

TECHNICAL MEMORANDUM

DATE: November 26th, 2021

TO: Ryan Potter and Don Hardy, City of Canby

FROM: Kevin Chewuk, Alex Correa, and Chris Maciejewski, P.E., PTOE | DKS Associates

SUBJECT: Canby Okada Manufacturing
Transportation Analysis Letter

EXECUTIVE SUMMARY

A summary of key findings from the Canby Okada Manufacturing Transportation Analysis Letter is provided below:

- **Expected Additional Vehicle Trips:**

- Approximately 20 A.M. peak hour trips, 21 p.m. peak hour trips, and 132 daily trips.
- The adjacent collector streets (i.e., Sequoia Parkway and S Walnut Street) and all other nearby intersections will maintain a level of traffic volume that is consistent with their classifications and planned growth from the TSP.
- This proposed project will contribute its proportional share towards System Development Charge improvement projects from the TSP that are needed to accommodate the forecasted growth.
- The OR 99E intersection with Haines Road is forecasted to exceed ODOT mobility targets and does not have a planned transportation improvement within the planning horizon of the Canby TSP (through the year 2030).
- The City has developed an alternate fee-in-lieu approach for this intersection that will be applied to this proposed project and results in a fee-in-lieu of \$30,693, beyond the System Development Charge Fee noted above.

- **Proposed Site Access:**

- Access is proposed via two driveways to a private shared accessway that connects to Sequoia Parkway.
- The accessway is a private street, and therefore, City of Canby driveway spacing standards do not apply.
- However, the proposed driveways would comply with the "Local" spacing standard if the accessway were a public street.

- **Proposed Circulation:**

- An internal drive aisle around the perimeter of the building will provide access from the driveways to the on-site parking areas and loading docks. Two proposed driveways will provide access for vehicles and bicycles.
- The proposed site has no frontage along public streets, although the private accessway connects to Sequoia Parkway.

- Sequoia Parkway includes bike lanes, and existing/planned sidewalks with a buffer/landscape strip.
 - The private accessway includes a 25-foot paved width that bicyclists will share with vehicles and includes a sidewalk along the west side only for pedestrians. The City is also requiring a sidewalk along the south side of the proposed driveway to the Dragonberry Produce site that will align with the sidewalk on the west side of the private accessway. The applicant should include a sidewalk along the east side of the cul-de-sac to connect with the driveway to the Dragonberry Produce site, and tie into the proposed sidewalk along the south side of it.
 - The site includes a proposed sidewalk along the south side of the proposed building to the on-site parking areas and to the building entrances.
 - These facilities can adequately accommodate the expected additional vehicle, pedestrian, and bicycle trips.
- **Transportation Approval Criteria and Livability Measures:**
 - The proposed site adequately addresses each transportation approval criteria and livability measure.

INTRODUCTION

This memorandum summarizes the transportation impacts associated with the proposed Canby Okada Manufacturing development located on Sequoia Parkway west of S Walnut Street in Canby, Oregon. The proposed site will consist of a 28,500 square foot building with 25,000 square feet of warehouse space and 3,500 square feet of associated office space¹.

LEVEL OF TRANSPORTATION ANALYSIS REQUIRED

The City requires transportation impacts to be assessed with any proposed development that will increase trips on the transportation system, consistent with requirements in the Canby Municipal Code 16.08.150. These transportation studies implement Sections 660-012-0045(2)(a), -0045(2)(b) and -0045(2)(e) of the State Transportation Planning Rule (TPR), which require the City to adopt access spacing and performance standards and a process to apply conditions to land use proposals to minimize impacts on and protect transportation facilities. These standards are specified in the Canby Municipal Code 16.08.160, with each proposed development approval dependent on meeting the specified criteria. In addition, the City assesses livability measures to each study for neighborhood traffic and pedestrian and bicycle circulation.

Transportation impacts are assessed by comparing the adopted standards to conditions before and after the proposed development is constructed. In general terms, a full transportation impact analysis (TIS) is required of developments that are presumed to generate a significant number of additional trips (i.e., the site is expected to generate 25 or more trips during the AM and/or PM peak hours or 250 or more daily trips), while those that will not provide analysis consistent with the City Transportation Analysis Letter (TAL) requirements. The key difference between the two levels of analysis is that the TAL does not require peak hour intersection operations to be analyzed. Peak hour intersection operations will not be degraded by proposed developments that generate fewer than 25 AM and/or PM peak trips since these trips are distributed system wide and do not all impact a single location, including intersections and roadway segments. Therefore, these proposed developments are consistent with the approval criteria 16.08.160.F (i.e., adopted intersection mobility standards) and only need to provide a level of analysis that is consistent with the other specified approval criteria included in the Canby Municipal Code 16.08.160, and the various neighborhood traffic and pedestrian and bicycle livability measures.

