



July 9, 2019

Ms. Tammy Martin
Steve Martin Associates, Inc.
130 South Main Street, Suite 201
Sebastopol, CA 95472

Traffic Study for the Carneros Vintners Winery Use Permit Modification

Dear Ms. Martin;

As requested, W-Trans has prepared a trip generation comparison as well as a review of the potential queuing that would result from approval of the proposed Use Permit Modification for the Carneros Vintners project. The primary purpose of this letter is to address the available storage in the northbound left-turn lane at the Stage Gulch Road/County Dump Road.

Existing Conditions

Carneros Vintners is located at 4204 Stage Gulch Road (SR 116) in Sonoma County with the main driveway on County Dump Road. The study intersection of Stage Gulch Road/County Dump Road is a tee intersection with the County Dump Road approach stop-controlled. Stage Gulch Road is a two-lane road running north-south in the study area; it has a 450-foot long northbound left-turn lane onto County Dump Road. County Dump Road serves several facilities including Soils Plus Sonoma Refuse Disposal Site.

Traffic Counts

Traffic turning movement counts were obtained at the study intersection during the a.m. and p.m. weekday and Saturday peak periods on April 2, 2019 and March 30, 2019, respectively. Those counts are summarized in Plate 1.



Plate 1 Study Intersection and Existing Volumes

The highest volume for the northbound left-turn movement was 17 vehicles during the weekend peak hour; however, during that same hour the opposing southbound through volumes were at their lowest of the hourly volumes collected at 787 vehicles. The traffic counts are enclosed.

Project Description

In 2007, Carneros Vintners received approval on a Use Permit for an annual production of 250,000 cases, public tastings, a 52,000 square foot winery facility, a 4,200 square foot hospitality building, and a 1,260 square foot office/ tasting building. Currently, the 52,000 square foot winery facility is built and produces 250,000 cases but the public tasting portion of the project was never implemented.

As currently proposed, the applicant is requesting a modification to their Use Permit to allow additional grape crushing and wine production as custom crush service up to 2.5 million cases and eliminate the public tours and tastings. With and without the project, there would be 15 employees. With the increase in production, there would be an additional five employees during harvest and bottling.

- File Number: UPE16-0052
- Address: 4202 Stage Gulch Road
- APN: 142-051-031
- Project Name: Carneros Vintners Winery
- Applicant Name: Steve Martin Associates, Inc.
- Property Owner Name: Carneros Vintners, Inc. c/o Dennis Rippey

Trip Generation

As the trip generation for a winery in the Institute of Transportation Engineers (ITE) in *Trip Generation Manual*, 10th Edition, 2017 is based on the size of the tasting room, and there are not currently tasting facilities and the proposal would eliminate the potential for such in the future, the trip generation for the existing, permitted, and proposed conditions were determined based on Sonoma County's Winery Trip Generation form.

Currently and as proposed, there would be no tasting room; however, as permitted, the tasting room could have 90 visitors daily. Per County policy, assuming an average of 2.5 persons per vehicle, the tasting room operation would generate an average of 72 visitor trip ends daily. Based on data collected at another tasting facility, it was assumed that 10 percent of visitor traffic would occur during the weekday p.m. peak hour and 14 percent would occur during the weekend peak hour. For the employees, each employee vehicle trip would be outbound during the p.m. peak and split between inbound and outbound during the weekend peak.

The County of Sonoma's Winery Traffic Information/Trip Generation Sheet does not include guidance on inbound versus outbound trips, so it was assumed that two-thirds would be outbound during the weekday p.m. peak hour due to employees and customers leaving at closure of the winery. For the weekend midday peak hour, it was assumed that inbound and outbound trips would be evenly split.

For the truck trips, the daily trips were determined based on the amounts of fruit grown on-site as well as the amount of juice, fruit, bottles, barrels, and other supplies that are required to produce the bottled wine as well as shipping the finished goods. Truck trips would typically be during the early morning hours during harvest as fruit is often picked at night. For the purposes of summarizing the approximate trip generation during the peak periods, it was assumed that one-tenth of the daily trips would be during each peak with an even split between inbound and outbound. Truck trips were further expanded to passenger car equivalents (PCE) assuming that, operationally, one truck is the equivalent of three passenger vehicles.

Based on application of these assumptions, the proposed project would be expected to generate an average of 307 PCE trips daily during harvest with 35 PCE trips during both the weekday evening and weekend afternoon peak hours. This is 20 more peak hour PCE trips during harvest compared to existing conditions but 3 fewer weekday peak PCE trips and 4 fewer weekend peak hour PCE trips than what is approved. These results are summarized in Table 1.

Table 1 – Harvest Trip Generation Summary								
Land Use	Units	Daily Trips	PM Peak Hour			Weekend Peak Hour		
			Trips	In	Out	Trips	In	Out
Existing								
Winery Operations								
Employees	15	45	15	0	15	15	8	7
Truck Traffic	-	3	0	0	0	0	0	0
PCE		9	0	0	0	0	0	0
Net Existing (PCE)		48 (54)	15	0	15	15	8	7
Permitted								
Winery Operations								
Employees	24	72	24	0	24	24	12	12
Truck Traffic	-	19	2	1	1	2	1	1
PCE		57	6	3	3	6	3	3
Tasting Room Traffic*	90	78	8	3	5	9	5	4
Net Permitted (PCE)		169 (207)	34(38)	4 (6)	30 (32)	35 (39)	18 (20)	17 (19)
Proposed								
Winery Operations								
Employees	17	51	17	0	17	17	8	9
Truck Traffic	-	64	6	3	3	6	3	3
PCE		192	18	9	9	18	9	9
Net Proposed (PCE)		115 (307)	23 (35)	3 (9)	20 (26)	23 (35)	11 (17)	12 (18)
Proposed – Existing PCE		67 (253)	8 (20)	3 (9)	5 (11)	8 (20)	3 (9)	5 (11)
Proposed – Permitted PCE		-54 (100)	-11 (-3)	-1 (3)	-10 (-6)	-12 (-4)	-7 (-3)	-5 (-1)

Notes: PCE = passenger car equivalents; * = Tasting room trips are due to both employees and visitors.

