COMMENT FORM

OREGON CITY

*****PLEASE PRINT CLEARLY*****

- SPEAK INTO THE MICROPHONE AND STATE YOUR NAME AND RESIDING CITY
- Limit Comments to ***3 MINUTES***.
- Give to the Clerk in Chambers ***prior*** to the meeting.

Date of Meeting 4.9.18

Item Number From Agenda 3_a

NAME: MICHAEL ROBINSON

*****Please provide complete contact information in order to receive notice of a land use decision as required by OCMC 17.50.130(C).**

ADDRESS: **Street:** ~~5111~~ 1211 SW 5th AVENUE, SUITE 1900

City, State, Zip: PORTLAND, OR 97204

PHONE NUMBER: (503) ~~781-~~ 796-3756

E-MAIL ADDRESS: MROBINSON@SCHWABE.COM

SIGNATURE: MCRobA

COMMENT FORM

OREGON CITY

*****PLEASE PRINT CLEARLY*****

- SPEAK INTO THE MICROPHONE AND STATE YOUR NAME AND ADDRESS
- Limit Comments to ***3 MINUTES***.
- Give to the City staff in the Chambers ***prior*** to the meeting.

Date of Meeting 4/9/18

Item Number From Agenda

Park Place

NAME: Rick Givens

ADDRESS: **Street:** 18680 Sunblaze Dr.

City, State, Zip: Oregon City, OR 97045

PHONE NUMBER: 503-479-0095

SIGNATURE: Rick Givens

COMMENT FORM

OREGON CITY

*****PLEASE PRINT CLEARLY*****

- SPEAK INTO THE MICROPHONE AND STATE YOUR NAME AND RESIDING CITY
- Limit Comments to ***3 MINUTES***.
- Give to the Clerk in Chambers ***prior*** to the meeting.

Date of Meeting 4/29/18

Item Number From Agenda —

NAME: KENT ZIEGLER

*****Please provide complete contact information in order to receive notice of a land use decision as required by OCMC 17.50.130(C).**

ADDRESS: **Street:** 2142 MAPLEWOOD COURT

City, State, Zip: WEST LINN, OR 97068

PHONE NUMBER: 503-701-9716

E-MAIL ADDRESS: KNTZIG001@AOL.COM

SIGNATURE: KENT ZIEGLER

COMMENT FORM

OREGON CITY

*****PLEASE PRINT CLEARLY*****

- SPEAK INTO THE MICROPHONE AND STATE YOUR NAME AND ADDRESS
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- Give to the City staff in the Chambers ***prior*** to the meeting.

Date of Meeting 4-9-18

Item Number From Agenda

NAME: Mike Ericksen

ADDRESS: **Street:** 255 Stampher Rd

City, State, Zip: Clackamas County 97034

PHONE NUMBER:

SIGNATURE:

COMMENT FORM

OREGON CITY

*****PLEASE PRINT CLEARLY*****

- SPEAK INTO THE MICROPHONE AND STATE YOUR NAME AND ADDRESS
- Limit Comments to ***3 MINUTES***.
- Give to the City staff in the Chambers ***prior*** to the meeting.

Date of Meeting 4 - 9 - 18

Item Number From Agenda

NAME: George E Thomas

ADDRESS: **Street:** 16644 S. Livesay Rd

City, State, Zip: ORe City OR 97045

PHONE NUMBER: 503 -

SIGNATURE: George E Thomas

COMMENT FORM

OREGON CITY

*****PLEASE PRINT CLEARLY*****

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- Give to the Clerk in Chambers ***prior*** to the meeting.

Date of Meeting 4/9/2018

Item Number From Agenda PARK PLACE ANNEXATION

NAME: PAUL EDGAR

*****Please provide complete contact information in order to receive notice of a land use decision as required by OCMC 17.50.130(C).**

ADDRESS: **Street:** 211 5TH AVE

City, State, Zip: OC,

PHONE NUMBER:

E-MAIL ADDRESS:

SIGNATURE:

COMMENT FORM

OREGON CITY

*****PLEASE PRINT CLEARLY*****

- SPEAK INTO THE MICROPHONE AND STATE YOUR NAME AND ADDRESS
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- Give to the City staff in the Chambers ***prior*** to the meeting.

Date of Meeting Park Place Plan

Item Number From Agenda

NAME: Christine ~~Kosiecki~~ Kosinski

ADDRESS: **Street:**

City, State, Zip:

PHONE NUMBER:

SIGNATURE: Christine Kosinski

COMMENT FORM

PLEASE PRINT CLEARLY

- SPEAK INTO THE MICROPHONE AND STATE YOUR NAME AND ADDRESS
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- Give to the City staff in the Chambers ***prior*** to the meeting.

OREGON CITY

Date of Meeting 4/9/15

Item Number From Agenda Park Place

NAME: Fred + Wendy Blanchard

ADDRESS: **Street:** 14420 Redland Rd

City, State, Zip: Oregon City, OR 97045

PHONE NUMBER: 503 557-4514

SIGNATURE: [signature]

COMMENT FORM

OREGON CITY

*****PLEASE PRINT CLEARLY*****

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- Limit Comments to ***3 MINUTES***.
- Give to the City staff in the Chambers ***prior*** to the meeting.

Date of Meeting 4-9-18

Item Number From Agenda 3A.

NAME: Frank Plawton

ADDRESS: **Street:** 16030 S. Sandalwood and 16716 6th Street.

City, State, Zip: Oregon City OR 97045

PHONE NUMBER: 503-970-9669

SIGNATURE: [signature]

COMMENT FORM

OREGON CITY

*****PLEASE PRINT CLEARLY*****

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- Give to the City staff in the Chambers ***prior*** to the meeting.

Date of Meeting 4-9-2018

Item Number From Agenda PARK PLACE

NAME: TROY LAVOIE

ADDRESS: **Street:** 15114 OYER DR.

City, State, Zip: OREGON CITY 97045

PHONE NUMBER: 5037440007

SIGNATURE:

COMMENT FORM

OREGON CITY

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- Give to the City staff in the Chambers ***prior*** to the meeting.

Date of Meeting _____

Item Number From Agenda

Land Use Application AN 17-04

NAME: Ryan Richards

ADDRESS: **Street:** 14563 Pittock Place

City, State, Zip: Oregon City 97045

PHONE NUMBER: 503 741-1296

SIGNATURE: Ry R

COMMENT FORM

OREGON CITY

PLEASE PRINT CLEARLY

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- Limit Comments to ***3 MINUTES***.
- Give to the City staff in the Chambers ***prior*** to the meeting.

Date of Meeting 7/9/18

Item Number From Agenda Park Place

NAME: Jackie Hammond-Williams

ADDRESS: **Street:** 14422, Holcomb Blvd

City, State, Zip: Oregon City OR 97045

PHONE NUMBER: 503-475-1373

SIGNATURE:

COMMENT FORM

OREGON CITY

PLEASE PRINT CLEARLY

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- Limit Comments to ***3 MINUTES***.
- Give to the City staff in the Chambers ***prior*** to the meeting.

Date of Meeting 04-09-18

Item Number From Agenda

PARK PLACE

NAME: LISA NOVAK

ADDRESS: **Street:**

City, State, Zip:

PHONE NUMBER: 971-347-9271

SIGNATURE: Lisa Novak

COMMENT FORM

OREGON CITY

PLEASE PRINT CLEARLY

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- Limit Comments to ***3 MINUTES***.
- Give to the City staff in the Chambers ***prior*** to the meeting.

Date of Meeting 4-9-18

Item Number From Agenda Park Place

NAME: Toni Webber

ADDRESS: **Street:** 17541 Holly Ln

City, State, Zip: Oregon City, OR 97045

PHONE NUMBER: 503-250-1142

SIGNATURE: Toni Webber

COMMENT FORM

OREGON CITY

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- SPEAK INTO THE MICROPHONE AND STATE YOUR NAME AND ADDRESS
- Limit Comments to ***3 MINUTES***.
- Give to the City staff in the Chambers ***prior*** to the meeting.

Date of Meeting 4-9-18

Item Number From Agenda Park Place

NAME: Jim Webber

ADDRESS: **Street:** 17541 Holly Ln

City, State, Zip: Oregon City, OR 97045

PHONE NUMBER: 503-816-5842

SIGNATURE:

COMMENT FORM

OREGON CITY

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Date of Meeting 4/9/18

Item Number From Agenda

AN-17-0004 / ZC-17-0005

NAME: Robert Nelson

ADDRESS: **Street:** 18090 Holly Lane

City, State, Zip: Oregon City OR 97045

PHONE NUMBER: 503-475-2892

SIGNATURE:

Submitted Landslide & Geohazard

COMMENT FORM

OREGON CITY

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- Give to the Clerk in Chambers ***prior*** to the meeting.

Date of Meeting 4-9-18

Item Number From Agenda 3a

NAME: BOB LA SALLE

*****Please provide complete contact information in order to receive notice of a land use decision as required by OCMC 17.50.130(C).**

ADDRESS: **Street:** ON RECORD

City, State, Zip: _____

PHONE NUMBER: _____

E-MAIL ADDRESS: _____

SIGNATURE: Bob La Salle

COMMENT FORM

PLEASE PRINT CLEARLY

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- Give to the City staff in the Chambers ***prior*** to the meeting.

OREGON CITY

Date of Meeting 4/9/15

Item Number From Agenda

Park Place

NAME: Tom Tull

ADDRESS: **Street:** 16970 Trillium Dr

City, State, Zip: OC 97045

PHONE NUMBER:

SIGNATURE:

COMMENT FORM

OREGON CITY

*****PLEASE PRINT CLEARLY*****

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- Give to the Clerk in Chambers ***prior*** to the meeting.

Date of Meeting 9/9/18

Item Number From Agenda 2 SUBAC CD18-01

NAME: CHRISTOPHER KOBACK

*****Please provide complete contact information in order to receive notice of a land use decision as required by OCMC 17.50.130(C).**

ADDRESS: **Street:** 1331 NW LOVEJOY

City, State, Zip: PORTLAND OR 97209

PHONE NUMBER: (503) 303-3100

E-MAIL ADDRESS: Chris@hathawaylarson.com

SIGNATURE: CK

COMMENT FORM

OREGON CITY

*****PLEASE PRINT CLEARLY*****

- SPEAK INTO THE MICROPHONE AND STATE YOUR NAME AND RESIDING CITY
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- Give to the Clerk in Chambers ***prior*** to the meeting.

Date of Meeting APRIL 9, 2018

Item Number From Agenda 2 Subaru CD18-01

NAME: ERIC IVERSEN

*****Please provide complete contact information in order to receive notice of a land use decision as required by OCMC 17.50.130(C).**

ADDRESS: **Street:** 150 N. BARTLETT ST

City, State, Zip: MEDFORD OREGON 97501

PHONE NUMBER: 541 301 2748

E-MAIL ADDRESS: EIVERSEN@LITHIA.COM

SIGNATURE:

OREGON CITY

Community Development – Planning

221 Molalla Ave. Suite 200 | Oregon City OR 97045
Ph (503) 722-3789 | Fax (503) 722-3880

OREGON CITY PLANNING COMMISSION

Tally of Votes

Planning Commission Hearing Date: 04.09.2018

Board Members Present: Geil, Mabee, Espe, Mahoney, Johnson, McGriff.

Staff Present: Laura Terway, Peter Walter, Christina Robertson-Gardiner, Bill Kabeisemann, City Attorney

Agenda Item: 3a. AN-17-0004/ZC-17-0005

Decision: Approve with Conditions / Approve / Deny / (Continue to) May 14, 2018

	Motion:	Second:	Aye:	Nay:	Abstain:	Comments:
Commissioner Geil						Recused
Commissioner Mabee	1		✓			
Commissioner Henkin			✓			
Commissioner Espe		2	✓			
Commissioner Mahoney			✓			
Commissioner Johnson			✓			
Chair McGriff			✓			

Agenda Item: _____

Decision: Approve with Conditions / Approve / Deny / Continue to

	Motion:	Second:	Aye:	Nay:	Abstain:	Comments:
Commissioner Geil						
Commissioner Mabee						
Commissioner Henkin						
Commissioner Espe						
Commissioner Mahoney						
Commissioner Johnson						
Chair McGriff						

EXHIBITS ENTERED INTO THE RECORD AT A HEARING

Community Development Department, 221 Molalla Avenue, Suite 200, P.O. Box 3040, Oregon City, OR 97045, (503) 722.3789
www.orcity.org

Hearing Date: APRIL 9, 2018

File Number: AN-17-0004/ ZC-17-0005

Exhibit Number:	Description of Exhibit:	Submitted By:
A	Powerpoint Presentation	Staff
B	GIS Geologic Data Response to Paul Edgar	Staff
C	Letter regarding Intra Structure	Steven VanHaverbeke
D	Letter	Jackie Manno-Williams
E	Letter + Copy of Holcomb Blvd.	Lisa Novak
F	Landslide Maps F1 F2	Bob Nelson
G	Tom Geil Newspaper Article	Tom Geil
H	TRANSPORTATION IMPACT STUDY ADDENDUM #2	APPLICANT LANCASTER ENG.

ITEMS ENTERED INTO RECORD
FILE: AN-17-0004 / ZC-17-0005
DATE: 04.09.2018
EXHIBIT: A
SUBMITTED BY: Staff

AN-17-0004 / ZC-17-0005

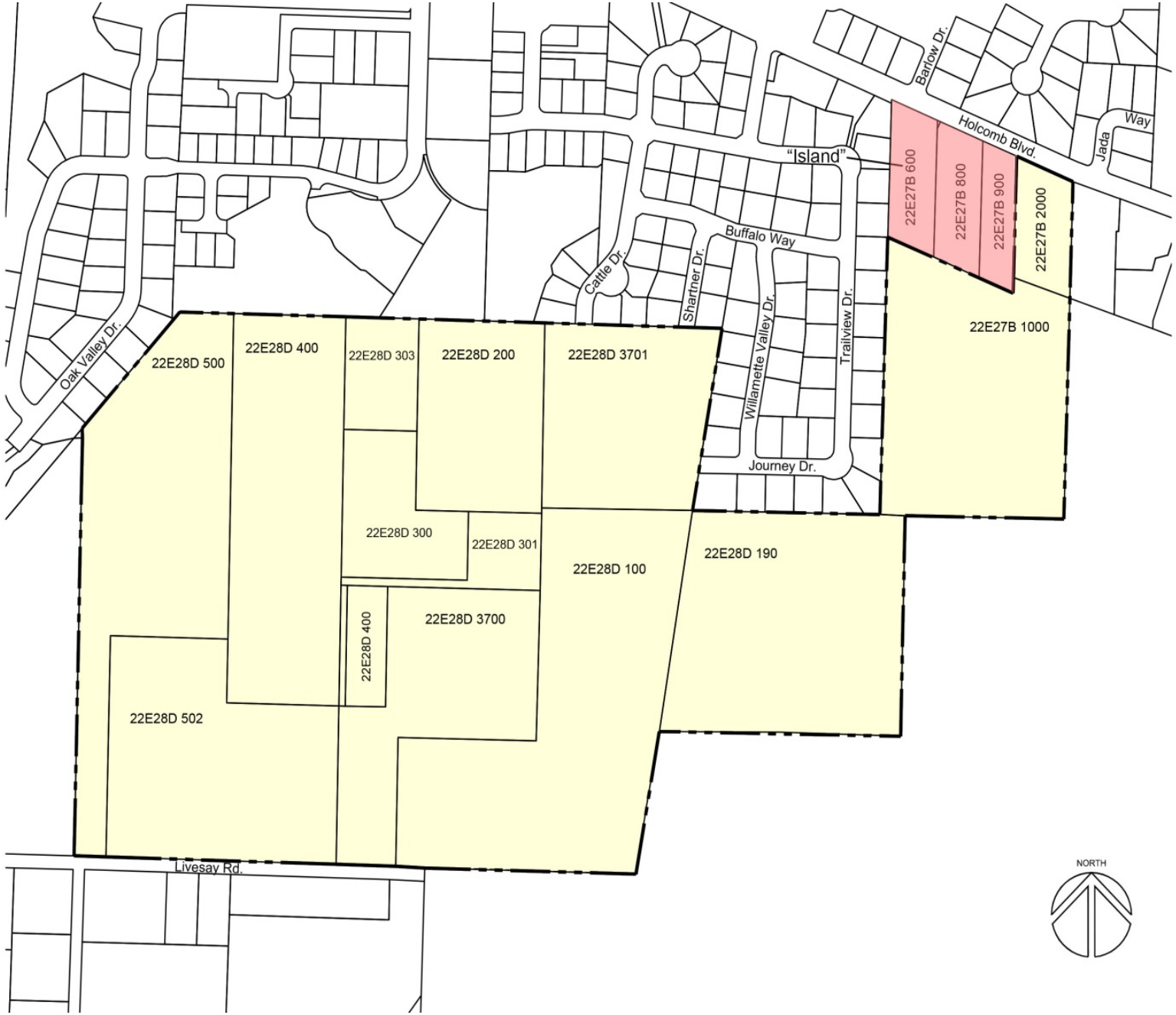
Type IV - Annexation with Zone Change –Park Place

Planning Commission April 9, 2018

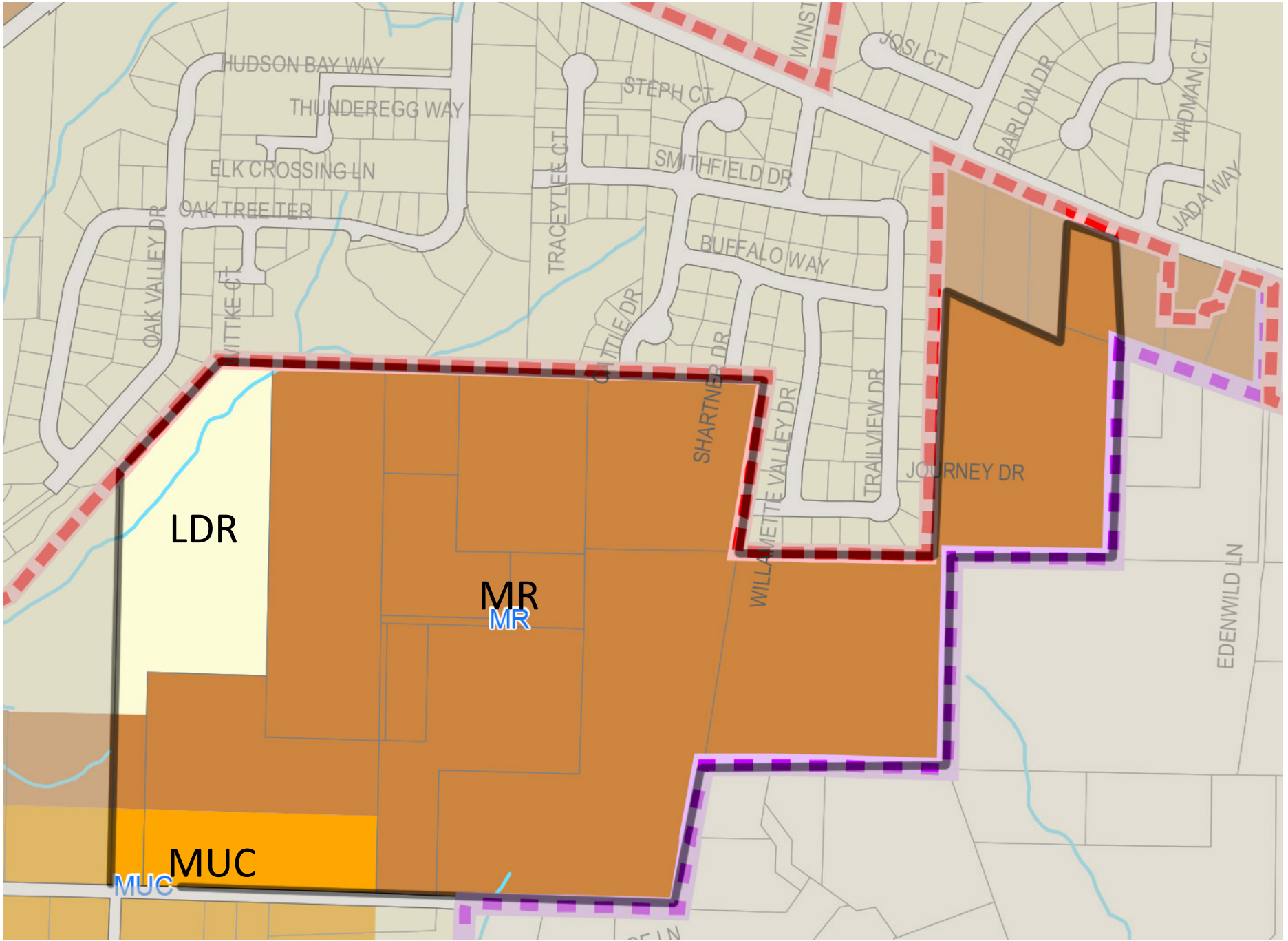
Background

- Annexation of 92 acres of land within the Urban Growth Boundary
- Apply zoning to the annexed area in conformance with the land use designations in the Oregon City Comprehensive Plan
- Change from Clackamas County Future Urbanizable-10 (FU-10) and RRF5 (Rural Farm and Forest 5-Acre) to:
    - R-10 Single-Family Dwelling District
    - R-5 Dwelling District
    - NC Neighborhood Commercial District
- The proposed zoning designations, if approved, represent an initial step in implementing the vision for the “North Village” of the adopted Park Place Concept Plan, adopted by the City in 2008