The proposed development will not result in a significant increase of additional trips (i.e., the site is expected to generate 25 or fewer trips during the AM and/or PM peak hours and fewer than 250 daily trips), so this analysis is consistent with the City TAL requirements as documented in the project scoping memorandum².

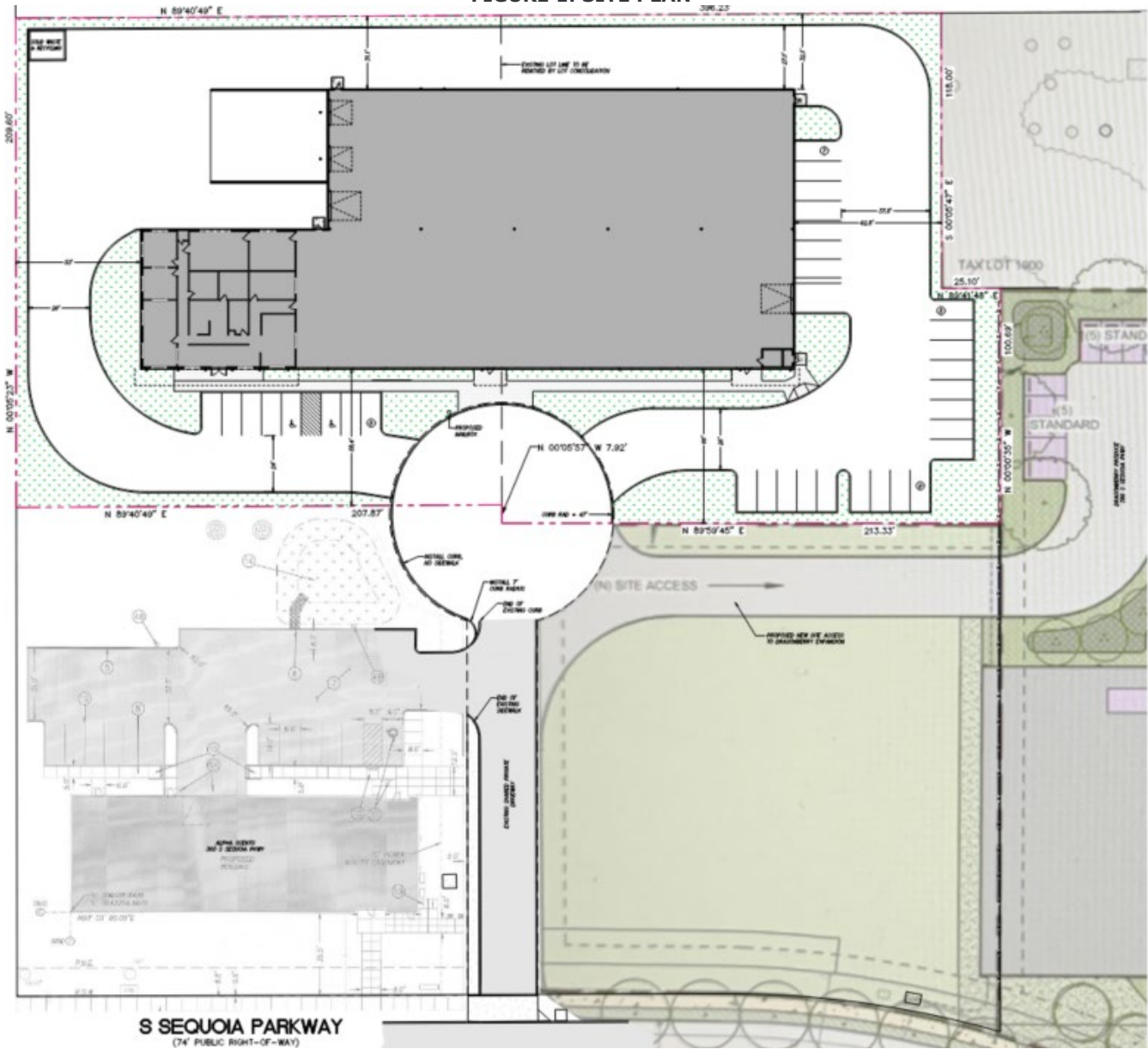
¹ Canby Okada Manufacturing site plan, April 2021.