The traffic at a winery varies substantially over the seasons of the year. Of the truck-related trips, most would be from receiving and shipping fruit. The variation by month is shown for each category of trip generator in Table 2.

Table 2 – Project Trip Generation Summary – ADT Variation by Month

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec
Employees	45	45	45	45	45	45	45	60	60	60	45	45
Truck Trips	23	23	23	23	23	23	23	55	67	67	48	23
Total	68	68	68	68	68	68	68	115	127	127	93	68

Notes: Months in **bold** represent harvest season conditions; total values rounded to nearest whole number

Queuing

Based on the site reviews of the storage lane, as well as the previous experience with the intersection, the storage lane as observed had at most one passenger vehicles or one truck at a time. As reflected in the traffic counts collected, during the peak hour there were 14, three, and 17 vehicles using the northbound left-turn lane during the weekday a.m. and p.m. and weekend midday peak hours, respectively. This would confirm the observations of the queuing experienced at this location. Since County Dump Road not only serves the proposed project but several other facilities with varying types of vehicles, a qualitative review of the queuing was performed.

The proposed project would be expected to generate a total of 115 daily trips, of which 64 would be trucks, resulting in the equivalent of 307 passenger vehicle trips during harvest. As this includes both inbound and outbound trips, an average harvest day would have about 32 inbound truck trips and these trips would then further be split between inbound from the north and the south. Even with a conservative assumption that all these inbound truck trips would be from the south, requiring the use of the left-turn lane, these 32 inbound truck trips daily would be dispersed over the entire day.

Most of project-generated trucks would be a result of the grape importation. Grapes are typically picked at night and early in the morning. These inbound fruit truck trips would therefore occur at off-peak times for the roadway. The other type of trip generators for the site would be the employees. These trips would be more consistent from day-to-day with employees typically arriving during the a.m. peak and leaving during the p.m. peak hour. During the harvest period, employee shifts may be altered so they arrive before and/or leave after the morning and evening peak periods.

The 450-foot left-turn lane, assuming a length of 25 feet for a queued passenger vehicle, could accommodate up to 18 passenger vehicles. Common truck lengths are about 50-60 feet long, so using the passenger car equivalency of three, a queued truck length would be 75 feet. Based on this, the 450-foot storage length would accommodate six queued trucks at the same time. Considering the daily number of trips and the type of trips, the resulting trips generated during the peak hours would be accommodated within the available storage. Under plus Project volumes for the p.m. and weekend peak hour, assuming all 3 (9 PCE) inbound truck trips would arrive from the south and enter via a northbound left-turn, the estimated maximum queue is one or two vehicles for the weekday and weekend peak hours respectively. If both queued vehicles were trucks, this would translate to a queue length of approximately 150 feet, which is well within the space provided. Additionally, a sensitivity analysis was prepared; during the p.m. and weekend peak hours volumes of 158 and 174 PCE respectively would be required to result in a queue of six vehicles. As the average daily trip generation would result in 307 PCE trips, all the daily inbound trips would need to occur in the same hour for the queuing to exceed available storage. Copies of the queuing calculations are enclosed.


Finding – The projected queuing for the proposed project would be accommodated within the available storage lane on SR 116, Stage Gulch Road.

Conclusions and Recommendations

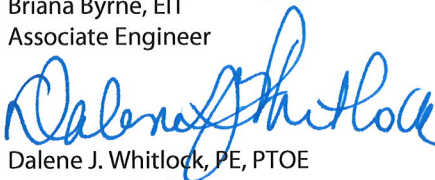
- During the harvest period, the proposed project would be expected to generate an average of 115 daily trips (307 PCE); including 23 trips (35 PCE) during both the weekday evening and Saturday midday peak hours.
- The proposed project is expected to generate 67 more daily trips than the existing conditions and 54 fewer daily trips than the permitted conditions. After converting truck trips to equivalent passenger vehicles, the modification to the Use Permit would result in 100 addition daily trips but 11 fewer PCE trips during the p.m. peak hour and 12 fewer during the weekend peak hour.
- The 450-foot storage lane would be adequate for the queuing anticipated with the proposed project as the queue lengths are expected to be 75 to 150 feet during the weekday p.m. and weekend peak hours respectively.
- Based on the sensitivity analysis, all the anticipated average daily project-generated inbound trips would need to arrive during either a single hour for a queue of six vehicles, or the capacity of the left-turn lane, to develop. As this condition would never be expected to occur, the stacking space is expected to be more than adequate to accommodate the additional truck traffic associated with the proposed change to the Use Permit.

Thank you for giving W-Trans the opportunity to provide these services. Please call if you have any questions.

