



**City of Sherwood
PLANNING COMMISSION
Sherwood City Hall
22560 SW Pine Street
Sherwood, OR 97140
September 25, 2012 – 7PM**

Business Meeting – 7:00 PM

- 1. Call to Order/Roll Call**
- 2. Agenda Review**
- 3. Consent Agenda: None**
- 4. Council Liaison Announcements**
- 5. Staff Announcements**
- 6. Community Comments**
- 7. Old Business - None**
- 8. New Business**

a. *Langer Farms Phase 7* - The applicant is proposing a site plan to construct a commercial shopping center on 19.7 acres of property. The proposal includes a 189,500 square feet of commercial space which includes 145,000 square foot anchor building and six retail buildings with associated parking and landscaping.

9. Adjourn

Next Meeting: October 9, 2012

New Business Agenda

Item A

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To: Planning Commission

Pre-App. Meeting: December 12, 2011
App. Submitted: May 30, 2012
App. Complete: August 10, 2012
120-Day Deadline: December 8, 2012
Hearing Date: September 25, 2012

FROM: _____

Brad Kilby, AICP, Senior Planner

Proposal: The applicant has requested site plan approval to construct between 190,530 and 192,532 square foot shopping center, based on the alternate options considered for proposed pads A and C, on approximately 19.82 acres of a 55.09 acre parcel of land. The request also includes a conditional use permit to allow outside storage and sales, and a separate request for a design modification to the right-of-way requirements for the extension of SW Century Blvd. to allow the sidewalk to be placed curb tight and street trees to be planted within tree wells. The parent parcel (55.09 acres) recently received preliminary subdivision (SUB 12-02) approval to divide the land into five individual lots and two tracts for future development consistent with the Sherwood Village PUD 95-1.

The shopping center would be constructed on three of the lots within the approved subdivision. The property is a part of the Langer Planned Unit Development, File No. PUD 95-1. For ease of review, future reference in this document to the "site" refers to the development of the shopping center on the three lots approved through the recent subdivision approval. The Planned Unit Development was approved in 1995 without a preliminary plat although a preliminary plat was recently approved for a six lot subdivision on the 6.93 acre subdivision.

I. BACKGROUND

- A. Applicant:
Langer Gramor LLC
Attn: Matt Grady, AICP
19767 SW 72nd Avenue, Suite 100
Tualatin, OR 97062
- Owner:
Langer Family, LLC
Attn: Matt Langer
14958 SW Tualatin-Sherwood Road
Sherwood, OR 97140
- B. Location: The property is located on the east side of SW Langer Farms Parkway. The property is identified as tax lot 300 on Washington County Assessor Map 2S129D.
- C. Parcel Size: The subject site is approximately 19.82 acres of a 55.09 acre site that has received approval to be divided into 5 individual lots and two tracts.
- D. Existing Development and Site Characteristics:
The site is actively being farmed, and has preliminary subdivision approval to be subdivided from the parent parcel. The subject site contains no identified wetlands, sensitive areas, or trees, and has historically been farmed. The site is currently surrounded on two sides by public streets. The north boundary of the property is

adjacent to the Tualatin-Sherwood Road right-of-way, whereas, the west boundary of the site is adjacent to the SW Langer Farms Parkway. Eventually, the south boundary of the site would be bound by the extension of SW Century Blvd.

- E. Site History: The site has been owned and farmed by the Langer family since the late 1800's. This particular piece of property is within phase 7 of the Sherwood Village PUD that was approved by the Sherwood City Council in 1995. All future development is subject to the applicable conditions of the approved Planned Unit Development and any subsequent amendments. The site recently received preliminary land use approval to subdivide the property and this portion of the property include lots 1, 2, and 3 of that approval.
- F. Zoning Classification and Comprehensive Plan Designation: The property is zoned PUD-LI. There was a 2007 modification to the original PUD that confirmed section 16.32.020H of the code allowed the uses that would have been permitted in 1995 to be permitted on these properties as well (Resolution 2007-081). Those uses include uses that were permitted within the GC zone at that time including commercial, retail, and service uses not currently permitted in the underlying zone.
- G. Adjacent Zoning and Land Use: There is an existing Department of Environmental Quality vehicle testing station along with other light industrially zoned property located to the east of the site. There is an existing shopping center that was constructed on an earlier phase of the approved PUD located west of the subject site. Properties located on the north side of the Tualatin-Sherwood Road right-of-way are zoned general commercial and light industrial. Properties located to the north are zoned commercial and light industrial, and under developed at this time. Properties located to the west are zoned residential and commercial and developed with detached single-family homes, and there is an existing shopping center that was constructed on an earlier phase of the approved PUD located west of the subject site, across Langer Farms Parkway.
- H. Review Type: According to section 16.72.010.4.c, site plans for developments over 40,000 square feet require a Type IV review with a decision made by the Planning Commission after consideration of public comments. An appeal would be heard by the Sherwood City Council.
- I. Neighborhood Meeting: The applicant held a neighborhood meeting on February 8, 2012 at the St. Francis School's library at 15643 SW Oregon Street. The applicant discussed the proposed development of the entire Langer PUD, the proposed phase 7 retail development, the storage facility, and the subdivision. The applicant provided notes, the sign in sheet, and an affidavit of mailing as attachment 8 to the application materials.
- J. Public Notice and Hearing: Notice of the application was mailed to property owners within 1000 feet, posted on the property and in five locations throughout the City on July 24, 2012 in accordance with the notice provisions of Section 16.72.020 of the SZCDC.
- K. Review Criteria: Sherwood Zoning and Community Development Code, 16.32 (Light Industrial), 16.40 (Planned Unit Development), 16.58 (Clear Vision), Division III Administrative Procedures, Division IV – 16.82 Conditional Uses, Division V – 16.90 Site Planning, 16.92 Landscaping, 16.94 Off-Street Parking and Loading, 16.96 On-Site Circulation, Division VI - 16.104 -16.118 (Public Infrastructure), and Division VIII – 16.144 (Wetland, Habitat and Natural Areas).

II. PUBLIC COMMENTS

Public notice was mailed, posted on the property and in five locations throughout the City on August 20, 2012.

Staff received four comments via e-mail. The first e-mail was from Marilyn Sykes indicating that her primary concern with the development of the property is the effect that the additional traffic would have into the Sherwood Village Subdivision. Mrs. Sykes requested that a sign be posted at Whetstone and Langer Farms Parkway that reads, "No Through Traffic." Her e-mail is attached to this report as Exhibit B.

The second e-mail was received from Eric Valdez. His e-mail indicates that he is in support of a Fred Meyer in Sherwood, but not on Highway 99, and he is vehemently opposed to a Wal-Mart.. His e-mail is attached to this report as Exhibit C.

The third E-mail dated September 17, 2012 from Julia Hajduk RE: Brian Smith E-mail from 9/11/2012 states that the citizens want to know what the anchor store is so that they can decide whether to support it or not. This e-mail is attached as Exhibit J.

The fourth E-mail dated September 17, 2012 from Julia Hajduk RE: Susan Claus E-mail from 9/11/2012 indicates that the information on the website regarding the hearing was incorrect, and that this type of information is frustrating to the public because several members of the public believe that there is no ability to put comments into the record, that the development will have a "seismic" impact on several businesses in town, that the process is confusing, and that because the site is within the Urban Renewal District, it is receiving administrative favor, lack of public disclosure, and "unique" zoning benefits."

Staff Response: In the case of the first three e-mails, the City cannot control what businesses come into the City provided they meet the development requirements of the SZCDC. In response to the fourth e-mail regarding the website, a revised notice was mailed out to the public, the site, and the five locations throughout the City were posted, people who contacted the city regarding the hearing were informed, and people who attended the meeting on the 11th were informed of the new hearing date. The website indicates that folks should contact the City to verify information, and it is not a requirement to place the information on the website. It is placed there as time and resources permit. Regarding the other allegations, staff cannot speak to them since they are unsubstantiated by any evidence.

III. AGENCY COMMENTS

Staff sent e-notice to affected agencies on August 20, 2012. The following is a summary of the comments received. Copies of full comments are included in the record unless otherwise noted.

Sherwood Engineering Department: Bob Galati, the City Engineer provided comments in a letter dated September 14, 2012. Within his letter, Bob recommends a whole host of mitigation measures that are intended to mitigate impacts from traffic related to the development. He also discusses and incorporates conditions for the utilities that are intended to serve the site. His comments have been incorporated into this document where appropriate, and are attached to this report as Exhibit D.

Clean Water Services: Jackie Sue Humphreys of Clean Water Services provided comments on August 30, 2012. Within her comments, Jackie indicated that the applicant must obtain a Stormwater Connection Permit Authorization from the district, and a 1200-CN permit prior to beginning construction. While nothing was noted specific to the project, her comments and conditions have been incorporated into this report where applicable, and are attached as Exhibit E.

Tualatin Valley Fire and Rescue: John Wolff, Deputy Fire Marshal II with Tualatin Valley Fire and Rescue (TVFR), submitted comments for this proposal on August 28, 2012. Mr. Wolff indicated that the district endorses the application provided their fire, life, and safety requirements, listed in the comments, were satisfied. Specific to the request, Mr. Wolff states, "All in all it looks like all of our requirements for access and water will be met. I did point out the need for an approved fire department access to be declared with the appropriate no parking signage and paint as applicable along with a few reminders surrounding fire hydrants." Mr. Wolff's written comments have been incorporated into this report where applicable, and are attached to this report as Exhibit F.

Washington County: Naomi Vogel of Washington County provided comments in a letter dated September 11, 2012. She indicated that the County had reviewed the proposal, and would require dedication of additional right of way along SW Tualatin-Sherwood Road, and a fee in lieu or construction of frontage improvements along that same right-of-way. Her comments and conditions have been incorporated into this report, and is attached as Exhibit G.

Pride Disposal Co.: Kristin Leichner of Pride Disposal, provided staff with comments that indicates that Pride disposal has some concerns with two of the six proposed enclosure locations. She added that it would be possible to redesign them in order to be serviceable. Ms. Leichner's comments are attached to this report as Exhibit H.

The Oregon Department of Transportation (ODOT): Seth Brumley of ODOT, provided comments in a letter dated August 31, 2012. Within his letter, Seth indicates that they have reviewed the Traffic Impact Analysis and recommends mitigation measures that have been integrated into this report. His comments are attached to this report as Exhibit I.

Metro, Tri-Met, Kinder Morgan Energy, and NW Natural Gas were also notified of this proposal and did not respond or provided no comments to the request for agency comments by the date of this report.

IV. Compliance with the Sherwood Zoning and Community Development Code (SZCDC)

Chapter 16.40 – Planned Unit Development (PUD)

STAFF ANALYSIS: Chapter 16.40 only applies to the processing of proposals for preliminary and final PUD's, and modifications to approved PUD's. In this instance, the applicant has previously applied for and received approval for the entire PUD. A preliminary and final development plan for PUD 95-01 was approved in 1995. In 2007, the PUD was modified to clarify the allowed uses and to negotiate public improvements as they related to the applicant's vision for future development on the site. In 2010, the development agreement for the PUD was amended and approved by the City Council, and subsequent to that approval, there have been significant public improvements which are consistent with the approved PUD. While the final development plan is broad in its vision, the developer has

satisfied or has been conditioned to satisfy the applicable conditions of approval with each phase of the development.

FINDING: The proposed development is not subject to the PUD chapter beyond the necessity to satisfy the conditions of approval for the PUD. Compliance with those conditions of approval is discussed below.

The following discussion is an evaluation of how the proposal satisfies the conditions of approval and the subsequent developers' agreements associated with the 1995 Sherwood Village PUD and all subsequent amendments to the 1995 approval as discussed below.

16.40.030 – Final Development Plan

A. Generally

Upon approval of the PUD overlay zoning district and preliminary development plan by the Council, the applicant shall prepare a detailed Final Development Plan as per this Chapter, for review and approval of the Commission. The Final Development Plan shall comply with all conditions of approval as per Section 16.40.020. In addition, the applicant shall prepare and submit a detailed site plan for any non-single-family structure or use not addressed under Section 16.40.020(B)(6), for review and approval, pursuant to the provisions of Chapter 16.90. The site plan shall be processed concurrently with the Final Development Plan.

Applicant's Response: The proposal is for Site Plan approval for Phase 7 of the Sherwood Village Planned PUD (aka Langer PUD) that obtained PUD Final Development Plan approval for the entire PUD in 1995.

The Sherwood City Council approved the Sherwood Village PUD, Preliminary Development Plan on April 25, 1995 (see Attachment 21 – Notice of Decision Ordinance #95-997). The Preliminary Development Plan was approved with eight phases on approximately 125 acres and at the time land was zoned Open Space, High Density Residential (HDR), Retail Commercial (RC), and Light Industrial (LI).

On August 1, 1995 the Planning Commission approved the Final Development Plan for the PUD (see Attachment 22 of the applicant's submittal, Exhibit A to this report). This Section of code requires that following Preliminary Development Plan approval, "the applicant shall prepare a detailed Final Development Plan as per this Chapter, for review and approval of the Commission." According to page 2 of the Final Development Plan staff report dated as mailed July 25, 1995, "The request does not include a site plan because an individual site plan will be submitted for each phase of development." Therefore the Final Development Plan was an approval for the entire PUD in 1995 with individual phases requiring respective Site Plan approvals. This application is for Site Plan approval for Phase 7 of the PUD.

Over the following 10 years after the 1995 Final Development Plan approval, Phases 1, 2, 3, 4 and 5 were completed as well as completion of Century Drive (between Sherwood Boulevard and Langer Farms Parkway) and Baler Way. Recently Langer Farms Parkway (formerly Adams Avenue) was completed between Tualatin-Sherwood Road and Oregon Street.

On December 4, 2007, the City Council adopted a Minor Modification and a Resolution to the PUD that modified and clarified conditions of approval (see Attachment 16 of Exhibit A – Resolution 2007-081). The Council Resolution also entered into a Development Agreement

between the City and the owner (Langer Family LLC). The Development Agreement specifies responsibilities of the City and owner for completing public improvements associated with the 1995 PUD and provides revised and clarified requirements for development of the remaining phases of the PUD including the subject phase (Phase 7).

STAFF ANALYSIS: Staff concurs with the applicant's history of the approvals including the assertion that a final development plan for the PUD was approved for the overall site in 1995. The purpose of this specific review is to ensure that the proposed development is consistent with the PUD approval, and the applicable review criteria for Site Plan, Conditional Uses, and all other applicable sections of the Sherwood Zoning and Community Development Code.

The proposed development of Phase 7 complies with the applicable PUD conditions and Development Agreement as discussed below:

Development Agreement

A. PUD USES

1. *Applicable Code.* ZCDC 16.32.020.H, provides that "Approved PUDs may elect to establish uses which are permitted or conditionally permitted under the base zone text at the time of final approval of the PUD." The Langer PUD was approved and Phases 4, 6, 7 and 8 were assigned the Light Industrial ("LI") base zone designation on August 3, 1995.

2. *Permitted and Conditional Uses.* Accordingly, Langer elects to establish uses on the LI-designated phases of the PUD that were permitted or conditionally permitted under the LI base zone text applicable on August 3, 1995, including: "Uses permitted outright in the GC zone Section 2.109.02, except for adult entertainment businesses, which are prohibited." A copy of the uses permitted in the LI and GC zones on August 3, 1995 is set forth in Attachment A, attached hereto and incorporated herein by reference.

3. *Election of Uses and Acceptance.* The City acknowledges and accepts Langer's decision to elect to develop Phases 4, 6, 7 and 8 under ZCDC 16.32.020.H, including the ability to develop those phases for General Retail Trade under Section 2.109.02 of the 1995 ZCDC. Accordingly, the current provisions of ZCDC 16.32.030.K, which restrict retail uses in the LI zone to a maximum of 60,000 square feet, will not apply to site plan review of the PUD.

Applicant's Response: The proposed shopping center will have commercial, retail and service uses allowed within this phase (Phase 7) of the PUD. The anchor building exceeds 60,000 square feet as allowed by the terms of the Development Agreement and 1995 PUD approval as well as the 2007 Minor PUD Modification approval.

FINDING: The applicant's response is accurate and consistent with the PUD.

B. ADAMS DRIVE SOUTH EXTENSION [...]

Applicant's Response: Adams Drive south, now named Langer Farms Parkway, is completed and opened to traffic in compliance with the Development Agreement.

FINDING: SW Langer Farms Parkway is constructed and open.

C. ADAMS DRIVE NORTH EXTENSION [...]

Applicant's Response: Adams Drive north, now named Langer Farms Parkway, has been designed and permitted and is ready for construction. In compliance with the Development Agreement, the developer will construct the north end of Langer Farms Parkway to extend from Tualatin-Sherwood Road north to Highway 99W. This improvement also includes the installation of the traffic signal at Tualatin-Sherwood Road and Langer Farms Parkway. Completion of this improvement will be completed prior to occupancy of this development proposal (Phase 7) as specified in the agreement.

FINDING: The applicant's statement is correct. These improvements have been previously agreed to in the Developers' Agreement, and are proposed to be completed as part of this development.

D. RAIL CROSSING [...]

Applicant's Response: Rail crossing at Oregon Street at the south end of Langer Farms Parkway has been completed with the Langer Farms Parkway south project now open to traffic.

FINDING: The applicant's statement is correct. The improvements have been made, and are open to traffic.

E. CENTURY DRIVE [...]

Applicant's Response: The developer agrees to extend Century Drive from the roundabout at Langer Farms Parkway east to connect to existing Century Drive where it stubs to the eastern border of the subject property. This road improvement will be completed prior to occupancy of the subject development in compliance with the agreement.

FINDING: The improvement is required, the dedication of the Century Drive Blvd. right-of-way has been conditioned to be dedicated in the notice of decision for the preliminary subdivision of the parent parcel, and the applicant will be required to bond for the improvement prior to the release of any engineering permits. This improvement is discussed in greater detail later in this report.

F. STORMWATER FACILITY

1. *Langer Commitments.* Prior to issuance of final occupancy permits for all structures located in Phase 6 or Phase 7, Langer will design and substantially construct a stormwater facility ("Stormwater Facility") on Phase 8 (including any necessary portions of Phase 6), to accommodate existing stormwater detention and treatment for the PUD, any additional detention and treatment associated with development of Phases 6, 7 and 8, and any detention and treatment associated with the South Extension and the Century Drive Connection. In conjunction with this construction, Langer retains the right to terminate use of the existing stormwater facilities currently located on Phase 7 and Phase 8 ("Existing Facilities"), provided the stormwater detention and treatment functions of the Existing Facilities are incorporated into the Stormwater Facility. Langer retains the right to expand the Stormwater Facility to serve other public rights-of-way and uses outside the PUD in Langer's sole discretion, provided such expansion otherwise complies with City standards, including without limitation, awarding credits for SDC's.

2. *City Commitments.* The City agrees to work with Langer, to the extent allowed by law, to issue any land use approvals related to termination of the Existing Facilities through an administrative process and to facilitate any related process for the vacation of any prior public dedications associated with the Existing Facilities.

Applicant's Response: The applicant will be constructing a regional stormwater treatment facility at the south end of the 1995 PUD property. The applicant is in the process of obtaining permits from Clean Water Services and the City for construction of this new facility. The permitting of this facility is not part of this land use approval request.

FINDING: The applicant is correct. The City's engineering department and Clean Water Services are evaluating permits for the construction of this facility, and it was conditioned as part of the subdivision approval for the parent parcel.

1995 PUD Design Standards

The other component of the 1995 PUD was the establishment of design guidelines for the PUD. According to the City pre-application notes dated December 12, 2011, discussions with City staff and review of past decisions, the design standards entail a two-page undated document titled "Sherwood Village Retail/Commercial Design Guidelines." The guidelines have four headings, 1. Retail Building Construction, 2. Landscaping, 3. Signage, 4. Lighting. In review of these guidelines only, 1. Retail Building Construction and 2. Landscaping are relevant to this Site Plan Review approval request. A second component of the 1995 PUD guidelines is a visual reference titled "Front Porch Society" that has only header text and images. A response to these two applicable guidelines is provided below:

1. RETAIL BUILDING CONSTRUCTION

A. Exterior materials and treatment (trim, etc.)

- 1) *Predominantly wood exterior.*
- 2) *Exterior windows and doors will have minimum 1 inch x 3 inch surrounds painted white.*
- 3) *Paint: Light tone palettes (white, off-white, grey, beige, tan), or similar as per Design Review Committee's approval.*

B. Shapes of openings

- 1) *Arched openings and bays encouraged.*

C. Storefronts

- 1) *Storefronts should have trimmed openings similar to above A.2.).*

D. Roofs

- 1) *Pitched roof forms are encouraged.*
- 2) *Large amounts of flat roof are discouraged.*

Applicant's Response: First, these requirements are design "guidelines" and not design "standards" therefore the project design must show general conformance with these guidelines as opposed to strict adherence. Second, the City has set precedence in how these guidelines are applied to a shopping center when the Target shopping center (Langer Marketplace) was approved on Phase 5 of the PUD in the early 2000s. The Target approval included the 125,000 square foot Target store and 3,200 square foot Wendy's fast food restaurant with drive-thru. Page 28 of the Revised Staff Report dated July 10, 2001 made the following finding in regards to the guideline to provide a "predominantly wood exterior":

Findings for Target: Does not comply in the strict sense. The applicant states that wood exteriors are not typically used for such large buildings due to difficulty of maintenance and concern for fire safety. Therefore, the exterior is proposed, instead, to consist primarily of smooth face block that is

accented with trim of darker split face block. The only glass is on the entry doors and windows at the NW corner of the store. The door and window surrounds are an industry standard size and the applicant states that the trim will be natural aluminum, which will be light-toned similar to white to provide similar contrast. Exterior building colors are proposed as a light tone palette (white, off-white, gray, beige or tan) in accordance with the Design Guidelines.

Prior to issuance of the 7-10-01 Target staff report, the applicant's consultant, WRG Design Inc., submitted a memorandum from Alisa Brodhay dated May 2, 2001 (see Attachment 19 to Exhibit A). This memo indicated the following in regard to this standard:

The proposed building materials are primarily stone and masonry block with wood treatment. While the materials are not predominantly wood, they are natural materials which reflect vernacular materials and styles of the region and create a similar visual appeal. All windows will include trim of a color compatible with the external building materials. Most of the facade will not be painted as the wall face will consist of stone or masonry block. However, the natural color of these materials are consistent with the light tone palette detailed above.

As evidenced by the staff finding that supported the City Council approval, the Target store was not required to comply in the strict sense with these guidelines. In fact, the existing Target store is far from compliance with the first two components of this guideline as it is constructed primarily of CMU concrete block and little wood is used and the windows are not trimmed with 1X3 white window surrounds.

Clearly enforcement of this guideline to its strictest sense is not practical, and a more practical application is supported by past City decisions including a similar project within the same PUD (Target). Therefore it becomes the applicant's burden not to show strict adherence, but to show that the intent of the guidelines is met. The applicant believes that the intent of the PUD guidelines in asking for predominately wood exteriors, storefronts, pitched roofs, white trimmed windows and light paint tones is to create a pleasant pedestrian environment and a warm, residential or village feel. This intent is reinforced by a second component of the 1995 PUD guidelines, a visual reference titled "Front Porch Society" that has only title text and images. The Target application as explained in the May 2, 2001 memo from WRG Design Inc. (Attachment 19), identified the following common elements within these images:

- Facade modulation
- Roof line variation
- Pedestrian environment enhancements, including windows and weather protection
- Focus on main entrances
- Architectural details including crowns, moldings, and archways
- Natural building materials

The applicant believes the project complies with the intent of the guidelines to create a residential or village design as further described below.

The applicant is proposing a shopping center with seven commercial buildings ranging in size from approximately 3,500 square feet to 145,000 square feet totaling 190,130 square feet¹. The applicant has worked diligently to design the buildings to address each other and their surroundings to both insure a cohesive architectural design but also to show that each building is unique on its own. Smaller retail buildings were placed on Langer Farms Parkway and the multi-use path that runs the length of Langer Farms Parkway and the site. Significant window glazing, pathway connections and use of robust northwest-appropriate materials (lap siding,

¹ The applicant proposes alternatives to specific buildings and therefore square footage numbers may vary depending on alternative. These numbers reflect the primary proposed plan (Sheet A-0.1 of the Plan Set Attachment 1).

board and batten, tumbled brick, wooden beams, white trim around windows, pitched roofs, etc.) are proposed to create interest and a pleasing walking environment. These elements are appropriate to the smaller retail buildings that have a massing of pedestrian scale. However, simply transferring these design elements to the approximate 145,000 square foot anchor building is not practical or desirable, nor is it appropriate to situate this size of a building close to a pedestrian way. To address the large massing of the building and to associate the anchor building with the walking public, the anchor building was set to the rear (east end) of the property and designed with two vestibules at the two main (west facing) entrances. These vestibules take design cues, materials and elements from the retail buildings. The main entrances to the anchor building are connected to other retail buildings and to the public multi-use path on Langer Farms Parkway with generous and clearly marked pathways. This design clearly demarks the entrances to the building and thoughtfully ties the anchor building to the remaining building while breaking up the mass of the building.

Further, the smaller retail buildings are proposed to use a variety of materials including pitched roofs with wood eaves, board and batten, stained wood canopy supports, horizontal lap siding and wood shingles that area encouraged by the design guidelines. The applicant's design intent was to create a solid and timeless look through the use of brick and legerstone, but also mix siding with horizontal lap to invoke a storefront look to the project as specified in the guidelines. The applicant has designed in second story pitched roofs that contain board and batten siding, wood shingles, wood eaves and trimmed square windows with grids. This architectural design provides for interest in the building while giving the development a friendlier warmer look meeting with the intent of guidelines to provide a village or residential look.

FINDING: The applicant is correct in that the guidelines are not intended to be prescriptive, and to the extent that the other phases of the Langer PUD has been developed with these standards, it is clear that a lot of latitude and flexibility has been provided to prior approvals. Arguably, the presence of the gabled roofs, addition of exposed wood, stone, and glass will provide a development that is much closer to achieving the guidelines than prior decisions. Staff believes that the applicant has complied with the intent of the regulations to the extent that it is practical.

2. LANDSCAPING

- A. *Barkdust is not to be substituted as grass in front yards.*
- B. *All driveways and vehicular storage areas shall be paved with asphalt, gravel, or other dust minimizing material.*
- C. *Trash and service areas must be screened from public view.*

Applicant's Response: The applicant proposes a mixture of shrubs, trees and groundcover designed to complement the site, buildings and hardscapes. In no cases is the applicant proposing bark dust devoid of plantings. The trash enclosures will be screened with walls and plantings.

FINDING: The applicant's landscape plans support this statement, and staff is confident that the proposal satisfies the intent of the landscape design guidelines.

1995 Final PUD Development Plan Conditions

As stated above, the PUD Minor Modification and Development Agreement clearly outline the requirements and applicant obligations for this project (1995 PUD Phase 7). However, although mostly no longer relevant due to the clarification provided in the more recent PUD Minor

Modification, a response is also provided to the original 1995 PUD conditions as indicated below:

1. *The owner shall dedicate to the City the wetland and wetland buffer delineated in the applicant's wetland delineation report, prior to issuance of permits for Phase 8 of the development. Any wetland modifications shall be submitted by the developer for review and approval by the Division of State Lands and the Corps of Engineers.*

Applicant's Response: Phase 8 is located at the south end of the parent parcel and is not yet developed. The applicant has submitted separately for a subdivision application to the City that would place the wetland and buffer (vegetated corridor) into a tract that will be conveyed to the City in compliance with this condition.

FINDING: The dedication of the wetlands and vegetated corridor were conditioned in the prior subdivision approval.

2. *Prior to Phase 1 approval revise the Design Guidelines for all residential and commercial development to increase the number of structures required to have porches and recessed garages.*

Applicant's Response: Does not apply. This condition applied to Phase 1 and has been completed.

FINDING: Staff concurs. This condition has been previously met.

3. *Adams Avenue shall be constructed from Century Drive north to Tualatin-Sherwood Road prior to completion of Phase 3. Those improvements shall include curbs, gutters and sidewalks and 28 feet of paving on the west side of the street. Adams Avenue shall be constructed by the developers to connect to Oregon Street (not across the railroad tracks) upon completion of Phase 6 and where necessary the City will acquire road right-of-way to complete the connection. Sidewalks on all portions of Adams Avenue shall be constructed in the same meandering design as approved for Century Drive.*

Applicant's Response: Adams Avenue, now Langer Farms Parkway, has been completed between Oregon Street and Tualatin-Sherwood in compliance with this condition.

FINDING: Staff concurs. This condition has been previously met.

4. *At the time of individual site plan review, consider the comments from Tri-Met recommended in their letter dated March 27, 1995.*

Applicant's Response: Does not apply, bus service is currently not provided near the site.

FINDING: The Tri-Met comments from 1995 apply to areas where transit service is available. There is not Tri-Met service available to the streets that front the proposed project. Tri-Met has been provided with an opportunity to comment on this specific proposal. As of the date of this report, no comments have been received.

5. *In Phase 1, water service shall be looped to Tualatin –Sherwood Road from Century Drive via a public easement in the Adams Avenue alignment.*

Applicant's Response: Does not apply to this phase.

FINDING: Staff concurs. This condition has been previously met.

6. *As a part of the Phase 1 Site Plan submittal, provide a forty (40) foot wide pedestrian easement from Century Drive to Langer Drive that includes pavements width, landscaping and street furniture for City approval. Align the pathway so that it coincides with the adjoining phase lines. The pathway shall be constructed by the developer with the completion of Phase 1 development.*

Applicant's Response: Does not apply to this phase.

FINDING: Staff concurs. This condition has been previously met.

7. *Provide and construct a twenty-four (24') foot wide public vehicle access easement from Phase 1 to Langer Drive, alignment and specifications to be determined at the time of Phase 1 Site Plan submittal. Upon a subsequent evaluation, this access may be abandoned when the connection to Tualatin-Sherwood Road via Adams Avenue is constructed.*

Applicant's Response: Does not apply to this phase.

FINDING: Staff concurs. This condition has been previously met.

8. *At each phase of development, and with each site plan submitted to the City, the applicant shall provide a traffic impact analysis for City, County and ODOT review and approval. Recommended traffic safety and road improvements shall be considered by the City and may be required with each phase.*

Applicant's Response: A traffic impact analysis has been submitted with this application in compliance with this condition.

FINDING: Staff agrees, a traffic study has been provided, and has been evaluated by the City of Sherwood, Washington County, and the Oregon Department of Transportation. Their comments and recommended conditions of approval have been incorporated into this report.

As stated above, the PUD Final Development was approved in 1995 for the entire PUD including the proposed phase (Phase 7). The applicant has demonstrated compliance with the 1995 PUD decision and design guidelines, the recently created Development Agreement and 2007 PUD modification. Therefore the proposal complies or can feasibly comply with the applicable standards as conditioned

Conditional Use Permit Required Findings (SECTION 16.82)

C. Use Criteria

No conditional use shall be granted unless each of the following is found:

1. **All public facilities and services to the proposed use, including but not limited to sanitary sewers, water, transportation facilities, and services, storm drains, electrical distribution, park and open space and public safety**

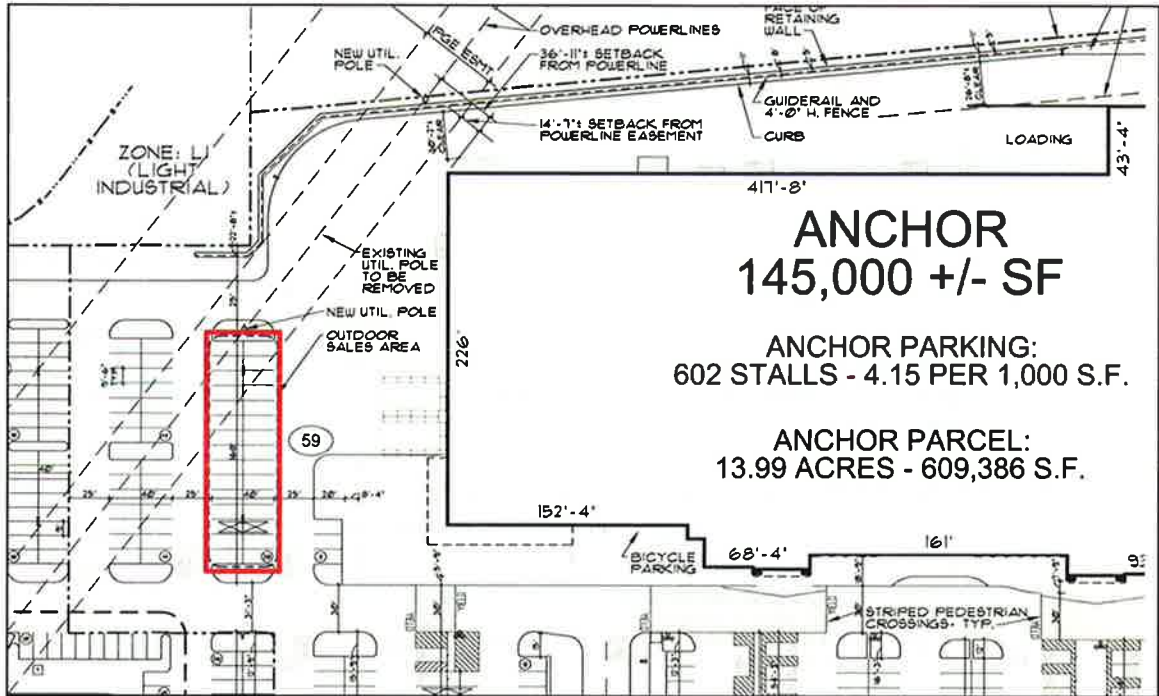
are adequate; or that the construction of improvements needed to provide adequate services and facilities is guaranteed by binding agreement between the applicant and the City.

FINDING: All of the listed facilities are currently available to the site, and where deficient have been discussed and conditioned in more detail later in this report. The applicant is aware of the requirement, and has proposed improvements to the transportation facilities and extensions of public utilities to ensure that this site is served consistent with the requirements of the SZCDC. This criterion can be satisfied as conditioned in this report.

2. Proposed use conforms to other standards of the applicable zone and is compatible with abutting land uses in regard to noise generation and public safety.

STAFF ANALYSIS: The proposed primary use for the site as a retail center is consistent with the approved PUD. The specific request for the outdoor sales area triggers the need to obtain a conditional use. As proposed, the applicant wishes to utilize a block of 30 parking spaces on the north side of the anchor building for outdoor merchandising. Properties located to the north and east of the site are zoned for light industrial uses. The proposed location of the outdoor sales area is interior to the site, and is a use that is customarily associated with large format retail users.

FINDING: The proposed conditional use is a use that is customarily associated with the primary use and is located in an area that would be much more compatible with abutting light industrial uses to the north and east. There is no evidence in the request to suggest that the proposed outdoor sales area would compromise public safety or create any noise that would be outside of the acceptable parameters of the Sherwood Municipal Code. It should be noted that the property owner and business would be subject to code enforcement proceedings should such a situation arise. The location of the use is illustrated in the following figure. As proposed, the outdoor sales area can comply with this criterion.



3. **The granting of the proposal will provide for a facility or use that meets the overall needs of the community and achievement of the goals and/or policies of the Comprehensive Plan, the adopted City of Sherwood Transportation System Plan and this Code.**

STAFF ANALYSIS: As indicated in the prior response, the use of the site as a retail center is permitted through the approved PUD for the site. This particular CUP request is for an ancillary use to an outright permitted use. Although the applicant has not disclosed the anchor tenant, or other retailers within the center, it is presumed that they have studied the market forces for the region and determined that it is a market that demands attention. The specific use subject to this conditional use request, the outdoor sales area, is in a location on the site that is not likely to create off-site traffic issues, and does not preclude the City or any adjacent development from complying with the city's Transportation System Plan (TSP). The applicant has responded to this criterion within the narrative by applying the following policies from the Sherwood Comprehensive Plan:

Chapter 4 Land Use

H. ECONOMIC DEVELOPMENT POLICIES AND STRATEGIES

Policy 1: Support existing businesses and recruit additional businesses that provide local family-wage jobs. Replace any employment land rezoned for other uses with other employment land.

Strategy 1.1: Capture existing workers in Sherwood who now work elsewhere.

Strategy 1.2: Provide locations and support for local jobs for local residents.

Strategy 1.3: Support and build upon manufacturing and other industries likely to produce family-wage jobs.

Applicant's Response: The proposed outside sales area complies with this policy in that it would help to capture existing workers in Sherwood and provide locations and support for local jobs and residents.

STAFF ANALYSIS: Again, there is plenty of evidence to suggest that competition amongst businesses is healthy, but it can also be a detriment to smaller businesses. The center itself will undoubtedly recruit additional businesses, and provide employment opportunities for existing citizens of Sherwood, but short of placing conditions on commerce, there is no way to ensure that the jobs offered in the center would produce family-wage jobs. The site is zoned Light-Industrial with a PUD overlay that permits general retail uses outright. The outdoor retail area is intended to support the primary use.

I. COMMERCIAL LAND USE

Policy 1 Commercial activities will be located so as to most conveniently service customers.

Strategy:

- Community wide and neighborhood scale commercial centers will be established.
- Commercial centers will be located so that they are easily accessible on major roadways by pedestrians, auto and mass transit.
- Neighborhood commercial centers will be designated in or near residential areas upon application when need and compatibility to the neighborhood can be shown.

Applicant's Response: The proposed outside sales area is ideally situated at the rear northeastern corner not near major on-site or off-site pedestrian and vehicular traffic flow. Therefore the proposal will not impede customer traffic flows in any manner. The proposal is not near a residential area and is close to the east property line and industrially zoned lands and therefore has no adverse impact on residential compatibility.

STAFF ANALYSIS: The primary use of the site is clearly intended to be a "community wide" if not, regional scaled commercial center, and is proposed in a location that is easily accessible to the community by Tualatin-Sherwood Road, and the newly constructed SW Langer Farms Parkway. There are not any existing or proposed mass transit routes adjacent to the site. The proposed development is not intended to be a neighborhood commercial center, but the development code is intended to ensure that the use is compatible with adjacent uses through compliance with prescriptive criteria that is evaluated against the proposal throughout this report.

Policy 2 Commercial uses will be developed so as to complement rather than detract from adjoining uses.

Strategy:

- *Commercial developments will be subject to special site and architectural design requirements.*
- *The number and locations of commercial use access will be limited along major streets in accordance with the City's Transportation Plan.*
- *Non-Retail and primarily wholesale commercial uses will be separated from retail uses where possible.*
- *The older downtown commercial area will be preserved as a business district and unique shopping area.*
- *A buffer between commercial uses and adjoining greenways, wetlands, and natural areas shall be established.*

Applicant's Response: The proposed outdoor use is compatible with the surrounding

land uses and will not detract from the adjoining uses. To the north is Tualatin-Sherwood Road, a major arterial and Light Industrial-zoned land further north. To the east is the existing DEQ vehicle testing center and a vacant industrial park. To the west is the proposed internal parking field and Langer Farms Parkway. To the south is the proposed Anchor building.

STAFF ANALYSIS: Staff agrees with the applicant. The development is subject to Site Plan Review which includes reviewing the proposal against the provisions of the SZCDC that are intended to implement these policies and strategies.

FINDING: The proposed outdoor sales area will occupy between 6-8% of the overall site, and is proposed in a location that is well away from existing residential uses. The outdoor sales area is ancillary to a primary use. As proposed, there is no evidence to suggest that the outdoor sales area would be incompatible with surrounding uses, or in itself create any adverse impacts or conflicts that cannot be mitigated for by meeting the standards of the SZCDC. This criterion is satisfied.

4. Surrounding property will not be adversely affected by the use, or that the adverse effects of the use on the surrounding uses, the neighborhood, or the City as a whole are sufficiently mitigated by the conditions proposed.

STAFF ANALYSIS: Because of the nature of the use, and the proposed location of the outdoor sales area, the conditional use requested is not likely to adversely affect surrounding uses in that it is interior to the site and adjacent to uses that are zoned light industrial as opposed to residential. Impacts of the primary use of the site are evaluated, and where appropriate conditioned to make sure that impacts to the community are mitigated to the extent that the Code allows.

FINDING: The proposed outdoor sales area is in a location on the overall site that is not likely to adversely affect surrounding properties or uses. This criterion is met.

5. The impacts of the proposed use of the site can be accommodated considering size, shape, location, topography and natural features.

FINDING: The outdoor sales area, the subject of the CUP request, would occupy between 6 to 8 percent of the overall site, and is located interior to the proposed development. There are no topographic or natural features designated for protection on the site. This criterion is met.

6. The use as proposed does not pose likely significant adverse impacts to sensitive wildlife species or the natural environment.

STAFF ANALYSIS: The subject property does not have any designated or protected sensitive wildlife species. It is unlikely that they would inhabit the area where the proposed shopping center is because that area is being actively farmed. The specific location of the proposed sales area is beneath the Bonneville Power Administration (BPA) power line easement which has already been impacted by existing farm activities. The only protected natural feature exists on the south end of the parent parcel, and would not be affected by the outdoor sales area. Impacts associated with the conversion of farmland to an urban use are being mitigated to the extent that the SZCDC requires them to be. (i.e. stormwater management, landscaping, screening, etc.)

FINDING: The proposed outdoor sales area is unlikely to pose significant impacts to any of the designated natural resources on site. This criterion is satisfied.

7. **For a proposed conditional use permit in the Neighborhood Commercial (NC), Office Commercial (OC), Office Retail (OR), Retail Commercial (RC), General Commercial (GC), Light Industrial (LI), and General Industrial (GI) zones, except in the Old Town Overlay Zone, the proposed use shall satisfy the requirements of Section 16.108.070 Highway 99W Capacity Allocation Program, unless excluded herein.**

FINDING: The proposed development is located within the Light Industrial (LI) zone, and is subject to the Highway 99W Capacity Allocation Program (CAP) which limits a development to 43 trips/per acre for the P.M. peak hour. This is discussed in greater detail later in this report, specifically within the discussion of 16.106.070. As proposed, the development will not exceed the CAP. This criterion is satisfied.

8. **For wireless communication facilities, no conditional use permit shall be granted unless the following additional criteria is found:**
 - a. **The applicant shall demonstrate to the satisfaction of the City that the wireless communication facility cannot be located in an IP zone due to the coverage needs of the applicant.**
 - b. **The proposed wireless communication facility is designed to accommodate co-location or it can be shown that the facility cannot feasibly accommodate co-location.**
 - c. **The applicant shall demonstrate a justification for the proposed height of the tower or antenna and an evaluation of alternative designs which might result in lower heights.**
 - d. **The proposed wireless communication facility is not located within one-thousand (1,000) feet of an existing wireless facility or that the proposed wireless communication facility cannot feasibly be located on an existing wireless communication facility.**
 - e. **The proposed wireless communication facility is located a minimum of three-hundred (300) feet from residentially zoned properties.**

FINDING: The requested CUP does not include a wireless communication facility; therefore, this criterion is not applicable to the proposed development.

