DR 22-06
Attachment D: Traffic Study

TECHNICAL MEMORANDUM

DATE: June 2nd, 2022

TO: Brianna Addotta and Don Hardy, City of Canby

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

SUBJECT: Canby Therma Glass
Transportation Analysis Letter

EXECUTIVE SUMMARY

A summary of key findings from the Canby Therma Glass Transportation Analysis Letter is provided below:

- **Transportation Approval Criteria and Livability Measures:**
  - The proposed site adequately addresses each transportation approval criteria and livability measure with the recommended transportation conditions of approval.
- **Expected Additional Vehicle Trips:**
  - Approximately 5 a.m. peak trips, 5 p.m. peak trips, and 51 daily trips. This includes 1 truck trip during the peak hours, and up to 18 truck trips in a day
    - The intersection closest to the proposed project, Sequoia Parkway/S Walnut Street, will be expected to see the highest increase in peak trips, with an additional 5 in the a.m. peak and 5 in the p.m. peak from the proposed project.
    - Other intersections along OR 99E will be expected to see up to 3 additional peak trips.
    - Approximately additional daily trips will be expected along Sequoia Parkway north of the project site, about 15 additional daily trips along 4th Avenue west of the project site, and about 13 additional daily trips along Sequoia Parkway south of the project site.
- **Intersection and Roadway Congestion:**
  - The proposed development will generate fewer than 25 AM and/or PM peak trips and was deemed consistent with the approval criteria 16.08.160.F (i.e., adopted intersection mobility standards) without intersection analysis since these trips are distributed system wide and do not all impact a single location, including intersections and roadway segments.
    - The observed system conditions indicate that drivers are experiencing some congestion during peak travel times, particularly at intersections along OR 99E, although the conditions are still within the acceptable range when compared to the adopted ODOT and City mobility standards.
      - This proposed project will contribute its proportional share towards the City's Transportation System Development Charge improvement list.
      - The City has established a fee-in-lieu approach for the OR 99E/Haines Road intersection and this proposed project would be expected to contribute a fee-in-lieu of $10,231 to mitigate its proportional impact.

- **Proposed Site Access and Internal Circulation:**
  - Access to the project site is proposed via two driveways, including one along S Walnut Street and one along Sequoia Parkway.
    - The accesses comply with the City's spacing standard for collector streets.
    - Preliminary sight distance evaluation indicates that sight distance is adequate. 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.
    - Access/egress for most light vehicles will be via the driveway to S Walnut Street, while all truck traffic will use the Sequoia Parkway driveway.
    - All proposed driveways will be full access, allowing for ingress/egress to the on-site parking areas for vehicles and bicycles, and loading docks for trucks.
  - The site also includes a proposed sidewalk from Sequoia Parkway and S Walnut Street to the on-site parking area, bike parking, and to the entrances along the west side of the building.
  - Together, these facilities can provide adequate circulation for inbound and outbound motor vehicles and bicycles to external streets, and internally within the site.
- **Proposed Site Frontage Improvements:**
  - The proposed site has frontage along Sequoia Parkway and S Walnut Street.
    - The applicant will be required to design and construct half-street improvements along the entire site frontage to City standard.
    - 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 and bike lanes. The east side will be improved along the frontage of the proposed site to include a sidewalk with a buffer/landscape strip.
    - These half-street improvements along S Walnut Street will consist of 27 feet of right-of-way and a minimum paved with of 15 feet measured from the centerline, and a 12-foot pedestrian zone (i.e., 6-foot-wide sidewalk with a 0.5-foot setback from the right-of-way line, behind a 5.5-foot-wide landscape strip and curb). The full 30-foot paved width should be striped to consist of two 12-foot travel lanes with a 6-foot striped median and sharrows for bike travel.

TRANSPORTATION CONDITIONS OF APPROVAL

The following is a summary of the transportation conditions of approval:

1. The development shall pay Transportation System Development Charges to address citywide impacts.
2. The development shall pay a fee-in-lieu based on its proportionate share of the impact at the OR 99E/Haines Road intersection, for a total fee-in-lieu of $10,231.
3. The development shall construct half street and frontage improvements to Sequoia Parkway consisting of a 12-foot pedestrian zone (i.e., 6-foot-wide sidewalk with a 0.5-foot setback from the right-of-way line, behind a 5.5-foot-wide landscape strip and curb).
4. The development shall construct half street and frontage improvements to S Walnut Street consisting of 27 feet of right-of-way and a minimum paved with of 15 feet measured from the centerline, and a 12-foot pedestrian zone (i.e., 6-foot-wide sidewalk with a 0.5-foot setback from the right-of-way line, behind a 5.5-foot-wide landscape strip and curb). The

full 30-foot paved width should be striped to consist of two 12-foot travel lanes with a 6-foot striped median and sharrows for bike travel.