² Scope of Work – Canby Okada Manufacturing, July 16th, 2021.

PROJECT DESCRIPTION

The proposed project will be located off a cul-de-sac on the north side of Sequoia Parkway, just to the west of S Walnut Street in Canby, Oregon. The existing site is currently vacant. The proposed development is for an approximately 28,500 square foot warehouse with associated office space to be used for the manufacturing of hydraulic demolition attachments for equipment used in the construction industry. The site is zoned for M-1 (Light Industrial) and is in the Industrial Area Overlay (I-O). The site plan can be seen in Figure 1.

FIGURE 1: SITE PLAN



SITE ACCESS AND CIRCULATION

SITE ACCESS

Access to the site is proposed via two driveways to the cul-de-sac of an existing shared private accessway, which connects to Sequoia Parkway approximately 200 feet to the south.

ACCESS SPACING

The shared accessway to Sequoia Parkway, which the two site proposed driveways will connect to, is a private street, and therefore, City of Canby driveway spacing standards do not apply. This private street functions as a "Local Street" and City standards would require driveways to be spaced at least 10 feet apart and spaced at least 50 feet from public street intersections³. The proposed driveways would be spaced approximately 70 feet apart of each other, at least 20 feet north of the nearest driveways to other parcels and 200 feet north of the nearest intersection, complying with the spacing standard for public streets.

SITE FRONTAGE

The proposed site has no frontage along public streets, although the private accessway connects to Sequoia Parkway. The private accessway includes a 25-foot paved width to serve vehicles and bicyclists and includes a sidewalk along the west side only for pedestrians. This sidewalk connects Sequoia Parkway with the driveway to the Alpha Scents site. There is no sidewalk along the east side of this private accessway, although the City is requiring a sidewalk along the south side of the proposed driveway to the Dragonberry Produce site that will align with the sidewalk on the west side of the private accessway.

Sequoia Parkway is improved to meet the City's cross-section standard for Collector streets, with one travel lane in each direction, a center turn lane, bike lanes, and existing/planned sidewalks with a buffer/landscape strip. The existing roadway can adequately accommodate the additional vehicle, pedestrian, and bicycle traffic expected.

INTERNAL SITE CIRCULATION

The proposed site plan (shown in Figure 1) shows the site is proposing two driveways to the cul-de-sac of an existing shared private accessway. An internal drive aisle around the perimeter of the building will provide access from the driveways to the on-site parking areas and loading docks. These can provide adequate circulation for motor vehicles and bicycles to the surrounding existing roadway network, and internally within the site.

The site plan also includes a proposed sidewalk along the south side of the proposed building to the on-site parking areas and to the building entrances. However, the proposed site does not include a

³ Canby Municipal Code 16.46.030. Retrieved September 2021.

sidewalk connection to off-site sidewalk facilities. The sidewalk on the west side of the private accessway ends at the Alpha Scents driveway, with a gap of about 70 feet to lot line of the proposed site. Therefore, the applicant should include a sidewalk along the east side of the cul-de-sac to connect with the driveway to the Dragonberry Produce site, and tie into the proposed sidewalk along the south side of it.

TRIP GENERATION

The amount of new vehicle trips generated by the proposed use was estimated using the trip generation estimates based on ITE Code 140 (Manufacturing) and ITE code 710 (General Office Building) using the latest version of the ITE Trip Generation Manual (10th Edition). Trip generation estimates for the proposed development are provided for daily, morning, and evening peak hours, and are summarized in Table 1. The proposed site will be expected to generate 20 a.m. peak trips, 21 p.m. peak trips, and 132 daily trips. This includes 1 truck trip during the a.m. peak hour, and 1 truck trip during the p.m. peak hour, and up to 12 truck trips in a day.

The estimated trip generation of the proposed site will not be expected to result in an increase significant enough to degrade peak hour intersection operations and is therefore consistent with the transportation approval criteria 16.08.160.F (i.e., adopted intersection mobility standards).