Sincerely,



Briana Byrne, EIT
Associate Engineer



Dalene J. Whitlock, PE, PTOE
Senior Principal

DJW/bkb/SOX567.L1



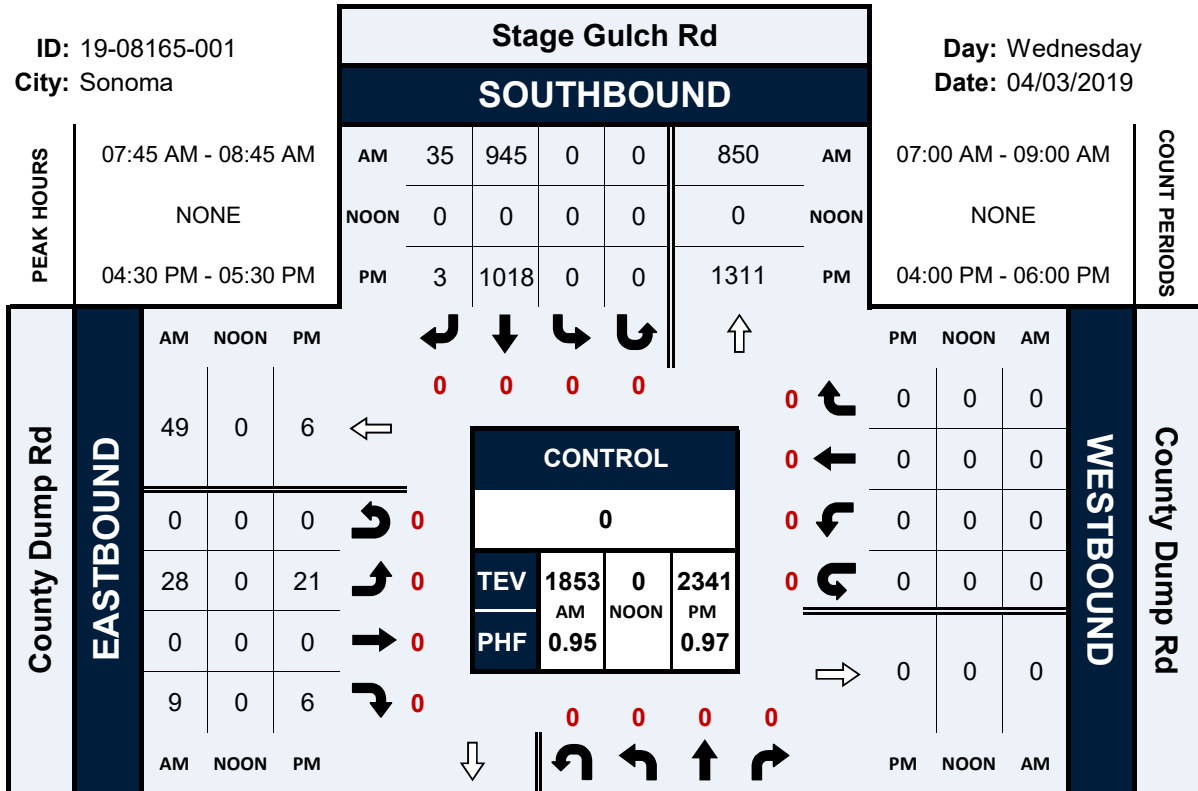
Enclosures: Traffic Counts
Queuing Calculations

Stage Gulch Rd & County Dump Rd

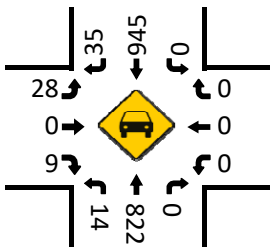
Peak Hour Turning Movement Count

ID: 19-08165-001
City: Sonoma

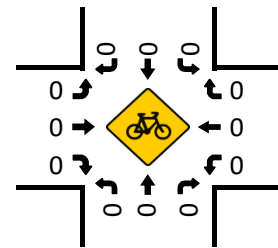
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Date: 04/03/2019



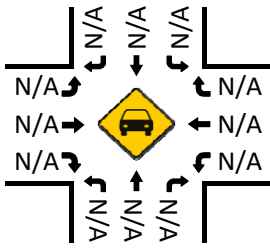
Total Vehicles (AM)



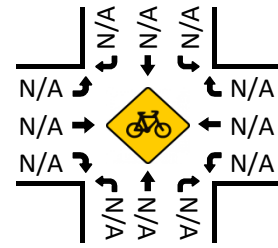
Bikes (AM)



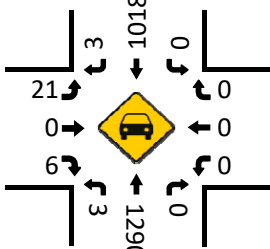
Total Vehicles (Noon)



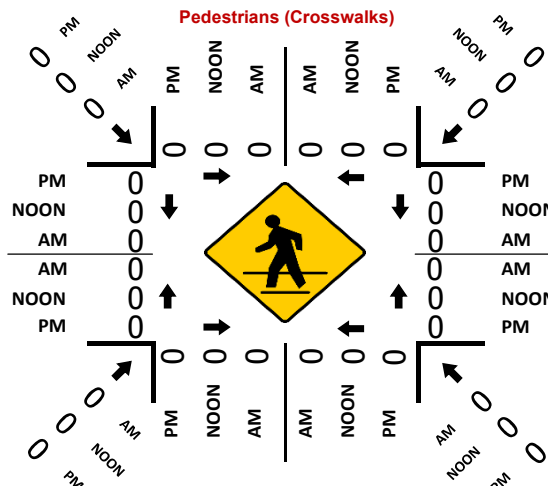
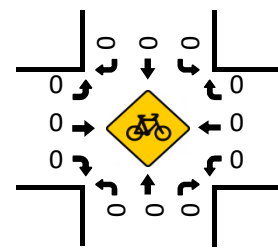
Bikes (NOON)



Total Vehicles (PM)



Bikes (PM)