5. Minimum sight distance requirements shall be met at all driveways. Sight distances should be verified in the final engineering/construction stages of development.

INTRODUCTION

This memorandum summarizes the transportation impacts associated with the proposed Canby Therma Glass facility located at the southeast corner of the Sequoia Parkway and S Walnut Street intersection in Canby, Oregon. The proposed site will consist of a 30,000 square foot warehouse building.

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.

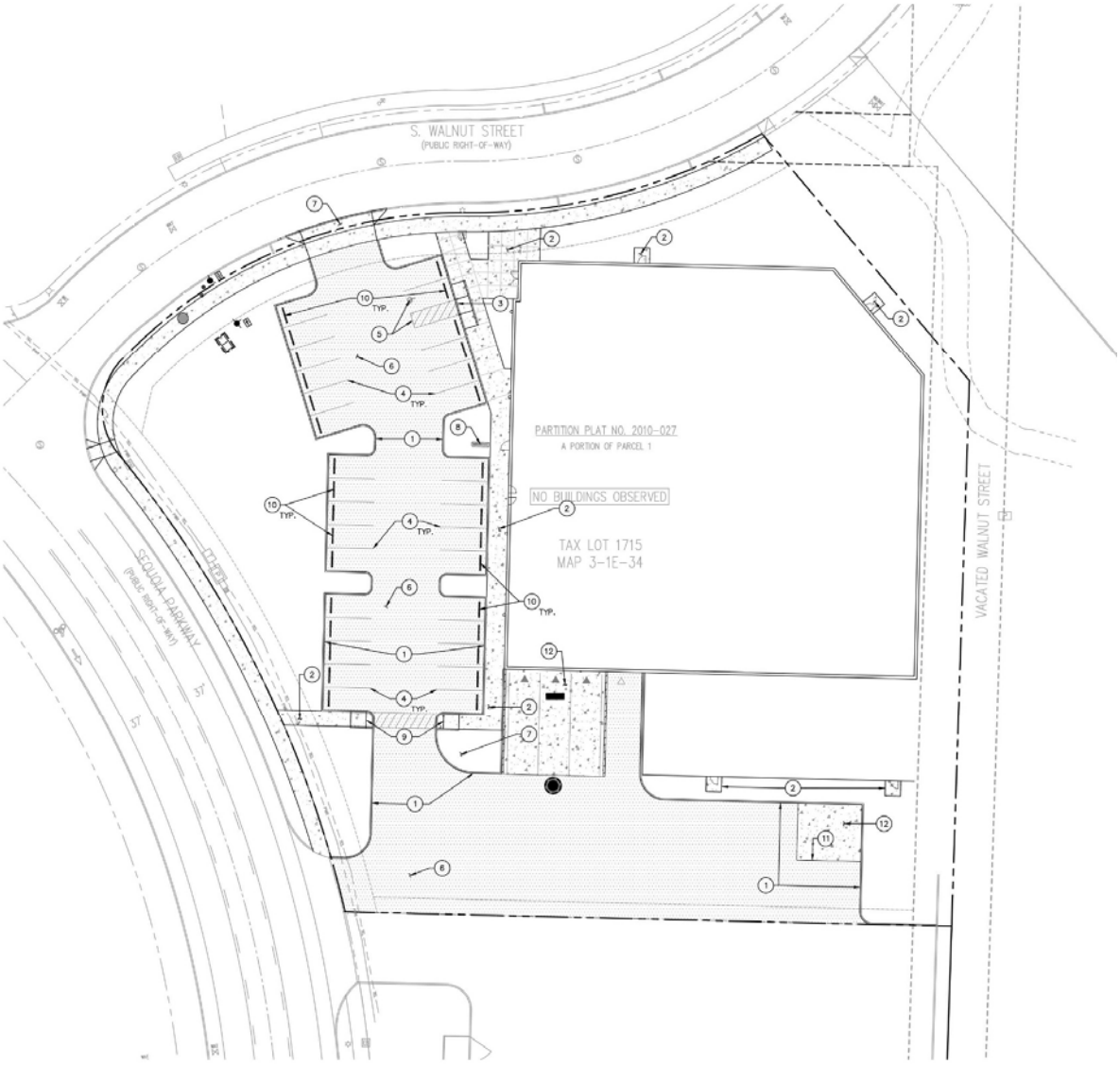
The proposed development will not result in a significant increase of additional trips (i.e., the site is expected to generate 25 or fewer trips during the AM and/or PM peak hours and fewer than 250 daily trips), so this analysis is consistent with the City TAL requirements as documented in the project scoping memorandum[1].