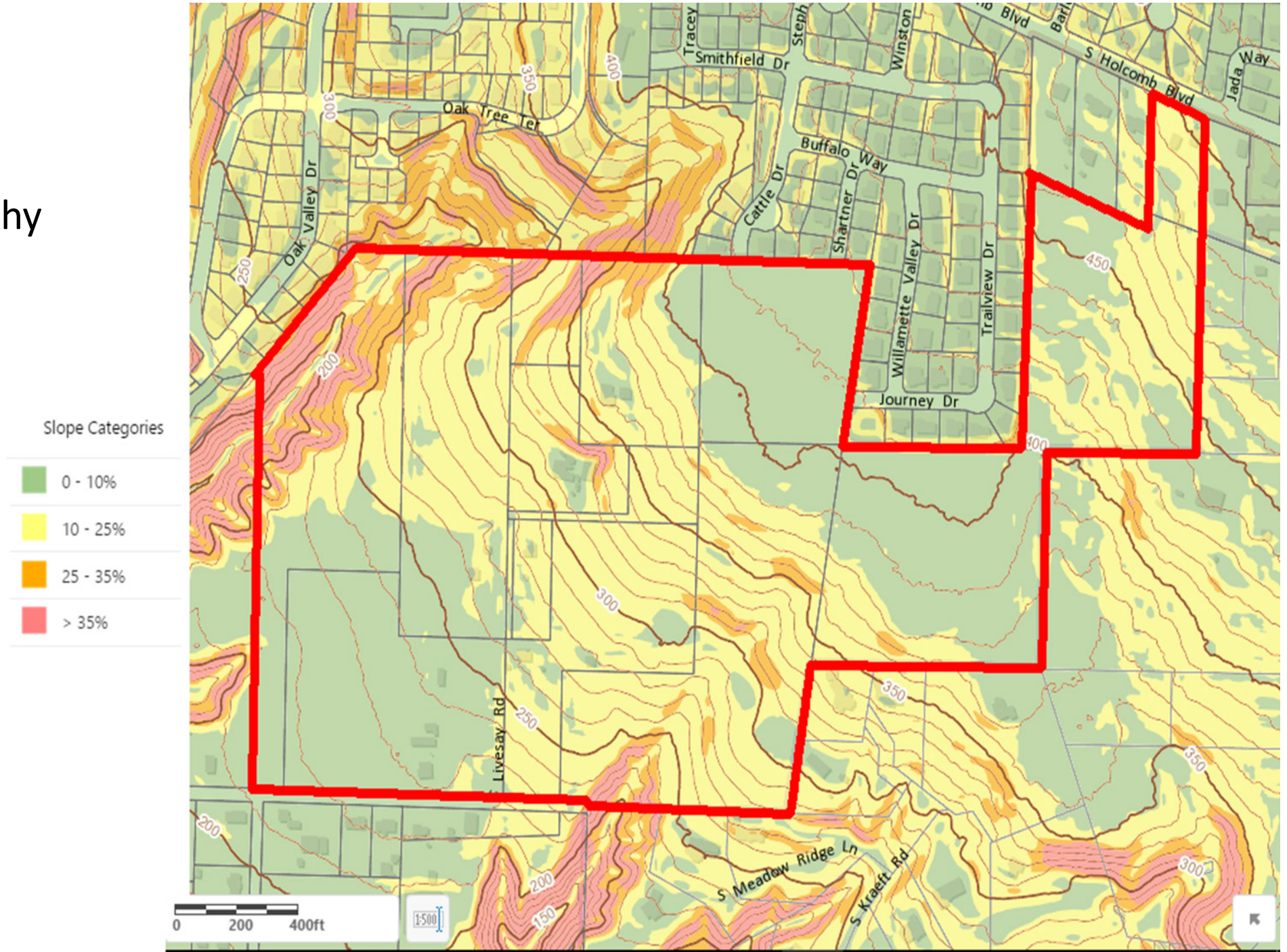
Subject Site



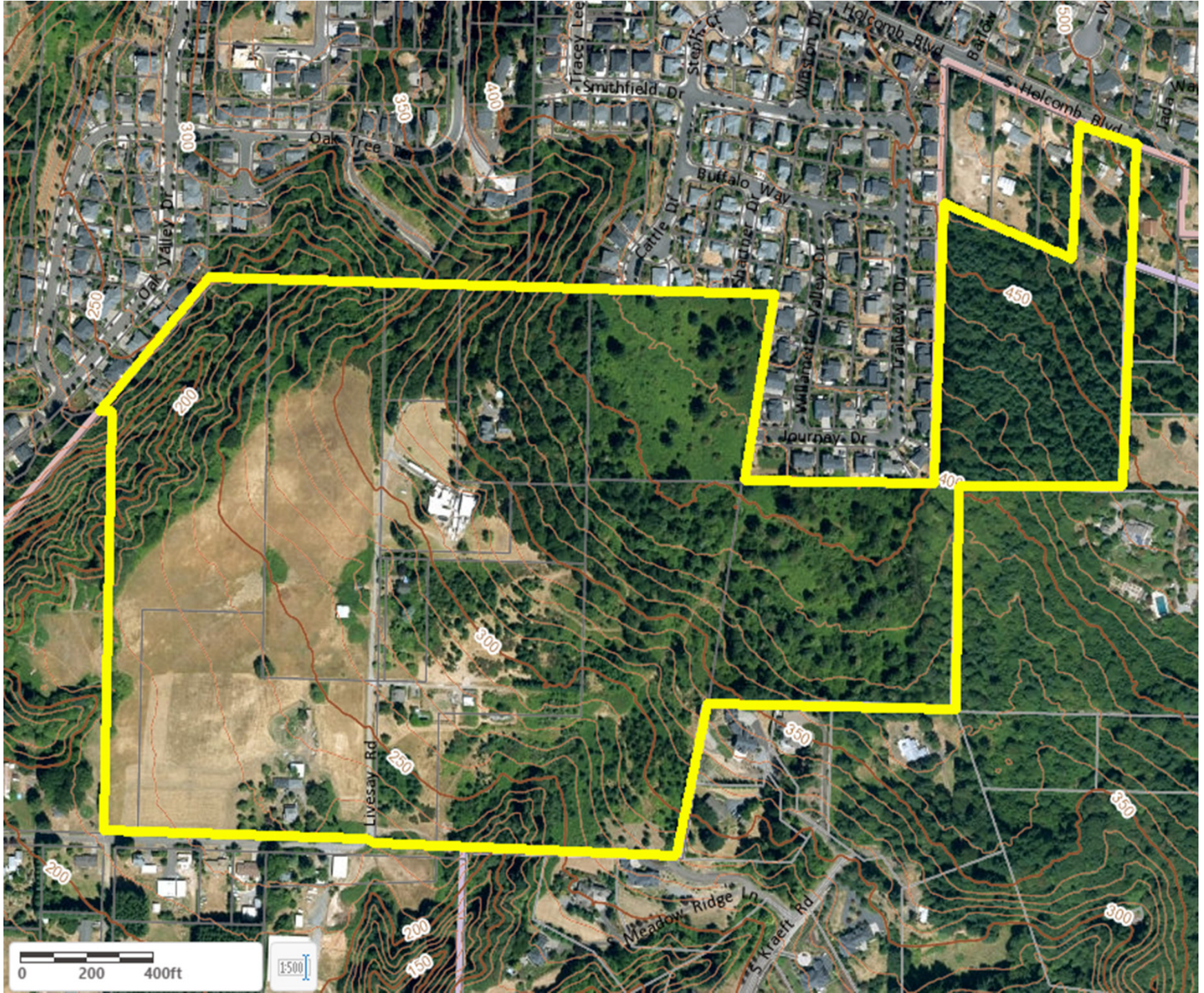
Comprehensive Plan Designations



Site Topography

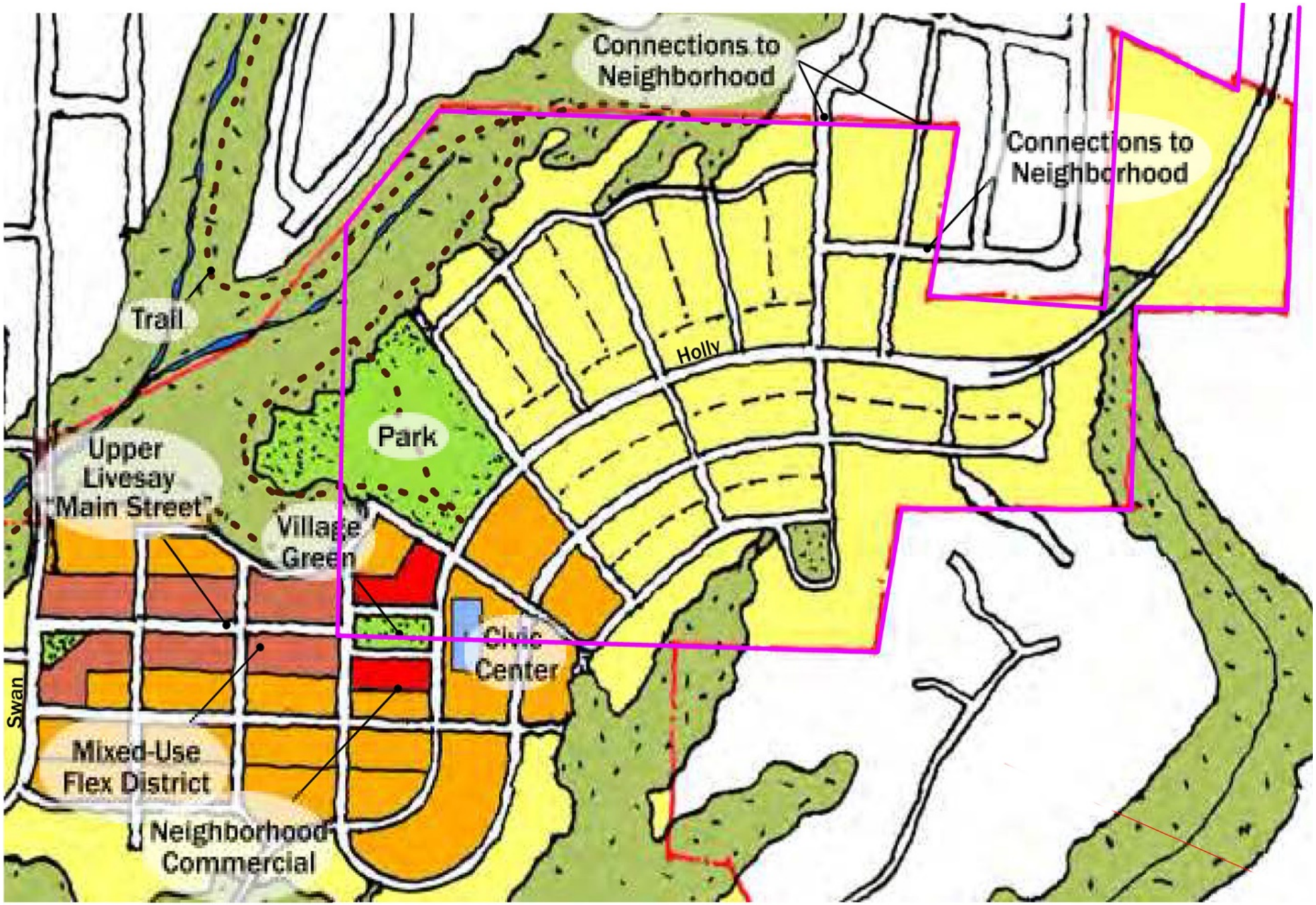


Aerial Photograph



North Village Neighborhood

(Annexation Area Outlined in Magenta)



Metro Boundary Change Criteria – Chapter 3.09

1. Consistency with directly applicable provisions in ORS 195 agreements or ORS 195 annexation plans.
2. Consistency with directly applicable provisions of urban planning area agreements between the annexing entity and a necessary party.
3. Consistency with directly applicable standards for boundary changes contained in Comprehensive land use plans and public facility plans.
4. Consistency with directly applicable standards for boundary changes contained in the Regional framework or any functional plans.
5. Whether the proposed boundary change will promote or not interfere with the timely, orderly and economic provision of public facilities and services.
6. Consistency with other applicable criteria for the boundary change in question under state and local law.

Criteria for Annexation- OCMC Title 14

(a) The territory is included within an urban growth boundary adopted by the city or Metro, as defined in ORS 197.015

(b) The territory is, or upon annexation of the territory into the city will be, subject to the acknowledged comprehensive plan of the city.

(c) At least one lot or parcel within the territory is contiguous to the city limits or is separated from the city limits only by a public right of way or a body of water.

(d) The proposal conforms to all other requirements of the city's ordinances.

Criteria for Zone Change OCMC 17.68

17.68.020 - Criteria.

The criteria for a zone change are set forth as follows:

A. The proposal shall be consistent with the goals and policies of the comprehensive plan.

B. That public facilities and services (water, sewer, storm drainage, transportation, schools, police and fire protection) are presently capable of supporting the uses allowed by the zone, or can be made available prior to issuing a certificate of occupancy. Service shall be sufficient to support the range of uses and development allowed by the zone.

C. The land uses authorized by the proposal are consistent with the existing or planned function, capacity and level of service of the transportation system serving the proposed zoning district.

D. Statewide planning goals shall be addressed if the comprehensive plan does not contain specific policies or provisions which control the amendment.

Conditions for Approval

- If Annexed, Zoning may not be applied until Alternative Mobility Targets are adopted and amendments have been made to OCMC Chapter 12.04

- If Annexed, no development may happen onsite until approval of a Type III Master Plan of the entire 91-acre property that addresses:
  - The Park Place Concept Plan
  - Oregon City's Public Facilities Plans
    - **Park and trails** (*timing of parkland acquisitions and development*)
    - **Sewer, water, stormwater** (*utility phasing that can foster redevelopment of the entire concept plan area)*
    - **Transportation System Plan**. (*proposed phasing of major roads to ensure a timely connection to Holly)*

Conditions for Approval

- At the time that a Master Plan is approved, and prior to development, the developer shall participate in the proportional funding for the following transportation improvements – including:
  - I-205/OR-99E ramp terminal projects (TSP Projects D75 and D76)
  - Main Street/14th Street improvements (TSP Projects D7 and D8)
  - Abernethy/Holcomb/Redland intersection
  - OR213/Redland Road (TSP Project D79)
  - Holly Lane/Holcomb Boulevard intersection (TSP Project D43)
  - Holly Lane/Redland Road intersection (TSP Project D36)
  - Highway 213/Beavercreek Road- right-turn lane on westbound Beavercreek Road and a merge lane on northbound Highway 213 (*Alternative Mobility Study*)

Island Annexation Analysis

- Please review City Attorney memorandum
- Oregon City Comprehensive Plan Policy 14.4.3 requires that the City "evaluate" and "avoid creating unincorporated islands within the City."
- The applicant indicates that they tried unsuccessfully to include these properties in their annexation.
- Policy 14.4.3 provides that "in some instances", the City may "require that parcels adjacent to the proposed annexation" be included as part of the annexation request.

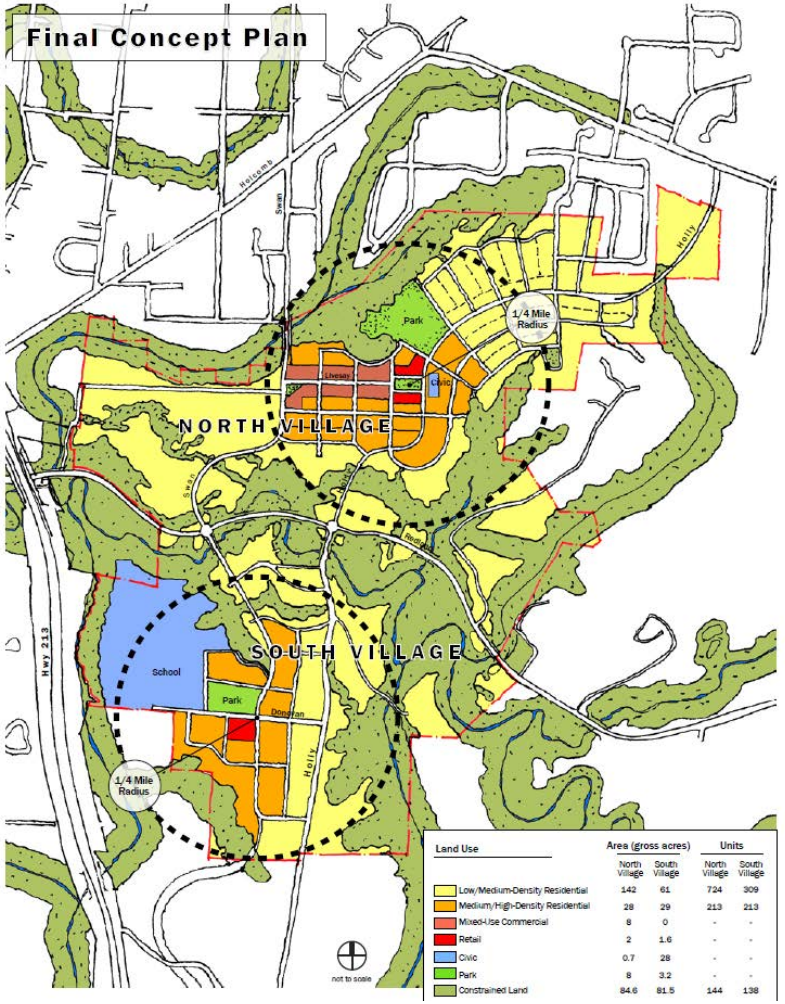
Should the city require annexation of these three lots, voter approval would be required, since there would no longer be 100% owner consent for the annexation.

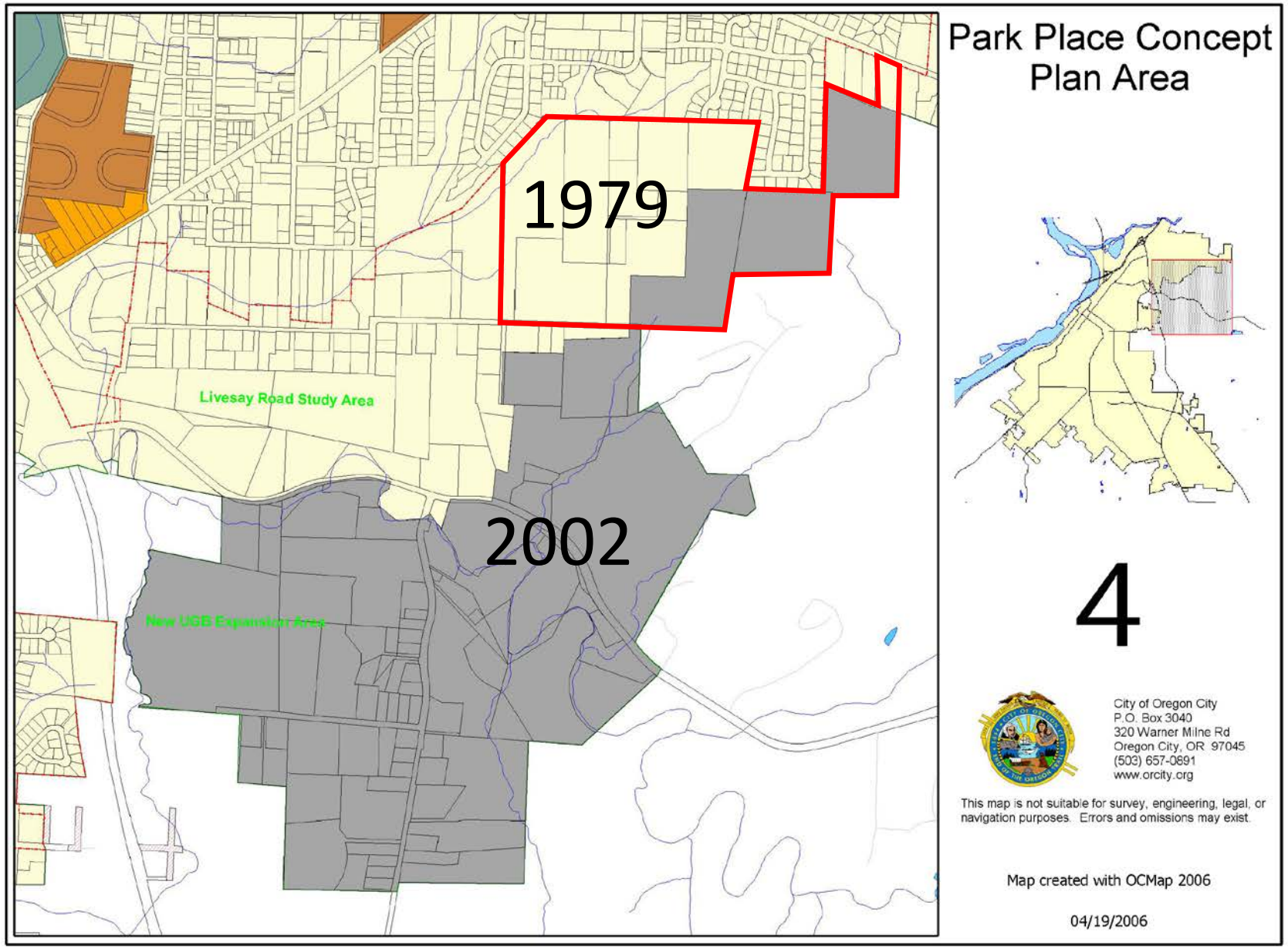
Feb 12th Items Addressed in Staff Addenda

1. Park Place Concept Plan
2. Master Plan Prior to Development
3. TIS Addendum #1 – Lancaster Engineering
4. ODOT Comments
5. Clackamas County Comments
6. Tree Removal Prior to Annexation
7. Traffic Safety and Speeding Issues
8. Geologic Hazards – Dr. Scott Burns
9. Cultural and Historic Resources (Goal 5)
10. Infrastructure Timing

Park Place Concept Plan

- Adopted in April 2008 by Ord. 07-1007 and acknowledged by DLCD
- Complies with Metro Title 11 for the 2002 UGB Expansion Area
- Provides framework for sustainable development
- Extensive Public Process
- Part of the Oregon City Comprehensive Plan and all Subsequent Public Facilities Master Plans
- Adoption of PPCP cannot be revisited as part of this review.





Park Place Concept Plan Area

4

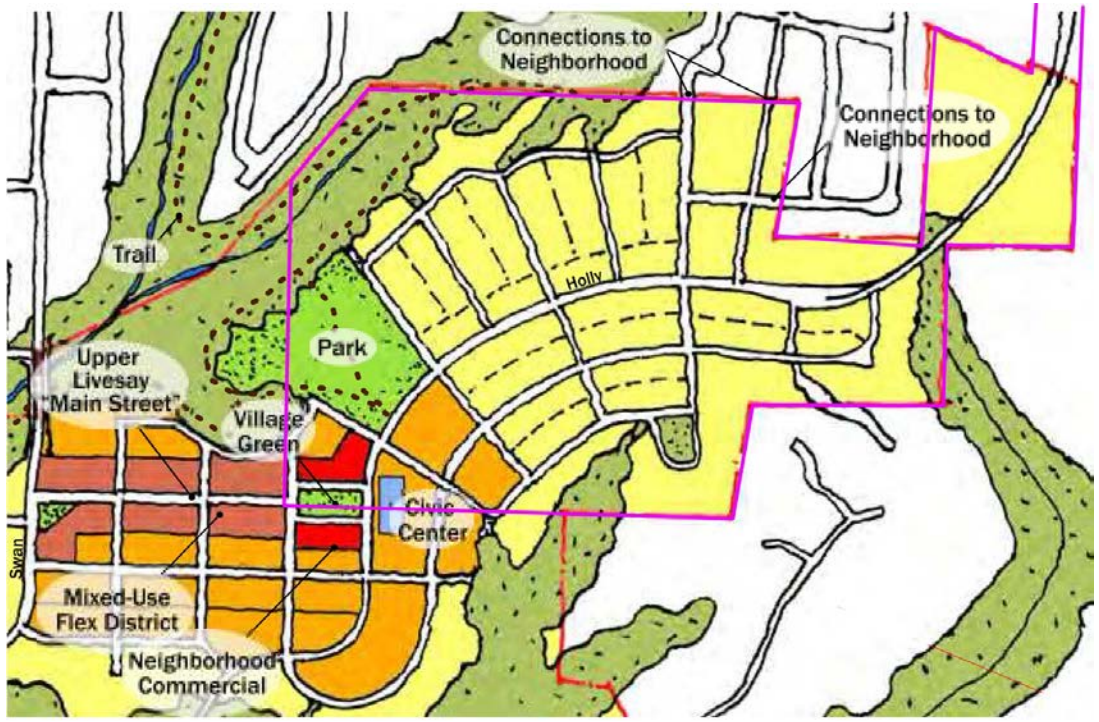
City of Oregon City
P.O. Box 3040
320 Warner Milne Rd
Oregon City, OR 97045
(503) 657-0891
www.orcity.org

Map created with OCMap 2006

04/19/2006

Master Plan Prior to Development

- **Condition of Approval**
- General Development Plan for entire 92 acres
- Will address Phasing and Adequacy of Public Facilities
- Phases submitted as Detailed Development Plans
- Needs to Implement the Park Place Concept Plan



TIS Addendum #1 – Lancaster Engineering

- Trip Generation based on Updated "Reasonable Worst Case Scenario" per ODOT direction
- Updated Operational Analysis for 16 Study Areas
- Responds to Clackamas County Roadway Standards
- Re-Assess 2035 Capacity Analysis
- Proposes Trip Cap

Technical Memorandum

REGISTERED PROFESSIONAL ENGINEER 54853PE OREGON JULY 9, 2001 TODD E. MOBLEY
RENEWS: 12/31/18

LANCASTER ENGINEERING
321 SW 4th Ave., Suite 400
Portland, OR 97204
phone: 503.248.0313
fax: 503.248.9251
lancasterengineering.com

To: Mark Handris, Icon Construction & Development

From: Daniel Stumpf, EI
Todd Mobley, PE

Date: March 27, 2018

Subject: Park Place Annexation:
Transportation Impact Study Addendum #1

Introduction

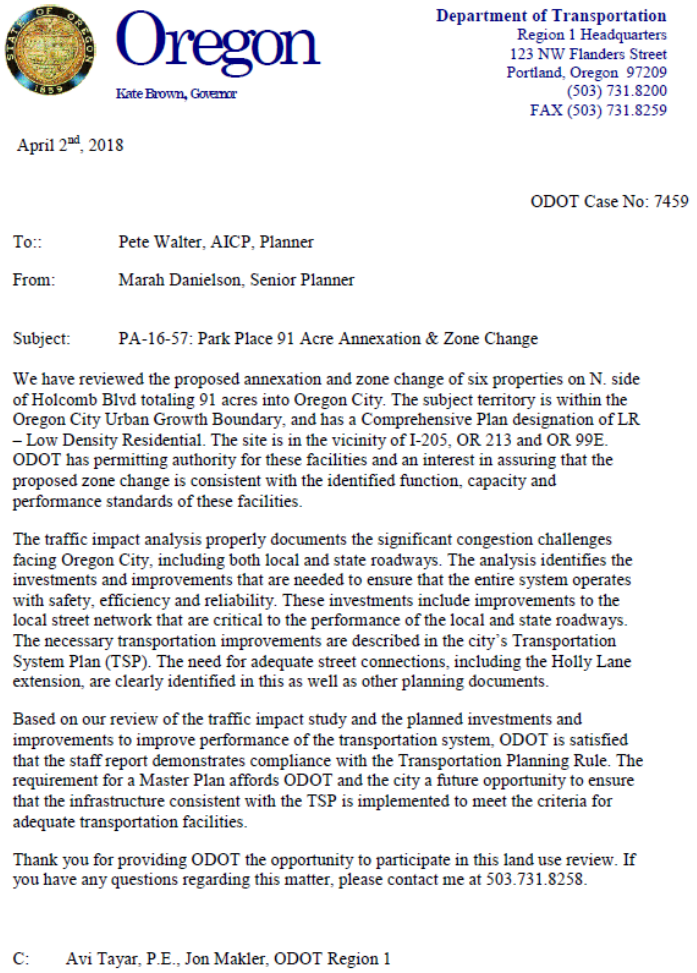
This memorandum is written as an addendum to the original *Park Place Annexation Transportation Impact Study* (TIS), dated August 2nd, 2017. Oregon Department of Transportation (ODOT) staff have requested that trip generation assumptions within the TIS be revised. Accordingly, this addendum re-assesses site trip generation and includes capacity analyses for year 2035 build-out conditions reflecting this change in projected trips generated.

A draft version of this memorandum was distributed to ODOT and City of Oregon City staff in mid-March. This final version of the memo incorporates revisions made by public agency review of the draft report. This includes:

1. Explanation of the assumed number of homes on the site,
2. Additional discussion of pass-by trips and the use of internal trip reduction,
3. Explanation of ODOT's recent interpretation regarding the application of intersection performance standards,
4. A proposal to establish a trip cap for the subject site.

ODOT Comments

- ODOT has jurisdiction over I-205, OR 213 and OR 99E
- TIA properly documents congestion challenges and analysis needed improvements
- Needed improvements include Holly Lane Extension
- Staff Report demonstrates compliance with TPR
- Master Plan requirement will ensure adequacy of infrastructure consistent with the TSP



Oregon
Kate Brown, Governor

Department of Transportation
Region 1 Headquarters
123 NW Flanders Street
Portland, Oregon 97209
(503) 731.8200
FAX (503) 731.8259

April 2nd, 2018

ODOT Case No: 7459

To:: Pete Walter, AICP, Planner

From: Marah Danielson, Senior Planner

Subject: PA-16-57: Park Place 91 Acre Annexation & Zone Change

We have reviewed the proposed annexation and zone change of six properties on N. side of Holcomb Blvd totaling 91 acres into Oregon City. The subject territory is within the Oregon City Urban Growth Boundary, and has a Comprehensive Plan designation of LR – Low Density Residential. The site is in the vicinity of I-205, OR 213 and OR 99E. ODOT has permitting authority for these facilities and an interest in assuring that the proposed zone change is consistent with the identified function, capacity and performance standards of these facilities.

The traffic impact analysis properly documents the significant congestion challenges facing Oregon City, including both local and state roadways. The analysis identifies the investments and improvements that are needed to ensure that the entire system operates with safety, efficiency and reliability. These investments include improvements to the local street network that are critical to the performance of the local and state roadways. The necessary transportation improvements are described in the city's Transportation System Plan (TSP). The need for adequate street connections, including the Holly Lane extension, are clearly identified in this as well as other planning documents.

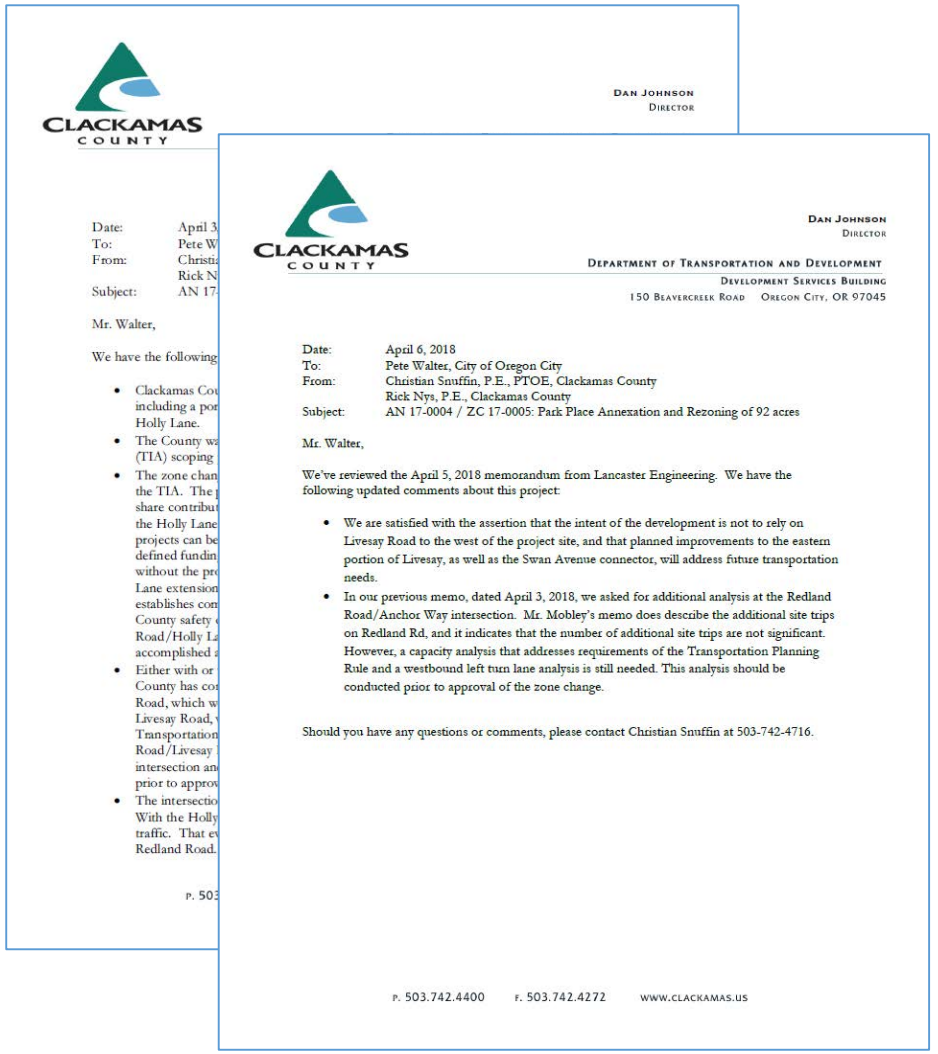
Based on our review of the traffic impact study and the planned investments and improvements to improve performance of the transportation system, ODOT is satisfied that the staff report demonstrates compliance with the Transportation Planning Rule. The requirement for a Master Plan affords ODOT and the city a future opportunity to ensure that the infrastructure consistent with the TSP is implemented to meet the criteria for adequate transportation facilities.

Thank you for providing ODOT the opportunity to participate in this land use review. If you have any questions regarding this matter, please contact me at 503.731.8258.

