

## TECHNICAL MEMORANDUM

DATE: September 8th, 2021

TO: Brianna Addotta and Don Hardy, City of Canby

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

SUBJECT: Canby Project Old Mac  
Transportation Analysis Letter

---

### EXECUTIVE SUMMARY

A summary of key findings from the Canby Project Old Mac Transportation Analysis Letter is provided below:

- **Expected Additional Vehicle Trips:**

- Approximately 22 a.m. peak hour trips, 23 p.m. peak hour trips, and 208 daily trips.
- The adjacent Arterial and Collector streets (i.e., Sequoia Parkway and SE 13th Avenue) and most 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.
- Two intersections have realized growth rates higher than the TSP planned for (i.e., OR 99E intersections with S Ivy Street and Haines Road) and do not have planned transportation improvements within the planning horizon of the Canby TSP (through the year 2030).
- The City's alternate fee-in-lieu approach for these intersections will be applied to this proposed project that would result in a fee-in-lieu of \$62,245, beyond the System Development Charge Fee noted above.

- **Proposed Site Access:**

- Access proposed via three driveways, including two along SE 13th Avenue and one along Sequoia Parkway.
- Access for all entering and exiting light vehicles will be via the easternmost driveway to SE 13th Avenue. All truck traffic will also enter the site via this driveway, with most exiting via the western driveway to SE 13th Avenue and the remainder exiting via the Sequoia Parkway driveway.
- Access spacing standards are met for most of the proposed driveways. However, the proposed eastern driveway to SE 13th Avenue will be located near the east property line and will require a design modification to the County Code. No operational or safety issues are anticipated due to the low number of vehicles using the existing driveway that serves a single-family residence.
- Preliminary sight distance evaluation indicated that adequate sight lines would likely be provided for each of the proposed roadway accesses should the sight triangle be cleared.

However, prior to occupancy, sight distance at the proposed driveways will need to be verified, documented, and stamped by a registered professional Civil or Traffic Engineer licensed in the State of Oregon.

- **Proposed Circulation:**

- Internal drive aisles will provide access from the connecting roadways to the on-site parking area and connect the driveways. Three proposed driveways will provide access for vehicles and bicycles.
- Sequoia Parkway includes bike lanes, and a shared-use path along the west side. The east side will be improved along the frontage of the proposed site to include a sidewalk with a buffer/landscape strip.
- SE 13th Avenue will be improved with half-street improvements that will consist of an 8-foot bike facility, and a 5-foot-wide sidewalk behind a 5-foot-wide landscape strip along the frontage of the proposed site.
- The site includes a proposed sidewalk from SE 13th Avenue to the on-site parking area and to the entrances of the office building.
- 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 Project Old Mac development located at the northeast corner of the Sequoia Parkway and SE 13<sup>th</sup> Avenue intersection in Canby, Oregon. The proposed site will consist of a 96,410 square foot warehouse building with associated office uses designed to accommodate the storage and distribution of steel bar and tubing<sup>1</sup>.