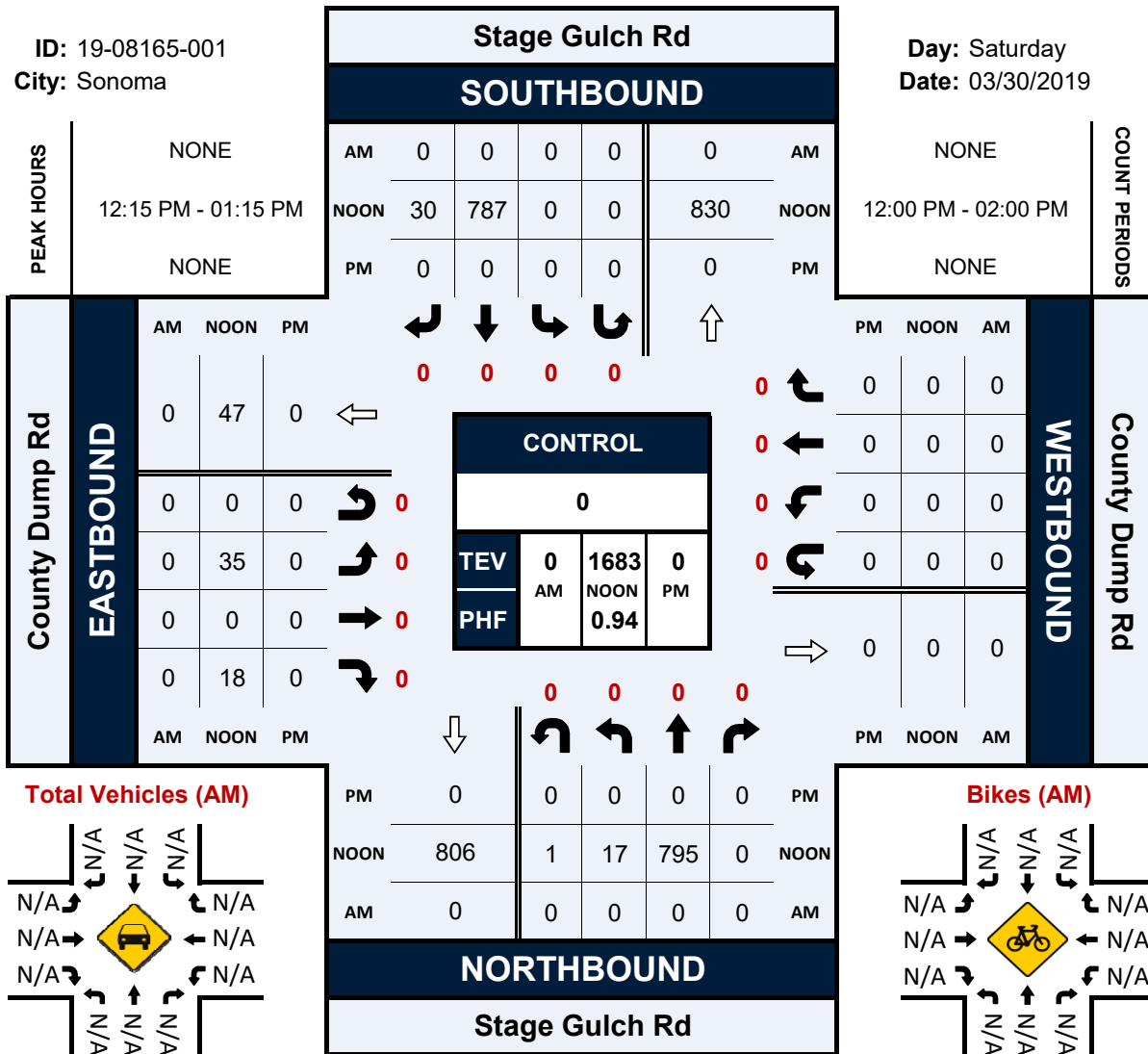


Stage Gulch Rd & County Dump Rd

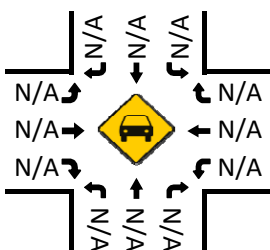
Peak Hour Turning Movement Count

ID: 19-08165-001
City: Sonoma

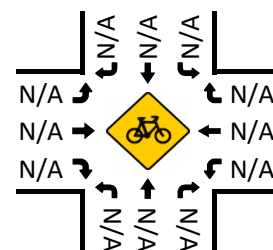
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Date: 03/30/2019



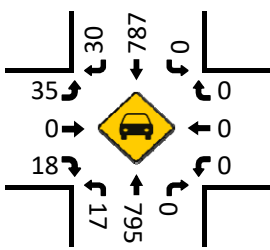
Total Vehicles (AM)



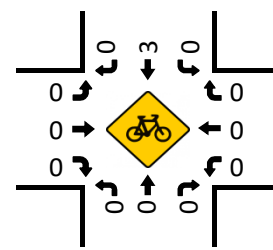
Bikes (AM)



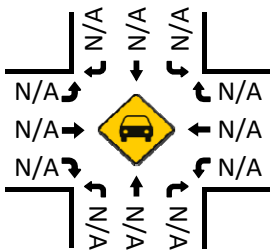
Total Vehicles (Noon)



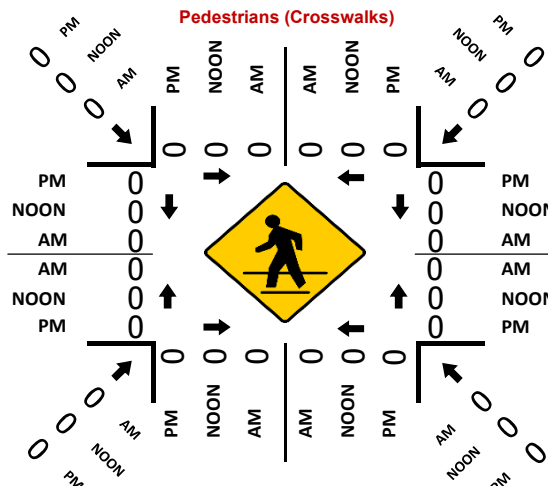
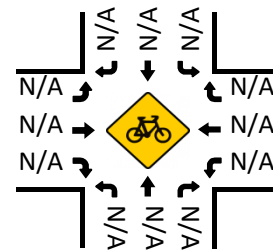
Bikes (NOON)



Total Vehicles (PM)