[1] Scope of Work – Canby Food Therma Glass, April 29, 2022.

PROJECT DESCRIPTION

The proposed project is located at the southeast corner of the Sequoia Parkway and S Walnut Street intersection in Canby, Oregon. The proposed development is for a 30,000 square foot warehousing building with associated office uses. 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 project site is proposed via two driveways; one existing shared driveway which provides full access to Sequoia Parkway, and one proposed access to S Walnut Street.

ACCESS SPACING

The City of Canby has jurisdiction over Sequoia Parkway and S Walnut Street and applies a functional classification of "Collector" to both. The proposed site is also located in 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 overlay zone[2] and spaced at least 100 feet from intersections[3].

The driveway on Sequoia Parkway is approximately 220 feet from S Walnut Street to the north and approximately 460 feet from 4th Avenue to the south, complying with the spacing standard. The proposed driveway to S Walnut Street will be approximately 125 feet east of Sequoia Parkway, and about 200 feet west of the nearest driveway, again complying with City spacing standards.

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[4].

The existing 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 driveway indicates that the connection would be expected to provide sight distance to 4th Avenue looking to the south (about 450 feet) and about 400-feet of sight distance looking to the north.

The proposed driveway to S Walnut Street would require a minimum of 280 feet of sight distance based on a 25-mph speed. Preliminary sight distance evaluation from the approximate location of the driveway indicates expected sight distance to the Sequoia Parkway intersection looking to the west (about 125 feet) and about 320 feet looking to the east.

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.

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[2] Canby Municipal Code 16.35.050.F. Retrieved May 2022.
[3] Canby Municipal Code 16.46.030. Retrieved May 2022.
[4] AASHTO – Geometric Design of Highways and Streets, 7th edition, 2018.

SITE FRONTAGE

The proposed site has frontage along Sequoia Parkway and S Walnut Street. As documented earlier, the City of Canby has jurisdiction over both Sequoia Parkway and S Walnut Street and applies a functional classification of “Collector” to each.

The applicant will be required to design and construct half-street improvements along the entire site frontage to City standard. 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 and bike lanes. 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.

These half-street improvements along S Walnut Street will consist of 27 feet of right-of-way and a minimum paved with of 15 feet measured from the centerline, and a 12-foot pedestrian zone (i.e., 6-foot-wide sidewalk with a 0.5-foot setback from the right-of-way line, behind a 5.5-foot-wide landscape strip and curb). The full 30-foot paved width should be striped to consist of two 12-foot travel lanes with a 6-foot striped median and sharrows for bike travel. With the frontage improvements, S Walnut Street can adequately accommodate the additional vehicle, pedestrian, and bicycle traffic expected.

INTERNAL SITE CIRCULATION

The proposed site plan (shown earlier in Figure 1) shows two driveways, including one existing along Sequoia Parkway and one proposed along S Walnut Street. The driveway to Sequoia Parkway will serve all truck traffic while the proposed driveway on S Walnut Street will serve as the primary access for light vehicles. An internal drive aisle will provide access from the connecting roadways to the on-site parking area on the west side of the building and loading docks on the south side of the building, 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 Sequoia Parkway and S Walnut Street to the on-site parking area, bike parking, and to the entrances along the west side of the 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) using the latest version of the ITE Trip Generation Manual (11th 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 5 a.m. peak trips, 5 p.m. peak trips, and 51 daily trips. This includes 1 truck trip during the peak hours, and up to 18 truck trips in a day. Overall, 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	
WAREHOUSING - ITE CODE 150 (30,000 SQ FT)							
LIGHT VEHICLES	4	0	4	1	3	4	33
TRUCKS	0	1	1	0	1	1	18
TOTAL VEHICLES (LIGHT VEHICLES + TRUCKS)	**4**	**1**	**5**	**1**	**4**	**5**	**51**