## 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 memorandum<sup>2</sup>.

---

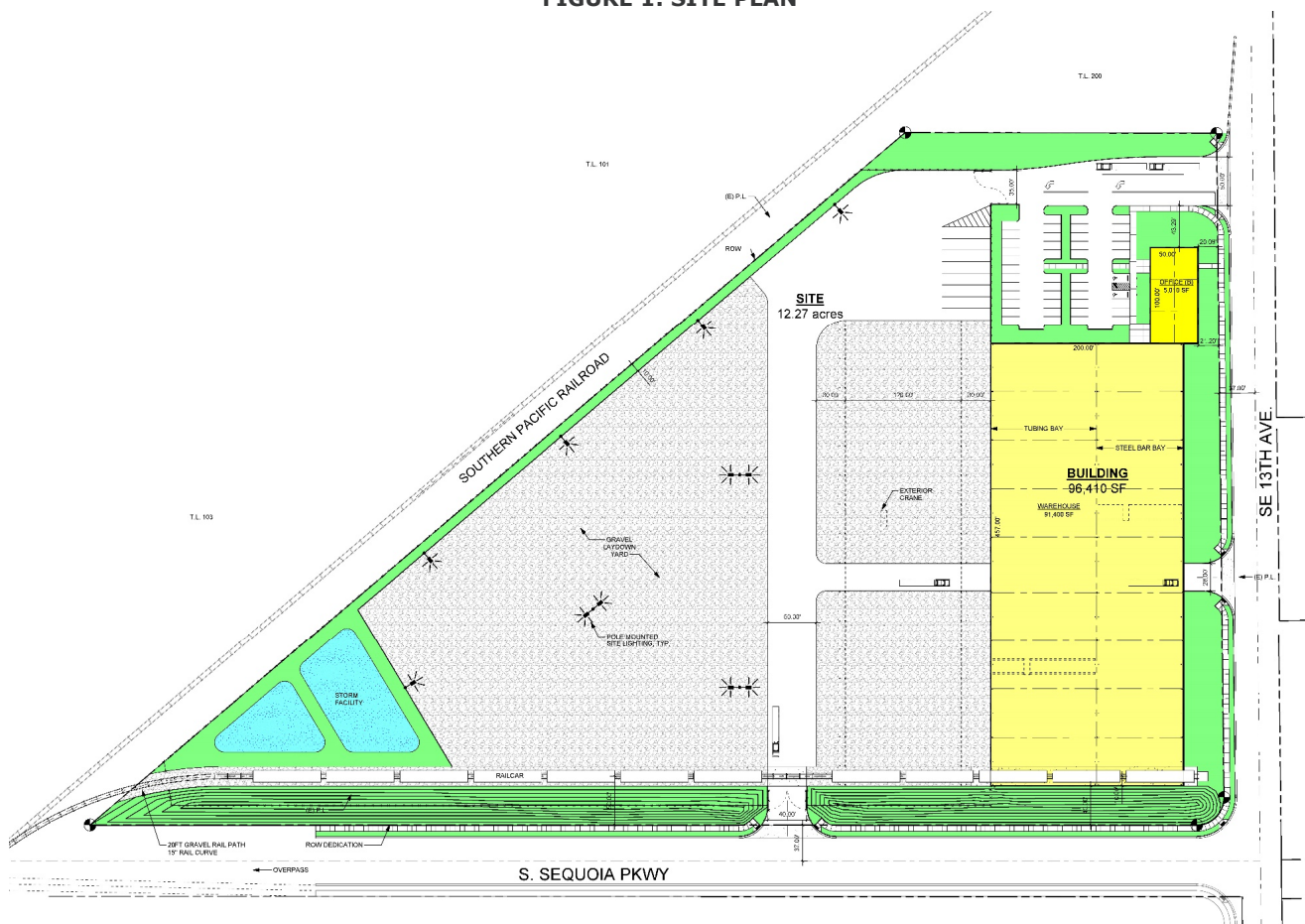
<sup>1</sup> Canby Project Old Mac site plan, Revised July 23, 2021.

<sup>2</sup> Scope of Work – Project Old Mac, July 21st, 2021.

## PROJECT DESCRIPTION

The proposed project is located on the north side of SE 13th Avenue, just to the east of Sequoia Parkway in Canby, Oregon. The existing site currently contains a hazelnut orchard and has been used for agriculture for several decades. The proposed development is for a 96,410 square foot building, with 91,400 square feet of warehouse designed for the storage and distribution of steel bar and tubing, along with 5,010 square feet of office for business administration, operations, and warehouse employees. 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 three driveways, including two along SE 13<sup>th</sup> Avenue and one along Sequoia Parkway. The proposed eastern driveway to SE 13<sup>th</sup> Avenue will be full access, while the proposed driveway to Sequoia Parkway and the western driveway to SE 13<sup>th</sup> Avenue will only serve exiting truck traffic.

### ACCESS SPACING

The City of Canby has jurisdiction over Sequoia Parkway and applies a functional classification of "Collector" to it. It is also located within the Industrial Overlay Zone area. City standards require driveways to be spaced at least 200 feet apart on the same side of Collectors in the Industrial Overlay Zone<sup>3</sup> and spaced at least 100 feet from intersections<sup>4</sup>. The proposed driveway to Sequoia Parkway will be approximately 450 feet north and more than 700 feet south of the nearest roadways or driveways, complying with the spacing standard.