TABLE 1: TRIP GENERATION FOR THE PROPOSED PROJECT

LAND USE (SIZE)	AM PEAK			PM PEAK			DAILY TRIPS
	IN	OUT	TOTAL	IN	OUT	TOTAL	
MANUFACTURING - ITE CODE 140 (25,000 SQ FT)							
LIGHT VEHICLES	11	4	15	5	11	16	86
TRUCKS	1	0	1	0	1	1	12
TOTAL VEHICLES (LIGHT VEHICLES + TRUCKS)	12	4	16	5	12	17	98
GENERAL OFFICE BUILDING - ITE CODE 710 (3,500 SQ FT)							
LIGHT VEHICLES	3	1	4	1	3	4	34
TRUCKS	0	0	0	0	0	0	0
TOTAL VEHICLES (LIGHT VEHICLES + TRUCKS)	3	1	4	1	3	4	34
TOTAL PROJECT TRIPS							
TOTAL PROJECT LIGHT VEHICLES	14	5	19	6	14	20	120
TOTAL PROJECT TRUCKS	1	0	1	0	1	1	12

TOTAL PROJECT VEHICLES (LIGHT VEHICLES + TRUCKS)	15	5	20	6	15	21	132
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TRIP DISTRIBUTION AND ASSIGNMENT

The estimated site generated traffic for the proposed project was distributed and assigned to the nearby arterial and collector roadway network. These nearby roadways can accommodate the additional trips expected. A summary of the peak project trips added to nearby intersections is shown in Table 2. As shown, fewer than 12 peak trips will be expected to be added to nearby intersections. This includes an expected 11 additional a.m. peak trips and 12 additional p.m. peak trips along Sequoia Parkway north of the project site, 8 additional a.m. and p.m. peak trips along Sequoia Parkway and S township road south of the project site, and one additional a.m. and p.m. peak trip along S Walnut Street.

In total, approximately 73 additional daily trips will be expected along Sequoia Parkway north of the project site, about 59 additional daily trips along Sequoia Parkway south of the project site, and about 40 additional daily trips along S Township Road south of the project site.

Actual Traffic Volume Growth Compared to TSP Forecast

The traffic volumes resulting from the proposed project at nearby intersections were compared to existing traffic volumes, as well as the projected volumes from the City’s Transportation System Plan (TSP). This analysis shows how actual traffic volume growth on the roadway network compares to conditions that were planned for with improvement projects in the TSP. As shown in Table 3, traffic volume growth at all 5 intersections is similar or lower than what has been planned for in the TSP, indicating acceptable volumes at these locations consistent with the TSP.

Growth on the highway (OR 99E) at the east and west ends of the City (i.e., S Ivy Street and Haines Road intersections) has occurred at a slightly higher rate than the TSP forecast, with both locations having realized an annual growth rate about 1 percent higher. However, realized growth at intersections between those two (i.e., Sequoia Parkway intersection) has been slightly lower than the TSP. Non-highway intersections near the project site (i.e., Sequoia Parkway intersections with SE Hazeldell Way and S township Road) have realized growth rates between 2 and 4 percent lower than what the TSP planned for.

TABLE 3: ACTUAL TRAFFIC VOLUME GROWTH COMPARED TO TSP FORECAST (P.M. PEAK)

INTERSECTION *	CURRENT VOLUME (2021)	ESTIMATED SITE TRIPS	TOTAL VOLUME (2021)	TSP VOLUME (2009) **	TSP ESTIMATED FUTURE VOLUME (2030) **	TSP FORECASTED ANNUAL GROWTH RATE (2030-2009)	REALIZED ANNUAL GROWTH RATE (2021-2009)
S SEQUOIA PARKWAY/OR 99E	3,004	12	3,016	1,938	3,940	5%	5%
S SEQUOIA PARKWAY/SE HAZELDELL WAY	959	12	971	661	1,600	7%	3%
SEQUOIA PARKWAY/S TOWNSHIP ROAD	860	8	868	444	1,360	10%	8%
S IVY STREET/OR 99E	3,618	8	3,626	2,909	3,550	1%	2%
HAINES ROAD/OR 99E	2,724	3	2,727	2,020	2,890	2%	3%

* The Sequoia Pkwy/S Walnut St & S Walnut St/SE 1st Ave intersections were not included in the City of Canby TSP with enough information to calculate growth and therefore were excluded from this analysis.

