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Napa County Planning, Building  
& Environmental Services



April 30, 2015

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## Trip Generation Comparison for Reverie Winery

Dear Mr. Gilbreth;

As requested, W-Trans has prepared a focused traffic analysis relative to the potential trip generation associated with a Major Use Permit Modification for Reverie on Diamond Mountain Winery located at 1520 Diamond Mountain Road west of the City of Calistoga in unincorporated Napa County. The purpose of this study is to provide guidance regarding modifications that could potentially be made to the site's operational parameters to allow additional visitation without increasing traffic.

### Project Description

The existing use permit allows production of 5,000 gallons of wine annually, with 20 visitors allowed daily on weekdays and weekends. Currently the largest special event permitted at the site has 25 attendees. The proposed project would allow production to increase to 9,200 gallons annually and increase visitation to 40 persons per day. As proposed, the largest special event would have 60 persons in attendance. No changes in staffing on a typical day or during harvest are proposed.

### Trip Generation Comparison

The trip generation for the various aspects of the winery operation, including employees, production and visitors, were estimated using rates established by the Napa County Conservation, Development and Planning Department and published in its *Use Permit Application, 2011*. The County's Winery Traffic Information/Trip Generation Sheet includes guidance on the daily trip generation for both employees (3.05 trips per employee) and visitors, with visitation based on occupancies of 2.6 and 2.8 visitors per vehicle on weekdays and weekends respectively. This translates to 0.77 trips per visitor on a weekday and 0.71 trips per visitor on a weekend day. Further, the form indicates that each employee would be anticipated to generate one peak hour trip, while 38 percent of weekday daily visitor trips are assumed to occur during the weekday peak hour, and 57 percent of weekend visitor trips are expected to occur during the weekend peak hour.

As shown in the enclosed trip generation forms, based on the standard trip rates, the proposed project would be expected to generate 15 additional trips on a daily basis, including six during the p.m. peak hour. Similarly, 14 trips would be added to weekend days, including eight during the p.m. peak hour. To maintain the same numbers of trips as are currently generated upon increasing visitation to the proposed level of 40 visitors, consideration was given to operational changes that could be implemented to achieve net-zero increases in daily and peak hour trips. Because tasting is allowed only during scheduled appointments, it is operationally feasible to establish a schedule whereby an eight-passenger vehicle could carry tasting visitors to and from specified locations in or near Calistoga.

As shown on the enclosed sample schedule, a shuttle vehicle starting in Calistoga and delivering guests in groups of four to eight persons would make a total of 14 trips, delivering one group of tasting room visitors and then departing with a group that had finished their tour and tasting. The vehicle would have no passengers for one outbound trip in the morning and one inbound trip during the evening, but all other trips were assumed to include passengers in both directions. Using this operational strategy the winery would generate 14 daily trips for winery guests compared to 15 trips on weekdays and 14 on weekend days for the current 20 visitors daily. It is noted that there is no need to use a vehicle larger than one that holds eight passengers to achieve the desired reduction in trips associated with the proposed increase in visitation.

The operational changes would have an even more pronounced impact on peak hour trips, reducing the current 11 on weekdays and 13 on weekend days to two trips during either peak hour, and generally two to four trips hourly. The schedule outlined would spread the trips out more evenly over the day, resulting in less impact than under current conditions where more visitors would be expected to arrive or depart during a single hour.

**Conclusions**

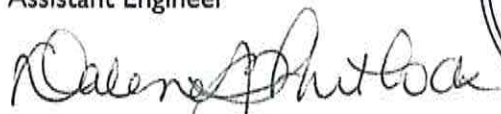
Based on the analysis performed, it appears that the potential increase in trips associated with increasing visitation at the Reverie on Diamond Mountain Winery can be offset by requiring all visitors to arrive in an eight-passenger vehicle such that, with the exception of one inbound trip in the morning and one outbound trip in the evening, the shuttle vehicle carries passengers both directions. The number of visitors per trip could vary, but the total number of round trips per day would need to be limited to seven to maintain the same level of traffic as occurs under the existing use permit.