9. **The following criteria apply to transportation facilities and improvements subject to Conditional use approval (in addition to criteria 1--7) per 16.66. These are improvements and facilities that are (1) not designated in the adopted City of Sherwood Transportation System Plan (TSP), and are (2) not designed and constructed as part of an approved subdivision or partition subject to site plan review.**
 - a. **The project preserves or improves the safety and function of the facility through access management, traffic calming, or other design features.**
 - b. **The project includes provisions for bicycle and pedestrian access and circulation consistent with the Comprehensive Plan, the**

- requirements of this Code, and the TSP.
- c. **Proposal inconsistent with TSP:** If the City determines that the proposed use or activity or its design is inconsistent with the TSP, then the applicant shall apply for and obtain a plan and/or zoning amendment prior to or in conjunction with conditional use permit approval.
- d. **State transportation system facility or improvement projects:** The Oregon Department of Transportation (ODOT) shall provide a narrative statement with the application demonstrating compliance with all of the criteria and standards in Section 1--7 and 9.a--9.d. Where applicable, an Environmental Impact Statement or Environmental Assessment may be used to address one or more of these criteria.

FINDING: The requested CUP does not include a transportation system facility that is being requested outside the scope of the TSP, or that has not already been conditioned as a part of the prior subdivision approval; therefore, this criterion is not applicable to the proposed development.

D. Additional Conditions

In permitting a conditional use or modification of an existing conditional use, additional conditions may be applied to protect the best interests of the surrounding properties and neighborhoods, the City as a whole, and the intent of this Chapter. These conditions may include but are not limited to the following:

1. **Mitigation of air, land, or water degradation, noise, glare, heat, vibration, or other conditions which may be injurious to public health, safety or welfare in accordance with environmental performance standards.**
2. **Provisions for improvement of public facilities including sanitary sewers, storm drainage, water lines, fire hydrants, street improvements, including curb and sidewalks, and other above and underground utilities.**
3. **Increased required lot sizes, yard dimensions, street widths, and off-street parking and loading facilities.**
4. **Requirements for the location, number, type, size or area of vehicular access points, signs, lighting, landscaping, fencing or screening, building height and coverage, and building security.**
5. **Submittal of final site plans, land dedications or money-in-lieu of parks or other improvements, and suitable security guaranteeing conditional use requirements.**
6. **Limiting the number, size, location, height and lighting of signs.**
7. **Requirements for the protection and preservation of existing trees, soils, vegetation, watercourses, habitat areas and drainage areas.**
8. **Requirements for design features which minimize potentially harmful**

environmental impacts such as noise, vibration, air pollution, glare, odor and dust.

FINDING: The CUP is being requested to allow an outdoor sales area adjacent to the anchor tenant within a shopping center. The proposed use would occur in a location that would take up approximately 30 parking spaces that are not included in the applicant's minimum parking requirements. The shopping center itself as the primary use of the site will have significantly more impacts than the proposed outdoor sales area. The impacts of the shopping center are evaluated against the applicable provisions of the SZCDC throughout this report and conditions have been recommended where the proposal does not meet the code to ensure that the proposal is modified in a manner that does satisfy and meet the code prior to being approved for construction. There is not any evidence within the record to suggest that the proposed outdoor sales area would create impacts that warrant any of the additional conditions discussed above. These additional conditions are not necessitated by the proposed outdoor storage area.

SITE PLAN REVIEW REQUIRED FINDINGS (SECTION 16.90)

- 1. The proposed development meets applicable zoning district standards and design standards in Division II, and all provisions of Divisions V, VI and VIII.**

FINDING: The project has been evaluated for compliance with all of the applicable provisions of the Sherwood Zoning and Community Development Code. As discussed further in this report, this standard can be satisfied through compliance with the recommended conditions throughout this report.

- 2. The proposed development can be adequately served by services conforming to the Community Development Plan, including but not limited to water, sanitary facilities, storm water, solid waste, parks and open space, public safety, electric power, and communications.**

FINDING: The site can be served by water, sanitary, storm water, solid waste, public safety, electrical power and communications as reviewed and conditioned in SUB 12-02 and through findings of compliance and conditions where necessary throughout this report. Parks and open space are not required by the shopping center. A lot of the utilities were provided with the recent construction of SW Langer Farms Parkway. The actual utility connections to the site will be discussed in the public improvements section of this report

- 3. Covenants, agreements, and other specific documents are adequate, in the City's determination, to assure an acceptable method of ownership, management, and maintenance of structures, landscaping, and other on-site features.**

FINDING: This site plan is subject to the conditions of the approved Planned Unit Development, all applicable and subsequent developer agreements, and the conditions of any subsequent land use applications. The land owner, the Langer family, has partnered with Gramor Construction, a reputable commercial developer within the Metro area to develop the shopping center. There is no evidence in the record to suggest that the ownership, management, and maintenance of structures, landscaping and other on-site features would not be acceptable; however, the following recommended condition would serve to ensure that the site is continuously maintained as proposed.

RECOMMENDED CONDITION: An on-going condition of the approval is that the site be maintained in accordance with the approved site plan. In the event that landscaping is not maintained, in spite of the assurances provided, this would become a code compliance issue.

4. **The proposed development preserves significant natural features to the maximum extent feasible, including but not limited to natural drainage ways, wetlands, trees, vegetation (including but not limited to environmentally sensitive lands), scenic views, and topographical features, and conforms to the applicable provisions of Division VIII of this Code and Chapter 5 of the Community Development Code.**

FINDING: The site does not contain any identified significant natural features, or protected scenic views. This criterion is not applicable to the proposed development.

5. **For a proposed site plan in the Neighborhood Commercial (NC), Office Commercial (OC), Office Retail (OR), Retail Commercial (RC), General Commercial (GC), Light Industrial (LI), and General Industrial (GI) zones, except in the Old Town Overlay Zone, the proposed use shall satisfy the requirements of Section 16.108.080 Highway 99W Capacity Allocation Program, unless excluded herein.**

STAFF ANALYSIS: The applicant submitted a traffic study with an analysis of the Highway 99 Capacity Allocation Program which indicates that the proposal will generate approximately 760 p.m. peak traffic trips which is 38.34 trips per acre on the 19.82 acre site. The CAP ordinance allows 43 trips per acre, and would permit up to 847 p.m. peak trips.

FINDING: Compliance with the CAP ordinance is discussed in greater detail below, but it is evident that the proposal would not exceed the allowed 43 trips per acre standard.

6. **For developments that are likely to generate more than 400 average daily trips (ADTs), or at the discretion of the City Engineer, the applicant shall provide adequate information, such as a traffic impact analysis or traffic counts, to demonstrate the level of impact to the surrounding street system. The developer shall be required to mitigate for impacts attributable to the project. The determination of impact or effect and the scope of the impact study shall be coordinated with the provider of the affected transportation facility.**

STAFF ANALYSIS: The proposed development is expected to generate approximately 8,070 average daily trips (ADT), which is well above the 400 ADT threshold within the criteria. The applicant submitted a traffic impact analysis prepared by Kittelson and Associates, a reputable traffic engineering firm based in Portland. The scope of the traffic impact analysis was determined by the City, Washington County, and the Oregon Department of Transportation. The report includes an analysis of the impacts that can be attributed to the project along with recommended mitigation measures to ensure that the project does not create any traffic situations that would exceed the desired Levels of Service as established by the City in the Transportation System Plan.

FINDING: The proposed development is expected to generate more than 400 ADT's and is therefore subject to the requirement of providing a traffic study. The applicant submitted a traffic study prepared by a reputable traffic engineering firm that evaluates

the impacts and effects of the generated trips on the existing traffic system. The traffic impact analysis has been evaluated by the City's consulting traffic engineers, and their comments are reflected within the engineering comments, and discussed in greater detail later in this report.

7. **The proposed office, retail, multi-family, institutional or mixed-use development is oriented to the pedestrian and bicycle, and to existing and planned transit facilities. Urban design standards shall include the following:**
 - a. **Primary, front entrances shall be located and oriented to the street, and have significant articulation and treatment, via facades, porticos, arcades, porches, portal, forecourt, or stoop to identify the entrance for pedestrians. Additional entrance/exit points for buildings, such as a postern, are allowed from secondary streets or parking areas.**
 - b. **Buildings shall be located adjacent to and flush to the street, subject to landscape corridor and setback standards of the underlying zone.**
 - c. **The architecture of buildings shall be oriented to the pedestrian and designed for the long term and be adaptable to other uses. Aluminum, vinyl, and T-111 siding shall be prohibited. Street facing elevations shall have windows, transparent fenestration, and divisions to break up the mass of any window. Roll up and sliding doors are acceptable. Awnings that provide a minimum 3 feet of shelter from rain shall be installed unless other architectural elements are provided for similar protection, such as an arcade.**

STAFF ANALYSIS: The development proposes six mixed retail buildings ranging in size from 3,500 square feet up to 10,760 square feet which are placed flush to SW Langer Farms Parkway and SW Tualatin-Sherwood Road, and a single, 145,000 square foot anchor store that would be located to the rear of the site. The applicant's narrative maintains that the primary objective of the layout is to create an attractive and inviting streetscape, and to provide multiple direct and convenient pedestrian access points and walks between the Langer Farms Parkway and site buildings. The applicant has provided plans that suggest a pleasant environment for pedestrians along SW Langer Farms Parkway by providing a combination of outdoor plazas, window glazing, building textures, building articulation, landscaping, and screening. The applicant indicates that a large pedestrian plaza located at the southeast corner of the overall site is intended to be a key plaza inviting the pedestrian into the development. Street facing elevations are provided with windows and variations in materials and rooflines. That being said, the primary front entrances are not oriented to the street in the true intent of the provision. Rather, they are oriented to the interior of the site.

FINDING: The proposal does not satisfy the provisions of section 16.90.030.D.7.a, because the primary entrances of the buildings are not located or oriented to the street and must meet the standards in the Commercial Design Matrix (16.90.030.D.7.d) in order to be exempt from the standards in 7a-7c..

16.90.030.D.7.d - A development must propose a minimum of 60 percent of the total possible points to be eligible for exemption from standards 7a-7c above...

The following discussion is an analysis of each section followed by a finding as to the number of points that the project attains as demonstrated by the plans and narrative.

COMMERCIAL DESIGN REVIEW MATRIX

The applicant proposes to use the alternative Commercial Design Review Matrix to satisfy the commercial design standard requirement.

	Possible points	Awarded points
(1) Building Design (21 pts possible, 12 pts min)		
a. Materials: According to the narrative and plan set, the building does not utilize aluminum, vinyl, or T-111 siding. The plans and elevations indicate board and batten siding, stucco, brick, decorative stone, glass, fabric awnings, and stained wood is proposed in a manner that is intended to break up the vertical facades of the buildings.	4	4
b. Roof Form: The proposal includes several different roof forms intended to break up the roofline. Roof types include flat, gabled, and shed roofs. The applicant has proposed metal standing seam roofing, and weathered copper roofing that is indicated on the architectural renderings of the plan set. The roofs are of varying heights and design throughout the development	2	2
c. Glazing: Glazing is provided along all street frontages, but according to the applicant's calculations, the glazing only accounts for 12.8% of the street facing façade.	4	0
d. Fenestration: As indicated in the applicants narrative, and illustrated on the plans, the street facing façade is provided with multiple bays. The application loses points in this category because there are some bays that will exceed 30-feet in width.	3	1
e. Entrance articulation: The applicant is providing three pedestrian plazas that are intended to invite the public into the development. The areas include weather protection, benches, tables, and chairs. In two of the three cases where this condition exists, there are opportunities for the tenants to provide weather protected seating and eating areas.	4	4
f. Structure Size: The proposal includes seven buildings that range in size from 3,500 square feet up to 10,700 square feet, and one anchor building that is 145,000 square feet in size. However, the standard allows the buildings to be averaged to achieve the points for this provision, and the average building size for the entire development is 27,504 square feet.	4	3
Total Building Design Points		14

	Possible points	Awarded points
(2) Building Location: (6 points possible, 3 points required)		
a. Location: The proposed development will have frontage onto three separate rights of way. As proposed, there is at least one building proposed to be flush to each of the three rights-of-way and outside of the public utility easement and view corridors.	2	2
b. Orientation: There are multiple buildings on the site, and the primary entrances of the building are oriented to either one of the pedestrian plazas, or the anchor tenant.	2	0
c. Secondary Public Entrance: The applicant is automatically provided these points if the primary entrance is oriented to the pedestrian without need for a second entrance. The primary entrances are oriented to plazas that are connected to public sidewalks on SW Langer Farms Parkway.	2	2
Total Building Location Points		4
(3) Parking and Loading Areas: (13 points possible 7 points required)		
a. Location: The site abuts three rights-of-way, and the primary entrance into the site is from SW Langer Farms Parkway. The proposal is required, as discussed later in this report, to provide a minimum of 913 parking stalls and a maximum of 1,137 parking stalls. The applicant has requested a reduction in parking ranging from 3.4% up to 9.2% for a total number of spaces that are either 882 or 829 spaces. Up to a 25% reduction is allowed within multi-building developments. The reduction does not include the 30 spaces that would be used during outdoor storage events that have been requested as part of a conditional use permit, and discussed previously in this report. The bulk of proposed parking is located between the anchor building and the six buildings oriented to the right-of-way. The standard is intended to separate the parking areas from the street, and to make the buildings the primary focus of attention at the street. With approximately 2,510 lineal feet of frontage, and approximately 1,090 feet of parking at the street, the development does not qualify for any points in this category.	3	0
b. Loading areas: The applicant proposes a loading area that is set back from the street and is not visible from the street. The single designated loading area is located behind the anchor store, and screened from public view by 10-feet of landscaping. Loading for the smaller mixed retail buildings is expected to occur within the interior of the site in	2	2

	Possible points	Awarded points
locations that are screened from public view by the buildings and landscaping.		
c. Vegetation: The majority of the parking is divided into 10-12 parking spaces in a row. In two locations there is a row of 13 spaces, and in one location there is a row of 15 spaces, but on average the proposal provides one planting island for every 9.44 spaces. Based on the variability of the parking rows, staff recommends awarding two points.	3	2
d. Number of Parking Spaces: As proposed, the development would provide parking below the minimum parking required, and has requested a joint use reduction.	3	3
e. Parking Surface: The applicant is not proposing a pervious surface and therefore no points are awarded.	3	0
Total Parking and Loading Areas		7
(4) Landscaping (24 points possible, minimum 14 points)		
a. Tree Retention: The proposal is not able to realize any points for tree protection because there are no trees on the proposed development site to retain. Certainly, these standards are not intended to penalize a site by not permitting any points. Staff recommends that the Planning Commission award the full number of points permitted, so that it does not count against a development attempting to attain compliance with a standard that is not applicable to the site. Furthermore, the code is clear that if there are no trees to mitigate (b below) no points shall be awarded which would mean that if a project did not have trees, they would lose 7 points automatically if they also lost points under this section; making it very difficult to meet the minimum points needed for this section.	4	4
b. Mitigation: The applicant proposes no mitigation.	3	0
c. Landscape Trees: According to the applicant's narrative, and the landscape plan summary (Sheet L1.1), the proposed development provides 263 new trees within the development, not including the 26 street trees planted as part of the SW Langer Farms Parkway improvements. Given that the proposed development provides 112,998 square feet of landscaping, the proposed development would provide 429 square feet of landscaping per tree or 1.16 trees for every 500 square feet of landscaping. The proposed development complies with the one tree for every 500 square feet of landscaping, making it eligible	4	1

	Possible points	Awarded points
for (1 Point) in this category.		
d. Landscaped areas: No required landscaped islands are less than 100 square feet.	2	2
e. Landscaping trees: The applicant is proposing to plant 263 trees on the project. To achieve a point in this category, the applicant submitted a letter from Christopher Freshley, dated September 14, 2012 (Exhibit M) which proposes to increase the size of 44 evergreen trees from six feet in height to 8-10 feet tall. In addition the applicant proposes to upsize 22 of the deciduous trees on site to 3-inch caliper. It should be noted that Evergreen or conifer trees are not measured by caliper inch until they are 6-inch caliper trees. Six foot tall evergreen trees are considered to be equivalent to a 2-inch caliper tree in the nursery industry. In other jurisdictions, an 8-10 tall evergreen has been considered equivalent to a 3-inch caliper tree. This represents 66 trees that will be the equivalent of 3-inch caliper trees. This represents 25.1 % of the trees on site.	2	1
f. Amount of Grass: According to the applicant's narrative, and within the landscape plans, there is approximately 7,443 square feet of sod lawn. The rest of the site is planted with groundcover, shrubs, and trees. 7,443 square feet represents 6.5% of the total landscaped areas.	3	3
g. Total amount of site landscaping: The plans and narrative indicates that there is 112,998 square feet of landscaped areas on the site. The overall site area is 19.82 acres or 863,235 square feet. The landscaped areas will cover approximately 13.09% of the total site.	4	1
h. Automatic Irrigation: The applicant proposes to have automatic irrigation water the entire landscaped area.	2	2
Total Landscaping		14
(5) Miscellaneous: (10 points possible, minimum 5 points)		
a. Equipment Screening: The applicant's narrative indicates that all roof top equipment will be fully screened by parapet walls matching the building. The plans illustrate building types that indicate that that screening using parapet walls is feasible.	3	3
b. Fences Walls: The applicant has proposed low screen walls constructed of multiple material types including brick, stone masonry, and corteen steel panels, but not including CMU or wood, to blend the proposed fencing into the overall appearance of the site. The applicant	2	0

	Possible points	Awarded points
has indicated that a large retaining wall will be constructed of standard materials and screened along the east property line. The applicant has indicated that the wall will be screened from the adjacent industrial development by landscaping, but according to the City's Engineering department, a wall of that size would typically be constructed of CMU block, which is not permitted by this standard. In addition, the walls proposed around the proposed trash enclosures, are constructed of split faced CMU materials.		
c. On site pedestrian amenities not adjacent to building entrances: The applicant's narrative indicates that there will be benches, plazas, and outdoor seating areas provided near all of the buildings, and certainly the landscape and site plans indicate that these opportunities are available, but the site plan only shows benches in four locations near buildings B and C. There are plaza areas that have been discussed in the narrative and illustrated on the building plans, around each of the buildings, so it is feasible that the development could provide benches and outdoor seating throughout the site.	2	2
d. Open Space provided for Public Use: The applicant indicates that there are several plazas throughout the site, including the large plaza located within the southeast portion of the site. The applicant has indicated within the narrative that each of these plazas will be open to the public. The large plaza itself is over 1,000 square feet in size.	3	3
e. Green Building Certification: The applicant does not propose a certified building.	3	0
Total Miscellaneous		8

Overall Summary and Finding (Commercial Design Review Matrix): As proposed, the development satisfies all of the minimum point requirements within each category. Overall, the application satisfied enough criteria to attain 47 out of a possible 74 points, or 63% of the total points available. Developments must meet both the minimum points and achieve 60% of the total points available. The applicant submitted information on September 14, 2012 to clarify and amend the planting plan, and while staff recommends that the approach they are proposing is appropriate, a condition is warranted to ensure that the proposed trees are called out on the revised plans. The development has met the requirements of the Commercial Design Review Matrix as proposed.

CONDITION: Prior to the issuance of building permits, the applicant shall provide staff with a revised landscape plan that reflects the increased size of 44 evergreen trees (8-10 feet tall), and 22 (3-inch) caliper trees as called for in Exhibit M of the staff report.

Chapter 16.32 Light Industrial (LI)

A. 16.32.020 Permitted Uses

FINDING: As indicated previously in this report, the proposed shopping center is considered a general retail use that was permitted at the time that the 1995 PUD was approved, and is consistent with the City Councils approval of the 2007 PUD modification. This standard is met.

B. 16.32.050 Dimensional Standards

No lot area, setback, yard, landscaped area, open space, off-street parking or loading area, or other site dimension or requirement, existing on, or after, the effective date of this Code shall be reduced below the minimum required by this Code. Nor shall the conveyance of any portion of a lot, for other than a public use or right-of-way, leave a lot or structure on the remainder of said lot with less than minimum Code dimensions, area, setbacks or other requirements, except as permitted by Chapter 16.84.

A. Lot Dimensions

Except as otherwise provided, required minimum lot areas and dimensions shall be:

- 1. Lot area: 10,000 sq ft**
- 2. Lot width at front property line: 100 feet**
- 3. Lot width at building line: 100 feet**

STAFF ANALYSIS: As approved in SUB 12-01, the site is 19.82 acres, or 863,359 square feet in size and is provided access through direct access to both SW Langer Farms Parkway, and the future extension of SW Century Blvd. Lot width was verified and approved through the preliminary subdivision approval. As proposed, all three future lots within the proposed shopping center will meet or exceed the minimum lot dimensional standards.

FINDING: The proposed lot dimensions have been previously evaluated, and have been found to be consistent with the minimum requirements listed above; therefore, this criterion is satisfied.

B. Setbacks

Except as otherwise provided, required minimum setbacks shall be:

1. Front yard:	Twenty (20) feet, except when abutting a residential zone or public park, then there shall be a minimum of forty (40) feet.
2. Side yard:	None, except when abutting a residential zone, then there shall be a minimum of forty (40) feet.
3. Rear yard:	None, except when abutting a residential zone, then there shall be a minimum of forty (40) feet.
4. Corner lots:	Twenty (20) feet on any side facing a street, except when abutting a residential zone, then there shall be a minimum of forty (40) feet.

STAFF ANALYSIS: The proposed development is a commercial use, not a light industrial use and must meet the design criteria for a commercial use. As there is a conflict between the Commercial Design standards and the Industrial zone setback standards, the Commission must make an interpretation regarding which standards supersede. It is recommended that the Commercial Design standards supersede because they contribute to a more visually appealing and pedestrian friendly development that utilizes land more efficiently. In addition, the 20 foot setback makes more sense in an industrial development where a separation may be needed between the use and the pedestrian; this is not the case in this development.

FINDING: These setbacks are superseded by the Commercial Design Review standards which call for buildings to be flush to the right-of-way. In this case, the buildings are setback to meet the visual corridor standards along SW Langer Farms Parkway consistent with the stricter provisions of the code.

C. 16.32.060 Community Design

For standards relating to off-street parking and loading, energy conservation, historic resources, environmental resources, landscaping, access and egress, signs, parks and open space, on-site storage, and site design, see Divisions V, VIII and IX.

STAFF ANALYSIS: The applicable standards that are listed in the Community Design section are addressed elsewhere in this narrative. As proposed, the development will meet these standards: off – street parking, energy conservation, environmental resources, landscaping, access and egress, signs, parks and open space, on-site storage, and site design. There are not any designated historic resources on the subject site therefore that standard is not applicable.

Chapter 16.58 Clear Vision and Fence Standards

16.58.010 Clear Vision Areas

- A. A clear vision area shall be maintained on the corners of all property at the intersection of two (2) streets, intersection of a street with a railroad, or intersection of a street with an alley or private driveway.

B. A clear vision area shall consist of a triangular area, two (2) sides of which are lot lines measured from the corner intersection of the street lot lines for a distance specified in this regulation; or, where the lot lines have rounded corners, the lot lines extended in a straight line to a point of intersection, and so measured, and the third side of which is a line across the corner of the lot joining the non-intersecting ends of the other two (2) sides.

C. A clear vision area shall contain no planting, sight obscuring fence, wall, structure, or temporary or permanent obstruction exceeding two and one-half (2 1/2) feet in height, measured from the top of the curb, or where no curb exists, from the established street center line grade, except that trees exceeding this height may be located in this area, provided all branches and foliage are removed to the height of seven (7) feet above the ground on the sidewalk side and ten (10) feet on the street side.

The following requirements shall govern clear vision areas:

- 1. In all zones, the minimum distance shall be twenty (20) feet.**
- 2. In all zones, the minimum distance from corner curb to any driveway shall be twenty-five(25) feet.**
- 3. Where no setbacks are required, buildings may be constructed within the clear vision area.**

STAFF ANALYSIS: The site is located in the light industrial zone which requires a minimum clear vision distance of 20 feet. The development proposes access to SW Langer Farms Parkway, and has proposed to relocate the existing curb cut to align with the driveway into the Target site across SW Langer Farms Parkway. The proposal also provides for three accesses off of the future extension of SW Century Blvd. Those three driveways are at least 220 feet apart from each other. There is not any site obstructing objects within the clear vision areas on site.

FINDING: There are not any proposed structures or other obstructions located within the clear vision areas, and the driveways are all spaced more than 25 feet from a corner curb. Landscaping in these locations is low ground cover and shrubs. This standard is met; however, to ensure that it remains satisfied, the following on-going condition is recommended.

RECOMMENDED CONDITION: As an on-going condition, the project shall restrict shrubbery, landscaping, or other obstructions within sight distance triangles at site access drives.

The applicable provisions of Chapter 5 include: 16.90 (Site Planning),

Compliance with the standards in 16.92 (Landscaping), 16.94 (Off-street parking and Loading), and 16.96 (On-site Circulation) 16.98 (On-site Storage) these sections is discussed below:

16.92 Landscaping

16.92.010 Landscape Plan

All proposed developments for which a site plan is required pursuant to Section 16.90.020 shall submit a landscaping plan which meets the standards of this chapter. All areas not occupied by structures, paved roadways, walkways, or patios shall be landscaped or maintained according to an approved site plan. Maintenance of existing not-invasive native vegetation is encouraged within a development and required for portions of the property not being developed.

FINDING: The proposed landscaping plans show planting areas on the site in areas which are not paved. The proposal includes the submission of a very detailed landscape plan. This standard is met.

16.92.020 Landscaping Materials

A. Varieties - Required landscaped areas shall include an appropriate combination of evergreen or deciduous trees and shrubs, evergreen ground cover, and perennial plantings. Trees to be planted in or adjacent to public rights-of-way shall meet the requirements of this Chapter.

STAFF ANALYSIS: The landscaping plans (Sheets L1.0 – L1.4) show that all areas not devoted to other uses are landscaped. The plans illustrate a diverse mix of ground cover, shrubs, and trees

FINDING: This standard is met.

B. Establishment of Healthy Growth and Size - Required landscaping materials shall be established and maintained in a healthy condition and of a size sufficient to meet the intent of the approved landscaping plan. Specifications shall be submitted showing that adequate preparation of the topsoil and subsoil will be undertaken.

STAFF ANALYSIS: The proposed landscaping plan discusses plant spacing and calls out a fully automatic underground irrigation system. The plans have been prepared by Christopher Freshley, a licensed landscape architect in the state of Oregon. The plans demonstrate that it is feasible based on his prescribed spacing and irrigation method for the proposed landscape materials to be established and maintained in a healthy condition and sufficient size. It is typical that the specifications and details for top soil or subsoil preparation is completed with the construction documents for the project as this information is not needed to demonstrate that the plan can be feasibly implemented.

FINDING: This standard is not met, but can be met as conditioned below.

RECOMMENDED CONDITION: Prior to any site work, the applicant shall submit construction documents that provide additional information on the proposed planting and maintenance of the plants to ensure that the landscaping will be appropriately maintained. The construction plans shall include specifications for the adequate preparation of the soils.

C. Non-Vegetative Features

Landscaped areas as required by this Chapter may include architectural features interspersed with planted areas, such as sculptures, benches, masonry or stone walls, fences, rock groupings, bark dust, semi-pervious decorative paving, and

graveled areas. Impervious paving shall not be counted as landscaping. Artificial plants are prohibited in any required landscaped area.

FINDING: The proposed plans show landscaped areas that include trees, shrubs, grasses, and low growing ground cover. It is likely that there is mulch or bark dust in addition to the proposed landscaping. The site includes a mix of landscaped areas, and hardscape plazas that are intended to include benches, fences, walls, and decorative paving. This criterion is satisfied.

D. Existing Vegetation - All developments subject to site plan review as per Section 16.90.020 and required to submit landscaping plans as per Section 16.92.020 shall preserve existing trees, woodlands and vegetation on the site to the maximum extent possible, as determined by the Commission, in addition to complying with the provisions of Section 16.142.060.

FINDING: The site is currently being farmed. There are no existing trees, woodlands, or vegetation on the subject 19.82-acre portion of the site that would necessitate preservation.

16.92.030 Landscaping Standards

A. Perimeter Screening and Buffering_- A minimum six (6) foot high sight-obscuring wooden fence, decorative masonry wall, or evergreen screen shall be required along property lines separating single and two-family uses from multi-family uses, and along property lines separating residential zones from commercial or industrial uses. In addition, plants and other landscaping features may be required by the Commission in locations and sizes necessary to protect the privacy of residences and buffer any adverse effects of adjoining uses.

FINDING: The site is surrounded on three sides by public streets, and underdeveloped industrial land on the fourth. As proposed, the applicant is providing perimeter landscaping that is intended to soften the appearance of the new development. This particular standard is not applicable in that there are not residential zones located adjacent to the site; therefore, this standard is not applicable to the proposed development.

B. Parking and Loading Areas

1. Total Landscaped Area

A minimum of ten percent (10%) of the lot area used for the display or parking of vehicles shall be landscaped in accordance with Section 16.92. In addition, all areas not covered by buildings, required parking, and/or circulation drives shall be landscaped with plants native to the Pacific Northwest in accordance with Section 16.92.020.

FINDING: According to both the landscape plans and the applicant's narrative, the total parking area is 506,030 square feet. This standard would require a minimum of 50,603 square feet of landscaping within the parking lot. As proposed, 61,509 square feet of parking lot landscaping is provided. This constitutes 12.2% of the parking area which exceeds the minimum requirement. This standard is satisfied.

2. Adjacent to Public Rights-of-Way

A landscaped strip at least ten (10) feet in width shall be provided between rights-of-way and any abutting off street parking, loading, or vehicle use areas. Landscaping shall include any combination of evergreen hedges, dense vegetation, earth berm, grade, and change in grade, wall or fence, forming a permanent year-round screen, excepting clear vision areas as per Section 16.58.030.

FINDING: As proposed and illustrated on the proposed landscape plans, a minimum of ten feet of landscaping is provided along all street frontages between the parking areas and the property line. The landscaping includes a combination of shrubs, trees, and ground cover. A 15-foot wide view corridor is provided along SW Tualatin-Sherwood Road. The view corridor is also planted with trees, shrubs, and groundcover. This requirement is satisfied.

3. Perimeter Landscaping

A ten (10) foot wide landscaped strip shall be provided between off-street parking, loading, or vehicular use areas on separate abutting properties or developments. A minimum six (6) foot high sight-obscuring fence or plantings shall also be provided, except where equivalent screening is provided by intervening buildings or structures.

STAFF ANALYSIS: The site is surrounded on three sides by public streets. In these three locations, this standard would not apply. It would apply along the east property line where the site abuts an underdeveloped industrial parcel, and the existing DEQ testing center. Adjacent to DEQ, the applicant is proposing a 20 foot landscaped area, and along the rest of the east perimeter, there will be a combination of site obscuring landscaping and a retaining wall. The landscaping is proposed to be located on the lower end of the site to obscure the wall and adjacent loading areas.

FINDING: As discussed above, this criterion is satisfied.

4. Interior Landscaping

A minimum of fifty percent (50%) of required parking area landscaping shall be placed in the interior of the parking area. Landscaped areas shall be distributed so as to divide large expanses of pavement, improve site appearance, improve safety, and delineate pedestrian walkways and traffic lanes. Individual landscaped areas shall be no less than sixty-four (64) square feet in area and shall be provided after every fifteen (15) parking stalls in a row. Storm water bio-swales may be used in lieu of the interior landscaping standard.

STAFF ANALYSIS: As mentioned previously within this report, the applicant proposes to provide 61,509 square feet of parking lot landscaping. The interior parking lot landscape is 39,865 square feet, or 65% of the parking lot landscaping. The perimeter parking lot landscaping is 21,644 square feet or 35% of the overall landscaping dedicated to parking. Landscaped areas are distributed throughout the site, and have been designed to delineate pedestrian walkways and the primary traffic lanes. The landscape islands are at least 90 square feet in size, and have been provided at a ratio of One for every 9.44 parking spaces.

FINDING: As discussed above, the proposal provides the required amount of interior landscaping, exceeds the minimum landscaped island area, and provides landscape islands in excess of one for every 15 parking stalls. This standard is met.

5. Landscaping at Points of Access

When a private access way intersects a public right-of-way or when a property abuts the intersection of two (2) or more public rights-of-way, landscaping shall be planted and maintained so that minimum sight distances shall be preserved pursuant to Section 16.58.010.

FINDING: There are four points of access into the site from two different public streets. As proposed within the applicant's landscape plan, landscaping is provided on both sides of all of the access points, and the plantings include ground cover and shrubs that will not impede the sight distance. If sight distance is impeded at the time that the center is operational, the property owner will be subject to code enforcement. This standard is met.

C. Visual Corridors. Except as allowed by subsection 6 above, new developments shall be required to establish landscaped visual corridors along Highway 99W and other arterial and collector streets, consistent with the Natural Resources and Recreation Plan Map, Appendix C of the Community Development Plan, Part II, and the provisions of Chapter 16.142. Properties within the Old Town Overlay are exempt from this standard.

STAFF ANALYSIS: Section 16.142.040 (Visual Corridors) requires 15 feet of landscaping along the site frontage of Tualatin-Sherwood Road as an arterial street and 10 feet of landscaping along Langer Farms Parkway as a collector street. Per Section 16.142.040, "visual corridor areas shall be planted as specified by the review authority to provide a continuous visual and/or acoustical buffer between major streets and developed use...fences and walls shall not be substituted for landscaping within the visual corridor. Uniformly planted, drought resistant street trees and ground cover, as specified in Section 16.142.050, shall be planted in the corridor by the developer." According to the applicant's narrative and plans, both the Tualatin-Sherwood and Langer Farms Parkway frontage will be provided with a visual corridor area, planted with a landscaping buffer consisting of groundcover and trees consistent with this section.

FINDING: As proposed, the applicant's plans provide for a 15-foot landscaped visual corridor along SW Tualatin-Sherwood Road, and a 10-foot landscaped visual corridor along SW Langer Farms Parkway. This criterion is satisfied.

16.94. Off-Street Parking and Loading (relevant sections)

16.94.010 Generally

A. Off-Street Parking Required.

No site shall be used for the parking of vehicles until plans are approved providing for off-street parking and loading space as required by this Code. Any change in uses or structures that reduces the current off-street parking and loading spaces provided on site, or that increases the need for off-street parking or loading requirements shall be unlawful and a violation of this Code, unless additional off-street parking or loading areas are provided in accordance with Section 16.94.020, or unless a variance from the minimum or maximum parking standards is approved in accordance with Chapter 16.84 Variances.

C. Joint Use

Two (2) or more uses or, structures on multiple parcels of land may utilize jointly the same parking and loading spaces when the peak hours of operation do not substantially overlap, provided that satisfactory evidence is presented to the City, in the form of deeds, leases, or contracts, clearly establishing the joint use.

D. Multiple/Mixed Uses

When several uses occupy a single structure or parcel of land, the total requirements for off-street parking and loading shall be the sum of the requirements of the several uses computed separately, with a reduction of up to 25% to account for cross-patronage of adjacent businesses or services. If the applicant can demonstrate that the peak parking demands for the combined uses are less than 25% (i.e., the uses operate on different days or at different times of the day), the total requirements may be reduced accordingly.

STAFF ANALYSIS: The applicant is proposing site plan alternatives. These alternatives include standard commercial buildings, as well a drive-thru bank, sit down restaurant and fast food restaurant with a drive-thru. Also included is the option of removing the existing stormwater facility that currently serves the Target development west of the project. The stormwater facility is located under the BPA power easement in the northeastern area of the subject site. These alternatives will result in a parking count that ranges from 829 spaces to 889 spaces and a parking ratio that ranges from 4.36 to 4.62 spaces per 1,000 square feet of gross floor area.

The applicant is proposing to share parking, and has indicated within the narrative that they will prepare covenants, conditions and restrictions (CC&Rs) for the development as well as shared access easements to allow for shared parking across lot lines. This is important to note since the applicant has preliminary subdivision approval to subdivide the 55.09 acre parent parcel into five lots and two tracts. This pending subdivision will divide the subject 19.82-acre subject site (PUD Phase 7) into three lots. The anchor building will be contained on one lot (Lot 1 - 13.99 acres), and the retail buildings will be contained within the remaining two lots (Lot 2 - 3.65 acres and Lot 3 - 2.35 acres).

The applicant suggests that the reduction is justified given the size of the development and the multiple retail/commercial uses that will occupy the site. In particular, the applicant proposes a sit down restaurant of 10,000 square feet. Restaurants have a considerably higher minimum parking ratio (15.3 spaces per 1,000 square feet of building area) than general retail (4.1 spaces per 1,000 square feet of building area). The 10,000 square foot restaurant requires 153 parking spaces or about 17% of the total parking spaces provided onsite. However, restaurants are busiest in the evening from 6 PM to 8 PM when retail shopping is not at its peak. According to a 2003 study by Retail Traffic, peak times for retail shopping is during the weekend and weekdays between noon and 4 PM. Bank hours are primarily 9 AM to 6 PM, freeing up parking spaces for the evening sit down restaurant. Similarly, fast food peak times are at noon, freeing up more spaces. Of the 27,500 square feet of general retail (identified as Building D, E and F on the site plan), approximately 30% is anticipated to be office type uses such as insurance sales, optometrist and professional office. This equates to approximately 8,250 square feet that of use that will have a lower parking rate (2.7 spaces per 1,000 as opposed to retail at 4.1) and will operate generally 8 AM to 6 PM, freeing spaces for the higher demand for the sit down restaurant in the evening hours.

Pursuant to subsection (D) above, the City code allows up to a 25% reduction in minimum required parking when multiple or mixed uses occupy one site. Under the alternatives presented, the applicant proposes a reduction of between 1.3% to 9.2%. This request is well below the 25% that is permitted above. It should be mentioned that the parking counts do not include the 30 parking spaces that are proposed to be used during events where outdoor sales would occur.

FINDING: The proposed development provides on-site parking that is consistent with this chapter, and more specifically the general standards listed above. The requested reduction of between 1.3% and 9.2% falls well below the 25% allowed by the code, and has been reasonably justified by the applicant. Compliance with the dimensional requirements of the site along with the minimum parking requirements are satisfied as discussed below. These criteria are satisfied.

E. Prohibited Uses

Required parking, loading and maneuvering areas shall not be used for long-term storage or sale of vehicles or other materials, and shall not be rented, leased or assigned to any person or organization not using or occupying the building or use served.

FINDING: The applicant is requesting conditional use approval to allow outdoor storage on 30 parking spaces north of the anchor building. As discussed above, these 30 spaces are not "required" because the site is able to receive a reduction in the total parking spaces required because of the multiple uses proposed on-site. There is no evidence to suggest that any other spaces will be used for storage, will be leased or assigned to an off-site user. The applicant has responded to this criterion in the application, and is aware of the standard. This standard is met.

F. Location [...]

FINDING: On-street parking is not proposed for this development; therefore, this criterion is not applicable to the proposal.

G. Marking

All parking, loading or maneuvering areas shall be clearly marked and painted. All interior drives and access aisles shall be clearly marked and signed to show the direction of flow and maintain vehicular and pedestrian safety.

FINDING: Parking and loading is proposed to be marked as shown on the site plan that was submitted by the applicant, and again in the narrative. This criterion is satisfied.

H. Surface and Drainage

- 1. All parking and loading areas shall be improved with a permanent hard surface such as asphalt, concrete or a durable pervious surface. Use of pervious paving material is encouraged and preferred where appropriate considering soils, location, anticipated vehicle usage and other pertinent factors.**

2. Parking and loading areas shall include storm water drainage facilities approved by the City Engineer or Building Official.

STAFF ANALYSIS: The applicant has stated that all parking areas will be paved with asphalt. The applicant's stormwater report indicates that stormwater will be collected through a series of catch basins on site, and piped to the proposed regional stormwater facility located at the south end of the parent parcel.

FINDING: Because the parking areas are proposed to be paved, and the stormwater on site will be managed in accordance with the SZCDC and CWS, this criterion is satisfied.

16.94.020 Off-street parking standards

Section 16.94.020.A provides the required minimum and maximum parking spaces for uses permitted by the SZCDC.

STAFF ANALYSIS: The applicant is proposing alternatives to allow for drive-thrus on two commercial pad locations (fast food and bank) and an alternative that keeps the existing stormwater pond (Target stormwater pond). For the purpose of calculating minimum parking, the bank (4.3 spaces per 1,000 SF), fast food (9.9 spaces per 1,000 SF), restaurant (15.3 spaces per 1,000 SF) and general retail (4.1 spaces per 1,000 SF) were calculated separately. These alternatives will result in a parking count that ranges from 829 spaces to 889 spaces and a parking ratio that ranges from 4.36 to 4.62 spaces per 1,000 square feet of gross floor area. According to section 16.94.020, General Retail is required to provide a minimum of 4.1 parking spaces per 1,000 SF, and a maximum of 6.2 parking spaces per 1,000 SF of gross leasable area.

The applicant has provided the following table to justify the parking counts.

Parking Ratios - Site Plan Alternatives			
Target Pond <u>Retained</u>		Target Pond <u>Removed</u>	
<u>Fast Food & Bank Drive Thru - Alt. 1</u>		<u>Fast Food & Bank Drive Thru - Alt. 5</u>	
Total Required Spaces	913	Total Required Spaces	913
Spaces Provided	829	Spaces Provided	882
Reduction	9.2%	Reduction	3.4%
<u>Fast Food (No Bank) - Alt. 2</u>		<u>Fast Food (No Bank) - Alt. 6</u>	
Total Required Spaces	918	Total Required Spaces	918
Spaces Provided	834	Spaces Provided	887
Reduction	9.2%	Reduction	3.4%
<u>Bank (No Fast Food) - Alt. 3</u>		<u>Bank (No Fast Food) - Alt. 7</u>	
Total Required Spaces	896	Total Required Spaces	896
Spaces Provided	831	Spaces Provided	884
Reduction	7.3%	Reduction	1.3%
<u>Retail Only (no Bank or Fast Food) - Alt. 4</u>		<u>Retail Only (no Bank or Fast Food) - Alt. 8</u>	
Total Required Spaces	901	Total Required Spaces	901
Spaces Provided	836	Spaces Provided	889
Reduction	7.2%	Reduction	1.3%

The table shows the number of proposed and required spaces based on whether or not the existing stormwater quality pond (referred to as the Target pond) is eliminated. As illustrated, a higher reduction would be needed should the pond remain. All of the recent discussions with staff have indicated that the pond will be eliminated, and the proposed reduction in parking would be less. There are seven proposed building pads on site. Sheets A – 0.1 and A – 0.2 illustrates the two separate parking configurations should the pond remain, and includes a break down of parking requirements. The parking calculations submitted by the applicant based on the uses and building sizes are accurate.

FINDING: Based on the evidence in the record, the applicant is providing parking consistent with the provisions of SZCDC Section 16.94.020. This criterion is satisfied.

B. Miscellaneous Standards

1. Dimensions

For the purpose of this Chapter, a "parking space" means a stall nine (9) feet in width and twenty (20) feet in length. Up to twenty five percent (25%) of required parking spaces may have a minimum dimension of eight (8) feet in width and eighteen (18) feet in length so long as they are signed as compact car stalls.

STAFF ANALYSIS: As illustrated on the site plan, all interior stalls within the project will be 90-degree head in spaces and are proposed to be nine feet to nine and a half feet wide by 20 feet deep. Exterior stalls will be nine feet to nine and a half feet wide by 20 feet deep. No compact spaces are proposed.

FINDING: Based on the information in the record, the applicant has demonstrated that all proposed parking spaces meet or exceed the minimum dimensional standards of this section. This criterion is satisfied.

2. Layout

Parking space configuration, stall and access aisle size shall be of sufficient width for all vehicle turning and maneuvering. Groups of more than four (4) parking spaces shall be served by a driveway so as to minimize backing movements or other maneuvering within a street, other than an alley. All parking areas shall meet the minimum standards shown in Appendix G.