C: Avi Tayar, P.E., Jon Makler, ODOT Region 1

Clackamas County Comments

- 2 Comment Letters on April 3 and April 6
- County has Jurisdiction over:
  - Redland Road
  - Livesay Road
  - Holcomb Blvd (portion)
  - Holly Lane
- Satisfied that development will not impact W. end of Livesay Rd
- Additional Analysis needed for Anchor Way / Redland Rd



CLACKAMAS COUNTY

DAN JOHNSON
DIRECTOR

Date: April 3
To: Pete W
From: Christi
Rick N
Subject: AN 17-

Mr. Walter,

We have the following

- Clackamas Co
including a por
Holly Lane.
- The County wa
(TIA) scoping
- The zone chan
the TIA. The
share contribut
the Holly Lane
projects can be
defined fundin
without the pr
Lane extension
establishes con
County safety
Road/Holly La
accomplished
- Either with or
County has co
Road, which w
Livesay Road,
Transportation
Road/Livesay
intersection an
prior to approv
- The intersectio
With the Holly
traffic. That ev
Redland Road.

P. 503

CLACKAMAS COUNTY

DAN JOHNSON
DIRECTOR

DEPARTMENT OF TRANSPORTATION AND DEVELOPMENT
DEVELOPMENT SERVICES BUILDING
150 BEAVERCREEK ROAD OREGON CITY, OR 97045

Date: April 6, 2018
To: Pete Walter, City of Oregon City
From: Christian Snuffin, P.E., PTOE, Clackamas County
Rick Nys, P.E., Clackamas County
Subject: AN 17-0004 / ZC 17-0005: Park Place Annexation and Rezoning of 92 acres

Mr. Walter,

We've reviewed the April 5, 2018 memorandum from Lancaster Engineering. We have the following updated comments about this project:

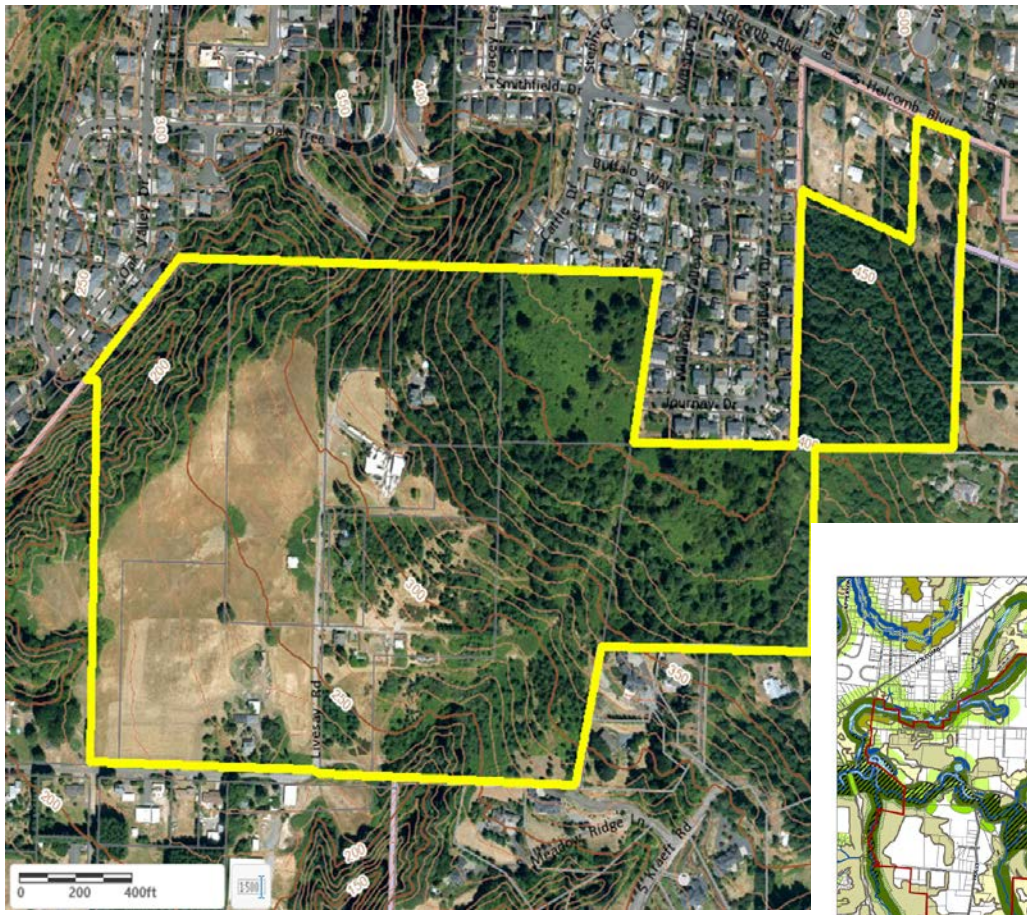
- We are satisfied with the assertion that the intent of the development is not to rely on Livesay Road to the west of the project site, and that planned improvements to the eastern portion of Livesay, as well as the Swan Avenue connector, will address fiture transportation needs.
- In our previous memo, dated April 3, 2018, we asked for additional analysis at the Redland Road/Anchor Way intersection. Mr. Mobley's memo does describe the additional site trips on Redland Rd, and it indicates that the number of additional site trips are not significant. However, a capacity analysis that addresses requirements of the Transportation Planning Rule and a westbound left turn lane analysis is still needed. This analysis should be conducted prior to approval of the zone change.

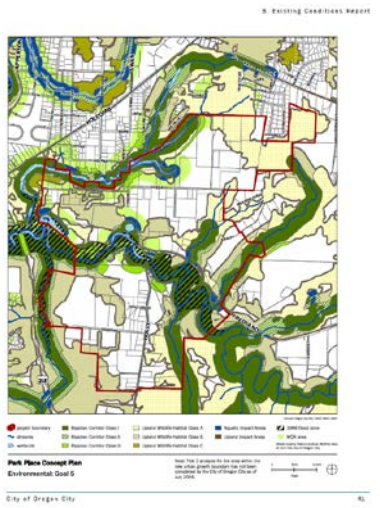
Should you have any questions or comments, please contact Christian Snuffin at 503-742-4716.

P. 503.742.4400 F. 503.742.4272 WWW.CLACKAMAS.US

Tree Removal Prior to Annexation

- Land brought into UGB for Future Urban use
- No current city code or policy that restricts tree cutting prior to annexation
- Goal 5 resources identified in PPCP
- City and County overlays apply to streams, wetlands, slopes within UGB
- City requires mitigation / new replanting with development



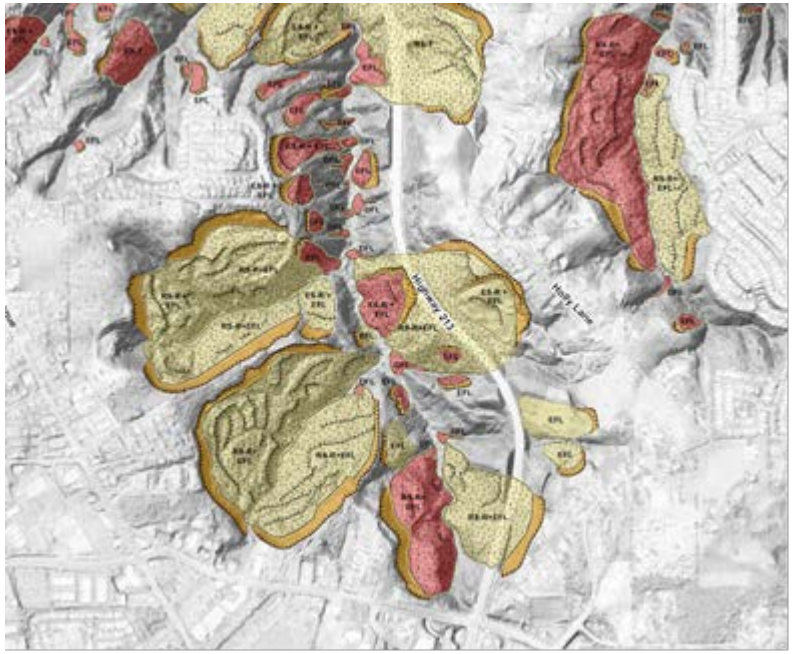


Traffic Safety and Speeding

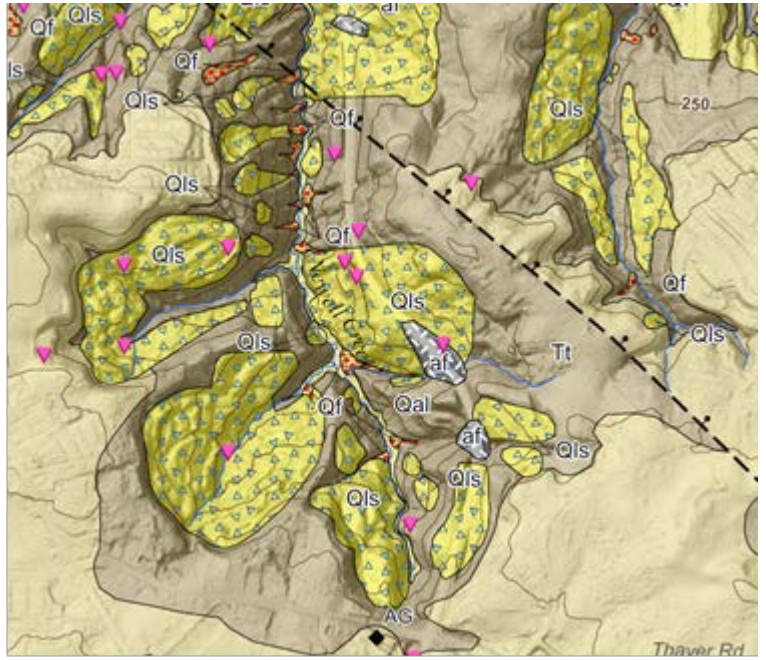
- Speeders = Enforcement issue for OCPD / Clackamas Sheriff
- Traffic engineers analyze crash data, safety issues and speed zones, identify needed improvements in TIA
- Clackamas County Traffic Safety Committee
- Oregon City Transportation Advisory Committee

Geologic Hazards

- DOGAMI / SLIDO data is in City's GIS Layers, Geo. Hazard Overlay and Code (OCMC 17.49)
- IMS-26 and GMS-119 map series are both referenced for geologic report requirements
- Dr. Scott Burns will present at work session with Planning Commission and Natural Resources Committee on March 14 (5:30 pm)



IMS-26



GMS-119

Cultural and Historic Resources (Goal 5)

- Eligible Adjacent - 4 properties
- Within the annexation area but not eligible - 3 properties
- Will be evaluated further with Master Plan

Infrastructure Timing

- Condition of Approval is for Master Plan
- Developers required to pay for fair share of improvements, SDCs, and dedicate sufficient land for needed facilities
- Master Plan will determine specific infrastructure needs and timing for provision of public facilities (including parks)

Request for Continuance to May 14, 2018

- Staff recommended continuance to allow time to analyze Anchor Way and Redland Rd (Applicant submitted this afternoon)

ITEMS ENTERED INTO RECORD
FILE: AN-17-0004/ZC-17-0005
DATE: 4/9/2018
EXHIBIT: B
SUBMITTED BY: Staff

Pete Walter

From: Chris Dunlop
Sent: Tuesday, April 03, 2018 2:30 PM
To: Pete Walter
Cc: Chris Dunlop
Subject: DOGAMI geologic data submitted by Paul Edgar - discussion

Pete, I took a look at the DOGAMI LIDAR data submitted by Paul Edgar. It consists of the following:

- Interpretive Map Series IMS-26_OregonCity_NW_LandslideInventory. This is the same map that we have on our website (https://www.orcity.org/maps/dogami-landslide-inventory-maps). It was released in 2009.
- Special Paper SP-42 – Protocol for Inventory Mapping of Landslide Deposits from Light Detection and Ranging (LIDAR) Imagery. This outlines their methodology of extracting geologic features from the Lidar data. This directory also included a couple of geodatabase templates – however, I wasn't able to access them, as the path is too long. I don't think there is any data in them, probably just data schemas.
- GIS Shapefiles:
  - 45122-C5-1_Landslide_Scarps – matches our layer DOGAMI_SLIDO_Scarps
  - 45122-C5-1_Landslide_Deposits – matches our layer DOGAMI_SLIDO_Deposits
  - 45122-C5-1_Landslide_Heads_Flanks – matches our layer DOGAMI_SLIDO_Scarp_Flanks

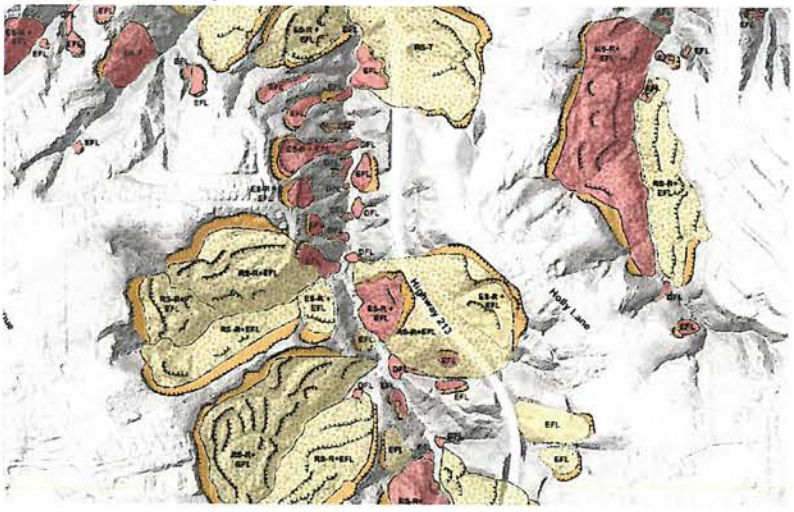
  These GIS shapefiles are identical to the MAP IMS-26 Landslide Inventory.

In summary, Paul Edgar submitted the both the pdf plots and the GIS data for the 2009 landslide inventory that DOGAMI produced. We have the same pdf plots available on our website. The layers are publicly available in OCWebMaps

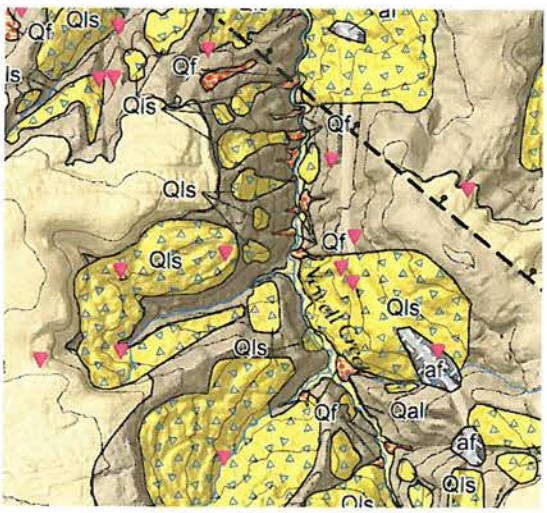
The second thing I looked at was how these data compared to our Geologic Hazards map, which was adopted 8/6/2010 by Ordinance 10-1003. We use our adopted map to determine whether taxlots are within a geologic hazards area.

Our adopted Geologic Hazards layer has 2 components – slope, and landslides. Ignoring slope, I examined where the landslide data come from. It came from a different DOGAMI source. Instead of the IMS-26 landslide inventory data, we used the 2009 DOGAMI Geologic Map Series GMS-119 map (https://www.orcity.org/maps/dogami-geologic-map-report). We selected two categories to represent the landslides – Qf (fan flow deposits) and Qls (Landslides). These are the mustard yellow areas on the right hand map. These are similar, but different to the IMS-26 data.

IMS-26 (Paul Edgar submission)



GMS-119 (OC Geologic Hazards)



As you can see, similar, but different. I haven't studied the DOGAMI data in enough detail to understand the differences between the two landslide datasets.

I hope this gives some insight into our Geologic layers.

Chris

From: Pete Walter
Sent: Tuesday, April 03, 2018 11:47 AM
To: Chris Dunlop <cdunlop@orcity.org>
Cc: Christina Robertson-Gardiner <crobertson@orcity.org>; Laura Terway <lterway@orcity.org>
Subject: Paul Edgar Testimony

Hi Chris,

The folder with the information that Paul submitted on February 12 during the public hearing on the Park Place Annexation is here.

P:\CommunityDevelopment\2017 Permits-Projects\AN - Annexation\AN 17-0004 Park Place 91 acres\Public Hearings\Planning Commission C 2.12.2018\Entered in Record 2.12.18\Paul Edgar DOGAMI GIS Maps

His stated wish during the hearing was for the city to "put this information up on the website". So – I think we need to illustrate what our GIS layers indicate, what maps people can download, and which information people would go to DOGAMI to look at - since it doesn't make sense to have redundant maps taking up space on our website when someone can just click through to the DOGAMI site via a link.

Take a look and then we can talk about composing a short letter or email for the record.

Thanks –

Pete

Pete Walter, AICP, Planner
Oregon City Planning Division
Community Development
221 Molalla Ave, Ste. 200
Oregon City, OR 97045
Phone: (503) 496-1568
City Website: www.orcity.org/planning
Mapping Tools: https://maps.orcity.org

March 19, 2018

To: Planning Commission

From: Stephen VanHaverbeke
PO Box 2526
Oregon City, OR 97045

Response to Land Use Application AN 17-04

I have been involved and supportive of the Park Place Concept Plan since its initial development. I have thought that it would be a wonderful addition to our community. While still in support of the plan, I have some concerns regarding the current annexation and development plan.

The current annexation, being at the upper end of the Concept Plan area, will require storm water and sewage lines to be built outside of the boundaries of Oregon City, including this annexation. While roadways are not permitted to be built to support new development in this manner, I am not sure whether sewer and storm water pipes may be.

Another issue is water. As put forward on page 9 of the Applicants submittal:

> The majority of the site will be served ~~with~~ by the City of Oregon City. There is an existing 16-inch City of Oregon City water main in Holcomb Blvd. along the subject property's frontage on that street. A 4-inch water line is located in Livesay Road at the lower end of the subject property. There will be a requirement to construct a 12 inch water main in the future collector street from Holcomb Blvd. to Livesay Road, together with a pressure reducing station and the cost of removing an existing water pump station on Livesay Road. At the present time the additional costs for these improvements are not included in the City's capital improvement program. The applicant will be seeking to have the CIP amended prior to development to include these regional costs.

This paragraph tends to indicate that the developer is asking the city to cover the cost of this improvement through the Capital Improvement Plan. My understanding is that all costs that are inherent in the development of a new subdivision are the responsibility of the developer and so should be part of their costs.

Thank you for your consideration.

Planning Commission Meeting
April 9th 2018

Chair McGriff and Commissioners,

You are tasked with approving the Park Place Annexation and rezoning. I would like to bring your attention to the *City's Municipal Code Title 14-Annexation, Section14.04.060.A.3 and 7*.
This states that: *When receiving a proposed annexation the Commission shall consider the following :*
.3 *Adequacy and availability of public facilities and services to potential development*
There are not adequate available services to this site and I understand the applicant will be seeking to have the City's CIP amended so the City pays for the 12" waterline to the tune of $715, 000!
.7 Lack of any significant adverse effects upon the economic, social and physical environment of the community by the overall impact of the annexation. .
I would suggest that the 1,207 daily trips sited in Replinger & Ass. Review of Traffic Impact Study (AN17-04&ZC17-05) and the total weekday trips of 7, 406 quoted would produce *significant adverse effects on the social and physical environment of the neighborhood.*

Since moving here in 1990 I have seen a huge increase in homes. That's good, we need homes. We need infill to create density. Our neighborhood has had (since the Park Place Concept Plan was adopted) the following developments built:
Jennifer Estates, Barlow Crest, Holcomb Ridge, Trails View, the Ames/Holcomb School development, plus a multitude of infill smaller developments. Currently we have the Air Strip development of 98 homes being built and the Serres Annexation will provide another 127 homes. Next year the County will begin moving people out of the upper projects, releasing 23 acres (zoned high density) onto the market to be developed.
I implore you to get out and visit this neighborhood, a neighborhood that is

a) already so built out and will continue to be for years
b) constrained by access of just one 2 lane street with a steep and dangerous curve at the bottom
c) surrounded by failing or near failing intersections in the neighboring street networks.

Please realize that to annex this big swath of land for development, without first requiring the Holly Lane Extension mandated by the Park Place Concept Plan be completed, will produce tremendous neighborhood traffic impacts which will severely impact our livability in Park Place.

Jackie Hammond-Williams,
Resident of Park Place
14422 Holcomb Rd
Ortegon City

ITEMS ENTERED INTO RECORD
FILE: AN-17-04/ ZC-17-05
DATE: April 9, 2018
EXHIBIT: D
SUBMITTED BY: Jackie Hammond-Williams

Good evening Chair McGriff and Commissioners. My name is Lisa Novak and I reside in the Park Place neighborhood. I am here to respectfully request you to please consider the impact on road safety with the proposed Park Place annexation, and specifically on Holcomb Boulevard. This is a two lane stretch with a speed limit of 40mph and no traffic calming or pedestrian safety measures.

The configuration and topography of the boulevard is such that speeding is passively encouraged. Vehicles are barreling down the hill from the direction of Bradley Road, and the 40mph speed limit is not followed. From the opposite direction, vehicles coming up the hill from the west (from the direction of 213) accelerate near Hunter and Holcomb to climb the hill. I have witnessed distracted driving and a fair amount of road rage along the boulevard. In fact, during the week of March 26, a multi vehicle accident occurred at Front and Holcomb.

Studies show a pedestrian struck at 40mph has an 85 percent probability of dying. The reaction and stopping distance at 40mph is 266 feet, which is about 16 car lengths. The pedestrian dilemma is that it's difficult to know when approaching motorists are going to honor the pedestrian right of way. It's difficult for me to imagine a child being able to estimate a safe crossing. Simply waiting for a break in traffic is often unreasonable and could leave a person standing for a long time on the sidewalk. Add to this mix someone with poor eyesight, someone trying to take care of a bunch of children while crossing the streets, someone who walks slowly, or uses a wheelchair...Waiting for a break in traffic is not a solution.

Considering the layout of Holcomb Boulevard, the park and schools are on the north side of the neighborhood, while the mailboxes and several residential developments are on the south side. Just a few short sidewalks exist on the south side of Holcomb, forcing pedestrians and cyclists to use the bike lane, which has varying widths. There are no crosswalks at the intersections with residential streets, with several blind turns along the route.

Help me understand why the Holcomb Pedestrian Concept Plan of 2004 wasn't fully implemented. I can appreciate budget constraints, but Holcomb was recognized in 2004 as a minor arterial that required traffic calming measures. In the past 14 years, the neighborhood has grown even more, and further developments are in the works, and we still have no traffic calming measures.

ITEMS ENTERED INTO RECORD
FILE: AN-17-004 / ZC-17-0005
DATE: 4/9/2018
EXHIBIT: E
SUBMITTED BY: Lisa Novak

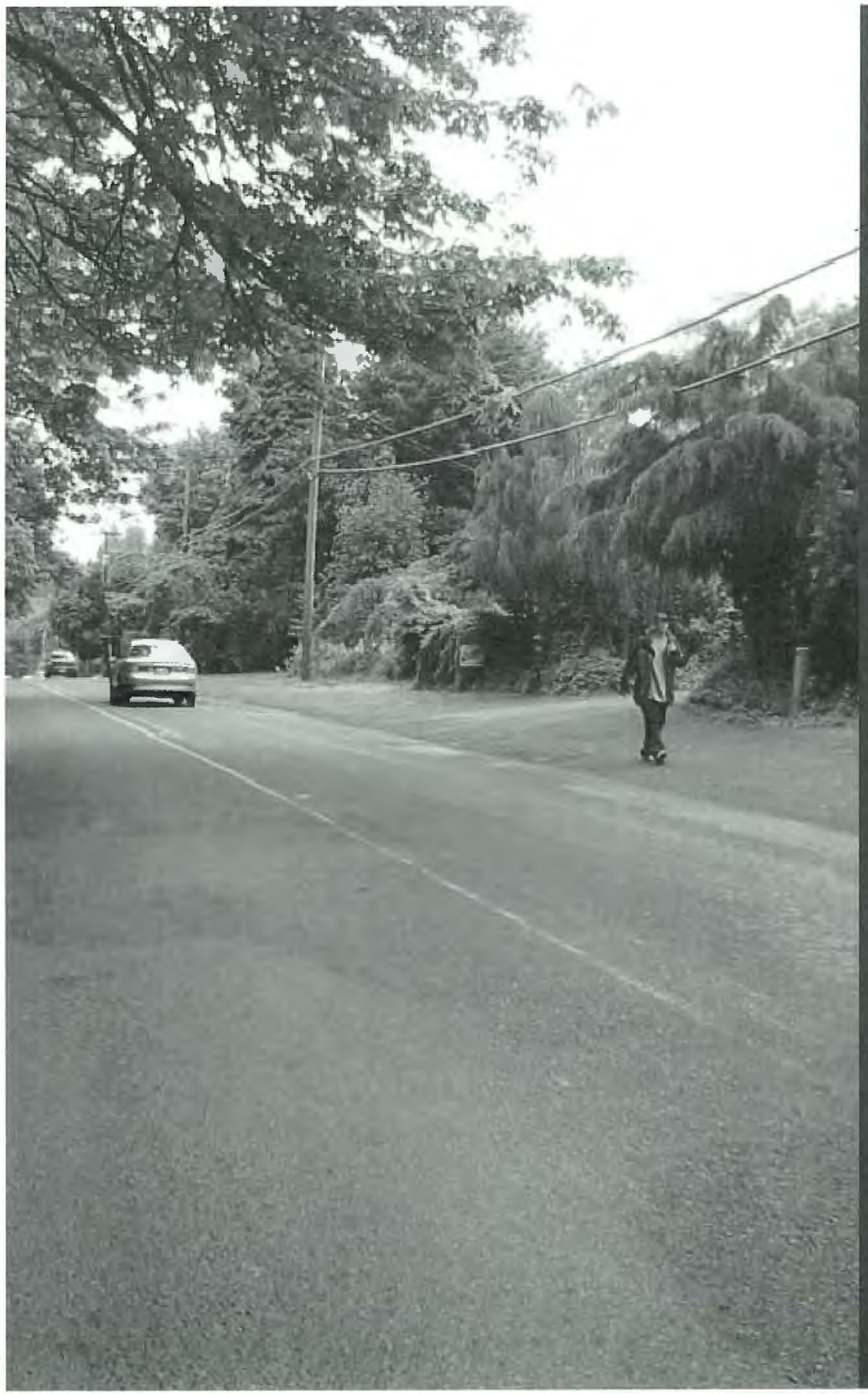
Is our aim to be a city of car-centric residential developments where people are trapped in their neighborhoods, discouraging community and walkability? I am beginning to think this is the case.

Help me understand why safety measures such as cross walks, stop signs, or other traffic calming measures are not being implemented or even being tested. We go to enormous expense and risk to human life to save ourselves small increments of driving time. When you can't let your kids play in the yard, let alone ride their bike to the store, because you know the street is dangerous, then those who design the roads are not providing society any real value.

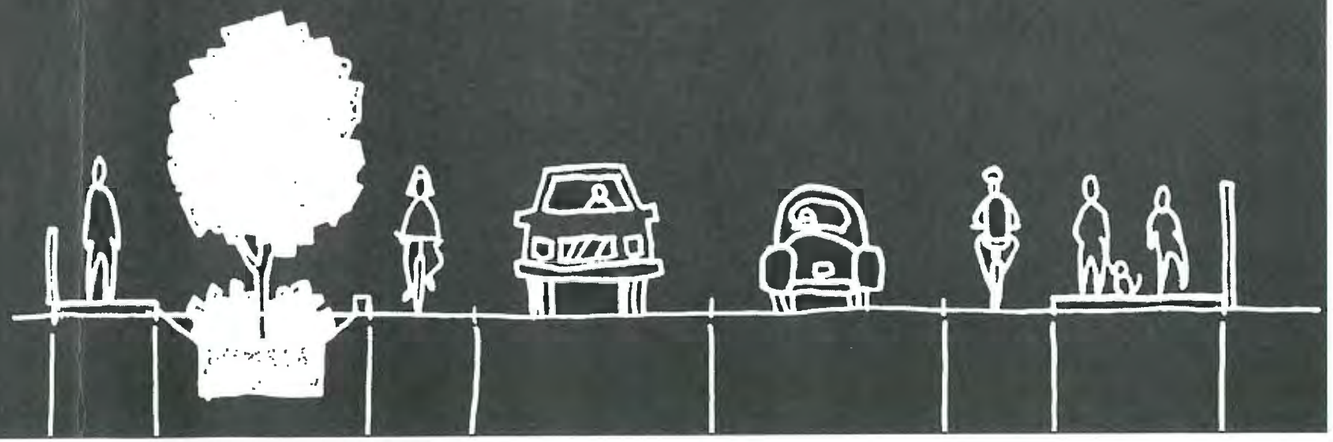
The applicant's own traffic engineer stated that the development will increase traffic volume anywhere from 5,608 to 5,968 daily trips, thus intensifying the dangers on Holcomb Boulevard. The risks are high, and I believe we can do better. In my opinion, it seems to me that this application request should be continued until further investigation into the impact of this annexation can be made.