Clackamas County has jurisdiction over SE 13<sup>th</sup> Avenue, which includes a County functional classification of "Minor Arterial". County standards require full-access driveways to be spaced at least 250 feet apart on Minor Arterials<sup>5</sup>. The proposed western driveway to SE 13<sup>th</sup> Avenue will be approximately 250 feet east of Sequoia Parkway, and about 350 feet from the proposed eastern driveway to SE 13<sup>th</sup> Avenue, complying with the spacing standard. However, the proposed eastern driveway will be located near the east property line, approximately 50 feet west of an existing driveway. Although the proposed driveway would be located 200 feet closer than the 250-foot spacing standard, no operational or safety issues are anticipated due to the low number of vehicles using the existing driveway that serves a single-family residence. A design modification to the County Code will be required.

### SIGHT DISTANCE

The sight triangle at intersections should be clear of objects (large signs, landscaping, parked cars, etc.) that could potentially limit vehicle sight distance. In addition, all proposed accesses should meet AASHTO sight distance requirements as measured from 15 feet back from the edge of pavement<sup>6</sup>.

The proposed driveway to Sequoia Parkway would require a minimum of 390 feet of sight distance based on a 35-mph design speed. Preliminary sight distance evaluation from the approximate location of the driveway indicates that the proposed connection would be expected to provide sight

---

<sup>3</sup> Canby Municipal Code 16.35.050.F. Retrieved August 2021.

<sup>4</sup> Canby Municipal Code 16.46.030. Retrieved August 2021.

<sup>5</sup> Clackamas County Roadway Standards, Section 220.3 Access Spacing Standards. Updated June 1, 2020.

<sup>6</sup> AASHTO – *Geometric Design of Highways and Streets*, 7<sup>th</sup> edition, 2018.

distance to SE 13<sup>th</sup> Avenue looking to the south (about 450 feet) and at least 700-feet of sight distance looking to the north.

The proposed driveways to SE 13<sup>th</sup> Avenue would require a minimum of 445 feet of sight distance based on an assumed 40-mph design speed. Preliminary sight distance evaluation from the approximate location of the western driveway indicates that the proposed connection would be expected to provide sight distance of at least 600-feet looking to the west and at least 550-feet of sight distance looking to the east. Preliminary sight distance evaluation from the approximate location of the eastern driveway indicates that the proposed connection would be expected to provide sight distance to Sequoia Parkway looking to the west (about 600-feet) but only about 200-feet of sight distance looking to the east. Hedges and other vegetation along the property line between the proposed site and the neighboring property to the east, and along SE 13<sup>th</sup> Avenue in front of this neighboring property, limit the line of sight from this proposed driveway. Should this vegetation be pruned to clear the sight triangle, an estimated 350 feet of sight distance would likely be available to the curve of SE 13<sup>th</sup> Avenue<sup>7</sup>. While this is less than the requirement assuming a 40-mph design speed, this curve has a posted speed limit of 25-mph, so westbound traffic will be traveling at slower speeds. This correlates to a design speed of 30-mph (or 5 mph over the posted speed), which requires 335 feet of sight distance. In this case, the proposed driveway would be expected to provide adequate sight distance.

However, prior to occupancy, sight distance at all access points will need to be verified, documented, and stamped by a registered professional Civil or Traffic Engineer licensed in the State of Oregon.

## **SITE FRONTAGE**

---

The proposed site has frontage along Sequoia Parkway and SE 13<sup>th</sup> Avenue. As documented earlier, the City of Canby has jurisdiction over Sequoia Parkway and applies a functional classification of "Collector" to it, while Clackamas County has jurisdiction over SE 13<sup>th</sup> Avenue, which includes a County functional classification of "Minor Arterial".

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 a shared-use path along the west side. The east side will be improved along the frontage of the proposed site to include a sidewalk with a buffer/landscape strip. The existing roadway, with the frontage pedestrian improvements, can adequately accommodate the additional vehicle, pedestrian, and bicycle traffic expected.