We hope this information is helpful. Thank you for giving W-Trans the opportunity to provide these services. Please call if you have any questions.

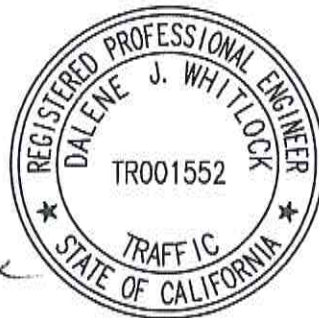
Sincerely,



Alex Zhang  
Assistant Engineer



Dalene J. Whitlock, PE, PTOE  
Principal



DJW/AZ/NAX096.L1

Enclosures: Winery Traffic Information/Trip Generation Sheets  
Sample Tasting Room Schedule

## Winery Traffic Information / Trip Generation Sheet

Project Name: Reverie Winery

Project Scenario: Existing Permitted

### Traffic during a Typical Weekday

Number of FT employees: <u>5</u> x 3.05 one-way trips per employee	=	<u>15.25</u> daily trips.
Number of PT employees: <u>0</u> x 1.90 one-way trips per employee	=	<u>0.00</u> daily trips.
Average number of weekday visitors: <u>20</u> / 2.6 visitors per vehicle x 2 one-way trips	=	<u>15.38</u> daily trips.
Gallons of production: <u>5000</u> / 1,000 x .009 truck trips daily <sup>3</sup> x 2 one-way trips	=	<u>0.09</u> daily trips.
<b>Total</b>	<b>=</b>	<b><u>31</u> daily trips.</b>
(No of FT employees) + (No of PT employees/2) + (sum of visitor and truck trips x .38)	=	<b><u>11</u> PM peak trips.</b>

### Traffic during a Typical Saturday

Number of FT employees (on Saturdays): <u>5</u> x 3.05 one-way trips per employee	=	<u>15.25</u> daily trips.
Number of PT employees (on Saturdays): <u>0</u> x 1.90 one-way trips per employee	=	<u>0.00</u> daily trips.
Average number of Saturday visitors: <u>20</u> / 2.8 visitors per vehicle x 2 one-way trips	=	<u>14.29</u> daily trips.
<b>Total</b>	<b>=</b>	<b><u>30</u> daily trips.</b>
(No of FT employees) + (No of PT employees/2) + (visitor trips x .57)	=	<b><u>13</u> PM peak trips.</b>

### Traffic during a Crush Saturday

Number of FT employees (during crush): <u>0</u> x 3.05 one-way trips per employee	=	<u>0.00</u> daily trips.
Number of PT employees (during crush): <u>0</u> x 1.90 one-way trips per employee	=	<u>0.00</u> daily trips.
Average number of Saturday visitors: <u>0</u> / 2.8 visitors per vehicle x 2 one-way trips	=	<u>0.00</u> daily trips.
Gallons of production: <u>0</u> / 1,000 x .009 truck trips daily x 2 one-way trips	=	<u>0.00</u> daily trips.
Avg. annual tons of grape on-haul: <u>0</u> / 144 truck trips daily <sup>4</sup> x 2 one-way trips	=	<u>0.00</u> daily trips.
<b>Total</b>	<b>=</b>	<b><u>0</u> daily trips.</b>

### Largest Marketing Event- Additional Traffic

Number of event staff (largest event): <u>6</u> x 2 one-way trips per staff person	=	<u>12</u> trips.
Number of visitors (largest event): <u>25</u> / 2.8 visitors per vehicle x 2 one-way trips	=	<u>18</u> trips.
Number of special event truck trips (largest event): <u>4</u> x 2 one-way trips	=	<u>8</u> trips.

<sup>3</sup> Assumes 1.47 materials & supplies trips + 0.8 case goods trips per 1,000 gallons of production / 250 days per year (see *Traffic Information Sheet Addendum* for reference).

