	1	0	8
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	0	0	-	125	-	-	-	115	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	97	97	97	97	97	97	97	97	97	97	97	97
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	162	38	0	134	0	635	76	90	361	89

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	-	-	430	1365	-	683	-	0	0	720	0	0
Stage 1	-	-	-	682	-	-	-	-	-	-	-	-
Stage 2	-	-	-	683	-	-	-	-	-	-	-	-
Critical Hdwy	-	-	6.22	7.12	-	6.22	-	-	-	4.12	-	-
Critical Hdwy Stg 1	-	-	-	6.12	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	6.12	-	-	-	-	-	-	-	-
Follow-up Hdwy	-	-	3.318	3.518	-	3.318	-	-	-	2.218	-	-
Pot Cap-1 Maneuver	0	0	625	125	0	449	0	-	-	882	-	-
Stage 1	0	0	-	440	0	-	0	-	-	-	-	-
Stage 2	0	0	-	439	0	-	0	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	-	-	611	83	-	445	-	-	-	874	-	-
Mov Cap-2 Maneuver	-	-	-	83	-	-	-	-	-	-	-	-
Stage 1	-	-	-	440	-	-	-	-	-	-	-	-
Stage 2	-	-	-	285	-	-	-	-	-	-	-	-

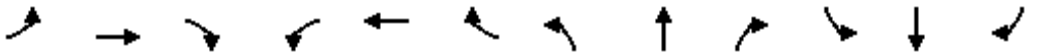
Approach	EB	WB	NB	SB
HCM Control Delay, s	13	30.8	0	1.6
HCM LOS	B	D		

Minor Lane/Major Mvmt	NBT	NBR	EBLn1	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	-	-	611	83	445	874	-	-
HCM Lane V/C Ratio	-	-	0.265	0.46	0.301	0.103	-	-
HCM Control Delay (s)	-	-	13	80.9	16.5	9.6	-	-
HCM Lane LOS	-	-	B	F	C	A	-	-
HCM 95th %tile Q(veh)	-	-	1.1	1.9	1.3	0.3	-	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	41	3	59	0	0	0	0	382	351	366	497	0
Future Volume (vph)	41	3	59	0	0	0	0	382	351	366	497	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0	5.0					5.0	5.0	5.0	5.0	
Lane Util. Factor		1.00	1.00					1.00	1.00	1.00	1.00	
Frpb, ped/bikes		1.00	0.92					1.00	1.00	1.00	1.00	
Flpb, ped/bikes		0.94	1.00					1.00	1.00	1.00	1.00	
Frt		1.00	0.85					1.00	0.85	1.00	1.00	
Flt Protected		0.96	1.00					1.00	1.00	0.95	1.00	
Satd. Flow (prot)		1680	1459					1863	1583	1770	1863	
Flt Permitted		0.96	1.00					1.00	1.00	0.34	1.00	
Satd. Flow (perm)		1680	1459					1863	1583	625	1863	
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)	44	3	63	0	0	0	0	406	373	389	529	0
RTOR Reduction (vph)	0	0	58	0	0	0	0	0	131	0	0	0
Lane Group Flow (vph)	0	47	5	0	0	0	0	406	242	389	529	0
Confl. Peds. (#/hr)	10		10									
Turn Type	Perm	NA	Perm					NA	Perm	pm+pt	NA	
Protected Phases		8						6		5	2	
Permitted Phases	8		8						6	2		
Actuated Green, G (s)		5.2	5.2					25.1	25.1	47.0	47.0	
Effective Green, g (s)		5.2	5.2					25.1	25.1	47.0	47.0	
Actuated g/C Ratio		0.08	0.08					0.40	0.40	0.76	0.76	
Clearance Time (s)		5.0	5.0					5.0	5.0	5.0	5.0	
Vehicle Extension (s)		2.3	2.3					6.9	6.9	2.3	6.9	
Lane Grp Cap (vph)		140	121					751	638	783	1407	
v/s Ratio Prot								0.22		c0.13	0.28	
v/s Ratio Perm		0.03	0.00						0.15	c0.24		
v/c Ratio		0.34	0.04					0.54	0.38	0.50	0.38	
Uniform Delay, d1		26.9	26.2					14.2	13.1	3.9	2.6	
Progression Factor		1.00	1.00					1.00	1.00	1.00	1.00	
Incremental Delay, d2		0.8	0.1					2.2	1.3	0.3	0.6	
Delay (s)		27.7	26.3					16.3	14.4	4.2	3.2	
Level of Service		C	C					B	B	A	A	
Approach Delay (s)		26.9			0.0			15.4			3.6	
Approach LOS		C			A			B			A	

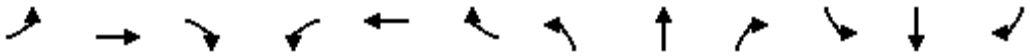
Intersection Summary			
HCM 2000 Control Delay	10.1	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.51		
Actuated Cycle Length (s)	62.2	Sum of lost time (s)	15.0
Intersection Capacity Utilization	78.5%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	41	3	59	0	0	0	0	382	351	366	497	0
Future Volume (veh/h)	41	3	59	0	0	0	0	382	351	366	497	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.96				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
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870				0	1870	1870	1870	1870	0
Adj Flow Rate, veh/h	44	3	63				0	406	373	389	529	0
Peak Hour Factor	0.94	0.94	0.94				0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2				0	2	2	2	2	0
Cap, veh/h	160	11	146				0	818	693	623	1305	0
Arrive On Green	0.10	0.10	0.10				0.00	0.44	0.44	0.16	0.70	0.00
Sat Flow, veh/h	1673	114	1521				0	1870	1585	1781	1870	0
Grp Volume(v), veh/h	47	0	63				0	406	373	389	529	0
Grp Sat Flow(s),veh/h/ln	1787	0	1521				0	1870	1585	1781	1870	0
Q Serve(g_s), s	1.2	0.0	1.9				0.0	7.5	8.4	4.9	5.8	0.0
Cycle Q Clear(g_c), s	1.2	0.0	1.9				0.0	7.5	8.4	4.9	5.8	0.0
Prop In Lane	0.94		1.00				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	171	0	146				0	818	693	623	1305	0
V/C Ratio(X)	0.27	0.00	0.43				0.00	0.50	0.54	0.62	0.41	0.00
Avail Cap(c_a), veh/h	738	0	628				0	1159	982	1264	1305	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	20.3	0.0	20.6				0.0	9.8	10.0	6.3	3.1	0.0
Incr Delay (d2), s/veh	0.5	0.0	1.2				0.0	2.1	3.0	0.6	0.9	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
%ile BackOfQ(50%),veh/ln	0.4	0.0	0.6				0.0	2.9	2.9	1.1	1.2	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	20.9	0.0	21.9				0.0	11.9	13.0	6.9	4.0	0.0
LnGrp LOS	C	A	C				A	B	B	A	A	A
Approach Vol, veh/h		110						779			918	
Approach Delay, s/veh		21.4						12.4			5.2	
Approach LOS		C						B			A	

Timer - Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		38.8			12.6	26.2		9.6				
Change Period (Y+Rc), s		5.0			5.0	5.0		5.0				
Max Green Setting (Gmax), s		30.0			25.0	30.0		20.0				
Max Q Clear Time (g_c+I1), s		7.8			6.9	10.4		3.9				
Green Ext Time (p_c), s		9.4			0.7	10.8		0.2				

Intersection Summary			
HCM 6th Ctrl Delay		9.3	
HCM 6th LOS		A	



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	182	0	257	128	298	0	0	641	281
Future Volume (vph)	0	0	0	182	0	257	128	298	0	0	641	281
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)					5.5	5.5	5.5	5.5			5.5	
Lane Util. Factor					1.00	1.00	1.00	1.00			0.95	
Frpb, ped/bikes					1.00	1.00	1.00	1.00			0.98	
Flpb, ped/bikes					1.00	1.00	1.00	1.00			1.00	
Frt					1.00	0.85	1.00	1.00			0.95	
Flt Protected					0.95	1.00	0.95	1.00			1.00	
Satd. Flow (prot)					1787	1599	1770	1863			3287	
Flt Permitted					0.95	1.00	0.95	1.00			1.00	
Satd. Flow (perm)					1787	1599	1770	1863			3287	
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)	0	0	0	194	0	273	136	317	0	0	682	299
RTOR Reduction (vph)	0	0	0	0	0	234	0	0	0	0	36	0
Lane Group Flow (vph)	0	0	0	0	194	39	136	317	0	0	945	0
Confl. Peds. (#/hr)							10					10
Heavy Vehicles (%)	0%	0%	0%	1%	1%	1%	2%	2%	2%	3%	3%	3%
Turn Type				Split	NA	Prot	Prot	NA			NA	
Protected Phases				7	7	7	1	5			2 3 4	
Permitted Phases												
Actuated Green, G (s)					17.2	17.2	12.7	29.2			74.2	
Effective Green, g (s)					17.2	17.2	12.7	29.2			74.2	
Actuated g/C Ratio					0.14	0.14	0.11	0.24			0.62	
Clearance Time (s)					5.5	5.5	5.5	5.5				
Vehicle Extension (s)					2.3	2.3	2.3	5.2				
Lane Grp Cap (vph)					254	228	186	451			2022	
v/s Ratio Prot					c0.11	0.02	0.08	c0.17			c0.29	
v/s Ratio Perm												
v/c Ratio					0.76	0.17	0.73	0.70			0.47	
Uniform Delay, d1					49.7	45.4	52.3	41.7			12.5	
Progression Factor					1.00	1.00	1.00	1.00			0.62	
Incremental Delay, d2					12.0	0.2	12.6	6.3			0.1	
Delay (s)					61.7	45.6	64.9	48.1			7.8	
Level of Service					E	D	E	D			A	
Approach Delay (s)		0.0			52.3			53.1			7.8	
Approach LOS		A			D			D			A	

Intersection Summary			
HCM 2000 Control Delay	29.5	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.66		
Actuated Cycle Length (s)	120.6	Sum of lost time (s)	27.5
Intersection Capacity Utilization	57.9%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

HCM 6th Edition methodology does not support clustered intersections.

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	122	540	389	96	265	290
Future Volume (vph)	122	540	389	96	265	290
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	5.5	5.5	6.0	5.5	5.5
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	1863	1583	1770	1863	1787	1599
Flt Permitted	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (perm)	1863	1583	1770	1863	1787	1599
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	126	557	401	99	273	299
RTOR Reduction (vph)	0	114	0	0	0	26
Lane Group Flow (vph)	126	443	401	99	273	273
Heavy Vehicles (%)	2%	2%	2%	2%	1%	1%
Turn Type	NA	custom	Prot	NA	Prot	custom
Protected Phases	4	4 5 7	3	8	5 6 7	3 5 6 7
Permitted Phases		4				5 6 7
Actuated Green, G (s)	16.1	73.5	25.6	46.7	62.4	93.5
Effective Green, g (s)	16.1	73.5	25.6	46.7	62.4	93.5
Actuated g/C Ratio	0.13	0.61	0.21	0.39	0.52	0.78
Clearance Time (s)	5.5		5.5	6.0		
Vehicle Extension (s)	2.3		2.3	2.3		
Lane Grp Cap (vph)	248	964	375	721	924	1239
v/s Ratio Prot	0.07	c0.28	c0.23	0.05	0.15	c0.17
v/s Ratio Perm						
v/c Ratio	0.51	0.46	1.07	0.14	0.30	0.22
Uniform Delay, d1	48.6	12.8	47.5	23.9	16.6	3.7
Progression Factor	1.00	1.00	1.00	1.00	0.37	0.06
Incremental Delay, d2	7.3	0.8	66.1	0.4	0.3	0.2
Delay (s)	55.8	13.6	113.6	24.3	6.4	0.4
Level of Service	E	B	F	C	A	A
Approach Delay (s)	21.4			95.9	3.2	
Approach LOS	C			F	A	

Intersection Summary			
HCM 2000 Control Delay	36.7	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.68		
Actuated Cycle Length (s)	120.6	Sum of lost time (s)	27.5
Intersection Capacity Utilization	64.2%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

HCM 6th Edition methodology does not support clustered intersections.

CITY OF WEST LINN, CLACKAMAS COUNTY **WILLAMETTE FALLS DR at 12TH ST, City of West Linn, Clackamas County, 01/01/2016 to 12/31/2020**

1 - 3 of 3 Crash records shown.

SER# / INVEST / RD DPT / UNLOC?	S P E D	D M R J S W A L G N H R C S 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 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
00247	N	N N N	01/20/2018	16	WILLAMETTE FALLS DR	INTER	CROSS	N	N	CLD	PED	01	NONE 0	STRGHT										28,19
CITY			SA	0	12TH ST	SW		STOP SIGN	N	DRY	PED		PRVTE	SW-NE									000	00
N			6P			06	0		N	DLIT	INJ		PSNGR CAR		01	DRVR	NONE	59	F	OR-Y		029	000	28
N			45 20 40.25	-122 39 15.03																OR<25				
														- STRGHT	01	PED	INJC	55	F		I	XWLK 000	034	19
														SE NW										
02260	N	N N N	07/05/2019	16	WILLAMETTE FALLS DR	INTER	CROSS	N	N	CLR	ANGL-OTH	01	NONE 0	STRGHT										02
NONE			FR	0	12TH ST	CN		STOP SIGN	N	DRY	ANGL		PRVTE	NE-SW									015	00
N			7P			03	0		N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	18	F	OR-Y		028	000	02
N			45 20 40.26	-122 39 15.04																OR<25				
												02	NONE 0	STRGHT										
													PRVTE	NW-SE									015	00
													PSNGR CAR		01	DRVR	INJC	71	M	OR-Y		000	000	00
																				OR<25				
02672	N	N N N N	Y 09/22/2020	16	WILLAMETTE FALLS DR	INTER	CROSS	N	N	CLR	S-OTHER	01	NONE 9	TURN-L										14,08
CITY			TU	0	12TH ST	CN		L-GRN-SIG	N	DRY	TURN		N/A	E -S									000	00
N			11A			03	0		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	00	Unk	UNK		000	000	00
N			45 20 40.24	-122 39 15																UNK				
												02	NONE 9	TURN-L										
													N/A	E -S									000	00
													PSNGR CAR		01	DRVR	NONE	00	Unk	UNK		000	000	00
																				UNK				

CITY OF WEST LINN, CLACKAMAS COUNTY **WILLAMETTE FALLS DR at 11TH ST, City of West Linn, Clackamas County, 01/01/2016 to 12/31/2020**

1 - 1 of 1 Crash records shown.

SER# / INVEST / RD DPT / UNLOC?	S P E D	D E A C	M R J S W U I C O G N H R 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 QTY / OWNER / TYPE	MOVE / FROM / TO	P#	PRTC TYPE	INJ SVRTY	A G E	S X	LICNS RES	PED LOC	ERROR	ACT EVENT	CAUSE
04421	N	N	N N N N N	12/02/2018	16	WILLAMETTE FALLS DR	INTER	3-LEG	N	N	CLD	BIKE	01	NONE 0	PARKNG										02
CITY				SU	0	11TH ST	CN		UNKNOWN	N	DRY	PARK		PRVTE	NE-SW									008	00
N				1P			01	0		N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	48	M	OR-Y		027	000	02
N				45 20 41.67	-122 39 10.16																OR<25				
															-										
															STRGHT	01	BIKE	INJB	70	M		ROAD	000	034	00
															NE SW										

CITY OF WEST LINN, CLACKAMAS COUNTY **WILLAMETTE FALLS DR at 10TH ST, City of West Linn, Clackamas County, 01/01/2016 to 12/31/2020**

1 - 4 of 4 Crash records shown.