Thank you.

EXHIBIT C: Lisa Nuvak



Holcomb Boulevard Pedestrian Enhancement Concept Plan



Holcomb Boulevard Pedestrian Enhancement Concept Plan

Prepared for:

City of Oregon City
Clackamas County
Park Place Neighborhood Association

Prepared by:

Alta Planning + Design
George Hudson, ASLA, Principal
Allison Wildman, Senior Planner

In association with:

KPFF
Matt Keenan, P.E.

Adolfson Associates
Sarah Hartung, Project Ecologist

Acknowledgements

Nancy Kraushaar, P.E., City Engineer, Oregon City
Dan Drentlaw, Community Development Director, Oregon City

Ron Weinman, P.E., Clackamas County

Residents of the Park Place neighborhood

November 2004

Introduction

In early summer 2004, the Alta Planning + Design team was retained by the City of Oregon City and Clackamas County to study the existing roadway conditions on Holcomb Boulevard and develop a streetscape concept that would achieve the goals and objectives set by the neighborhood residents, City, and County.

Goals and objectives were derived from comments at the first public workshop on June 30, 2004 at the Oregon City Baptist Church and further refined after the second public workshop in early September, 2004, at Holcomb Elementary School.

Neighborhood residents reviewing the Holcomb Boulevard pedestrian enhancement concept

GOAL 1: SAFETY

Provide pedestrian facilities that will enable all neighborhood residents to safely walk along and across Holcomb Boulevard.

Objectives:

- Provide a firm walking surface for pedestrians on at least one side of the roadway.
- Keep pathway consistent to minimize the number of forced crossings of Holcomb.
- Provide separation between roadway and pedestrian pathway.
- Slow motor vehicle speeds on Holcomb by utilizing traffic calming or stopping devices.
- Designate and improve pedestrian crossings on Holcomb Blvd.

GOAL 2: PRESERVE NEIGHBORHOOD CHARACTER

Design pedestrian facilities to preserve and enhance the character of the neighborhood as the area continues to develop and grow.

Objectives:

- Preserve "rural" character of the roadway.
- Make a concerted effort to preserve mature vegetation in the public right-of-way, particularly older trees and shrubs.
- Keep right-of-way width to a minimum to lessen impact on houses facing Holcomb, particularly from Swan to Apperson.
- Consider the use of "green" street treatments that reduce impact on the environment.

GOAL 3: CONSISTENCY WITHOUT UNIFORMITY

Provide pedestrian facilities that are consistent but not redundant and pre-manufactured.

Objectives:

- Use a variety of trees and shrubs in the right-of-way.
- Design treatments so they respond to specific site conditions.
- Install street lighting that has historic character and does not contribute to light pollution.
- Limit the use of center medians.

Design Concepts

The design concepts used along Holcomb Boulevard are very site specific, changing from one treatment to another depending on the conditions of the immediate location. Design concepts respond to specific conditions like topographical constraints (steep slopes), a desire for on-street parking, better street tree/vegetation treatments, and future land uses.

The roadway itself never changes. Instead, the sides of the roadway, or "edge conditions" will vary. Edge conditions can include a combination of 6' sidewalks, 5' - 10' planter strips, 10' - 12' bioswales, 9' on-street parking bays, pedestrian-scale lighting, and traffic calming treatments. We have developed seven typical "edge conditions" that will apply to areas along Holcomb Boulevard. They are shown in the applicable sections on the following pages.

Safety

The addition of sidewalks and buffers (plantings, bicycle lanes, etc.) will greatly improve the basic safety of all pedestrians. Stopping or slowing treatments at key intersections will improve safety for all roadway users, including pedestrians, bicyclists, and motorists. We recommend that the speed limit be transitionally lowered to 35 mph from the city limits to Swan and to 30 mph from Swan to Highway 213. It is also recommended that the section of Holcomb adjacent to Holcomb Elementary be designated as a "school zone" and posted 20 mph when children are present or during designated times. Enforcement of these speed zones will be critical to making the corridor safer.

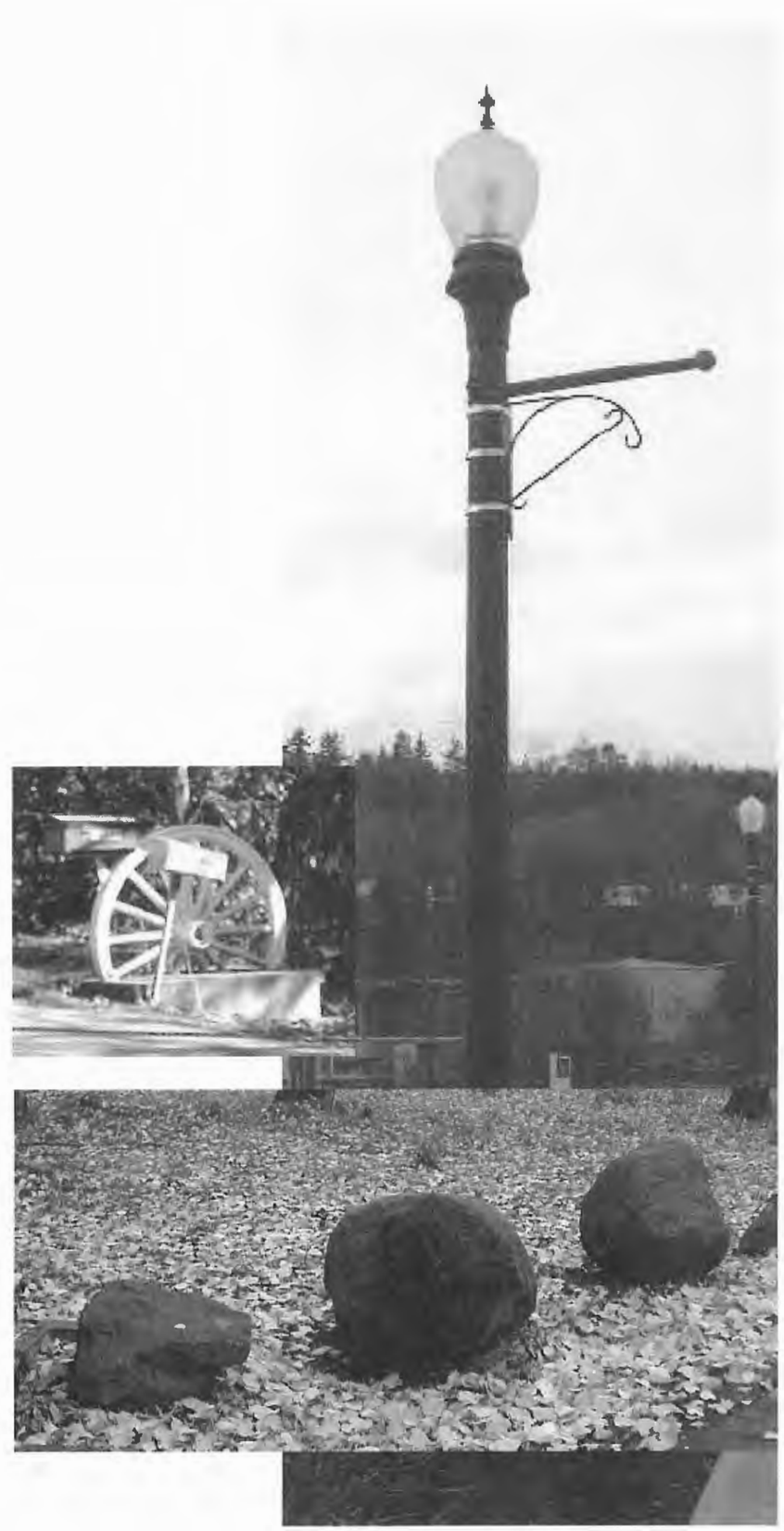
History

Though not explicitly shown in the corridor drawings, Holcomb will have features to make it a distinct part of Oregon City. Pedestrian-scale lighting should be located throughout the corridor to improve safety and visability. The lighting should reflect a style similar to the one used in the historic downtown and other parts of Park Place Neighborhood. Benches should be provided along the corridor, particularly where transit stops exist and are planned.

As part of the historic Barlow Trail, Holcomb Boulevard has a number of opportunities to integrate history, education, and artistry into the corridor. Local rock forms can be used as bases for placards to provide historical and environmental information about the area and the trail. A spring located just west of the Oregon City Baptist Church was thought to be a wayside watering hole for pioneers and their stock on the final push into Oregon City. Areas like these can be called out with art, information, or special plantings to accentuate the unique history of the area and contribute to an interesting and educational pedestrian environment. One idea is to use writings from pioneer journals and inscribe them on the sidewalk or on boulders.

Native Plantings

The introduction of bioswales provides an excellent opportunity to integrate native plants and grasses into the landscape. These plants typically need less water and maintenance than plant species that are not native to the area. They also provide interesting landscaping and can have a speed calming effect along the corridor. A list of recommended native trees, shrubs, and grasses by bio-region is located on the following page.



Plant List

The following native plants are recommended for landscaping the bioswales and planter strips along Holcomb Boulevard. Additional grasses, groundcovers, shrubs and trees can be found in Appendix F of the Stormwater Management Manual (2004) from the Portland Bureau of Environmental Services.

Woodland / Upland Areas

Small Trees and Shrubs	Herbaceous plants and wildflowers
Vine maple (Acer circinatum)	Vanilla leaf (Achylis triphylla)
Cascara (Rhamnus purshiana)	Wild ginger (Asarum caudatum)
Serviceberry (Amelanchier alnifolia)	Ladyfern (Athyrium filix-femina)
Pacific yew (Taxus brevifolia)	Deerfern (Blechnum spicant)
Chinkapin (Castanopsis chrysophylla)	Swordfern (Polystichum munitum)
California hazel (Corylus cornuta)	Bunchberry dogwood (Cornus stolonifera)
Pacific dogwood (Cornus nurrallii)	Twinflower (Linnaea borealis)
Oceanspray (Holodiscus discolor)	Miners lettus (Montia siberica)
Indian plum (Osmaronia cerasiformis)	Oxalis (Oxalis oregona)
Red elderberry (Sambucus racemosa)	False solomonseal (Smilacena racemosa)
Blue elderberry (Sambucus cerulea)	Starry solomonseal (Smilacena stellata)
Western mock-orange (Philadelphia lewisii)	Foamflower (Tiarella trifoliata)
Common chokecherry (Prunus virginiana)	Starflower (Trientalis latifolia)
Bitter cherry (Prunus emarginata)	Piggyback plant (Tolmiea menziesii)
Tall Oregon grape (Mahonia aquifolium)	Inside-out flower (Vancouveria hexandra)
Dull Oregon grape (Mahonia nervosa)	Trillium (Trillium ovatum)
Red huckleberry (Vaccinium parvifolium)	Wood violet (Viola glabella)
Evergreen huckleberry (Vaccinium ovatum)	Snow queen (Synthris reniformis)
Salal (Gaultheria shallon)	Red columbine (Aquilegia formosa)
Red flowering currant (Ribes sanguineum)	Western buttercup (Ranunculus occidentalis)
Thimbleberry (Rubus parviflorus)	Pacific bleedingheart (Dicentra formosa)
Snowberry (Symphoricarpus albus)	Camas (Camassia quamash)
Woods rose (Rosa woodsii)	
Nootka rose (Rosa nutkana)	
Oval-leaf viburnum (Virburnum ellipticum)	

Riparian / Wetland Areas

Trees	Herbaceous plants and wildflowers
Oregon ash (Fraxinus oregona)	Maidenhair fern (Adiantum pedatum)
Western red cedar (Thuja plicata)	Douglas aster (Aster Douglasii)
Cascara (Rhamnus purshiana)	Lady fern (Athyrium fliex-femina)
Columbia willow (Salix fluviatilis)	Big-leaf sedge (Carex amplifolia)
Pacific willow (Salix lasiandra)	Columbia sedge (Carex aperta)
Piper's willow (Salix piperi)	Slough sedge (Carex obnupta)
Rigid willow (Salix rigida)	Henderson's wood sedge (Carex hendersonii)
Scouler willow (Salix scouleriana)	Western corydalis (Corydalis scouleri)
Soft-leaved willow (Salix sessiliflora)	Elegant rein-orchid (Habenaria elegans)
Sitka willow (Salix sitchensis)	Soft rush (Juncus effusus)
Red alder (Alnus rubra)	Skunk cabbage (Lysichitum americanum)
	Yellow monkey-flower (Mimlulus quttatus)
Shrubs	Streambank springbeauty (Montia parviflora)
	Candyflower (Montia siberica)
Red-osier dogwood (Cornus stolonifera)	Forget-me-not (Myostis laxa)
Black twinberry (Lonicera involucrata)	Water parsley (Oenanthe sarmentosa)
Indian plum (Oemlaria cerasiformis)	Sweet coltsfoot (Petasites frigidus)
Pacific ninebark (Physocarpis capitatus)	False solomon-seal (Smilacena racemosa)
Swamp rose (Rosa pisocarpa)	Laceflower (Tiarella trifoliata)
Salmonberry (Rubus spectabilis)	Piggyback (Tolmiea menziesii)
Blue elderberry (Sambucus cerluea)	Stream violet (Viola glabella)
Red elderberry (Sambucus racemosa)	Tufted Hairgrass (Deschampsia caespitosa)
Douglas spirea (Spirea douglasii)	Pointed Rush (Juncus oxymeris)
Nootka rose (Rosa nootkana)	Slender Rush (Juncus tenuis)
	Grooved Rush (Juncus patens)
	Manna Grass (Glyceria occidentalis)

How does a bioswale work?

A bioswale is a shallow depression created in the earth to accept and convey stormwater runoff. A bioswale uses natural means, including vegetation and soil, to treat stormwater by filtering out contaminants being conveyed in the water.

When it begins to rain, the first "flush" of water that runs off a street or parking lot carries most of the contaminants (oil, dirt, etc.) that have collected on the pavement. Stormwater normally moves from a paved surface into a storm drain, where it is piped directly to the nearest stream and, eventually, to the Willamette River. The bioswale intercepts the stormwater runoff and starts the treatment process.

The bioswale channel, about 200 feet long and 10 feet wide, is where most of the contaminant removal takes place. The channel bed is covered with a thick mat of native sedges, rushes, and grasses, which slows the stormwater flow to about a nine minute trip through the swale. This slow flow allows stormwater to have plenty of contact time with channel vegetation. During the journey through the bioswale, the plants and soil filter the stormwater, trap sediments, and absorb contaminants.

Courtesy of the City of Salem, Oregon

Phasing

The primary purpose for a pedestrian improvement phasing plan is to ensure a logical sequence of implementation that provides a high degree of success as each phase is built, thereby building momentum for each subsequent phase of the project. Success is directly correlated with meeting the priorities established by the City, County, and neighborhood residents. When phasing projects for Holcomb Boulevard, safety, connections to pedestrian-oriented land uses (i.e., schools and commercial areas), and "fundable" projects were given the highest priority. Cost and ease of implementation were considered moderate priorities; development synergy was a low priority.

Phase 1: 5+ years

Phase 1 consists of projects and petitions that would vastly and immediately improve the safety of the corridor. This phase provides safe connections to Holcomb Elementary School from nearby residential areas and provides a connection from the public housing complex to the small commercial node just west of Front Street. This phase also recommends two petitions to reduce traffic speeds on Holcomb.

Phase 1-A. Holcomb Elementary School Connections

i. Design and construct the Holcomb Elementary intersection. Possible treatments include stop signs, a pedestrian-activated signal, signage, crosswalks, warning flashing lights, illumination, and curb cuts.

ii. Design and construct a sidewalk on the north side of the roadway from Holcomb Elementary to the existing sidewalk at Winston. This project would require widening the roadway to stripe and mark two bicycle lanes at the time of construction.

iii. Design and construct a small section of sidewalk from the existing sidewalk west of Trailview Estates to Oak Tree Terrace.

iv. Design and construct a short section of sidewalk connecting the existing sidewalk from Holcomb Ridge to the improved Holcomb Elementary intersection.

v. Illuminate the intersection and mark crosswalks across Holcomb at Oak Tree Terrace.

vi. Petition Clackamas County to designate the area in front of the school as a school zone (signed 20 mph during school hours).

Phase 1-B. Corridor Connections

i. Design and construct a sidewalk on the north side of the roadway from approximately Swan Avenue to Front Street. This project would require widening the roadway to stripe and mark two bicycle lanes at the time of construction.

ii. Mark crosswalks and traffic control devices at Swan Avenue.

iii. Add landscaping and trail treatments (boulders, etchings, etc.) at strategic locations along the corridor.

Phase 1-C. Traffic Calming

i. Petition Clackamas County to lower the speed limit to 35 mph from the city limit to Swan and 30 mph from Swan to the Highway 213 bridge.

Planning-Level Cost Estimate: Phase 1

ITEM	QUANTITY	UNIT	UNIT COST	ITEM COST	SUBTOTAL
GENERAL REQUIREMENTS					
Mobilization	1	LS	$95,000	$95,000	
Construction Traffic Control	1	LS	$70,000	$70,000	
Erosion Control	1	LS	$24,000	$24,000	
					$189,000
DEMOLITION					
Sawcut AC	9,000	LF	$1	$9,000	
Clearing and Grubbing	1	LS	$11,500	$11,500	
Tree Removal	1	EA	$250	$250	
Relocating Power Poles	14	EA	$400	$5,600	
Protect Existing Utilities	1	LS	$5,000	$5,000	
Adjust manholes, valves, meters, vault lids	1	LS	$1,000	$1,000	
					$32,350
SUBGRADE					
General Excavation	4,600	CY	$15	$69,000	
					$69,000
STREET					
AC Pavement	992	TON	$30.00	$29,760	
Aggregate Base (8" thickness)	2,497	TON	$10	$24,970	
Street Light-Ornamental	34	EA	$5,000	$170,000	
Street Light-Cobra	2	EA	$4,000	$8,000	
Lighting	1	LS	$45,000	$45,000	
Pedestrian Signal	1	LS	$100,000	$100,000	
Crosswalk Marking	150	LF	$0.30	$45.00	
Warning Flashing Lights	1	LS	$50,000	$50,000	
Signage	12	EA	$250	$3,000	
					$430,775
CURB AND SIDEWALKS					
Standard Curb	4,544	LF	$10	$45,440	
Concrete Sidewalk	27,354	SF	$3.00	$82,062	
					$127,502
STORM DRAIN					
12" RCP	2,362	LF	$35	$82,670	
Relocating Catch Basin	4	EA	$300	$1,200	
					$83,870
SITE FURNISHINGS					
Stone corner bollards	15	EACH	$50	$750	
					$750
STRUCTURES					
Retaining Wall	6,598	SF	$30	$197,940	
					$197,940
MISCELLANEOUS					
Roundabout	1	LS	$225,000	$225,000	
					$225,000
Engineering, Surveying and Designing	1	LS	$203,428	$203,428	
					$203,428
				TOTAL	$1,559,615
				CONTINGENCY 40%	$623,846
				GRAND TOTAL	**$2,183,461**

Right of Way Acquisition Not Included

Phasing

Phase 2: 5-10 years

Phase 2 continues to make safe connections throughout the corridor by connecting the small commercial node to the existing sidewalks on the bridge over Highway 213 and along the frontage of the Clackamas County Housing property. These connections complete the north side sidewalk through the study area. The Holcomb curve to Redland Road is included in Phase 2 but has not been through an estimate of probable cost. The costs reflect everything but the improvements from the Highway 213 bridge to Redland Road.

Planning-Level Cost Estimate: Phase 2

ITEM	QUANTITY	UNIT	UNIT COST	ITEM COST	SUBTOTAL
GENERAL REQUIREMENTS					
Mobilization	1	LS	$27,000	$27,000	
Construction Traffic Control	1	LS	$20,000	$20,000	
Erosion Control	1	LS	$7,000	$7,000	
					$54,000
DEMOLITION					
Sawcut AC	8,000	LF	$1	$8,000	
Clearing and Grubbing	1	LS	$10,000	$10,000	
Relocating Power Poles	7	EA	$400	$2,800	
Protect Existing Utilities	1	LS	$4,000	$4,000	
Adjust manholes, valves, meters, vault lids	1	LS	$1,000	$1,000	
					$25,800
SUBGRADE					
General Excavation	4,000	CY	$15	$60,000	
					$60,000
STREET					
AC Pavement	917	TON	$30.00	$27,510	
Aggregate Base (8" thickness)	2,310	TON	$10	$23,100	
Street Light-Ornamental	15	EA	$5,000	$75,000	
Lighting	1	LS	$20,000	$20,000	
					$145,610
CURB AND SIDEWALKS					
Standard Curb	3,496	LF	$10	$34,960	
Concrete Sidewalk	20,976	SF	$3.00	$62,928	
					$97,888
Engineering, Surveying and Designing	1	LS	$57,495	$57,495	
					$57,495
				TOTAL	$440,793
				CONTINGENCY 40%	$176,318
				GRAND TOTAL	**$617,110**

Phasing

Phase 3: 5-15 years

Phase 3 consists of projects that greatly enhance the aesthetic condition of the roadway but are not critical for immediate pedestrian safety. Phase 3 projects will provide on-street parking in front of many properties that face the road, stormwater treatment with bioswales, vertical traffic calming, planter strips, and continuous sidewalks on the south side of Holcomb.

Phase 3-A. Lower Holcomb
Holcomb Ridge Trail to Highway 213 Bridge

i. Design and construct on-street parking bays, bioswales, planter strips, and sidewalks.

ii. Design and mark crosswalks at Front Street. Illuminate intersection. Due to the width of the road, consider a pedestrian refuge. The refuge will also help slow traffic through this area.

iii. Stripe bicycle lanes that haven't been implemented in Phases 1 and 2.

Phase 3-B. Upper Holcomb - Trailview Estates

i. Grind out 5' of existing sidewalk/planter and 6' of existing pavement to create bioswales on the south side of Holcomb.

ii. Illuminate intersections and replace existing lighting with pedestrian-scale light fixtures.

iii. Stripe and mark bicycle lanes.

Planning-Level Cost Estimate: Phase 3

ITEM	QUANTITY	UNIT	UNIT COST	ITEM COST	SUBTOTAL
GENERAL REQUIREMENTS					
Mobilization	1	LS	$45,000	$45,000	
Construction Traffic Control	1	LS	$33,000	$33,000	
Erosion Control	1	LS	$11,000	$11,000	
					$89,000
DEMOLITION					
Sawcut AC	2,200	LF	$1	$2,200	
Clearing and Grubbing	1	LS	$8,000	$8,000	
Asphalt Pavement Demolition	75	CY	$25	$1,875	
Protect Existing Utilities	1	LS	$1,000	$1,000	
Adjust manholes, valves, meters, vault lids	1	LS	$3,000	$3,000	
					$16,075
SUBGRADE					
General Excavation	1,850	CY	$15	$27,750	
					$27,750
STREET					
AC Pavement	5,285	TON	$30.00	$158,550	
Aggregate Base (8" thickness)	605	TON	$10	$6,050	
Street Light-Ornamental	29	EA	$5,000	$145,000	
Lighting	1	LS	$100,000	$35,000	
Lane Striping	28,000	LF	$0.15	$4,200.00	
					$348,800
CURB AND SIDEWALKS					
Standard Curb	3,317	LF	$10	$33,170	
Concrete Sidewalk	19,902	SF	$3.00	$59,706	
					$92,876
STORM DRAIN					
Water Quality Swales	22728	SF	$2	$45,456	
					$45,456
SITE FURNISHINGS					
Planter	325	LF	$20	$6,500	
Irrigation	3,877	SF	$2	$7,754	
					$14,254
Engineering, Surveying and Designing	1	LS	$95,131.65	$95,132	
					$95,132
				TOTAL	$729,343
				CONTINGENCY 40%	$291,737.06
				GRAND TOTAL	**$1,021,080**

Holcomb Curve

Existing sidewalk

Proposed sidewalk

SECTION SUMMARY

The focus of the Holcomb Boulevard Pedestrian Enhancement Concept Plan is to concentrate more on making walkable, short-trip connections (one mile round trip) along Holcomb Boulevard (schools to homes, homes to neighborhood commercial, etc.) and less on long-trip connections to the rest of the city. However, the curve section of Holcomb is an integral link for many neighborhood residents to places outside of the neighborhood should be addressed on a cursory level in this Plan.

This section of Holcomb Boulevard is extremely physically constrained and the site of numerous motor vehicles crashes caused by excessive speed. A study of the curve by the neighborhood association revealed that a sidewalk is needed on the south side of the roadway. This Plan concurs with this recommendation as well as the addition of a low guardrail along the length of the sidewalk to deflect errant vehicles. The sidewalk should be at least 6' wide but additional width is very desirable to assist bicyclists climbing the hill. A sign should be placed at the intersection of Leroy Lane to guide bicyclists to the bicycle lane on the bridge. Without major reconstruction at extraordinary cost, bicycle lanes are not feasible in this section. Further analysis is needed to determine how substantial the retaining walls need to be in order to determine an opinion of probable cost.

This section should be included in Phase 2 to provide the link across the bridge and the Phase 2 facilities in Section 1.

PHASING

Phase 1 Improvements

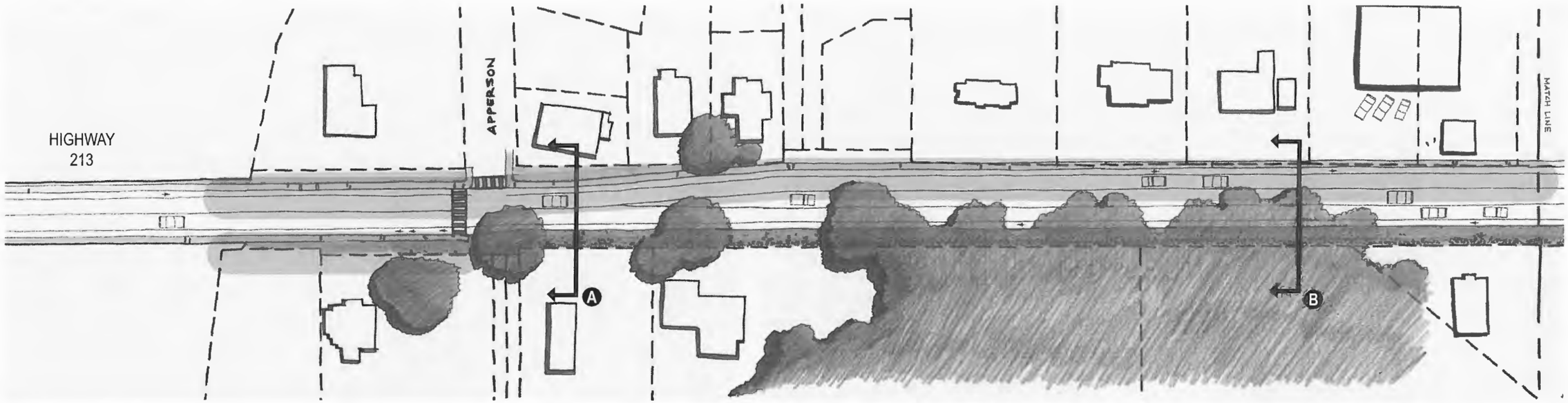
Phase 2 Improvements

Phase 3 Improvements

N

not to scale

Section 1: Highway 213 to Steve's Marketplace



SECTION SUMMARY

South side

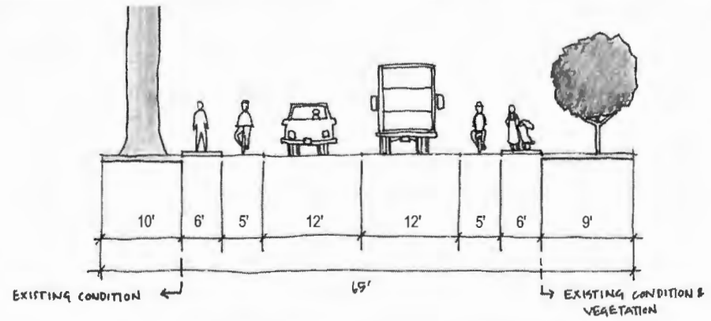
A sidewalk will connect from Apperson to the existing sidewalks on the bridge over Highway 213. The sidewalk will transition to a gravel path at Apperson in order to save mature vegetation in the public right-of-way and contribute minimal impact to the riparian area across from Steve's Marketplace.