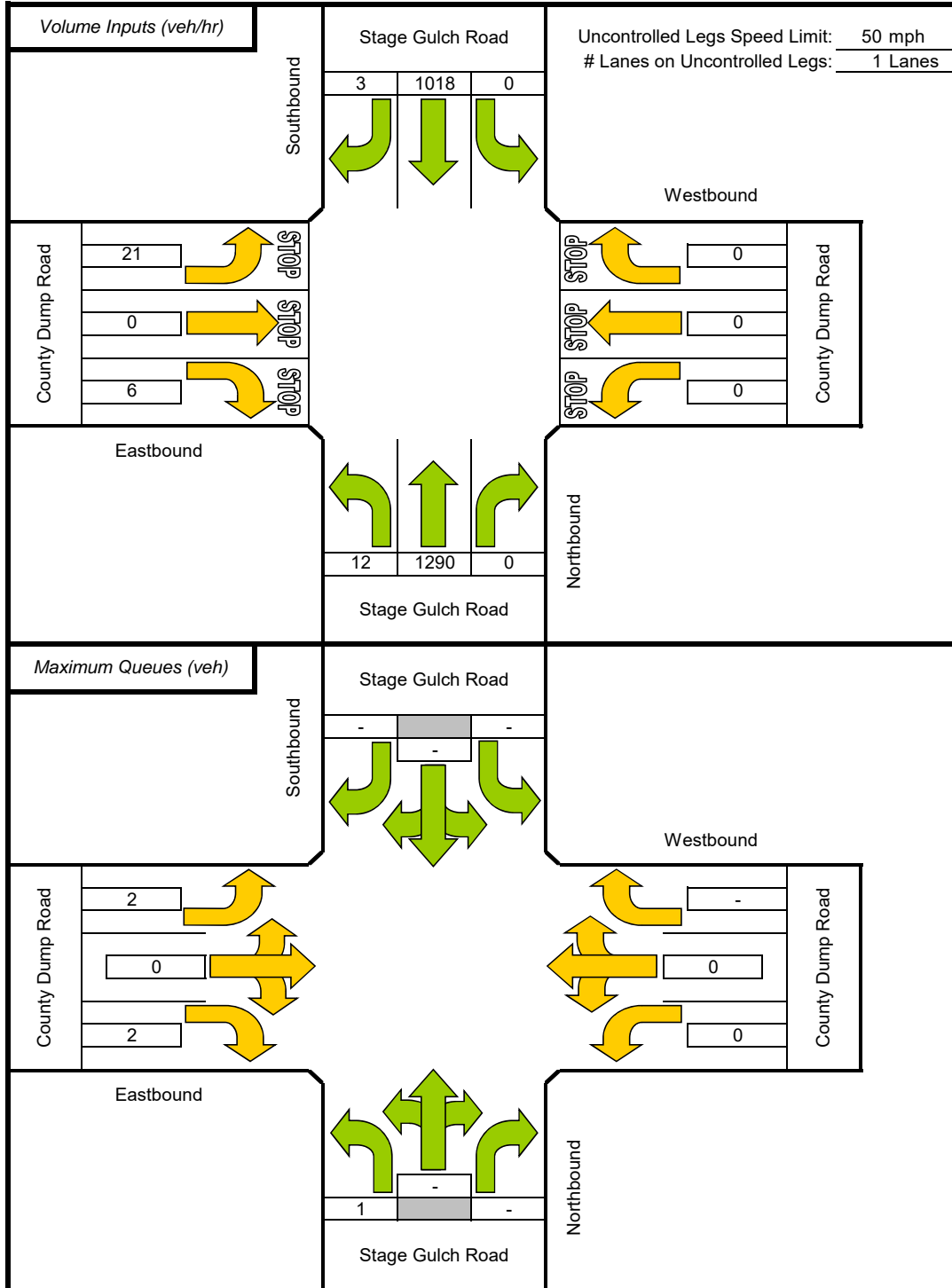
Bikes (PM)