SER# / INVEST / RD DPT / UNLOC?	S P E D	D R A L C	M J U G S	S I N V	W C O H L	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
00173	N	N	N	N	N	01/15/2018	16	WILLAMETTE FALLS DR	INTER	3-LEG	N	N	RAIN	PED	01	NONE 0	TURN-L										02,19
CITY			MO			0		10TH ST	N		STOP SIGN	N	WET	PED		PRVTE	SW-N								015	00
N			6P						05	0		N	DARK	INJ		PSNGR CAR		01	DRVR	NONE	68	M	OR-Y		029	000	02
N			45 20 42.76			-122 39 6.34																	OR<25				
																	- STRGHT E W	01	PED	INJC	21	M		I XWLK	000	034	19
00673	Y	Y	N	N		02/22/2018	16	WILLAMETTE FALLS DR	INTER	3-LEG	N	N	CLD	S-1STOP	01	NONE 9	STRGHT										01,29
CITY			TH			0		10TH ST	E		TRF SIGNAL	N	DRY	REAR		N/A	NE-SW								000	00
N			4P						06	0		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	00	Unk	UNK		000	000	00
N			45 20 42.76			-122 39 6.35																	UNK				
															02	NONE 9	STOP										
																N/A	NE-SW									011	00
																PSNGR CAR		01	DRVR	NONE	00	Unk	UNK		000	000	00
																							UNK				
00957	N	N	N	N		03/11/2017	16	WILLAMETTE FALLS DR	INTER	3-LEG	N	N	UNK	ANGL-OTH	01	NONE 9	TURN-L										02
NONE			SA			0		10TH ST	CN		STOP SIGN	N	WET	TURN		N/A	NW-NE								015	00
N			9P						03	0		N	DLIT	PDO		PSNGR CAR		01	DRVR	NONE	00	Unk	UNK		000	000	00
N			45 20 42.76			-122 39 6.34																	UNK				
															02	NONE 9	TURN-L										
																N/A	SW-NW									015	00
																PSNGR CAR		01	DRVR	NONE	00	Unk	UNK		000	000	00
																							UNK				
03508	N	N	N	N	N	10/08/2019	16	WILLAMETTE FALLS DR	INTER	3-LEG	N	N	CLR	ANGL-OTH	01	NONE	TURN-L										02,27
CITY			TU			0		10TH ST	CN		STOP SIGN	N	DRY	ANGL		PRVTE	N -E								015	00
N			3P						01	0		N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	28	M	OR-Y		028	000	02,27
N			45 20 42.78			-122 39 6.35																	OR<25				
															02	NONE	STRGHT										
																PRVTE	E -W									015	00
																PSNGR CAR		01	DRVR	NONE	36	M	OR-Y		000	000	00
																							OR<25				
															02	NONE	STRGHT										
																PRVTE	E -W									015	00
																PSNGR CAR		02	PSNG	INJC	73	F			000	000	00

CITY OF WEST LINN, CLACKAMAS COUNTY **10TH ST at 8TH AVE, City of West Linn, Clackamas County, 01/01/2016 to 12/31/2020**

1 - 3 of 3 Crash records shown.

SER# / INVEST / RD DPT / UNLOC?	S P E D	D M R J S W A L G N H R C S 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 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
04630	N N N N N N		11/04/2017	17	8TH AVE	INTER	CROSS	N	N	CLD	S-1STOP	01	NONE 0	STRGHT										29
CITY			SA		10TH ST	N		STOP SIGN	N	WET	REAR		PRVTE	N -S									000	00
N			12P			06	0		N	DAY	INJ		PSNGR CAR		01	DRVR	INJC	36	F	OR-Y		026	000	29
N			45 20 45.35	-122 39 6.59	0064AI100S00															OR<25				
												02	NONE 0	STOP										
													PRVTE	N -S									011	00
													PSNGR CAR		01	DRVR	INJC	36	F	OR-Y		000	000	00
																				OR<25				
01174	N N N N		04/24/2020	16	8TH AVE	INTER	CROSS	N	N	CLR	S-1STOP	01	NONE 9	STRGHT										29
NONE			FR		10TH ST	N		STOP SIGN	N	DRY	REAR		N/A	N -S									000	00
N			2P			06	0		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	00	Unk	UNK		000	000	00
N			45 20 45.38	-122 39 6.62	0064AI100S00															UNK				
												02	NONE 9	STOP										
													N/A	N -S									011	00
													PSNGR CAR		01	DRVR	NONE	00	Unk	UNK		000	000	00
																				UNK				
02222	N N N N		05/17/2017	17	8TH AVE	INTER	CROSS	N	N	CLR	ANGL-OTH	01	NONE 9	STRGHT										03
NONE			WE		10TH ST	CN		STOP SIGN	N	DRY	ANGL		N/A	S -N									000	00
N			UNK			02	0		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	00	Unk	UNK		000	000	00
N			45 20 45.35	-122 39 6.59	0064AI100S00															UNK				
												02	NONE 9	STRGHT										
													N/A	E -W									000	00
													PSNGR CAR		01	DRVR	NONE	00	Unk	UNK		000	000	00
																				UNK				

SER# / INVEST / RD DPT / UNLOC?	S P E D	D M R J S W A L G N H R C S 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 QTY / OWNER	MOVE / FROM / TO	PRTC / INJ	P# TYPE / SVRTY	A G E	S E X	LICNS / RES	PED LOC	ERROR	ACT EVENT	CAUSE
00384	N	N N N N N N	01/28/2017	17	8TH CT	INTER	CROSS	N	N	CLR	O-1 L-TURN	01	NONE 9	STRGHT									02,08
CITY			SA		10TH ST	CN		TRF SIGNAL	N	DRY	TURN		N/A	S -N								000	00
N			5P			04	0		N	DLIT	PDO		PSNGR CAR		01	DRVR	NONE	00	Unk	UNK		000	000	00
N			45 20 45.35	-122 39 6.59	0064AI100S00															UNK				
												02	NONE 9	TURN-L									
													N/A	N -E								000	00
													PSNGR CAR		01	DRVR	NONE	00	Unk	UNK		000	000	00
																				UNK			
05434	N	N N N N	12/19/2017	17	8TH CT	INTER	CROSS	N	N	UNK	ANGL-OTH	01	NONE 9	STRGHT									02
NONE			TU		10TH ST	CN		STOP SIGN	N	UNK	ANGL		N/A	N -S								000	00
N			3P			01	0		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	00	Unk	UNK		000	000	00
N			45 20 45.35	-122 39 6.59	0064AI100S00															UNK				
												02	NONE 9	STRGHT									
													N/A	E -W								015	00
													PSNGR CAR		01	DRVR	NONE	00	Unk	UNK		000	000	00
																				UNK			
01376	N	N N N N	04/24/2018	16	8TH CT	INTER	CROSS	N	N	CLR	ANGL-OTH	01	NONE 9	STRGHT									02
NONE			TU		10TH ST	CN		STOP SIGN	N	DRY	ANGL		N/A	E -W								015	00
N			6P			01	0		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	00	Unk	UNK		000	000	00
N			45 20 45.36	-122 39 6.59	0064AI100S00															UNK				
												02	NONE 9	STRGHT									
													N/A	S -N								000	00
													PSNGR CAR		01	DRVR	NONE	00	Unk	UNK		000	000	00
																				UNK			

CITY OF WEST LINN, CLACKAMAS COUNTY **10TH ST at EB ENFR 10TH, City of West Linn, Clackamas County, 01/01/2016 to 12/31/2020**

1 - 4 of 4 Crash records shown.

SER# / INVEST / RD DPT / UNLOC?	S P E D	D R A C	M J L S	S U G V	W I N L	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
00811	N	N	N	N		03/01/2017	11	10TH ST	INTER	CROSS	N	N	CLR	S-1STOP	01	NONE 0	STRGHT										29
NONE						WE		EB ENFR 10TH	N		L-GRN-SIG	N	DRY	REAR		PRVTE	N -S									000	00
N						6P			06	0		N	DLIT	INJ		PSNGR CAR		01	DRVR	NONE	71	M	OR-Y		026	000	29
N						45 20 48.43	-122 39 6.6	0064AI100S00															OR>25				
															02	NONE 0	STOP										
																PRVTE	N -S									012	00
																PSNGR CAR		01	DRVR	INJC	25	F	OR-Y		000	000	00
																							OR<25				
03159	N	N	N	N	N	09/12/2019	16	10TH ST	INTER	CROSS	N	N	CLR	S-1STOP	01	NONE 1	STRGHT										29
CITY						TH		EB ENFR 10TH	S		TRF SIGNAL	N	DRY	REAR		N/A	S -N									000	00
N						7A			06	0		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	00	Unk	UNK		000	000	00
N						45 20 48.43	-122 39 6.6	0064AI100S00															UNK				
															02	NONE 9	STOP										
																N/A	S -N									011	00
																PSNGR CAR		01	DRVR	NONE	00	Unk	UNK		000	000	00
																							UNK				
01926	N	N	N	N	N	06/11/2019	16	10TH ST	INTER	CROSS	N	N	CLR	S-1STOP	01	NONE 9	STRGHT										16,07,29
CITY						TU		EB ENFR 10TH	S		TRF SIGNAL	N	DRY	REAR		N/A	S -N									000	00
N						12P			06	0		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	00	Unk	UNK		000	000	00
N						45 20 48.43	-122 39 6.59	0064AI100S00															UNK				
															02	NONE 9	STOP										
																N/A	S -N									011	00
																PSNGR CAR		01	DRVR	NONE	00	Unk	UNK		000	000	00
																							UNK				
03654	N	N	N	N	N	08/10/2016	11	10TH ST	INTER	CROSS	N	N	CLR	O-1 L-TURN	01	NONE 0	STRGHT										02,08
CITY						WE		EB ENFR 10TH	CN		TRF SIGNAL	N	DRY	TURN		PRVTE	S -N									000	00
N						5P			04	0		N	DAY	INJ		PSNGR CAR		01	DRVR	INJC	44	F	OR-Y		000	000	00
N						45 20 48.43	-122 39 6.6	0064AI100S00															OR<25				
															02	NONE 0	TURN-L										
																PRVTE	N -E									000	00
																PSNGR CAR		01	DRVR	NONE	25	M	OR-Y		028,004	000	02,08
																							OR<25				

CITY OF WEST LINN, CLACKAMAS COUNTY **10TH ST at EB EXTO 10TH, City of West Linn, Clackamas County, 01/01/2016 to 12/31/2020**

SER# / INVEST RD DPT UNLOC?	S P E D	A L C	D M R G S	J N V	S 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 OWNER TYPE	MOVE FROM TO	P#	PRTC TYPE	INJ SVRTY	A G E	S E X	LICNS RES	PED LOC	ERROR	ACT	EVENT	CAUSE

Disclaimer: The information contained in this report is compiled from individual driver and police crash reports submitted to the Oregon Department of Transportation as required in ORS 811.720. The Crash Analysis and Reporting Unit is committed to providing the highest quality crash data to customers. However, because submittal of crash report forms is the responsibility of the individual driver, the Crash Analysis and Reporting Unit can not guarantee that all qualifying crashes are represented nor can assurances be made that all details pertaining to a single crash are accurate. Note: Legislative changes to DMV's vehicle crash reporting requirement, effective 01/01/2004, may result in fewer property damage only crashes being eligible for inclusion in the Statewide Crash Data File.

OREGON.. DEPARTMENT OF TRANSPORTATION - TRANSPORTATION DEVELOPMENT DIVISION
TRANSPORTATION DATA SECTION - CRASH ANAYLYSIS AND REPORTING UNIT
URBAN NON-SYSTEM CRASH LISTING

CITY OF WEST LINN, CLACKAMAS COUNTY

10TH ST at WB ENFR 10TH, City of West Linn, Clackamas County, 01/01/2016 to 12/31/2020

1 - 2 of 2 Crash records shown.

SER# / INVEST / RD DPT / UNLOC?	S P E D / D M R J S W / A U I C O / L G N H R / C S 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 QTY / OWNER / TYPE	MOVE / FROM / TO	P#	PRTC TYPE	INJ SVRTY	AGE	SEX	LICNS RES	PED LOC	ERROR	ACT	EVENT	CAUSE
02389	N N N N	09/01/2020	16	10TH ST	INTER	CROSS	N	N	CLR	S-1STOP	01	NONE 0	STRGHT										013	29
NONE		TU		WB ENFR 10TH	N		TRF SIGNAL	N	DRY	REAR		PRVTE	N -S									000		00
N		12P			06	0		N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	33	M	OTH-Y OR<25		026	000		29
N		45 20 54.06	-122 39 6.69	0064AI100S00																				
											02	NONE 0	STOP											
												PRVTE	N -S									011	013	00
												PSNGR CAR		01	DRVR	NONE	19	M	OR-Y OR<25		000	000		00
											03	NONE 0	STOP											
												PRVTE	N -S									022		00
												PSNGR CAR		01	DRVR	INJC	19	M	OR-Y OR<25		000	000		00
03493	N N N N N N	08/01/2016	11	10TH ST	INTER	CROSS	N	N	CLR	S-1STOP	01	NONE 0	STRGHT										013	07
CITY		MO		WB ENFR 10TH	S		TRF SIGNAL	N	DRY	REAR		PRVTE	S -N									000		00
N		4P			06	0		N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	20	F	OR-Y OR<25		043,026	000		07
N		45 20 54.04	-122 39 6.69	0064AI100S00																				
											02	NONE 0	STOP											
												PRVTE	S -N									012	013	00
												PSNGR CAR		01	DRVR	NONE	19	M	OR-Y OR<25		000	000		00
											03	NONE 0	STOP											
												PRVTE	S -N									022		00
												MTRCYCLE		01	DRVR	INJC	67	M	OR-Y OR<25		000	000		00

OREGON.. DEPARTMENT OF TRANSPORTATION - TRANSPORTATION DEVELOPMENT DIVISION
TRANSPORTATION DATA SECTION - CRASH ANAYLYSIS AND REPORTING UNIT
URBAN NON-SYSTEM CRASH LISTING

CITY OF WEST LINN, CLACKAMAS COUNTY

10TH ST at WB EXTO 10TH, City of West Linn, Clackamas County, 01/01/2016 to 12/31/2020

1 - 1 of 1 Crash records shown.

SER# / INVEST / RD DPT / UNLOC?	S P E E D / D A L C / 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	SPCL USE / TRLR QTY / OWNER / V# TYPE	MOVE / FROM / TO	PRTC / P# TYPE	INJ / SVRTY	A / G / E	S / E / X	LICNS / RES	PED / LOC	ERROR	ACT	EVENT	CAUSE
02833	N N N N	08/13/2018	11	10TH ST	INTER	CROSS	N	N	CLR	S-1STOP	01 NONE 9	STRGHT										29
NONE		MO		WB EXTO 10TH	SW		TRF SIGNAL	N	DRY	REAR	N/A	E -W								000		00
N		10A			06	0		N	DAY	PDO	PSNGR CAR		01 DRVR	NONE	00	Unk	UNK		000	000		00
N		45 20 54.04	-122 39 6.68	0064AK100S00													UNK					
											02 NONE 9	STOP										
											N/A	E -W								012		00
											PSNGR CAR		01 DRVR	NONE	00	Unk	UNK		000	000		00
																	UNK					

CITY OF WEST LINN, CLACKAMAS COUNTY **10TH ST at BLANKENSHIP RD, City of West Linn, Clackamas County, 01/01/2016 to 12/31/2020**

1 - 2 of 2 Crash records shown.

SER# / INVEST / RD DPT / UNLOC?	S P E D	D M R J S W A L G N H R C S 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 QTY / OWNER	MOVE / FROM / TO	P#	PRTC TYPE	INJ SVRTY	A G E	S E X	LICNS RES	PED LOC	ERROR	ACT	EVENT	CAUSE
01918	N N N N		06/04/2018	16	BLANKENSHIP RD	INTER	3-LEG	N	N	CLR	ANGL-OTH	01	NONE 9	TURN-R										08
NONE			MO		10TH ST	SE		TRF SIGNAL	N	DRY	TURN		N/A	S -E									000		00
N			9A			06	2		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	00	Unk	UNK		000	000		00
N			45 20 56.41	-122 39 6.65	0064AI100S00															UNK					
												02	NONE 9	TURN-L											
													N/A	SE-S									000		00
													PSNGR CAR		01	DRVR	NONE	00	Unk	UNK		000	000		00
																				UNK					
00067	N N N N N N		01/06/2017	17	BLANKENSHIP RD	INTER	3-LEG	N	N	CLR	S-1STOP	01	NONE 9	STRGHT										082	29
CITY			FR		10TH ST	S		TRF SIGNAL	N	UNK	REAR		N/A	S -N									000		00
N			8A			06	2		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	00	Unk	UNK		000	000		00
N			45 20 56.41	-122 39 6.65	0064AI100S00															UNK					
												02	NONE 9	STOP											
													N/A	S -N									012		00
													PSNGR CAR		01	DRVR	NONE	00	Unk	UNK		000	000		00
																				UNK					

CITY OF WEST LINN, CLACKAMAS COUNTY **10TH ST at SALAMO RD, City of West Linn, Clackamas County, 01/01/2016 to 12/31/2020**

1 - 4 of 4 Crash records shown.