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 are expected to be able to 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 5 peak trips are expected to be added to nearby non-highway intersections, and fewer than 3 peak trips at highway intersections. This includes an expected 3 additional a.m. peak trips along Sequoia Parkway north of the project site, 1 along 4th Avenue west of the project site, and 1 along Sequoia Parkway south of the project site, and 3 additional p.m. peak trips along Sequoia Parkway north of the project site, 1 along 4th Avenue west of the project site, and 1 along Sequoia Parkway south of the project site.

In total, approximately 23 additional daily trips will be expected along Sequoia Parkway north of the project site, about 15 additional daily trips along 4th Avenue west of the project site, and about 13 additional daily trips along Sequoia Parkway south 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	
AM PEAK HOUR													
S IVY ST/OR 99E	0	0	0	0	0	0	0	2	0	0	1	0	**3**
S PINE ST/OR 99E	0	0	0	0	0	0	0	1	1	0	1	0	**3**
SEQUOIA PKWY/OR 99E	1	0	0	0	0	0	0	0	1	1	0	0	**3**
HAINES RD/OR 99E	0	0	0	0	0	0	0	0	0	0	1	0	**1**
SEQUOIA PKWY/S WALNUT ST	0	0	2	2	0	0	0	0	0	0	0	1	**5**
SEQUIOA PKWY/S TOWNSHIP RD	0	1	0	0	0	0	0	0	0	0	0	0	**1**
PM PEAK HOUR													
S IVY ST/OR 99E	0	0	0	0	0	0	0	1	0	0	2	0	**3**
S PINE ST/OR 99E	1	0	0	0	0	0	0	1	0	0	1	0	**3**
SEQUOIA PKWY/OR 99E	1	0	1	0	0	0	0	0	1	0	0	0	**3**
HAINES RD/OR 99E	0	0	0	0	0	0	0	1	0	0	0	0	**1**
SEQUOIA PKWY/S WALNUT ST	0	0	0	1	0	0	0	0	0	2	0	2	**5**
SEQUIOA PKWY/S TOWNSHIP RD	0	0	0	0	1	0	0	0	0	0	0	0	**1**

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 the 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 intersection) has been slightly lower than the TSP.

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 ST/OR 99E	3,620	3	3,623	2,909	3,550	1%	2%
S PINE ST/OR 99E	3,108	3	3,111	2,222	4,030	4%	3%
SEQUOIA PKWY/OR 99E	3,009	3	3,012	1,938	3,940	5%	5%
HAINES RD/OR 99E	2,722	1	2,723	2,020	2,890	2%	3%

*Sequoia Parkway/S Walnut Street and Sequoia Parkway/S Township Road not included because recent count data was not available

**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 towards[5], 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 0.2 percent at the OR 99E/ Haines Road intersection, for a fee-in-lieu of $10,231 (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	1	**0.2%**	$10,231
PM PEAK	880	1	0.1%	

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.

[5] 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 driveway on Sequoia Parkway is approximately 220 feet from S Walnut Street to the north and approximately 460 feet from 4th Avenue to the south, complying with the spacing standard. The proposed driveway to S Walnut Street will be approximately 125 feet east of Sequoia Parkway, and about 200 feet west of the nearest driveway, again complying with City spacing standards.

Prior to occupancy, sight distance at the 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 Sequoia Parkway driveway indicates that the connection would be expected to provide adequate sight distance in both directions. Preliminary sight distance evaluation from the approximate location of driveway to S Walnut Street indicates the proposed connection would be expected to provide sight distance to the Sequoia Parkway intersection looking to the west (about 125 feet) and about 320 feet looking to the east.

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 project site is proposed via two driveways; one existing shared driveway which provides full access to Sequoia Parkway, and one proposed access to S Walnut Street. The driveway to Sequoia Parkway will serve all truck traffic while the proposed driveway on S Walnut Street will serve as the primary access for light vehicles. An internal drive aisle will provide

access from the connecting roadways to the on-site parking area on the west side of the building and loading docks on the south side of the building, 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 also includes a proposed sidewalk from Sequoia Parkway and S Walnut Street to the on-site parking area, bike parking, and to the entrances along the west side of the 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.**

   N/A. Sequoia Parkway and S Walnut Street are classified as Collector streets.