<sup>4</sup> Assumes 4 tons per trip / 36 crush days per year (see *Traffic Information Sheet Addendum* for reference).

## Winery Traffic Information / Trip Generation Sheet

Project Name: **Verie Winery**

Project Scenario: **Proposed**

### Traffic during a Typical Weekday

Number of FT employees: <u>5</u> x 3.05 one-way trips per employee	=	<u>15.25</u> daily trips.
Number of PT employees: <u>0</u> x 1.90 one-way trips per employee	=	<u>0.00</u> daily trips.
Average number of weekday visitors: <u>40</u> / 2.6 visitors per vehicle x 2 one-way trips	=	<u>30.77</u> daily trips.
Gallons of production: <u>9200</u> / 1,000 x .009 truck trips daily <sup>3</sup> x 2 one-way trips	=	<u>0.17</u> daily trips.
<b>Total</b>	<b>=</b>	<u>46</u> daily trips.
(No of FT employees) + (No of PT employees/2) + (sum of visitor and truck trips x .38)	=	<u>17</u> <b>PM peak trips.</b>

### Traffic during a Typical Saturday

Number of FT employees (on Saturdays): <u>5</u> x 3.05 one-way trips per employee	=	<u>15.25</u> daily trips.
Number of PT employees (on Saturdays): <u>0</u> x 1.90 one-way trips per employee	=	<u>0.00</u> daily trips.
Average number of Saturday visitors: <u>40</u> / 2.8 visitors per vehicle x 2 one-way trips	=	<u>28.57</u> daily trips.
<b>Total</b>	<b>=</b>	<u>44</u> daily trips.
(No of FT employees) + (No of PT employees/2) + (visitor trips x .57)	=	<u>21</u> <b>PM peak trips.</b>

### Traffic during a Crush Saturday

Number of FT employees (during crush): <u>0</u> x 3.05 one-way trips per employee	=	<u>0.00</u> daily trips.
Number of PT employees (during crush): <u>0</u> x 1.90 one-way trips per employee	=	<u>0.00</u> daily trips.
Average number of Saturday visitors: <u>0</u> / 2.8 visitors per vehicle x 2 one-way trips	=	<u>0.00</u> daily trips.
Gallons of production: <u>0</u> / 1,000 x .009 truck trips daily x 2 one-way trips	=	<u>0.00</u> daily trips.
Avg. annual tons of grape on-haul: <u>0</u> / 144 truck trips daily <sup>4</sup> x 2 one-way trips	=	<u>0.00</u> daily trips.
<b>Total</b>	<b>=</b>	<u>0</u> daily trips.

### Largest Marketing Event- Additional Traffic

Number of event staff (largest event): <u>8</u> x 2 one-way trips per staff person	=	<u>16</u> trips.
Number of visitors (largest event): <u>60</u> / 2.8 visitors per vehicle x 2 one-way trips	=	<u>43</u> trips.
Number of special event truck trips (largest event): <u>4</u> x 2 one-way trips	=	<u>8</u> trips.

<sup>3</sup> Assumes 1.47 materials & supplies trips + 0.8 case goods trips per 1,000 gallons of production / 250 days per year (see *Traffic Information Sheet Addendum* for reference).

<sup>4</sup> Assumes 4 tons per trip / 36 crush days per year (see *Traffic Information Sheet Addendum* for reference).

## Sample Tasting Room Schedule

Project Name: Reverie on Diamont Mountain Winery

Peak Period: Typical Weekday and Weekend Day

Maximum Number of Visitors: 40

Time	Number of Visitors		Trips	
	Departing from Calistoga	Leaving from Reverie Winery	In	Out
12:00 p.m.	8	0		
12:45 p.m.	6	8		
1:30 p.m.	8	6		
2:15 p.m.	4	8		
3:00 p.m.	7	4		
3:45 p.m.	7	7		
4:30 p.m.	0	7		
<b>Total</b>	40	40	14	

Note: Limousine/Shuttle/Vehicle may hold up to eight passengers