SER# / INVEST / RD DPT / UNLOC?	S P E D C	D R E A L	M J U G S	S I N V	W C H L	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
02769	N	N	N	N	N	N	06/20/2016	17	SALAMO RD	INTER	3-LEG	N	Y	CLR	FIX OBJ	01	NONE 9	STRGHT									054	08
CITY			MO				10TH ST		SE		TRF SIGNAL	N	DRY	FIX			N/A	SW-NE									000	00
N			5P						09	2		N	DAY	PDO			SEMI TOW		01	DRVR	NONE	00	Unk	UNK		000	000	00
N			45 20 56.41		-122 39 6.65		0064AI100S00																	UNK				
01076	N	N	N	N			03/21/2017	17	SALAMO RD	INTER	3-LEG	N	N	RAIN	S-1STOP	01	NONE 9	STRGHT										29
NO RPT			TU				10TH ST		SE		TRF SIGNAL	N	WET	REAR			N/A	NE-SW									000	00
N			8P						09	2		N	DUSK	PDO			PSNGR CAR		01	DRVR	NONE	00	Unk	UNK		000	000	00
N			45 20 56.41		-122 39 6.65		0064AI100S00																	UNK				
																02	NONE 9	STOP										
																	N/A	NE-SW									011	00
																	PSNGR CAR		01	DRVR	NONE	00	Unk	UNK		000	000	00
																								UNK				
00775	N	Y	N	N	N	N	02/26/2017	17	SALAMO RD	INTER	3-LEG	N	N	RAIN	ANGL-STP	01	NONE 9	TURN-R										08
CITY			SU		0		10TH ST		SE		TRF SIGNAL	N	WET	TURN			N/A	S -SE									000	00
N			4P						06	2		N	DAY	PDO			PSNGR CAR		01	DRVR	NONE	00	Unk	UNK		000	000	00
N			45 20 56.41		-122 39 6.65																			UNK				
																02	NONE 9	STOP										
																	N/A	SE-NW									012	00
																	PSNGR CAR		01	DRVR	NONE	00	Unk	UNK		000	000	00
																								UNK				
00187	N	N	N	N			01/17/2019	16	SALAMO RD	INTER	3-LEG	N	N	CLD	O-1STOP	01	NONE 0	STRGHT										05
NO RPT			TH		0		10TH ST		SE		TRF SIGNAL	N	DRY	HEAD			PRVTE	NW-SE									000	00
N			4P						06	2		N	DAY	INJ			PSNGR CAR		01	DRVR	NONE	28	F	OR-Y		080	000	05
N			45 20 56.41		-122 39 6.66																			OR<25				
																02	NONE 0	STOP										
																	PRVTE	SE-NW									012	00
																	PSNGR CAR		01	DRVR	INJB	75	F	OR-Y		000	000	00
																								OR<25				

Preliminary Traffic Signal Warrant Analysis

Project Name: Willamette Falls Mixed-Use Building
Intersection: Willamette Falls Drive at 12th Street
Scenario: 2025 Background plus Site Trips Conditions

Number of Major Street Lanes: 1 PM Peak Hour Volume 710 (sum of both approaches)
Number of Minor Street Lanes 1 PM Peak Hour Volume 245 (highest-volume approach)[a]
Posted or 85th percentile speed > 40 mph: No
Isolated Population Less than 10,000: No

Warrant 1, Eight-Hour Vehicular Volume

Condition A - Minimum Vehicular Volume

Number of lanes for moving traffic on each approach		Vehicles per hour on major street (total of both approaches)				Vehicles per hour on minor street (total of both approaches)			
Major Street	Minor Street	100%	80%	70%	56%	100%	80%	70%	56%
1	1	500	400	350	280	150	120	105	84
2 or more	1	600	480	420	336	150	120	105	84
2 or more	2 or more	600	480	420	336	200	160	140	112
1	2 or more	500	400	350	280	200	160	140	112

Condition B - Interruption of Continuous Traffic

Number of lanes for moving traffic on each approach		Vehicles per hour on major street (total of both approaches)				Vehicles per hour on minor street (total of both approaches)			
Major Street	Minor Street	100%	80%	70%	56%	100%	80%	70%	56%
1	1	750	600	525	420	75	60	53	42
2 or more	1	900	720	630	504	75	60	53	42
2 or more	2 or more	900	720	630	504	100	80	70	56
1	2 or more	750	600	525	420	100	80	70	56

Warrant Anaylsis Calculations	8th Highest Hour[b]	Minimum Volume	Warrant Satisfied?
Condition A - Minimum Vehicular Volume			
Major Street Volume	401	500	
Minor Street Volume	138	150	**No**
Condition B - Interruption of Continuous Traffic			
Major Street Volume	401	750	
Minor Street Volume	138	75	**No**
Combination Warrant[c]			
Major Street Volume	401	600	
Minor Street Volume	138	120	**No**

[a] Minor-Street right turn volumes are reduced to account for the impact of right-turns on red.

[b] Eighth-highest hour volumes are calculated as 5.65 percent of the expected daily traffic volume.

[c] This warrant should be used only after adequate trial of other alternatives has failed to solve traffic problems.

Preliminary Traffic Signal Warrant Analysis

Project Name: Willamette Falls Mixed-Use Building
Intersection: Willamette Falls Drive at 11th Street
Scenario: 2025 Background plus Site Trips Conditions

Number of Major Street Lanes: 1 — PM Peak Hour Volume 1209 (sum of both approaches)
Number of Minor Street Lanes 1 — PM Peak Hour Volume 37 (highest-volume approach)[a]
Posted or 85th percentile speed > 40 mph: No
Isolated Population Less than 10,000: No

Warrant 1, Eight-Hour Vehicular Volume

Condition A - Minimum Vehicular Volume

Number of lanes for moving traffic on each approach		Vehicles per hour on major street (total of both approaches)				Vehicles per hour on minor street (total of both approaches)			
Major Street	Minor Street	100%	80%	70%	56%	100%	80%	70%	56%
1	1	500	400	350	280	150	120	105	84
2 or more	1	600	480	420	336	150	120	105	84
2 or more	2 or more	600	480	420	336	200	160	140	112
1	2 or more	500	400	350	280	200	160	140	112

Condition B - Interruption of Continuous Traffic

Number of lanes for moving traffic on each approach		Vehicles per hour on major street (total of both approaches)				Vehicles per hour on minor street (total of both approaches)			
Major Street	Minor Street	100%	80%	70%	56%	100%	80%	70%	56%
1	1	750	600	525	420	75	60	53	42
2 or more	1	900	720	630	504	75	60	53	42
2 or more	2 or more	900	720	630	504	100	80	70	56
1	2 or more	750	600	525	420	100	80	70	56

Warrant Anaylsis Calculations	8th Highest Hour[b]	Minimum Volume	Warrant Satisfied?
Condition A - Minimum Vehicular Volume			
Major Street Volume	683	500	
Minor Street Volume	21	150	**No**
Condition B - Interruption of Continuous Traffic			
Major Street Volume	683	750	
Minor Street Volume	21	75	**No**
Combination Warrant[c]			
Major Street Volume	683	600	
Minor Street Volume	21	120	**No**

[a] Minor-Street right turn volumes are reduced to account for the impact of right-turns on red.

[b] Eighth-highest hour volumes are calculated as 5.65 percent of the expected daily traffic volume.

[c] This warrant should be used only after adequate trial of other alternatives has failed to solve traffic problems.

Preliminary Traffic Signal Warrant Analysis

Project Name: Willamette Falls Mixed-Use Building
Intersection: Willamette Falls Drive at 10th Street
Scenario: 2025 Background plus Site Trips Conditions

Number of Major Street Lanes: 2 PM Peak Hour Volume 1114 (sum of both approaches)
Number of Minor Street Lanes 2 PM Peak Hour Volume 422 (highest-volume approach)[a]
Posted or 85th percentile speed > 40 mph: No
Isolated Population Less than 10,000: No

Warrant 1, Eight-Hour Vehicular Volume

Condition A - Minimum Vehicular Volume

Number of lanes for moving traffic on each approach		Vehicles per hour on major street (total of both approaches)				Vehicles per hour on minor street (total of both approaches)			
Major Street	Minor Street	100%	80%	70%	56%	100%	80%	70%	56%
1	1	500	400	350	280	150	120	105	84
2 or more	1	600	480	420	336	150	120	105	84
2 or more	2 or more	600	480	420	336	200	160	140	112
1	2 or more	500	400	350	280	200	160	140	112

Condition B - Interruption of Continuous Traffic

Number of lanes for moving traffic on each approach		Vehicles per hour on major street (total of both approaches)				Vehicles per hour on minor street (total of both approaches)			
Major Street	Minor Street	100%	80%	70%	56%	100%	80%	70%	56%
1	1	750	600	525	420	75	60	53	42
2 or more	1	900	720	630	504	75	60	53	42
2 or more	2 or more	900	720	630	504	100	80	70	56
1	2 or more	750	600	525	420	100	80	70	56

Warrant Anaylsis Calculations	8th Highest Hour[b]	Minimum Volume	Warrant Satisfied?
Condition A - Minimum Vehicular Volume			
Major Street Volume	629	600	
Minor Street Volume	238	200	**Yes**
Condition B - Interruption of Continuous Traffic			
Major Street Volume	629	900	
Minor Street Volume	238	100	**No**
Combination Warrant[c]			
Major Street Volume	629	720	
Minor Street Volume	238	160	**No**

[a] Minor-Street right turn volumes are reduced to account for the impact of right-turns on red.

[b] Eighth-highest hour volumes are calculated as 5.65 percent of the expected daily traffic volume.

[c] This warrant should be used only after adequate trial of other alternatives has failed to solve traffic problems.

Preliminary Traffic Signal Warrant Analysis

Project Name: Willamette Falls Mixed-Use Building
Intersection: 10th Street at 8th Avenue/8th Court
Scenario: 2025 Background plus Site Trips Conditions

Number of Major Street Lanes: 1 — PM Peak Hour Volume 1030 (sum of both approaches)
Number of Minor Street Lanes 1 — PM Peak Hour Volume 147 (highest-volume approach)[a]
Posted or 85th percentile speed > 40 mph: No
Isolated Population Less than 10,000: No

Warrant 1, Eight-Hour Vehicular Volume

Condition A - Minimum Vehicular Volume

Number of lanes for moving traffic on each approach		Vehicles per hour on major street (total of both approaches)				Vehicles per hour on minor street (total of both approaches)			
Major Street	Minor Street	100%	80%	70%	56%	100%	80%	70%	56%
1	1	500	400	350	280	150	120	105	84
2 or more	1	600	480	420	336	150	120	105	84
2 or more	2 or more	600	480	420	336	200	160	140	112
1	2 or more	500	400	350	280	200	160	140	112

Condition B - Interruption of Continuous Traffic

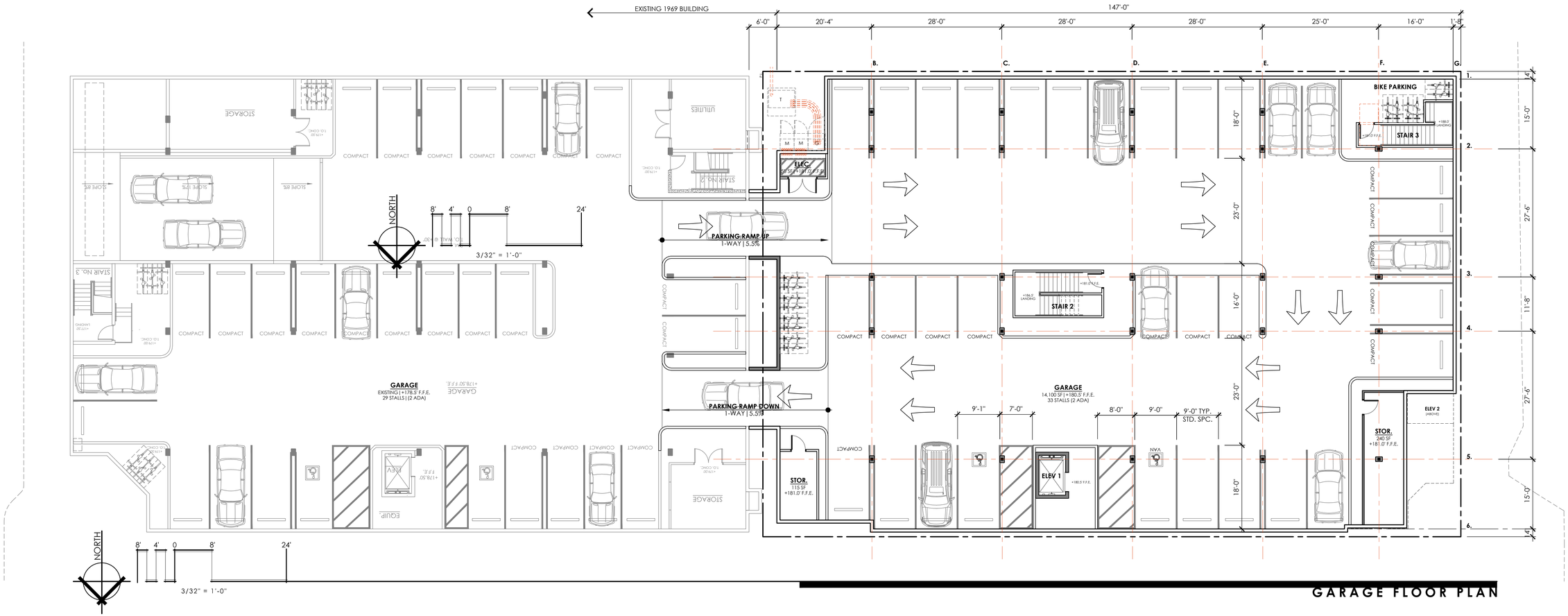
Number of lanes for moving traffic on each approach		Vehicles per hour on major street (total of both approaches)				Vehicles per hour on minor street (total of both approaches)			
Major Street	Minor Street	100%	80%	70%	56%	100%	80%	70%	56%
1	1	750	600	525	420	75	60	53	42
2 or more	1	900	720	630	504	75	60	53	42
2 or more	2 or more	900	720	630	504	100	80	70	56
1	2 or more	750	600	525	420	100	80	70	56

Warrant Anaylsis Calculations	8th Highest Hour[b]	Minimum Volume	Warrant Satisfied?
Condition A - Minimum Vehicular Volume			
Major Street Volume	582	500	
Minor Street Volume	83	150	**No**
Condition B - Interruption of Continuous Traffic			
Major Street Volume	582	750	
Minor Street Volume	83	75	**No**
Combination Warrant[c]			
Major Street Volume	582	600	
Minor Street Volume	83	120	**No**

[a] Minor-Street right turn volumes are reduced to account for the impact of right-turns on red.

[b] Eighth-highest hour volumes are calculated as 5.65 percent of the expected daily traffic volume.

[c] This warrant should be used only after adequate trial of other alternatives has failed to solve traffic problems.