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 S Walnut Street. 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 and bike lanes. The east side will be improved along the frontage of the proposed site to include a sidewalk with a buffer/landscape strip.

   The applicant will be required to design and construct half-street improvements along the entire site frontage of S Walnut Street, to consist of 27 feet of right-of-way and a minimum paved with of 15 feet measured from the centerline, and a 12-foot pedestrian zone (i.e., 6-foot-wide sidewalk with a 0.5-foot setback from the right-of-way line, behind a 5.5-foot-wide landscape strip and curb). The full 30-foot paved width should be striped to consist of two 12-foot travel lanes with a 6-foot striped median and sharrows for bike travel. With the frontage improvements, S Walnut Street can adequately accommodate the additional vehicle, pedestrian, and bicycle traffic expected.

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 5 peak hour trips, and 51 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 Collector streets (i.e., Sequoia Parkway and S Walnut Street) and does not have an impact on residential local streets.

PEDESTRIAN AND BICYCLE CIRCULATION

The proposed site has frontage along Sequoia Parkway and S Walnut Street. Sequoia Parkway includes bike lanes, and the east side will be improved along the frontage of the proposed site to include a sidewalk with a buffer/landscape strip. S Walnut Street will be improved with half-street improvements that will consist of a 12-foot pedestrian zone (i.e., 6-foot-wide sidewalk with a 0.5-foot setback from the right-of-way line, behind a 5.5-foot-wide landscape strip and curb), and striped with sharrows for bike travel. 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 5 trips in the morning peak period, 5 trips in the evening peak period and 51 daily trips. The adjacent Collector streets (i.e., Sequoia Parkway and S Walnut Street) 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.

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 $10,231, beyond the System Development Charge Fee noted above.

The proposed site will include two driveways, including one along S Walnut Street and one along Sequoia Parkway that will provide access for vehicles and bicycles. Access for most light vehicles will be via the driveway to S Walnut Street, while all truck traffic will use the Sequoia Parkway driveway. Sequoia Parkway includes bike lanes, and the east side will be improved along the

frontage of the proposed site to include a sidewalk with a buffer/landscape strip. S Walnut Street will be improved with half-street improvements that will consist of 27 feet of right-of-way and a minimum paved with of 15 feet measured from the centerline, and a 12-foot pedestrian zone (i.e., 6-foot-wide sidewalk with a 0.5-foot setback from the right-of-way line, behind a 5.5-foot-wide landscape strip and curb). The full 30-foot paved width should be striped to consist of two 12-foot travel lanes with a 6-foot striped median and sharrows for bike travel. These facilities can adequately accommodate the expected additional vehicle, pedestrian, and bicycle trips.

Prior to occupancy, sight distance at the 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 Sequoia Parkway driveway indicates that the connection would be expected to provide adequate sight distance in both directions. Preliminary sight distance evaluation from the approximate location of driveway to S Walnut Street indicates the proposed connection would be expected to provide sight distance to the Sequoia Parkway intersection looking to the west (about 125 feet) and about 320 feet looking to the east.

APRIL 29, 2022

Brianna Addotta and Don Hardy
City of Canby
222 NE 2nd Ave., PO Box 930
Canby, OR, 97013

SUBJECT: SCOPE OF WORK – CANBY THERMA GLASS

This document outlines the scope of services required to evaluate the transportation impacts associated with the proposed Canby Therma Glass development located at the southeast corner of the Sequoia Parkway intersection with S Walnut Street in Canby, Oregon. The proposed site will consist of one building with approximately 25,000 square feet of warehousing uses[1].

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.

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. In addition, other factors may trigger the need for a full TIS, including multi-modal travel, safety, and access. 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

[1] Traffic Analysis Request for Canby Therma Glass, Received April 14, 2022.

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.

- **Finding: Based on information provided by the applicant about the proposed development, it was determined that it meets the criteria for a TAL level of analysis.**

STUDY REQUIREMENTS

1. TRIP GENERATION

Conduct a trip generation analysis that approximates the daily and peak hour (AM and PM) vehicle trips with the proposed development.