FINDING: As proposed, all spaces will be accessed internally and served by on-site drive aisles. This standard is met.

3. Wheel Stops

Parking spaces along the boundaries of a parking lot or adjacent to interior landscaped areas or sidewalks shall be provided with a wheel stop at least four (4) inches high, located three (3) feet back from the front of the parking stall as shown in Appendix G. Wheel stops adjacent to landscaping, bio-swales or water quality facilities shall be designed to allow storm water run-off.

STAFF ANALYSIS: The applicant is proposing to provide a curb and low lying landscaping on the perimeter of the site and internally adjacent to landscaped areas and sidewalks. In these cases, the applicant has proposed either 18 feet deep of asphalt plus two feet of overhang into the landscaping or sidewalk areas; or 17 feet of asphalt plus three feet of overhang. No wheel stops are proposed. The curbs will act as the wheel stop in this instance. In these locations, the applicant must provide the required landscaping in addition to the areas provided for the overhang, and this is not clear in the narrative or on the plans. Although this approach has been allowed in other developments throughout Sherwood as an alternative to providing both a curb and a separate wheel stop, and is acceptable, the applicant must demonstrate that the required landscaping is not affected by this option.

FINDING: The applicant has proposed to utilize six-inch curbs along the perimeter of parking lots, adjacent to landscaped areas on site, and adjacent to all sidewalks; however, it is unclear whether or not the applicant is counting required landscaping within this calculation; therefore, the following condition is warranted.

RECOMMENDED CONDITION: Prior to the issuance of building permits, the applicant shall provide a revised parking lot plan that demonstrates that the proposed overhang areas are provided in addition to the required on-site and perimeter landscaping.

4. Service Drives

Service drives shall be clearly and permanently marked and defined through use of rails, fences, walls, or other barriers or markers, and shall have minimum vision clearance area formed by the intersection of the driveway center line, the street

right-of-way line, and a straight line joining said lines through points fifteen (15) feet from their intersection.

FINDING: The applicant is proposing a service drive to the rear of the anchor building. As proposed, the service drive will have its own driveway and access from Century Drive and will be separated from the general public parking and access area. This standard is met.

C. Bicycle Parking Facilities

- 1. Location and Design. Bicycle parking shall be conveniently located with respect to both the street right-of-way and at least one building entrance (e.g., no farther away than the closest parking space). Bike parking may be located inside the main building or protected or otherwise covered near the main entrance. If the first two options are unavailable, a separate shelter provided on-site is appropriate as long as it is coordinated with other street furniture such as benches, street lights, planters and other pedestrian amenities. Bicycle parking in the Old Town Overlay District can be located on the sidewalk within the right-of-way. A standard inverted "U shaped" design is appropriate. Alternative, creative designs are strongly encouraged.**
- 2. Visibility and Security. Bicycle parking shall be visible to cyclists from street sidewalks or building entrances, so that it provides sufficient security from theft and damage.**
- 3. Options for Storage. Bicycle parking requirements for long-term and employee parking can be met by providing a bicycle storage room, bicycle lockers, racks, or other secure storage space inside or outside of the building.**
- 4. Lighting. Bicycle parking shall be least as well lit as vehicle parking for security.**
- 5. Reserved Areas. Areas set aside for bicycle parking shall be clearly marked and reserved for bicycle parking only.**
- 6. Hazards. Bicycle parking shall not impede or create a hazard to pedestrians. Parking areas shall be located so as to not conflict with vision clearance standards**

STAFF ANALYSIS: Minimum bike parking for commercial uses is 2 spaces or 1 per 20 auto spaces whichever is greater. Within the different site plan alternatives, the applicant is proposing between 866 and 919 parking spaces including the 30 parking spaces provided as part of the outdoor sales area. 919 parking spaces would require 46 bike parking spaces. As proposed and illustrated on the plans, Buildings A, C, D, E, and F, are provided with 3-bike parking spaces each for a total of 15 spaces, building B is provided with a 9-bike rack, and there are two 11-space racks located near each entrance to the anchor store.

FINDING: The proposed development would provide 46 bicycle parking spaces. The spaces are located near the building entries, and beneath the building canopies. These spaces are situated to be convenient, secure and well lighted. This criterion is satisfied.

16.94.030 – Off-Street Loading Standards

A. Minimum Standards[...]

- 2. The minimum loading area for non-residential uses shall not be less than ten (10) feet in width by twenty-five (25) feet in length and shall have an unobstructed height of fourteen (14) feet. Multiple uses on the same parcel or adjacent parcels may utilize the same loading area if it is shown in the development application that the uses will not have substantially overlapping delivery times. The following additional minimum loading space is required for buildings in excess of twenty thousand (20,000) square feet of gross floor area:**
 - a. 20,000 to 50,000 sq. ft. - 500 sq. ft.**
 - b. 50,000 sq. ft. or more - 750 sq. ft.**

STAFF ANALYSIS: The applicant proposes to provide a large loading area at the rear of the anchor building. As proposed, the loading space is uncovered, 43 feet wide, and approximately 86 feet deep for a total of 3,698 square feet. All of the other retail spaces will be provided with deliveries from the parking area consistent with standard practices within the retail industry given that they are much smaller spaces. The loading space exceeds the requirements of this section. No other loading spaces are provided or needed.

FINDING: As proposed and discussed above, the development includes a loading space that exceeds the minimum requirements listed by this section. This standard is met.

B. Separation of Areas

Any area to be used for the maneuvering of delivery vehicles and the unloading or loading of materials shall be separated from designated off-street parking areas and designed to prevent the encroachment of delivery vehicles onto off-street parking areas or public streets. Off-street parking areas used to fulfill the requirements of this Chapter shall not be used for loading and unloading operations.

FINDING: As proposed, the access to the loading area will have its own driveway off of Century Drive and be physically separated from the parking area by a wall. This standard is met.

16.96 On-Site Circulation

16.96.010 – On-site pedestrian and bicycle circulation

On-site facilities shall be provided that accommodate safe and convenient pedestrian access within new subdivisions, multi-family developments, planned unit developments, shopping centers and commercial districts, and connecting to adjacent residential areas and neighborhood activity centers within one half mile of the development. Neighborhood activity centers include but are not limited to existing or planned schools, parks, shopping areas, transit stops or employment centers. All new development, (except single family detached housing), shall provide a continuous system of private pathways/sidewalks at least 6 feet wide.

STAFF ANALYSIS: As proposed, the shopping center is provided with a comprehensive system of sidewalks that connect to the public sidewalk system in several locations, and provides clearly marked and delineated pedestrian connections to all uses within the site. As illustrated on the plans the proposed on-site sidewalks and all public sidewalks are shown to exceed the six foot minimum.

FINDING: Site access, and internal circulation and stop controlled intersections have been reviewed by the City Engineer. The 3-way stop located interior to the main site entrance is viewed as being a potential conflict in that four way intersections rarely are stop controlled on three sides, and could create confusion a potential hazard . Review of the configuration suggests that the east-west/west-east travel lanes be allowed to travel through without stop control. The north-south/south-north travel lanes being stopped controlled at the intersection; therefore, the following condition is suggested to mitigate for this potential.

RECOMMENDED CONDITION: The first interior site intersection from the site main entrance shall be stop controlled in the north-south/south-north travel lanes only. The west-east/east-west travel lanes shall not be stop controlled.

RECOMMENDED CONDITION: Revise on-site circulation plan to consistently use stop sign/stop bar treatments at minor approaches to internal intersections.

16.96.010.03 - Connection to Streets

- 1. Except for joint access as per 16.96.010, all ingress and egress to a use or parcel shall connect directly to a public street, excepting alleyways.**
- 2. Required private sidewalks shall extend from the ground floor entrances or the ground floor landing of stairs, ramps or elevators to the public sidewalk or curb of the public street which provides required ingress and egress.**

FINDING: The proposed development will have access to SW Langer Farms Parkway and SW Century Blvd. Both of these streets are public. The applicant is also providing a comprehensive network of sidewalks, and stairs that extend from the ground floor entrances of the ground floor to the public street. This criterion is satisfied.

16.96.030 – Minimum Non-Residential Standards

Minimum standards for private, on-site circulation improvements in non-residential developments:[...]

- 3. Surface materials are encouraged to be pervious when appropriate considering soils, anticipated vehicle usage and other pertinent factors.**

STAFF ANALYSIS: The applicant has proposed a total of four access points onto the street. All proposed access driveways exceed the minimum 24-foot width requirement. The applicant has indicated that due to the size of the development and amount of traffic within the parking area as well as site soil conditions, pervious paving is not proposed.

FINDING: Subject to the discussion above, the applicable criteria of this section are satisfied by the proposed development.

B. Sidewalks and Curbs

- 1. A private pathway/sidewalk system extending throughout the development site shall be required to connect to existing development, to public rights-of-way with or without improvements, to parking and storage areas, and to connect all building entrances to one another. The system shall also connect to transit facilities within 500 feet of the site, future phases of development, and whenever possible to parks and open spaces.**
- 2. Curbs shall also be required at a standard approved by the Hearing Authority. Private pathways/sidewalks shall be connected to public rights-of-way along driveways but may be allowed other than along driveways if approved by the Hearing Authority.**
- 3. Private Pathway/Sidewalk Design. Private pathway surfaces shall be concrete, asphalt, brick/masonry pavers, or other pervious durable surface. Primary pathways connecting front entrances to the right of way shall be at least 6 feet wide and conform to ADA standards. Secondary pathways between buildings and within parking areas shall be a minimum of four (4) feet wide and/or conform to ADA standards. Where the system crosses a parking area, driveway or street, it shall be clearly marked with contrasting paving materials or raised crosswalk (hump). At a minimum all crosswalks shall include painted striping.**
- 4. Exceptions. Private pathways/sidewalks shall not be required where physical or topographic conditions make a connection impracticable, where buildings or other existing development on adjacent lands physically preclude a connection now or in the future considering the potential for redevelopment; or pathways would violate provisions of leases, restrictions or other agreements.**

STAFF ANALYSIS: As proposed, the proposal includes a system of private sidewalks that connect to public sidewalks, to each of the buildings and between building entrances. The sidewalks are to be constructed of concrete, exceed four feet in width, and are required to be ADA compliant. According to the applicant, grade differences on site will require that some secondary access points from Langer Farms Parkway be provided with stairs and will not meet ADA. This is acceptable in that ADA compliant routes are provided to each building entrance and the public sidewalk. Driveway crossings are marked on the plans, and the site is provided with curbs in all required locations.

FINDING: The applicant is providing clearly marked and identified pedestrian amenities that are protected by curbs, or in the case of drive aisle crossings, clearly marked crossings. As discussed above, this criterion is satisfied.

16.98 – On Site Storage

16.98.020 - Solid Waste Storage

All uses shall provide solid waste storage receptacles which are adequately sized to accommodate all solid waste generated on site. All solid waste storage areas and receptacles shall be located out of public view. Solid waste receptacles for multi-family, commercial and industrial uses shall be screened by six (6) foot high sight-obscuring fence or masonry wall and shall be easily accessible to collection vehicles.

STAFF ANALYSIS: The preliminary site plan illustrates 7 outdoor storage enclosures. Each enclosure is proposed to be screened by a split faced CMU wall. The enclosures have been evaluated by Kristin Leichner of Pride Disposal, the service provider for the site. Pride Disposal submitted comments dated August 24, 2012 which indicate that the company has concerns regarding the trash enclosure between retail buildings E and F, as well as the enclosure located behind the anchor store. She adds that each enclosure must be at least 20-feet wide, 10-feet deep, and have full swing gates

FINDING: As discussed above, this standard is not met but it can be met as conditioned below.

RECOMMENDED CONDITION: Prior to final site plan approval, the developer shall submit plans that demonstrate the proposed solid waste facility will be constructed in a manner that meets the solid waste accessibility standards of Pride Disposal as outlined in their comments dated August 24, 2012, and provide city staff with a revised service provider letter that demonstrates that the service provider has approved the access and location for all of the proposed facilities that they must serve.

16.98.040 – Outdoor Sales and Merchandise Display

A. Sales Permitted

Outdoor sales and merchandise display activities shall be permitted when such activities are deemed by the Commission to be a customary and integral part of a permitted commercial or industrial use. Outdoor sales and merchandise display will be reviewed as conditional uses in accordance with Chapter 16.82.

B. Standards

- 1. Outdoor sales and merchandise display areas shall be kept free of debris. Merchandise shall be stacked or arranged, or within a display structure. Display structures shall be secured and stable.**
- 2. Outdoor sales and merchandise display shall not be located within required yard, building, or landscape setbacks, except where there is intervening right-of-way of a width equal to or greater than the required setback; and shall not interfere with on-site or off-site pedestrian or vehicular circulation.**
- 3. Outdoor retail sales and merchandise display areas for vehicles, boats, manufactured homes, farm equipment, and other similar uses shall be paved with asphalt surfacing, crushed rock, or other dust-free materials.**
- 4. Additional standards may apply to outdoor sales and merchandise display in NC zones, as per Section 16.24.050**

STAFF ANALYSIS: The anchor store will have a garden center and associated storage racks. This use will be screened by an ornamental fence that includes smooth face block

columns and simulated stone base. Since this area is screened it is not considered an outdoor display area and therefore is a permitted use associated with the internal sales of the anchor store.

In addition, the applicant has proposed a permanent outdoor sales area for the anchor store within 30 parking spaces at the north end of the building near the power line easement. A CUP is required, has been requested, and has been discussed earlier in this report. The applicant maintains that they intend to keep the outdoor sales area safe and free of debris and presentable for sales of new and clean merchandise. The area is not located in a setback or within a landscaped area of the site. The outdoor sales area, is proposed to be paved, and according to the applicant, will not be for the display of any vehicles.

Finally, the applicant has indicated that outdoor seating will be provided for retail tenants that sell food and drinks.

FINDING: As proposed and discussed above, the outdoor sales area will satisfy the standards listed in 16.98.040.B.

Division VII. Public Infrastructure

16.104 General Provisions

To ensure the health, safety, and the economic stability of the community, and to establish a quality system of public improvements, the City shall require any buildings or other development for which public facilities and public rights-of-way are not fully provided or improved to current City standards, to install said improvements. Except as otherwise provided or authorized, private improvements serving substantially the same function as equivalent public facilities shall generally be provided and improved to the standards established by this Code and other City regulations.

STAFF ANALYSIS: As agreed to within the approved development agreement, and as proposed within the application, the applicant will construct SW Century Blvd, the north extension of SW Langer Farms Parkway (AKA Adams North), and install a signal at the intersection of SW Langer Farms Parkway and Tualatin-Sherwood Road. The applicant has proposed to extend all services as required.

FINDING: Based on the analysis above, and evidence in the record, it is feasible for the proposed development to satisfy this criterion.

16.104.020 Future Improvements

The location of future public improvements including water, sanitary sewer, storm water, streets, bicycle and pedestrian paths, and other public facilities and rights-of-way, as depicted in the Transportation System Plan (TSP) Chapters 4, 5, 6 and 7 of the Community Development Plan are intended as general locations only. The precise alignment and location of a public improvement shall be established during the land use process and shall be depicted on public improvement plans submitted and approved pursuant to § 16.108 and other applicable sections of this Code. (Ord. No. 2011-011, § 1, 10-4-2011)

16.104.030 Improvement Procedures

Except as otherwise provided, all public improvements shall conform to City standards and specifications found in the Engineering Design Manual and installed in accordance with Chapter 16.108. The Council may establish additional specifications to supplement the standards of this Code and other applicable ordinances. Except for public projects constructed consistent with an existing facility plan, a public improvements shall not be undertaken until land use approval has been granted, a public improvement plan review fee has been paid, all improvement plans have been approved by the City, and an improvement permit has been issued.

STAFF ANALYSIS: The City of Sherwood completed the extension of SW Langer Farms Parkway in 2012 funded primarily by Washington County Major Streets Transportation Improvement Program (MSTIP). As part of that construction, sewer, water, and access from SW Langer Farms Parkway were stubbed to the property. The applicant will need to extend utilities to the site to accommodate development on the site as described in the more detailed discussion below.

FINDING: The applicant has either proposed, or has been conditioned to provide needed public infrastructure with proposed development of the site. Adequate water, sewer and access are available to the property. Stormwater for all future development on site will be captured and treated in a new regional stormwater facility that the applicant is constructing. This criterion is satisfied.

Chapter 16.106 – Transportation Facilities

16.106.010 – Generally

A. Creation

Public streets shall be created in accordance with provisions of this Chapter. Except as otherwise provided, all street improvements and rights-of-way shall conform to standards for the City's functional street classification, as shown on the TSP Map and in Figure 1, of Chapter 6 of the Community Development Plan, and other applicable City standards. The following table depicts the guidelines for the street characteristics.

B. Existing Streets

Except as otherwise provided, when a development abuts an existing street, the improvements requirement shall apply to that portion of the street right-of-way located between the centerline of the right-of-way and the property line of the lot proposed for development. In no event shall a required street improvement for an existing street exceed a pavement width of thirty (30) feet.

C. Proposed Streets

- 1. Except as otherwise provided, when a development includes or abuts a proposed street, in no event shall the required street improvement exceed a pavement width of forty (40) feet.**
- 2. Half Streets: When a half street is created, a minimum of 22 feet of driving surface shall be provided by the developer.**

D. Extent of Improvements

- 1. Streets required pursuant to this Chapter shall be dedicated and improved consistent with Chapter 6 of the Community Development Plan, the TSP and**

applicable City specifications included in the City of Sherwood Construction Standards. Streets shall include curbs, sidewalks, catch basins, street lights, and street trees. Improvements shall also include any bikeways designated on the Transportation System Plan map. Applicant may be required to dedicate land for required public improvements only when the exaction is directly related to and roughly proportional to the impact of the development.

2. If the applicant is required to provide street improvements, the City Engineer may accept a future improvements guarantee in lieu of street improvements if one or more of the following conditions exist, as determined by the City:
 - a. A partial improvement is not feasible due to the inability to achieve proper design standards;
 - b. A partial improvement may create a potential safety hazard to motorists or pedestrians.
 - c. Due to the nature of existing development on adjacent properties it is unlikely that street improvements would be extended in the foreseeable future and the improvement associated with the project under review does not, by itself, provide a significant improvement to street safety or capacity;
 - d. The improvement would be in conflict with an adopted capital improvement plan;
 - e. The improvement is associated with an approved land partition on property zoned residential use and the proposed land partition does not create any new streets; or
 - f. Additional planning work is required to define the appropriate design standards for the street and the application is for a project that would contribute only a minor portion of the anticipated future traffic on the street.

STAFF ANALYSIS: As part of the PUD approval and subsequent developers agreements' the applicant was required to construct several improvements to mitigate the impacts of traffic from the site. Within this specific application, the applicant proposes to construct the following improvements:

- Langer Farms Parkway north (aka Adams Avenue north) – This would be the extension of SW Langer Farms Parkway on the north side of Tualatin-Sherwood Road. The street would be extended and connect into the street that is stubbed on the south side of the existing Home Depot.
- A traffic signal at the intersection of SW Langer Farms Parkway and SW Tualatin-Sherwood Road.
- Century Drive across the project's south frontage to connect to the east terminus.
- The applicant proposes to dedicate right-of-way and pay a fee in-lieu of construction of frontage improvements along the north frontage on Tualatin-Sherwood Road. The frontage improvements would then be constructed by Washington County as part of the Tualatin-Sherwood MSTIP widening project.

The option to pay the fee in-lieu-of constructing the frontage improvements along Tualatin-Sherwood Road and the traffic signal at the intersection of Adams Avenue North Extension with Tualatin-Sherwood Road, but it should be noted that this may result in the loss of the ability to apply for TDT credit for those improvements. The TDT credit will still be applicable for the dedication of right-of-way, but infrastructure improvements would no longer be creditable per TDT policy.

The applicant submitted a Traffic Impact Analysis (TIA) performed by Kittelson & Associates, dated July 2012, with an amendment to the initial analysis submitted on August 12, 2012, and a supplemental operations and queuing analysis from Kittelson & Associates dated September 11, 2012. The initial TIA and related amendment addressed impacts from the development on the City and County transportation systems. Review of these analyses was performed by the City's on-call traffic engineer, DKS Associates, Washington County Traffic Engineers, and State of Oregon DOT Traffic Engineers. Corresponding review comments and conditions are noted below.

The TIA identifies that the intersection of Highway 99W and Tualatin-Sherwood Road would reach a volume to capacity (v/c) ratio of 1.05 during peak hours with the proposed project (including the construction of off-site improvements such as the Adams Avenue northern extension). Based on ODOT standards this level of congestion exceeds the mobility targets of the Oregon Highway Plan (OHP), listing a standard v/c of 0.99. However, this intersection is programmed and funded to be improved in the near future (2014) through the Washington County MSTIP capital improvement project (CIP) for Tualatin-Sherwood Road. Analysis of the traffic impacts with all of the proposed improvements including the WACO capital improvement of Tualatin-Sherwood Road results in a reduction of the v/c to 0.92 during peak hours, which would meet the OHP mobility targets. Two conditions have been recommended to ensure that the project meets the OHP mobility targets.

The applicant's TIA was based on an assumed use under the International Traffic Engineers (ITE) Code 820 ("Shopping Center") for the majority of the site. This general category describes trip generation rates consistent with an undefined user; however, it is possible that the actual anchor store tenant could produce trip generation rates exceeding the conclusions in the Kittelson TIA. For example, there are two other ITE categories for a free-standing Discount Store (ITE Code 815), and a free-standing Discount Superstore (ITE Code 813). These categories provide additional information for defined users. According to the City's consulting traffic engineers, there is substantial in the professional literature that supports the suggestion that these uses (813 and 815) generate greater transportation impacts than a shopping center as described in ITE Code 820.

The City's review of the application, including the recommendation and proposed conditions of approval, was based on an assumed ITE category for a shopping center (820). However, the City is concerned that, if the site is developed to include an anchor-store tenant of the type described in ITE category 815 or 813, that the traffic impacts from the use will exceed the level anticipated by the application and the conditions of approval designed to mitigate the transportation impacts will be inadequate.

Until such time as the actual tenant of the anchor store is determined, the City cannot adequately assess the transportation impacts of the proposed development or determine the appropriate level of mitigation necessary to offset the impacts. Accordingly, a condition is warranted to ensure that the project does not create traffic impacts over and above what is stated in the applicant's TIA.

The project fronts Langer Farms Parkway, a collector status road constructed in 2011. This road falls under Municipal Code Chapter 12.17 – Construction Limited Streets, and any proposed site improvements which impact the existing public street infrastructure shall comply with the requirements under Sections 12.17.025 through 12.17.035. A condition is

recommended below to ensure that any impacts are reviewed utilizing the correct procedure as spelled out in the Sherwood Municipal Code.

The site has access drives located at three points along Century Drive. Based on the TIA the access drive closest to the roundabout is to be right-in/right-out only configuration. A raised concrete median will need to be constructed to help regulate this turning movement. Extending the concrete median entry divider from the roundabout beyond the site access point by 20 feet will accomplish this requirement. The main entrance off Langer Farms Parkway is shown as being relocated further north. The relocation of this entrance must be set to align the westbound through lane with the receiving access drive lane to the Target site.

ODOT has reviewed the TIA and has comments and conditions relative to impacts to Highway 99W transportation systems, in a letter dated August 31, 2012. The TIA indicates that the peak hour queue length for two intersections and lanes have exceeded the available storage length and require mitigation. Specifically, the lanes need to be extended to the extent feasible within the existing right-of-way. Review of the existing right of way indicates it is feasible to complete this necessary improvement to mitigate the impacts of this development.

Washington County DLUT review comments and conditions were provided in a letter dated, September 11, 2012. The County's comments are attached to this report as Exhibit G. The County has requested that their conditions regarding the traffic mitigation is incorporated throughout this report.

FINDING: Based on the discussion above, the following conditions are warranted to ensure that impacts to the traffic system from the proposed development are mitigated.

RECOMMENDED CONDITION: The applicant shall construct the Adams Avenue North Extension beginning at the intersection of Adams Avenue North with Tualatin-Sherwood Road. The construction shall include the installation of a traffic signal at the intersection of Adams Avenue North Extension with Tualatin Sherwood Road unless an agreement with Washington County to include the signal construction with their project is reached.

RECOMMENDED CONDITION: Prior to Occupancy, of any building, substantial completion of the construction of Adams Avenue North Extension and the traffic signal at the intersection of Adams Avenue North Extension with Tualatin-Sherwood Road.

RECOMMENDED CONDITION: The applicant shall either construct or pay a fee in-lieu-of construction to Washington County DLUT for frontage improvements, consistent with the County's letter dated September 11, 2012, along Tualatin-Sherwood Road, the traffic signal at the intersection of Adams Avenue North Extension with Tualatin-Sherwood Road. The applicant shall coordinate the payment of the fee in-lieu-of construction directly with Washington County, and shall provide written proof of the County's acceptance to the City.

RECOMMENDED CONDITION: Prior to the issuance of building permits, the applicant shall provide the City Engineer with a traffic trip generation analysis from a licensed professional traffic engineer for the overall site, including the proposed anchor-store tenant.

If in the opinion of the City Engineer, and the City's traffic consultant, the trip generation rates for the proposed tenant of the anchor store cause the trip generation rates for the site to exceed the trip generation rates identified in the TIA, the applicant shall submit an application for a major modification to the site plan that would be limited to transportation impacts and mitigation.

RECOMMENDED CONDITION: The applicant shall comply with SMC Section 12.17.025 – for exceptions to construction work within a construction limited street. The request submittal shall include exhibits which will provide technical design information of the impacts to the existing Langer Farms Parkway public infrastructure, and proposed mitigation efforts based on the City's Engineering Design and Standard Details Manual. Final mitigation requirements will be determined from review of this submittal and shall become part of the approval requirements for construction. Note - Submittal of the exceptions request is not a guarantee of being able to perform construction work within the construction limited street, and that review/approval is taken on a case-by-case basis.

RECOMMENDED CONDITION: The applicant shall construct the remaining portion of Century Drive between the existing roundabout street stub on Langer Farm Parkway, and the existing street segment at the eastern property line. The street section shall consist of a 42-foot wide face of curb to face of curb paved width, and 9.5-foot wide curb tight sidewalks which contain 3.5-foot square curb tight tree planter wells on each side of the street section, for an overall street right-of-way width of 62 feet. An 8-foot wide public utility easement shall be located outside each side of the street right-of-way section.

RECOMMENDED CONDITION: The Century Drive pavement section shall meet at a minimum the City pavement design standard for collector streets per Section 210.2.1- Aggregate Base and Section 210.2.2-Hot Mix Asphalt Concrete Pavement Design and Construction of the City Engineering Design and Standard Details Manual. The applicant shall provide a geotechnical report confirming if the minimum design standards are adequate for the anticipated traffic loading and soil conditions or if a more robust pavement section is required.

RECOMMENDED CONDITION: The applicant shall construct a raised concrete median along Century Drive from the roundabout to a point 20-feet east of west access entry drive. This access drive shall be configured as a right-in/right-out only access drive.

RECOMMENDED CONDITION: Relocation of the Langer Sites main access drive off Langer Farm Parkway shall align the westbound through lane with the existing receiving private access drive lane on the north side of Langer Farm Parkway.

RECOMMENDED CONDITION: Applicant shall provide a letter from a registered Oregon professional civil engineer that adequate sight distance is provided at the constructed site access drives prior to occupancy.

RECOMMENDED CONDITION: The northbound right turn lane on Highway 99W onto Sherwood Boulevard will exceed the available storage (625' versus 415'). The applicant

shall increase the right turn storage length from 415' to 625'. The improvement shall also include the associated deceleration lane distance.

RECOMMENDED CONDITION: The northbound left turn lane on Highway 99W onto Roy Rogers Road will exceed the available storage (525' versus 490'). The applicant shall increase the left turn storage length from 490' to 535'. The improvement shall also include the associated deceleration lane distance.

RECOMMENDED CONDITION: An ODOT Miscellaneous Permit must be obtained for all work within the ODOT highway right-of-way.

RECOMMENDED CONDITION: The applicant shall comply with all conditions and requirements as stated in the letter provided by Washington County DLUT, dated September 11, 2012 and attached to this decision as Exhibit G.

16.106.020(E) – Transportation Facilities Modifications

4. Criteria for Modification: Modifications may be granted when criterion 4a and any one of criteria 4b through 4e are met:

- a. Consideration shall be given to public safety, durability, cost of maintenance, function, appearance, and other appropriate factors to advance the goals of the adopted Sherwood Comprehensive Plan and Transportation System Plan as a whole. Any modification shall be the minimum necessary to alleviate the hardship or disproportional impact.**
- b. Topography, right-of-way, existing construction or physical conditions, or other geographic conditions impose an unusual hardship on the applicant, and an equivalent alternative which can accomplish the same design purpose is available.**
- c. A minor change to a specification or standard is required to address a specific design or construction problem which, if not enacted, will result in an unusual hardship. Self-imposed hardships shall not be used as a reason to grant a modification request.**
- d. An alternative design is proposed which will provide a plan equal to or superior to the existing street standards.**
- e. Application of the standards of this chapter to the development would be grossly disproportional to the impacts created.**

STAFF ANALYSIS: The applicant has proposed a modification to the construction of SW Century Blvd. The request includes a curb-tight sidewalk with tree wells along the site's frontage on Century Drive, a local street. The current standard requires a narrow 5-foot curb separated sidewalk with landscaping strip. The request is a small adjustment to the standard. Lane widths, right-of-way widths and other standards will be maintained.

Although there is room to meet the standard separated sidewalk, the request is being made to provide a wider sidewalk than standard. The proposed curb-tight sidewalk will more closely match the wide multi-use pathway on Langer Farms Parkway and therefore is more appropriate.

FINDING: Bob Galati, the City Engineer, has reviewed the request, and determined that the request results in an alternative design that is equal to or superior to the existing street standard. He recommends that the modification be approved.

16.106.030 – Location

A. Generally

The location, width and grade of streets shall be considered in their relation to existing and planned streets, topographical conditions, and proposed land uses. The proposed street system shall provide adequate, convenient and safe traffic and pedestrian circulation, and intersection angles, grades, tangents, and curves shall be adequate for expected traffic volumes. Street alignments shall be consistent with solar access requirements as per Chapter 16.156, and topographical considerations.

B. Street Connectivity and Future Street Systems[...]

STAFF ANALYSIS: As stated previously, the applicant proposes to construct Langer Farms Parkway north (aka Adams Avenue north) and extend Century Drive across the projects south frontage in accordance with the Development Agreement between the City and the property owner. The applicant proposes to dedicate right-of-way and pay a fee in-lieu of construction of frontage improvements along the north frontage on Tualatin-Sherwood Road. Those improvements are expected to be made as part of the County MSTIP widening of SW Tualatin-Sherwood Road. As proposed, the applicant is constructing all streets identified within the Transportation System Plan (TSP) in their preferred alignment.

FINDING: As proposed, the new streets that will be constructed in support of this proposal are consistent with the location and width as identified within the adopted Sherwood TSP. This criterion is satisfied.

C. Underground Utilities

All public and private underground utilities, including sanitary sewers and storm water drains, shall be constructed prior to the surfacing of streets. Stubs for service connections shall be long enough to avoid disturbing the street improvements when service connections are made.

FINDING: The applicant has stated that all utilities will be undergrounded in both the narrative, and on the plan sets. There are existing high voltage PGE and BPA power lines located in the northeastern area of the site that are not required to be undergrounded. This criterion is satisfied.

D. Additional Setbacks

Generally additional setbacks apply when the width of a street right-of-way abutting a development is less than the standard width under the functional classifications in Section VI of the Community Development Plan. Additional setbacks are intended to provide unobstructed area for future street right-of-way dedication and improvements, in conformance with Section VI. Additional setbacks shall be measured at right angles from the centerline of the street.

FINDING: After dedication of required right-of-way on Tualatin-Sherwood Road, all roads will have the required right-of-way width as called for in the respective TSP's. Tualatin-Sherwood Road is a county facility, and the applicant is proposing to dedicate the required right-of-way to meet their ultimate width. Additional setbacks are not required for this development.

16.106.060 – Design

A. Required Improvements

- 1. Except as otherwise provided, sidewalks shall be installed on both sides of a public street and in any special pedestrian way within new development.**
- 2. For Highway 99W, arterials, or in special industrial districts, the City Manager or designee may approve a development without sidewalks if alternative pedestrian routes are available.**
- 3. In the case of approved cul-de-sacs serving less than fifteen (15) dwelling units, sidewalks on one side only may be approved by the City Manager or designee.**

B. Design Standards

1. Arterial and Collector Streets

Arterial and collector streets shall have minimum eight (8) foot wide sidewalks/multi- use path, located as required by this Code.

2. Local Streets

Local streets shall have minimum five (5) foot wide sidewalks, located as required by this Code.

3. Handicapped Ramps

Sidewalk handicapped ramps shall be provided at all intersections.

C. Pedestrian and Bicycle Paths

Provide bike and pedestrian connections on public easements or right-of-way when full street connections are not possible, with spacing between connections of no more than 330 feet except where prevented by topography, barriers such as railroads or highways, or environmental constraints such as rivers and streams.

STAFF ANALYSIS: The applicant has proposed to construct SW Century Blvd, the northern extension of SW Langer Farms Parkway (AKA Adams Avenue), and to pay a fee-in-lieu of improvements for the frontage along SW Tualatin-Sherwood Road. The sidewalks along SW Langer Farms Parkway are 12-foot wide, and it will be a requirement that the applicant construct all other public improvements to meet or exceed these standards.

FINDING: The applicant has stated that they intend to build all public streets consistent with City design standards. Compliance with these criteria will be verified prior to the City engineering department and Washington County (WACO) issuing permits. It is feasible for the proposed development to satisfy these standards for all public improvements.

16.106.070 – Highway 99W Capacity Allocation Program (CAP)

F. Trip Allocation Certificate

1. General

- a. Trip Allocation Certificates shall be issued by the City Engineer.**
- b. Trip Allocation Certificates shall be valid for the same period as the land use or other city approval for the regulated activity.**
- c. The City Engineer may invalidate a Trip Allocation Certificate when, in the City Engineer's judgment, the Trip Analysis that formed the basis for award of the Trip Allocation Certificate no longer accurately reflects the activity proposed under the base application.**

2. Approval Criteria

- a. Upon receipt of a Trip Analysis, the City Engineer shall review the analysis. The Trip Analysis shall meet both of the following criteria to justify issuance of a Trip Allocation Certificate for the regulated activity:
 - (1) Adequacy of analysis; and
 - (2) Projected net trips less than the site trip limit.
 - b. Adequacy of Analysis
 - c. The City Engineer shall judge this criterion based on the following factors:
 - (1) Adherence to the Trip Analysis format and methods described in this chapter.
 - (2) Appropriate use of data and assumptions; and
 - (3) Completeness of the Trip Analysis.
- 3. Mitigation**
- a. The Trip Allocation Certificate shall specify required mitigation measures for the regulated activity.
 - b. Mitigation measures shall include improvements to Highway 99W and nearby transportation corridors that, in the judgment of the City Engineer, are needed to meet the LOS Standard and provide capacity for the regulated activity.
 - c. Engineering construction plans for required mitigation measures shall be submitted and approved in conjunction with other required construction plans for the regulated activity.
 - d. Mitigation measures shall be implemented in tandem with work associated with the regulated activity.
 - e. Failure to implement required mitigation measures shall be grounds for revoking the regulated activity's base application approval.

STAFF ANALYSIS: Over the course of the past several years, the landowners and applicant have worked collaboratively with the City, County, and the Oregon Department of Transportation (ODOT) to identify needed transportation improvements for development of the site. The applicant submitted a Traffic Impact Analysis (TIA), from a reputable traffic engineering firm that allowed the City Engineer, WACO and ODOT the ability to analyze the impacts to the system and proposed mitigation to ensure that with all of the proposed improvements installed, that affected intersections will continue to operate acceptably. As stated previously, the improvements include a new traffic signal at Langer Farms Parkway and Tualatin-Sherwood Road, an extension of SW Langer Farms Parkway to 99W, connection of SW Century Drive along the south end of the development, and other improvements that have been previously conditioned based on the analysis of the proposal by WACO and ODOT.

FINDING: Specific to the Capacity Allocation Program (CAP), the site is limited to 43 p.m. peak trips per acre. As stated in the applicant's TIA, the proposal is expected to generate 760 p.m. peak hour trips. Since the project is 19.8 acres in size, the allowed p.m. peak trips under the CAP is 851. The CAP program is administered by the City Engineer, who has conditioned mitigation in cooperation with WACO and ODOT earlier in this report. This criterion is met.

16.110 - Sanitary Sewers

16.110.010 Required Improvements

Sanitary sewers shall be installed to serve all new developments and shall connect to existing sanitary sewer mains. Sanitary Sewers shall be constructed, located, sized and installed at standards consistent 16.110.

STAFF ANALYSIS: Sanitary sewer service is available within Langer Farms Parkway (8 inch diameter main), within Century Drive (8 inch diameter stubbed to the east property line of this site), and from an 8 inch diameter sanitary sewer main located adjacent to and south of the Tualatin-Sherwood Road right-of-way as shown on the Preliminary Composite Utility Plan. An 8-inch diameter public sanitary sewer line will be extended with the construction of Century Drive, from its terminus to the east of the site, to within approximately 100 feet of Langer Farms Parkway. Sanitary sewer service for proposed Lot 1 and Lot 3 will be provided by means of a private sanitary sewer lateral from the public sanitary sewer within Century Drive. Sanitary sewer service proposed to Lot 2 will be provided by means of a private sanitary sewer lateral from the existing public sanitary sewer line adjacent to and south of the Tualatin-Sherwood Road right-of-way. The site is serviced by the extension of sanitary sewer laterals from Century Drive, Tualatin-Sherwood Road, and Langer Farm Parkway mainlines. Construction of a public sanitary mainline is required with the construction of the Century Drive extension, connecting to an existing mainline stub off Century Drive.

FINDING: The applicant has proposed to extend sewer consistent with the City Engineering comments; however, a condition is recommended to ensure that the planned improvements meet the City's design and construction standards.

RECOMMENDED CONDITION: The design and construction of the public sanitary sewer system within Century Drive shall comply with the requirements in the City's Engineering Design and Standard Details Manual.

16.112– Water Supply

16.112.010 Required Improvements

Water lines and fire hydrants conforming to City and Fire District standards shall be installed to serve all building sites in a proposed development in compliance with 16.112.

STAFF ANALYSIS: Water service is available within Langer Farms Parkway (16 inch diameter line), within Century Drive (via a 10-inch diameter line stubbed to the west property line and a 12-inch diameter line stubbed to the east property line), and from a 10-inch diameter water line located adjacent to and south of the Tualatin-Sherwood Road right-of-way that can serve this site as shown on the Preliminary Composite Utility Plan. Water service for Lot 1 and Lot 3 will be provided by means of private water services from the public water main within Century Drive. Construction of a public water mainline is included with the construction of the Century Drive extension, connecting to existing mainline stubs off Century Drive (12" diameter) and Langer Farm Parkway (10" diameter). Water service to Lot 2 will be provided by means of private water services from the existing public water line adjacent to and south of the Tualatin-Sherwood Road right-of-way.

Due to the location of the proposed property lines, a water connection to Langer Farms Parkway is required to provide water service to proposed Lot 3. There is not adequate space to construct a water connection to the proposed Century Drive water main in the southeast corner of Lot 3 because of the proposed storm drain and sanitary sewer laterals. Crossing either Lot 2 (to obtain water from Tualatin Sherwood Road) or crossing Lot 1 (to obtain water from Century Drive) would require that the water line be

dedicated to and maintained by the public, which is not in the applicant's or City's best interest.

There is a regulation, SMC 12.17 Construction Limited Streets, which Langer Farms Parkway falls under. The 3 year limited street construction limit ends on January 20, 2015. This requires that the applicant request an exception in order to cut into the new street to hook up to city services. The applicant intends to request an exception to the 3-year moratorium to construction in Langer Farms Parkway so the water service to Lot 3 can connect to the existing water main in Langer Farms Parkway at the same location where the existing driveway is proposed to be relocated. Utilizing this location will require that asphalt be removed approximately 6 feet from the curb line into the street (for the trenching required to connect to the existing public water main) at the same location where the driveway is being relocated, thereby minimizing any impacts to SW Langer Farms Parkway.

Finally, the City of Sherwood Water Department installs, owns, operates and maintains all water infrastructure located within public ROW and public easements. Service lateral connections to existing mainlines and installation of water meters, including the meter set and box, shall be performed by City crews. City fees for installation of the services shall be assessed at the time of work being performed and shall conform to the fee schedule in place at the time of building permit submittal.

FINDING: As discussed above, the applicant will need to request permission to install services at this location. This standard can be met as conditioned below.

RECOMMENDED CONDITION: The water mainline constructed in Century Drive shall be 12-inch diameter pipe meeting City of Sherwood standards.

RECOMMENDED CONDITION: The design and construction of the public water system within Century Drive and the installation of all service laterals from existing mainlines shall comply with the requirements in the City's Engineering Design and Standard Details Manual.

RECOMMENDED CONDITION: obtain a building permit for all private water and plumbing infrastructure construction. All meter boxes and fire flow vaults located on private property shall be located in public water easements if not already located within a PUE. Construction plan sets shall include notes that reflect this requirement.

16.114 - Storm Water

16.114.010 Required Improvements

Storm water facilities, including appropriate source control and conveyance facilities, shall be installed in new developments and shall connect to the existing downstream drainage system consistent with the Comprehensive Plan, the requirements of the Clean Water Services water quality regulations and section 16.114.

STAFF ANALYSIS: As proposed, the 55.09-acre parent parcel contains phases 6, 7, and 8 from the approved 1995 PUD. There are currently two sub-regional stormwater facilities located on the site. This proposed commercial development is for Phase 7 of the PUD. Per the Development Agreement, the development of Phase 7 triggers the

requirement that a Regional Storm Water Facility is constructed for Phases 6, 7, and 8 of the PUD as well as upstream areas that are currently draining into the two sub-regional stormwater facilities located on the site.

The proposed regional stormwater facility will be located east of Langer Farms Parkway and south of Tualatin–Sherwood Road, in the southeasterly corner of the parent parcel. The facility will be located within a single tract which is required to be dedicated to the City of Sherwood as part of an earlier application. The purpose of the proposed facility is to replace the two existing stormwater quality facilities on the site as well as provide stormwater quality treatment and quantity detention for the retail/commercial development of the site (approximately 55 acres total).

The north existing stormwater facility is located in the northeasterly corner of the site along Tualatin-Sherwood Road. It was constructed to serve the Target site development on the westerly side of Langer Farms Parkway and provides water quality treatment for that site, the northerly portion of Langer Farms Parkway (which was recently expanded) and the Arbor Terrace 3 subdivision (which had its existing water quality facility removed with the road expansion). The subdivisions Arbor Terrace 1 and 2 also drain through this facility; however, treatment is provided by a stormwater quality facility located within those subdivisions.

The south existing stormwater facility is located east of Langer Farms Parkway and treats the runoff from the southerly portion of Langer Farms Parkway, a short length of Oregon Street, the Century Drive park, and a portion of the Sherwood Village 2 and 3 subdivisions.