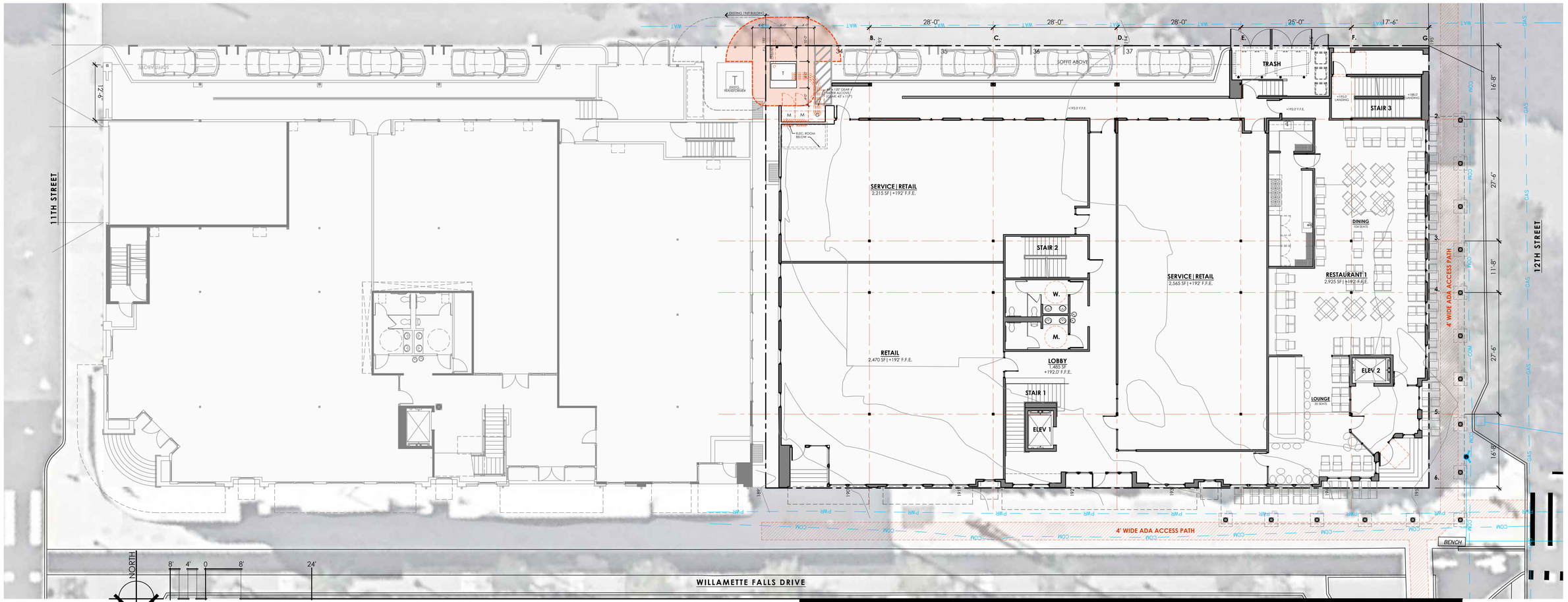


GARAGE FLOOR PLAN

G GARAGE FLOOR PLAN

SGA
SUTTON | GODWIN ARCHITECTURE, LLC
ARCHITECTURE
PLANNING
DESIGN
503.347.4685 | 503.201.0725
www.sg-arch.net

ICON
CONSTRUCTION
AND DEVELOPMENT



GROUND FLOOR PLAN

WILLAMETTE FALLS DRIVE ELEVATION

1 GROUND FLOOR PLAN + WILLAMETTE FALLS DRIVE ELEVATION

CONCEPTUAL PLANS + ELEVATIONS

JULY 13th, 2022
REVISED APRIL 20,2023

EL 05

1949 WILLAMETTE FALLS DRIVE
WEST LINN, OREGON

ICON CONSTRUCTION AND DEVELOPMENT

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SUTTON | GODWIN ARCHITECTURE, LLC
ARCHITECTURE
PLANNING
DESIGN
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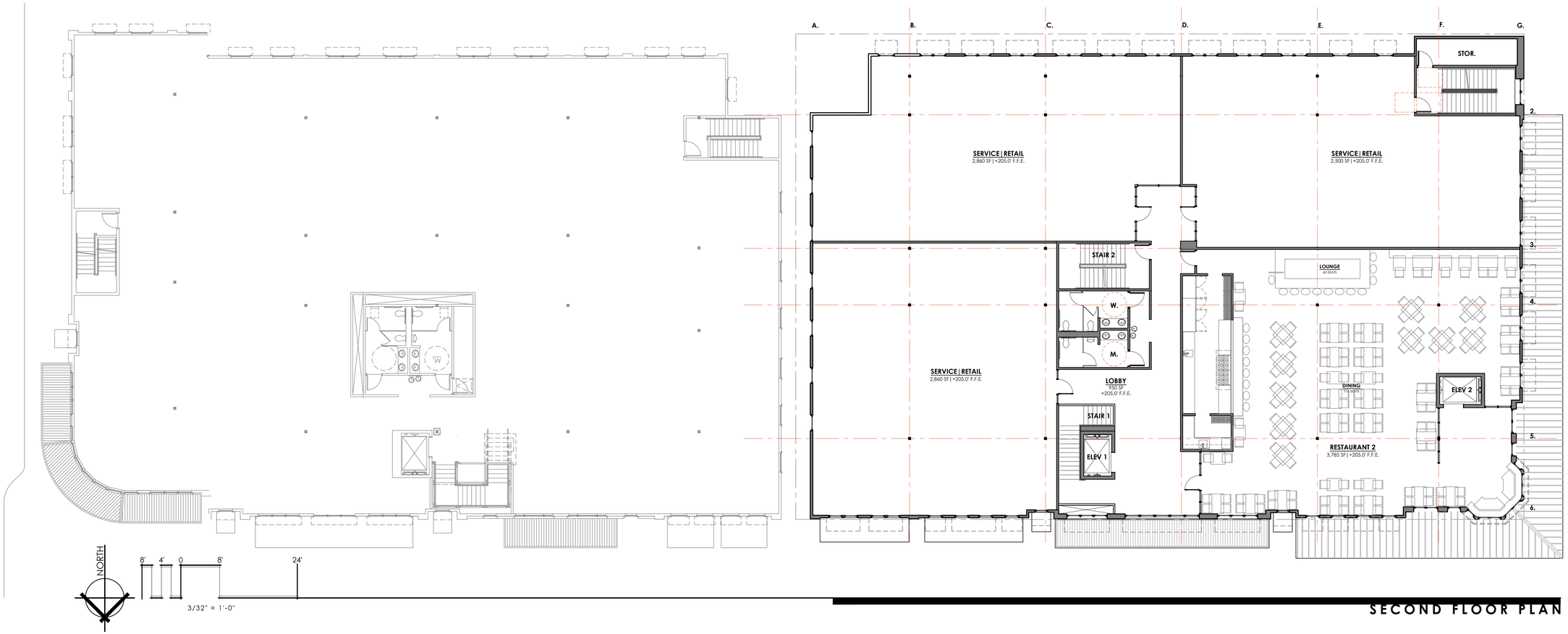
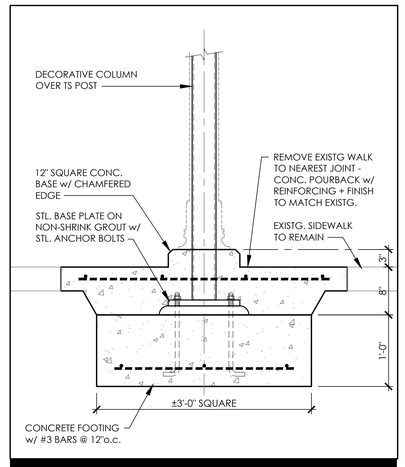


SECOND FLOOR PLAN

EAST (INTERIOR P.L.) ELEVATION

WEST (12th STREET) ELEVATION



DECORATIVE COLUMN DETAIL
1 = 1'-0"

2 SECOND FLOOR PLAN + EAST & 12th STREET ELEVATIONS

CONCEPTUAL PLANS + ELEVATIONS

JULY 13th, 2022

SGA
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1949 WILLAMETTE FALLS DRIVE
WEST LINN, OREGON

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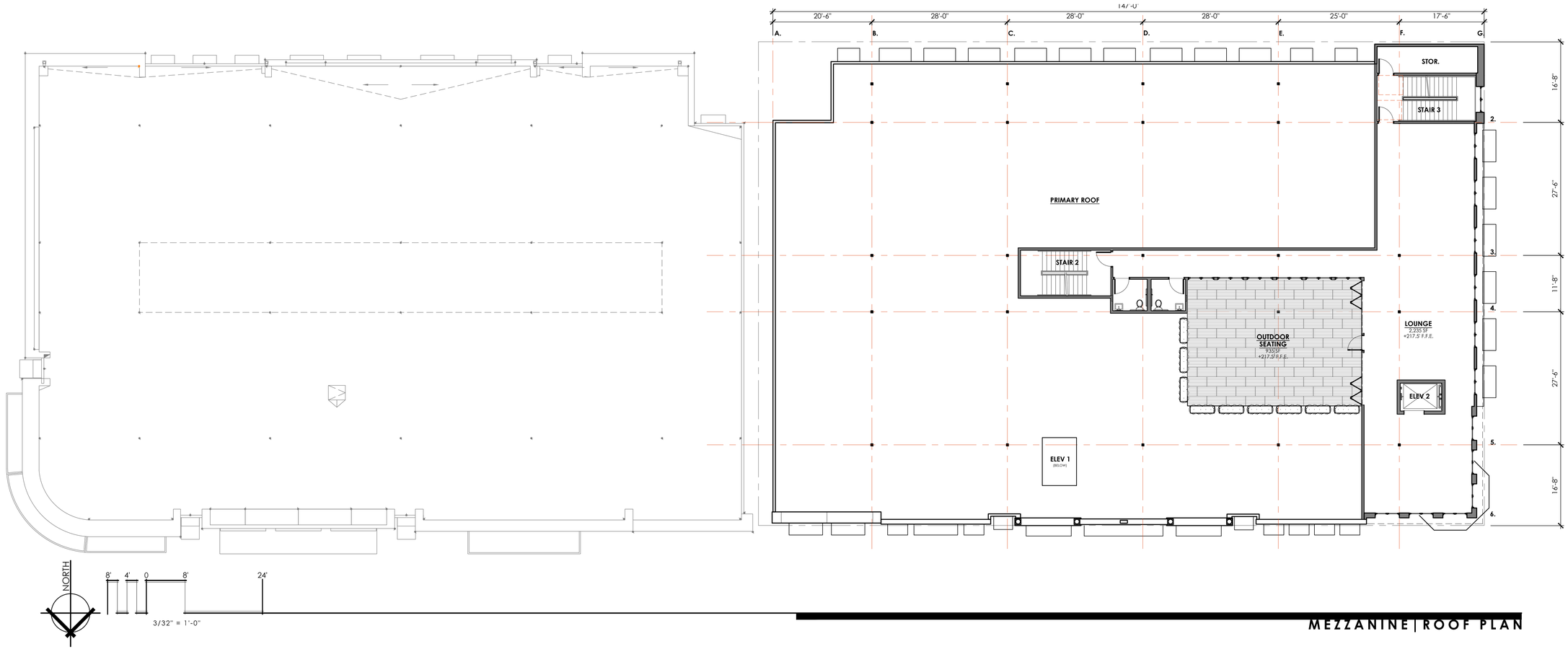
CONSTRUCTION
AND DEVELOPMENT



MEZZANINE | ROOF PLAN

KNAPPS ALLEY ELEVATION

3 MEZZANINE FLOOR PLAN | ROOF PLAN + KNAPPS ALLEY ELEVATION

EL 05

1949 WILLAMETTE FALLS DRIVE
WEST LINN, OREGON

ICON CONSTRUCTION AND DEVELOPMENT

CONCEPTUAL PLANS + ELEVATIONS

DECEMBER 2022

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PLANNING
DESIGN
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EL 05

1949 WILLAMETTE FALLS DRIVE
WEST LINN, OREGON

VIEW FROM 12th + WFD

4 VIEW FROM INTERSECTION OF 12th + WILLAMETTE FALLS DRIVE

ICON
CONSTRUCTION
AND DEVELOPMENT

CONCEPTUAL PLANS + ELEVATIONS

DECEMBER 2022

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SUTTON | GODWIN
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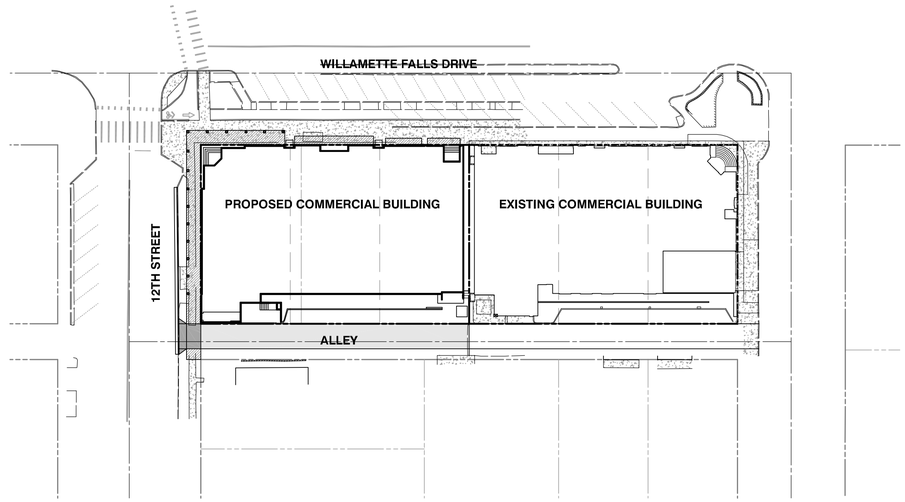
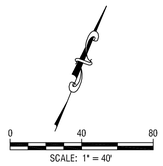
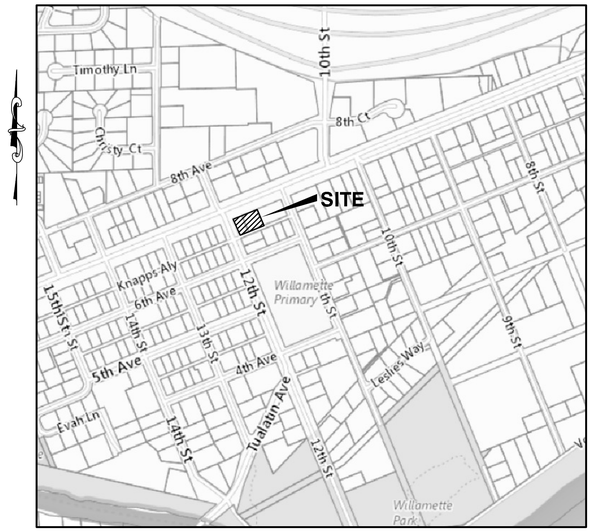


SITE MAP
SCALE: 1" = 40'



WILLAMETTE FALLS MIXED USE
West Linn, Oregon



VICINITY MAP
SCALE: NTS

OWNER/APPLICANT
Icon Construction & Development, LLC
1980 Willamette Falls Drive, Suite 200
West Linn, Oregon 97068
Phone 503-657-0406

ARCHITECT
SGA
10940 SW Barnes Road, No. 364
Portland, Oregon 97225
Phone 503-201-0725

ENGINEERING
Bruce D. Goldson, PE
Theta, LLC
PO Box 1345
Lake Oswego, Oregon 97035
Phone 503-481-8822

SURVEYING
Centerline Concepts, land surveying, Inc.
729 Molalla Ave, Suite 1 &2
Oregon City, Oregon 97045
Phone 503-650-0188

LEGAL
T3S R1E Section 02, TL 4300 & 4400

ADDRESS:
1919 and 1949 Willamette Falls Drive
West Linn, Oregon

SHEET INDEX

1 COVER
2 SITE ANALYSIS
3 SITE AND UTILITY PLAN
4 GRADING AND EROSION CONTROL PLAN

REGISTERED PROFESSIONAL ENGINEER 7120 OREGON JULY 16, 1971 BRUCE D. GOLDSON
PRELIMINARY
EXPIRES: 06/30/2023
SIGNATURE DATE: 12/28/2022

DESIGN REVIEW - COVER

2022-129Z

DESIGNED: BDG			
DRAWN: BJS			
SCALE: 1" = 20'			
DATE: November, 2022			
FILE: Willamette Falls Design Review1	DATE	NO.	REVISION

Theta,llc
ENGINEERING - SURVEYING - PLANNING
PO Box 1345
Lake Oswego, Oregon 97035
503/481-8822
email: thetaeng@comcast.net

Icon Construction & Development, LLC
1980 Willamette Falls Drive, Suite 200
West Linn, Oregon 97068
PH: (503) 657-0406

1919 and 1949 Willamette Falls Drive
West Linn, Oregon

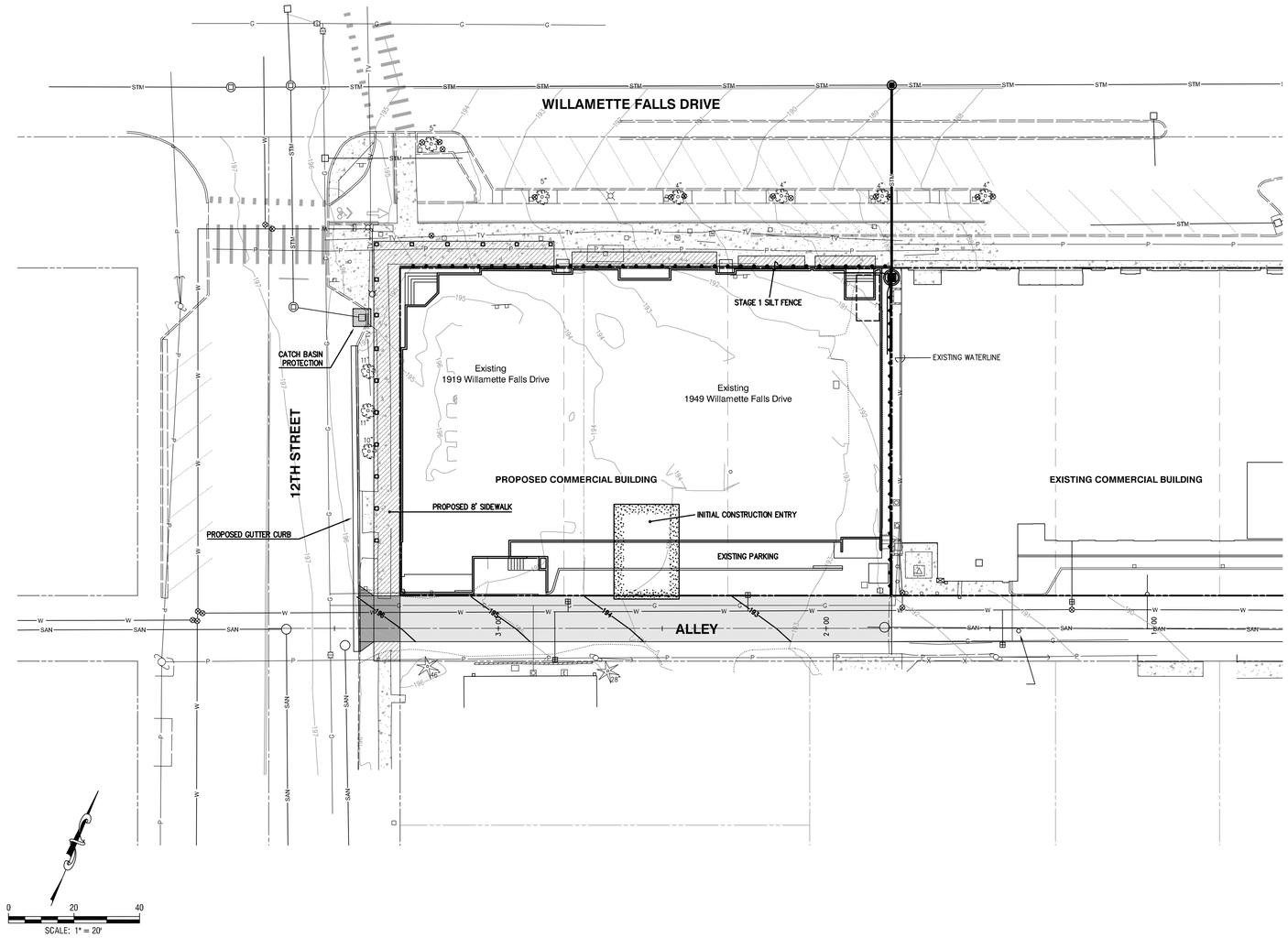
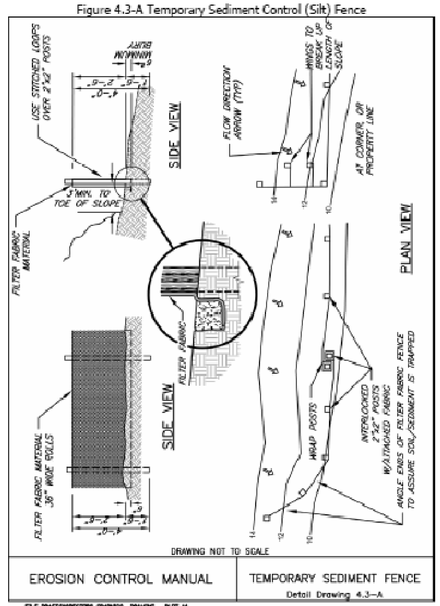