SE 13<sup>th</sup> Avenue has an estimated 20-foot paved width along the frontage of the proposed site. The applicant will be required to design and construct half-street improvements along the entire site frontage of SE 13<sup>th</sup> Avenue to County arterial roadway standards for a three-lane section<sup>8</sup>. These

---

<sup>7</sup> This distance was approximated since vegetation is blocking the line of sight.

<sup>8</sup> Clackamas County Roadway Standards, Standard Drawing C140.

improvements will consist of a minimum paved width of 34 feet from the centerline of the right-of-way consisting of one 12-foot travel lane, a 14-foot center turn lane, and an 8-foot bike facility, and a 5-foot-wide sidewalk behind a 5-foot-wide landscape strip. With the frontage improvements, SE 13th Avenue can adequately accommodate the additional vehicle, pedestrian, and bicycle traffic expected.

## INTERNAL SITE CIRCULATION

---

The proposed site plan (shown earlier in Figure 1) shows the site is proposing three driveways, including two along SE 13<sup>th</sup> Avenue and one along Sequoia Parkway. The proposed eastern driveway to SE 13<sup>th</sup> Avenue will be full access, while the proposed driveway to Sequoia Parkway and the western driveway to SE 13<sup>th</sup> Avenue will only serve exiting truck traffic. Access for all entering and exiting light vehicles will be via the easternmost driveway to SE 13<sup>th</sup> Avenue. All truck traffic will also enter the site via this driveway, with most (about 70 percent) exiting via the western driveway to SE 13<sup>th</sup> Avenue and the remainder (about 30 percent) exiting via the Sequoia Parkway driveway. Internal drive aisles will provide access from the connecting roadways to the on-site parking area and connect the driveways. 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 from SE 13<sup>th</sup> Avenue to the on-site parking area and to the entrances of the office building.

## TRIP GENERATION

The amount of new vehicle trips generated by the proposed use was estimated using the trip generation estimates based on ITE Code 150 (Warehousing) and ITE code 710 (General Office Building) using the latest version of the ITE Trip Generation Manual (10<sup>th</sup> 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 22 a.m. peak trips, 23 p.m. peak trips, and 208 daily trips. This includes up to 2 truck trips during the a.m. peak hour, up to 3 truck trips during the p.m. peak hour, and up to 55 truck trips in a day.

The applicant also provided supplemental trip information based on their current operations<sup>9</sup>. This data suggests the trips generated will be much lower than the amount estimated using ITE, with 12 a.m. peak trips, 12 p.m. peak trips, and 70 daily trips. The applicant also estimates that trucks will account for 12 of these daily trips<sup>10</sup>.

However, the total from ITE was utilized as a conservative method to account for the potential usage of the proposed space. Despite this, the estimated trip generation of the proposed site will not be expected to result in an increase significant enough to degrade peak hour intersection

---

<sup>9</sup> Project Narrative for Project Old Mac. Dated May 13, 2021.

<sup>10</sup> Email from VLMK. Dated August 19, 2021.

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	
<b>WAREHOUSING - ITE CODE 150 (91,400 SQ FT)</b>							
LIGHT VEHICLES	11	3	14	3	11	14	104
TRUCKS	1	1	2	1	2	3	55
<b>TOTAL VEHICLES (LIGHT VEHICLES + TRUCKS)</b>	<b>12</b>	<b>4</b>	<b>16</b>	<b>4</b>	<b>13</b>	<b>17</b>	<b>159</b>
<b>GENERAL OFFICE BUILDING - ITE CODE 710 (5,010 SQ FT)</b>							
LIGHT VEHICLES	5	1	6	1	5	6	49
TRUCKS	0	0	0	0	0	0	0
<b>TOTAL VEHICLES (LIGHT VEHICLES + TRUCKS)</b>	<b>5</b>	<b>1</b>	<b>6</b>	<b>1</b>	<b>5</b>	<b>6</b>	<b>49</b>
<b>TOTAL PROJECT TRIPS</b>							
<b>TOTAL PROJECT LIGHT VEHICLES</b>	<b>16</b>	<b>4</b>	<b>20</b>	<b>4</b>	<b>16</b>	<b>20</b>	<b>153</b>
<b>TOTAL PROJECT TRUCKS</b>	<b>1</b>	<b>1</b>	<b>2</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>55</b>
<b>TOTAL PROJECT VEHICLES (LIGHT VEHICLES + TRUCKS)</b>	<b>17</b>	<b>5</b>	<b>22</b>	<b>5</b>	<b>18</b>	<b>23</b>	<b>208</b>