A public stormwater main will be constructed from the regional stormwater facility to the south east corner of this proposed commercial development and then along the east side of this development and will tie into the existing pipe located along Tualatin-Sherwood Road. In addition, a public stormwater main will be constructed with the Century Drive improvements and will drain to the regional stormwater facility. Private stormwater pipes will connect to this main that will convey the stormwater surface runoff from parking areas and roof tops.

The existing storm water quality facility (WQF) provides water quality treatment to several development areas outside the limits of this project. This fact essentially makes this WQF a regional treatment facility and therefore should be publicly owned and maintained. The storm water conveyance system that crosses Langer Farm Parkway and discharges to the existing WQF is also viewed as a public system since it handles storm water runoff from several other private development sites including public streets and is routed through public right-of-ways.

Site development plans indicate that all collected on-site storm water runoff will be conveyed to the regional WQF located on Phase 8 of the Langer Farms PUD. The plans also indicate that retaining walls are being built to provide usable space to route storm water conveyance systems south along the east property line of the site. A public storm water mainline will be constructed within the Century Drive Extension construction, and will connect to a new public mainline running to the regional WQF located on Phase 8.

FINDING: As discussed above, service will be available to the site, but there are items the applicant must complete before the storm water service will be available to the site. This standard can be met as conditioned below.

RECOMMENDED CONDITION: To comply with CWS and City standards, if the existing WQF remains an active part of the site development, it shall be placed in a separate tract and dedicated to the City of Sherwood. All storm water mainlines crossing this site which discharge into this pond or out of this pond and convey storm water runoff from public infrastructure or outside private development areas, shall be placed within public storm water easements dedicated to the City of Sherwood.

RECOMMENDED CONDITION: To comply with CWS and City standards, if the existing WQF is decommissioned, all storm water mainlines which convey storm water runoff from public infrastructure or outside private development areas through the Phase 7 PUD site, shall be placed within public storm water easements dedicated to the City of Sherwood.

RECOMMENDED CONDITION: The Regional WQF located on Phase 8 of the Langer Farms PUD shall be constructed and shall be operational prior to final occupancy of any structure constructed on the Phase 7 PUD site or construction of the Century Drive Road extension has been substantially completed.

RECOMMENDED CONDITION: All storm water mainlines which convey storm water runoff from the Phase 7 PUD site to the regional WQF located on Phase 8 PUD site, shall be classified public infrastructure and shall be placed within public storm water easements.

RECOMMENDED CONDITION: The design and construction of the public storm sewer system within Century Drive shall comply with the requirements in the City's Engineering Design and Standard Details Manual.

16.116 Fire Protection

16.116.020 Standards

A. Capacity

All fire protection facilities shall be approved by and meet the specifications of the Fire District, and shall be sized, constructed, located, and installed consistent with this Code, Chapter 7 of the Community Development Plan, and other applicable City standards, in order to adequately protect life and property in the proposed development.

B. Fire Flow

Standards published by the Insurance Services Office, entitled "Guide for Determination of Required Fire Flows" shall determine the capacity of facilities required to furnish an adequate fire flow. Fire protection facilities shall be adequate to convey quantities of water, as determined by ISO standards, to any outlet in the system, at no less than twenty (20) pounds per square inch residual pressure. Water supply for fire protection purposes shall be restricted to that available from the City water system. The location of hydrants shall be taken into account in determining whether an adequate water supply exists.

C. Access to Facilities

Whenever any hydrant or other appurtenance for use by the Fire District is required by this Chapter, adequate ingress and egress shall be provided. Access shall be in the form of an improved, permanently maintained roadway or open paved area, or any combination thereof, designed, constructed, and at all times maintained, to be clear and unobstructed. Widths, height clearances, ingress and egress shall be adequate for District firefighting equipment. The Fire District, may further prohibit vehicular parking along private accessways in order to keep them clear and unobstructed, and cause notice to that effect to be posted.

D. Hydrants

Hydrants located along private, accessways shall either have curbs painted yellow or otherwise marked prohibiting parking for a distance of at least fifteen (15) feet in either direction, or where curbs do not exist, markings shall be painted on the pavement, or signs erected, or both, given notice that parking is prohibited for at least fifteen (15) feet in either direction.

(Ord. No. 2010-015, § 2, 10-5-2010; Ord. 91-922, § 3; Ord. 86-851, § 3)

STAFF ANALYSIS: The applicant has noted, and the City agrees that adequate water service is available within Langer Farms Parkway (16-inch diameter line), within Century Drive (via a 10-inch diameter line stubbed to the west property line and a 12-inch diameter line stubbed to the east property line), and from a 10-inch diameter water line located adjacent to and south of the Tualatin-Sherwood Road right-of-way that can serve the fire protection needs of this site as shown on the Preliminary Composite Utility Plan.

Fire protection water service for Lot 1 and Lot 3 is proposed to be provided by means of water lines from the public water main within Century Drive. Fire protection water service to Lot 2 will be provided by means of water services from the existing public water line adjacent to and south of the Tualatin-Sherwood Road right-of-way.

The applicant has indicated that private fire hydrants will be located throughout the subject site and spaced as required by TVF&R and the City. The applicant has also noted that all of the gates will be equipped with a Knox Box for emergency access to the site. The fire department provided general comments for this application.

FINDING: The fire district comments indicate the site would need to be constructed consistent with the standards of the fire district for the proposed use. This standard can be satisfied as conditioned below.

RECOMMENDED CONDITION: Prior to the issuance of building permits for the site, provide verification to the planning department that the fire department has reviewed and approved the plans for fire suppression and emergency services.

16.118. – Public and Private Utilities

16.118.020 Standards

- A. Installation of utilities shall be provided in public utility easements and shall be sized, constructed, located and installed consistent with this Code, Chapter 7 of the Community Development Code, and applicable utility company and City standards.**
- B. Public utility easements shall be a minimum of eight feet in width unless a reduced width is specifically exempted by the City Engineer.**
- C. Where necessary, in the judgment of the City Manager or his designee, to provide for orderly development of adjacent properties, public and franchise utilities shall be extended through the site to the edge of adjacent property (ies).**
- D. Franchise utility conduits shall be installed per the utility design and specification standards of the utility agency.**
- E. Public Telecommunication conduits and appurtenances shall be installed per the City of Sherwood telecommunication design standards.**
- F. Exceptions: Installation shall not be required if the development does not require any other street improvements. In those instances, the developer shall pay a fee in lieu that will finance installation when street or utility improvements in that location occur.**

STAFF ANALYSIS: The applicant is proposing to provide both public and private utilities as discussed previously. The applicant has indicated that all necessary utilities will be installed consistent with these standards, and provided with easements as required.

FINDING: Utilities are available to the property and, as demonstrated within the plans and narrative will be extended to the site, consistent with these provisions. These criteria are met.

16.118.030 Underground Facilities

Except as otherwise provided, all utility facilities, including but not limited to, electric power, telephone, natural gas, lighting, cable television, and telecommunication cable, shall be placed underground, unless specifically authorized for above ground installation, because the points of connection to existing utilities make underground installation impractical, or for other reasons deemed acceptable by the City.

STAFF ANALYSIS: As indicated previously in this report, the applicant's plans indicate that all necessary utilities are proposed to be placed underground as required. There is an exception for the high voltage PGE and BPA lines.

FINDING: This criterion is satisfied by the proposed development.

Division VIII – Environmental Resources

16.142.050. Street Trees

- A. Installation of Street Trees on New or Redeveloped Property.**
Trees are required to be planted to the following specifications along public streets abutting or within any new development or re-development. Planting of such trees shall be a condition of development approval. The City shall be subject to the same standards for any developments

involving City-owned property, or when constructing or reconstructing City streets. After installing street trees, the property owner shall be responsible for maintaining the street trees on the owner's property or within the right-of-way adjacent to the owner's property.

1. **Location:** Trees shall be planted within the planter strip along a newly created or improved streets. In the event that a planter strip is not required or available, the trees shall be planted on private property within the front yard setback area or within public street right-of-way between front property lines and street curb lines or as required by the City.
2. **Size:** Trees shall have a minimum trunk diameter of two (2) inches DBH and minimum height of six (6) feet. Diameter at breast height (DBH) shall be measured as defined by the International Society of Arboriculture.
3. **Types:** Developments shall include a variety of street trees. The trees planted shall be chosen from those listed in 16.142.080 of this Code.
4. **Required Street Trees and Spacing:**
 - a. The minimum spacing is based on the maximum canopy spread identified in the recommended street tree list in section 16.142.080 with the intent of providing a continuous canopy without openings between the trees. For example, if a tree has a canopy of forty (40) feet, the spacing between trees is forty (40) feet. If the tree is not on the list, the mature canopy width must be provided to the planning department by a certified arborist.
 - b. All new developments shall provide adequate tree planting along all public streets. The number and spacing of trees shall be determined based on the type of tree and the spacing standards described in a. above and considering driveways, street light locations and utility connections. Unless exempt per c. below, trees shall not be spaced more than forty (40) feet apart in any development.
 - c. A new development may exceed the forty-foot spacing requirement under section b. above, under the following circumstances:
 - (1) Installing the tree would interfere with existing utility lines and no substitute tree is appropriate for the site; or
 - (2) There is not adequate space in which to plant a street tree due to driveway or street light locations, vision clearance or utility connections, provided the driveways, street light or utilities could not be reasonably located elsewhere so as to accommodate adequate room for street trees; and
 - (3) The street trees are spaced as close as possible given the site limitations in (1) and (2) above.
 - (4) The location of street trees in an ODOT or Washington County right-of-way may require approval, respectively, by ODOT or Washington County and are subject to the relevant state or county standards.
 - (5) For arterial and collector streets, the City may require planted medians in lieu of paved twelve-foot wide center turning lanes, planted with trees to the specifications of this subsection.

FINDING: There are already street trees along the sites frontage with SW Langer Farms Parkway, and the applicant has proposed to install street trees along the

frontage with SW Century Blvd construction. The applicant has proposed to plant Trident Maples, an accepted street tree per 16.142.090. The applicant is proposing to plant the trees 30-feet on center, which does not satisfy the spacing requirements listed above because the canopy is listed in the code at 20-feet. Therefore, the following condition is warranted.

RECOMMENDED CONDITION: Prior to the issuance of building permits, the applicant shall provide a revised street tree plan that demonstrates consistency with the variety and spacing spelled out in section 16.142.060.

16.146.020 - Noise Sensitive Uses

When proposed commercial and industrial uses do not adjoin land exclusively in commercial or industrial zones, or when said uses adjoin special care, institutional, or parks and recreational facilities, or other uses that are, in the City's determination, sensitive to noise impacts, then:

- A. The applicant shall submit to the City a noise level study prepared by a professional acoustical engineer. Said study shall define noise levels at the boundaries of the site in all directions.**
- B. The applicant shall show that the use will not exceed the noise standards contained in OAR 340-35-035, based on accepted noise modeling procedures and worst case assumptions when all noise sources on the site are operating simultaneously.**
- C. If the use exceeds applicable noise standards as per subsection B of this Section, then the applicant shall submit a noise mitigation program prepared by a professional acoustical engineer that shows how and when the use will come into compliance with said standards.**

FINDING: It is not anticipated that there will be high levels of noise beyond what is expected in an urban area. Commercial/retail uses do not typically generate any noise beyond the noise associated with traffic entering and leaving the site, and other activities typical of what could be expected to occur in an urban area. There is no evidence within the record to suggest that there will be any adverse noise impacts from the development. This standard is satisfied.

16.148.010 - Vibrations

All otherwise permitted commercial, industrial, and institutional uses shall not cause discernible vibrations that exceed a peak of 0.002 gravity at the property line of the originating use, except for vibrations that last five (5) minutes or less per day, based on a certification by a professional engineer.

FINDING: It is not anticipated that there will be high levels of vibration beyond what is expected in an urban area. There are not any expected adverse impacts therefore this standard is met.

16.150.010 – Air Quality

All otherwise permitted commercial, industrial, and institutional uses shall comply with applicable State air quality rules and statutes:

- A. All such uses shall comply with standards for dust emissions as per OAR 340-21-060.
- B. Incinerators, if otherwise permitted by Section 16.140.020, shall comply with the standards set forth in OAR 340-25-850 through 340-25-905.
- C. Uses for which a State Air Contaminant Discharge Permit is required as per OAR 340-20-140 through 340-20-160 shall comply with the standards of OAR 340-220 through 340-20-276.

FINDING: It is not anticipated that there will be high levels of air pollution beyond what is expected in an urban area. Primary pollutants will be from automobiles which are generally subject to emissions control, cooking and ventilation, and mechanical equipment which is all subject to standards for pollution control. These are customarily associated with a suburban retail center, but there is no evidence to suggest that the proposed center would not comply with the air quality standards listed above; therefore this standard is met.

16.152.010 - Odors

All otherwise permitted commercial, industrial, and institutional uses shall incorporate the best practicable design and operating measures so that odors produced by the use are not discernible at any point beyond the boundaries of the development site.

FINDING: It is not anticipated that there will be high levels of odor beyond what is expected in an urban area. There are not any expected adverse impacts therefore this standard is met.

16.154.010 – Heat and Glare

Except for exterior lighting, all otherwise permitted commercial, industrial, and institutional uses shall conduct any operations producing excessive heat or glare entirely within enclosed buildings. Exterior lighting shall be directed away from adjoining properties, and the use shall not cause such glare or lights to shine off site in excess of one-half (0.5) foot candle when adjoining properties are zoned for residential uses.

FINDING: A lighting plan included as exhibit E1.0 and E 1.1 (Alternate site plan lighting) indicates that the majority of site lighting will be wall mounted, or in the case of the parking areas, pole mounted and directed to the interior of the site. There are no locations where light would be expected to shine off the site in excess of one-half (0.5) foot candle onto an adjacent residentially zoned properties. There are some locations where the lighting appears to potentially go off the site onto the SW Century Blvd lighting adjacent to a parking lot light, but it is not adjacent to a residential zone. This criterion is satisfied.

RECOMMENDATION

Based upon review of the applicant's submittal information, review of the code, agency comments and consideration of the applicant's revised submittal, staff finds that the proposed site plan (SP 12-05 and CUP 12-02) does not fully comply with the standards but can be conditioned to comply, and recommends **approval** of the proposed site plan request subject to compliance with the following conditions of approval.

V. CONDITIONS OF APPROVAL

1. Compliance with the Conditions of Approval is the responsibility of the developer or its successor in interest.
2. This land use approval shall substantially comply with the submitted preliminary site plans dated July 9, 2012 except as indicated in the following conditions of the Notice of Decision. Additional development or change of use may require a new development application and approval.
3. The developer/owner/applicant is responsible for all costs associated with private/public facility improvements.
4. **This approval is valid for a period of two (2) years from the date of the decision notice.** Extensions may be granted by the City as afforded by the Sherwood Zoning and Community Development Code.
5. An on-going condition of the approval is that the site be maintained in accordance with the approved site plan. In the event that landscaping is not maintained, in spite of the assurances provided, this would become a code compliance issue.
6. The continual operation of the property shall comply with the applicable requirements of the Sherwood Zoning and Community Development Code and Municipal Code.
7. A temporary use permit must be obtained from the Planning Department prior to placing a construction trailer on-site.
8. This approval does not negate the need to obtain permits, as appropriate from other local, state or federal agencies even if not specifically required by this decision.
9. As an on-going condition, the project shall restrict shrubbery, landscaping, or other obstructions within sight distance triangles at site access drives.
10. An ODOT Miscellaneous Permit must be obtained for all work within the ODOT highway right-of-way.

Prior to issuance of grading or erosion control permits:

11. Obtain City of Sherwood approval of grading plans.
12. Prior to any site work, the applicant shall submit construction documents that provide additional information on the proposed planting and maintenance of the plants to ensure that the landscaping will be appropriately maintained. The construction plans shall include specifications for the adequate preparation of the soils.

13. The applicant shall obtain a NPDES 1200-CN Permit prior to performing any site disturbance activity, including but not limited to; installation of ESC measures, installation of construction fencing, tree removal, site clearing and grubbing, and site grading. An (early) site grading permit may be issued by the Building Department only after review and approval of a site grading plan and obtaining a NPDES 1200-CN Permit.

Prior to approval of the public improvement plans:

14. The applicant shall comply with SMC Section 12.17.025 – for exceptions to construction work within a construction limited street. The request submittal shall include exhibits which will provide technical design information of the impacts to the existing Langer Farms Parkway public infrastructure, and proposed mitigation efforts based on the City's Engineering Design and Standard Details Manual. Final mitigation requirements will be determined from review of this submittal and shall become part of the approval requirements for construction. Note - Submittal of the exceptions request is not a guarantee of being able to perform construction work within the construction limited street, and that review/approval is taken on a case-by-case basis.

15. Revise on-site circulation plan to consistently use stop sign/stop bar treatments at minor approaches to internal intersections.

16. Prior to any site disturbance activity, the applicant shall obtain a CWS Storm Water Connection Permit and submit a copy of this permit to the City.

17. Pursuant to Chapter s16.104 through 16.116 of the Sherwood Municipal Code, the applicant shall sign and comply with all conditions of the Engineering Compliance Agreement that will be issued for this project development.

18. The design and construction of the public storm sewer system within Century Drive shall comply with the requirements in the City's Engineering Design and Standard Details Manual.

19. The applicant shall comply with all relevant design and construction standards delineated in the City's Engineering Design and Standard Details Manual, current version dated April 23, 2010.

20. The applicant shall comply with all relevant conditions delineated in the Amended and Restated Development Agreement, adopted by Resolution 2010-033.

21. The design and construction of the public sanitary sewer system within Century Drive shall comply with the requirements in the City's Engineering Design and Standard Details Manual.

22. The water mainline constructed in Century Drive shall be a 12-inch diameter pipe meeting City of Sherwood standards.

23. The design and construction of the public water system within Century Drive and the installation of all service laterals from existing mainlines shall comply with the requirements in the City's Engineering Design and Standard Details Manual.

Prior to Final Site Plan Approval:

24. Prior to final site plan approval, the developer shall submit plans that demonstrate the proposed solid waste facility will be constructed in a manner that meets the solid waste accessibility standards of Pride Disposal as outlined in their comments dated August 24, 2012, and provide city staff with a revised service provider letter that demonstrates that the service provider has approved the access and location for all of the proposed facilities that they must serve.

25. Submit the required final site plan review fee along with a brief narrative and supporting documents demonstrating how each of the final site plan conditions are met.

26. The applicant shall either construct or pay a fee in-lieu-of construction to Washington County DLUT for frontage improvements, consistent with the County's letter dated September 11, 2012, along Tualatin-Sherwood Road, the traffic signal at the intersection of Adams Avenue North Extension with Tualatin-Sherwood Road. The applicant shall coordinate the payment of the fee in-lieu-of construction directly with Washington County, and shall provide written proof of the County's acceptance to the City.

27. Prior to the issuance of building permits, the applicant shall provide the City Engineer with a traffic trip generation analysis from a licensed professional traffic engineer for the overall site, including the proposed anchor-store tenant. If in the opinion of the City Engineer, and the City's traffic consultant, the trip generation rates for the proposed tenant of the anchor store cause the trip generation rates for the site to exceed the trip generation rates identified in the TIA, the applicant shall submit an application for a major modification to the site plan that would be limited to transportation impacts and mitigation.

28. The Century Drive pavement section shall meet at a minimum the City pavement design standard for collector streets per Section 210.2.1-Aggregate Base and Section 210.2.2-Hot Mix Asphalt Concrete Pavement Design and Construction of the City Engineering Design and Standard Details Manual. The applicant shall provide a geotechnical report confirming if the minimum design standards are adequate for the anticipated traffic loading and soil conditions or if a more robust pavement section is required.

29. The applicant shall construct a raised concrete median along Century Drive from the roundabout to a point 20-feet east of west access entry drive. This access drive shall be configured as a right-in/right-out only access drive.

30. Relocation of the Langer Sites main access drive off Langer Farm Parkway shall align the westbound through lane with the existing receiving private access drive lane on the north side of Langer Farm Parkway.

31. The first interior site intersection from the site main entrance shall be stop controlled in the north-south/south-north travel lanes only. The west-east/east-west travel lanes shall not be stop controlled.

32. The applicant shall comply with all the requirements of the Service Provider Letter issued by CWS (File No. 12-000162), dated April 5, 2012, as amended May 9, 2012.
33. To comply with CWS and City standards, if the existing "Target" water quality facility (WQF) remains an active part of the site development, it shall be placed in a separate tract and dedicated to the City of Sherwood. All storm water mainlines crossing this site which discharge into this pond or out of this pond and convey storm water runoff from public infrastructure or outside private development areas, shall be placed within public storm water easements dedicated to the City of Sherwood.
34. To comply with CWS and City standards, if the existing "Target" WQF is decommissioned, all storm water mainlines which convey storm water runoff from public infrastructure or outside private development areas through the Phase 7 PUD site, shall be placed within public storm water easements dedicated to the City of Sherwood.
35. All storm water mainlines which convey storm water runoff from the Phase 7 PUD site to the regional WQF located on Phase 8 PUD site, shall be classified public infrastructure and shall be placed within public storm water easements.
36. The applicant shall comply with all conditions and requirements as stated in the letter provided by Washington County DLUT, dated September 11, 2012 and attached to this decision as Exhibit G.

Prior to Issuance of a Building Permit:

37. Receive Sherwood Engineering Department approval of engineering plans for all public improvements and/or connections to public utilities (water, sewer, storm water, and streets) including compliance with all conditions specified in "Prior to approval of public improvement plans.
38. Prior to the issuance of building permits, the applicant shall provide staff with a revised landscape plan that reflects the increased size of 44 evergreen trees (8-10 feet tall), and 22 (3-inch) caliper trees as called for in Exhibit M of the staff report.
39. The building plans shall conform to the revised and approved site plan and engineering plans.
40. Building permits are required for all private water and plumbing infrastructure construction. All meter boxes and fire flow vaults located on private property shall be located in public water easements if not already located within a PUE. Construction plan sets shall include notes that reflect this requirement.
41. Prior to the issuance of building permits for the site, provide verification to the planning department that the fire department has reviewed and approved the plans for fire suppression and emergency services.

42. Prior to the issuance of building permits, the applicant shall provide a revised street tree plan that demonstrates consistency with the variety and spacing spelled out in section 16.142.060.
43. Prior to the issuance of building permits, the applicant shall provide a revised parking lot plan that demonstrates that the proposed overhang areas are provided in addition to the required on-site and perimeter landscaping.

Prior to Issuance of Certificate of Occupancy:

44. All public improvements shall be competed, inspected and approved, as applicable, by the City, CWS, TVF & R, and other applicable agencies.
45. Obtain final site plan approval from the Planning Department.
46. All easements and dedications required as with this approval must be signed and recorded.
47. All site improvements including but not limited to landscaping, parking and site lighting shall be installed per the approved final site plan and inspected and approved by the Planning Department.
48. The applicant shall construct the Adams Avenue North Extension beginning at the intersection of Adams Avenue North with Tualatin-Sherwood Road. The construction shall include the installation of a traffic signal at the intersection of Adams Avenue North Extension with Tualatin Sherwood Road unless an agreement with Washington County to include the signal construction with their project is reached. Substantial completion of the construction of Adams Avenue North Extension and the traffic signal at the intersection of Adams Avenue North Extension with Tualatin-Sherwood Road shall be required prior to the Issuance of Occupancy for any building constructed on the Phase 7 site.
49. The applicant shall construct the remaining portion of Century Drive between the existing roundabout street stub on Langer Farm Parkway, and the existing street segment at the eastern property line. The street section shall consist of a 42-foot wide face of curb to face of curb paved width, and 9.5-foot wide curb tight sidewalks which contain 3.5-foot square curb tight tree planter wells on each side of the street section, for an overall street right-of-way width of 62 feet. An 8-foot wide public utility easement shall be located outside each side of the street right-of-way section.
50. Applicant shall provide a letter from a registered Oregon professional civil engineer that adequate sight distance is provided at the constructed site access drives prior to occupancy.
51. The northbound right turn lane on Highway 99W onto Sherwood Boulevard will exceed the available storage (625' versus 415'). The applicant shall Increase the right turn storage length from 415' to 625'. The improvement shall also include the associated deceleration lane distance.

52. The northbound left turn lane on Highway 99W onto Roy Rogers Road will exceed the available storage (525' versus 490'). The applicant shall increase the left turn storage length from 490' to 535'. The improvement shall also include the associated deceleration lane distance.
53. The Regional WQF located on Phase 8 of the Langer Farms PUD shall be constructed and shall be operational prior to final occupancy of any structure constructed on the Phase 7 PUD site or construction of the Century Drive Road extension has been substantially completed.
54. All Building Department permits must have passed final inspections and have completed Building Department Final Approval.

VI. Exhibits

- A. Applicant's submittal with narrative and supplemental documents
- B. E-mail dated August 29, 2012 from Marilyn Sykes
- C. E-mail dated September 12, 2012 from Eric Valdez
- D. City of Sherwood Engineering comments dated September 14, 2012
- E. Letter from CWS dated August 30, 2012
- F. Letter from TVF&R dated August 28, 2012
- G. Letter from Washington County DLUT dated September 11, 2012
- H. Letter from Pride Disposal dated August 24, 2012
- I. Letter from ODOT dated August 31, 2012
- J. E-mail dated September 17, 2012 from Julia Hajduk RE: Brian Smith E-mail from 9/11/2012
- K. E-mail dated September 17, 2012 from Julia Hajduk RE: Susan Claus E-mail from 9/11/2012
- L. Supplemental Operations and Queuing Analysis from Kittelson & Associates Inc. Dated 9/11/2012
- M. Letter from Christopher Freshley, Landscape Architect regarding landscaping dated 9/14/2012

EXHIBIT A

1. APPLICATION MATERIALS FROM APPLICANT (IN BINDER)
2. FULL SIZE PLAN SET
3. TRAFFIC STUDY AVAILABLE AT

http://www.sherwoodoregon.gov/sites/default/files/files/government/departments/planning/SP_12-5/12214rep_FINAL_REVISED.pdf

ALL ITEMS MAY ALSO BE REVIEWED ELECTRONICALLY AT THE FOLLOWING WEB ADDRESS

<http://www.sherwoodoregon.gov/langer-farms-phase-7>

Bradley Kilby

From: Marilyn Sykes <masykes7@gmail.com>
Sent: Wednesday, August 29, 2012 2:01 PM
To: Bradley Kilby
Subject: Langer Farms Phase 7 Shopping Center

Dear Mr Kilby:

Re: Case File No. SP 12-05

My main concern with the development of this property for commercial or industrial use is the effect of traffic into Sherwood Village Subdivision.

Would it be possible to have a sign posted at Whetstone and Langer Farms Parkway that states "No Through Traffic"?

Sincerely,

Marilyn Sykes
masykes7@gmail.com

Bradley Kilby

From: Julia Hajduk
Sent: Wednesday, September 12, 2012 1:54 PM
To: 'Eric Valdez'
Cc: Bradley Kilby; Joseph Gall
Subject: RE: Walmart, Fred Meyer, and Sherwood

Eric – Thank you for your comments. We will forward them to the Planning Commission as part of their packet materials for the Langer Phase 7 hearing (the 9/25 meeting you were referring to). As I'm sure you know, the applicant has not actually told us who the tenant will be for the Langer Phase 7 retail development. They are not required to tell us who the tenant is, only the type of use. Staff is currently evaluating the application and reviewing it for compliance against the development code standards and will provide a recommendation to the Planning Commission 7 days prior to the 9/25 hearing. Traffic will be thoroughly evaluated and mitigation required as needed to ensure the transportation system functions as planned. At this time, Fred Meyer has not submitted an application for the property at 99W and Edy but if they do, the same level of review will occur for that project.

Julia

Julia Hajduk, Planning Manager
22560 SW Pine Street
Sherwood, Oregon 97140
503-625-4204



From: Eric Valdez [mailto:raiderfan75_1@yahoo.com]
Sent: Wednesday, September 12, 2012 12:48 PM
To: Joseph Gall; Julia Hajduk; City Council
Subject: Walmart, Fred Meyer, and Sherwood

Good Day All,

I apologize if this isn't the most appropriate format or forum for this feedback; however, following my learning of the possibility of both Walmart and/or Fred Meyer locating in our city of Sherwood, I am compelled to share my opinion and concerns with you. I will attempt with great earnest to attend the planning meeting on 9/25, but in the event I cannot, I am sending this to you.

My general commentary is as follows:

Walmart in Sherwood? A resounding no! This is NOT the type of company or store I want in Sherwood, under any circumstances! Please do your best to discourage or disqualify them from locating in Sherwood. No, no, no to Walmart in Sherwood! I cannot understate my objection to this. Frankly, I believe a Walmart in our community would devalue it.

Fred Meyer in Sherwood? Possibly, but not at the proposed location of Edy and 99. That is too close to a majority residential area. I believe the Langer Farms area would be a very good spot for Fred Meyer, and it would bring jobs to Sherwood for a variety of positions. Traffic in general could be an issue, but if located at Langer Farms, there is already work planned on Tualatin-Sherwood Rd that can alleviate some of that concern, particularly since the Langer Farms Parkway was recently completed (assisting local residents).

Please, consider this feedback through the decision making process. Thank you.

Sincerely,
Eric J. Valdez
Sherwood Resident



Engineering Department Land Use Application Final Review Comments

To: Brad Kilby, Senior Planner

From: Bob Galati, City Engineer

Project: Langer Farms Phase 7 (SP 12-05)

Date: September 14, 2012

Engineering staff has reviewed the information provided for the above cited project. The project will need to meet the standards established in the City of Sherwood Engineering Design and Standard Details Manual and Clean Water Services (CWS) Design & Construction Standards Manual, in addition to requirements established by other jurisdictional agencies providing land-use comments. City Engineering Department comments are as follows:

General

Condition: Pursuant to Chapter s16.104 through 16.116 of the Sherwood Municipal Code, the applicant shall sign and comply with all conditions of the Engineering Compliance Agreement that will be issued for this project development.

Condition: The applicant shall comply with all relevant design and construction standards delineated in the City's *Engineering Design and Standard Details Manual*, current version dated April 23, 2010.

Condition: The applicant shall comply with all relevant conditions delineated in the *Amended and Restated Development Agreement*, adopted by Resolution 2010-033.

Condition: That the Site Entry design shall meet City Planning, Engineering, Building, and TVF&R approval requirements.

Site Grading and Erosion and Sediment Control

➤ Site grading for this project will exceed 5 acres of disturbed area therefore a NPDES 1200-C Permit is required. It is anticipated that DEQ (via CWS) will require that all phases of development on and around Taxlot 300 will be authorized under the same NPDES 1200-C Permit. Obtaining a NPDES 1200-C Permit will be conducted through the City of Sherwood Engineering Department.

Condition: The applicant shall obtain a NPDES 1200-C Permit prior to performing any site disturbance activity, including but not limited to; installation of ESC measures, installation of construction fencing, tree removal, site clearing and grubbing, and site grading. An (early) site grading permit may be issued by the Building Department only after review and approval of a site grading plan and obtaining a NPDES 1200-C Permit.

➤ The applicant has obtained a Service Provider Letter from CWS (File No.12-000162) dated April 5, 2012, as amended dated May 9, 2012.

Condition: The applicant shall comply with all the requirements of the Service Provider Letter issued by CWS (File No. 12-000162), dated April 5, 2012, as amended May 9, 2012.

➤ A memorandum from CWS dated May 8, 2012 indicates that a CWS Storm Water Connection Permit (SWCP) must be obtained prior to plat approval or recordation.

Condition: Prior to any site disturbance activity, the applicant shall obtain a CWS Storm Water Connection Permit and submit a copy of this permit to the City.

Transportation

City Review Comments and Conditions

- The City entered into a Development Agreement (DA) with the applicant by Resolution 2007-081, which was amended by Resolution 2010-033 (*Amended and Restated Development Agreement*). The Amended DA provided options for the development of the Adams Avenue South Extension (Section B) and Adams Avenue North Extension (Section C) as separate projects with the applicant being responsible for the construction of only one of the projects. The City opted to construct the Adams Avenue South Extension and completed this construction in 2012,

With this action, the applicant is responsible for construction of the Adams Avenue North Extension, including installation of the traffic signal at the intersection of Adams Avenue at Tualatin-Sherwood Road. In addition, the applicant will construct frontage improvements along Tualatin-Sherwood Road in compliance with Washington County DLUT requirements, or pay a fee in-lieu-of construction to Washington County for construction of the frontage improvement and mitigation requirements along Tualatin-Sherwood Road as part of the County project.

Condition: The applicant shall construct the Adams Avenue North Extension beginning at the intersection of Adams Avenue North with Tualatin-Sherwood Road. The construction shall include the installation of a traffic signal at the intersection of Adams Avenue North Extension with Tualatin Sherwood Road unless an agreement with Washington County to include the signal construction with their project is reached. Substantial completion of the construction of Adams Avenue North Extension and the traffic signal at the intersection of Adams Avenue North Extension with Tualatin-Sherwood Road shall be required prior to the Issuance of Occupancy for any building constructed on the Phase 7 site.

Condition: The applicant shall either construct or pay a fee in-lieu-of construction to Washington County DLUT for frontage improvements along Tualatin-Sherwood Road, the traffic signal at the intersection of Adams Avenue North Extension with Tualatin-Sherwood Road, and any defined traffic mitigation requirements on Tualatin-Sherwood Road or Highway 99W. The applicant shall coordinate the payment of the fee in-lieu-of construction directly with Washington County, and shall provide written proof of the County's acceptance to the City.

- The option to pay the fee in-lieu-of constructing the frontage improvements along Tualatin-Sherwood Road and the traffic signal at the intersection of Adams Avenue North Extension with Tualatin-Sherwood Road, may result in the loss of the ability to apply for TDT credit for those improvements. The TDT credit will still be applicable for the dedication of right-of-way, but infrastructure improvements would no longer be creditable per TDT policy.
- The applicant submitted a TIA performed by Kittelson & Associates, dated July 2012, with an amendment to the initial analysis submitted on August 12, 2012. The initial TIA and related amendment addressed impacts from the development on the City and County transportation systems. Review of these analyses was performed by the City's on-call traffic engineer, DKS Associates, Washington County Traffic Engineers, and State of Oregon DOT Traffic Engineers. Corresponding review comments and conditions are noted below.
- The TIA identifies that the intersection of Highway 99W and Tualatin-Sherwood Road would reach a volume to capacity (v/c) ration of 1.05 during peak hours with the proposed project (including the construction of off-site improvements such as the Adams Avenue northern extension). Based on ODOT standards this level of congestion exceeds the mobility targets of the Oregon Highway Plan (OHP), listing a standard v/c of 0.99. The City is currently in the process of performing a Town Center Plan analysis, which may provide an alternative v/c ratio standard within its boundaries; however the Town Center Plan process is incomplete at the time of this TIA analysis. This intersection is programmed to be improved in the near future (2014) through the Washington County MSTIP capital improvement project (CIP) for Tualatin-Sherwood Road. Analysis of these improvements results in a reduction of the v/c to 0.92 during peak hours, which would meet the OHP mobility targets.

Condition: The proposed proportionate share contribution from the proposed site development towards the Washington County CIP is a reasonable mitigation if deemed acceptable by ODOT and Washington County.

- The development TIA evaluation was based on the ITE Code 820 (Shopping Center) for the majority of the site. With no specific tenants identified, it is possible that the actual anchor store tenant in addition with the other building tenants could produce aggregate trip generations exceeding the TIA assumption (e.g. discount supermarket, discount superstore) and therefore additional off-site impacts. Unless the anchor store tenant classification is clearly defined, the aggregate trip generation values for the site will be capped at the values calculated in the TIA. Any change in anchor store tenant classification in addition with the other building classifications that results in an increase in the trip generation values above the aggregate value calculated in the TIA will not be permitted.

Condition: The aggregate trip generation value for the site shall be capped at 8,070 weekday daily trips, 760 weekday PM peak hour trips, and 1,125 weekend mid-day peak hour trips. Individual tenant trip generation amounts shall be subtracted from this aggregate amount. When the remaining aggregate trip generation value is depleted, no further development which creates trip generation on the site will be approved. Change of use actions taken after initial site development shall also be subject to this site aggregate trip generation cap.

- The project fronts Langer Farms Parkway, a collector status road constructed in 2011. This road falls under Municipal Code Chapter 12.17 – Construction Limited Streets, and that any proposed site improvements which impact the existing public street infrastructure shall comply with the requirements under Sections 12.17.025 through 12.17.035.

Condition: The applicant shall submit an exceptions request letter to the City Engineer, in compliance with MC Section 12.17.025 – Exceptions. The request submittal shall include exhibits which will provide technical design information of the impacts to the existing Langer Farms Parkway public infrastructure, and proposed mitigation efforts based on the City's Engineering Design and Standard Details Manual. Final mitigation requirements will be determined from review of this submittal and shall become part of the approval requirements for construction. Note - Submittal of the exceptions request is not a guarantee of being able to perform construction work within the construction limited street, and that review/approval is taken on a case-by-case basis.

- The construction of Century Drive is conditioned under Section E of the Amended and Restated Development Agreement. The development is responsible for construction of the remaining portion of Century Drive between the existing roundabout street stub on Langer Farm Parkway and the existing street segment at the eastern property line. The applicant will construct the remaining street segment to match the existing street section.

The site has access drives located at three points along Century Drive. Based on the TIA the access drive closest to the roundabout is to be right-in/right-out only configuration. A raised concrete medium will be constructed to help regulate this turning movement. Extending the concrete median entry divider from the roundabout beyond the site access point by 20 feet will accomplish this requirement.

Condition: The applicant shall construct the remaining portion of Century Drive between the existing roundabout street stub on Langer Farm Parkway, and the existing street segment at the eastern property line. The street section shall consist of a 42-foot wide face of curb to face of curb paved width, and 9.5-foot wide curb tight sidewalks which contain 3.5-foot square curb tight tree planter wells on each side of the street section, for an overall street right-of-way width of 62 feet. An 8-foot wide public utility easement shall be located outside each side of the street right-of-way section.

Condition: The Century Drive pavement section shall meet at a minimum the City pavement design standard for collector streets per Section 210.2.1-Aggregate Base and Section 210.2.2-Hot Mix Asphalt Concrete Pavement Design and Construction of the City Engineering Design and Standard Details Manual. The applicant shall provide a geotechnical report confirming if the minimum design standards are adequate for the anticipated traffic loading and soil conditions or if a more robust pavement section is required.

Condition: The applicant shall construct a raised concrete median along Century Drive from the roundabout to a point 20-feet east of west access entry drive. This access drive shall be configured as a right-in/right-out only access drive.

- Site access, and internal circulation and stop controlled intersections have been reviewed. The main entrance off Langer Farm Parkway is shown as being relocated further north. The relocation of this entrance shall be set to align the westbound through lane with the receiving access drive lane to the Target site. The 3-way stop located interior to the main site entrance is viewed as being a potential conflict. Review of the configuration suggests that the east-west/west-east travel lanes be allowed to travel through without stop control. The north-south/south-north travel lanes being stopped controlled at the intersection.

Condition: Relocation of the Langer Sites main access drive off Langer Farm Parkway shall align the westbound through lane with the existing receiving private access drive lane on the north side of Langer Farm Parkway.

Condition: The first interior site intersection from the site main entrance shall be stop controlled in the north-south/south-north travel lanes only. The west-east/east-west travel lanes shall not be stop controlled.

Condition: Revise on-site circulation plan to consistently use stop sign/stop bar treatments at minor approaches to internal intersections.

Condition: Applicant shall provide a letter from a registered Oregon professional civil engineer that adequate sight distance is provided at the constructed site access drives prior to occupancy.

Condition: Project design shall restrict shrubbery, landscaping, or other obstructions within sight distance triangles at site access drives.

- The internal pedestrian and bicycle circulation and access points have been reviewed and are found to be adequate for providing circulation and access, as well as bicycle parking facilities.

State of Oregon DOT Review Comments and Conditions

- ODOT has reviewed the TIA and has comments and conditions relative to impacts to Highway 99W transportation systems, from a letter dated August 31, 2012. The TIA indicates that the peak hour queue length for the following intersections and lanes have exceeded the available storage length and require the mitigation as noted.

Condition: The northbound right turn lane on Highway 99W onto Sherwood Boulevard will exceed the available storage (625' versus 415'). Increase the right turn storage length from 415' to 625'. Also include the associated deceleration lane distance.

Condition: The northbound left turn lane on Highway 99W onto Roy Rogers Road will exceed the available storage (525' versus 490'). Increase the left turn storage length from 490' to 535'. Also include the associated deceleration lane distance.

Condition: An ODOT Miscellaneous Permit must be obtained for all work within the ODOT highway right-of-way.

Washington County DLUT Review Comments and Conditions

- Washington County DLUT is currently working on a MSTIP CIP for Tualatin-Sherwood Road/Roy Rogers Road improvements from a point east of the Baylor Road intersection to a point west of the Borchers Drive intersection. The County project may incorporate site frontage and intersection signal improvements and any traffic mitigation measures deemed necessary due to the development's impacts on the County transportation system into the County project as negotiated with the County.
- Washington County DLUT review comments and conditions were provided in a letter dated, September 11, 2012.

Condition: The applicant shall coordinate with Washington County DLUT regarding incorporating any required site frontage improvements or mitigation measures into the County road improvement project. Any necessary site frontage improvements or mitigation requirements not incorporated into the County project shall be constructed by the applicant.

Condition: The applicant shall comply with all conditions and requirements as state in the letter provided by Washington County DLUT, dated September 11, 2012.

Storm Water

- The existing storm water quality facility (WQF) provides water quality treatment to several development areas outside the limits of this project. This fact essentially makes this WQF a regional treatment facility and therefore should be publicly owned and maintained. The storm water conveyance system that crosses Langer Farm Parkway and discharges to the existing WQF is also viewed as a public system since it handles storm water runoff from several other private development sites including public streets and is routed through public right-of-ways.

Site development plans indicate that all collected on-site storm water runoff will be conveyed to the regional WQF located on Phase 8 of the Langer Farms PUD. The plans also indicate that retaining walls are being built to provide usable space to route storm water conveyance systems south along the east property line of the site.

A public storm water mainline will be constructed within the Century Drive Extension construction, and will connect to a new public mainline running to the regional WQF located on Phase 8.

Condition: To comply with CWS and City standards, if the existing WQF remains an active part of the site development, it shall be placed in a separate tract dedicated to the City of Sherwood. All storm water mainlines crossing this site which discharge into this pond or out of this pond and convey storm water runoff from public infrastructure or outside private development areas, shall be placed within public storm water easements dedicated to the City of Sherwood.

Condition: To comply with CWS and City standards, if the existing WQF is decommissioned, all storm water mainlines which convey storm water runoff from public infrastructure or outside private development areas through the Phase 7 PUD site, shall be placed within public storm water easements dedicated to the City of Sherwood.

Condition: The Regional WQF located on Phase 8 of the Langer Farms PUD shall be constructed and shall be operational prior to final occupancy of any structure constructed on the Phase 7 PUD site or construction of the Century Drive Road extension has been substantially completed.

Condition: All storm water mainlines which convey storm water runoff from the Phase 7 PUD site to the regional WQF located on Phase 8 PUD site, shall be classified public infrastructure and shall be placed within public storm water easements.

Condition: The design and construction of the public storm sewer system within Century Drive shall comply with the requirements in the City's *Engineering Design and Standard Details Manual*.

Sanitary Sewer

- The site is serviced by the extension of sanitary sewer laterals from Century Drive, Tualatin-Sherwood Road, and Langer Farm Parkway mainlines. Construction of a public sanitary mainline is included with the construction of the Century Drive extension, connecting to an existing mainline stub off Century Drive.