Figure 4.3-A Temporary Sediment Control (Silt) Fence



EROSION CONTROL MANUAL	TEMPORARY SEDIMENT FENCE
	Detail Drawing 4.3-A

FILE ENVIRONMENTAL SERVICES DRAWING PLOT 11

REGISTERED PROFESSIONAL ENGINEER 7120 OREGON JULY 16, 1971 BRUCE D. GOLDSON

PRELIMINARY

EXPIRES: 06/30/2023

SIGNATURE DATE: 12/17/2022

DESIGN REVIEW - GRADING AND EROSION CONTROL PLAN

2022-129Z

DESIGNED: BDG			
DRAWN: BJS			
SCALE: 1" = 20'			
DATE: November, 2022			
FILE: Willamette Falls Design Review1	DATE	NO.	REVISION

Theta,llc

ENGINEERING - SURVEYING - PLANNING

PO Box 1345, Lake Oswego, Oregon 97035

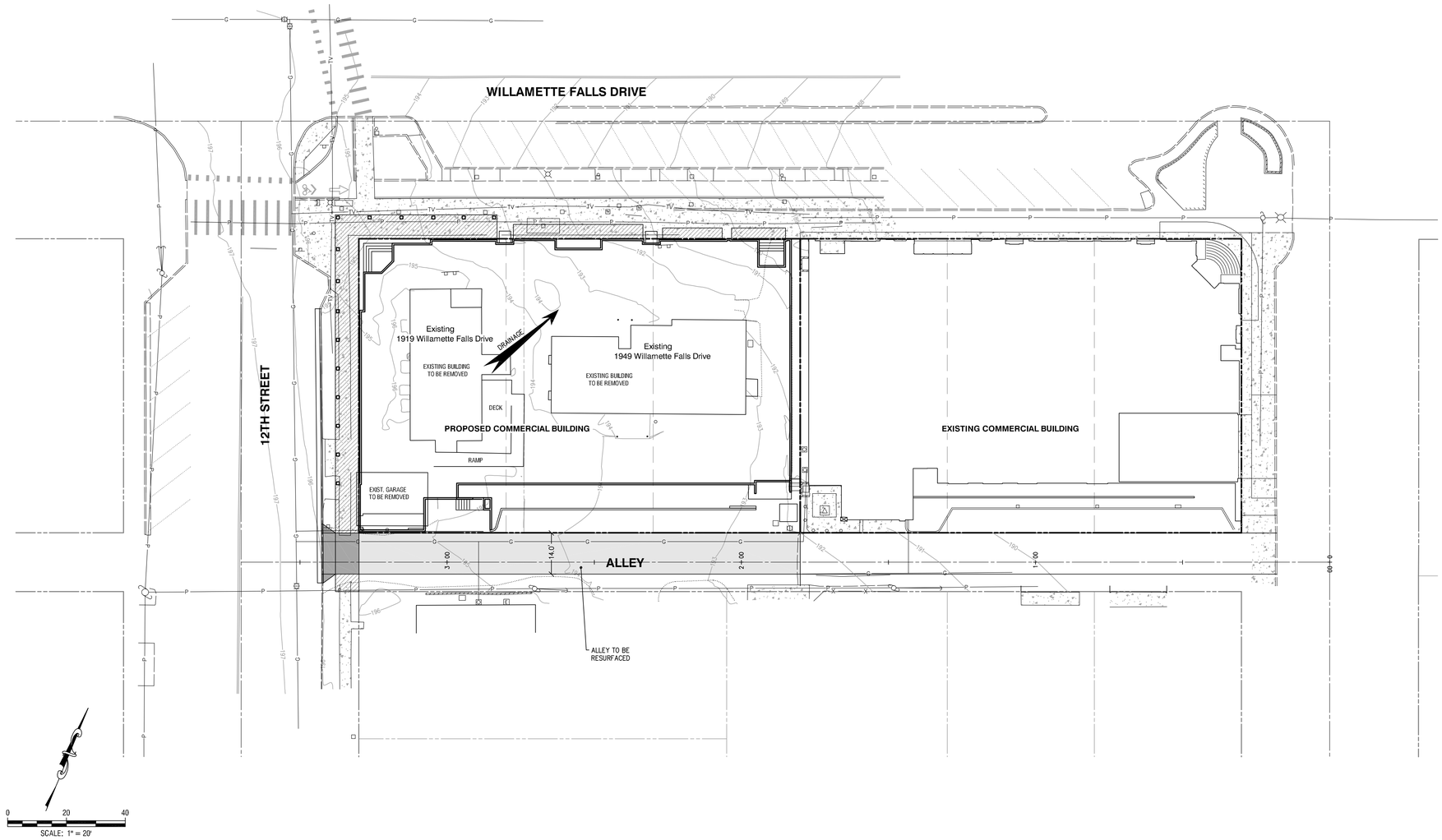
503/481-8822

email: thetaeng@comcast.net

Icon Construction & Development, LLC
1980 Willamette Falls Drive, Suite 200
West Linn, Oregon 97068
PH: (503) 657-0406

1919 and 1949 Willamette Falls Drive
West Linn, Oregon

SHEET: 4/4



RESOURCE AREAS:

A NO WETLAND PRESENT
B NOT IN REPARIAN CORRIDOR
C NO STREAMS OR INTERMITTENT WATER WAYS
D NO HABITAT CONSERVATION AREA
E NO ROCK OUTCROPPINGS

NATURAL HAZARD AREAS:

A NOT IN FLOOD PLAIN
B NOT IN WATER RESOURCE AREAS
C NOT IN LANDSLIDE AREA
D NOT IN LANDSLIDE VULNERABLE ANALYSIS AREA

GROSS AREA = 15,000 SQ.FT.

SLOPE ANALYSIS

TYPE I:	(UNDER 15%)	= 15,000 SQ.FT.
TYPE II:	(15% TO 25%)	= 0.00 SQ.FT.
TYPE III:	(25% TO 35%)	= 0.00 SQ.FT.
TYPE IV:	(OVER 35%)	= 0.00 SQ.FT.

REGISTERED PROFESSIONAL ENGINEER 7120 OREGON JULY 16, 1971 BRUCE D. GOLDSON
PRELIMINARY
EXPIRES: 06/30/2023
SIGNATURE DATE: 12/17/2022

DESIGN REVIEW - SITE ANALYSIS

2022-129Z

DESIGNED: BDG			
DRAWN: BJS			
SCALE: 1" = 20'			
DATE: November, 2022			
FILE: Willamette Falls Design Review1	DATE	NO.	REVISION

Theta,llc
ENGINEERING - SURVEYING - PLANNING
PO Box 1345
Lake Oswego, Oregon 97035
503/481-8822
email: thetaeng@comcast.net

Icon Construction & Development, LLC
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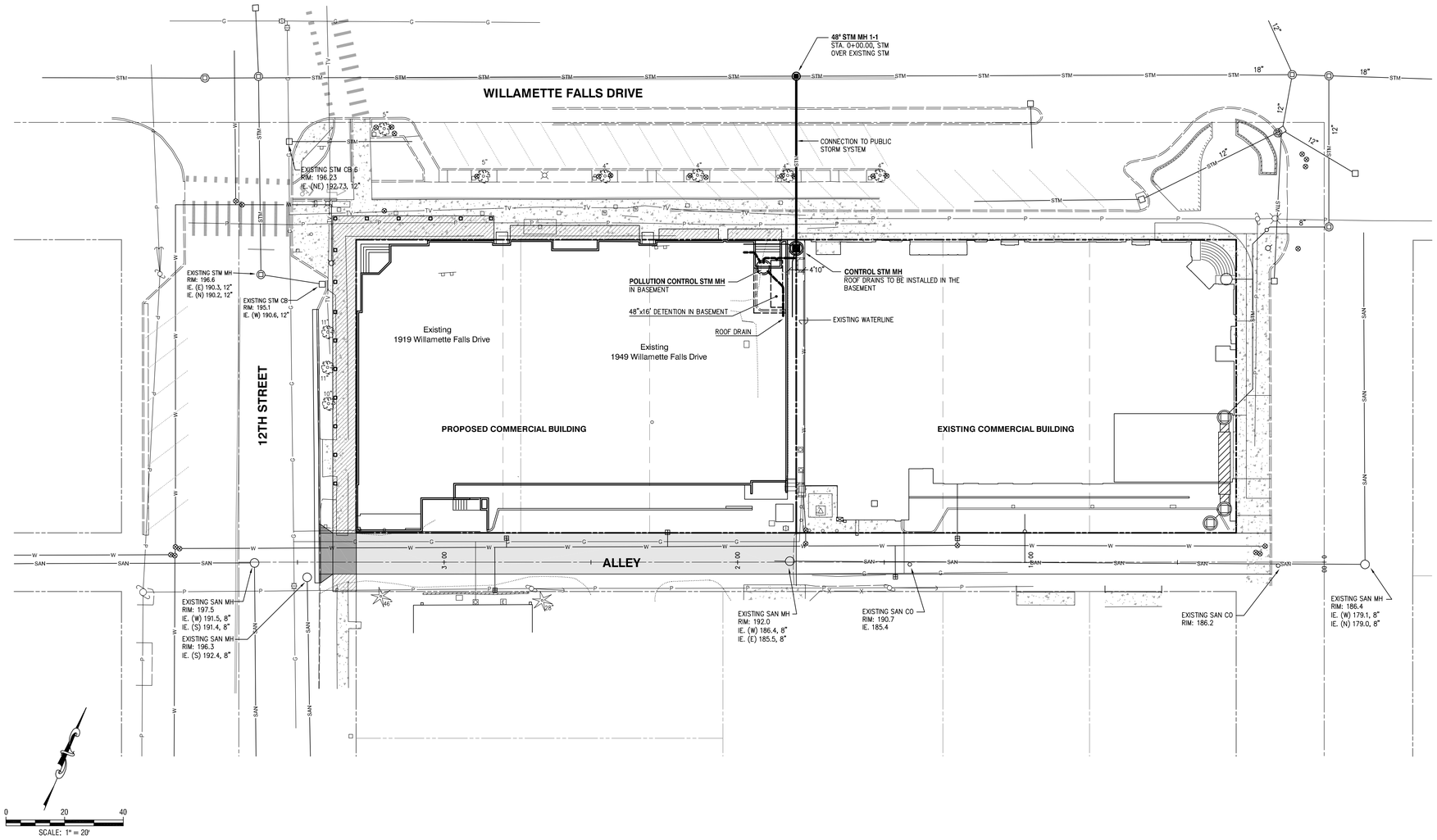
SHEET: 2/4



REGISTERED PROFESSIONAL ENGINEER
71281
OREGON
July 16, 1971
BRUCE D. GOLDSON
PRELIMINARY
EXPIRES: 06/30/2023
SIGNATURE DATE: 12/29/2022

2022-129Z

DESIGN REVIEW - SITE AND UTILITY PLAN

DESIGNED: BDG			
DRAWN: BJS			
SCALE: 1" = 20'			
DATE: November, 2022			
FILE: Willamette Falls Design Review1	DATE	NO.	REVISION

Theta,llc
ENGINEERING - SURVEYING - PLANNING
PO Box 1345
Lake Oswego, Oregon 97035
503/481-8822
email: thetaeng@comcast.net

Icon Construction & Development, LLC
1980 Willamette Falls Drive, Suite 200
West Linn, Oregon 97068
PH: (503) 657-0406

1919 and 1949 Willamette Falls Drive
West Linn, Oregon

SHEET: 3/4

TLP

The Lighting Project

AGi32 lighting software

Drawn By: Austyn Parks
The Lighting Project https://www.tlpnw.com/
360-314-4100
Date:2/24/2023

1949 Willamette Falls Drive

Site Lighting Plan

Luminaire Schedule				
Tag	Symbol	Qty	Description	Lum. Lumens
SD		14	LITON - DL340-FINISH-B45UE-DUN-T30	1108
W1		13	LITON - WD2360-FINISH-L20-BDIV-BU02UE-DUN-T30	2266
W2		7	HI-LITE - H-151-12-FINISH-1500	1407
W3		2	Hi-Lite - H-151-12-Finish-3000	2948
W4		7	CAMMAN - OW318-28-LN-30K	1489

Cafe Seating

Illuminance (Fc)
Average = 8.76
Maximum = 11.2
Minimum = 6.0
Max/Min Ratio = 1.87

TLP

The Lighting Project

AGi32 lighting software

Drawn By: Austyn Parks
The Lighting Project https://www.tlpnw.com/
360-314-4100
Date:2/24/2023