Maximum Queue Length Two-Way Stop-Controlled Intersections

Through Street: Stage Gulch Road
Side Street: County Dump Road

Scenario: PM Existing plus Project
Stop Controlled Legs: East/West

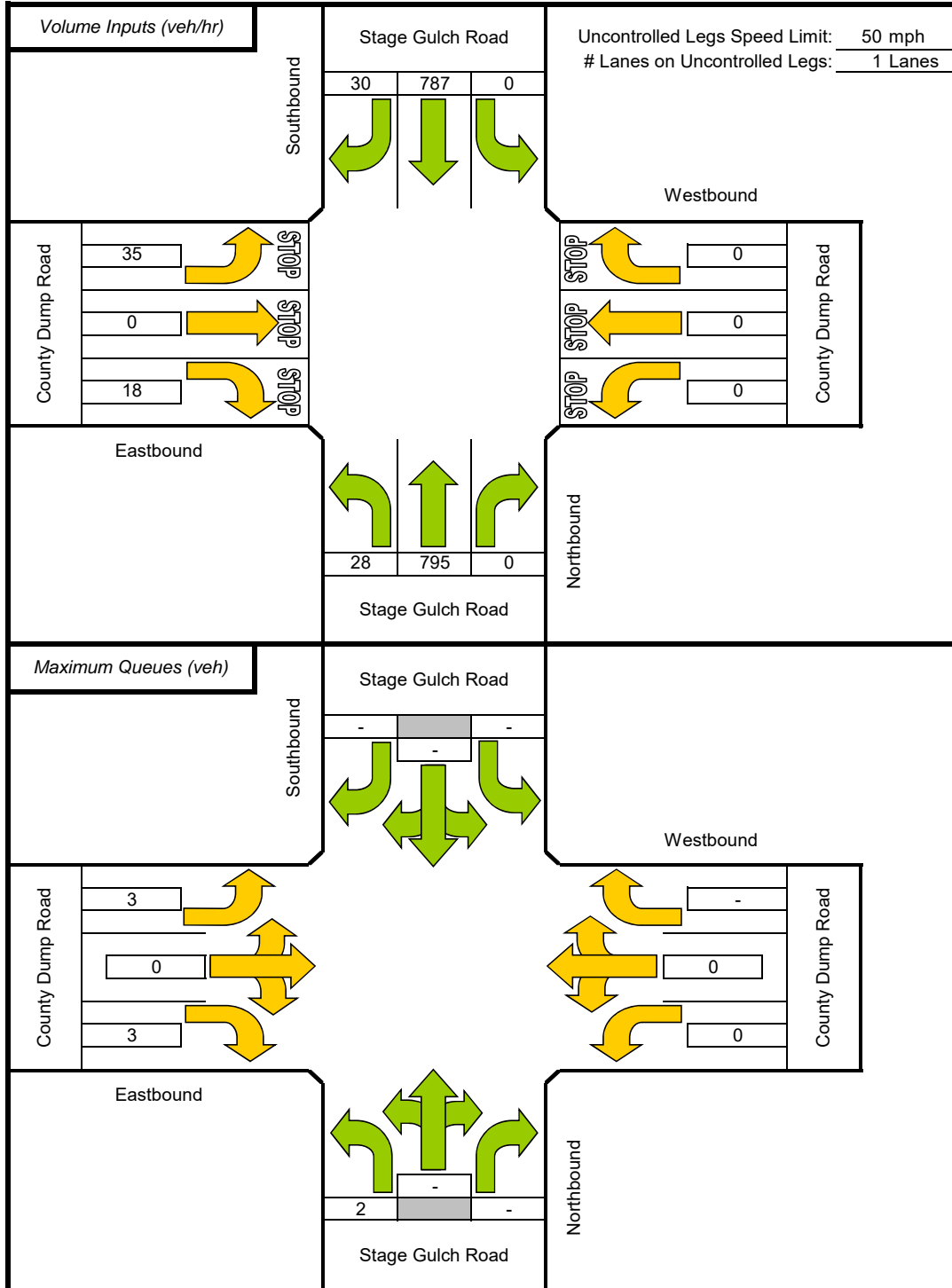


Source: John T. Gard, ITE Journal, November 2001, "Estimating Maximum Queue Length at Unsignalized Intersections"

Maximum Queue Length Two-Way Stop-Controlled Intersections

Through Street: Stage Gulch Road
Side Street: County Dump Road

Scenario: Weekend Existing plus Project
Stop Controlled Legs: East/West

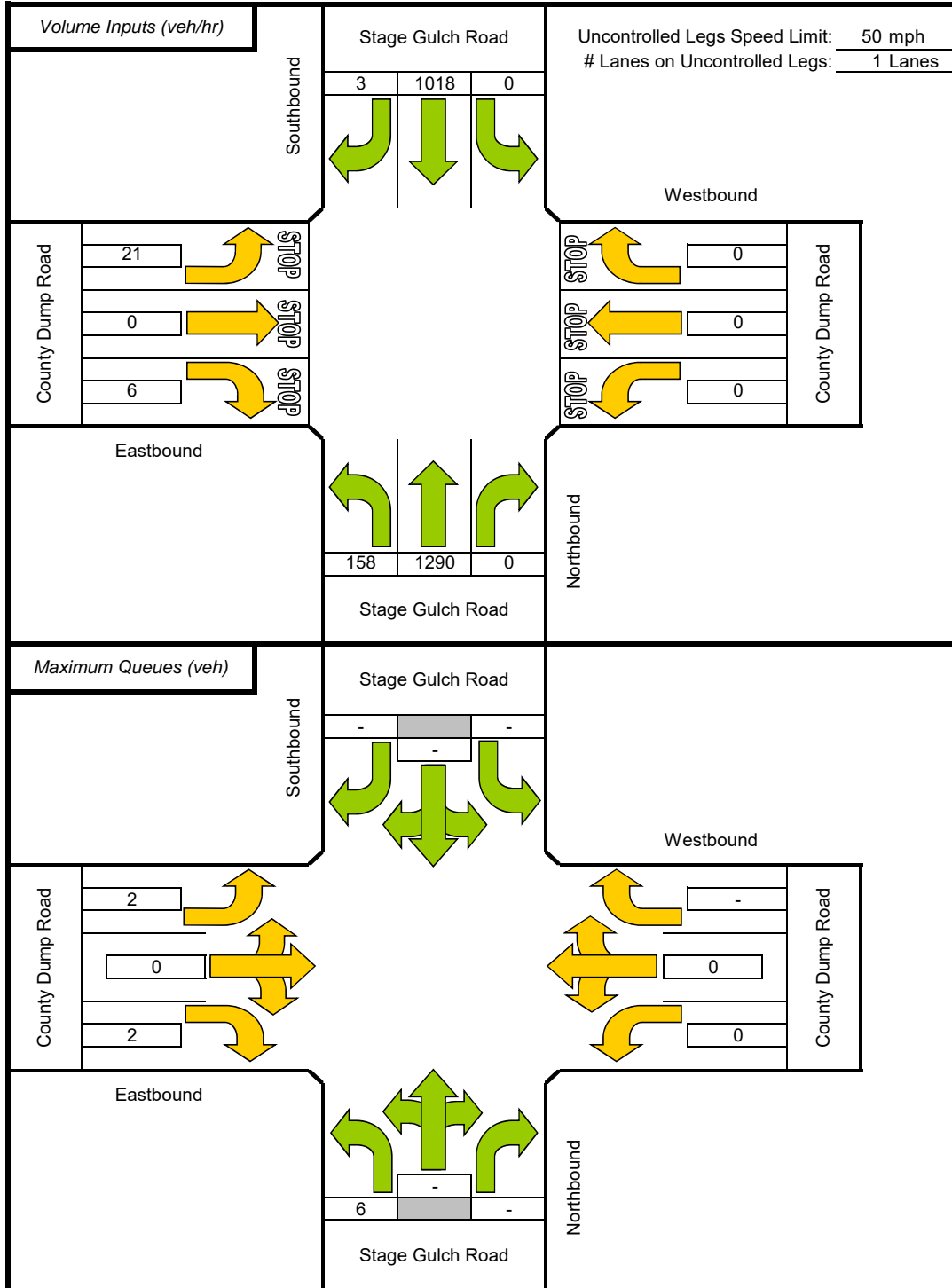


Source: John T. Gard, ITE Journal, November 2001, "Estimating Maximum Queue Length at Unsignalized Intersections"