Condition: The design and construction of the public sanitary sewer system within Century Drive shall comply with the requirements in the City's *Engineering Design and Standard Details Manual*.

Water System

- The site is serviced by the extension of water service laterals from Century Drive, Tualatin-Sherwood Road, and Langer Farm Parkway mainlines. Construction of a public water mainline is included with the construction of the Century Drive extension, connecting to existing mainline stubs off Century Drive (12" diameter) and Langer Farm Parkway (10" diameter).

Condition: The water mainline constructed in Century Drive shall be 12-inch diameter pipe meeting City of Sherwood standards.

Condition: The design and construction of the public water system within Century Drive and the installation of all service laterals from existing mainlines shall comply with the requirements in the City's *Engineering Design and Standard Details Manual*.

Project: Langer Farms Phase 7 (SP 12-05)
Date: September 14, 2012
Page: 6 of 6

Condition: Building permits are required for all private water and plumbing infrastructure construction. All meter boxes and fire flow vaults located on private property shall be located in public water easements if not already located within a PUE. Construction plan sets shall include notes that reflect this requirement.

Condition: The City of Sherwood Water Department installs, owns, operates and maintains all water infrastructure located within public ROW and public easements. Service lateral connections to existing mainlines and installation of water meters, including the meter set and box, and shall be performed by City crews. City fees for installation of the services shall be assessed at the time of work being performed and shall conform to the fee schedule in place at the time of building permit submittal.

End of Engineering Land Use Review Comments

MEMORANDUM

Date: August 30, 2012

To: Brad Kilby, Senior Planner, City of Sherwood

From: Jackie Sue Humphreys, ^{WS}Clean Water Services (the District)

Subject: Langer Farms Phase 7, SP 12-05, 2S129D000300

Please include the following comments when writing your conditions of approval:

PRIOR TO ANY WORK ON THE SITE

A Clean Water Services (the District) Storm Water Connection Permit Authorization must be obtained. Application for the District's Permit Authorization must be in accordance with the requirements of the Design and Construction Standards, Resolution and Order No. 07-20, (or current R&O in effect at time of Engineering plan submittal), and is to include:

- a. Detailed plans prepared in accordance with Chapter 2, Section 2.04.2.b-1.
- b. Detailed grading and erosion control plan. An Erosion Control Permit will be required. Area of Disturbance must be clearly identified on submitted construction plans. If site area and any offsite improvements required for this development exceed one-acre of disturbance, project will require a 1200-CN Erosion Control Permit. If site area and any offsite improvements required for this development exceed five-acres of disturbance, project will require a 1200-C Erosion Control Permit.
- c. Detailed plans showing the development having direct access by gravity to public storm and sanitary sewer.
- d. Provisions for water quality in accordance with the requirements of the above named design standards. Water Quality is required for all new development and redevelopment areas per R&O 07-20, Section 4.05.5, Table 4-1. Access shall be provided for maintenance of facility per R&O 07-20, Section 4.02.4.

- e. If use of an existing, offsite or regional Water Quality Facility is proposed, it must be clearly identified on plans, showing its location, condition, capacity to treat this site and, any additional improvements and/or upgrades that may be needed to utilize that facility.
- f. If private lot LIDA systems proposed, must comply with the current CWS Design and Construction Standards. A private maintenance agreement, for the proposed private lot LIDA systems, needs to be provided to the City for review and acceptance.
- g. Show all existing and proposed easements on plans. Any required storm sewer, sanitary sewer, and water quality related easements must be granted to the City.
- h. Site contains a "Sensitive Area." Applicant shall comply with the conditions as set forth in the Service Provider Letter No. 12-000162, dated April 5, 2012.
- i. Developer may be required to preserve a corridor separating the sensitive area from the impact of development. The corridor must be set aside in a separate tract, not part of any buildable lot and, shall be subject to a "Storm Sewer, Surface Water, Drainage and Detention Easement over its entirety", or its equivalent.
- j. Clean Water Services shall require an easement over the Vegetated Corridor conveying storm and surface water management to Clean Water Services that would prevent the owner of the Vegetated Corridor from activities and uses inconsistent with the purpose of the corridor and any easements therein.
- k. Detailed plans showing the sensitive area and corridor delineated, along with restoration and enhancement of the corridor.
- l. Provide DSL and Corps of Engineers permits for any work in the wetlands or creek prior to any on site work, including grading and erosion control. Include permit number on cover sheet of plans or provide concurrence with the delineation.
- m. Any proposed offsite construction activities will require an update or amendment to the current Service Provider Letter for this project.

CONCLUSION

This Land Use Review does not constitute the District's approval of storm or sanitary sewer compliance to the NPDES permit held by the District. The District, prior to issuance of any connection permits, must approve final construction plans and drainage calculations.



August 28, 2012

Langer Gramor LLC
19767 SW 72nd Ave Suite 100
Tualatin OR 97062

Re: SP 12-05 Langer Farms Phase 7 Shopping Center

Thank you for the opportunity to review the proposed site plan surrounding the above named development project. Tualatin Valley Fire & Rescue endorses this proposal predicated on the following criteria and conditions of approval:

- 1) **FIRE APPARATUS ACCESS ROAD DISTANCE FROM BUILDING AND TURNAROUNDS:** Access roads shall be within 150 feet of all portions of the exterior wall of the first story of the building as measured by an approved route around the exterior of the building. (OFC 503.1.1) ***Designated fire lanes will be determined and posted no parking where applicable.***
- 2) **AERIAL FIRE APPARATUS ACCESS:** Buildings or portions of buildings or facilities exceeding 30 feet in height above the lowest level of fire department vehicle access shall be provided with approved fire apparatus access roads capable of accommodating fire department aerial apparatus. Overhead utility and power lines shall not be located within the aerial fire apparatus access roadway. Fire apparatus access roads shall have a minimum unobstructed width of 26 feet in the immediate vicinity of any building or portion of building more than 30 feet in height. At least one of the required access routes meeting this condition shall be located within a minimum of 15 feet and a maximum of 30 feet from the building, and shall be positioned parallel to one entire side of the building. (OFC D105)
- 3) **FIRE APPARATUS ACCESS ROAD WIDTH AND VERTICAL CLEARANCE:** Fire apparatus access roads shall have an unobstructed width of not less than 20 feet (12 feet for up to two dwelling units and accessory buildings), and an unobstructed vertical clearance of not less than 13 feet 6 inches. Where fire apparatus roadways are less than 26 feet wide, "NO PARKING" signs shall be installed on both sides of the roadway and in turnarounds as needed. Where fire apparatus roadways are more than 28 feet wide but less than 32 feet wide, "NO PARKING" signs shall be installed on one side of the roadway and in turnarounds as needed. Where fire apparatus roadways are 32 feet wide or more, parking is not restricted. (OFC 503.2.) ***Designated fire lanes will be determined and posted no parking where applicable.***
- 4) **FIRE APPARATUS ACCESS ROADS WITH FIRE HYDRANTS:** Where a fire hydrant is located on a fire apparatus access road, the minimum road width shall be 26 feet. (OFC D103.1)
- 5) **NO PARKING SIGNS:** Where fire apparatus roadways are not of sufficient width to accommodate parked vehicles and 20 feet of unobstructed driving surface, "No Parking" signs shall be installed on one or both sides of the roadway and in turnarounds as needed. Roads 26 feet wide or less shall be posted on both sides as a fire lane. Roads more than 26 feet wide to 32 feet wide shall be posted on one side as a fire lane. Signs shall read "NO PARKING - FIRE LANE" and shall be installed with a clear space above grade level of 7 feet. Signs shall be 12 inches wide by 18 inches high and shall have red letters on a white reflective background. (OFC D103.6)

- 6) **PAINTED CURBS:** Where required, fire apparatus access roadway curbs shall be painted red and marked "NO PARKING FIRE LANE" at approved intervals. Lettering shall have a stroke of not less than one inch wide by six inches high. Lettering shall be white on red background. (OFC 503.3)
- 7) **GRADE:** Fire apparatus access roadway grades shall not exceed 10 percent. Intersections and turnarounds shall be level (maximum 5%) with the exception of crowning for water run-off. When fire sprinklers are installed, a maximum grade of 15% may be allowed. The approval of fire sprinklers as an alternate shall be accomplished in accordance with the provisions of ORS 455.610(5). (OFC 503.2.7 & D103.2)
- 8) **COMMERCIAL BUILDINGS - REQUIRED FIRE FLOW:** The required fire flow for the building shall not exceed 3,000 gallons per minute (GPM) or the available GPM in the water delivery system at 20 psi, whichever is less as calculated using IFC, Appendix B. A worksheet for calculating the required fire flow is available from the Fire Marshal's Office. (OFC B105.3) ***Please provide a current fire flow test of the nearest fire hydrant demonstrating available flow at 20 psi residual pressure as well as fire flow calculation worksheets. Please forward copies to both TVF&R as well as the City of Sherwood. Fire flow calculation worksheets as well as instructions are available on our web site at www.tvfr.com.***
- 9) **PRIVATE FIRE HYDRANTS:** To distinguish private fire hydrants from public fire hydrants, private fire hydrants shall be painted red. (OFC 507.2.1, NFPA 24 & 291)
- 10) **REFLECTIVE HYDRANT MARKERS:** Fire hydrant locations shall be identified by the installation of reflective markers. The markers shall be blue. They shall be located adjacent and to the side of the centerline of the access road way that the fire hydrant is located on. In case that there is no center line, then assume a centerline, and place the reflectors accordingly. (OFC 510.1)
- 11) **PHYSICAL PROTECTION:** Where fire hydrants are subject to impact by a motor vehicle, guard posts, bollards or other approved means of protection shall be provided. (OFC 507.5.6)
- 12) **CLEAR SPACE AROUND FIRE HYDRANTS:** A 3 foot clear space shall be provided around the circumference of fire hydrants. (OFC 507.5.5)
- 13) **FIRE HYDRANT/FIRE DEPARTMENT CONNECTION:** A fire hydrant shall be located within 100 feet of a fire department connection (FDC). Fire hydrants and FDCs shall be located on the same side of the fire apparatus access roadway and or drive aisle. FDCs shall normally be remote except when approved by the fire code official. Fire sprinkler FDCs shall be plumbed to the fire sprinkler riser downstream of all control valves. Each FDC shall be equipped with a metal sign with 1 inch raised letters and shall read, "AUTOMATIC SPRINKLERS OR STANDPIPES" or a combination there of as applicable. (OFC 912.2)
- 14) **ACCESS AND FIRE FIGHTING WATER SUPPLY DURING CONSTRUCTION:** Approved fire apparatus access roadways and fire fighting water supplies shall be installed and operational prior to any combustible construction or storage of combustible materials on the site. (OFC 1410.1 & 1412.1)
- 15) **KNOX BOX:** A Knox Box for building access is required for this building. Please contact the Fire Marshal's Office for an order form and instructions regarding installation and placement. (OFC 506.1)
- 16) **PREMISES IDENTIFICATION:** Buildings shall have approved address numbers, building numbers or approved building identification placed in a position that is plainly legible and visible from the street or road fronting the property. These numbers shall contrast with their background. Address numbers shall be Arabic numerals or alphabet numbers. Numbers shall be a minimum of 4 inches high with a ½ inch stroke. (OFC 505.1)
- 17) **FIRE DEPARTMENT ACCESS TO EQUIPMENT:** Fire protection equipment shall be identified in an approved manner. Rooms containing controls for HVAC, fire sprinklers risers and valves or other fire detection, suppression or control features shall be identified with approved signs. (OFC 509.1)
- 18) **ANGLE OF APPROACH AND DEPARTURE:** The angles of approach and departure for fire apparatus roads shall not exceed 8 Degrees. (OFC 503.2.8, NFPA 1901)

If you have questions or need further clarification, please feel free to contact me at 503-259-1504.

Sincerely,

John Wolff

John Wolff
Deputy Fire Marshal

Copy:
City of Sherwood Attn; Brad Kilby
TVFR File



WASHINGTON COUNTY, OREGON

Department of Land Use and Transportation, Operations & Maintenance Division
1400 SW Walnut Street, MS 51, Hillsboro, Oregon 97123-5625
(503) 846-7623 · FAX: (503) 846-7620

September 11, 2012

Brad Kilby
City of Sherwood
Planning Department
22560 SW Pine Street
Sherwood, OR 97140
No. of pages: 4

RE: Langer Farms PUD – Phase 7
City File Number: **SP 12-05 (Previous Casefiles PUD 95-01/SUB 12-02/SP 12-03)**
Tax Map and Lot Number: **2S1 29D 300**
Location: **SW Tualatin-Sherwood Road/SW Langer Farms Parkway**
Applicant: **Langer Gramor LLC**



Washington County Department of Land Use and Transportation has reviewed this development application and submits the following comments and required conditions for access to SW Tualatin-Sherwood Road, a County-maintained Arterial (4-5 Lanes).

BACKGROUND/COMMENTS

The applicant is proposing to construct an approximately 197,800 square foot retail center with access to the development via two (2) driveways on SW Langer Farms Parkway and two (2) driveways on SW Century Drive, city-maintained road sections.

1. Access to the subject site will be via SW Langer Farms Parkway, a city-maintained road section. As conditioned in City Casefile PUD 95-01 ("Langer Marketplace"), the applicant is required to provide a financial assurance for installation of a traffic signal at the intersection of SW Tualatin-Sherwood Road/SW Langer Farms Parkway (refer to the attached Traffic Staff report dated March 15, 2001).

2. Consistent with statewide pedestrian circulation/linkage goals of the Transportation Planning Rule and the County's R&O 86-95 (road safety requirements), the County normally requires sidewalk installation as a minimum road safety improvement along site frontage of all County-maintained roads. Sidewalks further establish future street profiles, demarcate County or City right-of-way, and address drainage issues. Sidewalk requirements are not generally waived, even when sidewalk is not currently present on neighboring properties. Rather, even non-contiguous sidewalk is considered to provide some measure of pedestrian refuge and ideally, makes possible eventual connection of sidewalks (as surrounding development takes place and is likewise conditioned to provide sidewalk). Additionally, the Washington County Road Design and Construction Standards require provision of adequate drainage along a site's frontage of a county road.

The applicant is required to construct a half-street improvement (to include additional lanes, curb and gutter, storm drainage, concrete sidewalk, and continuous roadway illumination at ultimate alignment and grade) to an A-2 County standard along the subject site's frontage of SW Tualatin-Sherwood Road.

The applicant may choose to pay a fee-in-lieu (Contact Dan Erpenbach at 503-846-7877), which will be utilized as part of the MSTIP 3D/SW Tualatin-Sherwood Road (Adams to Borchers) capital improvement project. Washington County Capital Project Management will utilize the fee-in-lieu specifically to construct the half-street improvement along the subject site's frontage of SW Tualatin-Sherwood Road.

Note: For half street improvements, an applicant shall provide street lighting consistent with County engineering standards and procedures and the requirements of the electrical utility company providing service to the area. The applicant shall ensure the construction, maintenance and power costs of street light facilities through the annexation and petition for service to an existing County service district for lighting or other funding method approved by the County Engineer.

3. The statewide Transportation Planning Rule requires provision for adequate transportation facilities in order for development to occur. Accordingly, the County has classified roads and road segments within the County system based upon their function. The current Transportation Plan (regularly updated) contains adequate right-of-way, road width and lane provision standards based upon each roadway's classification. Subject right of way is considered deficient if half-width of the existing right of way does not meet that determined necessary within the County's current transportation plan.

As conditioned in City Casefile SUB 12-02, the applicant is required to dedicate additional right-of-way to provide 49 feet from centerline of SW Tualatin-Sherwood Road, including adequate corner radius at the intersection. Staff notes additional right-of-way may be required to accommodate the installation of a signal at the intersection of SW Tualatin-Sherwood Road/SW Langer Farms Parkway.

Note: All private signage and improvements are required to be located outside of the dedicated ROW.

4. The applicant submitted a Transportation Impact Analysis ("Langer Farms – Phase 7", Kittelson & Assoc., July 2012) in compliance with Washington County R&O 86-95.

Refer to the attached Traffic Staff report from Washington County dated March 15, 2001 for the required traffic safety mitigation measures.

REQUIRED CONDITIONS OF APPROVAL

IMPORTANT:

Road improvements required along site frontage shall apply to frontage of all land within the subject site that abuts the County roadway. **The subject site shall be considered to include:** any lot or parcel to be partitioned or otherwise subdivided (regardless of whether it contains existing structures or not); **and** any contiguous lots or parcels that constitute phases of the currently proposed development.

If the applicant proposes to develop the project in phases, all County-required frontage improvements must be constructed with the first phase. In addition, off-site improvements **warranted** by the first phase must also be completed with the first phase.

Refer to the following link to access Washington County Road Design and Construction Standards:

<http://www.co.washington.or.us/LUT/Divisions/Engineering/ConsultantResources/road-design-standards.cfm>

I. PRIOR TO ISSUANCE OF A BUILDING PERMIT BY THE CITY OF SHERWOOD:

- A. The plat shall be recorded with Washington County as approved in City Casefile SUB 12-02.
- B. Submit the following to **Washington County** Public Assurance Staff (503-846-3843) **OR** pay a fee-in-lieu for improvements required on SW Tualatin-Sherwood Road:
 - 1. Completed "Design Option" form.
 - 2. **\$15,000.00** Administration Deposit.

NOTE: The Administration Deposit is a cost-recovery account used to pay for County services provided to the developer, including plan review and approval, field inspections, as-built approval, and project administration. The Administration Deposit amount noted above is an estimate of what it will cost to provide these services. If, during the course of the project, the Administration Deposit account is running low, additional funds will be requested to cover the estimated time left on the project (at then-current rates per the adopted Washington County Fee Schedule). If there are any unspent funds at project close out, they will be refunded to the applicant. Any point of contact with County staff can be a chargeable cost. If project plans are not complete or do not comply with County standards and codes, costs will be higher. There is a charge to cover the cost of every field inspection. Costs for enforcement actions will also be charged to the applicant.

- 3. A copy of the City's Land Use Approval with Conditions, signed and dated.
- 4. Three (3) sets of complete engineering plans for construction of the following public improvements to County standards:
 - a. Half-street improvement to an A-2 County standard along the subject site's frontage of SW Tualatin-Sherwood Road.

- b. Installation of a traffic signal.
 - c. All work within SW Tualatin-Sherwood Road right-of-way.
 - d. Closure of any existing driveways on SW Tualatin-Sherwood Road.
- C. Obtain a Washington County **Facility Permit** upon completion of the following:
- 1. Obtain Engineering Division approval and provide a financial assurance for the construction of the public improvements listed in conditions **I.B.4**

NOTE: The Public Assurance staff (503-846-3843) will send the required forms to the applicant's representative **after** submittal and approval of items listed under **I.B.**

*The Facility Permit allows construction work within County rights-of-way and permits site access only after the developer first submits plans and obtains Washington County Engineering approval, obtains required grading and erosion control permits, and satisfies various other requirements of Washington County's Assurances Section including but not limited to execution of financial and contractual agreements. This process ensures that the developer accepts responsibility for construction of public improvements, and that improvements are closely monitored, inspected, and built to standard in a timely manner. **Access will only be permitted under the required Washington County Facility Permit, and only following submittal and County acceptance of all materials required under the facility permit process.***

Requirements identified within this letter are considered by the County to be minimum warranted improvements (and/or analyses) that are necessitated by the proposed development, therefore it is requested that they be conveyed to the applicant within the City's Approval document. Please send a copy of the subsequent Final City Notice of Decision and any appeal information to the County.

Thank you for the opportunity to comment. If you have any questions, please contact me at 503-846-7639.

Naomi Vogel
Associate Planner

Attachment: Traffic Staff Report, "Langer Marketplace", March 15, 2001 (4 pages)

Cc: Road Engineering Services Section
Jinde Zhu, P.E., Traffic Engineer
Chris Harrell, Operations Division
Heidi Frymark, Assurances Section
Transportation File



August 24, 2012

Brad Kilby, AICP, Senior Planner
City of Sherwood
22560 SW Pine St
Sherwood, OR 97140

Re: Langer Farms Phase 7

There are 6 solid waste enclosures as part of this site plan. I will address each one. I've also included additional site plan information (specific to enclosures) that Tiland/Schmidt Architects provided for me:

The following paragraph applies to the following enclosures: Enclosure 1 (building A), Enclosure 2 (building B), Enclosure 3 (building C), and Enclosure 4 (building D).

The site plan shows that we will have straight on access to these 4 enclosures without any curbing directly across from the opening (providing at least 75' of unobstructed access). The enclosures have inside dimensions of 20' wide, 10' deep, and have full swing gates. They should have no center post at the access point. The gates are shown to be hinged in front of (and not inside) the walls, allowing for the full 20' opening. The gates need to open at least 120 degrees. There need to be gate drop pins/holes allowing for the gates to be held in the open position (at 120 degrees).

Enclosure 5 (retail E and F): This enclosure will not work as it is currently designed. The enclosure has been widened to be 32' wide. 1 of the 3 gates shown opens to a curb directly across from it. This enclosure will need to be modified before service can be provided. It can be modified to be only 20' x 10' (removing the 3rd gate) and follow the other details of the enclosure in the paragraph above (gates, opening angle, etc). Other options can be discussed but this enclosure (#5 for retail E and F) is not approved as designed.

There is also another enclosure on the map for the anchor building (Enclosure 6). It is listed on the City provided site plan as "Masonry walled storage areas with gates." There is no detail provided for this enclosure, it will need to be constructed as follows.

- Inside measurements of the enclosure must be 20' wide, 10' deep.
- No center post at the access point.
- Gates hinged in front of (and not inside) the walls allowing for the full 20' opening

- Gate drop pins allowing for the gates to be held in the open position
- Holes for the drop pins to hold the gates in the open position need to be placed to allow for the full 120 degree opening angle that is required.
- 75' of unobstructed access from the front of the enclosure.

If you have any questions, feel free to contact me.

Sincerely,

Kristin Leichner
Pride Disposal Co.
(503) 625-6177 ext: 124
kristinl@pridedisposal.com

Kristin Leichner

From: Chuck Oliver <chuckoliver@tilandschmidt.com>
Sent: Wednesday, August 22, 2012 10:02 AM
To: Kristin Leichner
Cc: Frank Schmidt
Subject: Langer Farms Phase 7
Attachments: 11364 Trash Enclosure Dimensioned 082012 A1.2.pdf; 11364 Trash Enclosure Dimensioned 082012 A1.2a.pdf

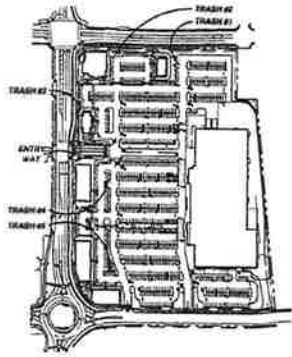
Good morning Kristin, attached is a revised Sheet A1.2 with dimensions on the trash enclosures. Also, I made up a second sheet, which shows both an expanded area at the 3-bay enclosure, and an enlarged plan at the anchor's disposal area.

For the anchor:

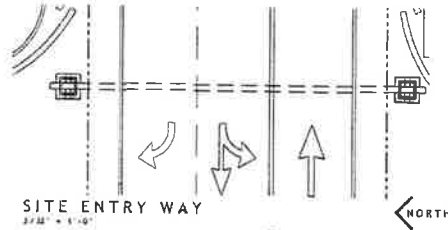
- * The long enclosure is 12' deep and 90' long, and the small one is 12' deep and 30' long (all dimensions are inside clear).
- * I believe the intention is that the long enclosure parallel to the rear (east) property line is only used for pallet and other temporary storage, but if you could address it in your comments as though both enclosures might be used for trash, that would cover all the possibilities.

Please don't hesitate to call or email if you need additional information.

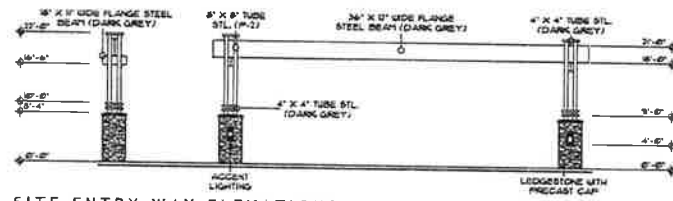
Chuck Oliver
Tiland/Schmidt Architects, p.c.
3611 SW Hood Ave, Suite 200
Portland, OR 97239
503.220.8517
chuckoliver@tilandschmidt.com



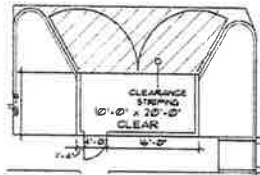
SITE KEY PLAN
N.T.S.



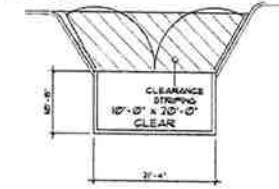
SITE ENTRY WAY
3/32" = 1'-0"



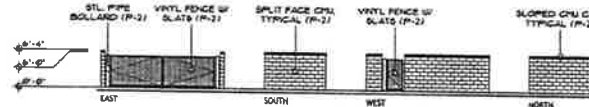
SITE ENTRY WAY ELEVATIONS
3/32" = 1'-0"



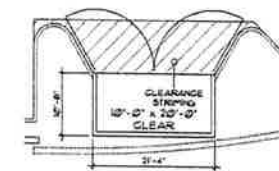
TRASH ENCLOSURE #2
SITE PLAN
3/32" = 1'-0"



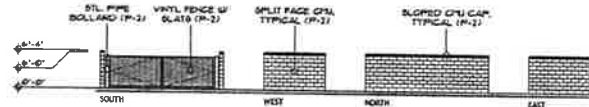
TRASH ENCLOSURE #1 SITE PLAN
3/32" = 1'-0"



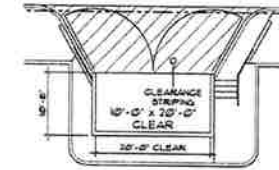
TRASH ENCLOSURE ELEVATIONS #1
3/32" = 1'-0"



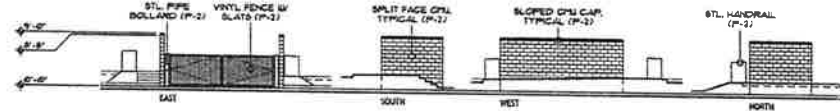
TRASH ENCLOSURE #3 SITE PLAN
3/32" = 1'-0"



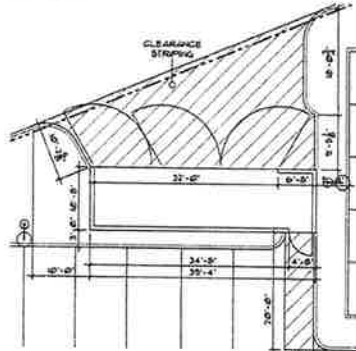
TRASH ENCLOSURE ELEVATIONS #2 AND #3
3/32" = 1'-0"



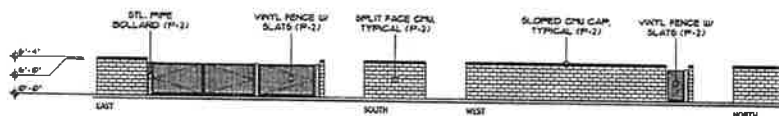
TRASH ENCLOSURE #4 SITE PLAN
3/32" = 1'-0"



TRASH ENCLOSURE ELEVATIONS #4
3/32" = 1'-0"



TRASH ENCLOSURE #5 SITE PLAN
3/32" = 1'-0"



TRASH ENCLOSURE ELEVATIONS #5
3/32" = 1'-0"

TILAND / SCHMIDT ARCHITECTS, P.C.
3611 BILL HOOD AVE. SUITE 300
PORTLAND, OR 97236
(503) 236-8641
FAX (503) 236-8608

GRAMOR
DEVELOPMENT

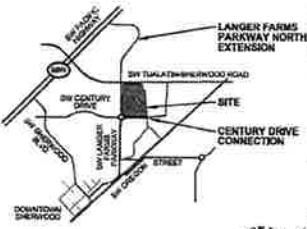
LANGER FARMS PHASE 7
SW TUALATIN-SHERWOOD ROAD AND SW LANGER FARMS PARKWAY
SHERWOOD, OREGON
LANGER FARMS LLC
LAND USE SET

PROJECT NO. 11364

DATE: 07-09-10
DRAWN BY: CDO
CHECKED BY:

REVISIONS

A
1.2



2 VICINITY MAP
N.T.S.

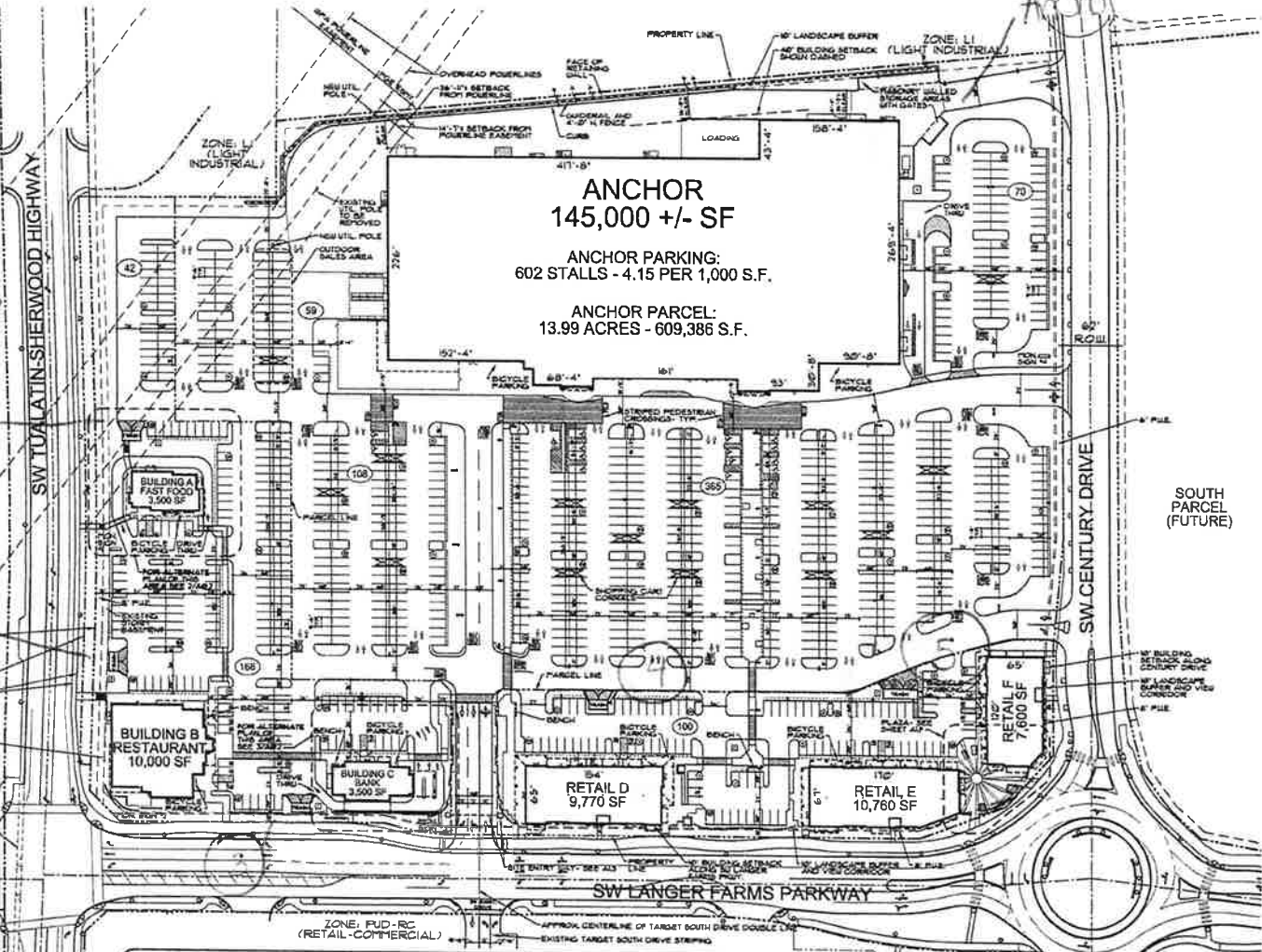


ZONE LI (LIGHT INDUSTRIAL)

ZONE GC (GENERAL COMMERCIAL)

ADAPTED PROPERTY LINE AFTER LOCAL DESIGNATION
EXISTING PROPERTY LINE AND OFFICIAL RECORD LOCATIONS OBTAINED FROM CLARITY FOR CLARITY
EXISTING CURBS AND MOSELS
5' VIEW CORRIDOR ON SW TUALATIN-SHERWOOD HIGHWAY INCLUDES 5' LANDSCAPE BUFFER
EXISTING CURBS AND MOSELS TO BE REMOVED AND RECONSTRUCTED TO MATCH LARGER FIELDS EXTENSION SHOW GRABBED

LANGER FARMS PARKWAY NORTH EXTENSION



ANCHOR
145,000 +/- SF
ANCHOR PARKING:
602 STALLS - 4.15 PER 1,000 S.F.
ANCHOR PARCEL:
13.99 ACRES - 609,386 S.F.

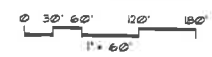
SITE DATA

ZONE: PUD-LI (LIGHT INDUSTRIAL)
TOTAL SITE AREA: 184.22 ACRES 803,220 S.F.
EXISTING OVERHEAD LINE BENCHMARKS: 38491 S.F.
SFA: 13,186 S.F.
PCF: 28,000 S.F.

BUILDING	AREA	PARKING RATIO (PER 1,000 S.F.)		PARKING STALLS		BICYCLE PARKING	
		MIN.	MAX.	MIN.	MAX.		
ANCHOR	145,000 S.F.	4.1	5.1	196	742	20	
BUILDING A - FAST FOOD	3,500 S.F.	2.5	12.4	25	42	0	
BUILDING B - RESTAURANT	10,000 S.F.	3.5	8.4	133	151	0	
BUILDING C - BANK	3,500 S.F.	4.5	5.4	15	19	0	
RETAIL D	9,770 S.F.	4.1	5.1	40	30	0	
RETAIL E	10,760 S.F.	4.1	5.1	44	33	0	
RETAIL F	7,600 S.F.	4.1	5.1	31	23	0	
TOTAL BUILDING AREA:	185,130 S.F.			PARKING TOTALS:	313	1,127	TOTAL: 46
BUILDING COVERAGE, OVERALL:	22.03 %			OVERALL RATIO:	4.80	5.89	MINIMUM: 4.4
PARKING, ANCHOR:	602 STALLS	4.15 PER 1,000 S.F.	(NO REDUCTION FROM CODE REQUIRED)				
PARKING, OTHER:	310 STALLS	8.86 PER 1,000 S.F.	(REQUIRES 2.5% REDUCTION FROM CODE)				
OUTDOOR BIKES:	- 30 STALLS						
PARKING, TOTAL:	862 STALLS	4.64 PER 1,000 S.F.	(REQUIRES 2.5% REDUCTION FROM CODE)				

ZONE PUD-RC (RETAIL-COMMERCIAL)
ZONE PUD-HDR (HIGH DENSITY RESIDENTIAL)
ZONE HDR (HIGH DENSITY RESIDENTIAL)

1 **SITE PLAN**
1" = 60'



TILAND & SCHMIDT
ARCHITECTS, P.C.
361 SW HOOD AVE. SUITE 200
PORTLAND, OR 97209
(503) 230-9871
FAX (503) 726-8818



LANGER FARMS PHASE 7
SW TUALATIN-SHERWOOD ROAD AND SW LANGER FARMS PARKWAY
SHERWOOD, OREGON
LANGER GRAMOR LLC
LAND USE SET

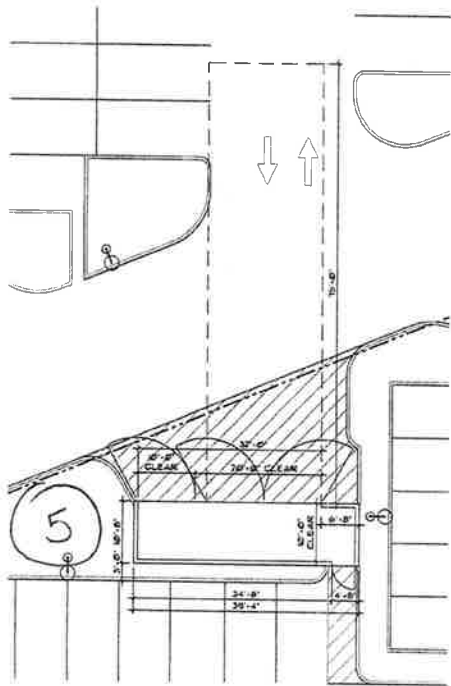
PROJECT NO.
11364

DATE: 01-29-20
DRAWN BY:
000
CHECKED BY:

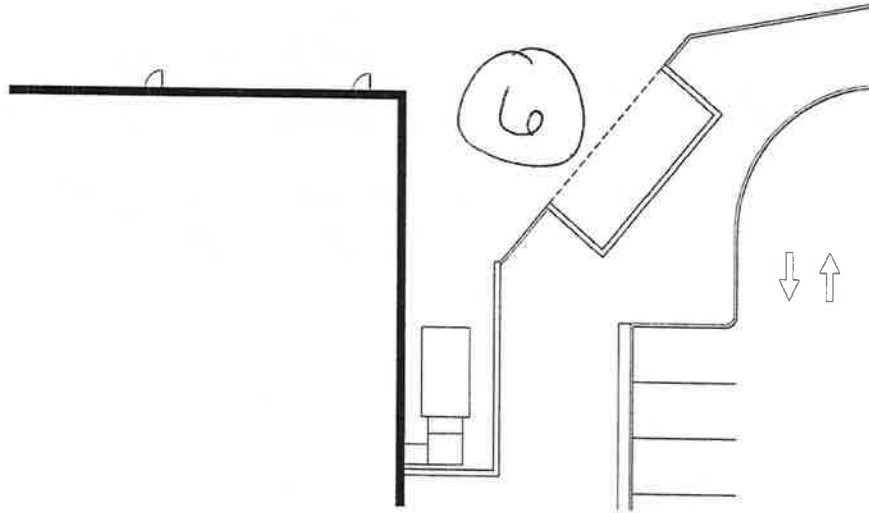
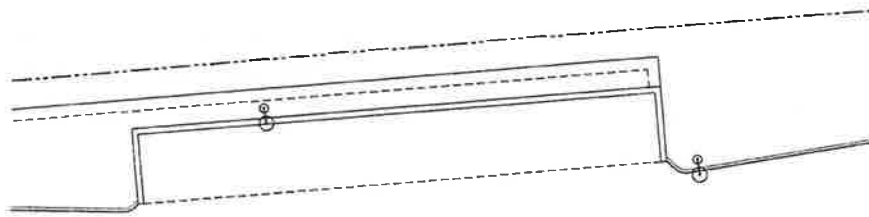
REVISIONS



10/12/2011 11:04:51 AM C:\Users\jgarcia\Documents\Projects\11364\11364.dwg User: jgarcia Date: 10/12/2011 11:04:51 AM



TRASH ENCLOSURE #5 SITE PLAN
1/2" = 1'-0"



PARTIAL SITE PLAN AT ANCHOR TRASH AREA
1/2" = 1'-0"



TILAND /
SCHMIDT
ARCHITECTS, P.C.
3411 SW HOOVER AVE.
SUITE 200
PORTLAND, OR 97239
(503) 228-8811
FAX (503) 228-8818



LANGER FARMS PHASE 7
SW TUALATIN-SHERWOOD ROAD AND SW LANGER FARMS PARKWAY
SHERWOOD, OREGON
LANGER GRAMOR LLC
LAND USE SET

PROJECT NO.
11364
DATE:
08-27-12
DRAWN BY:
CDD
CHECKED BY:

REVISIONS

△
1.2a



Oregon

John A. Kitzhaber, MD, Governor

Dep

123 NW Flanders Street
Portland, Oregon 97209
(503) 731.8200
FAX (503) 731.8531

8/31/12

City of Sherwood
22560 SW Pine Street
Sherwood, OR 97140

ODOT Case No: 5197

Subject: SP 12-05: Langer Farms Phase 7
99W/Tualatin-Sherwood Rd and 99W/Sherwood Blvd

Attn: Brad Kilby, Senior Planner, City of Sherwood

Thank you for the opportunity to review the applicant's proposal to construct a shopping center on 19.82 acres of the Langer Planned Unit Development site (Phase 7). ODOT has permitting authority for Highway 99W and an interest in ensuring that the proposed land use is compatible with its safe and efficient operation. ODOT supports the applicant's contributions to improve connectivity to the local transportation system. The improvements offer users alternatives for local travel and alleviate some demand on surrounding intersections and the state facility. However, based on the queuing deficiencies identified in the applicant's Traffic Impact Study (TIS), ODOT requests the City of Sherwood require the mitigation measures outlined below through conditions of approval.

ODOT Concerns – 99W Queuing

The applicant provided a TIS conducted by Kittelson and Associates dated July 2012 (supplemented August 2012). Table 4 in the TIS shows 95th Percentile SimTraffic Queuing Analysis.

99W/SW Sherwood Blvd Intersection:

The table shows that the weekday PM peak hour queue for the northbound right turn lane will exceed the available storage. The proposed development will contribute 27 of the 105 (26%) trips making this movement in the PM peak hour. This will cause queuing vehicles to stop in the adjacent through lane, potentially contributing to additional rear end crashes and delaying vehicles trying to get to the shopping center. Therefore, ODOT recommends that the applicant lengthen the storage distance of the northbound right turn lane to 625 ft with the associated deceleration distance.

99W/SW Roy Rogers Road:

The weekday PM peak hour queue for the northbound left turn lane of the 99W/SW Roy Rogers Road intersection will exceed the available storage. The proposed development will contribute 39 of the 189 (21%) trips making this movement in the PM peak hour. ODOT recommends that the applicant lengthen the storage distance on the northbound left turn lane to 525 ft with the associated deceleration distance.

Clarification on ODOT Mobility Targets

According to the Oregon Highway Plan (1999), OR 99W is classified a Statewide Highway. The posted speed in this section is 45 miles per hour. The Kittelson and Associates traffic study shows the mobility target for 99W/Tualatin-Sherwood Rd and 99W/Sherwood Blvd as a 1.1 volume to capacity ratio because these intersections are within the current Sherwood Town Center Boundary. However, the most recent update to the Metro Urban Growth Management Functional Plan (UGMFP) requires a City to establish a boundary and adopt land use regulations to allow eligibility to use the higher volume to capacity standards in Table 7 of the 1999 Oregon Highway Plan (UGMFP: 3.07.630). The Sherwood Town Center Plan currently underway will establish the Town Center boundary and recommend land use changes for adoption in the summer of 2013. Therefore, the appropriate target should be 0.99 v/c.

The Kittelson TIS and associated Memo show that all intersections will meet 0.99 v/c mobility targets with the construction of the Washington County MSTIP 3D improvement project along Tualatin-Sherwood Road. The County project is scheduled for construction in fiscal year 2014 and the applicant is offering to provide a “fee-in-lieu” as indicated in the TIS.