**Source: 2009 TSP Existing Volumes; 2030 TSP Financially Constrained Volumes

Improvement Project Contribution

The City’s TSP includes improvement projects that are needed to accommodate all the growth that was forecasted to occur through 2030. These projects are included on the City’s Transportation System Development Charge improvement list, which is the one of the main funding mechanisms for implementing these TSP projects. Every new development in the City pays its proportional share of these improvements based on the actual development size. Accordingly, this proposed project will contribute its proportional share towards these System Development Charge improvement projects. This includes all projects from the TSP that are needed to accommodate the forecasted growth outlined in Table 3.

The OR 99E intersection with Haines Road is forecasted to exceed ODOT mobility targets and does not have a planned transportation improvement within the planning horizon of the Canby TSP (through the year 2030). Oregon Highway Plan Action 1F.5 requires that in this case, further degradation of intersection operations must be avoided. Any traffic generated from new developments that are expected to travel through this intersection will cause operations to further degrade. The City has developed an alternate fee-in-lieu approach for this intersection that each project must contribute towards⁴, beyond the System Development Charge fee. This approach means the proposed project would contribute their mitigation fees to advance a beneficial system improvement in lieu of paying for capacity improvements at the impacted intersection. Proportional share of the project is based on the highest project generated peak hour trips at the intersection (i.e., highest of the a.m. peak or p.m. peak) compared to the overall TSP forecasted growth. For this proposed project, the a.m. peak share is the highest, and the share would be 0.5 percent at the OR 99E / Haines Road intersection, for a fee-in-lieu of \$30,693 (see Table 4).

TABLE 4: FEE-IN-LIEU MITIGATION COSTS

IMPACTED INTERSECTION	OVERALL INTERSECTION VEHICLE TRIP GROWTH (2030-2009) *	PROPORTIONAL SHARE OF OVERALL GROWTH		ESTIMATED FEE-IN-LIEU ***
		VEHICLE TRIPS	GROWTH SHARE **	
OR 99E/HAINES RD				
AM PEAK	606	3	0.5%	\$30,693
PM PEAK	880	3	0.3%	

Notes: * Source: Canby Transportation System Plan.

** Bolded value indicates the highest project generated peak hour impact at the intersection, and the share used to develop the estimated fee-in-lieu.

*** Planning level cost estimate for the intersection improvement (i.e., assumed as a dual-lane, rural roundabout) of \$6,000,000 adjusted from the current year (2021) to the expected year of opening (2022) using a 3 percent growth rate derived from the National Highway Construction Cost Index, for a 2022 cost estimate of \$6,200,000.

⁴ Canby Fee-In-Lieu Analysis, November 19, 2021.

APPROVAL CRITERIA AND LIVABILITY MEASURES

The following sections summarize how the proposed project adequately addresses the transportation approval criteria and the livability measures for neighborhood traffic and pedestrian and bicycle circulation.

TRANSPORTATION APPROVAL CRITERIA

The Canby Municipal Code 16.08.160 includes transportation approval criteria that each proposed development must satisfy. This includes criteria B, D, E, and F, as summarized below. While Criteria A, C and E.3 are not transportation related criteria, they are still applicable for approval. See the respective documents or plans for more details on how this proposed development meets Criteria A, C and E.3.

A. ADEQUATE STREET DRAINAGE, AS DETERMINED BY THE CITY.

Non-transportation related criteria. See respective project documents/plans for information.

B. SAFE ACCESS AND CLEAR VISION AT INTERSECTIONS, AS DETERMINED BY THE CITY.

The shared accessway to Sequoia Parkway, which the two site proposed driveways will connect to, is a private street, and therefore, City of Canby driveway spacing standards do not apply. The proposed driveways would be spaced approximately 70 feet apart of each other, at least 20 feet north of the nearest driveways to other parcels and 200 feet north of the nearest intersection, which would comply with the "Local" spacing standard if it were a public street.

C. ADEQUATE PUBLIC UTILITIES, AS DETERMINED BY THE CITY.

Non-transportation related criteria. See respective project documents/plans for information.

D. ACCESS ONTO A PUBLIC STREET WITH THE MINIMUM PAVED WIDTHS AS STATED IN SUBSECTION E BELOW.

Not applicable- the proposed site has no frontage along public streets. The existing private accessway to Sequoia Parkway has a paved width of 25-feet.

E. ADEQUATE FRONTAGE IMPROVEMENTS AS FOLLOWS:

1. For local streets and neighborhood connectors, a minimum paved width of 16 feet along the site's frontage.

Not applicable- the proposed site has no frontage along public streets. The existing private accessway to Sequoia Parkway has a paved width of 25-feet.