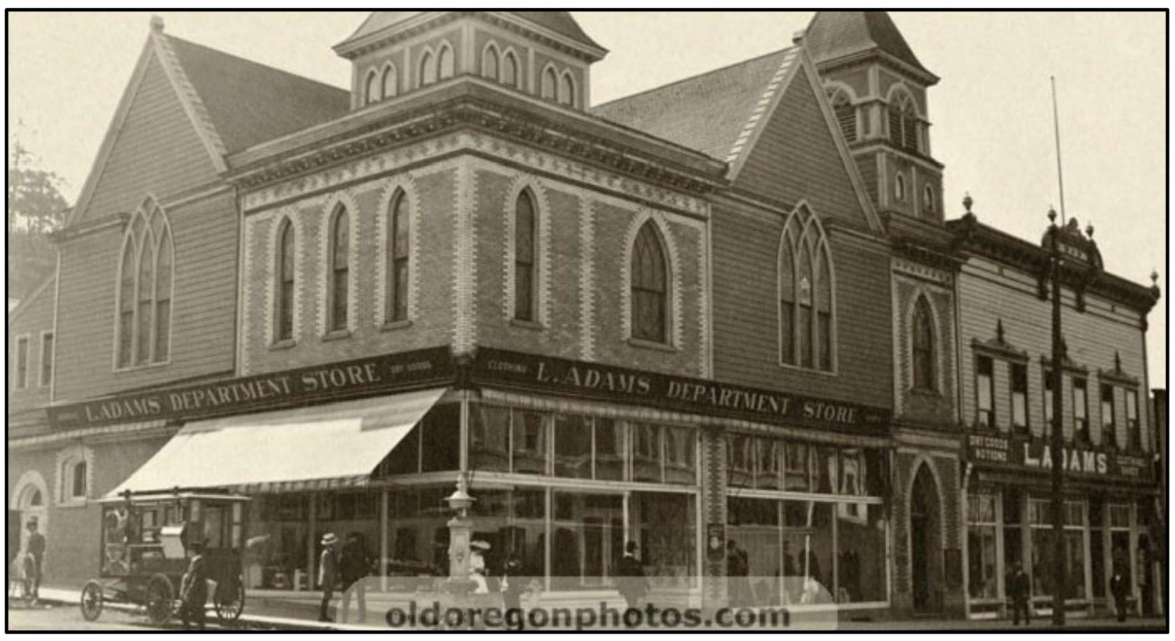
1949 Willamette Falls Drive

Site Lighting Plan

1949 Willamette Falls Drive

Proposed Commercial Mixed Use Building

Willamette Falls Drive &12th Street, West Linn, Oregon



NAME:
L. ADAMS DEPARTMENT STORE

LOCATION:
OREGON CITY

DATE OF CONSTRUCTION:
1912

USE:
DEPARTMENT STORE

PRIMARY MATERIALS IN SUPPORT OF EXCEPTION:
BRICK MASONRY

NAME:
WEINHARD BUILDING

LOCATION:
802 MAIN STREET, OREGON CITY

DATE OF CONSTRUCTION:
1895

USE:
DEPARTMENT STORE

PRIMARY MATERIALS IN SUPPORT OF EXCEPTION:
BRICK MASONRY

NAME:
TVFR STATION No. 59

LOCATION:
1860 WILLAMETTE FALLS DRIVE

DATE OF CONSTRUCTION:
2010

USE:
FIRE STATION

PRIMARY MATERIALS IN SUPPORT OF EXCEPTION:
BRICK MASONRY

NAME:
WILLAMETTE CENTER IV

LOCATION:
1969 WILLAMETTE FALLS DRIVE, WEST LINN

DATE OF CONSTRUCTION:
2019

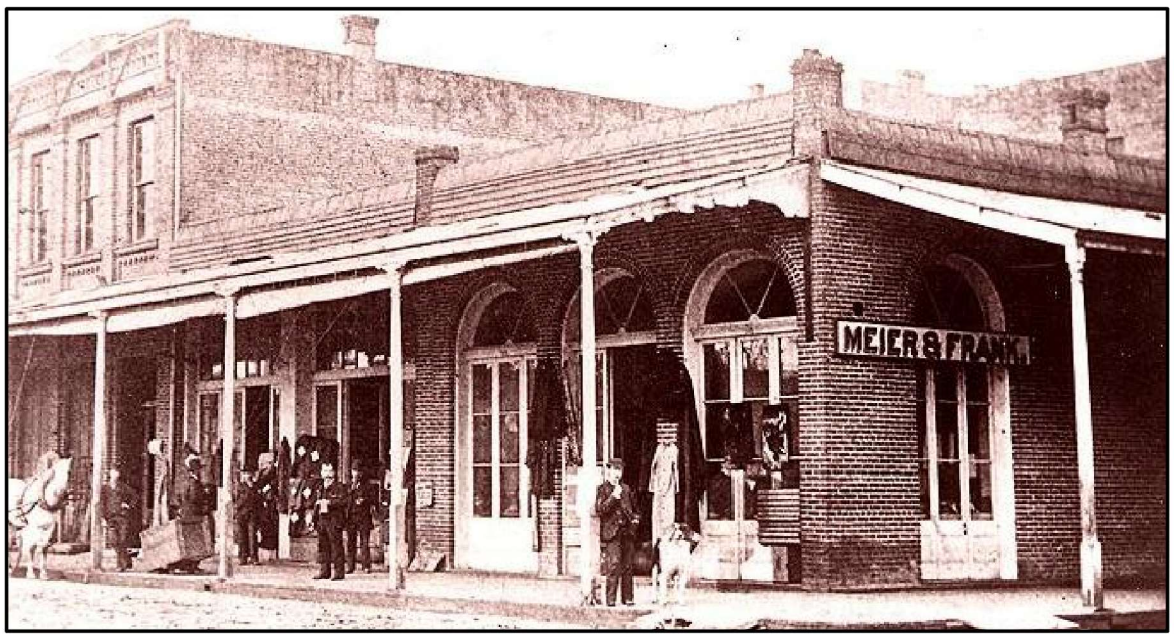
USE:
MIXED USE COMMERCIAL

PRIMARY MATERIALS IN SUPPORT OF EXCEPTION:
BRICK MASONRY

1949 Willamette Falls Drive

Proposed Commercial Mixed Use Building

Willamette Falls Drive &12th Street, West Linn, Oregon



NAME:
MEIER & FRANK ORIGINAL STORE

LOCATION:
SW FRONT & SW AMHILL STREETS, PORTLAND

DATE OF CONSTRUCTION:
1857

USE:
DEPARTMENT STORE

PRIMARY MATERIALS IN SUPPORT OF EXCEPTION:
DECORATIVE CANOPY COLUMNS

NAME:
ORO FINO SALOON

LOCATION:
OAK & STARK STREETS, PORTLAND

DATE OF CONSTRUCTION:
1876

USE:
SALOON

PRIMARY MATERIALS IN SUPPORT OF EXCEPTION:
DECORATIVE CANOPY COLUMNS

NAME:
COMMUNITY OF FAITH CURCH

LOCATION:
1889 WILLAMETTE FALLS DR, WEST LINN

DATE OF CONSTRUCTION:
UNKNOWN

USE:
CHURCH

PRIMARY MATERIALS IN SUPPORT OF EXCEPTION:
DECORATIVE CANOPY COLUMNS

NAME:
LIL' COOPERSTOWN GRILL

LOCATION:
1817 WILLAMETTE FALLS DRIVE, WEST LINN

DATE OF CONSTRUCTION:
UNKNOWN

USE:
RESTAURANT

PRIMARY MATERIALS IN SUPPORT OF EXCEPTION:
DECORATIVE CANOPY COLUMNS

1949 Willamette Falls Drive
DR-23-01
Color and Materials Board
(Physical Samples Delivered to Planning Office)

Willamette Falls Commercial

1949 Willamette Falls Drive

West Linn, Oregon

PRELIMINARY DRAINAGE REPORT

DECEMBER 2022

EXPIRES: 06/30/2023

SIGNATURE DATE: 12/22/22

Prepared By:

Bruce D. Goldson, PE

Theta, llc

PO Box 1345, Lake Oswego, Oregon 97035

2014-129Z

INDEX

Narrative	pg 2
Summary	pg 2
Regulatory	pg 2
Design Parameters	pg 3
Hydrographic Results	pg 3-8
Summary	pg 8
Appendix	pg 9-11

NARRATIVE ASSUMPTIONS

Existing Conditions:

The subject property of two tax lots (3S 1E 02BA TL 4300 & 4400) with two existing buildings bordered on three sides with public roads and containing 0.34 Acres. The property slopes to the northwesterly direction at approximately 5%. There is sanitary, storm and water service to the property.

Developed Conditions:

A proposed multi-story commercial building is proposed to virtually cover the entire property. With nearly complete lot coverage with impervious area on-site infiltration is not possible. On-site detention and water quality facilities are proposed. The storm discharge will be to the existing public storm system in Willamette Falls Drive

Summary of storm water flow

	2-YEAR	5-YEAR	10-YEAR	25-YEAR
PRE-DEVELOP	0.14 CFS	0.18 CFS	0.22 CFS	0.26 CFS
POST-DEVELOP	0.22 CFS	0.26 CFS	0.30 CFS	0.35 CFS

REGULATORY DESIGN CRITERIA

The storm water quantity management requirements of the City of West Linn.

References

1. King County Department of Public Works, Surface Water Management Division, Hydrographic Programs

Water Quality Facility

Design Parameters

The design storm is a 24 hour standard SCS Type 1A

- 2-year.....2.5 inches
- 5-year.....3.0 inches
- 10-year.....3.4 inches
- 25-year..... 3.9 inches
- 100-year.....4.5 inches

SOIL TYPES

Willamette Silt Loam – type C soil

Time of Concentration

$T = (0.42)[(nL)^{.8}/(p_2)^{.5}(s_0)^{.4}$

Pre-development: $T = (0.42)[(0.15)(80)]^{.8}/(2.5)^{.5}(.03)^{.4} = 6.4$ min (pre)

Assume 5-minutes developed

HYDROGRAPH RESULTS

KING COUNTY DEPARTMENT OF PUBLIC WORKS
Surface Water Management Division
HYDROGRAPH PROGRAMS
Version 4.21B
1 - INFO ON THIS PROGRAM
2 - SBUHYD
3 - MODIFIELD SBUHYD
4 - ROUTE
5 - ROUTE2
6 - ADDHYD
7 - BASEFLOW
8 - PLOTHYD
9 - DTATA
10 - REFAC
11 - RETURN TO DOS

ENTER OPTION:
2
SBUN/SCS METHOD FOR COMPUTING RUNOFF HYDROGRAPH
STORM OPTIONS:
1 - S.C.S. TYPE-1A
2 - 7-DAY DESIGN STORM
3 - STORM DATA FILE
SPECIFY STORM OPTION:
1
S.C.S. TYPE - 1A RAINFALL DISTRIBUTION
ENTER; FREQ(YEAR), DURATION(HOUR), PRECIP(INCHES)

2,24,2.6

Xxxxxxxxxxxxxxxxxxxxxx S.C.S.TYPE-1A DISTRIBUTION xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx

XXXXXXXXXXXX 2-YEAR 24-HOUR STORM xxxx 2.50 "TOTAL PRECIP Xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx/

ENTER: A(PERV),CN(PERV),A(IMPERV),CN(IMPERV),TC FOR BASIN NO. 1

0.21,86,0.13,98,6.4

DATA PRINT OUT:

AREA(ACRES)	PERVIOUS		IMPERVIOUS		TC(MINUTES)
	A	CN	A	CN	
.3	.2	86	.1	98	6.4
PEAK-Q(CFS)	T-PEAK(HRS)		VOL(CU-FT)		
.14	7.83		2019		

ENTER [d:][path]filename[.ext] FOR STORAGE OF COMPUTED HYDROGRAPH:

C:WF2pre

SPECIFY: C - CONTINUE, N - NEWSTORM, P -PRINT, S - STOP

C

ENTER: A(PERV),CN(PERV),A(IMPERV),CN(IMPERV),TC FOR BASIN NO. 1

0.005,86,335,98,5

DATA PRINT OUT:

AREA(ACRES)	PERVIOUS		IMPERVIOUS		TC(MINUTES)
	A	CN	A	CN	
.3	.0	86	.3	98	5.0
PEAK-Q(CFS)	T-PEAK(HRS)		VOL(CU-FT)		
.22	7.67		2783		

ENTER [d:][path]filename[.ext] FOR STORAGE OF COMPUTED HYDROGRAPH:

C:WF2post

SPECIFY: C - CONTINUE, N - NEWSTORM, P - PRINT, S – STOP

n

STORM OPTIONS:

1 - S.C.S. TYPE-1A

2 - 7-DAY DESIGN STORM

3 - STORM DATA FILE

SPECIFY STORM OPTION:

1

ENTER; FREQ(YEAR), DURATION(HOUR), PRECIP(INCHES)

5,24,3.0

Xxxxxxxxxxxxxxxxxxxxxx S.C.S.TYPE-1A DISTRIBUTION xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx

XXXXXXXXXXXX 5-YEAR 24-HOUR STORM xxxx 3.00" TOTAL PRECIP Xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx

---

ENTER: A(PERV),CN(PERV),A(IMPERV),CN(IMPERV),TC FOR BASIN NO. 1

0.21,86,0.13,98,6.4

DATA PRINT OUT:

AREA(ACRES)	PERVIOUS		IMPERVIOUS		TC(MINUTES)
	A	CN	A	CN	
.3	.2	86	.1	98	6.4

PEAK-Q(CFS) T-PEAK(HRS) VOL(CU-FT)
.18 7.83 2573
ENTER [d:][path]filename[.ext] FOR STORAGE OF COMPUTED HYDROGRAPH:
C:WF5pre
SPECIFY: C - CONTINUE, N - NEWSTORM, P - PRINT, S – STOP
c
0.005,86,0.335,98,5
DATA PRINT OUT:

AREA(ACRES)	PERVIOUS		IMPERVIOUS		TC(MINUTES)
	A	CN	A	CN	
.3	.0	86	.3	98	5.0

PEAK-Q(CFS) T-PEAK(HRS) VOL(CU-FT)
.26 7.67 3396
ENTER [d:][path]filename[.ext] FOR STORAGE OF COMPUTED HYDROGRAPH:
C:WF5post
SPECIFY: C - CONTINUE, N - NEWSTORM, P - PRINT, S – STOP
n
STORM OPTIONS:
1 - S.C.S. TYPE-1A
2 - 7-DAY DESIGN STORM
3 - STORM DATA FILE
SPECIFY STORM OPTION:
1
ENTER; FREQ(YEAR), DURATION(HOUR), PRECIP(INCHES)
10,24,3.4
Xxxxxxxxxxxxxxxxxxxxxx S.C.S.TYPE-1A DISTRIBUTION xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx
XXXXXXXXXXX 10-YEAR 24-HOUR STORM xxxx 3.40" TOTAL PRECIP Xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx

---

ENTER: A(PERV),CN(PERV),A(IMPERV),CN(IMPERV),TC FOR BASIN NO. 1
0.21,86,0.13,98,6.4
DATA PRINT OUT:

AREA(ACRES)	PERVIOUS		IMPERVIOUS		TC(MINUTES)
	A	CN	A	CN	
.3	.2	86	.1	98	6.4

PEAK-Q(CFS) T-PEAK(HRS) VOL(CU-FT)
.22 7.83 3026
ENTER [d:][path]filename[.ext] FOR STORAGE OF COMPUTED HYDROGRAPH:
C:WF10pre
SPECIFY: C - CONTINUE, N - NEWSTORM, P - DATA PRINT OUT:
C
ENTER: A(PERV),CN(PERV),A(IMPERV),CN(IMPERV),TC FOR BASIN NO. 1
0.005,86,0.335,98,5

AREA(ACRES)	PERVIOUS		IMPERVIOUS		TC(MINUTES)
	A	CN	A	CN	
.3	.0	86	.3	98	5.0

PEAK-Q(CFS) T-PEAK(HRS) VOL(CU-FT)
.30 7.67 3887
ENTER [d:][path]filename[.ext] FOR STORAGE OF COMPUTED HYDROGRAPH:

C:WF10post
SPECIFY: C - CONTINUE, N - NEWSTORM, P - PRINT, S – STOP
n
STORM OPTIONS:
1 - S.C.S. TYPE-1A
2 - 7-DAY DESIGN STORM
3 - STORM DATA FILE
SPECIFY STORM OPTION:
1
ENTER; FREQ(YEAR), DURATION(HOUR), PRECIP(INCHES)
25,24,3.9
Xxxxxxxxxxxxxxxxxxxxxx S.C.S.TYPE-1A DISTRIBUTION xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx
XXXXXXXXXXXX 25-YEAR 24-HOUR STORM xxxx 3.90" TOTAL PRECIP Xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx

---

ENTER: A(PERV),CN(PERV),A(IMPERV),CN(IMPERV),TC FOR BASIN NO. 1
0.21,86,0.13,98,6.4
DATA PRINT OUT:

AREA(ACRES)	PERVIOUS		IMPERVIOUS		TC(MINUTES)
	A	CN	A	CN	
.3	.2	86	.1	98	6.4
PEAK-Q(CFS)	T-PEAK(HRS)		VOL(CU-FT)		
.26	7.67		3601		

ENTER [d:][path]filename[.ext] FOR STORAGE OF COMPUTED HYDROGRAPH:
C:WF25pre
SPECIFY: C - CONTINUE, N - NEWSTORM, P - DATA PRINT OUT:
C
ENTER: A(PERV),CN(PERV),A(IMPERV),CN(IMPERV),TC FOR BASIN NO. 1
0.005,86,0.335,98,5

AREA(ACRES)	PERVIOUS		IMPERVIOUS		TC(MINUTES)
	A	CN	A	CN	
.3	.0	86	.3	98	5.0
PEAK-Q(CFS)	T-PEAK(HRS)		VOL(CU-FT)		
.35	7.67		4501		

ENTER [d:][path]filename[.ext] FOR STORAGE OF COMPUTED HYDROGRAPH:
C:WF25post

DETENTION SIZING
ENTER OPTION
10
R/D FACILITY DESIGN ROUTINE
SPEFICY TYPE OF R/D FACILTY
1 - POND 4 - INFILTRATION POND
2 - TANK 5 - INFILTRATION TANK
3 -VAULT 6 - GRAVEL TRENCH/BED
2

ENTER: TANK DIAMETER (ft). EFFECTIVE STORAGE DEPTH (ft)

4,4
ENTER: [d:][[atj]filename[.ext] OF PRIMARY DESIGN INFLOW HYDROGRAPH:
C:WF25POST
PRELIMINARY DESIGN INFLOW PEAK = .35 CFS
ENTER PRIMARY DESIGN RELEASE RATE(cfs)
0.26
ENTER NUMBER OF INFLOW HYDROGRAPHS TO BE TESTED FOR PERFORMANCE (5 MAXIMUM)
3
ENTER [d:][path]filename[.ext] OF HYDROGRAPH 1:
C:WF10POST
ENTER TARGET RELEASE RATE (cfs)
0.22
ENTER [d:][path]filename[.ext] OF HYDROGRAPH 2:
C:WF5POST
ENTER TARGET RELEASE RATE (cfs)
0.18
0. ENTER [d:][path]filename[.ext] OF HYDROGRAPH 3:
C:WF2POST
ENTER TARGET RELEASE RATE (cfs)
0.14
ENTER: NUMBER OF ORIFICES, RISER-HEAD (ft), RISER-DIAMETER(in)
2.4.10
RISER OVERFLOW DEPTH FOR PRIMARY PEAK INFLOW= 0.12 FT
SPECIFY ITERATION DISPLAY: Y -YES, N - NO
N
SPECIFY: R - REVIEW/REVISE INPUT, C - CONTINUE
C
INITIAL STORAGE VALUE FOR ITERATION PURPOSES: 1770 CU-FT
BOTTOM ORIFICE: ENTER Q-MAX(cfs)
0.18
DIA. = 1.82INCHES
TOP ORIFICE: ENTER HEIGHT(ft)
3.45
DIA. = 1.72 INCHES