Recommended Conditions of Approval

ODOT appreciates the contribution that the applicant is making to the local transportation system and recommends that the City consider including the following Conditions of Approval to address applicable state and local approval criteria in the land use decision:

1. **99W/SW Sherwood Blvd Intersection:** The applicant shall lengthen the storage distance on the northbound right turn lane to 625 ft with the associated deceleration distance.
2. **99W/SW Roy Rogers Road:** The applicant shall lengthen the storage distance on the northbound left turn lane to 525 ft with the associated deceleration distance.
3. An ODOT Miscellaneous Permit must be obtained for all work in the highway right of way.

ODOT Contact Information

- Contact Avi Tayar P.E., ODOT Region 1 Traffic at 503.731.8221 for information regarding the traffic analysis review.
- Contact Loretta Kieffer, ODOT District 2B, at 971.673.6228 for information on the written permit application process.

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 503.731.8234.

Sincerely,



Seth Brumley
Development Review Planner

C: Loretta Kieffer, ODOT District 2B
Avi Tayar P.E., ODOT Region 1 Traffic

Please send a copy of the Notice of Decision including conditions of approval to:

ODOT Region 1 Planning
Development Review
123 NW Flanders St
Portland, OR 97209

Bradley Kilby

From: Julia Hajduk
Sent: Monday, September 17, 2012 6:20 PM
To: Bradley Kilby
Subject: FW: Langer Phase 7 Development

From: BRIAN SMITH [mailto:bsmith@fujimico.com]
Sent: Tuesday, September 11, 2012 9:53 AM
To: PlanningCommission
Subject: Langer Phase 7 Development

I'd like to know if the city knows the expected business (if so, who is it), or has plans to regulate, the "anchor" store that has been referenced in all documents to-date regarding the Langer Phase 7 project and other similar projects within the city. At the Fred Meyer meeting about a month ago, it was stated by Fred Meyer representatives that "Walmart beat them to it" in reference the Langer property. This information is, in my opinion, critical for the public citizens of Sherwood to know so we, as a community, can decide if we want to support such developments or not.

Best Regards,
Brian Smith
Fujimi Corporation
Information Systems Manager

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Bradley Kilby

From: Julia Hajduk
Sent: Monday, September 17, 2012 10:09 AM
To: Bradley Kilby
Subject: FW: Please clarify and update city web site-- PHase 7

Brad – Please include this in the record.

Julia

From: claussl@aol.com [<mailto:claussl@aol.com>]
Sent: Monday, September 17, 2012 9:59 AM
To: Tom Pessemier; Julia Hajduk; PlanningCommission
Subject: Re: Please clarify and update city web site-- PHase 7

Please include this email in the Langer Farms Phase 7 Commercial Development land use hearing file.

Dear Staff and Planning Commission--

The information below is currently on the city's web site. It incorrectly shows that the public hearing was on September 11, 2012. The hearing is scheduled for September 24, 2012. Several members of the public believe the city's web site that shows that there is no ability to put comments in the file because the web site shows that the public comment period is closed as of the public hearing date of September 11, 2012.

This is exactly the kind of misinformation that is so frustrating to the public. This development will have a seismic impact on several existing businesses in town due to the 145,000 sq.ft. "mystery tenant." that Matt Langer and his family refuse to reveal. Matt also has an obligation to the public being a member of the City Council and on the voting board for the Sherwood Urban Renewal Agency. Moral obligation if nothing else. Instead, we have all of these administrative "mistakes" and problems that add confusion to "the process"

Because this property is in the Urban Renewal District, the project is receiving administrative favor, lack of public disclosure, and "unique" zoning benefits. Could we at least make a little room for the public to be able to understand and comment on this development?

From the city's current web site:

Langer Farms Phase 7 Commercial Development (SP 12-05/ CUP 12-02)

Status: Under Review

Proposal: The applicant is proposing a site plan to construct a commercial shopping center on 19.7 acres of property. The proposal includes a 189,500 square feet of commercial space which includes 145,000 square foot anchor building and six retail buildings with associated parking and landscaping.

Location: Southeast of Tualatin- Sherwood Road and Langer Farms Parkway
2S129D 300

Staff Contact: Brad Kilby, AICP 503-625-4206

Date Received: Submitted May 30, 2012

Application Complete: August 10, 2012

Decision Maker: Planning Commission

Public Hearing Date: September 11, 2012

Public Comment Period: August 10, 2012 - Close of Public Hearing

APPLICATION MATERIALS:

Langer Farms Submittal

Langer Farms Traffic Study

REVIEW MATERIALS:



KITTELSON & ASSOCIATES, IN
 TRANSPORTATION ENGINEERING / PLANNING
 610 SW Alder Street, Suite 700, Portland, OR 97205 P 503.228.5230 F 503.273.8169

MEMORANDUM

Date: September 11, 2012 **Project #:** 12214

To: Bob Galati, P.E., City of Sherwood
 Jason Waters, City of Sherwood
 Seth Brumley, ODOT Region 1
 Avi Tayar, P.E., ODOT Region 1

Cc: Matt Grady, Langer Gramor, LLC
 Keith Jones, HHPR

From: Chris Brehmer, P.E. and Matt Bell, Kittelson & Associates, Inc.

Project: Langer Farms Phase 7

Subject: Supplemental Operations and Queuing Analysis



This memorandum provides additional operational and queuing analysis information related to the proposed Langer Farms Phase 7 development. The additional analyses were developed to reflect improvements at the Highway 99W/SW Roy Rogers Road - SW Tualatin-Sherwood Road intersection that are now planned and funded for construction in 2014. The funded improvements reduce queuing at study area intersections as compared to what was originally reported in the traffic impact analysis prepared for the project. These improvements also address the queuing recommendations documented in the August 31, 2012 letter from the Oregon Department of Transportation (ODOT) to the City of Sherwood. The remainder of this memorandum summarizes further background on the planned intersection improvements, the updated queuing analysis, and suggested next steps.

Background

The July 2012 Langer Farms – Phase 7 Transportation Impact Analysis (July 2012 TIA) prepared by Kittelson & Associates, Inc. was developed based on the existing lane configurations and traffic control devices in place at the Highway 99W/SW Roy Rogers Road - SW Tualatin-Sherwood Road intersection. The study notes planned improvements at the intersection, but did not assume any improvements as the timing of the improvement project was not yet certain. ODOT's August 31, 2012

review letter recommends travel and turn lane extensions along Highway 99W at two locations based on the July 2012 TIA queuing analysis.

Subsequent to completion of our July 2012 TIA, the Washington County Board of County Commissioners adopted the Major Streets Transportation Improvements Program 3D (MSTIP 3D) package. Locally, the MSTIP 3D projects include widening of Tualatin-Sherwood Road to five lanes between SW Adams Avenue and SW Borchers Drive, including capacity improvements at the Highway 99W/SW Roy Rogers Road - SW Tualatin-Sherwood Road intersection. For analysis purposes, the planned improvements at the intersection can now be considered reasonably funded and therefore incorporated in the intersection operations analysis.

Intersection and Queuing Analysis Update

Recognizing that the intersection operations and queuing analysis results will change based on the Highway 99W/SW Roy Rogers Road - SW Tualatin-Sherwood Road intersection improvements, we have updated our analysis to reflect the funded improvements. Improvement project assumptions were obtained from DKS Associates (City traffic engineer) via the City of Sherwood to ensure consistency with the modeling being prepared for the Washington County MSTIP 3D project design.

Per DKS Associates letter dated June 20, 2012, ODOT's *Analysis Procedures Manual* (APM) requires SimTraffic queuing analysis. Revised Synchro and SimTraffic analysis were prepared using the same traffic volume assumptions as presented in the July 2012 TIA, but with the lane configurations, traffic control, and software calibration settings provided by DKS Associates.

OPERATIONS ANALYSIS

The updated traffic operations with the Washington County MSTIP 3D improvement in place are summarized in Table 1 (note that only weekday p.m. peak hour conditions were assessed given they represented the worst-case conditions).

Table 1 Year 2013 Total Traffic Conditions Operations Analysis Findings

Intersection	July 2012 TIA			Revised Analysis with MSTIP 3D Improvements		
	Delay (seconds)	Level of Service	V/C Ratio	Delay (seconds)	Level of Service	V/C Ratio
Weekday PM Peak Hour						
99W/SW Roy Roger Road- SW Tualatin- Sherwood Road	56.0	E	1.05	38.5	D	0.92
99W/SW Sherwood Boulevard- SW Edy Road	55.1	E	0.92	49.0	D	0.92

As shown in Table 1, both intersections operate with a volume-to-capacity (V/C) ratio below 0.99 under year 2013 total traffic conditions and the Highway 99W/SW Roy Rogers Road - SW Tualatin-Sherwood Road intersection improvements result in reduced delay which will in turn translate to reduced queuing.

QUEUEING ANALYSIS

As with the July 2012 TIA, 95th percentile vehicle queuing analyses were performed using the SimTraffic software in accordance with the assumptions stipulated in the ODOT APM. Table 2 provides a lane-by-lane summary of the queuing analysis findings at the two intersections identified for improvements in ODOT's August 31, 2012 review letter. The queue distances reported were obtained directly from SimTraffic. Note that the maximum queue was reported in situations where the SimTraffic-reported 95th percentile queue exceeds the SimTraffic maximum queue with the MSTIP3D project in place (95th percentile queue can't physically be longer than the maximum queue).

Comparing the queues shown in Table 2 with the results of the July 2012 TIA (also summarized in Table 2), the forecast queues are reduced. The two movements of relevance to the ODOT letter are highlighted in Table 2 and then are further discussed individually below.

Table 2 Year 2013 Total Traffic Conditions 95th Percentile Queues

Intersection	Movement	2013 Total Traffic (Table 4, July 2012 TIA)	2013 Total Traffic w/ MSTIP3D Project	Available Storage
99W/SW Roy Roger Road-SW Tualatin-Sherwood Road	EB Left #1	304 ²	95	225
	EB Left #2	N/A, MSTIP3D Builds	202	225
	EB Thru #1	1,107 ²	420	1,000+
	EB Thru #2	N/A, MSTIP3D Builds	426	1,000+
	EB Thru/Right	1,094 ²	N/A MSTIP 3D removes	1,000+
	EB Right	N/A, MSTIP3D Builds	200	250
	WB Left #1	276 ²	319	220
	WB Left #2	827 ²	330 ¹	220
	WB Thru #1	700 ²	219	600+
	WB Thru #2	N/A, MSTIP3D Builds	164	600+
	WB Right	218 ²	69	180
	NB left	536	459 ¹	445
	NB Thru #1	830 ²	1,170 ¹	1,750+
	NB Thru #2	663 ²	1,122 ¹	1,750+
	NB Thru #3	103	670	1,750+
	NB Right	97	298	275
	SB Left	249	248	260
	SB Thru #1	946 ²	556	725+
	SB Thru #2	884 ²	534	725+
	SB Thru #3	N/A, MSTIP3D Builds	539	725+
SB Thru/Right	893 ²	N/A MSTIP 3D removes	725+	
SB Right	N/A, MSTIP3D Builds	249	260	
99W/SW Edy Road-SW Sherwood Boulevard	NB Left	522 ²	424 ¹	400
	NB Thru #1	898 ²	640 ¹	750+
	NB Thru #2	808 ²	617 ¹	750+
	NB Thru/Right	617 ²	325 ¹	300
	SB Left	213	239	415
	SB Thru #1	339	251	1,750+
	SB Thru #2	386	307	1,750+
SB Thru/Right	412	381	1,750+	

¹ The SimTraffic queuing analysis report results indicated that the 95th percentile queue exceeds the maximum queue, therefore the maximum queue is reported.

² Table 4 of the July 2012 TIA reported the 95th Percentile queues for each movement regardless of maximum queue lengths. In each of these instances, the maximum queues reported were significantly less than the 95th percentile queues.

99W/SW Sherwood Boulevard-SW Edy Road Intersection

ODOT's August 31, 2012 letter offers the following recommended condition of approval:

- 2. 99W/SW Roy Rogers Road: The applicant shall lengthen the storage distance on the northbound left turn lane to 525 ft with the associated deceleration distance.*

Based on the additional queuing analysis shown in Table 2, the forecast *maximum* queue is reduced from 525 feet to 459 feet. The existing storage available is approximately 445 not counting the taper. Adjusting the signal timing assumed in the MSTIP3D model by as little as one second would fully accommodate the forecast maximum queue, therefore no additional improvements should be necessary to accommodate the proposed development.

99W/SW Sherwood Boulevard-SW Edy Road Intersection

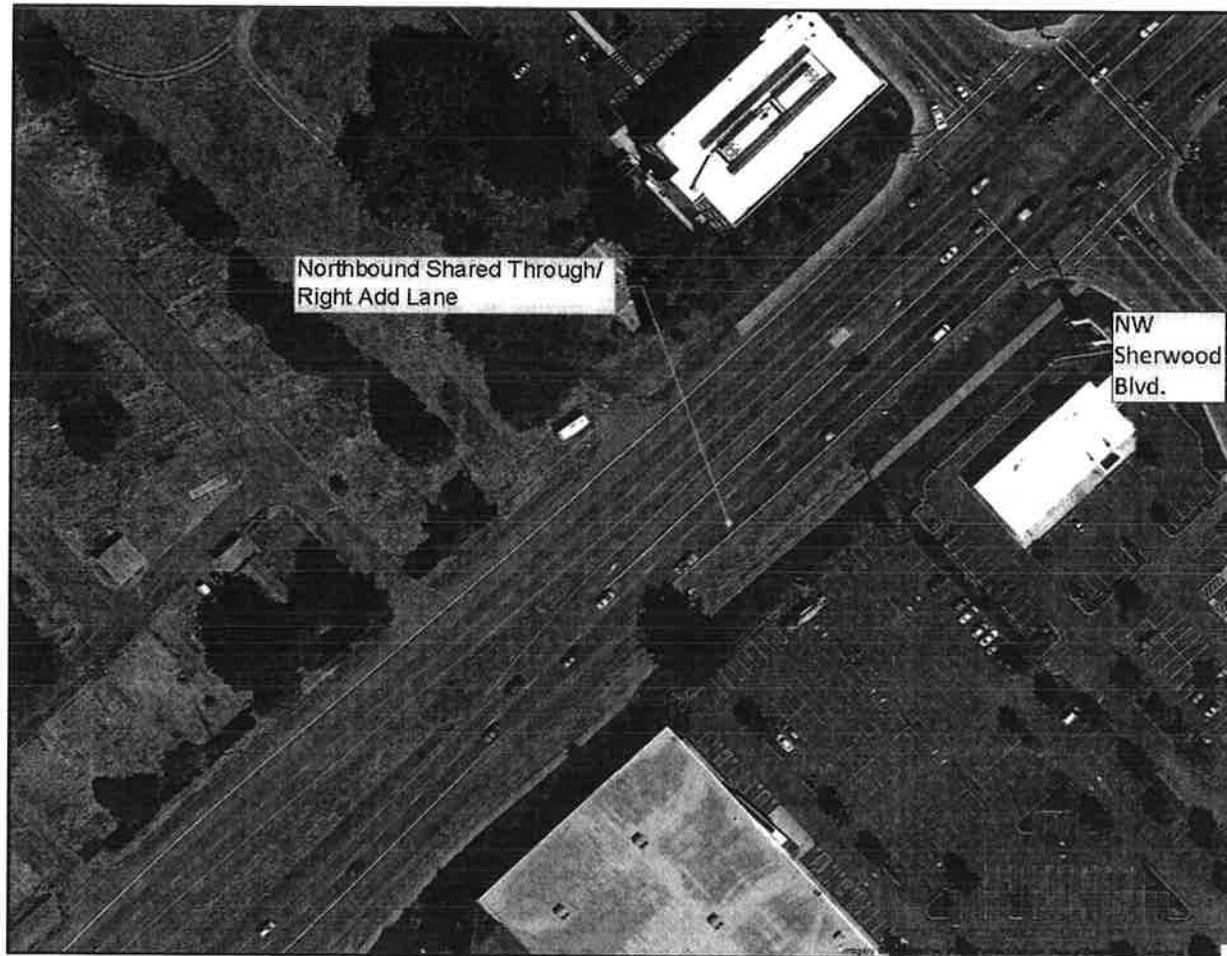
In reviewing the queuing results, it should first be noted that the July 2012 TIA incorrectly reported the available northbound through/right queue storage as 415 feet and the available southbound left-turn queue storage as 1,750 feet. Table 2 above correctly summarizes the queue data.

ODOT's August 31, 2012 letter contains the following recommended condition of approval:

- 1. 99W/SW Sherwood Blvd Intersection: The applicant shall lengthen the storage distance on the northbound right turn lane to 625 ft with the associated deceleration distance.*

While ODOT's letter recommends extending the Highway 99W northbound right-turn lane storage distance to 625 feet, there is not a dedicate right-turn lane today. As shown in Exhibit 1 below, there is an add lane south of SW Sherwood Boulevard, where the Highway 99W northbound lanes widen from a northbound through lane and shared through/right lane to two northbound through lanes and a shared through/right lane. As an add lane, through traffic tends to use the shared lane when storage is available but only up to the available storage – through vehicles otherwise remain in the two other through lanes.

Exhibit 1. Northbound Add Lane on Highway 99W (Image Source: Google Earth)



We separately analyzed intersection operations and queuing at the 99W/SW Sherwood Boulevard-SW Edy Road intersection assuming two northbound through lanes and a dedicated right-turn lane. The results of the analysis indicate that a *separate* northbound right-turn lane would operate with a 95th percentile queue of approximately 250 feet; 50 feet short of the 300 feet of available storage. Based on this analysis, there is not a need for additional queue storage if the lane is striped as a northbound right-turn only lane as suggested by the ODOT letter.

NEXT STEPS

We respectfully request that the City of Sherwood and ODOT review this supplemental material and use it for the purposes of assessing transportation mitigation requirements at the Highway 99W/SW Roy Rogers Road - SW Tualatin-Sherwood Road intersection and the 99W/SW Sherwood Boulevard-SW Edy Road intersection.

























We believe the recommended improvements identified in the July 2012 TIA remain appropriate and request that ODOT reconsider the need for the two improvement recommendations documented in their August 31, 2012 letter based on this additional information. It appears that no additional mitigation is needed at the Highway 99W/SW Roy Rogers Road - SW Tualatin-Sherwood Road intersection or the Highway 99W/SW Sherwood Boulevard-SW Edy Road intersection in conjunction with the proposed site development.

Thank you for the opportunity to provide this additional information. We look forward to continued dialogue and would be pleased to address any questions that you may have in the interim.

Attachments: Synchro and SimTraffic Worksheets

























Year 2013 Total Traffic Conditions
3: SW Roy Rogers Rd & SW Pacific Hwy (99W)

Weekday PM Peak Hour
9/7/2012

													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Volume (vph)	115	466	88	450	298	66	189	873	366	99	1502	356	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	0.97	0.95	1.00	0.97	0.95	1.00	1.00	*0.78	1.00	1.00	*0.78	1.00	
Frbp, ped/bikes	1.00	1.00	1.00	1.00	1.00	0.99	1.00	1.00	0.98	1.00	1.00	0.98	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	3273	2975	1615	3433	3539	1504	1752	4275	1539	1703	4359	1575	
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	
Satd. Flow (perm)	3273	2975	1615	3433	3539	1504	1752	4275	1539	1703	4359	1575	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	
Adj. Flow (vph)	124	501	95	484	320	71	203	939	394	106	1615	383	
RTOR Reduction (vph)	0	0	78	0	0	49	0	0	230	0	0	74	
Lane Group Flow (vph)	124	501	17	484	320	22	203	939	164	106	1615	309	
Confl. Peds. (#/hr)	1					1	4		5	5		4	
Heavy Vehicles (%)	7%	1%	0%	2%	2%	6%	3%	4%	3%	6%	2%	1%	
Turn Type	Prot		Perm	Prot		Perm	Prot		Perm	Prot		pm+ov	
Protected Phases	7	4		3	8		5	2		1	6	7	
Permitted Phases			4			8			2			6	
Actuated Green, G (s)	8.3	19.5	19.5	19.9	31.1	31.1	13.0	48.1	48.1	10.0	45.1	53.4	
Effective Green, g (s)	9.8	21.0	21.0	21.9	33.1	33.1	14.0	50.1	50.1	11.0	47.1	56.4	
Actuated g/C Ratio	0.08	0.18	0.18	0.18	0.28	0.28	0.12	0.42	0.42	0.09	0.39	0.47	
Clearance Time (s)	5.5	5.5	5.5	6.0	6.0	6.0	5.0	6.0	6.0	5.0	6.0	5.5	
Vehicle Extension (s)	2.3	2.3	2.3	2.3	2.3	2.3	2.3	4.4	4.4	2.3	4.4	2.3	
Lane Grp Cap (vph)	267	521	283	627	976	415	204	1785	643	156	1711	740	
v/s Ratio Prot	0.04	c0.17		c0.14	0.09		c0.12	0.22		0.06	c0.37	0.03	
v/s Ratio Perm			0.01			0.01			0.11			0.16	
v/c Ratio	0.46	0.96	0.06	0.77	0.33	0.05	1.00	0.53	0.26	0.68	0.94	0.42	
Uniform Delay, d1	52.6	49.1	41.3	46.7	34.6	31.9	53.0	26.1	22.8	52.8	35.2	21.0	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.59	0.51	0.28	1.22	0.92	0.72	
Incremental Delay, d2	0.7	29.7	0.1	5.5	0.1	0.0	53.8	0.9	0.7	6.5	8.6	0.1	
Delay (s)	53.3	78.8	41.3	52.2	34.7	32.0	85.2	14.3	7.2	71.1	40.9	15.3	
Level of Service	D	E	D	D	C	C	F	B	A	E	D	B	
Approach Delay (s)		69.5			44.2			21.8			37.7		
Approach LOS		E			D			C			D		
Intersection Summary													
HCM Average Control Delay			38.5									HCM Level of Service	D
HCM Volume to Capacity ratio			0.92										
Actuated Cycle Length (s)			120.0									Sum of lost time (s)	16.0
Intersection Capacity Utilization			78.5%									ICU Level of Service	D
Analysis Period (min)			15										
c Critical Lane Group													

Year 2013 Total Traffic Conditions
11: SW Edy Rd & SW Pacific Hwy (99W)

Weekday PM Peak Hour
9/7/2012

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	136	185	200	336	228	121	186	1227	105	177	1729	146
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	5.0	5.0	5.0	5.0	4.5	5.5		4.5	5.5	
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	1.00	1.00	0.91		1.00	0.91	
Frbp, ped/bikes	1.00	1.00	1.00	1.00	1.00	0.98	1.00	1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.99		1.00	0.99	
Flt Protected	0.95	1.00	1.00	0.95	0.99	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1900	1599	1715	1786	1465	1787	5014		1770	5021	
Flt Permitted	0.95	1.00	1.00	0.95	0.99	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	1900	1599	1715	1786	1465	1787	5014		1770	5021	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	142	193	208	350	238	126	194	1278	109	184	1801	152
RTOR Reduction (vph)	0	0	164	0	0	109	0	8	0	0	8	0
Lane Group Flow (vph)	142	193	44	287	301	17	194	1379	0	184	1945	0
Confl. Peds. (#/hr)	4					4	1					1
Heavy Vehicles (%)	2%	0%	1%	0%	0%	8%	1%	2%	5%	2%	2%	1%
Turn Type	Split		Perm	Split		Perm	Prot			Prot		
Protected Phases	7	7		8	8		5	2		1	6	
Permitted Phases			7			8						
Actuated Green, G (s)	11.0	11.0	11.0	16.5	16.5	16.5	13.0	53.0		19.5	59.5	
Effective Green, g (s)	11.0	11.0	11.0	16.5	16.5	16.5	13.0	53.0		19.5	59.5	
Actuated g/C Ratio	0.09	0.09	0.09	0.14	0.14	0.14	0.11	0.44		0.16	0.50	
Clearance Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	4.5	5.5		4.5	5.5	
Vehicle Extension (s)	2.3	2.3	2.3	2.3	2.3	2.3	2.3	4.4		2.3	4.4	
Lane Grp Cap (vph)	162	174	147	236	246	201	194	2215		288	2490	
v/s Ratio Prot	0.08	c0.10		0.17	c0.17		c0.11	0.27		0.10	c0.39	
v/s Ratio Perm			0.03			0.01						
v/c Ratio	0.88	1.11	0.30	1.22	1.22	0.09	1.00	0.62		0.64	0.78	
Uniform Delay, d1	53.8	54.5	50.9	51.8	51.8	45.2	53.5	25.8		47.0	24.9	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		0.50	0.20	
Incremental Delay, d2	36.9	100.5	0.7	129.5	131.3	0.1	64.6	1.3		1.9	1.3	
Delay (s)	90.7	155.0	51.5	181.2	183.0	45.3	118.1	27.1		25.3	6.2	
Level of Service	F	F	D	F	F	D	F	C		C	A	
Approach Delay (s)		98.6			158.0			38.3			7.9	
Approach LOS		F			F			D			A	
Intersection Summary												
HCM Average Control Delay			49.0			HCM Level of Service				D		
HCM Volume to Capacity ratio			0.92									
Actuated Cycle Length (s)			120.0			Sum of lost time (s)				20.0		
Intersection Capacity Utilization			88.7%			ICU Level of Service				E		
Analysis Period (min)			15									
c Critical Lane Group												

Summary of All Intervals

Run Number	1	2	3	4	5	Avg
Start Time	4:25	4:25	4:25	4:25	4:25	4:25
End Time	5:35	5:35	5:35	5:35	5:35	5:35
Total Time (min)	70	70	70	70	70	70
Time Recorded (min)	60	60	60	60	60	60
# of Intervals	4	4	4	4	4	4
# of Recorded Intvls	3	3	3	3	3	3
Vehs Entered	13794	13394	13679	13666	14011	13712
Vehs Exited	13686	13306	13679	13543	13859	13618
Starting Vehs	428	450	488	405	414	428
Ending Vehs	536	538	488	528	566	517
Denied Entry Before	14	53	51	4	65	35
Denied Entry After	481	1110	788	472	647	697
Travel Distance (mi)	6515	6396	6483	6509	6645	6510
Travel Time (hr)	723.5	1005.9	917.5	704.1	912.8	852.8
Total Delay (hr)	517.3	804.0	712.3	498.8	703.1	647.1
Total Stops	20224	21678	21812	19482	21687	20980
Fuel Used (gal)	360.0	420.9	407.6	354.3	410.2	390.6

Interval #0 Information Seeding

Start Time	4:25
End Time	4:35
Total Time (min)	10
Volumes adjusted by Anti PHF.	
No data recorded this interval.	

Interval #1 Information Recording1

Start Time	4:35
End Time	4:50
Total Time (min)	15
Volumes adjusted by Anti PHF.	

Run Number	1	2	3	4	5	Avg
Vehs Entered	3399	3317	3335	3383	3473	3381
Vehs Exited	3329	3264	3286	3322	3379	3316
Starting Vehs	428	450	488	405	414	428
Ending Vehs	498	503	537	466	508	497
Denied Entry Before	14	53	51	4	65	35
Denied Entry After	54	177	214	80	187	139
Travel Distance (mi)	1590	1554	1623	1589	1625	1597
Travel Time (hr)	119.9	146.1	158.8	120.6	149.1	138.9
Total Delay (hr)	69.2	96.7	107.7	70.4	97.7	88.3
Total Stops	4745	5044	5272	4561	4876	4903
Fuel Used (gal)	75.1	80.2	85.7	74.3	82.9	79.6

Interval #2 Information Recording2

Start Time	4:50
End Time	5:05
Total Time (min)	15

Volumes adjusted by PHF.

Run Number	1	2	3	4	5	Avg
Vehs Entered	3606	3682	3771	3566	3741	3673
Vehs Exited	3568	3548	3714	3525	3679	3607
Starting Vehs	498	503	537	466	508	497
Ending Vehs	536	637	594	507	570	562
Denied Entry Before	54	177	214	80	187	139
Denied Entry After	231	428	393	206	372	323
Travel Distance (mi)	1671	1716	1732	1670	1737	1705
Travel Time (hr)	158.7	225.9	221.9	162.3	209.3	195.6
Total Delay (hr)	105.9	171.6	166.9	109.5	154.4	141.7
Total Stops	5227	6089	6116	5214	5648	5662
Fuel Used (gal)	86.3	103.2	104.2	87.1	100.5	96.3

Interval #3 Information Recording3

Start Time	5:05
End Time	5:35
Total Time (min)	30

Volumes adjusted by Anti PHF.

Run Number	1	2	3	4	5	Avg
Vehs Entered	6789	6395	6573	6717	6797	6652
Vehs Exited	6789	6494	6679	6696	6801	6696
Starting Vehs	536	637	594	507	570	562
Ending Vehs	536	538	488	528	566	517
Denied Entry Before	231	428	393	206	372	323
Denied Entry After	481	1110	788	472	647	697
Travel Distance (mi)	3254	3125	3127	3250	3283	3208
Travel Time (hr)	444.9	634.0	536.9	421.2	554.4	518.3
Total Delay (hr)	342.2	535.6	437.7	318.9	451.1	417.1
Total Stops	10252	10545	10424	9707	11163	10419
Fuel Used (gal)	198.6	237.5	217.7	192.9	226.8	214.7

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Intersection: 1: Adams Ave & SW Pacific Hwy (99W), Interval #1

Movement	EB	EB	WB	WB	NB	NB	NB	NB	SB	SB	SB
Directions Served	LT	R	LT	R	L	T	T	R	L	T	TR
Maximum Queue (ft)	41	57	131	11	58	293	302	32	224	429	398
Average Queue (ft)	8	28	69	2	21	185	216	12	145	213	211
95th Queue (ft)	40	59	149	16	58	316	317	35	247	467	472
Link Distance (ft)	217		456			860	860			618	618
Upstream Blk Time (%)										0	0
Queuing Penalty (veh)										0	0
Storage Bay Dist (ft)		50		250	240			275	200		
Storage Blk Time (%)	0	4	0			1	1		8	2	
Queuing Penalty (veh)	0	0	0			0	1		72	2	

Intersection: 1: Adams Ave & SW Pacific Hwy (99W), Interval #2

Movement	EB	EB	WB	WB	NB	NB	NB	NB	SB	SB	SB
Directions Served	LT	R	LT	R	L	T	T	R	L	T	TR
Maximum Queue (ft)	63	61	114	11	30	326	340	84	205	554	593
Average Queue (ft)	22	34	79	2	15	187	213	18	163	239	264
95th Queue (ft)	81	77	131	16	40	354	389	100	247	588	608
Link Distance (ft)	217		456			860	860			618	618
Upstream Blk Time (%)										2	2
Queuing Penalty (veh)										0	0
Storage Bay Dist (ft)		50		250	240			275	200		
Storage Blk Time (%)	2	16				3	5		12	3	
Queuing Penalty (veh)	1	1				1	3		121	5	

Intersection: 1: Adams Ave & SW Pacific Hwy (99W), Interval #3

Movement	EB	EB	WB	WB	NB	NB	NB	NB	B62	SB	SB	SB
Directions Served	LT	R	LT	R	L	T	T	R	T	L	T	TR
Maximum Queue (ft)	62	69	134	32	54	324	339	38	321	214	449	478
Average Queue (ft)	8	38	61	2	17	193	218	11	21	131	259	291
95th Queue (ft)	49	78	124	20	48	312	339	34	235	238	568	584
Link Distance (ft)	217		456			860	860		725		618	618
Upstream Blk Time (%)									0		5	3
Queuing Penalty (veh)									0		0	0
Storage Bay Dist (ft)		50		250	240			275		200		
Storage Blk Time (%)	0	14				3	3			10	2	
Queuing Penalty (veh)	0	1				1	1			92	3	

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Intersection: 1: Adams Ave & SW Pacific Hwy (99W), All Intervals

Movement	EB	EB	WB	WB	NB	NB	NB	NB	B62	SB	SB	SB
Directions Served	LT	R	LT	R	L	T	T	R	T	L	T	TR
Maximum Queue (ft)	100	69	160	43	66	359	376	110	321	224	568	594
Average Queue (ft)	11	35	67	2	17	190	216	13	11	142	243	265
95th Queue (ft)	57	74	134	18	49	325	349	58	166	245	552	569
Link Distance (ft)	217		456			860	860		725		618	618
Upstream Blk Time (%)									0		3	2
Queuing Penalty (veh)									0		0	0
Storage Bay Dist (ft)		50		250	240			275		200		
Storage Blk Time (%)	1	12	0			3	3			10	2	
Queuing Penalty (veh)	0	1	0			1	2			94	3	

Intersection: 2: SW Roy Rogers Rd & SW Borchers Dr, Interval #1

Movement	EB	EB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	TR	L	T	R	L	TR	L	TR
Maximum Queue (ft)	35	568	30	379	31	124	168	44	58
Average Queue (ft)	10	310	11	174	9	94	52	19	24
95th Queue (ft)	36	615	38	365	34	130	154	48	59
Link Distance (ft)		726		984	984		391		305
Upstream Blk Time (%)		1							
Queuing Penalty (veh)		0							
Storage Bay Dist (ft)	110		260			100		140	
Storage Blk Time (%)		20		3		12	0		
Queuing Penalty (veh)		2		0		6	0		

Intersection: 2: SW Roy Rogers Rd & SW Borchers Dr, Interval #2

Movement	EB	EB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	TR	L	T	R	L	TR	L	TR
Maximum Queue (ft)	34	573	37	549	26	124	251	41	51
Average Queue (ft)	6	391	15	281	7	114	96	21	28
95th Queue (ft)	27	675	43	586	28	139	255	52	59
Link Distance (ft)		726		984	984		391		305
Upstream Blk Time (%)		2		0					
Queuing Penalty (veh)		0		0					
Storage Bay Dist (ft)	110		260			100		140	
Storage Blk Time (%)		29		5		24	0		
Queuing Penalty (veh)		3		1		14	0		

Intersection: 2: SW Roy Rogers Rd & SW Borchers Dr, Interval #3

Movement	EB	EB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	TR	L	T	R	L	TR	L	TR
Maximum Queue (ft)	45	565	44	854	33	124	232	60	56
Average Queue (ft)	10	300	12	259	7	107	71	19	24
95th Queue (ft)	39	557	39	599	28	146	201	54	54
Link Distance (ft)		726		984	984		391		305
Upstream Blk Time (%)		0					0		
Queuing Penalty (veh)		0					0		
Storage Bay Dist (ft)	110		260			100		140	
Storage Blk Time (%)		24		3		16			
Queuing Penalty (veh)		2		0		8			

Intersection: 2: SW Roy Rogers Rd & SW Borchers Dr, All Intervals

Movement	EB	EB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	TR	L	T	R	L	TR	L	TR
Maximum Queue (ft)	45	684	46	854	38	124	283	69	65
Average Queue (ft)	9	325	12	244	7	106	72	19	25
95th Queue (ft)	36	607	40	553	30	143	207	52	57
Link Distance (ft)		726		984	984		391		305
Upstream Blk Time (%)		1		0			0		
Queuing Penalty (veh)		0		0			0		
Storage Bay Dist (ft)	110		260			100		140	
Storage Blk Time (%)		24		3		17	0		
Queuing Penalty (veh)		2		0		9	0		

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Intersection: 3: SW Roy Rogers Rd & SW Pacific Hwy (99W), Interval #1

Movement	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	NB	NB
Directions Served	L	L	T	T	R	L	L	T	T	R	L	T
Maximum Queue (ft)	77	169	363	355	204	299	310	192	164	83	320	519
Average Queue (ft)	47	69	246	244	80	237	255	132	83	26	275	389
95th Queue (ft)	83	162	381	393	206	328	364	214	177	99	533	957
Link Distance (ft)			984	984				591	591			1742
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	240	240			200	500	500			80	435	
Storage Blk Time (%)		0	11	22	0				13	0	30	
Queuing Penalty (veh)		0	12	19	0				8	0	85	

Intersection: 3: SW Roy Rogers Rd & SW Pacific Hwy (99W), Interval #1

Movement	NB	NB	NB	SB	SB	SB	SB	SB
Directions Served	T	T	R	L	T	T	T	R
Maximum Queue (ft)	499	352	265	268	436	412	404	87
Average Queue (ft)	368	131	184	133	303	300	313	58
95th Queue (ft)	877	390	304	250	454	441	438	103
Link Distance (ft)	1742	1742			725	725	725	
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)			265	260			570	
Storage Blk Time (%)		1	6	0	11			
Queuing Penalty (veh)		3	18	0	11			

Intersection: 3: SW Roy Rogers Rd & SW Pacific Hwy (99W), Interval #2

Movement	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	NB	NB
Directions Served	L	L	T	T	R	L	L	T	T	R	L	T
Maximum Queue (ft)	105	179	300	325	203	277	298	232	195	56	443	830
Average Queue (ft)	52	80	209	224	79	197	212	142	73	8	377	554
95th Queue (ft)	103	150	281	314	191	282	300	228	149	53	533	1389
Link Distance (ft)			984	984				591	591			1742
Upstream Blk Time (%)												3
Queuing Penalty (veh)												15
Storage Bay Dist (ft)	240	240			200	500	500			80	435	
Storage Blk Time (%)		0	6	15	0				13	0	38	
Queuing Penalty (veh)		0	8	14	0				9	0	118	

Intersection: 3: SW Roy Rogers Rd & SW Pacific Hwy (99W), Interval #2

Movement	NB	NB	NB	SB	SB	SB	SB	SB	B62
Directions Served	T	T	R	L	T	T	T	R	T
Maximum Queue (ft)	798	625	268	236	579	578	599	299	43
Average Queue (ft)	486	134	190	133	391	387	394	99	11
95th Queue (ft)	1206	445	303	254	618	609	615	311	84
Link Distance (ft)	1742	1742			725	725	725		860
Upstream Blk Time (%)									0
Queuing Penalty (veh)									2
Storage Bay Dist (ft)			265	260				570	
Storage Blk Time (%)			3	2	26		1		
Queuing Penalty (veh)			10	10	28		3		

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Intersection: 3: SW Roy Rogers Rd & SW Pacific Hwy (99W), Interval #3

Movement	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	NB	NB
Directions Served	L	L	T	T	R	L	L	T	T	R	L	T
Maximum Queue (ft)	106	265	494	504	225	314	328	220	179	84	459	1170
Average Queue (ft)	43	97	290	289	75	215	230	133	79	9	424	836
95th Queue (ft)	95	235	470	471	202	326	332	216	164	58	529	1872
Link Distance (ft)			984	984				591	591			1742
Upstream Blk Time (%)												17
Queuing Penalty (veh)												82
Storage Bay Dist (ft)	240	240			200	500	500			80	435	
Storage Blk Time (%)		0	21	33	0			7	0	0	55	
Queuing Penalty (veh)		0	24	28	0			4	0	0	156	

Intersection: 3: SW Roy Rogers Rd & SW Pacific Hwy (99W), Interval #3

Movement	NB	NB	NB	SB	SB	SB	SB	SB	B62	B62
Directions Served	T	T	R	L	T	T	T	R	T	T
Maximum Queue (ft)	1122	777	256	284	556	510	519	227	122	125
Average Queue (ft)	656	229	183	133	332	328	342	81	16	16
95th Queue (ft)	1570	839	293	244	557	525	532	260	177	177
Link Distance (ft)	1742	1742			725	725	725		860	860
Upstream Blk Time (%)	2	0			1	0	1			
Queuing Penalty (veh)	7	0			4	1	3			
Storage Bay Dist (ft)			265	260				570		
Storage Blk Time (%)			6	0	17		1	0		
Queuing Penalty (veh)			16	1	17		4	0		

Intersection: 3: SW Roy Rogers Rd & SW Pacific Hwy (99W), All Intervals

Movement	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	NB	NB
Directions Served	L	L	T	T	R	L	L	T	T	R	L	T
Maximum Queue (ft)	122	265	494	504	225	323	330	276	231	104	459	1170
Average Queue (ft)	46	86	260	262	77	216	231	135	79	13	376	660
95th Queue (ft)	95	202	420	426	200	319	335	219	164	69	570	1609
Link Distance (ft)			984	984				591	591			1742
Upstream Blk Time (%)												9
Queuing Penalty (veh)												45
Storage Bay Dist (ft)	240	240			200	500	500			80	435	
Storage Blk Time (%)		0	15	26	0				10	0	45	
Queuing Penalty (veh)		0	17	22	0				6	0	129	

Intersection: 3: SW Roy Rogers Rd & SW Pacific Hwy (99W), All Intervals

Movement	NB	NB	NB	SB	SB	SB	SB	SB	B62	B62
Directions Served	T	T	R	L	T	T	T	R	T	T
Maximum Queue (ft)	1122	814	279	284	623	600	650	414	122	168
Average Queue (ft)	546	182	185	133	339	335	348	80	8	11
95th Queue (ft)	1358	670	298	248	556	534	539	249	125	132
Link Distance (ft)	1742	1742			725	725	725		860	860
Upstream Blk Time (%)	1	0			0	0	0			
Queuing Penalty (veh)	4	0			2	1	2			
Storage Bay Dist (ft)			265	260				570		
Storage Blk Time (%)		0	5	1	18		1	0		
Queuing Penalty (veh)		1	15	3	18		3	0		

Intersection: 4: SW Tualatin Sherwood Rd & Shopping Center Access, Interval #1

Movement	EB	EB	EB	EB	WB	WB	WB	NB	NB	SB	SB	SB
Directions Served	L	L	T	TR	L	T	TR	L	TR	L	T	R
Maximum Queue (ft)	34	81	220	237	208	385	166	91	111	54	48	50
Average Queue (ft)	11	30	124	136	65	205	77	57	42	20	15	34
95th Queue (ft)	34	83	243	254	189	379	167	95	94	52	46	57
Link Distance (ft)			591	591		508	508		410		364	
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	170	170			225			75		100		100
Storage Blk Time (%)			4		0	6		3	2	0		
Queuing Penalty (veh)			3		0	3		3	2	0		

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Intersection: 4: SW Tualatin Sherwood Rd & Shopping Center Access, Interval #2

Movement	EB	EB	EB	EB	WB	WB	WB	NB	NB	SB	SB	SB
Directions Served	L	L	T	TR	L	T	TR	L	TR	L	T	R
Maximum Queue (ft)	46	110	264	292	98	400	196	99	126	78	74	75
Average Queue (ft)	16	47	152	170	39	246	99	65	63	30	25	39
95th Queue (ft)	49	124	292	313	108	436	200	106	135	76	76	77
Link Distance (ft)			591	591		508	508		410			364
Upstream Blk Time (%)						0						
Queuing Penalty (veh)						1						
Storage Bay Dist (ft)	170	170			225			75		100		100
Storage Blk Time (%)			5			9		8	2	0	0	0
Queuing Penalty (veh)			3			6		7	2	0	0	0

Intersection: 4: SW Tualatin Sherwood Rd & Shopping Center Access, Interval #3

Movement	EB	EB	EB	EB	WB	WB	WB	NB	NB	SB	SB	SB
Directions Served	L	L	T	TR	L	T	TR	L	TR	L	T	R
Maximum Queue (ft)	35	87	233	254	153	394	197	92	126	66	61	60
Average Queue (ft)	13	35	122	129	43	197	78	54	47	24	21	33
95th Queue (ft)	40	77	233	244	110	351	168	93	107	61	55	59
Link Distance (ft)			591	591		508	508		410			364
Upstream Blk Time (%)						0						
Queuing Penalty (veh)						1						
Storage Bay Dist (ft)	170	170			225			75		100		100
Storage Blk Time (%)			4			4		3	1	0		0
Queuing Penalty (veh)			2			2		3	1	0		0