North side

A sidewalk will connect to existing sidewalks on the bridge over Highway 213 and travel the length of the section. A center turn lane will be installed in front of the parcels that are zoned "neighborhood commercial" to accommodate future turning movements from Holcomb into the commercial area. Treatments require relocating the existing power poles and acquiring a small amount of right-of-way, which could be implemented when or if the site redevelops.

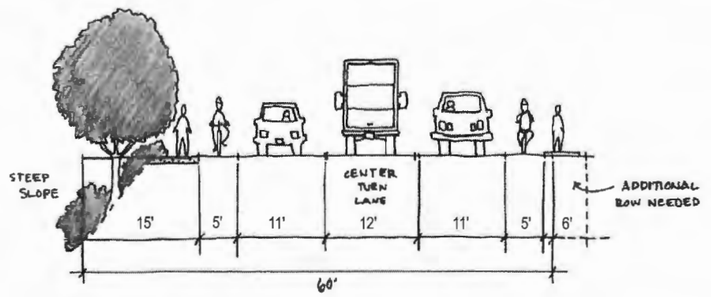
CROSS-SECTIONS

A



Curb-tight sidewalks and existing vegetation in the public right-of-way

B



Curb-tight sidewalk on one side of the roadway; gravel path on opposite side

PHASING

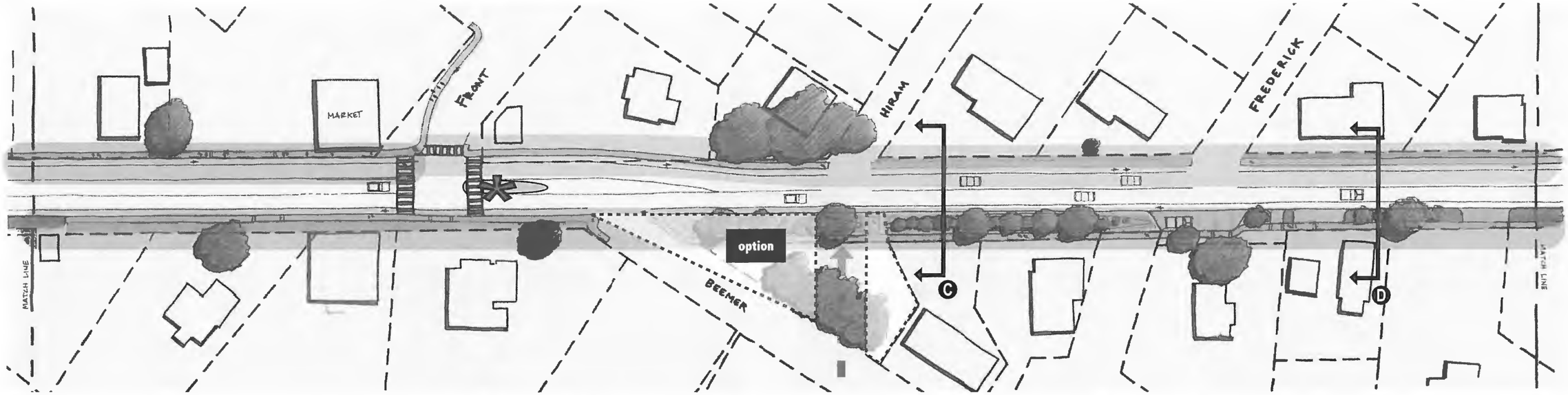
Phase 1 Improvements

Phase 2 Improvements

Phase 3 Improvements

not to scale

Section 2: Steve's Marketplace to east of Frederick



SECTION SUMMARY

South side

A sidewalk will pick up in front of the last house before the riparian area and connect to Beemer. A swale and sidewalk will continue to approximately Frederick and then transition to on-street parking with intermittent planters. Marked crosswalks and illumination will improve the crossing at Front Street.

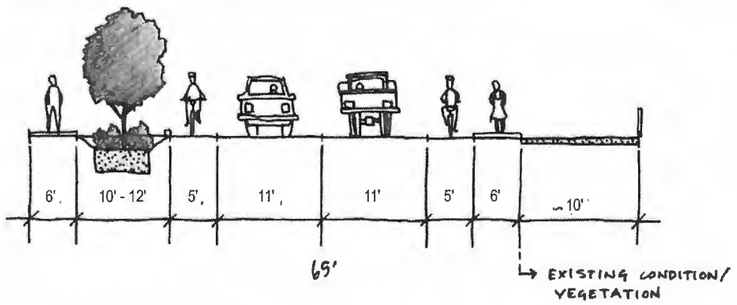
North side

A curb-tight sidewalk will travel the length of the section. Any public right-of-way not impacted will keep existing encroached vegetation. Treatments require relocating the existing power poles and acquiring a small amount of right-of-way at the Front Street intersection due to the taper for the center turn lane. The corner property will be impacted by this improvement.

* There is an opportunity to add a pedestrian island on the east side of the Front Street crossing in the median. This will greatly improve pedestrian safety as the roadway is wide in this location.

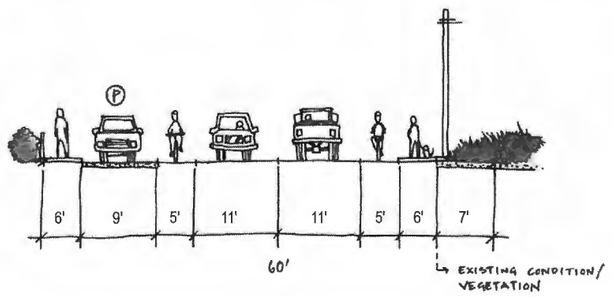
CROSS-SECTIONS

C



Bioswale with sidewalk

D



On-street parking pockets with planting strips

PHASING

Phase 1 Improvements

Phase 2 Improvements

Phase 3 Improvements

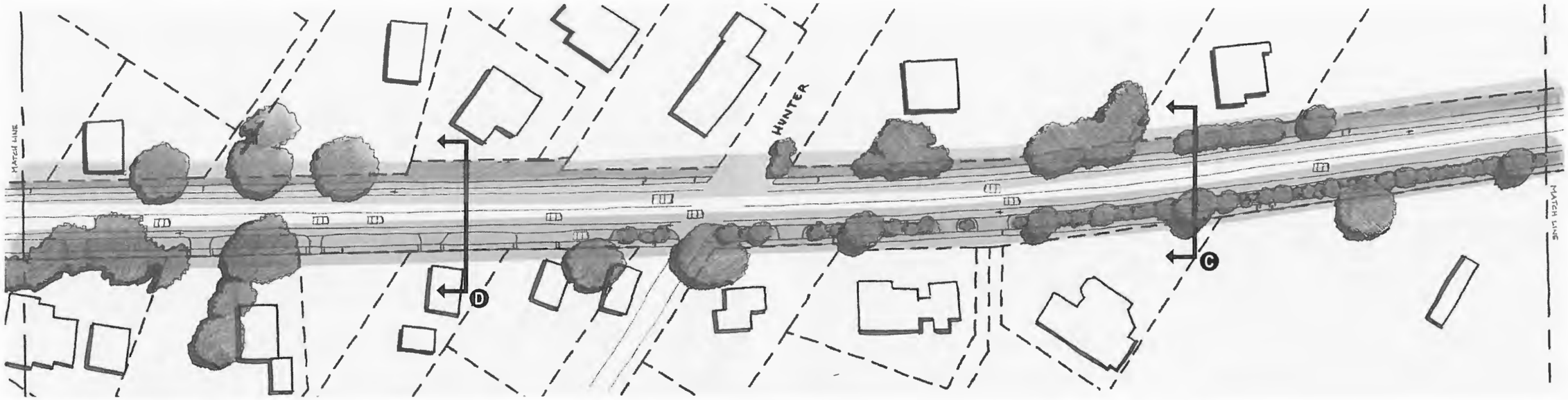
option RE-ALIGN BEEMER WAY

To improve the safety of all roadway users, the City should consider purchasing the vacant property at the corner of Beemer and Holcomb and re-align Beemer to meet Hiram at a 90 degree angle. The original entrance of Beemer would be closed and a bioswale and sidewalk should be established in this segment. A pedestrian accessway should be provided at the original entrance of Beemer Way.

N

not to scale

Section 3: Frederick to Oregon City Baptist Church



SECTION SUMMARY

South side

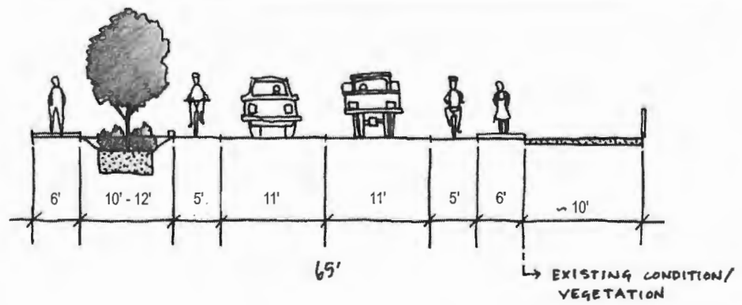
A sidewalk continues from Section 2 with a combination of planter strips, on-street parking bays, and a bioswale. Access will be available to bus stops.

North side

A curb-tight sidewalk will travel the length of the section. Any public right-of-way not impacted will keep existing encroached vegetation.

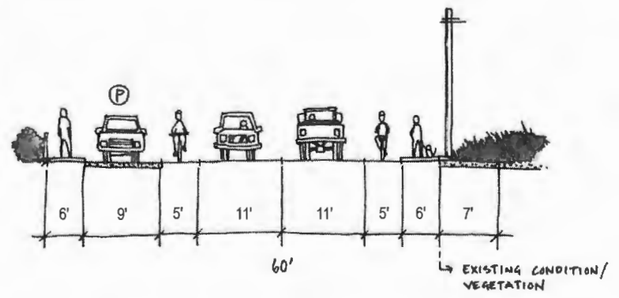
CROSS-SECTIONS

C



Bioswale with sidewalk

D



On-street parking pockets with planting strips

PHASING

Phase 1 Improvements

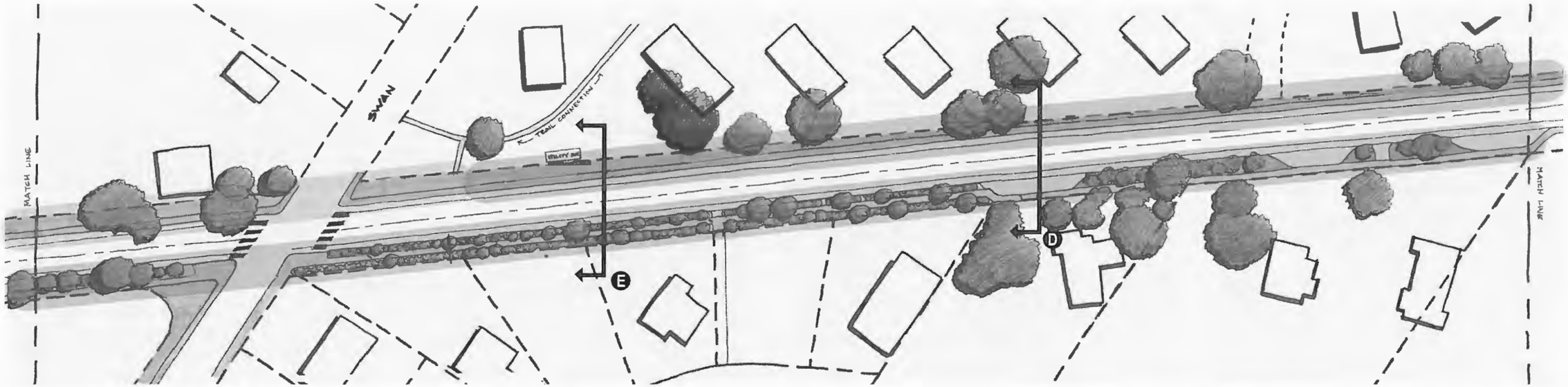
Phase 2 Improvements

Phase 3 Improvements

N

not to scale

Section 4: Oregon City Baptist Church to Holcomb Ridge Trail



SECTION SUMMARY

South side

A sidewalk continues from Section 3 with a combination of planter strips and on-street parking bays.

North side

A curb-tight sidewalk will travel the length of the section. Any public right-of-way not impacted will keep existing encroached vegetation. Marked crosswalk, lighting, and traffic calming/stopping device at Swan. Small retaining walls may be necessary at the end of the section.

Swan Intersection

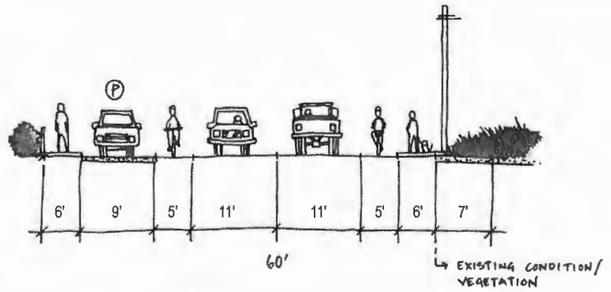
There are several slowing/stopping treatments available for Swan. Some of the combinations include:

- *Traffic circle with crosswalks*
- *Stop signs with crosswalks*
- *Roundabout with crosswalks on approach legs*
- *Pedestrian refuge with crosswalks*

The recommended treatment for this intersection is a roundabout with crosswalks on the approach legs.

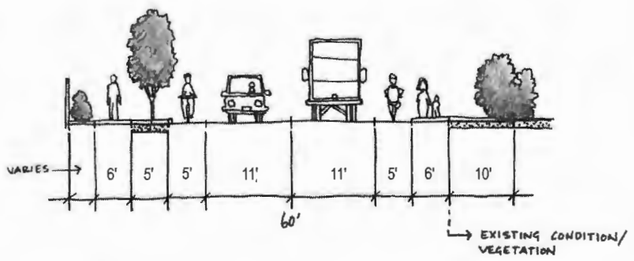
CROSS-SECTIONS

D



On-street parking pockets with planting strips

E



Sidewalk and planter strip

PHASING

Phase 1 Improvements

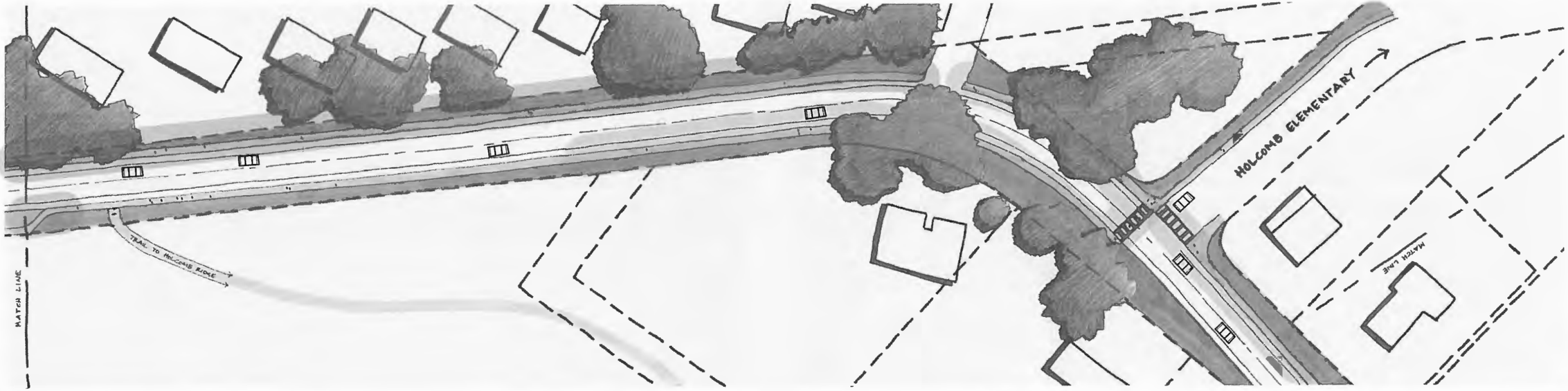
Phase 2 Improvements

Phase 3 Improvements

N

not to scale

Section 5: Holcomb Ridge trail to Holcomb Elementary



SECTION SUMMARY

South side

A curb-tight sidewalk continues from the existing sidewalk from Holcomb Ridge to Holcomb Elementary intersection due to topographical constraints. The sidewalk can be routed around existing vegetation in the public right-of-way but a large Douglas fir should be removed to improve sight distance at the corner. The sidewalk will terminate at the crosswalk due to severe topographic constraints.

Pedestrian safety is paramount at the Holcomb Elementary intersection. A collection of treatments should be considered to slow or stop traffic and improve pedestrian visability. Treatments may include:

- Marked crosswalks at the intersection
- Full signalization
- Pedestrian-activated traffic signal
- Stop signs
- Crossing guard

All treatments should consider a petition to make the area a school zone, signed 20 mph when children are present, and implement a period of stringent enforcement.

North side

A curb-tight sidewalk will travel the length of the section until the Holcomb Elementary intersection where it will skirt a large existing oak tree and tie into existing sidewalks. Small retaining walls may be necessary at the edge of the Clackamas County Housing Authority property and along the properties past the intersection.

PHASING

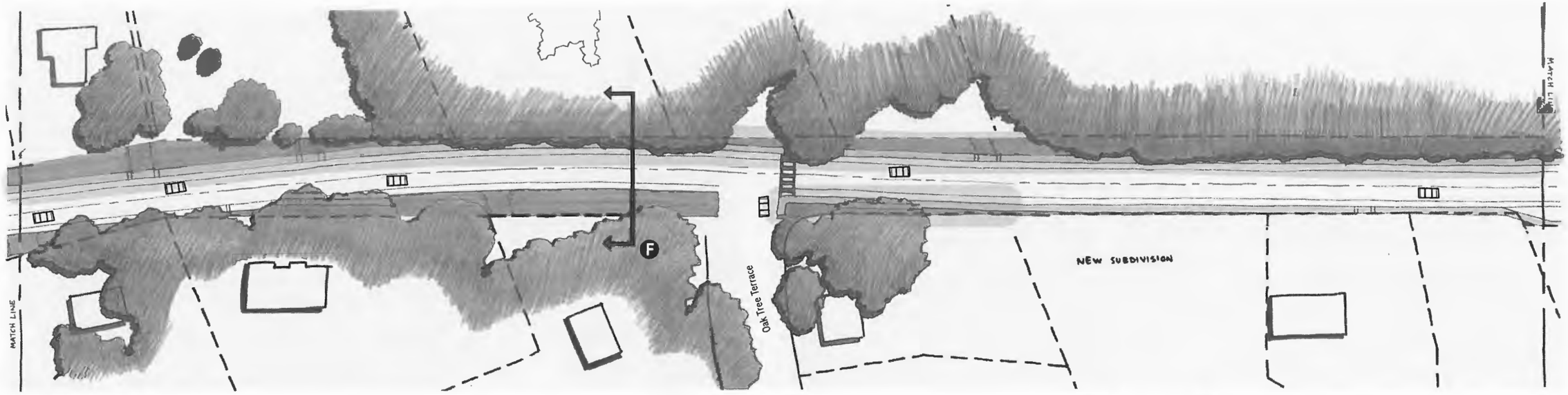
Phase 1 Improvements

Phase 2 Improvements

Phase 3 Improvements

not to scale

Section 6: Holcomb Elementary to Trailview Estates



SECTION SUMMARY

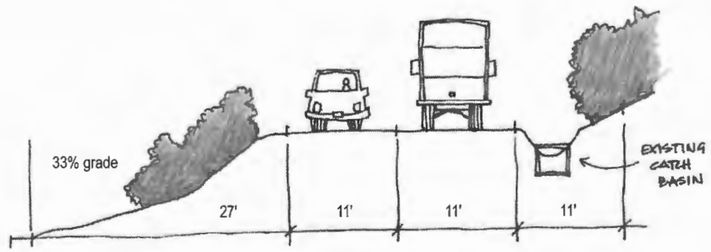
South side

Due to topographic constraints, a curb-tight sidewalk starts at Oak Tree Terrace and continues east to the existing sidewalk at the new subdivision adjacent to Trailview Estates. A marked crosswalk and intersection lighting should be provided across Holcomb at Oak Tree Terrace to accommodate pedestrians, particularly children walking to school. A full engineering analysis of this intersection should take place before installation of this crosswalk to ensure its safety. Retaining walls may be necessary to support widening the road in this area.

North side

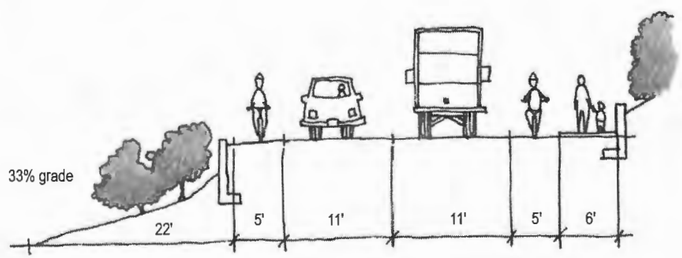
A curb-tight sidewalk will travel the length of the section. Small to moderate retaining walls may be necessary throughout the section. If physically possible, sidewalks should be enhanced on the north side from Holcomb Elementary east to make up for no sidewalks on the south side of the roadway.

CROSS-SECTIONS



Existing constrained conditions west of Oak Tree Terrace

F



Curb-tight sidewalk on the north side of the roadway

PHASING

Phase 1 Improvements

Phase 2 Improvements

Phase 3 Improvements

not to scale

Section 7: Trailview Estates to Barlow

SECTION SUMMARY

South side

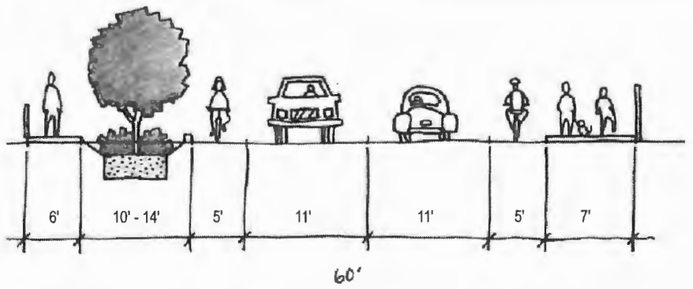
A bioswale and sidewalk replaces the existing planter strip along Trailview Estates. This process involves grinding out the concrete between the planter, removing 5' of roadway asphalt, and adding a 10' - 12' bioswale. Existing sidewalks will be retained.

North side

Existing sidewalks are retained.

CROSS-SECTIONS

G



Bioswale with existing sidewalk

PHASING

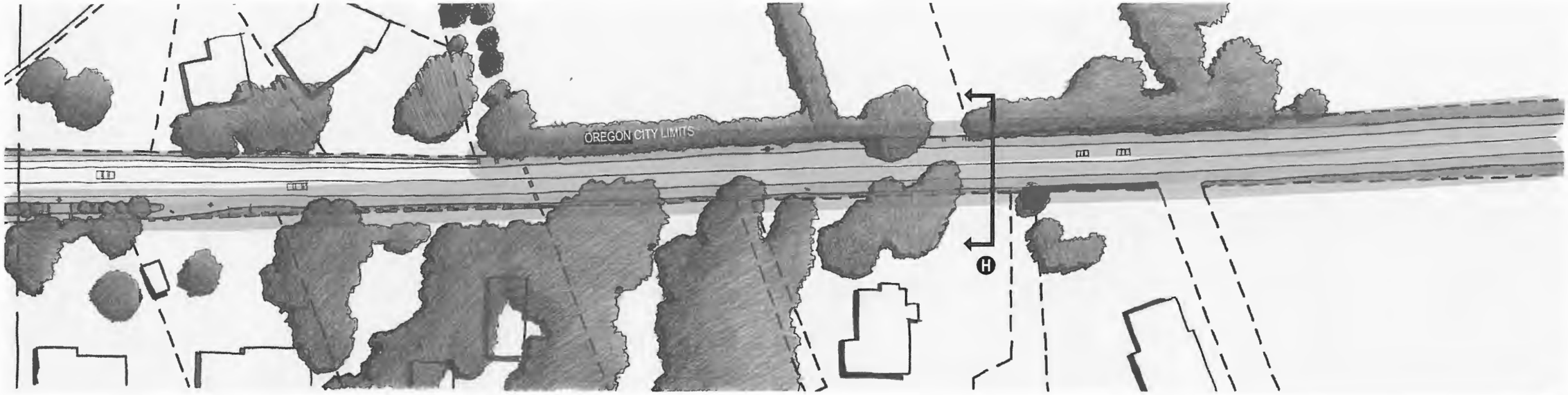
Phase 1 Improvements

Phase 2 Improvements

Phase 3 Improvements

not to scale

Section 8: Barlow to Urban Growth Boundary



SECTION SUMMARY

South side

Bioswale and sidewalk transitions to an 8' shared bikeway/pathway as the area transitions to the rural area.

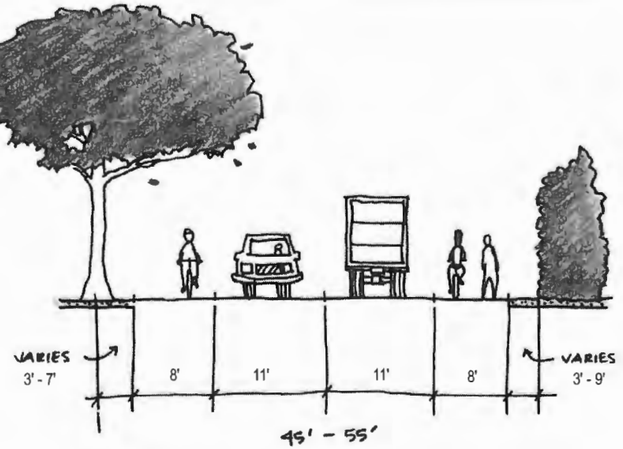
North side

The existing sidewalk transitions to an 8' shared bikeway/pathway as the area transitions to the rural area.

Note: A future road connecting Holcomb and Redland will emerge in this location to serve new residential and commercial areas to the south. As development occurs in this section, it is recommended that the City require additional right-of-way dedication and improvements consistent with the Transportation System Plan to accommodate modernization in this area.