**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 21 peak trips will be expected to be added to nearby non-highway intersections, and fewer than 8 peak trips at highway intersections. This includes an expected 11 additional a.m. peak trips along Sequoia Parkway north of the project site, 9 along SE 13<sup>th</sup> Avenue west of the project site, and 2 along SE 13<sup>th</sup> Avenue east of the project site, and 13 additional p.m. peak trips along Sequoia Parkway north of the project site, 8 along SE 13<sup>th</sup> Avenue west of the project site, and 2 along SE 13<sup>th</sup> Avenue east of the project site.

In total, approximately 111 additional daily trips will be expected along Sequoia Parkway north of the project site, about 79 additional daily trips along SE 13<sup>th</sup> Avenue west of the project site, and about 18 additional daily trips along SE 13<sup>th</sup> Avenue east of the project site.



**TABLE 2: PEAK HOUR PROJECT TRIPS ADDED**

INTERSECTION	TRIPS ADDED BY MOVEMENT												TOTAL PEAK TRIPS
	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	
<b>AM PEAK HOUR</b>													
S IVY STREET/OR 99E	1	0	0	0	0	0	0	1	3	0	0	0	<b>5</b>
S PINE STREET/OR 99E	0	0	0	0	0	0	0	0	1	0	0	0	<b>1</b>
SEQUOIA PARKWAY/OR 99E	0	1	1	0	2	0	0	0	0	4	0	0	<b>8</b>
HAINES ROAD/OR 99E	0	1	0	0	4	0	0	0	0	0	0	0	<b>5</b>
SEQUOIA PARKWAY/S TOWNSHIP ROAD	0	2	0	0	6	0	0	0	1	0	0	0	<b>9</b>
SEQUOIA PARKWAY/SE 13 <sup>TH</sup> AVE	0	0	0	7	0	0	0	9	0	0	2	2	<b>20</b>
<b>PM PEAK HOUR</b>													
S IVY STREET/OR 99E	3	0	0	0	0	0	0	0	2	0	1	0	<b>6</b>
S PINE STREET/OR 99E	1	0	0	0	0	0	0	0	0	0	0	0	<b>1</b>
SEQUOIA PARKWAY/OR 99E	0	1	4	0	1	0	0	0	0	1	0	0	<b>7</b>
HAINES ROAD/OR 99E	0	4	0	0	1	0	0	0	0	0	0	0	<b>5</b>
SEQUOIA PARKWAY/S TOWNSHIP ROAD	1	5	0	0	2	0	0	0	0	0	0	0	<b>8</b>
SEQUOIA PARKWAY/SE 13 <sup>TH</sup> AVE	0	0	0	2	0	0	0	3	0	0	10	6	<b>21</b>

### 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 4 of the 6 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., S Pine Street and Sequoia Parkway intersections) has been slightly lower than the TSP. Non-highway intersections near the project site (i.e., Sequoia Parkway intersections with S township Road and SE 13<sup>th</sup> Avenue) 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 IVY STREET/ OR 99E	3,620	6	3,626	2,909	3,550	1%	2%
S PINE STREET/ OR 99E	3,108	1	3,109	2,222	4,030	4%	3%
SEQUOIA PARKWAY/ OR 99E	3,009	7	3,016	1,938	3,940	5%	5%
HAINES ROAD/ OR 99E	2,722	5	2,727	2,020	2,890	2%	3%
SEQUOIA PARKWAY/ S TOWNSHIP ROAD	860	8	868	444	1,360	10%	8%
SEQUOIA PARKWAY/ SE 13 <sup>TH</sup> AVE	429	21	450	161	810	19%	15%