Maximum Queue Length Two-Way Stop-Controlled Intersections

Through Street: Stage Gulch Road
 Side Street: County Dump Road

Scenario: PM Ex plus Prj (Threshold)
 Stop Controlled Legs: East/West

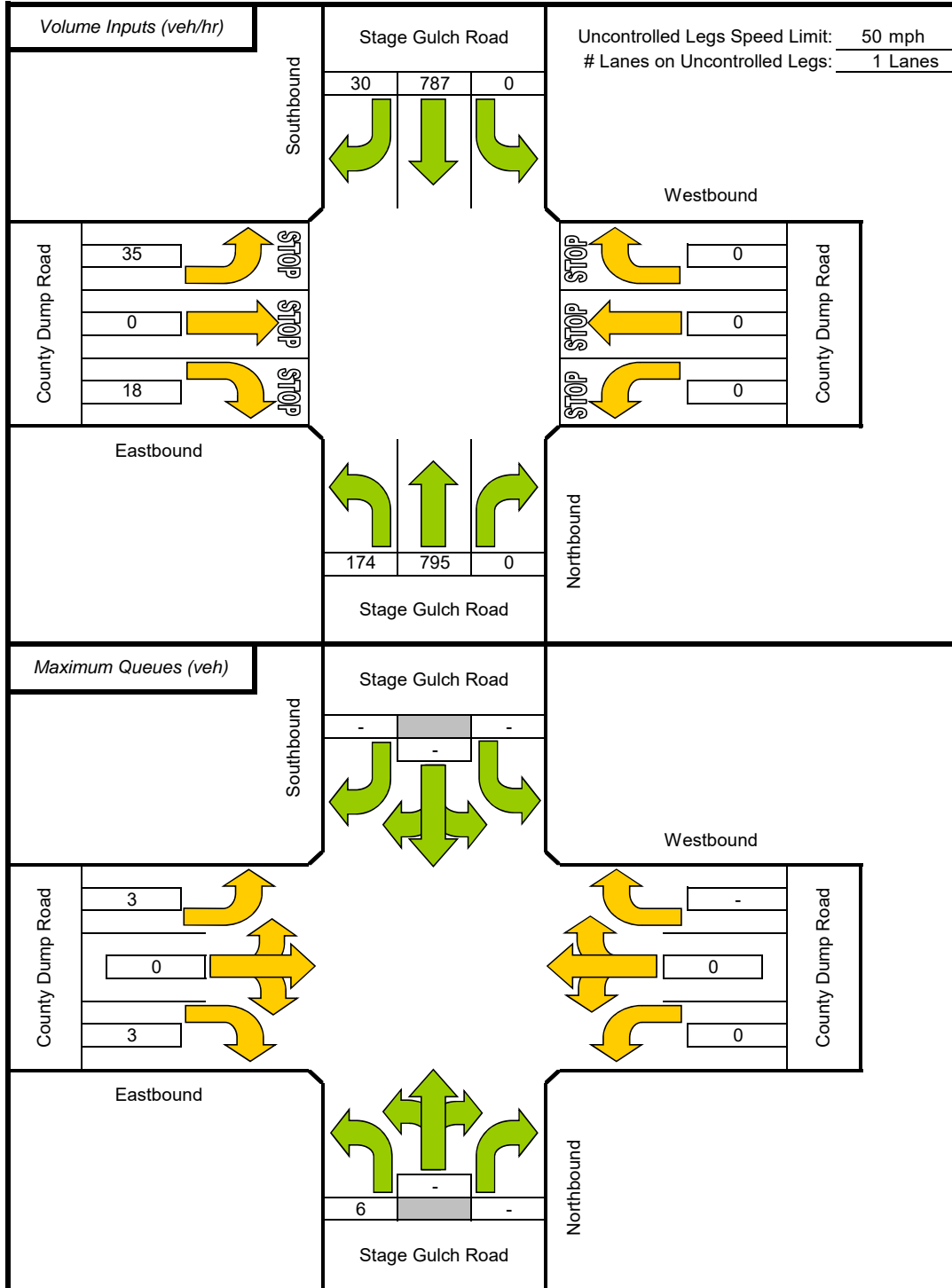


Source: John T. Gard, ITE Journal, November 2001, "Estimating Maximum Queue Length at Unsignalized Intersections"

Maximum Queue Length Two-Way Stop-Controlled Intersections

Through Street: Stage Gulch Road
Side Street: County Dump Road

Scenario: Wknd Ex plus Prj (threshold)
Stop Controlled Legs: East/West



Source: John T. Gard, ITE Journal, November 2001, "Estimating Maximum Queue Length at Unsignalized Intersections"



April 6, 2021

Ms. Tammy Martin
Steve Martin Associates, Inc.
130 South Main Street, Suite 201
Sebastopol, CA 95472

Carneros Vintners Winery Use Permit Modification VMT Addendum

Dear Ms. Martin;

As requested, W-Trans has prepared the following addendum to the *Traffic Study for the Carneros Vintners Winery Use Permit Modification* dated July 9, 2019. The purpose of the addendum is to present an assessment of vehicle miles traveled (VMT), which became a required component of CEQA analyses as of July 1, 2020. Because the County of Sonoma has not yet adopted standards of significance for evaluating VMT, guidance provided by the California Governor's Office of Planning and Research (OPR) in the publication *Transportation Impacts (SB 743) CEQA Guidelines Update and Technical Advisory*, 2018, was used (referred to herein as the Technical Advisory).

Project Description

The applicant is requesting a modification to their Use Permit to allow additional grape crushing and wine production as a custom crush service of up to 2.5 million cases and eliminate the potential for public tours and tastings to be offered as approved in the winery's 2007 User Permit. With and without the project, there would be 15 employees. With the proposed increase in production, there would be an additional five employees during harvest and bottling.

- File Number: UPE16-0052
- Address: 4202 Stage Gulch Road
- APN: 142-051-031
- Project Name: Carneros Vintners Winery
- Applicant Name: Steve Martin Associates, Inc.
- Property Owner Name: Carneros Vintners, Inc. c/o Dennis Rippey

Trip Generation Summary

A full assessment of the project's trip generation potential is included in the July 2019 traffic study. For the purposes of the VMT assessment, the factors relevant to significance findings are whether the proposed changes would result in an impact compared to existing operations on the project site, which currently include a winery with an annual production of 250,000 cases.