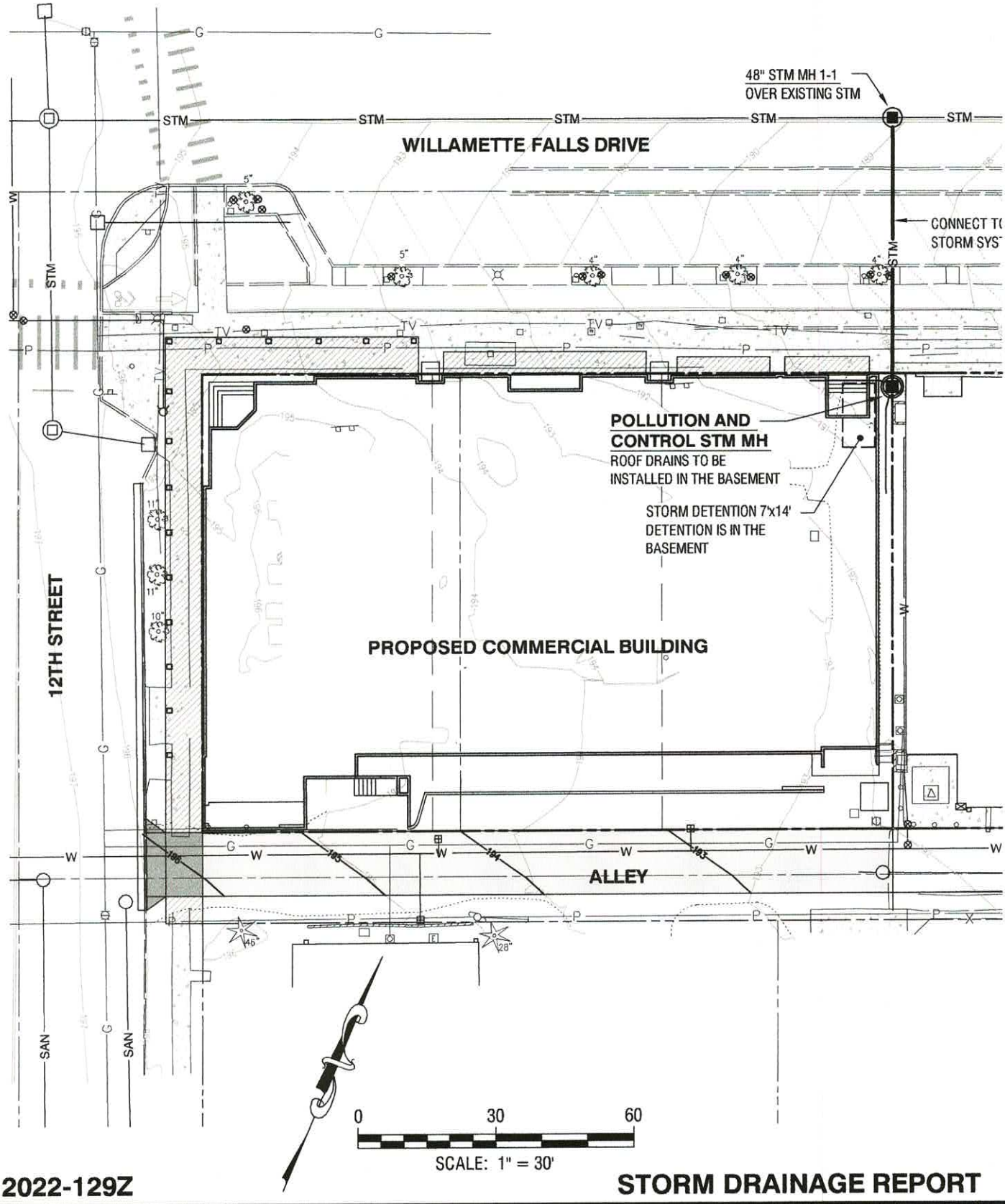
PERFORMANCE:	INFLOW	TARGET-OUTFLOW	ACTUAL-OUTFLOW	PK-STAGE	STORAGE
DESIGN HYD:	.35	.26	.26	3.99	281
TEST HYD 1:	.30	.22	.21	3.32	240
TEST HYD 2:	.26	.18	.21	3.32	240
TEST HYD 3:	.22	.14	.14	2.25	160

SPECIFY: D - DOCUMENT, R -REVISE, A - ADJUST ORIF, E -ENLARGE, S –STOP

DESIGN SUMMARY:

A 48" diameter tank coupled with the pollution manhole is proposed for detention, with two orifices will meet the outflow of the 2, 5 10, and 25 year pre-developed flow rates per the city code. The pollution control manhole is provided ahead of the detention system to trap sediments and floatable from the roof water. Access is provided to the pollution manhole and the detention system via manholes in the garage area and control manhole in the area between the two buildings.

Appendix



2022-129Z

STORM DRAINAGE REPORT

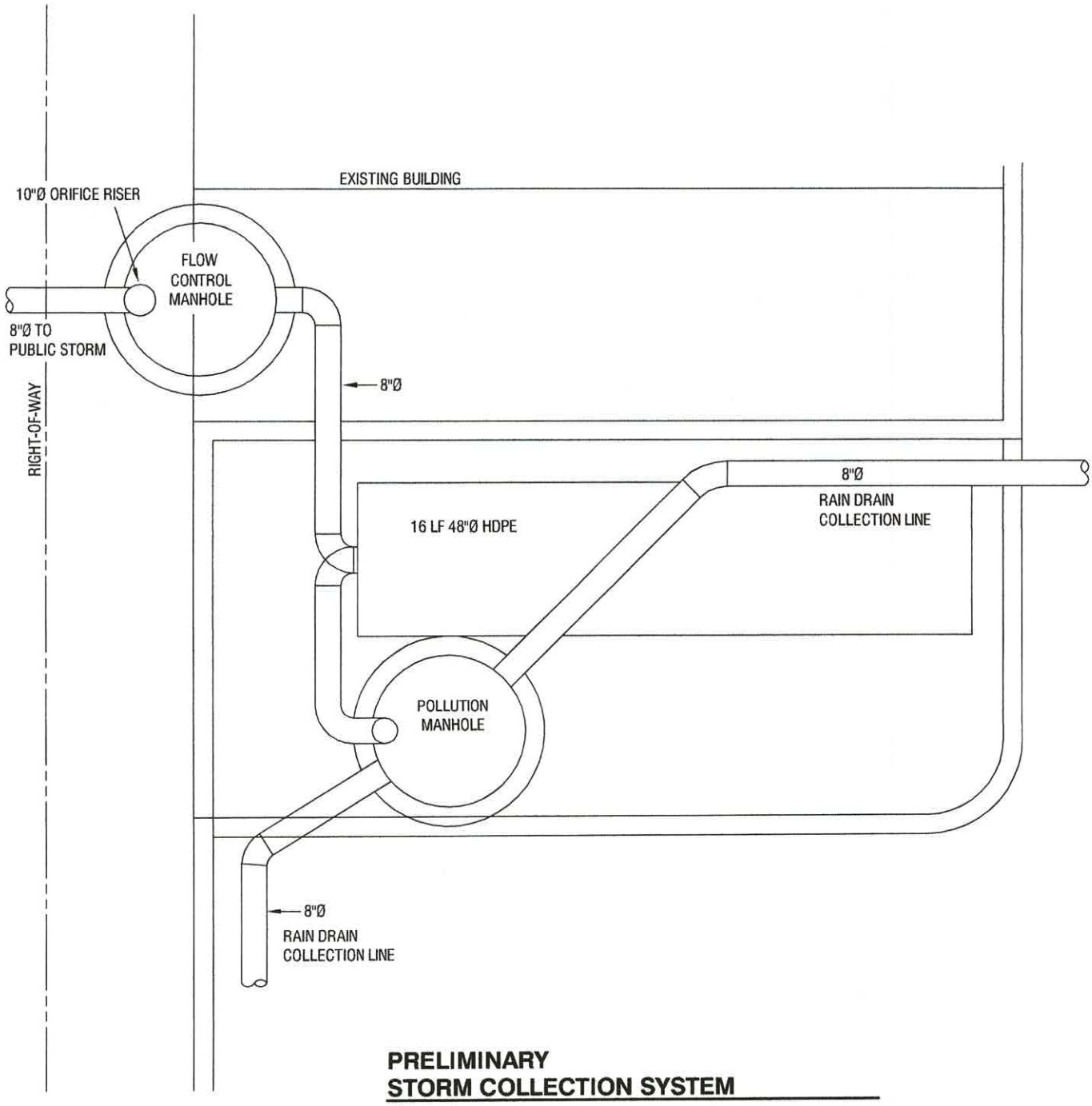
Theta, llc

ENGINEERING - SURVEYING - PLANNING

PO Box 1345
Lake Oswego, Oregon 97035

503-481-8822
email: thetaeng@comcast.net

1919 and 1949 Willamette Falls Drive
West Linn, Oregon



PRELIMINARY
STORM COLLECTION SYSTEM

SCALE: 1" = 4'

2022-129Z

STORM DRAINAGE REPORT

Theta, llc
ENGINEERING - SURVEYING - PLANNING
PO Box 1345
Lake Oswego, Oregon 97035
503-481-8822
email: thetaeng@comcast.net

1919 and 1949 Willamette Falls Drive
West Linn, Oregon

SGA
SUTTON | GODWIN | ARCHITECTURE

May 5, 2022

Request for NHM

Kathie Halicki
Willamette NA - President

RE: Lots: 1919 & 1949 Willamette Falls Drive
Tax Lot No: 31E02BA04300 & 4400
Pre-Application #PA-22-09

Dear Kathie,

SG Architecture, LLC would like to request for a Neighborhood Meeting with the Willamette Neighborhood Association on the earliest available agenda.

We look forward to presenting the project to the NHA and the neighbors. If you have questions, please feel free to call me at 503-201-0725.

Sincerely,
SG Architecture, LLC

Kevin M. Godwin | Partner | 503.201.0725 | kgodwin@sg-arch.net

Email CC: John Floyd (City of West Linn), Darren Gusdorf (ICON)

10940 SW Barnes Rd #364
Portland, OR 97225
503.201.0725

SGA
SUTTON | GODWIN | ARCHITECTURE

July 29, 2022

NOTICE OF NEIGHBORHOOD MEETING

Ms. Kathie Halicki
President - Willamette Neighborhood Association
2307 Falcon Drive
West Linn, Oregon 97068

Ms. Elizabeth Rocchia
Secretary | NA Designee - Willamette Neighborhood Association
957 Willamette Falls Drive
West Linn, Oregon 97068

REF: 1949 Willamette Falls Drive
Existing Addresses: 1919 & 1949 Willamette Falls Drive
West Linn, Oregon

Dear Ms. Halicki and Ms. Rocchia:
Please The following is the text of the letter we are sending to the other WNA officers and neighbors within a 500' radius of the above project location to alert them to our upcoming presentation at the September 14th meeting of the Willamette Neighborhood Association (WNA):

To whom it may concern,
SG Architecture, LLC is representing the applicant regarding the property located at 1919 | 1949 Willamette Falls Drive. In the coming weeks we will be submitting to the City of West Linn a Land Use Application for the construction of a new 2-story building which will house uses allowed in the zone such as office, retail, service, and restaurant.

Prior to submitting the application, we will be presenting more information about the project at the WNA's regularly scheduled meeting at 7:00 PM on September 14th, 2022. Further information regarding time and location of the meeting will be available on the City's website: westlinnoregon.gov/willamette after September 1st. Please note that this item may not be the only item on the agenda for that evening.

You are encouraged to contact the WNA with any questions you wish to relay to the applicant. You may contact **WNA President, Kathie Halicki** at willamette@westlinoregon.gov, Please note that this will be an informal meeting based upon preliminary design plans. These plans may be modified before the application is submitted.

We look forward to discussing this project with you. If you have questions, but will be unable to attend, please feel free to email me at ssutton@sg-arch.net.

10940 SW Barnes Rd #364
Portland, OR 97225
503.201.0725

Sincerely,
SG Architecture, LLC

Scot Sutton – Partner

SGA
SUTTON | GODWIN | ARCHITECTURE

July 29, 2022

NOTICE OF NEIGHBORHOOD MEETING

RE: NOTICE OF NEIGHBORHOOD MEETING
1949 Willamette Falls Drive
Existing Addresses: 1919 & 1949 Willamette Falls Drive
West Linn, Oregon

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Sincerely,
SG Architecture, LLC

Scot Sutton – Partner

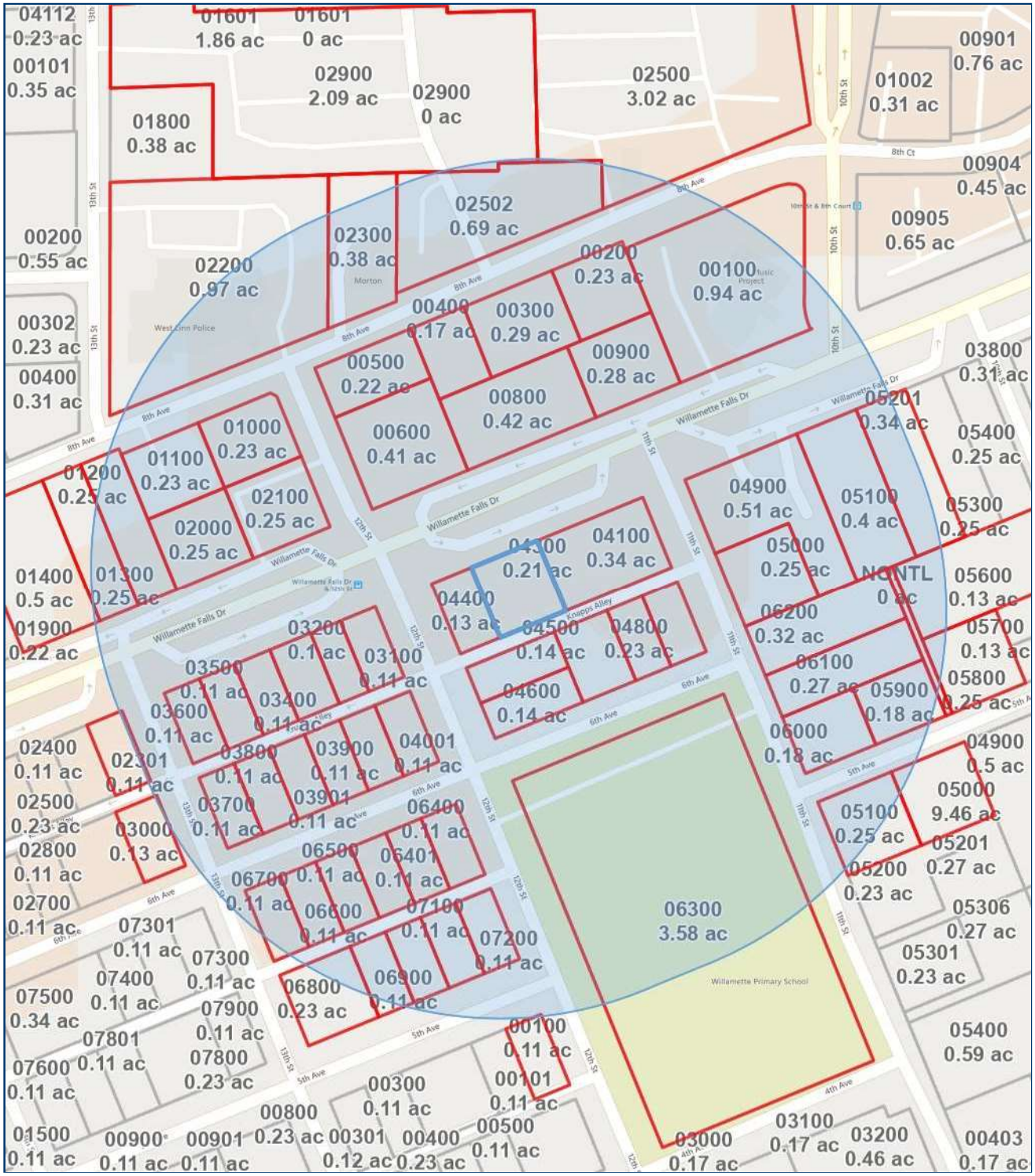
10940 SW Barnes Rd #364
Portland, OR 97225
503.201.0725

First American Title™

500 ft Buffer

1949 Willamette Falls Dr, West Linn, OR 97068

Report Generated: 7/20/2022



31E02BA06800
Marcus & Jenny Malcom
1822 5th Ave
West Linn, OR 97068

31E02BA03800
Loriaux & Choate Teresa
1830 6th Ave
West Linn, OR 97068

31E02BA04900
David Lawrence
Po Box 555
West Linn, OR 97068

31E02BA05900
Jennifer & Vincent Laski
2050 5th Ave
West Linn, OR 97068

31E02BA03300
Byong Kim
4401 Omalley Rd
Anchorage, AK 99507

31E02BA03000
Kari & Molly Kenzie
1790 6th Ave
West Linn, OR 97068

31E02BA07200
Trisha Kelly
1898 5th Ave
West Linn, OR 97068

31E02BA04500
Kyle Junk
1549 12th St
West Linn, OR 97068

31E02BA00500
Jason & Amy Johnston
1693 12th St
West Linn, OR 97068

31E02BA01400
Adam & Shantel Good
19546 Reddaway Ave
Oregon City, OR 97045

31E02BA04100
Adam & Shantel Good
19546 Reddaway Ave
Oregon City, OR 97045

31E02BA04300
Adam & Shantel Good
19546 Reddaway Ave
Oregon City, OR 97045

31E02BA04400
Adam & Shantel Good
19546 Reddaway Ave
Oregon City, OR 97045

31E02BA04800
David Hydes
1980 6th Ave
West Linn, OR 97068

31E02BA06500
Nicolette Hydes
1847 6th Ave
West Linn, OR 97068

31E02BA06900
Rebecca Haynes & Seth Talbot
1870 5th Ave
West Linn, OR 97068

31E02BA06400
Thomas & Lisa Haymore
1891 6th Ave
West Linn, OR 97068

31E02BA00200
Handris Holdings Llc
1980 Willamette Falls Dr STE 200
West Linn, OR 97068