Intersection: 4: SW Tualatin Sherwood Rd & Shopping Center Access, All Intervals

Movement	EB	EB	EB	EB	WB	WB	WB	NB	NB	SB	SB	SB
Directions Served	L	L	T	TR	L	T	TR	L	TR	L	T	R
Maximum Queue (ft)	46	148	273	310	247	478	236	100	168	88	79	80
Average Queue (ft)	13	37	130	140	47	211	83	58	50	24	21	35
95th Queue (ft)	41	93	252	267	134	382	176	97	112	63	59	64
Link Distance (ft)			591	591		508	508		410			364
Upstream Blk Time (%)						0						
Queuing Penalty (veh)						0						
Storage Bay Dist (ft)	170	170			225			75		100		100
Storage Blk Time (%)		0	4		0	6		5	2	0	0	0
Queuing Penalty (veh)		0	3		0	3		4	1	0	0	0

Intersection: 5: SW Tualatin Sherwood Rd & SW Baler Way, Interval #1

Movement	EB	EB	EB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	TR	L	T	TR	LT	R	L	TR
Maximum Queue (ft)	17	177	156	87	141	83	104	46	25	32
Average Queue (ft)	3	88	64	44	60	32	58	33	5	11
95th Queue (ft)	18	211	166	89	135	85	107	56	23	38
Link Distance (ft)		508	508		676	676	483			373
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)	120			200				210	40	
Storage Blk Time (%)		3			0				0	2
Queuing Penalty (veh)		0			0				0	0

Intersection: 5: SW Tualatin Sherwood Rd & SW Baler Way, Interval #2

Movement	EB	EB	EB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	TR	L	T	TR	LT	R	L	TR
Maximum Queue (ft)	12	189	173	98	188	89	98	49	32	38
Average Queue (ft)	4	79	57	59	70	33	57	34	12	10
95th Queue (ft)	20	194	162	106	178	85	94	54	35	38
Link Distance (ft)		508	508		676	676	483			373
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)	120			200				210	40	
Storage Blk Time (%)		3			1				1	1
Queuing Penalty (veh)		0			1				0	0

Intersection: 5: SW Tualatin Sherwood Rd & SW Baler Way, Interval #3

Movement	EB	EB	EB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	TR	L	T	TR	LT	R	L	TR
Maximum Queue (ft)	18	173	151	88	142	84	98	51	36	44
Average Queue (ft)	2	60	42	43	59	31	53	32	7	7
95th Queue (ft)	14	156	115	83	135	75	92	55	29	32
Link Distance (ft)		508	508		676	676	483			373
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)	120			200				210	40	
Storage Blk Time (%)		2							1	1
Queuing Penalty (veh)		0							0	0

Intersection: 5: SW Tualatin Sherwood Rd & SW Baler Way, All Intervals

Movement	EB	EB	EB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	TR	L	T	TR	LT	R	L	TR
Maximum Queue (ft)	24	221	203	118	219	104	121	57	36	49
Average Queue (ft)	3	71	51	47	62	32	55	33	7	9
95th Queue (ft)	17	181	141	91	147	80	96	55	29	35
Link Distance (ft)		508	508		676	676	483			373
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)	120			200				210	40	
Storage Blk Time (%)		2			0				0	1
Queuing Penalty (veh)		0			0				0	0

Intersection: 6: SW Tualatin Sherwood Rd & SW Langer Farms Rd, Interval #1

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB
Directions Served	L	T	TR	L	T	TR	L	T	R	TR
Maximum Queue (ft)	7	215	165	112	119	88	93	76	45	122
Average Queue (ft)	1	139	74	82	66	36	58	37	36	69
95th Queue (ft)	11	244	178	123	150	89	105	81	52	136
Link Distance (ft)		676	676		732	732		144	144	377
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)	100			100			100			
Storage Blk Time (%)		8		3	1		1	0		
Queuing Penalty (veh)		0		11	1		0	0		

Intersection: 6: SW Tualatin Sherwood Rd & SW Langer Farms Rd, Interval #2

Movement	EB	EB	WB	WB	WB	NB	NB	NB	SB
Directions Served	T	TR	L	T	TR	L	T	R	TR
Maximum Queue (ft)	255	188	124	216	124	105	97	71	169
Average Queue (ft)	154	93	93	114	51	64	52	40	94
95th Queue (ft)	272	187	139	248	115	110	107	68	174
Link Distance (ft)	676	676		732	732		144	144	377
Upstream Blk Time (%)							0		
Queuing Penalty (veh)							0		
Storage Bay Dist (ft)			100			100			
Storage Blk Time (%)	12		9	3		3	2		
Queuing Penalty (veh)	0		37	7		2	1		

Intersection: 6: SW Tualatin Sherwood Rd & SW Langer Farms Rd, Interval #3

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB
Directions Served	L	T	TR	L	T	TR	L	T	R	TR
Maximum Queue (ft)	28	256	180	124	179	100	104	90	60	116
Average Queue (ft)	2	120	68	81	74	35	53	40	37	65
95th Queue (ft)	15	237	163	128	149	82	97	87	59	117
Link Distance (ft)		676	676		732	732		144	144	377
Upstream Blk Time (%)								0		
Queuing Penalty (veh)								0		
Storage Bay Dist (ft)	100			100			100			
Storage Blk Time (%)		7		4	1		1	0		
Queuing Penalty (veh)		0		16	2		1	0		

Intersection: 6: SW Tualatin Sherwood Rd & SW Langer Farms Rd, All Intervals

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB
Directions Served	L	T	TR	L	T	TR	L	T	R	TR
Maximum Queue (ft)	35	282	213	124	240	129	118	119	72	181
Average Queue (ft)	1	133	76	84	82	39	57	42	38	73
95th Queue (ft)	12	250	174	130	181	93	103	91	60	139
Link Distance (ft)		676	676		732	732		144	144	377
Upstream Blk Time (%)								0		
Queuing Penalty (veh)								0		
Storage Bay Dist (ft)	100			100			100			
Storage Blk Time (%)		9		5	1		1	1		
Queuing Penalty (veh)		0		20	3		1	0		

Intersection: 7: SW Tualatin Sherwood Rd & SW Century Drive, Interval #1

Movement	WB	NB
Directions Served	L	R
Maximum Queue (ft)	89	92
Average Queue (ft)	48	47
95th Queue (ft)	87	91
Link Distance (ft)		248
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)	100	
Storage Blk Time (%)	0	
Queuing Penalty (veh)	2	

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Intersection: 7: SW Tualatin Sherwood Rd & SW Century Drive, Interval #2

Movement	WB	NB
Directions Served	L	R
Maximum Queue (ft)	88	79
Average Queue (ft)	41	44
95th Queue (ft)	89	79
Link Distance (ft)		248
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)	100	
Storage Blk Time (%)	1	
Queuing Penalty (veh)	5	

Intersection: 7: SW Tualatin Sherwood Rd & SW Century Drive, Interval #3

Movement	WB	WB	NB
Directions Served	L	T	R
Maximum Queue (ft)	84	41	95
Average Queue (ft)	36	3	45
95th Queue (ft)	75	41	84
Link Distance (ft)		588	248
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)	100		
Storage Blk Time (%)	0		
Queuing Penalty (veh)	3		

Intersection: 7: SW Tualatin Sherwood Rd & SW Century Drive, All Intervals

Movement	WB	WB	NB
Directions Served	L	T	R
Maximum Queue (ft)	101	41	104
Average Queue (ft)	40	1	45
95th Queue (ft)	82	29	84
Link Distance (ft)		588	248
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)	100		
Storage Blk Time (%)	0		
Queuing Penalty (veh)	3		

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Intersection: 8: SW Tualatin Sherwood Rd & SW Oregon Street, Interval #1

Movement	EB	EB	EB	WB	WB	NB	NB	SB
Directions Served	L	T	R	L	TR	LT	R	LR
Maximum Queue (ft)	7	593	125	184	576	172	110	55
Average Queue (ft)	1	463	72	166	429	99	71	16
95th Queue (ft)	11	749	155	224	768	177	128	53
Link Distance (ft)		562			546	490	490	140
Upstream Blk Time (%)		16			8			
Queuing Penalty (veh)		0			0			
Storage Bay Dist (ft)	150		100	160				
Storage Blk Time (%)		37	1	23	5			
Queuing Penalty (veh)		63	4	181	18			

Intersection: 8: SW Tualatin Sherwood Rd & SW Oregon Street, Interval #2

Movement	EB	EB	EB	WB	WB	NB	NB	SB
Directions Served	L	T	R	L	TR	LT	R	LR
Maximum Queue (ft)	7	582	125	184	573	185	194	36
Average Queue (ft)	1	515	65	175	477	118	110	13
95th Queue (ft)	10	709	146	210	729	197	202	46
Link Distance (ft)		562			546	490	490	140
Upstream Blk Time (%)		18			17			
Queuing Penalty (veh)		0			0			
Storage Bay Dist (ft)	150		100	160				
Storage Blk Time (%)		38	0	30	5			
Queuing Penalty (veh)		71	3	266	21			

Intersection: 8: SW Tualatin Sherwood Rd & SW Oregon Street, Interval #3

Movement	EB	EB	WB	WB	NB	NB	SB
Directions Served	T	R	L	TR	LT	R	LR
Maximum Queue (ft)	591	123	185	568	216	174	55
Average Queue (ft)	469	65	173	367	101	81	12
95th Queue (ft)	713	134	213	688	187	160	43
Link Distance (ft)	562			546	490	490	140
Upstream Blk Time (%)	11			8			
Queuing Penalty (veh)	0			0			
Storage Bay Dist (ft)		100	160				
Storage Blk Time (%)	37	0	26	3			
Queuing Penalty (veh)	63	2	204	10			

Intersection: 8: SW Tualatin Sherwood Rd & SW Oregon Street, All Intervals

Movement	EB	EB	EB	WB	WB	NB	NB	SB
Directions Served	L	T	R	L	TR	LT	R	LR
Maximum Queue (ft)	14	600	125	185	581	245	199	72
Average Queue (ft)	0	479	67	172	409	105	86	13
95th Queue (ft)	7	725	142	216	728	188	167	47
Link Distance (ft)		562			546	490	490	140
Upstream Blk Time (%)		14			10			
Queuing Penalty (veh)		0			0			
Storage Bay Dist (ft)	150		100	160				
Storage Blk Time (%)		37	0	26	4			
Queuing Penalty (veh)		65	3	213	15			

Intersection: 9: North Dwy & SW Langer Farms Rd, Interval #1

Movement	EB	EB	NB
Directions Served	L	R	L
Maximum Queue (ft)	38	33	28
Average Queue (ft)	13	16	7
95th Queue (ft)	42	43	29
Link Distance (ft)		175	
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)	50		50
Storage Blk Time (%)	1	0	0
Queuing Penalty (veh)	0	0	0

Intersection: 9: North Dwy & SW Langer Farms Rd, Interval #2

Movement	EB	EB	NB
Directions Served	L	R	L
Maximum Queue (ft)	51	37	44
Average Queue (ft)	27	15	16
95th Queue (ft)	59	46	48
Link Distance (ft)		175	
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)	50		50
Storage Blk Time (%)	3	0	2
Queuing Penalty (veh)	1	0	2

Intersection: 9: North Dwy & SW Langer Farms Rd, Interval #3

Movement	EB	EB	NB	NB	SB
Directions Served	L	R	L	T	TR
Maximum Queue (ft)	46	39	35	7	5
Average Queue (ft)	16	18	11	0	0
95th Queue (ft)	46	45	38	7	5
Link Distance (ft)		175		191	144
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)	50		50		
Storage Blk Time (%)	1	0	0	0	
Queuing Penalty (veh)	0	0	0	0	

Intersection: 9: North Dwy & SW Langer Farms Rd, All Intervals

Movement	EB	EB	NB	NB	SB
Directions Served	L	R	L	T	TR
Maximum Queue (ft)	54	44	44	7	5
Average Queue (ft)	18	17	11	0	0
95th Queue (ft)	49	45	39	5	4
Link Distance (ft)		175		191	144
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)	50		50		
Storage Blk Time (%)	1	0	1	0	
Queuing Penalty (veh)	0	0	1	0	

Intersection: 10: South Dwy & SW Langer Farms Rd, Interval #1

Movement	EB	EB	WB	WB	NB	NB	SB
Directions Served	L	TR	LT	R	L	TR	L
Maximum Queue (ft)	27	34	44	85	7	15	66
Average Queue (ft)	7	15	31	48	1	4	41
95th Queue (ft)	29	41	54	86	11	19	70
Link Distance (ft)		180	214	214		257	
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)	50				50		50
Storage Blk Time (%)	0	0			0		2
Queuing Penalty (veh)	0	0			0		2

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Intersection: 10: South Dwy & SW Langer Farms Rd, Interval #2

Movement	EB	EB	WB	WB	NB	NB	SB	SB
Directions Served	L	TR	LT	R	L	TR	L	TR
Maximum Queue (ft)	27	38	50	110	14	27	74	53
Average Queue (ft)	7	19	30	67	2	8	52	11
95th Queue (ft)	29	47	60	116	15	31	90	68
Link Distance (ft)		180	214	214		257		191
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)	50				50		50	
Storage Blk Time (%)	0	1			0		6	
Queuing Penalty (veh)	0	0			0		8	

Intersection: 10: South Dwy & SW Langer Farms Rd, Interval #3

Movement	EB	EB	WB	WB	NB	NB	SB	SB
Directions Served	L	TR	LT	R	L	TR	L	TR
Maximum Queue (ft)	27	44	55	91	27	26	74	36
Average Queue (ft)	4	12	30	51	3	4	38	2
95th Queue (ft)	22	40	60	84	18	18	73	36
Link Distance (ft)		180	214	214		257		191
Upstream Blk Time (%)								0
Queuing Penalty (veh)								0
Storage Bay Dist (ft)	50				50		50	
Storage Blk Time (%)	0	0			0		2	
Queuing Penalty (veh)	0	0			0		2	

Intersection: 10: South Dwy & SW Langer Farms Rd, All Intervals

Movement	EB	EB	WB	WB	NB	NB	SB	SB
Directions Served	L	TR	LT	R	L	TR	L	TR
Maximum Queue (ft)	34	49	66	130	34	32	74	88
Average Queue (ft)	5	14	30	54	2	5	42	4
95th Queue (ft)	25	42	59	95	16	22	78	42
Link Distance (ft)		180	214	214		257		191
Upstream Blk Time (%)								0
Queuing Penalty (veh)								0
Storage Bay Dist (ft)	50				50		50	
Storage Blk Time (%)	0	0			0		3	
Queuing Penalty (veh)	0	0			0		4	

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Intersection: 11: SW Edy Rd & SW Pacific Hwy (99W), Interval #1

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	SB	SB
Directions Served	L	T	R	L	LT	R	L	T	T	TR	L	T
Maximum Queue (ft)	214	803	229	174	461	478	409	517	502	298	195	241
Average Queue (ft)	157	562	141	153	440	166	348	417	416	206	118	138
95th Queue (ft)	246	982	286	213	460	470	503	839	823	306	213	235
Link Distance (ft)		785			423	423		741	741			1742
Upstream Blk Time (%)		27			53	0		9	4			
Queuing Penalty (veh)		0			179	1		0	0			
Storage Bay Dist (ft)	190		220	150			400			300	415	
Storage Blk Time (%)	13	52	1	22	68		37		1	0		
Queuing Penalty (veh)	51	172	4	86	112		149		3	1		

Intersection: 11: SW Edy Rd & SW Pacific Hwy (99W), Interval #1

Movement	SB	SB
Directions Served	T	TR
Maximum Queue (ft)	310	382
Average Queue (ft)	182	243
95th Queue (ft)	288	377
Link Distance (ft)	1742	1742
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

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Intersection: 11: SW Edy Rd & SW Pacific Hwy (99W), Interval #2

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	SB	SB
Directions Served	L	T	R	L	LT	R	L	T	T	TR	L	T
Maximum Queue (ft)	214	804	245	175	456	304	406	624	617	314	202	236
Average Queue (ft)	176	801	184	161	437	136	339	458	405	236	123	135
95th Queue (ft)	259	804	304	201	458	418	526	853	789	339	218	258
Link Distance (ft)		785			423	423		741	741			1742
Upstream Blk Time (%)		59			57	2		8	4			
Queuing Penalty (veh)		0			208	8		0	0			
Storage Bay Dist (ft)	190		220	150			400			300	415	
Storage Blk Time (%)	27	66	2	23	79		33	2	2	2		
Queuing Penalty (veh)	107	230	7	93	138		143	4	11	10		

Intersection: 11: SW Edy Rd & SW Pacific Hwy (99W), Interval #2

Movement	SB	SB
Directions Served	T	TR
Maximum Queue (ft)	294	358
Average Queue (ft)	186	254
95th Queue (ft)	315	402
Link Distance (ft)	1742	1742
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

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Intersection: 11: SW Edy Rd & SW Pacific Hwy (99W), Interval #3

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	SB	SB
Directions Served	L	T	R	L	LT	R	L	T	T	TR	L	T
Maximum Queue (ft)	214	804	245	175	473	463	411	608	587	319	309	279
Average Queue (ft)	176	798	155	149	439	167	366	548	535	241	134	144
95th Queue (ft)	263	812	322	216	467	475	502	956	943	351	257	253
Link Distance (ft)		785			423	423		741	741			1742
Upstream Blk Time (%)		67			52	7		15	9			
Queuing Penalty (veh)		0			178	22		0	0			
Storage Bay Dist (ft)	190		220	150			400			300	415	
Storage Blk Time (%)	35	55	3	14	77		41	6	6	4	0	
Queuing Penalty (veh)	131	183	9	56	128		166	11	32	16	1	

Intersection: 11: SW Edy Rd & SW Pacific Hwy (99W), Interval #3

Movement	SB	SB
Directions Served	T	TR
Maximum Queue (ft)	318	375
Average Queue (ft)	189	244
95th Queue (ft)	312	373
Link Distance (ft)	1742	1742
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 11: SW Edy Rd & SW Pacific Hwy (99W), All Intervals

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	SB	SB
Directions Served	L	T	R	L	LT	R	L	T	T	TR	L	T
Maximum Queue (ft)	214	804	245	175	478	478	424	640	617	325	309	300
Average Queue (ft)	172	742	158	153	439	159	355	495	475	231	127	140
95th Queue (ft)	259	1008	312	213	464	461	511	913	890	340	239	251
Link Distance (ft)		785			423	423		741	741			1742
Upstream Blk Time (%)		55			54	4		12	6			
Queuing Penalty (veh)		0			186	13		0	0			
Storage Bay Dist (ft)	190		220	150			400			300	415	
Storage Blk Time (%)	27	57	2	18	75		38	3	4	3	0	
Queuing Penalty (veh)	105	192	7	73	126		156	6	19	11	0	

Intersection: 11: SW Edy Rd & SW Pacific Hwy (99W), All Intervals

Movement	SB	SB
Directions Served	T	TR
Maximum Queue (ft)	338	402
Average Queue (ft)	186	246
95th Queue (ft)	307	381
Link Distance (ft)	1742	1742
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 12: SW Sherwood Blvd & SW Langer Dr, Interval #1

Movement	EB	EB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	TR	L	T	TR	L	TR	L	TR
Maximum Queue (ft)	94	353	54	326	314	73	202	174	331
Average Queue (ft)	73	198	14	309	231	68	155	155	295
95th Queue (ft)	113	378	56	337	384	89	257	207	400
Link Distance (ft)		423		303	303		194		312
Upstream Blk Time (%)		3		66	9		40		49
Queuing Penalty (veh)		15		185	24		0		0
Storage Bay Dist (ft)	70		95			50		150	
Storage Blk Time (%)	25	16	0	86		78	7	19	49
Queuing Penalty (veh)	71	19	0	31		56	5	51	98

Intersection: 12: SW Sherwood Blvd & SW Langer Dr, Interval #2

Movement	EB	EB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	TR	L	T	TR	L	TR	L	TR
Maximum Queue (ft)	94	341	101	327	311	73	211	174	344
Average Queue (ft)	76	217	53	310	169	71	199	163	332
95th Queue (ft)	118	393	136	326	341	78	235	210	347
Link Distance (ft)		423		303	303		194		312
Upstream Blk Time (%)		0		72	9		86		69
Queuing Penalty (veh)		1		217	26		0		0
Storage Bay Dist (ft)	70		95			50		150	
Storage Blk Time (%)	33	13	1	88		94	7	22	64
Queuing Penalty (veh)	101	18	2	34		73	5	62	139

Intersection: 12: SW Sherwood Blvd & SW Langer Dr, Interval #3

Movement	EB	EB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	TR	L	T	TR	L	TR	L	TR
Maximum Queue (ft)	95	384	119	320	325	75	212	175	350
Average Queue (ft)	82	189	32	308	213	69	203	155	331
95th Queue (ft)	109	369	107	325	385	83	217	237	347
Link Distance (ft)		423		303	303		194		312
Upstream Blk Time (%)		2		70	12		95		74
Queuing Penalty (veh)		9		199	33		0		0
Storage Bay Dist (ft)	70		95			50		150	
Storage Blk Time (%)	29	10	2	86		93	7	23	60
Queuing Penalty (veh)	82	12	4	31		67	5	61	121

Intersection: 12: SW Sherwood Blvd & SW Langer Dr, All Intervals

Movement	EB	EB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	TR	L	T	TR	L	TR	L	TR
Maximum Queue (ft)	95	416	120	337	331	75	213	175	361
Average Queue (ft)	78	198	33	309	207	69	190	157	322
95th Queue (ft)	114	378	107	329	379	84	254	225	381
Link Distance (ft)		423		303	303		194		312
Upstream Blk Time (%)		2		69	10		79		67
Queuing Penalty (veh)		9		200	29		0		0
Storage Bay Dist (ft)	70		95			50		150	
Storage Blk Time (%)	29	12	1	87		90	7	22	58
Queuing Penalty (veh)	84	15	2	32		66	5	59	119

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Intersection: 13: SW Century Dr & SW Sherwood Blvd, Interval #1

Movement	EB	WB	NB	NB	SB	SB
Directions Served	LTR	LTR	L	TR	L	TR
Maximum Queue (ft)	182	295	38	262	49	7
Average Queue (ft)	90	244	7	226	15	1
95th Queue (ft)	197	376	44	336	50	10
Link Distance (ft)	266	276		243		303
Upstream Blk Time (%)	1	70		45		
Queuing Penalty (veh)	0	0		0		
Storage Bay Dist (ft)			100		100	
Storage Blk Time (%)				58	0	
Queuing Penalty (veh)				10	0	

Intersection: 13: SW Century Dr & SW Sherwood Blvd, Interval #2

Movement	EB	WB	NB	NB	SB	SB
Directions Served	LTR	LTR	L	TR	L	TR
Maximum Queue (ft)	265	295	30	275	69	92
Average Queue (ft)	194	286	5	263	32	13
95th Queue (ft)	340	304	40	285	82	108
Link Distance (ft)	266	276		243		303
Upstream Blk Time (%)	29	99		68		1
Queuing Penalty (veh)	0	0		0		7
Storage Bay Dist (ft)			100		100	
Storage Blk Time (%)				73	0	3
Queuing Penalty (veh)				13	0	2

Intersection: 13: SW Century Dr & SW Sherwood Blvd, Interval #3

Movement	EB	WB	NB	NB	SB
Directions Served	LTR	LTR	L	TR	L
Maximum Queue (ft)	290	295	80	281	70
Average Queue (ft)	232	279	10	262	15
95th Queue (ft)	374	297	61	276	56
Link Distance (ft)	266	276		243	
Upstream Blk Time (%)	66	100		78	
Queuing Penalty (veh)	0	0		0	
Storage Bay Dist (ft)			100		100
Storage Blk Time (%)			0	78	0
Queuing Penalty (veh)			0	13	1

Intersection: 13: SW Century Dr & SW Sherwood Blvd, All Intervals

Movement	EB	WB	NB	NB	SB	SB
Directions Served	LTR	LTR	L	TR	L	TR
Maximum Queue (ft)	296	295	88	286	85	99
Average Queue (ft)	189	272	8	254	19	3
95th Queue (ft)	354	344	53	315	63	51
Link Distance (ft)	266	276		243		303
Upstream Blk Time (%)	40	92		67		0
Queuing Penalty (veh)	0	0		0		2
Storage Bay Dist (ft)			100		100	
Storage Blk Time (%)			0	72	0	1
Queuing Penalty (veh)			0	12	0	1

Intersection: 14: SW Century Dr & SW Baler Way, Interval #1

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	63	67	28	71
Average Queue (ft)	42	54	10	45
95th Queue (ft)	68	75	35	73
Link Distance (ft)	279	263	258	239
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 14: SW Century Dr & SW Baler Way, Interval #2

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	61	111	35	74
Average Queue (ft)	42	69	19	48
95th Queue (ft)	67	109	47	77
Link Distance (ft)	279	263	258	239
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

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Intersection: 14: SW Century Dr & SW Baler Way, Interval #3

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	63	84	35	68
Average Queue (ft)	40	53	19	42
95th Queue (ft)	60	78	46	63
Link Distance (ft)	279	263	258	239
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 14: SW Century Dr & SW Baler Way, All Intervals

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	73	111	35	85
Average Queue (ft)	41	57	17	44
95th Queue (ft)	64	88	45	69
Link Distance (ft)	279	263	258	239
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 16: SW Oregon St & SW Langer Farms Pkwy, Interval #1

Movement	EB	EB	WB	SB	SB
Directions Served	L	T	TR	L	R
Maximum Queue (ft)	87	71	120	108	31
Average Queue (ft)	51	35	78	57	8
95th Queue (ft)	96	77	131	104	63
Link Distance (ft)		471	357	594	
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)	365				375
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 16: SW Oregon St & SW Langer Farms Pkwy, Interval #2

Movement	EB	EB	WB	SB	SB
Directions Served	L	T	TR	L	R
Maximum Queue (ft)	119	78	194	111	21
Average Queue (ft)	71	31	103	70	3
95th Queue (ft)	125	77	189	119	31
Link Distance (ft)		471	357	594	
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)	365				375
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 16: SW Oregon St & SW Langer Farms Pkwy, Interval #3

Movement	EB	EB	WB	SB	SB
Directions Served	L	T	TR	L	R
Maximum Queue (ft)	106	72	146	115	67
Average Queue (ft)	56	28	77	54	8
95th Queue (ft)	102	61	140	99	65
Link Distance (ft)		471	357	594	
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)	365				375
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 16: SW Oregon St & SW Langer Farms Pkwy, All Intervals

Movement	EB	EB	WB	SB	SB
Directions Served	L	T	TR	L	R
Maximum Queue (ft)	123	92	196	126	99
Average Queue (ft)	58	30	84	58	7
95th Queue (ft)	108	69	153	106	58
Link Distance (ft)		471	357	594	
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)	365				375
Storage Blk Time (%)					
Queuing Penalty (veh)					

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Intersection: 18: SW Pine Street & SW 1st Street, Interval #1

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	92	134	137	144
Average Queue (ft)	51	91	74	81
95th Queue (ft)	95	152	132	141
Link Distance (ft)	297	410	241	225
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 18: SW Pine Street & SW 1st Street, Interval #2

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	76	152	113	129
Average Queue (ft)	52	91	69	79
95th Queue (ft)	78	147	112	134
Link Distance (ft)	297	410	241	225
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 18: SW Pine Street & SW 1st Street, Interval #3

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	86	198	109	177
Average Queue (ft)	50	96	61	80
95th Queue (ft)	77	169	101	143
Link Distance (ft)	297	410	241	225
Upstream Blk Time (%)				0
Queuing Penalty (veh)				0
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 18: SW Pine Street & SW 1st Street, All Intervals

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	107	201	149	200
Average Queue (ft)	51	94	66	80
95th Queue (ft)	83	160	112	140
Link Distance (ft)	297	410	241	225
Upstream Blk Time (%)				0
Queuing Penalty (veh)				0
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 19: SW Century Dr Ext & Proposed Dwy 2, Interval #1

Movement	SB
Directions Served	R
Maximum Queue (ft)	68
Average Queue (ft)	43
95th Queue (ft)	66
Link Distance (ft)	208
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	3
Queuing Penalty (veh)	0

Intersection: 19: SW Century Dr Ext & Proposed Dwy 2, Interval #2

Movement	SB
Directions Served	R
Maximum Queue (ft)	58
Average Queue (ft)	42
95th Queue (ft)	62
Link Distance (ft)	208
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	3
Queuing Penalty (veh)	0

Intersection: 19: SW Century Dr Ext & Proposed Dwy 2, Interval #3

Movement	SB
Directions Served	R
Maximum Queue (ft)	63
Average Queue (ft)	41
95th Queue (ft)	65
Link Distance (ft)	208
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	2
Queuing Penalty (veh)	0

Intersection: 19: SW Century Dr Ext & Proposed Dwy 2, All Intervals

Movement	SB
Directions Served	R
Maximum Queue (ft)	70
Average Queue (ft)	42
95th Queue (ft)	64
Link Distance (ft)	208
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	2
Queuing Penalty (veh)	0

Intersection: 20: SW Century Dr Ext & Proposed Dwy 3, Interval #1

Movement	EB	SB	SB
Directions Served	LT	L	R
Maximum Queue (ft)	28	44	56
Average Queue (ft)	9	29	39
95th Queue (ft)	34	55	55
Link Distance (ft)	184		210
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)		50	
Storage Blk Time (%)		1	1
Queuing Penalty (veh)		1	1

Intersection: 20: SW Century Dr Ext & Proposed Dwy 3, Interval #2

Movement	EB	WB	SB	SB
Directions Served	LT	TR	L	R
Maximum Queue (ft)	33	5	40	57
Average Queue (ft)	11	1	33	38
95th Queue (ft)	40	8	50	52
Link Distance (ft)	184	210		210
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)			50	
Storage Blk Time (%)			1	2
Queuing Penalty (veh)			1	1

Intersection: 20: SW Century Dr Ext & Proposed Dwy 3, Interval #3

Movement	EB	WB	SB	SB
Directions Served	LT	TR	L	R
Maximum Queue (ft)	46	5	54	62
Average Queue (ft)	9	0	33	35
95th Queue (ft)	39	5	52	55
Link Distance (ft)	184	210		210
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)			50	
Storage Blk Time (%)			1	1
Queuing Penalty (veh)			1	1

Intersection: 20: SW Century Dr Ext & Proposed Dwy 3, All Intervals

Movement	EB	WB	SB	SB
Directions Served	LT	TR	L	R
Maximum Queue (ft)	51	10	55	64
Average Queue (ft)	10	0	32	37
95th Queue (ft)	38	5	53	55
Link Distance (ft)	184	210		210
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)			50	
Storage Blk Time (%)			1	1
Queuing Penalty (veh)			1	1

Intersection: 21: SW Century Dr Ext & Proposed Dwy 4, Interval #1

Movement	EB	SB	SB
Directions Served	LT	L	R
Maximum Queue (ft)	6	35	46
Average Queue (ft)	1	21	22
95th Queue (ft)	9	48	54
Link Distance (ft)	210		198
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)		50	
Storage Blk Time (%)		0	0
Queuing Penalty (veh)		0	0

Intersection: 21: SW Century Dr Ext & Proposed Dwy 4, Interval #2

Movement	EB	SB	SB
Directions Served	LT	L	R
Maximum Queue (ft)	21	35	35
Average Queue (ft)	3	19	27
95th Queue (ft)	19	48	51
Link Distance (ft)	210		198
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)		50	
Storage Blk Time (%)		0	1
Queuing Penalty (veh)		0	0

Intersection: 21: SW Century Dr Ext & Proposed Dwy 4, Interval #3

Movement	EB	SB	SB
Directions Served	LT	L	R
Maximum Queue (ft)	27	35	44
Average Queue (ft)	2	13	28
95th Queue (ft)	16	40	53
Link Distance (ft)	210		198
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)		50	
Storage Blk Time (%)		0	1
Queuing Penalty (veh)		0	0

Intersection: 21: SW Century Dr Ext & Proposed Dwy 4, All Intervals

Movement	EB	SB	SB
Directions Served	LT	L	R
Maximum Queue (ft)	27	35	50
Average Queue (ft)	2	16	26
95th Queue (ft)	16	45	53
Link Distance (ft)	210		198
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)		50	
Storage Blk Time (%)		0	1
Queuing Penalty (veh)		0	0

Network Summary

Network wide Queuing Penalty, Interval #1: 1860
Network wide Queuing Penalty, Interval #2: 2474
Network wide Queuing Penalty, Interval #3: 2341
Network wide Queuing Penalty, All Intervals: 2254

Summary of All Intervals

Run Number	1	2	3	4	5	Avg
Start Time	4:25	4:25	4:25	4:25	4:25	4:25
End Time	5:35	5:35	5:35	5:35	5:35	5:35
Total Time (min)	70	70	70	70	70	70
Time Recorded (min)	60	60	60	60	60	60
# of Intervals	4	4	4	4	4	4
# of Recorded Intvs	3	3	3	3	3	3
Vehs Entered	14224	13867	14039	13920	13881	13985
Vehs Exited	14165	13826	13900	13858	13711	13889
Starting Vehs	389	433	364	440	381	399
Ending Vehs	448	474	503	502	551	490
Denied Entry Before	29	26	10	42	13	21
Denied Entry After	453	528	607	863	515	592
Travel Distance (mi)	6767	6570	6608	6581	6574	6620
Travel Time (hr)	734.6	813.6	831.6	993.1	792.1	833.0
Total Delay (hr)	520.8	605.7	623.5	785.1	584.9	624.0
Total Stops	21315	21418	21309	21267	20678	21191
Fuel Used (gal)	370.8	383.0	388.8	424.7	376.4	388.7

Interval #0 Information Seeding

Start Time	4:25
End Time	4:35
Total Time (min)	10
Volumes adjusted by Anti PHF.	
No data recorded this interval.	

Interval #1 Information Recording1

Start Time	4:35
End Time	4:50
Total Time (min)	15
Volumes adjusted by Anti PHF.	

Run Number	1	2	3	4	5	Avg
Vehs Entered	3564	3481	3402	3408	3422	3452
Vehs Exited	3416	3367	3255	3333	3311	3335
Starting Vehs	389	433	364	440	381	399
Ending Vehs	537	547	511	515	492	516
Denied Entry Before	29	26	10	42	13	21
Denied Entry After	82	140	120	239	120	139
Travel Distance (mi)	1644	1615	1542	1611	1595	1601
Travel Time (hr)	129.0	137.6	121.9	152.2	125.5	133.2
Total Delay (hr)	76.9	86.6	73.2	101.2	75.2	82.6
Total Stops	5073	4991	4611	4840	4489	4804
Fuel Used (gal)	78.8	79.5	73.7	83.1	76.3	78.3

Interval #2 Information Recording2

Start Time	4:50
End Time	5:05
Total Time (min)	15

Volumes adjusted by PHF.

Run Number	1	2	3	4	5	Avg
Vehs Entered	3850	3747	3882	3725	3707	3782
Vehs Exited	3784	3756	3791	3644	3579	3714
Starting Vehs	537	547	511	515	492	516
Ending Vehs	603	538	602	596	620	577
Denied Entry Before	82	140	120	239	120	139
Denied Entry After	251	299	302	490	331	333
Travel Distance (mi)	1800	1763	1803	1744	1722	1767
Travel Time (hr)	179.9	203.4	200.1	240.1	193.1	203.3
Total Delay (hr)	123.0	147.5	143.2	185.2	138.9	147.6
Total Stops	5910	5901	6235	5854	5651	5911
Fuel Used (gal)	95.2	99.7	100.3	107.0	95.3	99.5

Interval #3 Information Recording3

Start Time	5:05
End Time	5:35
Total Time (min)	30

Volumes adjusted by Anti PHF.

Run Number	1	2	3	4	5	Avg
Vehs Entered	6810	6639	6755	6787	6752	6748
Vehs Exited	6965	6703	6854	6881	6821	6844
Starting Vehs	603	538	602	596	620	577
Ending Vehs	448	474	503	502	551	490
Denied Entry Before	251	299	302	490	331	333
Denied Entry After	453	528	607	863	515	592
Travel Distance (mi)	3323	3192	3263	3226	3256	3252
Travel Time (hr)	425.7	472.6	509.6	600.9	473.6	496.5
Total Delay (hr)	320.8	371.6	407.0	498.6	370.8	393.8
Total Stops	10332	10526	10463	10573	10538	10485
Fuel Used (gal)	196.7	203.9	214.8	234.7	204.8	211.0

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Intersection: 1: Adams Ave & SW Pacific Hwy (99W), Interval #1

Movement	EB	EB	WB	NB	NB	NB	NB	SB	SB	SB
Directions Served	LT	R	LT	L	T	T	R	L	T	TR
Maximum Queue (ft)	45	68	114	40	267	294	71	206	536	543
Average Queue (ft)	6	36	64	14	175	197	14	142	250	244
95th Queue (ft)	42	79	119	40	270	309	93	246	545	521
Link Distance (ft)	217		456		860	860			618	618
Upstream Blk Time (%)									1	1
Queuing Penalty (veh)									0	0
Storage Bay Dist (ft)		50		240			275	200		
Storage Blk Time (%)	0	11			2	2	0	9	2	
Queuing Penalty (veh)	0	1			0	1	0	79	3	

Intersection: 1: Adams Ave & SW Pacific Hwy (99W), Interval #2

Movement	EB	EB	WB	NB	NB	NB	NB	B62	SB	SB	SB
Directions Served	LT	R	LT	L	T	T	R	T	L	T	TR
Maximum Queue (ft)	64	68	129	76	350	357	192	164	212	493	563
Average Queue (ft)	18	44	98	18	226	240	56	23	146	205	257
95th Queue (ft)	67	78	138	92	370	369	221	249	230	465	528
Link Distance (ft)	217		456		860	860		725		618	618
Upstream Blk Time (%)								0		0	0
Queuing Penalty (veh)								1		0	0
Storage Bay Dist (ft)		50		240			275		200		
Storage Blk Time (%)	1	15		0	4	4	0		3	3	
Queuing Penalty (veh)	0	1		0	1	2	0		33	5	

Intersection: 1: Adams Ave & SW Pacific Hwy (99W), Interval #3

Movement	EB	EB	WB	WB	NB	NB	NB	NB	B62	SB	SB	SB
Directions Served	LT	R	LT	R	L	T	T	R	T	L	T	TR
Maximum Queue (ft)	75	74	157	23	53	323	332	98	284	218	540	566
Average Queue (ft)	8	33	70	2	18	165	197	13	19	127	222	248
95th Queue (ft)	46	72	137	17	52	299	326	73	209	214	508	508
Link Distance (ft)	217		456			860	860		725		618	618
Upstream Blk Time (%)											0	0
Queuing Penalty (veh)											0	0
Storage Bay Dist (ft)		50		250	240			275		200		
Storage Blk Time (%)	1	9				1	2			3	3	
Queuing Penalty (veh)	0	1				0	1			31	3	

Intersection: 1: Adams Ave & SW Pacific Hwy (99W), All Intervals

Movement	EB	EB	WB	WB	NB	NB	NB	NB	B62	SB	SB	SB
Directions Served	LT	R	LT	R	L	T	T	R	T	L	T	TR
Maximum Queue (ft)	96	74	160	23	90	376	379	197	448	224	614	635
Average Queue (ft)	10	36	75	1	17	182	208	24	15	135	225	249
95th Queue (ft)	51	76	138	12	62	317	336	128	192	227	508	516
Link Distance (ft)	217		456			860	860		725		618	618
Upstream Blk Time (%)									0		0	0
Queuing Penalty (veh)									0		0	0
Storage Bay Dist (ft)		50		250	240			275		200		
Storage Blk Time (%)	1	11			0	2	3	0		5	3	
Queuing Penalty (veh)	0	1			0	1	1	0		44	4	

Intersection: 2: SW Roy Rogers Rd & SW Borchers Dr, Interval #1

Movement	EB	EB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	TR	L	T	R	L	TR	L	TR
Maximum Queue (ft)	28	470	42	252	34	124	188	51	44
Average Queue (ft)	11	283	13	178	10	106	60	19	28
95th Queue (ft)	37	508	43	295	34	150	178	52	54
Link Distance (ft)		726		984	984		391		305
Upstream Blk Time (%)		0							
Queuing Penalty (veh)		0							
Storage Bay Dist (ft)	110		260			100		140	
Storage Blk Time (%)		24		1		13			
Queuing Penalty (veh)		2		0		7			

Intersection: 2: SW Roy Rogers Rd & SW Borchers Dr, Interval #2

Movement	EB	EB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	TR	L	T	R	L	TR	L	TR
Maximum Queue (ft)	28	609	85	550	26	124	235	49	45
Average Queue (ft)	9	428	17	284	7	114	108	21	25
95th Queue (ft)	33	789	97	584	29	143	253	51	55
Link Distance (ft)		726		984	984		391		305
Upstream Blk Time (%)		5					0		
Queuing Penalty (veh)		0					0		
Storage Bay Dist (ft)	110		260			100		140	
Storage Blk Time (%)		30		7		21	0		
Queuing Penalty (veh)		3		1		13	0		

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Intersection: 2: SW Roy Rogers Rd & SW Borchers Dr, Interval #3

Movement	EB	EB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	TR	L	T	R	L	TR	L	TR
Maximum Queue (ft)	55	533	40	714	32	124	201	70	54
Average Queue (ft)	6	260	8	220	10	105	70	18	20
95th Queue (ft)	37	524	33	524	33	142	180	52	49
Link Distance (ft)		726		984	984		391		305
Upstream Blk Time (%)		1							
Queuing Penalty (veh)		0							
Storage Bay Dist (ft)	110		260			100		140	
Storage Blk Time (%)		18		3		15			
Queuing Penalty (veh)		1		0		8			

Intersection: 2: SW Roy Rogers Rd & SW Borchers Dr, All Intervals

Movement	EB	EB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	TR	L	T	R	L	TR	L	TR
Maximum Queue (ft)	55	717	91	872	34	124	269	75	61
Average Queue (ft)	8	306	12	225	9	107	77	19	23
95th Queue (ft)	36	611	57	502	33	145	202	52	52
Link Distance (ft)		726		984	984		391		305
Upstream Blk Time (%)		2					0		
Queuing Penalty (veh)		0					0		
Storage Bay Dist (ft)	110		260			100		140	
Storage Blk Time (%)		23		3		16	0		
Queuing Penalty (veh)		2		0		9	0		

Year 2013 Total Traffic Conditions
Queuing and Blocking Report

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Intersection: 3: SW Roy Rogers Rd & SW Pacific Hwy (99W), Interval #1

Movement	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	NB	NB
Directions Served	L	L	T	T	R	L	L	T	T	R	L	T
Maximum Queue (ft)	84	233	398	412	199	247	266	182	141	62	420	391
Average Queue (ft)	39	92	281	286	87	175	198	133	75	9	316	288
95th Queue (ft)	83	231	439	465	221	293	303	215	151	57	520	663
Link Distance (ft)			984	984				591	591			1742
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	240	240			200	500	500			80	435	
Storage Blk Time (%)		0	19	33	0			11	0	16		
Queuing Penalty (veh)		0	21	28	0			7	0	44		

Intersection: 3: SW Roy Rogers Rd & SW Pacific Hwy (99W), Interval #1

Movement	NB	NB	NB	SB	SB	SB	SB	SB
Directions Served	T	T	R	L	T	T	T	R
Maximum Queue (ft)	356	221	267	208	404	409	401	181
Average Queue (ft)	264	85	217	138	260	270	287	69
95th Queue (ft)	577	180	313	232	409	412	423	222
Link Distance (ft)	1742	1742			725	725	725	
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)			265	260			570	
Storage Blk Time (%)		0	9	0	6		0	0
Queuing Penalty (veh)		0	26	0	6		1	0