Transportation-based VMT assessments consider only the VMT generated by passenger vehicles and light duty trucks per the OPR Technical Advisory. Based on the trip generation table shown in Table 1 of the July 2019 traffic study, the project currently generates 45 trips per day associated with the current 15 employees. With the proposed use permit modifications, an additional five employees would be onsite during the three-month fall harvest period, increasing total employment to 17 employees on an annualized average basis with a corresponding 51 daily employee trips. Comparing proposed to current trip generation levels, the project would be expected to increase automobile travel by six trips per day on average.

VMT Assessment

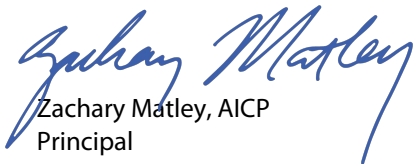
The OPR Technical Advisory identifies several criteria that may be used by jurisdictions to identify certain types of projects that are unlikely to have a VMT impact and can be “screened” from further VMT analysis. One of these screening criteria pertains to small projects, which OPR identifies as generating fewer than 110 new vehicle trips per day. As described above, the proposed project is anticipated to generate approximately six additional daily automobile trips compared to baseline conditions, which falls well below the OPR threshold. As a result, it is reasonable to conclude that the project can be presumed to have a less-than-significant impact on VMT.

It is noted that the *Technical Advisory* and CEQA Guidelines Section 15064.3 state “vehicle miles traveled refers to the amount and distance of automobile travel attributable to a project.” The *Technical Advisory* indicates “the term ‘automobile’ refers to on-road passenger vehicles, specifically cars and light duty trucks.” Light-duty trucks are defined by the EPA and State of California as trucks with a Gross Vehicle Weight Rating (GVWR) of 8,500 pounds or less, and generally include vehicles as large as a Ford Expeditions and full-size passenger vans. Trucks that are larger than this size, including box trucks and cargo flatbeds as well as semi-trucks, are considered heavy duty trucks and would not typically be included in transportation based VMT analyses.

At the request of County staff, consideration was given as to whether the VMT significance conclusion would change if trucks were included. The project as evaluated in 2019 had an anticipated trip generation during harvest of 115 trips per day, 64 of which would be trucks. This was an increase of 67 trips, including 6 by employees and 61 truck trips daily compared to the existing use. This is considerably less than the 110 ADT used as the threshold for a VMT impact. Even if the truck trips were converted to passenger car equivalents (PCE), the anticipated PCE would be 187 trips per day (6 employee trips plus 61 truck trips times 3 PCE) during harvest. Since VMT is an annual average and the truck trips are seasonal, if annualized and assuming that harvest conservatively lasts four months, the resulting ADT is 62 trips (187 divided by 3), which is still less than 110 trips and therefore less than significant.

Thank you for giving W-Trans the opportunity to provide these services. Please call if you have any questions.

Sincerely,



Zachary Matley, AICP
Principal

JZM/djw/SOX567.L2



January 5, 2023

Ms. Tammy Martin
Steve Martin Associates, Inc.
130 South Main Street, Suite 201
Sebastopol, CA 95472

Carneros Vintners Winery Use Permit Modification Collision Analysis Addendum

Dear Ms. Martin;

It is understood that a concern has been raised regarding safety as it relates to the Carneros Vintners Winery Use Permit Modification request. The proposed change in use would eliminate the approved tasting room and expand production to include custom crush activities, resulting in an increase in the amount of truck traffic associated with the site.

The collision history for the intersection of SR 116/Dump Road was reviewed to determine any trends or patterns that may indicate a safety issue. Collision rates were calculated based on records available from the California Highway Patrol as published in their Statewide Integrated Traffic Records System (SWITRS) reports. The most current five-year period available is May 1, 2017, through April 30, 2022.

The calculated collision rate for the study intersection was compared to the average collision rate for similar facilities statewide, as indicated in *2016 Collision Data on California State Highways*, California Department of Transportation (Caltrans). These average rates statewide are for intersections in the same environment (urban, suburban, or rural), with the same number of approaches (three or four), and the same controls (all-way stop, two-way stop, or traffic signal). The study intersection had a total of six collisions during the five-year study period, translating to a collision rate of 0.10 collisions per million vehicles entering (c/mve) the intersection. By comparison, the average statewide for similar intersections is 0.19 c/mve, or nearly twice the rate experienced at the study intersection. A copy of the collision rate calculation is enclosed.

Based on this review it can be concluded that the intersection is operating well within safety norms and, given that it already serves truck traffic, can be expected to continue doing so upon adding project-generated trips.

Thank you for giving W-Trans the opportunity to provide these services. Please call if you have any questions.

Sincerely,

A handwritten signature in blue ink that reads 'Dalene J. Whitlock'.

Dalene J. Whitlock, PE, PTOE
Senior Principal

DJW/djw/SOX567.L3



Enclosure: Collision Rate Calculation

Intersection Collision Rate Worksheet

SOX567 - Carneros Winery Use Permit Modification TIS

Intersection # 1: SR 116 & County Dump Road
Date of Count: Wednesday, April 03, 2019

Number of Collisions: 6
Number of Injuries: 4
Number of Fatalities: 0
Average Daily Traffic (ADT): 33400
Start Date: May 1, 2017
End Date: April 30, 2022
Number of Years: 5

Intersection Type: Tee
Control Type: Stop & Yield Controls
Area: Rural

$$\text{Collision Rate} = \frac{\text{Number of Collisions} \times 1 \text{ Million}}{\text{ADT} \times \text{Days per Year} \times \text{Number of Years}}$$

$$\text{Collision Rate} = \frac{6}{33,400} \times \frac{1,000,000}{365 \times 5}$$

	Collision Rate	Fatality Rate	Injury Rate
Study Intersection	0.10 c/mve	0.0%	66.7%
Statewide Average*	0.19 c/mve	1.7%	39.8%

Notes

ADT = average daily total vehicles entering intersection
 c/mve = collisions per million vehicles entering intersection
 * 2019 Collision Data on California State Highways, Caltrans