CROSS-SECTIONS

H



Shoulder bikeway shared with pedestrians

PHASING

Phase 1 Improvements

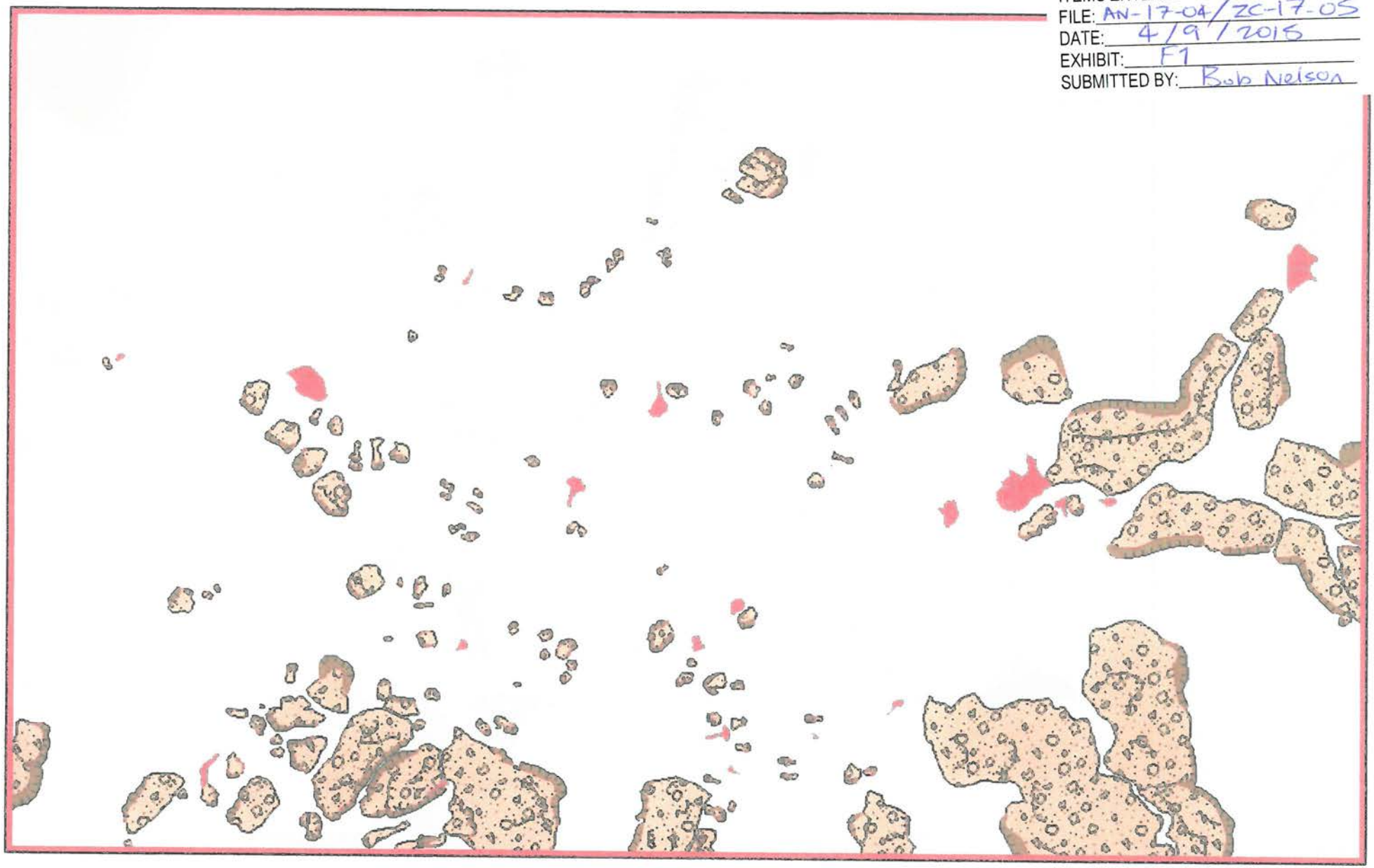
Phase 2 Improvements

Phase 3 Improvements

not to scale

Mapped Landslides

ITEMS ENTERED INTO RECORD
FILE: AN-17-04/ZC-17-05
DATE: 4/9/2015
EXHIBIT: F1
SUBMITTED BY: Bob Nelson



April 10, 2018

Scarp
Head Scarp

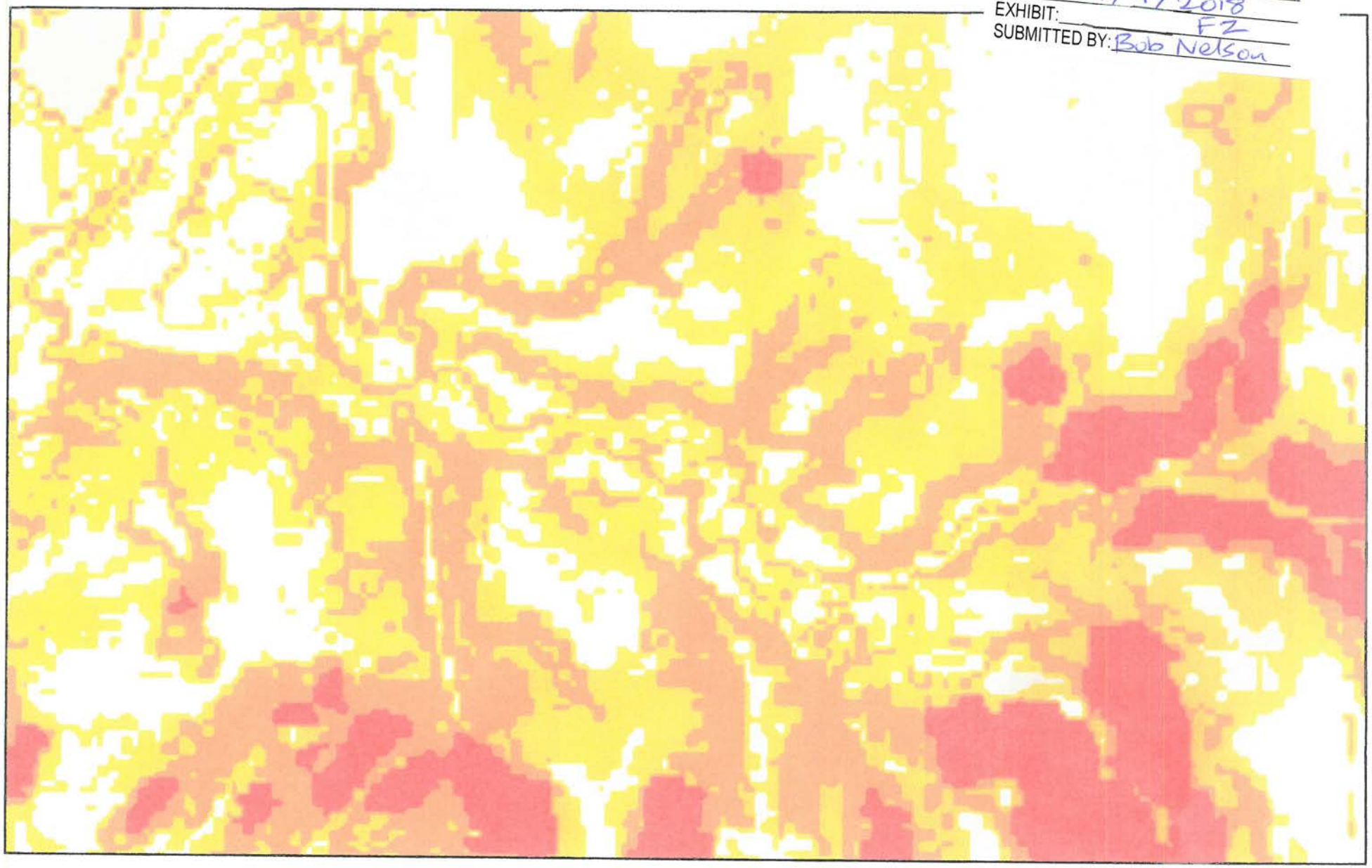
Deposits
Talus-Colluvium
Fan

Landslide

1:27,600
0 0.225 0.45 0.9 mi
0 0.275 0.55 1.1 km

Landslide Hazard Map

ITEMS ENTERED INTO RECORD
FILE: AN-17-04/ZC-17-05
DATE: 4/9/2018
EXHIBIT: F2
SUBMITTED BY: Bob Nelson



April 10, 2018

- Low - Landsliding Unlikely
- Moderate - Landsliding Possible
- High - Landsliding Likely
- Very High - Existing Landslide

1:27,600

0 0.225 0.45 0.9 mi

0 0.275 0.55 1.1 km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This practice follows the guidance of practiced regularly throughout the ■ Mitigation (lessen the impact) *North Clackamas School District.*

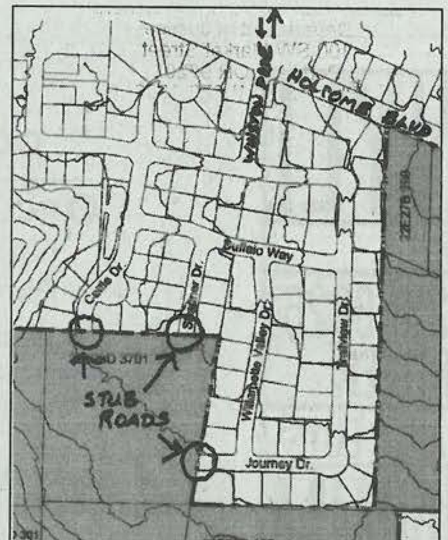
Let's fix some traffic problems on OC's Holcomb Boulevard

COMMUNITY SOAPBOX
Tom Geil

Whether you are in South End, Beavercreek or north to Park Place, citizens of Oregon City are concerned with traffic and safety. Our city has so many concept plans to build out in so many directions, that Oregon City could become the next Tigard or Beaverton, with so much traffic that our current roads would end up in total congestion.

Our city doesn't have the money to widen all the roads impacted by the current projected growth. The common statement is that Metro requires more density of more homes to meet the demands of all those moving to Oregon. Many have posed the opinion, "Tom McCall had the right idea. Come visit, but don't stay!" How big can Oregon City grow before it loses its character?

Oregon City likes to tout the fact that they charge System Development Charges (SDCs) to help defray the cost of some infrastructure costs. But those SDCs come in after the fact, and they don't actually cover all the costs. The remainder are up for citizens to pay in higher taxes. So roads cannot be improved until there are funds to do so. This could easily end up like the Sunnyside fiasco where the homes were built in Happy Valley and then, and only then, did they decide to



MAP COURTESY: CITY OF OC

Park Place resident Tom Geil drew on a zoomed-in piece of a larger map to show roads that provide no other option to traffic but to enter and exit via Winston Drive.

dents is traffic safety; 92 acres are scheduled for annexation. If you look closely at the map, there are several stub roads that the city intends to open up in the Trailview Heights and Wasco Acres developments in the Park Place neighborhood. These are residential streets where children ride their bikes, play basketball, kids walk to and from

for 96 homes in this current subdivision. Barlow Crest, across the way on Holcomb, has two streets to enter and exit. If this Concept Plan is to be approved, the Park Place residents want the entire new Extension Connector Road to be constructed from Holcomb to Redland Road. If that does not occur, that means that all these new homes will use a very narrow Holcomb Boulevard to get to their homes. But for Trailview, it means that with all stub roads opened, there will be more than 96 homes, possibly several hundred using just one half block Winston Drive to enter and exit. Check out the map.

Holcomb itself is a very narrow road. There is a major bend near Holcomb Middle School. There is an even steeper, accident-prone sharp curve at the base of Holcomb. There are homes that are built within feet of Holcomb Boulevard. There are drop offs into valley and canyons, just feet off Holcomb. There is no way that this road can be widened to accommodate the huge increase in traffic that this annexation will incur.

The bigger question is why this new road cannot be started first down at Redland. The majority of those who have appeared at Planning Commission meetings to encourage the annexation are from the Livesay Road area. They all seem to want this new growth so they can reap the benefits of selling their properties. No one above wants this an-

READER'S LETTER

Time to retire Clackamas County's 'hopeless' clerk

In his March 28 op-ed, one must look at Mr. Kindred's sad recitation of Clackamas County Clerk Sherry Hall's numerous failings as disgraceful.

But since he was her manager of elections, shouldn't he accept at least some of the blame for the serious problems experienced by the county clerk's office during the incumbent's long reign?

Like many other county voters, I agree we urgently need to retire our hopeless Republican county clerk.

And rather than Mr. Kindred's choice in the primary election, I recommend Sherry Healy as our best chance for success.

Michael Munk
Oak Grove

CORRECTIONS

■ Gladstone High School's band won second

ITEMS ENTERED INTO RECORD
FILE: AN-17-04/ZC-17-05
DATE: 04.09.2018
EXHIBIT: G
SUBMITTED BY: TOM GEIL

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widen those roads. That resulted in incredible tie-ups and congestion for those who had already moved to Sunnyside.

After three losses at the ballot, developers have finagled a way to get their properties annexed into cities without a vote of the people. As I put it before, this is like shoving it down the throats of voters who did not want this much growth. I feel confident that if this was put before the voters, it would be turned down a fourth time. But we no longer have that option, even though it is in our Oregon City Charter that citizens have the right to vote on such matters. Talk about lack of transparency in government!!

The major concern of Park Place residents ... schools, and residents walk their dogs.

The city and developers want a major connector road from Holcomb Boulevard down to Redland Road, referred to as the Holly Lane extension. The big problem is that the whole road will not be built out for some time. The 92 acres does not include the lower portion of the Concept Plan. What this means is that all the homes within the 92 acres will need entrances and exits for their vehicles. The homes that wrap around the Trailview area will not travel all the way back up to the new Holly Lane entrance, but instead will travel through the opened stub roads.

Winston Drive is the only inlet/outlet ... nexation. Why not start the annexation below, rather than above off Holcomb Boulevard?

The arguments appear to be clear: traffic and safety are a major issue in the Park Place neighborhood. Is anyone listening, or is it all about profits for developers who drive the city coffers?

If you are interested in commenting and making your opinions known, please show up to the continuation of Planning Commission hearings at 7 p.m. Monday, April 9, at City Hall in Oregon City. Each citizen is entitled to three minutes to comment.

Tom Geil is a resident of Oregon City.

place at the Clackam Community College F val and improved its at the Warner Pacific val, where its flutes w honored as an outsta section. In last week's cle about bands winn honors, these honors GHS were incorrectly signed to another sch

■ We misspelled th name of Ronda Camm in an article last week about how she is one new owners of John L Real Estate offices in gon City and Clackam

COMMUNITY SOAPBOX

OHSU, Adventist togethe

ITEMS ENTERED INTO RECORD
FILE: AN-17-04/ZC-17-05
DATE: 04.09.2018
EXHIBIT: G
SUBMITTED BY: Tom Geil

Joyce Newmyer

David Russell

While there is a great deal to be debated about health care these days, one thing we can all agree on is that the entire health care industry is undergoing rapid change. Adventist Health Portland, which ranks in the top 5 percent nationwide for quality care, is in the midst of transformative change, bringing greater health care value to Oregonians through a clinical integration with Oregon Health and Science University.

We recently established a significant partnership with OHSU to integrate our clinical activities and services in the Portland metropolitan area. This move combines Adventist's health care enterprise in Portland including the 302-bed medical center, 34 medical clinics along with home care and hospice services in the Portland-Vancouver metro area, with OHSU's stature as the only academic health center in Oregon. Their exceptional reputation for innovation and clinical advancement aligns with Adventist's patient centered values.

OHSU was interested in Adventist He Portland because of our stature as a com ty hospital, a broad network of family practice clinics throughout East Portland and a commitment to advancing preventive medicine. These strengths are complementary to the mission of OHSU's brand as a nationally distinguished research university dedicated solely to advancing health sciences.

In order to provide whole-person care focused on inspiring health, hope and wholeness, our primary care clinics are certified Patient-Centered Medical Homes. Our comprehensive clinic care means better follow-up after hospitalizations, lower rates of hospital readmission and reduced costs overall for our patients.

Together with OHSU, we are enthusiastic about a joint focus on improving access to care, creating better health outcomes and controlling medical costs by coordinating care for patients across a spectrum of their health needs.

Staffed with more than 550 skilled physi- ... ties, Adventist Health Portland will be rating with OHSU, one of Oregon's larg ployers to streamline and enhance pati care while keeping maintaining indepe workforces, mission and culture featur

For the past 125 years, Adventist He Portland has served the communities a us. Now we are together inspired to mo ward with our new OHSU affiliation, w maining independently owned organiz Together, we look to transform the hea perience of people in the greater Portla ropolitan area. We are committed to fin ways to helping people improve their h and in turn, improve the lives of people throughout Oregon.

This op-ed was co-authored by Joyce Newmy dent of Adventist Health Pacific Northwest R and David Russell, president of Adventist He Portland.

Technical Memorandum

LANCASTER ENGINEERING
321 SW 4th Ave., Suite 400
Portland, OR 97204
phone: 503.248.0313
fax: 503.248.9251
lancasterengineering.com

To: Mark Handris, Icon Construction & Development

From: Daniel Stumpf, EI
Todd Mobley, PE

Date: April 9, 2018

Subject: Park Place Annexation:
Transportation Impact Study Addendum #2

Introduction

This memorandum is written as an addendum to the original *Park Place Annexation Transportation Impact Study* (TIS), dated August 2nd, 2017. Comments on the TIS were received from Clackamas County dated April 3, 2018. Lancaster Engineering then issued a response dated April 5, 2018, which precipitated updated comments from the County dated April 6, 2018. For reference, all three of those documents are attached to this addendum.

There is one outstanding item requested by Clackamas County as a result of these comments and responses, and that is analysis at the intersection of Redland Road and Anchor Way. That analysis is provided in this addendum.

Traffic Volumes

Manual turning movement counts during the morning and evening peak hours were conducted at the intersection from 7:00 to 9:00 AM on Thursday, April 5th and from 4:00 to 6:00 PM on Wednesday, April 5th. A growth rate was then applied to these volumes to estimate 2035 conditions without the proposed annexation using the same methodology for future volume forecasting that was implemented in the original TIS. Site trips were then added to the 2035 traffic volumes to show conditions with the annexation area at full build out.

Updated figures showing existing volumes, the assignment of site trips, and 2035 conditions both with and without the annexation area are attached to this memorandum.

Planned Intersection Improvements

The City of Oregon City Transportation System Plan (TSP) calls for the installation of a traffic signal at this location. Because warrants are clearly satisfied for a left-turn lane at this location even without the proposed annexation, to achieve safe operation, a future improvement project at this location would have to either A)

install a left-turn lane and a traffic signal, or B) install a three-phase traffic signal with a separate exclusive phase for each leg of the intersection. With this configuration, a left-turn lane would not be necessary.

Operational Analysis

An examination of left-turn lane warrants and traffic signal warrants was done to determine when these improvements would be necessary. Details are included in the attached to this addendum, but the analysis shows that a left-turn lane is presently warranted during both the morning and evening peak hours for existing conditions. By 2035 a traffic signal will be warranted even without the proposed annexation. The table below shows a summary of when warrants are satisfied for a left-turn lane and for a traffic signal. As shown in the table, improvements are needed at the intersection, even without the proposed annexation.

Table 1: Left-Turn Lane & Traffic Signal Warrant Summary

		Left-Turn Lane Needed?		
		AM Peak Hour	**PM Peak Hour**	**Traffic Signal Needed?**
A.	**Redland Road at Anchor Way**			
	Existing Conditions	Yes	Yes	No
	2035 Planning Horizon (w/o Annexation Trips)	Yes	Yes	Yes
	2035 Planning Horizon (w/ Annexation Trips)	Yes	Yes	Yes

In addition, a capacity analysis was conducted to determine the level of service, delay, and volume-to-capacity (v/c) ratio for all the scenarios examined. Detailed capacity analysis output is attached to this addendum, but the analysis shows that the intersection currently meets Clackamas County operational standards, but experiences long delays on the stop-controlled Anchor Way approach during the evening peak hour.

By 2035 the intersection will fail during both peak hours, even without trips from the annexation area. The addition of a traffic signal and a left-turn lane on Redland Road will result in acceptable operation at the planning horizon with the annexation area at full build out.

A summary of the results of the capacity analysis are shown in the following table.

Table 2: Capacity Analysis Summary

		Morning Peak Hour			Evening Peak Hour		
		LOS	Delay	v/c	LOS	Delay	v/c
A.	**Redland Road at Anchor Way**						
	Existing Conditions	D	33	0.54	F	89	0.95
	2035 Planning Horizon (w/o Annexation Trips)	F	>99	0.98	F	>99	**1.65**
	2035 Planning Horizon (w/ Annexation Trips)	F	>99	**1.56**	F	>99	**>2**
	2035 w/ Annexation, w/ left-turn lane & signal	B	13	0.81	D	40	0.96

BOLDED results exceed Clackamas County operational standard

Transportation Planning Rule

This analysis shows that the infrastructure considered in the TSP will provide acceptable operation at the planning horizon with the annexation area in place. As such, the Transportation Planning Rule is satisfied, provided the improvement is reasonably likely to be constructed. It is recommended that this intersection be monitored during the Master Plan stage for projects within the Park Place Concept Plan area to determine when mitigation is necessary.

CLACKAMAS COUNTY

DAN JOHNSON
DIRECTOR

DEPARTMENT OF TRANSPORTATION AND DEVELOPMENT
DEVELOPMENT SERVICES BUILDING
150 BEAVERCREEK ROAD OREGON CITY, OR 97045

Date: April 3, 2018
To: Pete Walter, City of Oregon City
From: Christian Snuffin, P.E., PTOE, Clackamas County
Rick Nys, P.E., Clackamas County
Subject: AN 17-0004 / ZC 17-0005: Park Place Annexation and Rezoning of 92 acres

Mr. Walter,

We have the following comments about this project:

- Clackamas County has jurisdiction over several of the study intersections and roadways including a portion of Redland Road, Livesay Road, a portion of Holcomb Boulevard, and Holly Lane.
- The County was not contacted by the applicant to participate in the traffic impact analysis (TIA) scoping process.
- The zone change has a significant effect on the Redland Road/Holly Lane intersection per the TIA. The proposed mitigation suggested by Replinger & Associates for a proportional share contribution is agreeable to Clackamas County. We question the assumption that both the Holly Lane extension and the Redland Road/Holly Lane intersection improvement projects can be considered as planned per the Transportation Planning Rule without a more defined funding plan. We have concerns about the Redland Road/Holly Lane operations without the provision of a roundabout or other intersection improvement when the Holly Lane extension is constructed. Alternatively, additional study should be conducted that establishes compliance with the Transportation Planning Rule as well as compliance with County safety criteria to determine the appropriate intersection improvement at the Redland Road/Holly Lane intersection with the construction of the extension. This can be accomplished as part of a Master Plan TIA.
- Either with or without a connection to Redland Road via a Holly Lane extension, the County has concerns about the impact to Livesay Road and its intersection with Redland Road, which would directly serve a future development. The TIA assumes no site traffic on Livesay Road, which we think is not realistic without further analysis. The Oregon City Transportation System Plan assumes no planned improvements for the Redland Road/Livesay Road intersection. The TIA should evaluate the Redland Road/Livesay Road intersection and the need for a westbound left turn lane. This analysis should be conducted prior to approval of the zone change.
- The intersection of Redland Road/Anchor Way should be analyzed as part of a revised TIA. With the Holly Lane connection, this intersection will experience a substantial increase in traffic. That evaluation should include evaluating the need for a westbound left turn lane on Redland Road. This analysis should be conducted prior to approval of the zone change.

Should you have any questions or comments, please contact Christian Snuffin at 503-742-4716.

Technical Memorandum

LANCASTER ENGINEERING

321 SW 4th Ave., Suite 400
Portland, OR 97204
phone: 503.248.0313
fax: 503.248.9251
lancasterengineering.com

To: Christian Snuffin, PE, PTOE & Rick Nys, PE
Clackamas County Department of Transportation & Development

From: Todd Mobley, PE

Date: April 5, 2018

Subject: Park Place Annexation in Oregon City, AN 17-0004/ZC 17-0005

Introduction

This memorandum is written in response to comments on the subject application received from Clackamas County, dated April 3, 2018. Our response focuses on the last three bulleted items in the County comments.

Redland Road at Holly Lane & Holly Lane Extension

The Holly Lane extension and any necessary intersection improvements are planned in the City of Oregon City Transportation System Plan (TSP) and development within the Park Place area will rely on these improvements. Development on the subject site will be consistent with that considered in the Concept Plan, and thereby the TSP. Therefore, the future Holly Lane extension and the intersection with Redland Road considered in the TSP will be sufficient to serve the Park Place area, including the subject site.

Still, as noted in the third bullet of the County comments, specific intersection designs that will be needed to support development and to satisfy the standards that will be applicable can be considered at the time of the Transportation Impact Study (TIS) for the future Master Plan application.

Livesay Road Traffic Impacts

The intent of development in the annexation area is not to rely on Livesay Road west of the project site. The roadway is generally narrow and unimproved. For this reason, the original TIS did not assign trips to the roadway or rely on it for access. The Park Place Concept Plan considers a functional upgrade to Livesay Road to a Neighborhood Collector classification between the planned Swan Avenue and Holly Lane extensions. This is shown in Figure 1 below, which is the Functional Classification Map from the Concept Plan. Consistent with the Concept Plan, development on the site is intended to rely on streets other than Livesay Road.

Traffic impacts to Livesay Road should be carefully monitored and controlled during the Master Plan process. This can be accomplished through the thoughtful timing and configuration of new street connections to development in the Park Place area, which can be done strategically to emphasize the use of new higher-classification facilities such as the Swan Avenue and Holly Lane extensions.

For these reasons, the evaluation of the intersection of Livesay Road and Redland Road is not necessary at this time. Rather, impacts to Livesay Road should be carefully examined and minimized as development occurs through the Master Plan process.

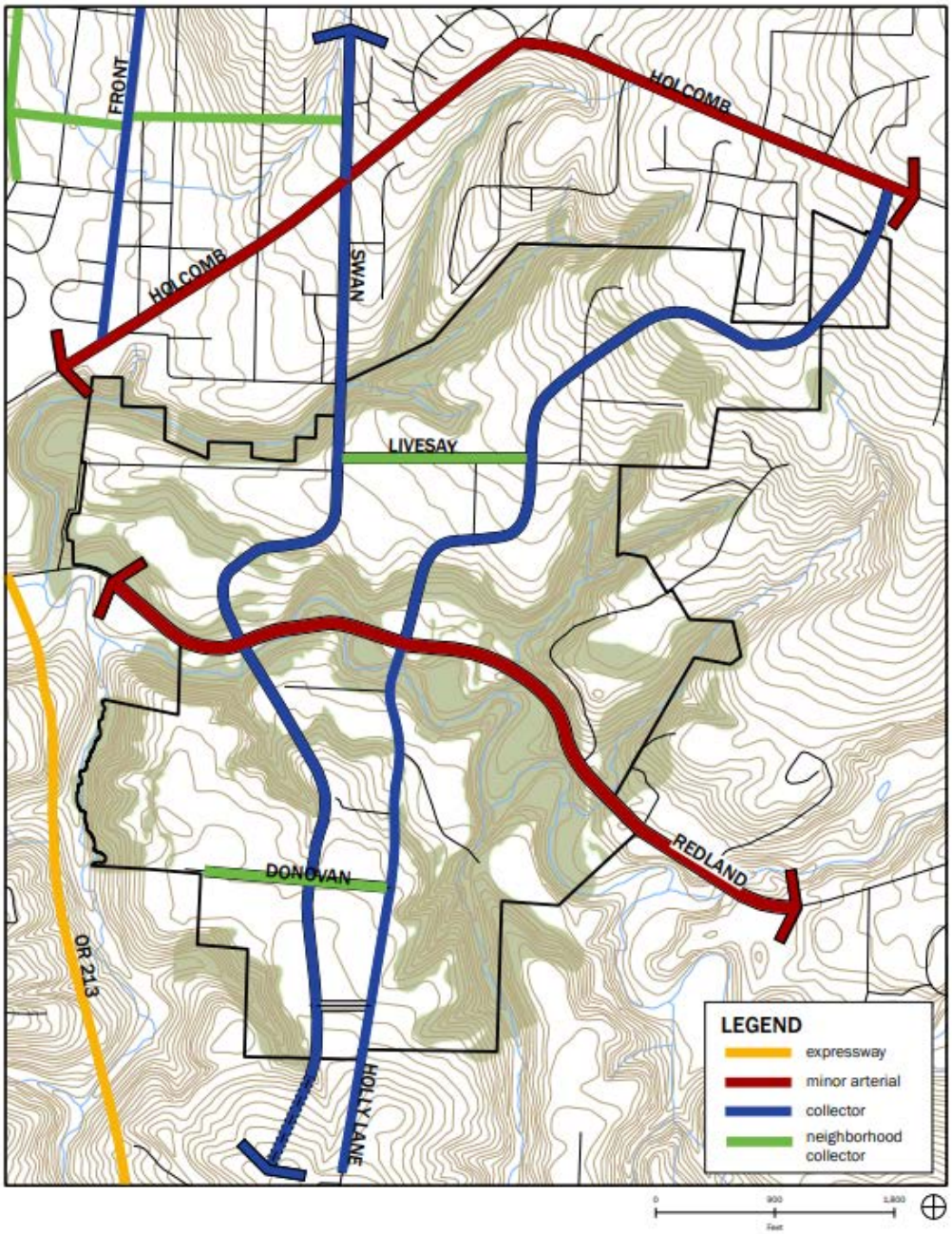


Figure 1 - Functional Classification Map from Park Place Concept Plan

Redland Road at Anchor Way

The intersection of Redland Road at Anchor Way was not included in the study since only three percent of the site traffic is expected to use Anchor Way. While through traffic will be added, trips to and from Anchor Way will be minor. In fact, the trip assignment shows that only 11 morning peak hour trips and 8 evening peak hour trips will be added to the westbound left-turning movement that was raised as a concern in the County comments.