\* 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 two intersections from Table 3 with realized growth rates higher than the TSP planned for (i.e., OR 99E intersections with S Ivy Street and Haines Road) do not have planned transportation improvements 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 these intersections will cause operations to further degrade. The City has developed an alternate fee-in-lieu approach for these intersections that each project must contribute towards<sup>11</sup>, 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 two impacted intersections. Proportional share of the project is based on project generated PM peak hour trips at the intersection compared to the overall TSP forecasted growth. For this proposed project, that would be 0.3 percent at the OR 99E / S Ivy Street intersection, and 0.6 percent at the OR 99E / Haines Road intersection, for a fee-in-lieu of \$62,245.

**TABLE 4: FEE-IN-LIEU MITIGATION COSTS**

LOCATION	PROJECT	PROPOSED PROJECT GROWTH SHARE	PLANNING LEVEL COST ESTIMATE (ASSUMED YEAR OF OPENING - 2022)*	ESTIMATED FEE-IN-LIEU
OR 99E/IVY STREET	Dual westbound left turn lanes on OR 99E	0.3%	\$8,200,000	\$27,018
OR 99E/HAINES ROAD	Dual-lane, rural roundabout	0.6%	\$6,200,000	\$35,227
<b>TOTAL</b>			<b>\$14,400,000</b>	<b>\$62,245</b>

Note: \* Planning level cost estimate 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.

<sup>11</sup> Canby South Fee-In-Lieu Analysis, June 10, 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 proposed driveway to Sequoia Parkway will be approximately 450 feet north and more than 700 feet south of the nearest roadways or driveways, complying with the spacing standard. The proposed western driveway to SE 13<sup>th</sup> Avenue will be approximately 250 feet east of Sequoia Parkway, and about 350 feet from the proposed eastern driveway to SE 13<sup>th</sup> Avenue, complying with the spacing standard. However, the proposed eastern driveway to SE 13<sup>th</sup> Avenue will be located near the east property line, approximately 50 feet west of an existing driveway. Although the proposed driveway would be located 200 feet closer than the 250-foot spacing standard, no operational or safety issues are anticipated due to the low number of vehicles using the existing driveway that serves a single-family residence. A design modification to the County Code will be required.

Prior to occupancy, sight distance at the proposed driveways will need to be verified, documented, and stamped by a registered professional Civil or Traffic Engineer licensed in the State of Oregon. Preliminary sight distance evaluation from the approximate location of the Sequoia Parkway driveway, and the approximate location of the western driveway to SE 13<sup>th</sup> Avenue indicates that the proposed connections would be expected to provide adequate sight distance in both directions.

Preliminary sight distance evaluation from the approximate location of the eastern driveway to SE 13<sup>th</sup> Avenue indicates that the proposed connection would be expected to provide adequate sight distance looking to the west, but not to the east. Hedges and other vegetation along the property line between the proposed site and the neighboring property to the east, and along SE 13<sup>th</sup> Avenue in front of this neighboring property, limit the line of sight from this proposed driveway. Should this vegetation be pruned to clear the sight triangle, an estimated 350 feet of sight distance would likely be available to the curve of SE 13<sup>th</sup> Avenue. While this is less than

the requirement assuming a 40-mph design speed, this curve has a posted speed limit of 25-mph, so westbound traffic will be traveling at slower speeds. This correlates to a design speed of 30-mph (or 5 mph over the posted speed), which requires 335 feet of sight distance. In this case, the proposed driveway would be expected to provide adequate sight distance.

**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.**

Access to the site is proposed via three driveways, including two along SE 13th Avenue and one along Sequoia Parkway. The proposed eastern driveway to SE 13th Avenue will be full access, while the proposed driveway to Sequoia Parkway and the western driveway to SE 13th Avenue will only serve exiting truck traffic. Access for all entering and exiting light vehicles will be via the easternmost driveway to SE 13<sup>th</sup> Avenue. All truck traffic will also enter the site via this driveway, with most exiting via the western driveway to SE 13<sup>th</sup> Avenue and the remainder exiting via the Sequoia Parkway driveway. Internal driveways will provide access from the connecting roadways to the on-site parking area and connect the driveways. The site also includes a proposed sidewalk from SE 13<sup>th</sup> Avenue to the on-site parking area and to the entrances of the office building.