Year 2013 Total Traffic Conditions
 Queuing and Blocking Report

Weekday PM Peak Hour
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Intersection: 3: SW Roy Rogers Rd & SW Pacific Hwy (99W), Interval #2

Movement	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	NB	NB
Directions Served	L	L	T	T	R	L	L	T	T	R	L	T
Maximum Queue (ft)	116	265	515	465	225	329	349	208	185	105	431	734
Average Queue (ft)	64	116	334	340	108	226	250	148	106	32	410	505
95th Queue (ft)	120	256	513	498	261	349	359	227	195	110	553	946
Link Distance (ft)			984	984				591	591			1742
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	240	240			200	500	500			80	435	
Storage Blk Time (%)		0	31	49	0			19	0	46		
Queuing Penalty (veh)		0	38	46	0			13	0	144		

Intersection: 3: SW Roy Rogers Rd & SW Pacific Hwy (99W), Interval #2

Movement	NB	NB	NB	SB	SB	SB	SB	SB
Directions Served	T	T	R	L	T	T	T	R
Maximum Queue (ft)	716	472	288	207	618	578	600	400
Average Queue (ft)	441	159	197	106	432	426	425	117
95th Queue (ft)	870	389	317	203	644	613	607	352
Link Distance (ft)	1742	1742			725	725	725	
Upstream Blk Time (%)					0		0	
Queuing Penalty (veh)					0		1	
Storage Bay Dist (ft)			265	260				570
Storage Blk Time (%)		0	11	0	32		1	0
Queuing Penalty (veh)		0	35	0	34		4	0

Year 2013 Total Traffic Conditions
 Queuing and Blocking Report

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Intersection: 3: SW Roy Rogers Rd & SW Pacific Hwy (99W), Interval #3

Movement	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	NB	NB
Directions Served	L	L	T	T	R	L	L	T	T	R	L	T
Maximum Queue (ft)	134	265	537	570	225	275	300	265	231	96	460	1132
Average Queue (ft)	44	113	405	405	73	189	212	141	96	20	449	816
95th Queue (ft)	112	268	849	855	201	284	301	240	199	86	495	1414
Link Distance (ft)			984	984				591	591			1742
Upstream Blk Time (%)			0	0								
Queuing Penalty (veh)			1	1								
Storage Bay Dist (ft)	240	240			200	500	500			80	435	
Storage Blk Time (%)		1	32	40	0				12	0	76	
Queuing Penalty (veh)		1	36	35	0				8	0	216	

Intersection: 3: SW Roy Rogers Rd & SW Pacific Hwy (99W), Interval #3

Movement	NB	NB	NB	SB	SB	SB	SB	SB	B62	B62
Directions Served	T	T	R	L	T	T	T	R	T	T
Maximum Queue (ft)	1021	584	283	284	618	574	564	300	104	158
Average Queue (ft)	701	159	209	152	339	340	348	88	9	12
95th Queue (ft)	1177	443	307	270	592	561	552	266	85	121
Link Distance (ft)	1742	1742			725	725	725		860	860
Upstream Blk Time (%)					1	0	0			
Queuing Penalty (veh)					5	2	1			
Storage Bay Dist (ft)			265	260				570		
Storage Blk Time (%)		0	6	0	17		2	0		
Queuing Penalty (veh)		0	17	1	16		6	0		

Intersection: 3: SW Roy Rogers Rd & SW Pacific Hwy (99W), All Intervals

Movement	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	NB	NB
Directions Served	L	L	T	T	R	L	L	T	T	R	L	T
Maximum Queue (ft)	144	265	607	620	225	348	352	265	240	105	460	1141
Average Queue (ft)	48	109	358	361	85	194	218	141	93	20	407	613
95th Queue (ft)	110	257	709	715	223	307	321	232	189	87	562	1247
Link Distance (ft)			984	984				591	591			1742
Upstream Blk Time (%)			0	0								
Queuing Penalty (veh)			1	1								
Storage Bay Dist (ft)	240	240			200	500	500			80	435	
Storage Blk Time (%)		0	29	41	0			14	0	53		
Queuing Penalty (veh)		1	33	36	0			9	0	155		

Intersection: 3: SW Roy Rogers Rd & SW Pacific Hwy (99W), All Intervals

Movement	NB	NB	NB	SB	SB	SB	SB	SB	B62	B62
Directions Served	T	T	R	L	T	T	T	R	T	T
Maximum Queue (ft)	1033	689	289	284	690	644	654	497	104	158
Average Queue (ft)	532	141	208	137	343	344	352	91	5	6
95th Queue (ft)	1060	385	312	250	586	560	552	281	60	85
Link Distance (ft)	1742	1742			725	725	725		860	860
Upstream Blk Time (%)					0	0	0			
Queuing Penalty (veh)					3	1	1			
Storage Bay Dist (ft)			265	260				570		
Storage Blk Time (%)		0	8	0	18		1	0		
Queuing Penalty (veh)		0	24	1	18		4	0		

Intersection: 4: SW Tualatin Sherwood Rd & Shopping Center Access, Interval #1

Movement	EB	EB	EB	EB	WB	WB	WB	NB	NB	SB	SB	SB
Directions Served	L	L	T	TR	L	T	TR	L	TR	L	T	R
Maximum Queue (ft)	40	53	248	256	132	315	188	84	156	55	46	69
Average Queue (ft)	10	29	138	135	40	173	65	51	65	28	18	39
95th Queue (ft)	35	58	273	279	129	327	165	97	147	67	48	69
Link Distance (ft)			591	591		508	508		410		364	
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	170	170			225			75		100		100
Storage Blk Time (%)			5		0	4		6	2	0		0
Queuing Penalty (veh)			3		0	2		5	1	0		0

Intersection: 4: SW Tualatin Sherwood Rd & Shopping Center Access, Interval #2

Movement	EB	EB	EB	EB	WB	WB	WB	NB	NB	SB	SB	SB
Directions Served	L	L	T	TR	L	T	TR	L	TR	L	T	R
Maximum Queue (ft)	30	54	236	273	110	430	210	99	112	59	38	72
Average Queue (ft)	10	32	138	157	46	268	110	68	50	28	15	40
95th Queue (ft)	31	62	259	285	112	438	209	113	118	66	43	74
Link Distance (ft)			591	591		508	508		410			364
Upstream Blk Time (%)						0						
Queuing Penalty (veh)						1						
Storage Bay Dist (ft)	170	170			225			75		100		100
Storage Blk Time (%)			6			10		14	2	0		0
Queuing Penalty (veh)			4			6		12	2	0		0

Intersection: 4: SW Tualatin Sherwood Rd & Shopping Center Access, Interval #3

Movement	EB	EB	EB	EB	WB	WB	WB	NB	NB	SB	SB	SB
Directions Served	L	L	T	TR	L	T	TR	L	TR	L	T	R
Maximum Queue (ft)	29	89	295	280	209	403	218	94	104	61	61	64
Average Queue (ft)	8	38	140	148	43	179	88	53	45	21	17	31
95th Queue (ft)	29	90	286	293	129	337	182	96	92	56	52	60
Link Distance (ft)			591	591		508	508		410			364
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	170	170			225			75		100		100
Storage Blk Time (%)			4		0	3		5	2	0		0
Queuing Penalty (veh)			3		0	2		4	1	0		0

Intersection: 4: SW Tualatin Sherwood Rd & Shopping Center Access, All Intervals

Movement	EB	EB	EB	EB	WB	WB	WB	NB	NB	SB	SB	SB
Directions Served	L	L	T	TR	L	T	TR	L	TR	L	T	R
Maximum Queue (ft)	41	99	309	328	215	451	257	100	166	73	61	80
Average Queue (ft)	9	35	139	147	43	199	88	56	51	24	17	35
95th Queue (ft)	31	77	277	289	125	371	188	102	115	62	49	66
Link Distance (ft)			591	591		508	508		410			364
Upstream Blk Time (%)						0						
Queuing Penalty (veh)						0						
Storage Bay Dist (ft)	170	170			225			75		100		100
Storage Blk Time (%)			5		0	5		8	2	0		0
Queuing Penalty (veh)			3		0	3		6	1	0		0

Intersection: 5: SW Tualatin Sherwood Rd & SW Baler Way, Interval #1

Movement	EB	EB	EB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	TR	L	T	TR	LT	R	L	TR
Maximum Queue (ft)	17	150	150	67	136	80	102	47	32	20
Average Queue (ft)	5	71	58	40	55	28	55	32	9	5
95th Queue (ft)	22	155	143	75	132	77	101	57	31	25
Link Distance (ft)		508	508		676	676	483			373
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)	120			200			210	40		
Storage Blk Time (%)		2						0	1	
Queuing Penalty (veh)		0						0	0	

Intersection: 5: SW Tualatin Sherwood Rd & SW Baler Way, Interval #2

Movement	EB	EB	EB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	TR	L	T	TR	LT	R	L	TR
Maximum Queue (ft)	40	143	123	81	123	104	91	52	37	20
Average Queue (ft)	7	68	52	51	63	45	52	35	10	5
95th Queue (ft)	48	137	125	90	138	111	98	54	36	25
Link Distance (ft)		508	508		676	676	483			373
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)	120			200			210	40		
Storage Blk Time (%)		1						0	0	
Queuing Penalty (veh)		0						0	0	

Intersection: 5: SW Tualatin Sherwood Rd & SW Baler Way, Interval #3

Movement	EB	EB	EB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	TR	L	T	TR	LT	R	L	TR
Maximum Queue (ft)	52	242	212	133	160	115	115	51	31	34
Average Queue (ft)	6	80	61	47	56	35	60	32	5	9
95th Queue (ft)	38	207	165	100	131	93	107	55	22	33
Link Distance (ft)		508	508		676	676	483			373
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)	120			200			210	40		
Storage Blk Time (%)	0	3			0			0	1	
Queuing Penalty (veh)	0	0			0			0	0	

Intersection: 5: SW Tualatin Sherwood Rd & SW Baler Way, All Intervals

Movement	EB	EB	EB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	TR	L	T	TR	LT	R	L	TR
Maximum Queue (ft)	75	242	216	133	167	134	122	58	38	34
Average Queue (ft)	6	75	58	46	57	36	57	33	7	7
95th Queue (ft)	38	181	151	93	133	95	104	55	28	30
Link Distance (ft)		508	508		676	676	483			373
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)	120			200				210	40	
Storage Blk Time (%)	0	2			0				0	1
Queuing Penalty (veh)	0	0			0				0	0

Intersection: 6: SW Tualatin Sherwood Rd & SW Langer Farms Rd, Interval #1

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB
Directions Served	L	T	TR	L	T	TR	L	T	R	TR
Maximum Queue (ft)	30	210	150	116	169	76	84	100	80	109
Average Queue (ft)	1	117	76	81	51	31	48	47	43	63
95th Queue (ft)	10	219	170	131	109	63	90	104	75	109
Link Distance (ft)		676	676		732	732		144	144	377
Upstream Blk Time (%)								0		
Queuing Penalty (veh)								0		
Storage Bay Dist (ft)	100			100			100			
Storage Blk Time (%)		8		5	1		0	0		
Queuing Penalty (veh)		0		18	1		0	0		

Intersection: 6: SW Tualatin Sherwood Rd & SW Langer Farms Rd, Interval #2

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB
Directions Served	L	T	TR	L	T	TR	L	T	R	TR
Maximum Queue (ft)	7	244	191	124	302	170	105	98	66	151
Average Queue (ft)	1	157	88	92	99	59	58	51	41	89
95th Queue (ft)	11	263	189	138	241	155	113	103	64	158
Link Distance (ft)		676	676		732	732		144	144	377
Upstream Blk Time (%)								1		
Queuing Penalty (veh)								1		
Storage Bay Dist (ft)	100			100			100			
Storage Blk Time (%)		14		9	2		6	0		
Queuing Penalty (veh)		0		38	5		4	0		

Intersection: 6: SW Tualatin Sherwood Rd & SW Langer Farms Rd, Interval #3

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB
Directions Served	L	T	TR	L	T	TR	L	T	R	TR
Maximum Queue (ft)	14	301	233	124	257	148	100	91	82	123
Average Queue (ft)	1	126	75	80	78	40	52	47	40	68
95th Queue (ft)	10	248	181	127	190	104	98	98	69	120
Link Distance (ft)		676	676		732	732		144	144	377
Upstream Blk Time (%)							0	1		
Queuing Penalty (veh)							0	1		
Storage Bay Dist (ft)	100			100			100			
Storage Blk Time (%)		8		5	1		2	0		
Queuing Penalty (veh)		0		20	2		1	0		

Intersection: 6: SW Tualatin Sherwood Rd & SW Langer Farms Rd, All Intervals

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB
Directions Served	L	T	TR	L	T	TR	L	T	R	TR
Maximum Queue (ft)	44	307	240	124	314	202	120	121	87	156
Average Queue (ft)	1	131	78	83	77	42	52	48	41	72
95th Queue (ft)	10	248	180	132	190	112	100	101	69	130
Link Distance (ft)		676	676		732	732		144	144	377
Upstream Blk Time (%)							0	1		
Queuing Penalty (veh)							0	1		
Storage Bay Dist (ft)	100			100			100			
Storage Blk Time (%)		9		6	1		2	0		
Queuing Penalty (veh)		0		24	3		2	0		

Intersection: 7: SW Tualatin Sherwood Rd & SW Century Drive, Interval #1

Movement	EB	WB	NB
Directions Served	TR	L	R
Maximum Queue (ft)	5	75	80
Average Queue (ft)	0	39	45
95th Queue (ft)	0	81	84
Link Distance (ft)	700		248
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)		100	
Storage Blk Time (%)		0	
Queuing Penalty (veh)		1	

Intersection: 7: SW Tualatin Sherwood Rd & SW Century Drive, Interval #2

Movement	B56	WB	NB
Directions Served	T	L	R
Maximum Queue (ft)	164	75	97
Average Queue (ft)	24	39	50
95th Queue (ft)	250	85	94
Link Distance (ft)	732		248
Upstream Blk Time (%)	0		
Queuing Penalty (veh)	0		
Storage Bay Dist (ft)		100	
Storage Blk Time (%)		1	
Queuing Penalty (veh)		7	

Intersection: 7: SW Tualatin Sherwood Rd & SW Century Drive, Interval #3

Movement	WB	WB	NB
Directions Served	L	T	R
Maximum Queue (ft)	78	31	98
Average Queue (ft)	36	2	50
95th Queue (ft)	74	32	90
Link Distance (ft)		588	248
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)	100		
Storage Blk Time (%)	0		
Queuing Penalty (veh)	3		

Intersection: 7: SW Tualatin Sherwood Rd & SW Century Drive, All Intervals

Movement	EB	B56	WB	WB	NB
Directions Served	TR	T	L	T	R
Maximum Queue (ft)	5	164	92	31	114
Average Queue (ft)	0	6	38	1	49
95th Queue (ft)	0	118	78	23	90
Link Distance (ft)	700	732		588	248
Upstream Blk Time (%)		0			
Queuing Penalty (veh)		0			
Storage Bay Dist (ft)			100		
Storage Blk Time (%)			0		
Queuing Penalty (veh)			3		

Intersection: 8: SW Tualatin Sherwood Rd & SW Oregon Street, Interval #1

Movement	EB	EB	WB	WB	NB	NB	SB
Directions Served	T	R	L	TR	LT	R	LR
Maximum Queue (ft)	586	125	185	566	206	151	31
Average Queue (ft)	455	80	174	409	111	81	9
95th Queue (ft)	642	157	207	721	201	154	33
Link Distance (ft)	562			546	490	490	140
Upstream Blk Time (%)	5			8			
Queuing Penalty (veh)	0			0			
Storage Bay Dist (ft)		100	160				
Storage Blk Time (%)	37	1	26	4			
Queuing Penalty (veh)	63	4	204	16			

Intersection: 8: SW Tualatin Sherwood Rd & SW Oregon Street, Interval #2

Movement	EB	EB	WB	WB	NB	NB	SB
Directions Served	T	R	L	TR	LT	R	LR
Maximum Queue (ft)	593	125	185	568	206	174	64
Average Queue (ft)	581	72	179	486	117	101	24
95th Queue (ft)	599	159	198	721	200	179	72
Link Distance (ft)	562			546	490	490	140
Upstream Blk Time (%)	30			13			
Queuing Penalty (veh)	0			0			
Storage Bay Dist (ft)		100	160				
Storage Blk Time (%)	43	0	31	5			
Queuing Penalty (veh)	82	3	271	22			

Intersection: 8: SW Tualatin Sherwood Rd & SW Oregon Street, Interval #3

Movement	EB	EB	WB	WB	NB	NB	SB
Directions Served	T	R	L	TR	LT	R	LR
Maximum Queue (ft)	596	125	185	573	177	142	52
Average Queue (ft)	418	78	162	343	91	70	15
95th Queue (ft)	700	149	209	674	169	130	49
Link Distance (ft)	562			546	490	490	140
Upstream Blk Time (%)	8			6			
Queuing Penalty (veh)	0			0			
Storage Bay Dist (ft)		100	160				
Storage Blk Time (%)	32	1	17	4			
Queuing Penalty (veh)	55	4	136	17			

Intersection: 8: SW Tualatin Sherwood Rd & SW Oregon Street, All Intervals

Movement	EB	EB	WB	WB	NB	NB	SB
Directions Served	T	R	L	TR	LT	R	LR
Maximum Queue (ft)	605	125	185	587	223	199	72
Average Queue (ft)	466	77	169	393	102	80	16
95th Queue (ft)	714	153	210	714	187	151	53
Link Distance (ft)	562			546	490	490	140
Upstream Blk Time (%)	13			8			
Queuing Penalty (veh)	0			0			
Storage Bay Dist (ft)		100	160				
Storage Blk Time (%)	36	1	23	4			
Queuing Penalty (veh)	64	4	187	18			

Intersection: 9: North Dwy & SW Langer Farms Rd, Interval #1

Movement	EB	EB	NB
Directions Served	L	R	L
Maximum Queue (ft)	39	43	35
Average Queue (ft)	17	20	9
95th Queue (ft)	47	50	32
Link Distance (ft)		175	
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)	50		50
Storage Blk Time (%)	1	0	0
Queuing Penalty (veh)	0	0	0

Intersection: 9: North Dwy & SW Langer Farms Rd, Interval #2

Movement	EB	EB	NB	NB	SB
Directions Served	L	R	L	T	TR
Maximum Queue (ft)	43	38	35	7	12
Average Queue (ft)	20	20	18	0	2
95th Queue (ft)	50	48	46	0	14
Link Distance (ft)		175		191	144
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)	50		50		
Storage Blk Time (%)	1	0	0	0	
Queuing Penalty (veh)	0	0	0	0	

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Intersection: 9: North Dwy & SW Langer Farms Rd, Interval #3

Movement	EB	EB	NB	NB	SB
Directions Served	L	R	L	T	TR
Maximum Queue (ft)	54	38	35	32	10
Average Queue (ft)	17	18	12	3	1
95th Queue (ft)	50	45	39	34	8
Link Distance (ft)		175		191	144
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)	50		50		
Storage Blk Time (%)	1	0	0	0	
Queuing Penalty (veh)	0	0	0	0	

Intersection: 9: North Dwy & SW Langer Farms Rd, All Intervals

Movement	EB	EB	NB	NB	SB
Directions Served	L	R	L	T	TR
Maximum Queue (ft)	54	48	35	32	17
Average Queue (ft)	18	19	13	1	1
95th Queue (ft)	49	47	39	24	8
Link Distance (ft)		175		191	144
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)	50		50		
Storage Blk Time (%)	1	0	0	0	
Queuing Penalty (veh)	0	0	0	0	

Intersection: 10: South Dwy & SW Langer Farms Rd, Interval #1

Movement	EB	EB	WB	WB	NB	NB	SB
Directions Served	L	TR	LT	R	L	TR	L
Maximum Queue (ft)	20	34	52	74	7	32	60
Average Queue (ft)	3	10	26	52	2	7	40
95th Queue (ft)	19	35	56	77	15	29	72
Link Distance (ft)		180	214	214		257	
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)	50				50		50
Storage Blk Time (%)	0	0			0		3
Queuing Penalty (veh)	0	0			0		3

Intersection: 10: South Dwy & SW Langer Farms Rd, Interval #2

Movement	EB	EB	WB	WB	NB	NB	NB	SB	SB
Directions Served	L	TR	LT	R	L	T	TR	L	TR
Maximum Queue (ft)	34	39	60	82	20	5	27	74	40
Average Queue (ft)	7	18	32	56	4	1	6	49	10
95th Queue (ft)	29	47	66	86	22	8	27	89	76
Link Distance (ft)		180	214	214		257	257		191
Upstream Blk Time (%)									0
Queuing Penalty (veh)									0
Storage Bay Dist (ft)	50				50			50	
Storage Blk Time (%)	0	1			0			5	
Queuing Penalty (veh)	0	0			0			6	

Intersection: 10: South Dwy & SW Langer Farms Rd, Interval #3

Movement	EB	EB	WB	WB	NB	NB	SB	SB
Directions Served	L	TR	LT	R	L	TR	L	TR
Maximum Queue (ft)	20	43	55	85	35	25	70	3
Average Queue (ft)	2	16	26	49	3	3	36	0
95th Queue (ft)	14	45	57	81	20	16	76	3
Link Distance (ft)		180	214	214		257		191
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)	50				50		50	
Storage Blk Time (%)	0	0			0		2	
Queuing Penalty (veh)	0	0			0		3	

Intersection: 10: South Dwy & SW Langer Farms Rd, All Intervals

Movement	EB	EB	WB	WB	NB	NB	NB	SB	SB
Directions Served	L	TR	LT	R	L	T	TR	L	TR
Maximum Queue (ft)	34	48	71	97	35	5	39	74	43
Average Queue (ft)	3	15	27	51	3	0	5	40	2
95th Queue (ft)	20	44	59	82	19	4	23	79	36
Link Distance (ft)		180	214	214		257	257		191
Upstream Blk Time (%)									0
Queuing Penalty (veh)									0
Storage Bay Dist (ft)	50				50			50	
Storage Blk Time (%)	0	0			0			3	
Queuing Penalty (veh)	0	0			0			4	

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Intersection: 11: SW Edy Rd & SW Pacific Hwy (99W), Interval #1

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	SB	SB
Directions Served	L	T	R	L	LT	R	L	T	T	R	L	T
Maximum Queue (ft)	205	715	245	174	454	390	340	480	566	180	245	187
Average Queue (ft)	161	566	170	164	439	161	270	337	367	54	151	115
95th Queue (ft)	242	991	295	199	459	475	422	541	561	197	307	190
Link Distance (ft)		785			423	423		741	741			1742
Upstream Blk Time (%)		19			60	5						
Queuing Penalty (veh)		0			202	17						
Storage Bay Dist (ft)	190		220	150			400			300	415	
Storage Blk Time (%)	19	45	3	13	75		8	1	12	0	1	
Queuing Penalty (veh)	71	148	8	50	124		45	1	12	0	3	

Intersection: 11: SW Edy Rd & SW Pacific Hwy (99W), Interval #1

Movement	SB	SB
Directions Served	T	TR
Maximum Queue (ft)	234	298
Average Queue (ft)	156	208
95th Queue (ft)	254	323
Link Distance (ft)	1742	1742
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

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Intersection: 11: SW Edy Rd & SW Pacific Hwy (99W), Interval #2

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	SB	SB
Directions Served	L	T	R	L	LT	R	L	T	T	R	L	T
Maximum Queue (ft)	214	804	245	174	447	314	424	730	755	276	252	222
Average Queue (ft)	172	789	188	160	436	78	338	532	556	63	154	151
95th Queue (ft)	260	897	284	203	448	276	496	844	877	223	270	242
Link Distance (ft)		785			423	423		741	741			1742
Upstream Blk Time (%)		49			60	2		3	7			
Queuing Penalty (veh)		0			217	7		0	0			
Storage Bay Dist (ft)	190		220	150			400			300	415	
Storage Blk Time (%)	16	69	5	15	76		18	9	21	0		
Queuing Penalty (veh)	65	240	16	64	133		112	18	23	0		

Intersection: 11: SW Edy Rd & SW Pacific Hwy (99W), Interval #2

Movement	SB	SB
Directions Served	T	TR
Maximum Queue (ft)	306	326
Average Queue (ft)	197	255
95th Queue (ft)	327	368
Link Distance (ft)	1742	1742
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

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Intersection: 11: SW Edy Rd & SW Pacific Hwy (99W), Interval #3

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	SB	SB
Directions Served	L	T	R	L	LT	R	L	T	T	R	L	T
Maximum Queue (ft)	214	805	245	175	470	470	424	693	693	275	270	271
Average Queue (ft)	144	800	175	155	440	147	364	548	550	86	151	145
95th Queue (ft)	259	809	318	214	461	447	512	910	895	264	261	254
Link Distance (ft)		785			423	423		741	741			1742
Upstream Blk Time (%)		65			56	0		14	7			
Queuing Penalty (veh)		0			191	1		0	0			
Storage Bay Dist (ft)	190		220	150			400			300	415	
Storage Blk Time (%)	6	78	2	18	78		43	2	13	0		
Queuing Penalty (veh)	22	258	7	69	128		262	4	14	0		

Intersection: 11: SW Edy Rd & SW Pacific Hwy (99W), Interval #3

Movement	SB	SB
Directions Served	T	TR
Maximum Queue (ft)	311	453
Average Queue (ft)	197	256
95th Queue (ft)	310	405
Link Distance (ft)	1742	1742
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

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Intersection: 11: SW Edy Rd & SW Pacific Hwy (99W), All Intervals

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	SB	SB
Directions Served	L	T	R	L	LT	R	L	T	T	R	L	T
Maximum Queue (ft)	214	806	245	175	470	474	424	752	756	325	322	280
Average Queue (ft)	155	741	177	158	439	134	335	493	507	73	152	139
95th Queue (ft)	258	1011	306	209	458	421	499	843	843	240	276	240
Link Distance (ft)		785			423	423		741	741			1742
Upstream Blk Time (%)		50			58	2		8	5			
Queuing Penalty (veh)		0			201	7		0	0			
Storage Bay Dist (ft)	190		220	150			400			300	415	
Storage Blk Time (%)	12	67	3	16	77		28	4	15	0	0	
Queuing Penalty (veh)	45	226	9	63	128		171	7	16	0	1	

Intersection: 11: SW Edy Rd & SW Pacific Hwy (99W), All Intervals

Movement	SB	SB
Directions Served	T	TR
Maximum Queue (ft)	355	453
Average Queue (ft)	187	244
95th Queue (ft)	304	381
Link Distance (ft)	1742	1742
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 12: SW Sherwood Blvd & SW Langer Dr, Interval #1

Movement	EB	EB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	TR	L	T	TR	L	TR	L	TR
Maximum Queue (ft)	94	342	94	332	330	75	213	175	331
Average Queue (ft)	84	215	37	311	230	71	194	162	318
95th Queue (ft)	108	356	115	329	412	81	249	216	386
Link Distance (ft)		423		303	303		194		312
Upstream Blk Time (%)		1		64	15		69		67
Queuing Penalty (veh)		3		181	42		0		0
Storage Bay Dist (ft)	70		95			50		150	
Storage Blk Time (%)	20	20	2	86		89	10	14	68
Queuing Penalty (veh)	58	25	3	31		64	7	37	136

Intersection: 12: SW Sherwood Blvd & SW Langer Dr, Interval #2

Movement	EB	EB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	TR	L	T	TR	L	TR	L	TR
Maximum Queue (ft)	95	325	106	322	308	74	213	174	336
Average Queue (ft)	81	199	46	309	180	71	205	160	331
95th Queue (ft)	107	349	118	322	350	82	220	209	338
Link Distance (ft)		423		303	303		194		312
Upstream Blk Time (%)				72	7		95		76
Queuing Penalty (veh)				218	21		0		0
Storage Bay Dist (ft)	70		95			50		150	
Storage Blk Time (%)	25	17	0	87		95	8	16	70
Queuing Penalty (veh)	77	22	0	34		73	6	45	151

Intersection: 12: SW Sherwood Blvd & SW Langer Dr, Interval #3

Movement	EB	EB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	TR	L	T	TR	L	TR	L	TR
Maximum Queue (ft)	95	418	119	322	308	74	224	175	348
Average Queue (ft)	83	256	35	309	194	71	207	155	331
95th Queue (ft)	114	428	105	319	354	78	224	237	343
Link Distance (ft)		423		303	303		194		312
Upstream Blk Time (%)		2		74	4		94		73
Queuing Penalty (veh)		10		210	10		0		0
Storage Bay Dist (ft)	70		95			50		150	
Storage Blk Time (%)	35	15	3	86		94	7	18	67
Queuing Penalty (veh)	100	18	5	31		68	5	49	134

Intersection: 12: SW Sherwood Blvd & SW Langer Dr, All Intervals

Movement	EB	EB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	TR	L	T	TR	L	TR	L	TR
Maximum Queue (ft)	95	422	120	334	333	75	224	175	350
Average Queue (ft)	83	232	38	309	199	71	203	158	328
95th Queue (ft)	111	397	111	322	370	80	235	227	364
Link Distance (ft)		423		303	303		194		312
Upstream Blk Time (%)		1		71	7		88		72
Queuing Penalty (veh)		6		205	21		0		0
Storage Bay Dist (ft)	70		95			50		150	
Storage Blk Time (%)	29	17	2	86		93	8	17	68
Queuing Penalty (veh)	84	21	3	32		68	6	45	139

Intersection: 13: SW Century Dr & SW Sherwood Blvd, Interval #1

Movement	EB	WB	NB	NB	SB	SB
Directions Served	LTR	LTR	L	TR	L	TR
Maximum Queue (ft)	216	295	38	264	88	59
Average Queue (ft)	106	268	11	232	24	11
95th Queue (ft)	250	361	51	331	78	73
Link Distance (ft)	266	276		243		303
Upstream Blk Time (%)	11	78		52		
Queuing Penalty (veh)	0	0		0		
Storage Bay Dist (ft)			100		100	
Storage Blk Time (%)				62	0	1
Queuing Penalty (veh)				11	2	1

Intersection: 13: SW Century Dr & SW Sherwood Blvd, Interval #2

Movement	EB	WB	NB	NB	SB	SB
Directions Served	LTR	LTR	L	TR	L	TR
Maximum Queue (ft)	249	295	70	275	75	154
Average Queue (ft)	179	289	12	249	24	32
95th Queue (ft)	325	303	62	333	77	167
Link Distance (ft)	266	276		243		303
Upstream Blk Time (%)	32	98		71		1
Queuing Penalty (veh)	0	0		0		7
Storage Bay Dist (ft)			100		100	
Storage Blk Time (%)			0	72	1	3
Queuing Penalty (veh)			0	13	4	3

Intersection: 13: SW Century Dr & SW Sherwood Blvd, Interval #3

Movement	EB	WB	NB	NB	SB	SB
Directions Served	LTR	LTR	L	TR	L	TR
Maximum Queue (ft)	214	294	80	267	82	51
Average Queue (ft)	176	279	14	260	23	3
95th Queue (ft)	356	297	67	270	68	45
Link Distance (ft)	266	276		243		303
Upstream Blk Time (%)	50	100		78		
Queuing Penalty (veh)	0	0		0		
Storage Bay Dist (ft)			100		100	
Storage Blk Time (%)			0	77	0	
Queuing Penalty (veh)			0	13	2	

Intersection: 13: SW Century Dr & SW Sherwood Blvd, All Intervals

Movement	EB	WB	NB	NB	SB	SB
Directions Served	LTR	LTR	L	TR	L	TR
Maximum Queue (ft)	280	295	89	278	103	188
Average Queue (ft)	159	279	13	251	23	12
95th Queue (ft)	331	328	63	318	73	93
Link Distance (ft)	266	276		243		303
Upstream Blk Time (%)	36	94		69		0
Queuing Penalty (veh)	0	0		0		2
Storage Bay Dist (ft)			100		100	
Storage Blk Time (%)			0	72	1	1
Queuing Penalty (veh)			0	12	3	1

Intersection: 14: SW Century Dr & SW Baler Way, Interval #1

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	44	84	34	62
Average Queue (ft)	37	57	10	42
95th Queue (ft)	53	89	34	62
Link Distance (ft)	279	263	258	239
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 14: SW Century Dr & SW Baler Way, Interval #2

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	68	138	35	79
Average Queue (ft)	43	70	20	53
95th Queue (ft)	63	130	48	82
Link Distance (ft)	279	263	258	239
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 14: SW Century Dr & SW Baler Way, Interval #3

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	63	85	40	62
Average Queue (ft)	38	53	15	40
95th Queue (ft)	60	82	44	62
Link Distance (ft)	279	263	258	239
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 14: SW Century Dr & SW Baler Way, All Intervals

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	68	138	40	79
Average Queue (ft)	39	58	15	44
95th Queue (ft)	60	99	43	69
Link Distance (ft)	279	263	258	239
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 16: SW Oregon St & SW Langer Farms Pkwy, Interval #1

Movement	EB	EB	WB	SB
Directions Served	L	T	TR	L
Maximum Queue (ft)	87	51	132	114
Average Queue (ft)	57	28	73	60
95th Queue (ft)	94	57	140	109
Link Distance (ft)		471	357	594
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)	365			
Storage Blk Time (%)				
Queuing Penalty (veh)				

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Intersection: 16: SW Oregon St & SW Langer Farms Pkwy, Interval #2

Movement	EB	EB	WB	SB	SB
Directions Served	L	T	TR	L	R
Maximum Queue (ft)	106	67	174	97	41
Average Queue (ft)	66	32	98	62	3
95th Queue (ft)	108	72	187	103	33
Link Distance (ft)		471	357	594	
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)	365				375
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 16: SW Oregon St & SW Langer Farms Pkwy, Interval #3

Movement	EB	EB	WB	SB	SB
Directions Served	L	T	TR	L	R
Maximum Queue (ft)	96	63	163	105	97
Average Queue (ft)	54	27	87	53	6
95th Queue (ft)	95	60	155	94	64
Link Distance (ft)		471	357	594	
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)	365				375
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 16: SW Oregon St & SW Langer Farms Pkwy, All Intervals

Movement	EB	EB	WB	SB	SB
Directions Served	L	T	TR	L	R
Maximum Queue (ft)	116	77	199	132	97
Average Queue (ft)	58	29	86	57	4
95th Queue (ft)	99	62	161	101	48
Link Distance (ft)		471	357	594	
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)	365				375
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 18: SW Pine Street & SW 1st Street, Interval #1

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	73	122	136	110
Average Queue (ft)	52	85	72	73
95th Queue (ft)	76	126	129	107
Link Distance (ft)	297	410	241	225
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 18: SW Pine Street & SW 1st Street, Interval #2

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	92	211	117	173
Average Queue (ft)	58	123	76	91
95th Queue (ft)	94	229	123	156
Link Distance (ft)	297	410	241	225
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 18: SW Pine Street & SW 1st Street, Interval #3

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	103	196	115	137
Average Queue (ft)	55	107	65	81
95th Queue (ft)	90	194	108	126
Link Distance (ft)	297	410	241	225
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

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Intersection: 18: SW Pine Street & SW 1st Street, All Intervals

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	114	227	159	174
Average Queue (ft)	55	105	69	81
95th Queue (ft)	88	192	118	131
Link Distance (ft)	297	410	241	225
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 19: SW Century Dr Ext & Proposed Dwy 2, Interval #1

Movement	SB
Directions Served	R
Maximum Queue (ft)	66
Average Queue (ft)	43
95th Queue (ft)	64
Link Distance (ft)	208
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	2
Queuing Penalty (veh)	0

Intersection: 19: SW Century Dr Ext & Proposed Dwy 2, Interval #2

Movement	SB
Directions Served	R
Maximum Queue (ft)	72
Average Queue (ft)	44
95th Queue (ft)	72
Link Distance (ft)	208
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	3
Queuing Penalty (veh)	0

Intersection: 19: SW Century Dr Ext & Proposed Dwy 2, Interval #3

Movement	SB
Directions Served	R
Maximum Queue (ft)	62
Average Queue (ft)	41
95th Queue (ft)	64
Link Distance (ft)	208
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	3
Queuing Penalty (veh)	0

Intersection: 19: SW Century Dr Ext & Proposed Dwy 2, All Intervals

Movement	SB
Directions Served	R
Maximum Queue (ft)	76
Average Queue (ft)	42
95th Queue (ft)	66
Link Distance (ft)	208
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	3
Queuing Penalty (veh)	0

Intersection: 20: SW Century Dr Ext & Proposed Dwy 3, Interval #1

Movement	EB	SB	SB
Directions Served	LT	L	R
Maximum Queue (ft)	36	40	63
Average Queue (ft)	8	30	41
95th Queue (ft)	33	52	66
Link Distance (ft)	184		210
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)		50	
Storage Blk Time (%)		1	2
Queuing Penalty (veh)		1	1

Intersection: 20: SW Century Dr Ext & Proposed Dwy 3, Interval #2

Movement	EB	SB	SB
Directions Served	LT	L	R
Maximum Queue (ft)	45	50	67
Average Queue (ft)	11	35	40
95th Queue (ft)	39	58	67
Link Distance (ft)	184		210
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)		50	
Storage Blk Time (%)		2	2
Queuing Penalty (veh)		2	1

Intersection: 20: SW Century Dr Ext & Proposed Dwy 3, Interval #3

Movement	EB	SB	SB
Directions Served	LT	L	R
Maximum Queue (ft)	41	54	58
Average Queue (ft)	11	30	37
95th Queue (ft)	39	54	53
Link Distance (ft)	184		210
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)		50	
Storage Blk Time (%)		1	2
Queuing Penalty (veh)		1	1

Intersection: 20: SW Century Dr Ext & Proposed Dwy 3, All Intervals

Movement	EB	SB	SB
Directions Served	LT	L	R
Maximum Queue (ft)	51	60	74
Average Queue (ft)	10	31	39
95th Queue (ft)	38	55	60
Link Distance (ft)	184		210
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)		50	
Storage Blk Time (%)		1	2
Queuing Penalty (veh)		1	1

Year 2013 Total Traffic Conditions
 Queuing and Blocking Report

Weekday PM Peak Hour
 9/7/2012

Intersection: 21: SW Century Dr Ext & Proposed Dwy 4, Interval #1

Movement	EB	SB	SB
Directions Served	LT	L	R
Maximum Queue (ft)	28	35	40
Average Queue (ft)	4	15	26
95th Queue (ft)	22	43	53
Link Distance (ft)	210		198
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)		50	
Storage Blk Time (%)		0	1
Queuing Penalty (veh)		0	0

Intersection: 21: SW Century Dr Ext & Proposed Dwy 4, Interval #2

Movement	EB	SB	SB
Directions Served	LT	L	R
Maximum Queue (ft)	14	34	41
Average Queue (ft)	2	16	26
95th Queue (ft)	15	44	53
Link Distance (ft)	210		198
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)		50	
Storage Blk Time (%)		0	1
Queuing Penalty (veh)		0	0

Intersection: 21: SW Century Dr Ext & Proposed Dwy 4, Interval #3

Movement	EB	SB	SB
Directions Served	LT	L	R
Maximum Queue (ft)	28	40	46
Average Queue (ft)	3	14	27
95th Queue (ft)	19	42	53
Link Distance (ft)	210		198
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)		50	
Storage Blk Time (%)		0	1
Queuing Penalty (veh)		0	0

Intersection: 21: SW Century Dr Ext & Proposed Dwy 4, All Intervals

Movement	EB	SB	SB
Directions Served	LT	L	R
Maximum Queue (ft)	35	40	51
Average Queue (ft)	3	14	26
95th Queue (ft)	19	43	53
Link Distance (ft)	210		198
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)		50	
Storage Blk Time (%)		0	1
Queuing Penalty (veh)		0	0

Network Summary

Network wide Queuing Penalty, Interval #1: 1835
Network wide Queuing Penalty, Interval #2: 2417
Network wide Queuing Penalty, Interval #3: 2263
Network wide Queuing Penalty, All Intervals: 2195

CHRISTOPHER FRESHLEY
LANDSCAPE • ARCHITECT

September 14, 2012

Brad Kilby, AICP
City of Sherwood
22560 SW Pine Street
Sherwood, OR 97140

RE: Langer Farms Phase 7 – Commercial Design Review Matrix (SP 12-05)

Dear Brad:

Regarding the Langer Phase 7 proposal (SP 12-05), the project currently does not meet the minimum score of 14 points under the Landscaping Section (Section 16.90.030-D-7-d) of the Commercial Design Review Matrix. The project as presented in the application yields a score of 12 points. In order to meet the Commercial Design Review Matrix for Landscaping, we propose to modify our proposal in order to gain two additional points by doing the following:

1) Design Review Matrix (4)(e) – Landscaping Trees Greater than 3” Caliper

Currently we propose to plant 263 trees on the project, none of the trees are larger than 2-inch caliper. To achieve an additional point in the scoring system the project needs to provide 25 – 50% of the trees with calipers greater than 3 inches or 66 trees. To achieve this, the applicant first proposes to increase the size of the 44 evergreen. The proposed evergreens are proposed at a 6 foot height. It should be noted that there is a difference in size specifications between evergreen trees as opposed to deciduous trees. Evergreen or conifer trees are not measured by caliper inch until these trees grow to 6-inch DBH. Instead evergreen trees are measured by height with a 6-foot tall evergreen tree being equivalent to a 2-inch caliper deciduous tree. In other jurisdictions and most recently in the City of Portland has acknowledged an 8 to 10 foot tall evergreen tree as equivalent to a 3-inch caliper deciduous tree. Therefore the applicant requests to increase the size of the 44, 6-foot tall evergreens to 8-10 foot tall evergreens. In addition the applicant proposes to upsize 22 of the deciduous trees to 3-inch caliper. With these 66 upsized trees, the project will score one additional point.

2) Design Review Matrix (4)(d) – Landscaping Areas

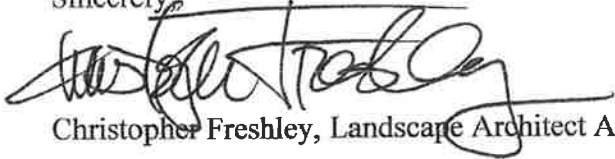
In our application we indicated we had 10 landscaping areas that are less than 100 square feet. In review of these areas we request that these areas be treated as “pedestrian plaza features” as opposed to landscaping areas. These areas consist of small plantings near wide pedestrian walks and plazas and were intended to complement these pedestrian plazas. All of the other landscaping areas including those around the parking area will be 100 square feet or more in size. Further these areas only amount to 827 square feet and these areas are not need to achieve the 10% minimum landscape area required under Section 16.92.030-B. After deducting the 827 square feet for these

Brad Kilby, AICP
Langer Farms Phase 7 – Commercial Design Review Matrix (SP-12-05)
September 14, 2012
Page 2

areas the total landscaping percentage is 13% for the entire project exceeding the 10% standard.
With this change the project will score an additional point.

With the above two changes we believe the project scores an additional two points and therefore complies with the Landscaping section of the Commercial Design Review Matrix. We also believe that these changes can be made through a condition of approval. Thank you for your attention to this project.

Sincerely,

A handwritten signature in black ink, appearing to read "Chris Freshley", written over a horizontal line.

Christopher Freshley, Landscape Architect ASLA