2. For collector and arterial streets, a minimum paved width of 20 feet along the site's frontage.

Not applicable- the proposed site has no frontage along public streets. The existing private accessway to Sequoia Parkway has a paved width of 25-feet.

3. For all streets, a minimum horizontal right-of-way clearance of 20 feet along the site's frontage.

Non-transportation related criteria. See respective project documents/plans for information.

F. COMPLIANCE WITH MOBILITY STANDARDS IDENTIFIED IN THE TSP. IF A MOBILITY DEFICIENCY ALREADY EXISTS, THE DEVELOPMENT SHALL NOT CREATE FURTHER DEFICIENCIES.

The proposed development will generate no more than 21 peak hour trips, and 132 daily trips, and met criteria for a TAL level of analysis. Peak hour intersection operations will not be degraded by proposed developments that generate fewer than 25 AM and/or PM peak trips since these trips are distributed system wide and do not all impact a single location, including intersections and roadway segments. Proposed developments that meet the TAL criteria are deemed consistent with this approval criteria (i.e., adopted intersection mobility standards).

LIVABILITY CRITERIA

In addition, each project must comply with livability measures for neighborhood traffic and pedestrian and bicycle circulation. A summary is provided below for the proposed project.

NEIGHBORHOOD TRAFFIC

The proposed site will use a private accessway that connects directly to an adjacent Collector Street (Sequoia Parkway) and does not have an impact on residential local streets.

PEDESTRIAN AND BICYCLE CIRCULATION

The proposed site has no frontage along public streets, although the private accessway connects to Sequoia Parkway. Sequoia Parkway includes bike lanes, and existing/planned sidewalks with a buffer/landscape strip. The private accessway includes a 25-foot paved width that bicyclists will share with vehicles and includes a sidewalk along the west side only for pedestrians. This sidewalk connects Sequoia Parkway with the driveway to the Alpha Scents site. There is no sidewalk along the east side of this private accessway, although the City is requiring a sidewalk along the south side of the proposed driveway to the Dragonberry Produce site that will align with the sidewalk on the west side of the private accessway. The applicant should include a sidewalk along the east side of the cul-de-sac to connect with the driveway to the Dragonberry Produce site, and tie into the proposed sidewalk along the south side of it. The existing facilities, with the on-site improvements, can adequately accommodate the additional pedestrian and bicycle traffic expected.

FINDINGS

The proposed site adequately addresses each transportation approval criteria and livability measure, with the recommended sidewalk mitigations described below. It is estimated to generate an additional 20 trips in the morning peak period, an additional 21 trips in the evening peak period, and 132 daily trips. The nearby collector streets (i.e., Sequoia Parkway and S Walnut Street) and all nearby intersections will maintain a level of traffic volume that is consistent with their classifications and planned growth from the TSP. This proposed project will contribute its proportional share towards System Development Charge improvement projects from the TSP that are needed to accommodate the forecasted growth.

The OR 99E intersection with Haines Road is forecasted to exceed ODOT mobility targets and does not have a planned transportation improvement within the planning horizon of the Canby TSP (through the year 2030). The City's alternate fee-in-lieu approach for this intersection will be applied to this proposed project based on highest project generated peak hour trips at the intersection compared to the overall TSP forecasted growth. For this proposed project, the a.m. peak share is the highest and that would result in a fee-in-lieu of \$30,693, beyond the System Development Charge Fee noted above.

The shared accessway to Sequoia Parkway, which the two site proposed driveways will connect to, is a private street, and therefore, City of Canby driveway spacing standards do not apply. The proposed driveways would be spaced approximately 70 feet apart of each other, at least 20 feet north of the nearest driveways to other parcels and 200 feet north of the nearest intersection, which would comply with the "Local" spacing standard if it were a public street.

The proposed site has no frontage along public streets, although the private accessway connects to Sequoia Parkway. Sequoia Parkway includes bike lanes, and existing/planned sidewalks with a buffer/landscape strip. The private accessway includes a 25-foot paved width that bicyclists will share with vehicles and includes a sidewalk along the west side only for pedestrians. The City is also requiring a sidewalk along the south side of the proposed driveway to the Dragonberry Produce site that will align with the sidewalk on the west side of the private accessway. The applicant should include a sidewalk along the east side of the cul-de-sac to connect with the driveway to the Dragonberry Produce site, and tie into the proposed sidewalk along the south side of it.

If you have any questions, please feel free to call or email.