The proposed trip generation should be based on ITE Code 150 (Warehousing) using the latest version of the ITE Trip Generation Manual (11th Edition). The trip generation analysis must describe the quantitative change in vehicle trips, as well as the qualitative impact on the transportation system (e.g., trips added to intersections and roadways noted in this scope).

An alternate rate for the proposed development will only be allowed with adequate documentation and coordination with the City. This documentation must include details on the studies and surveys undertaken to produce this alternate trip generation rate and rationalization for why this rate should be used instead of the accepted ITE Trip Generation Manual rate. The reference sites surveyed should be fully built out and occupied and should have similar characteristics to the proposed development.

2. TRIP DISTRIBUTION AND ASSIGNMENT

The estimated site generated traffic for the proposed project should be distributed and assigned to the existing or proposed arterial and collector roadway network during the AM and PM peak hours. The applicant must have the proposed distribution of site vehicle traffic approved by the City before initiating the study.

3. TRANSPORTATION SYSTEM CONTEXT

The qualitative impact on the transportation system must be summarized, including trips added to arterial and collector streets, as well as intersections noted in this scope.

Summarize the projects trips (i.e., peak hours and daily trips) added to OR 99E, and along nearby arterial and collector roadway segments between the project site and OR 99E, including Sequoia Parkway, S Walnut Street, SE 1st Avenue and Haines Road. Compare the traffic volumes resulting from the proposed project to existing traffic volumes (daily and peak hour), the projected volumes from the City's Transportation System Plan (TSP), and to assumed capacities for these street segments to provide an evaluation of the roadway conditions. Planned improvements in the City's

CIP and TSP in the area should also be summarized to describe long-range transportation solutions to serve growth in the area. A 24-hour volume and speed count must be collected along Sequoia Parkway, north of 4th Avenue and summarized. Historical count data collected within the past six months can be obtained and utilized for the traffic volume counts in the site vicinity and adjusted to current conditions with appropriate documentation.

A summary of the project trips added to the following intersections by movement during the AM and PM peak hours, as well as during an average weekday should be provided in table format:

1. OR 99E/ S Ivy Street
2. OR 99E/ S Pine Street
3. OR 99E/ Sequoia Parkway
4. OR 99E/ Haines Road
5. Sequoia Parkway/ S Walnut Street
6. Sequoia Parkway/ S Township Road

4. SITE ACCESS AND CIRCULATION REVIEW

The study must describe the proposed site location, zoning, project size and phasing, and include a site plan or plat map. The condition of the frontage of the proposed development should be documented, including roadway cross-section, pedestrian and bicycle facilities and nearby transit.

The study must address compliance with applicable access spacing standards for any proposed driveways or new public street intersections and must include an evaluation of available sight distance at access points. In addition, include a review and summary of internal circulation, and connections to offsite facilities for vehicles, pedestrian, and bicyclists. A description of the impacts should be discussed (if any), including any conflicts or impacts to vehicular traffic or priority pedestrian and bicycle routes, including, but not limited to school routes and multi-modal street improvements identified in the Canby Transportation System Plan.

5. TRANSPORTATION APPROVAL CRITERIA

Document how the proposed development is consistent with the transportation approval criteria in the Canby Municipal Code 16.08.160. This includes criteria B, D, E, and F. In addition, document the project compliance with the City's Neighborhood Traffic impact, and pedestrian and bicycle connectivity criteria.

6. DOCUMENTATION

The findings of the transportation analysis must be presented in a draft technical memorandum and submitted to the City (one electronic copy), following the requirements and content included in this scoping memo. The documentation must include a cover page that provides an executive summary of the transportation analysis, including key findings and recommendations. After the agency reviews of the draft technical memorandum are complete, a final technical memorandum

and cover page must be prepared addressing all agency comments and stamped by an Oregon Registered Professional Engineer (one electronic copy).

BUDGET

In consideration of the performance of these services, DKS Associates will be compensated on a time and materials basis in accordance with the hourly billing rates set forth in the attached fee schedule, subject to revision December 31, 2022, for a maximum fee of $4,200. This fee is based upon the scope of services and level of effort presented under the "Study Requirements" section.

If the applicant chooses to utilize another consultant to complete the transportation analysis, our assistance with applicant coordination and review with written response of the applicant's submittal would be approximately $800.

If you have any questions, please feel free to call or email our project manager, Kevin Chewuk.