Further, the intersection is planned for signalization in the TSP. This intersection could be selected for further study as part of future Master Plan applications for development within the Park Place area but based on the trip generation and distribution analysis in this report, minor-street impacts will be very small.

If you have any questions regarding the responses and information in this memo, please don't hesitate to contact me directly.

CLACKAMAS COUNTY

DAN JOHNSON
DIRECTOR

DEPARTMENT OF TRANSPORTATION AND DEVELOPMENT
DEVELOPMENT SERVICES BUILDING
150 BEAVERCREEK ROAD OREGON CITY, OR 97045

Date: April 6, 2018
To: Pete Walter, City of Oregon City
From: Christian Snuffin, P.E., PTOE, Clackamas County
Rick Nys, P.E., Clackamas County
Subject: AN 17-0004 / ZC 17-0005: Park Place Annexation and Rezoning of 92 acres

Mr. Walter,

We've reviewed the April 5, 2018 memorandum from Lancaster Engineering. We have the following updated comments about this project:

- We are satisfied with the assertion that the intent of the development is not to rely on Livesay Road to the west of the project site, and that planned improvements to the eastern portion of Livesay, as well as the Swan Avenue connector, will address future transportation needs.
- In our previous memo, dated April 3, 2018, we asked for additional analysis at the Redland Road/Anchor Way intersection. Mr. Mobley's memo does describe the additional site trips on Redland Rd, and it indicates that the number of additional site trips are not significant. However, a capacity analysis that addresses requirements of the Transportation Planning Rule and a westbound left turn lane analysis is still needed. This analysis should be conducted prior to approval of the zone change.

Should you have any questions or comments, please contact Christian Snuffin at 503-742-4716.

FIGURE 1

VICINITY MAP
Intersection Configurations
Traffic Control Devices and Lane Configurations

*Matches the alignment in the City's TSP

No Scale

*Matches the alignment in the City's TSP

No Scale

FIGURE 2

TRAFFIC VOLUMES
Existing Conditions
AM Peak Hour

*Matches the alignment in the City's TSP

No Scale

TRAFFIC VOLUMES
Existing Conditions
PM Peak Hour

FIGURE 3

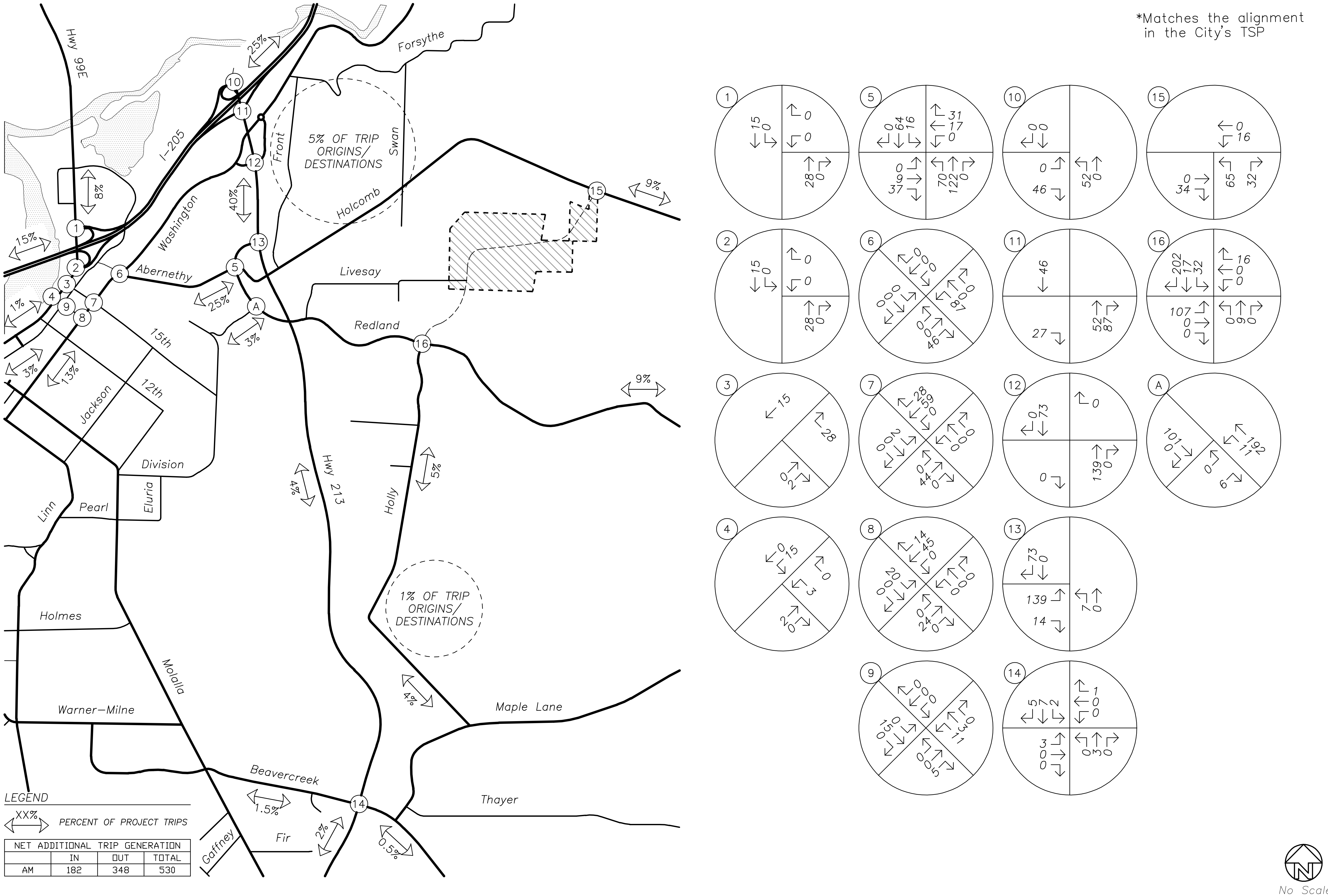
SITE TRIP DISTRIBUTION

Inbound & Outbound Percentages – Site Trips
AM & PM Peak Hours

FIGURE 4

*Matches the alignment in the City's TSP

No Scale



LEGEND

XX% PERCENT OF PROJECT TRIPS

NET ADDITIONAL TRIP GENERATION			
	IN	OUT	TOTAL
AM	182	348	530

SITE TRIP ASSIGNMENT
Proposed Zone Change – Net Additional Site Trips
AM Peak Hour

FIGURE 5

SITE TRIP ASSIGNMENT

Proposed Zone Change – Net Additional Site Trips

PM Peak Hour

FIGURE 6

NET ADDITIONAL TRIP GENERATION			
	IN	OUT	TOTAL
PM	405	263	668

*Matches the alignment in the City's TSP

No Scale

OR–99E FACILITY GROWTH RATE: 0.81 PERCENT PER YEAR LINEAR
OR–213 FACILITY GROWTH RATE: 0.73 PERCENT PER YEAR LINEAR
LOCAL FACILITY GROWTH RATE: 2.02 PERCENT PER YEAR COMPOUNDED

*Matches the alignment in the City's TSP

No Scale

TRAFFIC VOLUMES
Year 2035 Planning Horizon – w/ Holly Extension
AM Peak Hour

FIGURE 7

OR–99E FACILITY GROWTH RATE: 0.81 PERCENT PER YEAR LINEAR
OR–213 FACILITY GROWTH RATE: 0.73 PERCENT PER YEAR LINEAR
LOCAL FACILITY GROWTH RATE: 2.02 PERCENT PER YEAR COMPOUNDED

*Matches the alignment in the City's TSP

No Scale

TRAFFIC VOLUMES
Year 2035 Planning Horizon – w/ Holly Extension
PM Peak Hour

FIGURE 8

OR-99E FACILITY GROWTH RATE: 0.81 PERCENT PER YEAR LINEAR
OR-213 FACILITY GROWTH RATE: 0.73 PERCENT PER YEAR LINEAR
LOCAL FACILITY GROWTH RATE: 2.02 PERCENT PER YEAR COMPOUNDED

*Matches the alignment in the City's TSP

No Scale

TRAFFIC VOLUMES
Year 2035 Planning Horizon plus Annexation
AM Peak Hour

FIGURE 9

OR-99E FACILITY GROWTH RATE: 0.81 PERCENT PER YEAR LINEAR
OR-213 FACILITY GROWTH RATE: 0.73 PERCENT PER YEAR LINEAR
LOCAL FACILITY GROWTH RATE: 2.02 PERCENT PER YEAR COMPOUNDED

*Matches the alignment in the City's TSP

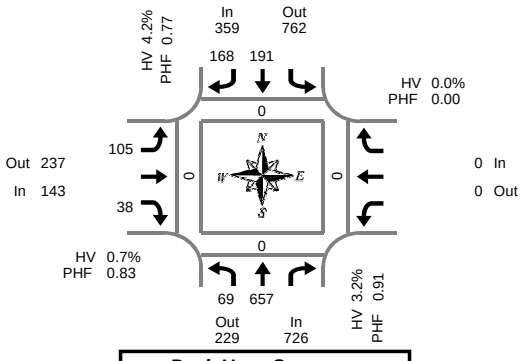
No Scale

TRAFFIC VOLUMES
Year 2035 Planning Horizon plus Annexation
PM Peak Hour

FIGURE 10

Total Vehicle Summary

All Traffic Data Services Inc.
Clay Carney
(503) 833-2740



Peak Hour Summary
7:15 AM to 8:15 AM

Redland Rd & S Anchor Way

Thursday, April 05, 2018
7:00 AM to 9:00 AM

5-Minute Interval Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound Redland Rd				Southbound Redland Rd			Eastbound S Anchor Way				Westbound S Anchor Way				Interval Total	Pedestrians Crosswalk			
	L	T		Bikes	T	R	Bikes	L		R	Bikes				Bikes		North	South	East	West
7:00 AM	1	43		0	11	7	0	1		4	0				0	67	0	0	0	0
7:05 AM	0	60		0	10	9	0	6		3	0				0	88	0	0	0	0
7:10 AM	1	38		0	13	4	0	5		3	0				0	64	0	0	0	0
7:15 AM	6	60		0	17	11	0	4		4	0				0	102	0	0	0	0
7:20 AM	3	52		0	9	7	0	13		6	0				0	90	0	0	0	0
7:25 AM	6	73		0	18	13	0	8		4	0				0	122	0	0	0	0
7:30 AM	8	43		0	19	14	0	8		3	0				0	95	0	0	0	0
7:35 AM	6	54		0	13	5	0	17		3	0				0	98	0	0	0	0
7:40 AM	7	68		0	12	8	0	8		2	0				0	105	0	0	0	0
7:45 AM	7	48		0	18	18	0	7		2	0				0	100	0	0	0	0
7:50 AM	9	58		0	14	17	0	12		3	0				0	113	0	0	0	0
7:55 AM	4	44		0	18	23	0	7		1	0				0	97	0	0	0	0
8:00 AM	3	56		0	14	20	0	6		4	0				0	103	0	0	0	0
8:05 AM	5	49		0	24	17	0	6		4	0				0	105	0	0	0	0
8:10 AM	5	52		0	15	15	0	9		2	0				0	98	0	0	0	0
8:15 AM	3	38		0	15	11	0	4		3	0				0	74	0	0	0	0
8:20 AM	3	51		0	14	13	0	4		2	0				0	87	0	0	0	0
8:25 AM	6	37		0	20	12	0	4		7	0				0	86	0	0	0	0
8:30 AM	4	41		0	25	12	0	7		2	0				0	91	0	0	0	0
8:35 AM	8	41		0	26	14	0	5		7	0				0	101	0	0	0	0
8:40 AM	8	53		0	22	19	0	5		3	0				0	110	0	0	0	0
8:45 AM	8	57		0	17	16	0	8		2	0				0	108	0	0	0	0
8:50 AM	3	56		0	17	8	0	13		0	0				0	97	0	0	0	0
8:55 AM	3	37		0	17	14	0	5		1	0				0	77	0	0	0	0
Total Survey	117	1,209		0	398	307	0	172		75	0				0	2,278	0	0	0	0

15-Minute Interval Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound Redland Rd				Southbound Redland Rd			Eastbound S Anchor Way				Westbound S Anchor Way				Interval Total	Pedestrians Crosswalk			
	L	T		Bikes	T	R	Bikes	L		R	Bikes				Bikes		North	South	East	West
7:00 AM	2	141		0	34	20	0	12		10	0				0	219	0	0	0	0
7:15 AM	15	185		0	44	31	0	25		14	0				0	314	0	0	0	0
7:30 AM	21	165		0	44	27	0	33		8	0				0	298	0	0	0	0
7:45 AM	20	150		0	50	58	0	26		6	0				0	310	0	0	0	0
8:00 AM	13	157		0	53	52	0	21		10	0				0	306	0	0	0	0
8:15 AM	12	126		0	49	36	0	12		12	0				0	247	0	0	0	0
8:30 AM	20	135		0	73	45	0	17		12	0				0	302	0	0	0	0
8:45 AM	14	150		0	51	38	0	26		3	0				0	282	0	0	0	0
Total Survey	117	1,209		0	398	307	0	172		75	0				0	2,278	0	0	0	0

Peak Hour Summary
7:15 AM to 8:15 AM

By Approach	Northbound Redland Rd				Southbound Redland Rd				Eastbound S Anchor Way				Westbound S Anchor Way				Total	Pedestrians Crosswalk			
	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes		North	South	East	West
Volume	726	229	955	0	359	762	1,121	0	143	237	380	0	0	0	0	0	1,228	0	0	0	0
%HV	3.2%				4.2%				0.7%				0.0%				3.2%				
PHF	0.91				0.77				0.83				0.00				0.97				

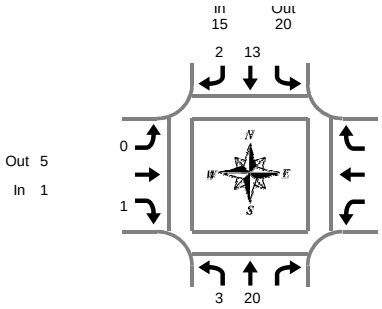
By Movement	Northbound Redland Rd				Southbound Redland Rd			Eastbound S Anchor Way				Westbound S Anchor Way				Total
	L	T		Total	T	R	Total	L		R	Total				Total	
Volume	69	657		726	191	168	359	105		38	143				0	1,228
%HV	4.3%	3.0%	NA	3.2%	6.8%	1.2%	4.2%	0.0%	NA	2.6%	0.7%	NA	NA	NA	0.0%	3.2%
PHF	0.75	0.89		0.91	0.85	0.70	0.77	0.80		0.68	0.83				0.00	0.97

Rolling Hour Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound Redland Rd				Southbound Redland Rd			Eastbound S Anchor Way				Westbound S Anchor Way				Interval Total	Pedestrians Crosswalk			
	L	T		Bikes	T	R	Bikes	L		R	Bikes				Bikes		North	South	East	West
7:00 AM	58	641		0	172	136	0	96		38	0				0	1,141	0	0	0	0
7:15 AM	69	657		0	191	168	0	105		38	0				0	1,228	0	0	0	0
7:30 AM	66	598		0	196	173	0	92		36	0				0	1,161	0	0	0	0
7:45 AM	65	568		0	225	191	0	76		40	0				0	1,165	0	0	0	0
8:00 AM	59	568		0	226	171	0	76		37	0				0	1,137	0	0	0	0

Heavy Vehicle Summary

Clay Carney
(503) 833-2740



Redland Rd & S Anchor Way

Thursday, April 05, 2018
7:00 AM to 9:00 AM

Peak Hour Summary
7:15 AM to 8:15 AM

Heavy Vehicle 5-Minute Interval Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound Redland Rd				Southbound Redland Rd			Eastbound S Anchor Way				Westbound S Anchor Way				Interval Total
	L	T		Total	T	R	Total	L		R	Total				Total	
7:00 AM	0	4		4	1	0	1	0		1	1				0	6
7:05 AM	0	1		1	1	0	1	0		1	1				0	3
7:10 AM	0	4		4	2	0	2	0		0	0				0	6
7:15 AM	0	3		3	0	0	0	0		0	0				0	3
7:20 AM	0	1		1	1	0	1	0		0	0				0	2
7:25 AM	1	3		4	1	0	1	0		0	0				0	5
7:30 AM	0	0		0	1	0	1	0		0	0				0	1
7:35 AM	1	1		2	2	0	2	0		0	0				0	4
7:40 AM	0	2		2	0	0	0	0		0	0				0	2
7:45 AM	0	1		1	0	0	0	0		0	0				0	1
7:50 AM	0	0		0	1	2	3	0		0	0				0	3
7:55 AM	0	2		2	1	0	1	0		0	0				0	3
8:00 AM	0	2		2	1	0	1	0		1	1				0	4
8:05 AM	1	4		5	5	0	5	0		0	0				0	10
8:10 AM	0	1		1	0	0	0	0		0	0				0	1
8:15 AM	0	2		2	1	0	1	0		0	0				0	3
8:20 AM	0	1		1	1	1	2	0		0	0				0	3
8:25 AM	0	1		1	3	0	3	0		1	1				0	5
8:30 AM	0	4		4	3	0	3	0		1	1				0	8
8:35 AM	0	3		3	2	0	2	0		0	0				0	5
8:40 AM	0	1		1	2	2	4	0		1	1				0	6
8:45 AM	0	0		0	2	0	2	0		0	0				0	2
8:50 AM	0	2		2	0	1	1	0		0	0				0	3
8:55 AM	0	0		0	1	2	3	0		0	0				0	3
Total Survey	3	43		46	32	8	40	0		6	6				0	92

Heavy Vehicle 15-Minute Interval Summary
7:00 AM to 9:00 AM

Interval Start Time	Northbound Redland Rd				Southbound Redland Rd			Eastbound S Anchor Way				Westbound S Anchor Way				Interval Total
	L	T		Total	T	R	Total	L		R	Total				Total	
7:00 AM	0	9		9	4	0	4	0		2	2				0	15
7:15 AM	1	7		8	2	0	2	0		0	0				0	10
7:30 AM	1	3		4	3	0	3	0		0	0				0	7
7:45 AM	0	3		3	2	2	4	0		0	0				0	7
8:00 AM	1	7		8	6	0	6	0		1	1				0	15
8:15 AM	0	4		4	5	1	6	0		1	1				0	11
8:30 AM	0	8		8	7	2	9	0		2	2				0	19
8:45 AM	0	2		2	3	3	6	0		0	0				0	8
Total Survey	3	43		46	32	8	40	0		6	6				0	92

Heavy Vehicle Peak Hour Summary
7:15 AM to 8:15 AM

By Approach	Northbound Redland Rd			Southbound Redland Rd			Eastbound S Anchor Way			Westbound S Anchor Way			Total
	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	
Volume	23	14	37	15	20	35	1	5	6	0	0	0	39
PHF	0.64			0.54			0.25			0.00			0.57

By Movement	Northbound Redland Rd				Southbound Redland Rd			Eastbound S Anchor Way				Westbound S Anchor Way				Total
	L	T		Total	T	R	Total	L		R	Total				Total	
Volume	3	20		23	13	2	15	0		1	1				0	39
PHF	0.38	0.63		0.64	0.46	0.25	0.54	0.00		0.25	0.25				0.00	0.57

Heavy Vehicle Rolling Hour Summary
7:00 AM to 9:00 AM

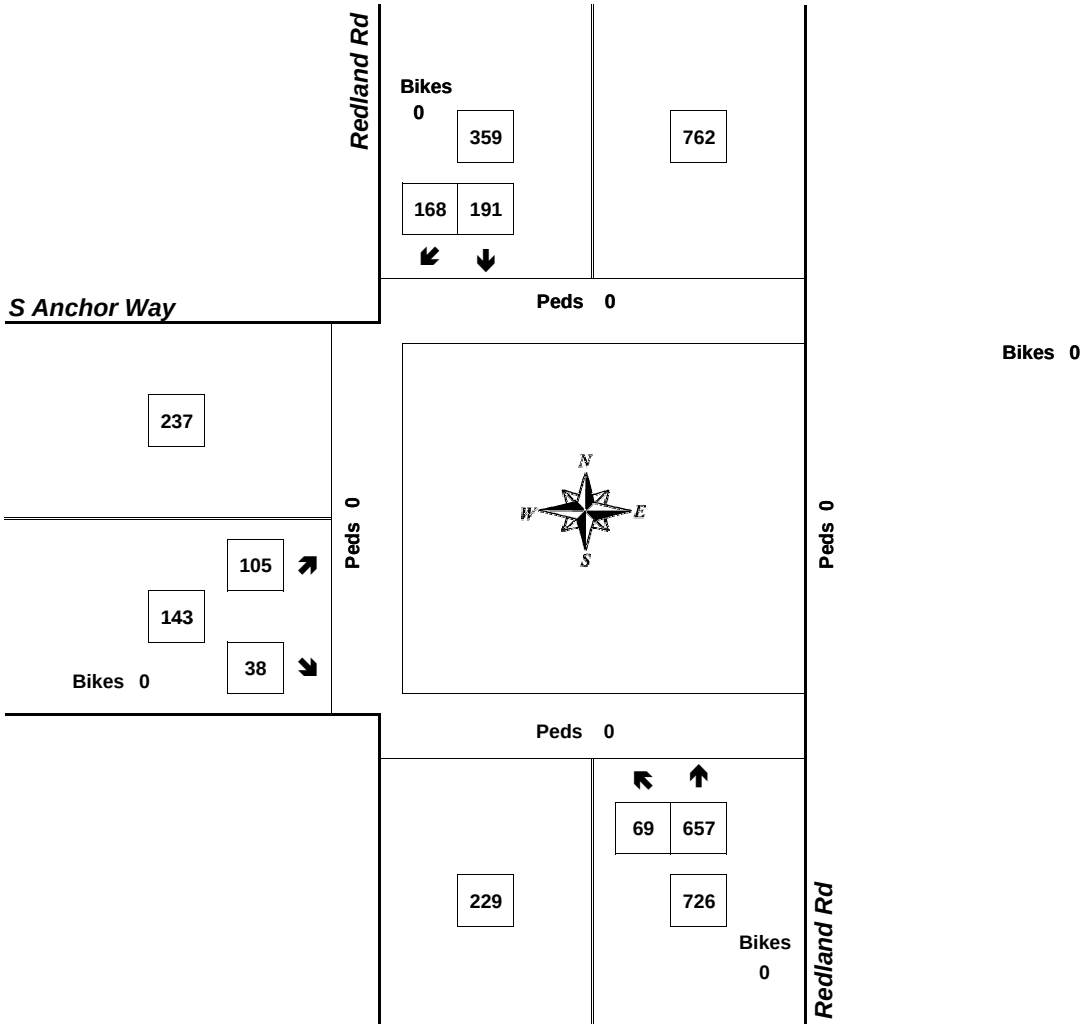
Interval Start Time	Northbound Redland Rd				Southbound Redland Rd			Eastbound S Anchor Way				Westbound S Anchor Way				Interval Total
	L	T		Total	T	R	Total	L		R	Total				Total	
7:00 AM	2	22		24	11	2	13	0		2	2				0	39
7:15 AM	3	20		23	13	2	15	0		1	1				0	39
7:30 AM	2	17		19	16	3	19	0		2	2				0	40
7:45 AM	1	22		23	20	5	25	0		4	4				0	52
8:00 AM	1	21		22	21	6	27	0		4	4				0	53

Peak Hour Summary

Clay Carney
(503) 833-2740

Redland Rd & S Anchor Way

7:15 AM to 8:15 AM
Thursday, April 05, 2018

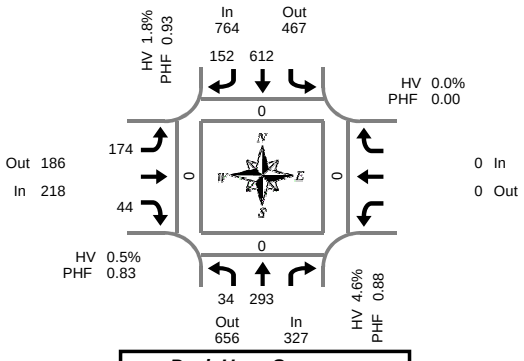


Approach	PHF	HV%	Volume
EB	0.83	0.7%	143
WB	0.00	0.0%	0
NB	0.91	3.2%	726
SB	0.77	4.2%	359
Intersection	0.97	3.2%	1,228

Count Period: 7:00 AM to 9:00 AM

Total Vehicle Summary

All Traffic Data Services Inc.
Clay Carney
(503) 833-2740



Peak Hour Summary
4:20 PM to 5:20 PM

Redland Rd & S Anchor Way

Wednesday, April 04, 2018
4:00 PM to 6:00 PM

5-Minute Interval Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound Redland Rd				Southbound Redland Rd			Eastbound S Anchor Way				Westbound S Anchor Way				Interval Total	Pedestrians Crosswalk			
	L	T		Bikes	T	R	Bikes	L		R	Bikes				Bikes		North	South	East	West
4:00 PM	5	31		0	64	22	0	10		6	0				0	138	0	0	0	0
4:05 PM	3	33		0	51	16	0	15		6	0				0	124	0	0	0	0
4:10 PM	5	20		0	39	9	0	15		7	1				0	95	0	0	0	0
4:15 PM	0	19		0	44	10	0	9		3	0				0	85	0	0	0	0
4:20 PM	5	24		0	57	12	0	11		1	0				0	110	0	0	0	0
4:25 PM	5	25		0	42	13	0	15		5	0				0	105	0	0	0	0
4:30 PM	2	21		0	53	14	0	13		1	0				0	104	0	0	0	0
4:35 PM	2	30		0	52	11	0	13		5	0				0	113	0	0	0	0
4:40 PM	1	30		0	29	15	0	15		3	0				0	93	0	0	0	0
4:45 PM	2	28		0	45	11	0	14		4	0				0	104	0	0	0	0
4:50 PM	5	22		0	57	15	0	10		5	0				0	114	0	0	0	0
4:55 PM	1	23		0	47	12	0	16		3	0				0	102	0	0	0	0
5:00 PM	2	22		0	59	15	0	14		4	0				0	116	0	0	0	0
5:05 PM	0	23		0	47	20	0	19		6	0				0	115	0	0	0	0
5:10 PM	8	21		0	54	5	0	18		2	0				0	108	0	0	0	0
5:15 PM	1	24		0	70	9	0	16		5	0				0	125	0	0	0	0
5:20 PM	2	15		0	58	13	0	17		4	0				0	109	0	0	0	0
5:25 PM	1	22		0	46	14	0	9		5	0				0	97	0	0	0	0
5:30 PM	2	23		0	57	9	0	13		2	0				0	106	0	0	0	0
5:35 PM	2	20		0	50	8	0	6		4	0				0	90	0	0	0	0
5:40 PM	2	21		0	69	16	0	5		3	0				0	116	0	0	0	0
5:45 PM	7	15		0	48	14	0	5		6	0				0	95	0	0	0	0
5:50 PM	4	23		0	58	14	0	8		4	0				0	111	0	0	0	0
5:55 PM	3	19		0	42	6	0	5		2	0				0	77	0	0	0	0
Total Survey	70	554		0	1,238	303	0	291		96	1				0	2,552	0	0	0	0