**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- Sequoia Parkway is a Collector Street and SE 13th Avenue is an Arterial Street.

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

The proposed site has frontage along Sequoia Parkway and SE 13th Avenue. 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 a shared-use path along the west side. The east side will be improved along the frontage of the proposed site to include a sidewalk with a buffer/landscape strip.

SE 13th Avenue has an estimated 20-foot paved width along the frontage of the proposed site. The applicant will be required to design and construct half-street improvements along the entire site frontage of SE 13th Avenue to County arterial roadway standards for a three-lane section. These improvements will consist of a minimum paved width of 34 feet from the centerline of the right-of-way consisting of one 12-foot travel lane, a 14-foot center turn

lane, and an 8-foot bike facility, and a 5-foot-wide sidewalk behind a 5-foot-wide landscape strip.

**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 23 peak hour trips, and 208 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 access directly to adjacent Arterial and Collector streets (i.e., Sequoia Parkway and SE 13th Avenue) and does not have an impact on residential local streets.

### **PEDESTRIAN AND BICYCLE CIRCULATION**

The proposed site has frontage along Sequoia Parkway and SE 13th Avenue. Sequoia Parkway includes bike lanes, and a shared-use path along the west side. The east side will be improved along the frontage of the proposed site to include a sidewalk with a buffer/landscape strip. SE 13th Avenue will be improved with half-street improvements that will consist of an 8-foot bike facility, and a 5-foot-wide sidewalk behind a 5-foot-wide landscape strip along the frontage of the proposed site. The existing roadways, with the frontage improvements, can adequately accommodate the additional pedestrian and bicycle traffic expected.

## FINDINGS

The proposed site adequately addresses each transportation approval criteria and livability measure. It is estimated to generate an additional 22 trips in the morning peak period, 23 trips in the evening peak period and 208 daily trips. The adjacent Arterial and Collector streets (i.e., Sequoia Parkway and SE 13th Avenue) and most 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.

Two intersections have realized growth rates higher than the TSP planned for (i.e., OR 99E intersections with S Ivy Street and Haines Road) and do not have planned transportation improvements within the planning horizon of the Canby TSP (through the year 2030). The City's alternate fee-in-lieu approach for these intersections will be applied to this proposed project based on project generated PM peak hour trips at the intersections compared to the overall TSP forecasted growth. For this proposed project, that would result in a fee-in-lieu of \$62,245, beyond the System Development Charge Fee noted above.

The proposed site will include three driveways, including two along SE 13th Avenue and one along Sequoia Parkway that will provide access for vehicles and bicycles. Access for all entering and exiting light vehicles will be via the easternmost driveway to SE 13<sup>th</sup> Avenue. All truck traffic will also enter the site via this driveway, with most exiting via the western driveway to SE 13<sup>th</sup> Avenue and the remainder exiting via the Sequoia Parkway driveway. Sequoia Parkway includes bike lanes, and a shared-use path along the west side. The east side will be improved along the frontage of the proposed site to include a sidewalk with a buffer/landscape strip. SE 13th Avenue will be improved with half-street improvements that will consist of an 8-foot bike facility, and a 5-foot-wide sidewalk behind a 5-foot-wide landscape strip along the frontage of the proposed site. These facilities can adequately accommodate the expected additional vehicle, pedestrian, and bicycle trips.

Access spacing standards are met for most of the proposed driveways. However, the proposed eastern driveway to SE 13<sup>th</sup> Avenue will be located near the east property line and will require a design modification to the County Code. No operational or safety issues are anticipated due to the low number of vehicles using the existing driveway that serves a single-family residence.

Preliminary sight distance evaluation indicated that adequate sight lines would likely be provided for each of the proposed roadway accesses should the sight triangle be cleared. However, prior to occupancy, sight distance at the proposed driveways will need to be verified, documented, and stamped by a registered professional Civil or Traffic Engineer licensed in the State of Oregon.

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