31E02BA00300
Handris Holdings Llc
1980 Willamette Falls Dr STE 200
West Linn, OR 97068

31E02BA00900
Edward Handris
2008 Willamette Falls Dr # B
West Linn, OR 97068

31E02BA03600
Andrew & Linda White
1980 Willamette Falls Dr STE 200
West Linn, OR 97068

31E02AB05100
Jason & Heather Hall
2011 5th Ave
West Linn, OR 97068

31E02AB05000
Erik & Jessica Grimm
2041 5th Ave
West Linn, OR 97068

31E02BA04801
James Estes Iii & Kristen Woofter
1992 6th Ave
West Linn, OR 97068

31E02BA02301
Drd Property Llc
985 SW Long Farm Rd
West Linn, OR 97068

31E02BA06000
Deatherage David W Trustee &
1521 11th St
West Linn, OR 97068

31E02BA05100
Jeffrey Edmondson
2051 Willamette Falls Dr
West Linn, OR 97068

21E35C 02200
City Of West Linn
22500 Salamo Rd STE 100
West Linn, OR 97068

31E02BA06700
Karen Chadwick
1819 6th Ave
West Linn, OR 97068

31E02BA01300
West Linn Building Llc
18835 SW Ebberts Ct
Beaverton, OR 97008

21E35C 02500
Willamette Marketplace Llc
810 NW Marshall St STE 300
Portland, OR 97209

21E35C 02900
Willamette Marketplace Llc
810 NW Marshall St STE 300
Portland, OR 97209

31E02BA00600
Willamette Falls Holdings Llc
1980 Willamette Falls Dr STE 200
West Linn, OR 97068

31E02BA00800
Willamette Falls Holdings Llc
1980 Willamette Falls Dr STE 200
West Linn, OR 97068

31E02BA02100
Willamette Falls Holdings Llc
1980 Willamette Falls Dr STE 200
West Linn, OR 97068

31E02BA03200
Willamette Falls Properties Ll
2130 8th Ct
West Linn, OR 97068

31E02BA07000
Patrick & B White
1872 5th Ave
West Linn, OR 97068

31E02BA06300
West Linn-Wils Sch Dist #3
22210 SW Stafford Rd
Tualatin, OR 97062

31E02BA06600
Jeffrey & K Werley
1831 6th Ave
West Linn, OR 97068

31E02BA07100
Harold Vail Jr
1882 5th Ave
West Linn, OR 97068

31E02BA01100
Tualatin Valley Fire & Rescue
11945 SW 70th Ave
Portland, OR 97223

31E02BA02000
Tualatin Valley Fire & Rescue
11945 SW 70th Ave
Portland, OR 97223

31E02BA03100
Steve Tekander
465 SW Borland Rd
West Linn, OR 97068

31E02BA01000
Dunrobin Properties Llc
Po Box 889
Wilsonville, OR 97070

31E02BA03400
William & Farzaneh Sloan
1022 SW Stephenson Ct
Portland, OR 97219

31E02BA03500
William & Farzaneh Sloan
1022 SW Stephenson Ct
Portland, OR 97219

31E02BA04600
Albert & Laura Secchi
1920 6th Ave
West Linn, OR 97068

31E02BA03900
Daniel & Nicole Schreiber
1870 6th Ave
West Linn, OR 97068

31E02BA04000
Chirstopher & James Rhom
1888 6th Ave
West Linn, OR 97068

31E02BA06200
Paul & Yarrow Reim
1541 11th St
West Linn, OR 97068

31E02BD00100
Jilla & David Piroozmandi
2545 Po Box
, AM

31E02BA06401
Anthony Peyla & Wilson Ralston
1883 6th Ave
West Linn, OR 97068

31E02BA00400
Jennifer Pakula & Scot Gelfand
2500 Crestview Dr
West Linn, OR 97068

31E02BA01200
Pazmol Willamette Properties L & Pamela
1832 Willamette Falls Dr
West Linn, OR 97068

21E35C 02502
Pacific West Bank
2040 8th Ave
West Linn, OR 97068

31E02BA05000
Karin & Peter Obrien
1547 11th St
West Linn, OR 97068

21E35C 02300
Morton Cynthia S Trustee & Morton Don R
20900 S South End Rd
Oregon City, OR 97045

31E02BA04001
Eric Mcdonald
1892 6th Ave
West Linn, OR 97068

31E02BA06100
Margaret Matthies
1531 11th St
West Linn, OR 97068

31E02BA05800
Paul & Karin Marcus
2062 5th Ave
West Linn, OR 97068

31E02BA04700
Ian & Audra Brown
1968 6th Ave
West Linn, OR 97068

31E02BA05201
Maria Blanc-Gonnet
2057 Willamette Falls Dr
West Linn, OR 97068

31E02BA03901
Robert & Lorraine Beegle
1850 6th Ave
West Linn, OR 97068

31E02BA06501
Elien Bates
20020 Marigold Ct APT 20
West Linn, OR 97068

31E02BA05500
Norman & Donna Barnes
1542 10th St
West Linn, OR 97068

31E02BA00100
Bany David C Trustee & Bany Sarah A
2015 8th Ave
West Linn, OR 97068

31E02BA03700
Charles & Sara Ashou
1818 6th Ave
West Linn, OR 97068

31E02BANONTL
Non-Taxlot

,

21E35C 02900
VPC-OR WEST LINN LIMITED
2020 8TH AVE
West Linn, 97068

Neighborhood Meeting
1919 & 1949 Willamette Falls Drive
AFFIDAVIT OF MAILING NOTICE

I Scot Sutton, do swear and affirm that I represent the party initiating interest in a proposed two-story building development affecting the land at 1919 & 1949 Willamette Falls Drive in West Linn, Oregon.

On August 2nd, 2022, and pursuant to Community Development Code Section 99, I caused to have mailed to each of the persons on the attached list, a notice of Neighborhood Meeting to discuss the proposed development of the aforementioned property.

I further state that said notices were enclosed in plainly addressed envelopes to said persons and were deposited on the date indicated above at the United States Post Office with postage prepaid thereon.

Dated this 17TH day of AUGUST, 2022.

Signature
Scot Sutton

Subscribed and sworn to or affirmed, before me this 17 day of August, 2022

Notary Public for the State of Oregon
My Commission Expires: 30 October 2022

OFFICIAL STAMP
OLIVIA IRENE GERAGHTY
NOTARY PUBLIC - OREGON
COMMISSION NO. 980090
MY COMMISSION EXPIRES OCTOBER 30, 2022

UNITED STATES POSTAL SERVICE.

TIGARD
12210 SW MAIN ST
PORTLAND, OR 97223-6222
(800)275-8777

08/02/2022 05:47 PM

Product	Qty	Unit Price	Price
First-Class Mail® Letter West Linn, OR 97068 Weight: 0 lb 0.40 oz Estimated Delivery Date Thu 08/04/2022	1		$0.60
Registered Mail® Amount: $1.00 Tracking #: RE099430533US			$15.25
Total			$15.85
First-Class Mail® Letter West Linn, OR 97068 Weight: 0 lb 0.40 oz Estimated Delivery Date Thu 08/04/2022	1		$0.60
Registered Mail® Amount: $1.00 Tracking #: RE099430547US			$15.25
Total			$15.85
Grand Total:			$31.70
Debit Card Remitted Card Name: VISA Account #: XXXXXXXXXXXX6504 Approval #: 093647 Transaction #: 531 Receipt #: 058259 Debit Card Purchase: $31.70 AID: A0000000980840 AL: US DEBIT PIN: Verified		Chip	$31.70

****
Every household in the U.S. is now eligible to receive a third set of 8 free test kits.

Registered No. RE099430547US

Date Stamp

PORTLAND, OREGON AUG 2022 TIGARD BRANCH USPS

To Be Completed By Post Office		
Postage $ $0.60	Extra Services & Fees (continued) ☐ Signature Confirmation $ ☐ Signature Confirmation Restricted Delivery $	
Extra Services & Fees ☐ Registered Mail $15.25 ☐ Return Receipt (hardcopy) $ $0.00 ☐ Return Receipt (electronic) $ $0.00 ☐ Restricted Delivery $	Total Postage & Fees $ $15.85	
Customer Must Declare Full Value $1.00	Received by 08/02/2022	

Domestic Insurance up to $50,000 is included based upon the **declared value**. International Indemnity is limited. (See Reverse).

OFFICIAL USE

To Be Completed By Customer (Please Print) All Entries Must Be in Ballpoint or Typed

FROM: ICON CONST. + DEVELOPMENT
1969 WILLAMETTE FALLS DR. #260
WEST LINN, OR 97068

TO: KATHY HALICKI
[illegible] FALLS DR.
WEST LINN, OR 97068

PS Form **3806, Registered Mail Receipt** *Copy 1 - Customer*
April 2015, PSN 7530-02-000-9051 *(See Information on Reverse)*
For domestic delivery information, visit our website at *www.usps.com* ®

Registered No. RE099430533US

Date Stamp

PORTLAND, OREGON AUG 2022 TIGARD BRANCH USPS

To Be Completed By Post Office		
Postage $ $0.60	Extra Services & Fees (continued) ☐ Signature Confirmation $ ☐ Signature Confirmation Restricted Delivery $	
Extra Services & Fees ☐ Registered Mail $15.25 ☐ Return Receipt (hardcopy) $ $0.00 ☐ Return Receipt (electronic) $ $0.00 ☐ Restricted Delivery $	Total Postage & Fees $ $15.85	
Customer Must Declare Full Value $1.00	Received by 08/02/2022	

Domestic Insurance up to $50,000 is included based upon the **declared value**. International Indemnity is limited. (See Reverse).

OFFICIAL USE

To Be Completed By Customer (Please Print) All Entries Must Be in Ballpoint or Typed

FROM: ICON CONST. + DEVELOPMENT
1969 WILLAMETTE FALLS DR. #260
WEST LINN, OR 97068

TO: ELIZABETH ROCCHIA
[illegible] WILLAMETTE FALLS DR.
WEST LINN, OR 97068

PS Form **3806, Registered Mail Receipt** *Copy 1 - Customer*
April 2015, PSN 7530-02-000-9051 *(See Information on Reverse)*
For domestic delivery information, visit our website at *www.usps.com* ®

KATHY HAUCKI

USPS Tracking®

FAQs >

Track Another Package +

Remove ×

Tracking Number: RE099430547US

Your item was delivered to an individual at the address at 10:52 am on August 3, 2022 in WEST LINN, OR 97068.

Delivered, Left with Individual

August 3, 2022 at 10:52 am
WEST LINN, OR 97068

Get Updates ⌄

Text & Email Updates ⌄

Tracking History ⌃

August 3, 2022, 10:52 am
Delivered, Left with Individual
WEST LINN, OR 97068
Your item was delivered to an individual at the address at 10:52 am on August 3, 2022 in WEST LINN, OR 97068.

August 3, 2022, 8:38 am
Arrived at Post Office
WEST LINN, OR 97068

August 3, 2022, 8:37 am
Out for Delivery
WEST LINN, OR 97068

August 2, 2022, 11:24 pm
Departed USPS Facility

ELIZABETH ROCCHIA

USPS Tracking®

FAQs >

Track Another Package +

Tracking Number: RE099430533US

Remove ×

Your item was delivered to an individual at the address at 10:56 am on August 6, 2022 in WEST LINN, OR 97068.

Delivered, Left with Individual

August 6, 2022 at 10:56 am
WEST LINN, OR 97068

Get Updates ∨

Text & Email Updates ∨

Tracking History ∧

August 6, 2022, 10:56 am
Delivered, Left with Individual
WEST LINN, OR 97068
Your item was delivered to an individual at the address at 10:56 am on August 6, 2022 in WEST LINN, OR 97068.

August 3, 2022, 10:51 am
Notice Left (No Authorized Recipient Available)
WEST LINN, OR 97068

August 3, 2022, 8:37 am
Out for Delivery
WEST LINN, OR 97068

August 3, 2022, 8:26 am
Arrived at Post Office

Neighborhood Meeting
1919 & 1949 Willamette Falls Drive
AFFIDAVIT OF POSTING NOTICE

I Darren Gusdorf, do swear and affirm that I represent the party initiating interest in a proposed two-story building development affecting the land at 1919 & 1949 Willamette Falls Drive in West Linn, Oregon.

On August 1st, 2022, and pursuant to Community Development Code Section 99, I caused to have posted on the referenced property, a notice of Neighborhood Meeting to discuss the proposed development of the aforementioned property. Photographs of the postings are shown below.

Dated this 8th day of August, 2022

Signature
Darren Gusdorf

Subscribed and sworn to or affirmed, before me this 8 day of August, 2022

Jennie K Engen-Lucas
Notary Public for the State of Oregon

OFFICIAL STAMP
JENNIE KAY ENGEN-LUCAS
NOTARY PUBLIC - OREGON
COMMISSION NO. 984960
MY COMMISSION EXPIRES MARCH 07, 2023

County of Clackamas

My Commission Expires: March 7, 2023

Scot Sutton

From: Kevin Godwin
Sent: Thursday, September 15, 2022 9:26 AM
To: Elizabeth Rocchia; Kathie Halicki
Cc: 'Darren Gusdorf'; Scot Sutton
Subject: Re: draft WNA minutes 9/14/2022

Thank you, Elizabeth & Kathie!

Kevin Godwin | SG Architecture, LLC | partner
10940 SW Barnes Road #364 | Portland, OR 97225 | 503.201.0725
kgodwin@sg-arch.net

From: Elizabeth Rocchia <erocchia@comcast.net>
Sent: Thursday, September 15, 2022 8:46 AM
To: Kathie Halicki <khalicki@msn.com>; Kevin Godwin <kgodwin@sg-arch.net>
Subject: draft WNA minutes 9/14/2022

Willamette NA Minutes September 14, 2022 via Zoom

The meeting was called to order at 7:05 by President, Kathie Halicki.
The Treasury remains at $3.245.52.
The Minutes of the July 13, 2022, meeting were read and approved.
23 persons attending on Zoom.

ICON Construction
A proposed building design for the corner of 12th and Willamette Falls was presented by Scott Sutton and Kevin Godwin of SGA Architects. Images of a street elevation and a floor plan were shared-screened with design elements explained. There will be underground parking for 35 cars that connects with the adjacent ICON building.
The facade design will be compatible with the adjacent ICON building.

Office space and restaurant areas are included. A second story restaurant space is included with a mezzanine/roof area which will be enclosed.

Q: Noise from restaurant music?
A: All will be contained within walls on alley side. Should be no more than ambient noise from WF Drive.
Q: Delivery trucks in the alley?
A: Deliveries will be made from 12th street side in marked area

Main Street
Rebecca announced tonight as the last day of the Summer Market.
Next Wednesday, **Sept 21**, will be a Wine Walk with tickets available as a Main Street fund raiser.
October 1 will be the Arch Bridge Centennial Celebration. West Linn, Oregon City and the Grande Ronde Tribe will each produce art events which will merge at the bridge center.
October 31 will be Halloween events and treats for children. Last year 1300 kids appeared. Volunteers will be welcomed. A donation of $200 will be asked of the WNA at the October meeting.
November 1 will be 'Small Business Saturday' and the lighting of street trees.

Also the Historic Review Board is developing an on line walking tour of the Historic District. Calendar and events are described on the Historic Willamette Website.

Update
Kathie reported two land use applications. Both involve property divisions.
The police station will allow use to use their community room but not their technical equipment.
poll: A vote among those present chose to continue with Zoom and perhaps meet in person twice a year.

The bird scooters are now gone from Willamette.
A Community Attitude Survey is underway: **polco.us/westlinn22op**
Traffic on Hwy 43 will be reduced to one lane during road improvements thru December.

October meeting
A candidate forum is planned. Four candidates have responded and will be given 5 minutes to present and 5 minutes for questions.

The new City Manager, John Williams, will describe TIF, Tax Increment Financing

Lean Liu requested support from the WNA for a community pool citing popularity and reasons for the need. Kathie explained that generating petitions was not the purpose of the WNA and perhaps social media would be a better source for support. We were reminded that bond measures for a community pool had been turned down three times because of costs of construction and maintenance
She will bring a presentation to the WNA in the future.

Athey Creek School issues:
The Brandon Place extension needs a solution for adjacent residents.
The expanding width of WF Drive will cause large and extensive retaining walls in both the West and East entrances to Fields Bridge Park. Is this necessary? Is widening the road beyond a required bike lane necessary?
Attendance at a Transportation Committee meeting to voice concerns is urged.

The meeting adjourned at 8:53
Elizabeth Rocchia
secretary