15-Minute Interval Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound Redland Rd				Southbound Redland Rd			Eastbound S Anchor Way				Westbound S Anchor Way				Interval Total	Pedestrians Crosswalk			
	L	T		Bikes	T	R	Bikes	L		R	Bikes				Bikes		North	South	East	West
4:00 PM	13	84		0	154	47	0	40		19	1				0	357	0	0	0	0
4:15 PM	10	68		0	143	35	0	35		9	0				0	300	0	0	0	0
4:30 PM	5	81		0	134	40	0	41		9	0				0	310	0	0	0	0
4:45 PM	8	73		0	149	38	0	40		12	0				0	320	0	0	0	0
5:00 PM	10	66		0	160	40	0	51		12	0				0	339	0	0	0	0
5:15 PM	4	61		0	174	36	0	42		14	0				0	331	0	0	0	0
5:30 PM	6	64		0	176	33	0	24		9	0				0	312	0	0	0	0
5:45 PM	14	57		0	148	34	0	18		12	0				0	283	0	0	0	0
Total Survey	70	554		0	1,238	303	0	291		96	1				0	2,552	0	0	0	0

Peak Hour Summary
4:20 PM to 5:20 PM

By Approach	Northbound Redland Rd				Southbound Redland Rd				Eastbound S Anchor Way				Westbound S Anchor Way				Total	Pedestrians Crosswalk			
	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes		North	South	East	West
Volume	327	656	983	0	764	467	1,231	0	218	186	404	0	0	0	0	0	1,309	0	0	0	0
%HV	4.6%				1.8%				0.5%				0.0%				2.3%				
PHF	0.88				0.93				0.83				0.00				0.94				

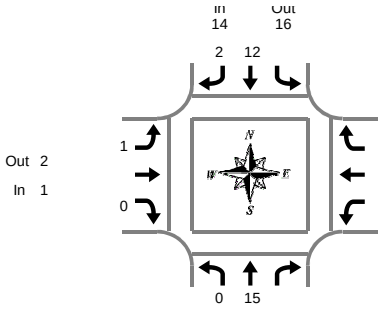
By Movement	Northbound Redland Rd				Southbound Redland Rd				Eastbound S Anchor Way				Westbound S Anchor Way				Total
	L	T		Total		T	R	Total	L		R	Total				Total	
Volume	34	293		327		612	152	764	174		44	218				0	1,309
%HV	0.0%	5.1%	NA	4.6%	NA	2.0%	1.3%	1.8%	0.6%	NA	0.0%	0.5%	NA	NA	NA	0.0%	2.3%
PHF	0.71	0.83		0.88		0.89	0.81	0.93	0.82		0.85	0.83				0.00	0.94

Rolling Hour Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound Redland Rd				Southbound Redland Rd			Eastbound S Anchor Way				Westbound S Anchor Way				Interval Total	Pedestrians Crosswalk			
	L	T		Bikes	T	R	Bikes	L		R	Bikes				Bikes		North	South	East	West
4:00 PM	36	306		0	580	160	0	156		49	1				0	1,287	0	0	0	0
4:15 PM	33	288		0	586	153	0	167		42	0				0	1,269	0	0	0	0
4:30 PM	27	281		0	617	154	0	174		47	0				0	1,300	0	0	0	0
4:45 PM	28	264		0	659	147	0	157		47	0				0	1,302	0	0	0	0
5:00 PM	34	248		0	658	143	0	135		47	0				0	1,265	0	0	0	0

Heavy Vehicle Summary

Clay Carney
(503) 833-2740



Redland Rd & S Anchor Way

Wednesday, April 04, 2018
4:00 PM to 6:00 PM

Peak Hour Summary
4:20 PM to 5:20 PM

Heavy Vehicle 5-Minute Interval Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound Redland Rd				Southbound Redland Rd			Eastbound S Anchor Way				Westbound S Anchor Way				Interval Total
	L	T		Total	T	R	Total	L		R	Total				Total	
4:00 PM	0	2		2	4	0	4	0		0	0				0	6
4:05 PM	0	0		0	3	0	3	0		0	0				0	3
4:10 PM	0	1		1	1	0	1	0		0	0				0	2
4:15 PM	0	0		0	4	0	4	1		0	1				0	5
4:20 PM	0	1		1	0	0	0	0		0	0				0	1
4:25 PM	0	0		0	2	0	2	0		0	0				0	2
4:30 PM	0	1		1	0	0	0	0		0	0				0	1
4:35 PM	0	0		0	1	0	1	0		0	0				0	1
4:40 PM	0	2		2	0	0	0	0		0	0				0	2
4:45 PM	0	2		2	2	0	2	0		0	0				0	4
4:50 PM	0	0		0	3	0	3	0		0	0				0	3
4:55 PM	0	3		3	1	0	1	1		0	1				0	5
5:00 PM	0	0		0	1	2	3	0		0	0				0	3
5:05 PM	0	1		1	1	0	1	0		0	0				0	2
5:10 PM	0	0		0	1	0	1	0		0	0				0	1
5:15 PM	0	5		5	0	0	0	0		0	0				0	5
5:20 PM	0	0		0	0	0	0	0		0	0				0	0
5:25 PM	0	1		1	1	0	1	0		0	0				0	2
5:30 PM	0	3		3	0	0	0	0		0	0				0	3
5:35 PM	0	1		1	1	0	1	0		0	0				0	2
5:40 PM	0	0		0	1	0	1	0		0	0				0	1
5:45 PM	0	0		0	2	0	2	0		0	0				0	2
5:50 PM	0	1		1	0	0	0	0		0	0				0	1
5:55 PM	0	0		0	3	0	3	0		0	0				0	3
Total Survey	0	24		24	32	2	34	2		0	2				0	60

Heavy Vehicle 15-Minute Interval Summary
4:00 PM to 6:00 PM

Interval Start Time	Northbound Redland Rd				Southbound Redland Rd			Eastbound S Anchor Way				Westbound S Anchor Way				Interval Total
	L	T		Total	T	R	Total	L		R	Total				Total	
4:00 PM	0	3		3	8	0	8	0		0	0				0	11
4:15 PM	0	1		1	6	0	6	1		0	1				0	8
4:30 PM	0	3		3	1	0	1	0		0	0				0	4
4:45 PM	0	5		5	6	0	6	1		0	1				0	12
5:00 PM	0	1		1	3	2	5	0		0	0				0	6
5:15 PM	0	6		6	1	0	1	0		0	0				0	7
5:30 PM	0	4		4	2	0	2	0		0	0				0	6
5:45 PM	0	1		1	5	0	5	0		0	0				0	6
Total Survey	0	24		24	32	2	34	2		0	2				0	60

Heavy Vehicle Peak Hour Summary
4:20 PM to 5:20 PM

By Approach	Northbound Redland Rd			Southbound Redland Rd			Eastbound S Anchor Way			Westbound S Anchor Way			Total
	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	
Volume	15	12	27	14	16	30	1	2	3	0	0	0	30
PHF	0.63			0.50			0.25			0.00			0.63

By Movement	Northbound Redland Rd				Southbound Redland Rd			Eastbound S Anchor Way				Westbound S Anchor Way				Total
	L	T		Total	T	R	Total	L		R	Total				Total	
Volume	0	15		15	12	2	14	1		0	1				0	30
PHF	0.00	0.63		0.63	0.50	0.25	0.50	0.25		0.00	0.25				0.00	0.63

Heavy Vehicle Rolling Hour Summary
4:00 PM to 6:00 PM

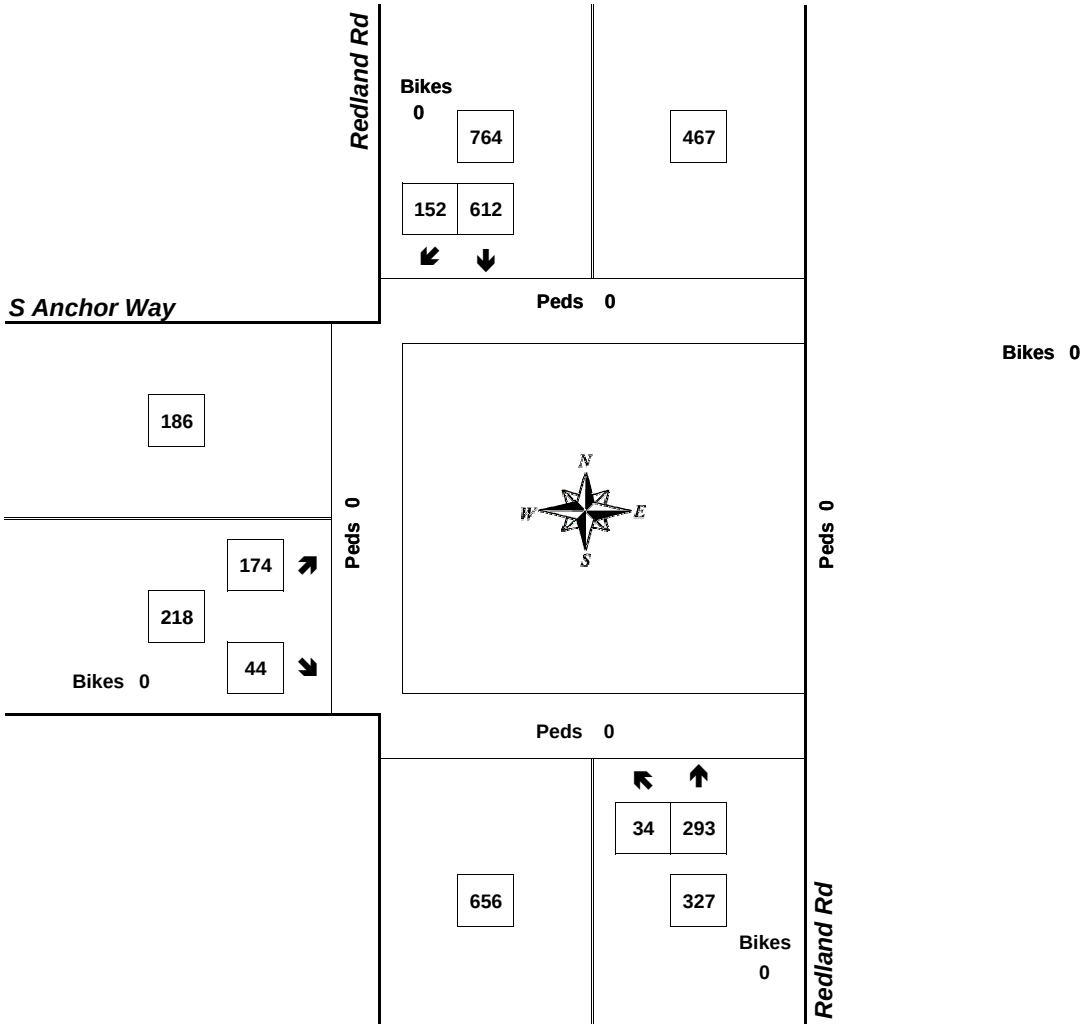
Interval Start Time	Northbound Redland Rd				Southbound Redland Rd			Eastbound S Anchor Way				Westbound S Anchor Way				Interval Total
	L	T		Total	T	R	Total	L		R	Total				Total	
4:00 PM	0	12		12	21	0	21	2		0	2				0	35
4:15 PM	0	10		10	16	2	18	2		0	2				0	30
4:30 PM	0	15		15	11	2	13	1		0	1				0	29
4:45 PM	0	16		16	12	2	14	1		0	1				0	31
5:00 PM	0	12		12	11	2	13	0		0	0				0	25

Peak Hour Summary

Clay Carney
(503) 833-2740

Redland Rd & S Anchor Way

4:20 PM to 5:20 PM
Wednesday, April 04, 2018



Approach	PHF	HV%	Volume
EB	0.83	0.5%	218
WB	0.00	0.0%	0
NB	0.88	4.6%	327
SB	0.93	1.8%	764
Intersection	0.94	2.3%	1,309

Count Period: 4:00 PM to 6:00 PM

Left-Turn Lane Warrant Analysis

Project: 17038 - Park Place Annexation
Intersection: S Redland Road at S Anchor Way
Date: 4/9/2018
Scenario: Existing Conditions - AM Peak Hour

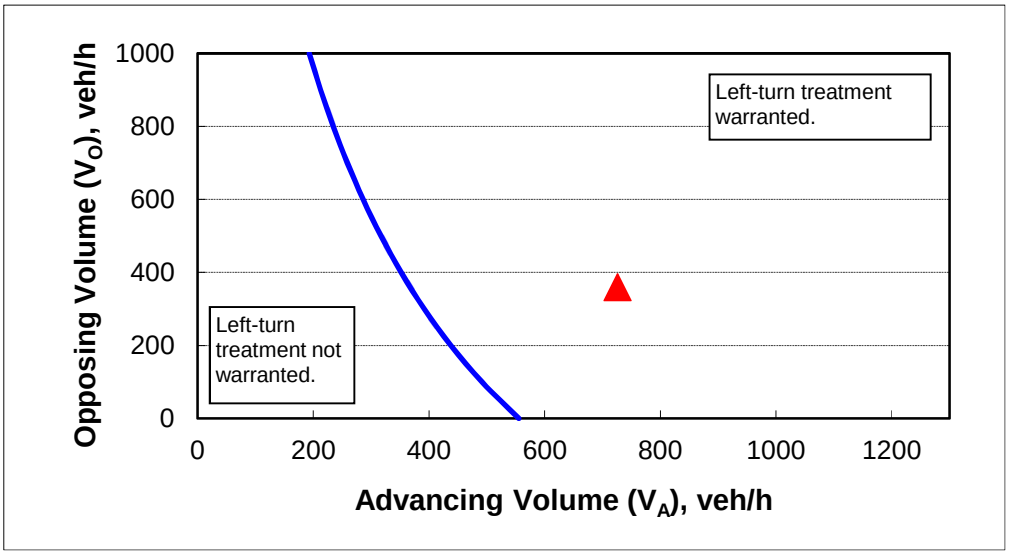
2-lane roadway (English)

INPUT

Variable	Value
85th percentile speed, mph:	45
Number of left-turns in advancing volume (V_A), veh/h:	69
Advancing volume (V_A), veh/h:	726
Opposing volume (V_O), veh/h:	359

OUTPUT

Variable	Value
Limiting advancing volume (V_A), veh/h:	368
Guidance for determining the need for a major-road left-turn bay:	
Left-turn treatment warranted.	



CALIBRATION CONSTANTS

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

Left-Turn Lane Warrant Analysis

Project: 17038 - Park Place Annexation
Intersection: S Redland Road at S Anchor Way
Date: 4/9/2018
Scenario: Existing Conditions - PM Peak Hour

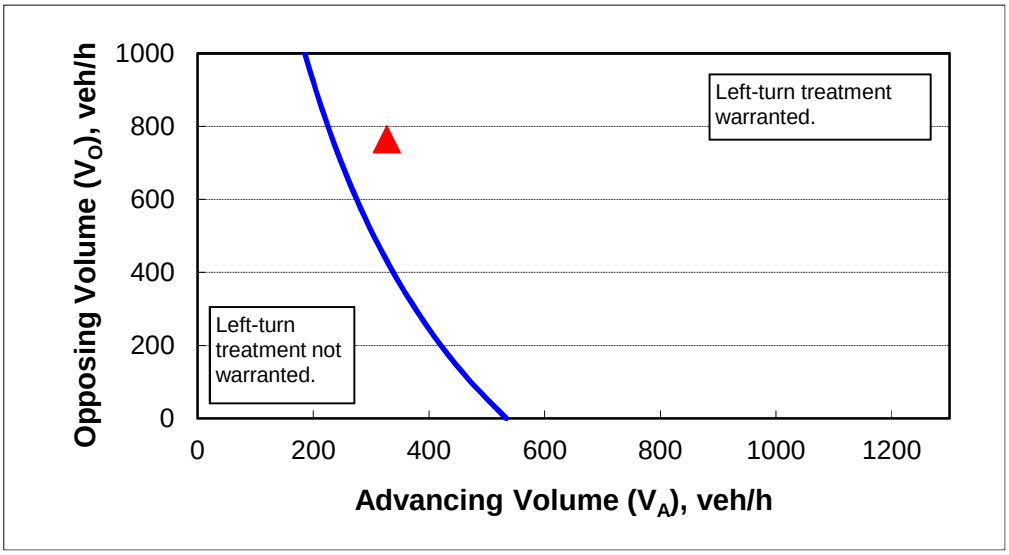
2-lane roadway (English)

INPUT

Variable	Value
85th percentile speed, mph:	45
Number of left-turns in advancing volume (V_A), veh/h:	34
Advancing volume (V_A), veh/h:	327
Opposing volume (V_O), veh/h:	764

OUTPUT

Variable	Value
Limiting advancing volume (V_A), veh/h:	233
Guidance for determining the need for a major-road left-turn bay:	
Left-turn treatment warranted.	



CALIBRATION CONSTANTS

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

Traffic Signal Warrant Analysis

Project: 17038 - Park Place Annexation
Date: 4/9/2018
Scenario: Year 2035 Planning Horizon

Major Street:	S Redland Road	Minor Street:	S Anchor Way
Number of Lanes:	1	Number of Lanes:	1
PM Peak Hour Volumes:	1289	PM Peak Hour Volumes:	276

Warrant Used:

X 100 percent of standard warrants used

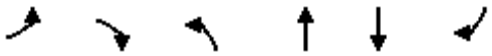
_____ 70 percent of standard warrants used due to 85th percentile speed in excess of 40 mph or isolated community with population less than 10,000.

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

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

	Approach Volumes	Minimum Volumes	Is Signal Warrant Met?
Warrant 1			
Condition A: Minimum Vehicular Volume			
Major Street	12,890	8,850	
Minor Street*	2,760	2,650	**Yes**
Condition B: Interruption of Continuous Traffic			
Major Street	12,890	13,300	
Minor Street*	2,760	1,350	**No**
Combination Warrant			
Major Street	12,890	10,640	
Minor Street*	2,760	2,120	**Yes**

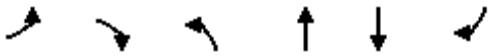
* Minor street right-turning traffic volumes reduced by 25%.



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	105	38	69	657	191	168
Future Volume (Veh/h)	105	38	69	657	191	168
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Hourly flow rate (vph)	108	39	71	677	197	173
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1102	284	370			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1102	284	370			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	51	95	94			
cM capacity (veh/h)	221	758	1183			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	147	748	370
Volume Left	108	71	0
Volume Right	39	0	173
cSH	272	1183	1700
Volume to Capacity	0.54	0.06	0.22
Queue Length 95th (ft)	74	5	0
Control Delay (s)	32.8	1.5	0.0
Lane LOS	D	A	
Approach Delay (s)	32.8	1.5	0.0
Approach LOS	D		

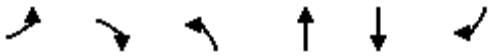
Intersection Summary			
Average Delay	4.7		
Intersection Capacity Utilization	76.9%	ICU Level of Service	D
Analysis Period (min)	15		



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	174	44	34	293	612	152
Future Volume (Veh/h)	174	44	34	293	612	152
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	185	47	36	312	651	162
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1116	732	813			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1116	732	813			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	16	89	96			
cM capacity (veh/h)	220	423	801			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	232	348	813
Volume Left	185	36	0
Volume Right	47	0	162
cSH	244	801	1700
Volume to Capacity	0.95	0.04	0.48
Queue Length 95th (ft)	215	4	0
Control Delay (s)	88.9	1.5	0.0
Lane LOS	F	A	
Approach Delay (s)	88.9	1.5	0.0
Approach LOS	F		

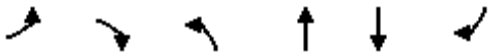
Intersection Summary			
Average Delay	15.2		
Intersection Capacity Utilization	62.8%	ICU Level of Service	B
Analysis Period (min)	15		



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	147	53	97	712	214	235
Future Volume (Veh/h)	147	53	97	712	214	235
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Hourly flow rate (vph)	152	55	100	734	221	242
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1276	342	463			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1276	342	463			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	9	92	91			
cM capacity (veh/h)	168	703	1093			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	207	834	463
Volume Left	152	100	0
Volume Right	55	0	242
cSH	211	1093	1700
Volume to Capacity	0.98	0.09	0.27
Queue Length 95th (ft)	215	8	0
Control Delay (s)	105.4	2.3	0.0
Lane LOS	F	A	
Approach Delay (s)	105.4	2.3	0.0
Approach LOS	F		

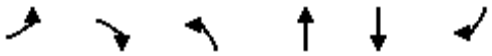
Intersection Summary			
Average Delay	15.8		
Intersection Capacity Utilization	89.9%	ICU Level of Service	E
Analysis Period (min)	15		



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	229	62	48	328	720	193
Future Volume (Veh/h)	229	62	48	328	720	193
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	241	65	51	345	758	203
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1306	860	961			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1306	860	961			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	0	82	93			
cM capacity (veh/h)	164	357	704			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	306	396	961
Volume Left	241	51	0
Volume Right	65	0	203
cSH	186	704	1700
Volume to Capacity	1.65	0.07	0.57
Queue Length 95th (ft)	515	6	0
Control Delay (s)	359.2	2.2	0.0
Lane LOS	F	A	
Approach Delay (s)	359.2	2.2	0.0
Approach LOS	F		

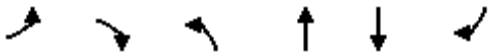
Intersection Summary			
Average Delay	66.6		
Intersection Capacity Utilization	80.9%	ICU Level of Service	D
Analysis Period (min)	15		



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	147	59	108	904	315	235
Future Volume (Veh/h)	147	59	108	904	315	235
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Hourly flow rate (vph)	152	61	111	932	325	242
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1600	446	567			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1600	446	567			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	0	90	89			
cM capacity (veh/h)	104	614	1000			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	213	1043	567
Volume Left	152	111	0
Volume Right	61	0	242
cSH	137	1000	1700
Volume to Capacity	1.56	0.11	0.33
Queue Length 95th (ft)	372	9	0
Control Delay (s)	341.3	2.9	0.0
Lane LOS	F	A	
Approach Delay (s)	341.3	2.9	0.0
Approach LOS	F		

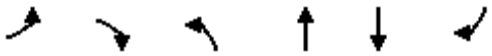
Intersection Summary			
Average Delay	41.6		
Intersection Capacity Utilization	106.2%	ICU Level of Service	G
Analysis Period (min)	15		



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	229	74	56	476	946	193
Future Volume (Veh/h)	229	74	56	476	946	193
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	241	78	59	501	996	203
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1716	1098	1199			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1716	1098	1199			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	0	70	90			
cM capacity (veh/h)	89	260	572			

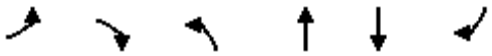
Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	319	560	1199
Volume Left	241	59	0
Volume Right	78	0	203
cSH	106	572	1700
Volume to Capacity	3.00	0.10	0.71
Queue Length 95th (ft)	Err	9	0
Control Delay (s)	Err	2.8	0.0
Lane LOS	F	A	
Approach Delay (s)	Err	2.8	0.0
Approach LOS	F		

Intersection Summary			
Average Delay	1535.7		
Intersection Capacity Utilization	95.8%	ICU Level of Service	F
Analysis Period (min)	15		



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	147	59	108	904	315	235
Future Volume (vph)	147	59	108	904	315	235
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5		4.5	4.5	4.5	
Lane Util. Factor	1.00		1.00	1.00	1.00	
Frt	0.96		1.00	1.00	0.94	
Flt Protected	0.97		0.95	1.00	1.00	
Satd. Flow (prot)	1746		1752	1845	1722	
Flt Permitted	0.97		0.26	1.00	1.00	
Satd. Flow (perm)	1746		474	1845	1722	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	152	61	111	932	325	242
RTOR Reduction (vph)	25	0	0	0	38	0
Lane Group Flow (vph)	188	0	111	932	529	0
Heavy Vehicles (%)	1%	1%	3%	3%	4%	4%
Turn Type	Prot		pm+pt	NA	NA	
Protected Phases	4		5	2	6	
Permitted Phases			2			
Actuated Green, G (s)	11.3		35.0	35.0	26.4	
Effective Green, g (s)	11.3		35.0	35.0	26.4	
Actuated g/C Ratio	0.20		0.63	0.63	0.48	
Clearance Time (s)	4.5		4.5	4.5	4.5	
Vehicle Extension (s)	3.0		3.0	3.0	3.0	
Lane Grp Cap (vph)	356		394	1167	822	
v/s Ratio Prot	c0.11		0.02	c0.51	0.31	
v/s Ratio Perm			0.16			
v/c Ratio	0.53		0.28	0.80	0.64	
Uniform Delay, d1	19.6		5.8	7.5	10.9	
Progression Factor	1.00		1.00	1.00	1.00	
Incremental Delay, d2	1.4		0.4	3.9	1.7	
Delay (s)	21.0		6.2	11.4	12.6	
Level of Service	C		A	B	B	
Approach Delay (s)	21.0			10.9	12.6	
Approach LOS	C			B	B	

Intersection Summary			
HCM 2000 Control Delay	12.6	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.81		
Actuated Cycle Length (s)	55.3	Sum of lost time (s)	13.5
Intersection Capacity Utilization	66.8%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	229	74	56	476	946	193
Future Volume (vph)	229	74	56	476	946	193
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5		4.5	4.5	4.5	
Lane Util. Factor	1.00		1.00	1.00	1.00	
Frpb, ped/bikes	0.99		1.00	1.00	1.00	
Flpb, ped/bikes	1.00		1.00	1.00	1.00	
Frt	0.97		1.00	1.00	0.98	
Flt Protected	0.96		0.95	1.00	1.00	
Satd. Flow (prot)	1743		1719	1810	1820	
Flt Permitted	0.96		0.05	1.00	1.00	
Satd. Flow (perm)	1743		87	1810	1820	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	241	78	59	501	996	203
RTOR Reduction (vph)	10	0	0	0	6	0
Lane Group Flow (vph)	309	0	59	501	1193	0
Confl. Bikes (#/hr)		1				
Heavy Vehicles (%)	1%	1%	5%	5%	2%	2%
Turn Type	Prot		pm+pt	NA	NA	
Protected Phases	4		5	2	6	
Permitted Phases			2			
Actuated Green, G (s)	21.6		86.9	86.9	78.3	
Effective Green, g (s)	21.6		86.9	86.9	78.3	
Actuated g/C Ratio	0.18		0.74	0.74	0.67	
Clearance Time (s)	4.5		4.5	4.5	4.5	
Vehicle Extension (s)	3.0		3.0	3.0	3.0	
Lane Grp Cap (vph)	320		121	1338	1212	
v/s Ratio Prot	c0.18		0.02	c0.28	c0.66	
v/s Ratio Perm			0.34			
v/c Ratio	0.97		0.49	0.37	0.98	
Uniform Delay, d1	47.6		31.2	5.5	19.0	
Progression Factor	1.00		1.00	1.00	1.00	
Incremental Delay, d2	40.9		3.1	0.2	22.0	
Delay (s)	88.4		34.2	5.7	41.0	
Level of Service	F		C	A	D	
Approach Delay (s)	88.4			8.7	41.0	
Approach LOS	F			A	D	

Intersection Summary			
HCM 2000 Control Delay	39.6	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.96		
Actuated Cycle Length (s)	117.5	Sum of lost time (s)	13.5
Intersection Capacity Utilization	86.2%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group