

**KUNZMAN ASSOCIATES**

TRAFFIC ENGINEERING AND  
TRANSPORTATION PLANNING

October 12, 2021

Wayne Dollarhide  
Diamond Valley Partners, LLC  
23243 Kent Court  
Murrieta, CA 92562

Dear Mr. Dollarhide:

## **INTRODUCTION**

The firm of Kunzman Associates is pleased to submit this Vehicle Miles of Travel screening memo for the Diamon Grand Storage project in the County of Riverside. Kunzman Associates has been asked to prepare this analysis to determine if the proposed project will potentially impact the local Vehicle Miles of Travel based on the County of Riverside Guidelines.

This letter summarizes our methodology, analysis, and findings. Although this is a technical report, every effort has been made to write the report clearly and concisely. To assist the reader with those terms unique to transportation engineering, a glossary of terms is provided within Appendix A.

## **PROJECT LOCATION**

The project site is located west of Winchester Road (SR-74) and south of Newport Road in the County of Riverside. Figure 1 shows the project location map.

## **PROJECT DESCRIPTION**

The project site is proposed to be developed with an 81,432 square foot self-storage facility which includes a 1,247 square foot office and 20 spaces of recreational vehicle/trailer/boat parking and an eight (8) pump gas station with a 3,200 square foot convenience store and a 3,180 square foot drive-thru car wash. Figure 2 contains the proposed project site plan.

From a traffic engineering point of view, the project site is proposed to be developed with a 16 fueling position Gasoline/Service Station with Convenience Market and 81,432 square feet of Mini-Warehouse land use.

## VEHICLE MILES OF TRAVEL SCREENING

In the County of Riverside, any project that is local-serving, is presumed to cause a less-than-significant impact to the local vehicle miles of travel.

In the County of Riverside, any warehouse building less than 208,000 square feet, are presumed to cause a less-than-significant impact to the local vehicle miles of travel.

The 16 fueling position Gasoline/Service Station with Convenience Market land use, is a locally serving land use.

The 81,432 square feet of Mini-Warehouse land use is a locally serving land use and it is less than 208,000 square feet.

## CONCLUSION

No Vehicle Miles of Travel Analysis is required based on the County of Riverside Screening Criteria.

It has been a pleasure to service your needs on this project. Should you have any questions or if we can be of further assistance, please do not hesitate to call at (714) 904-2821.

Sincerely,

KUNZMAN ASSOCIATES



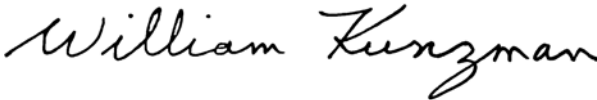
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Figure 1  
Project Location Map

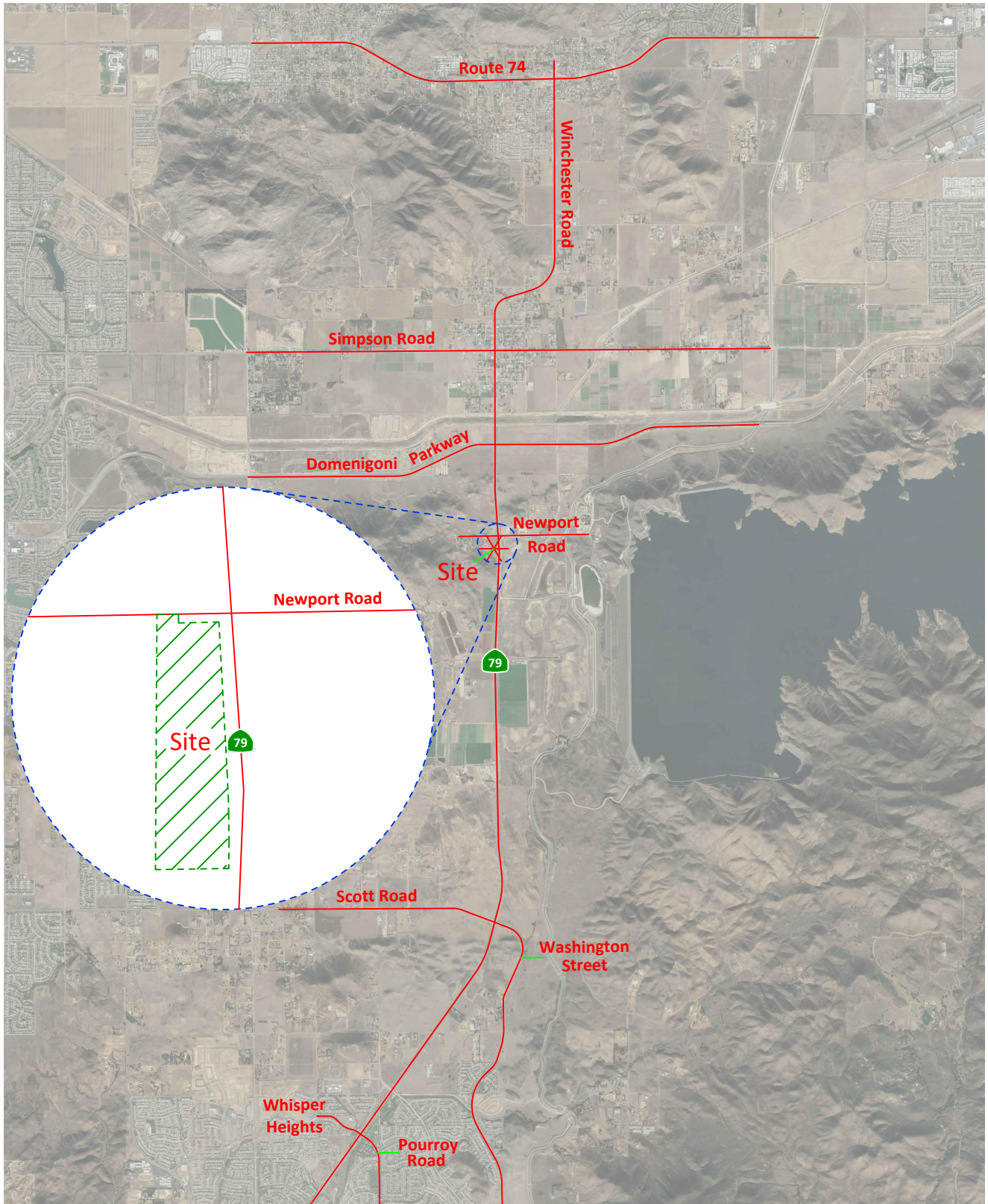
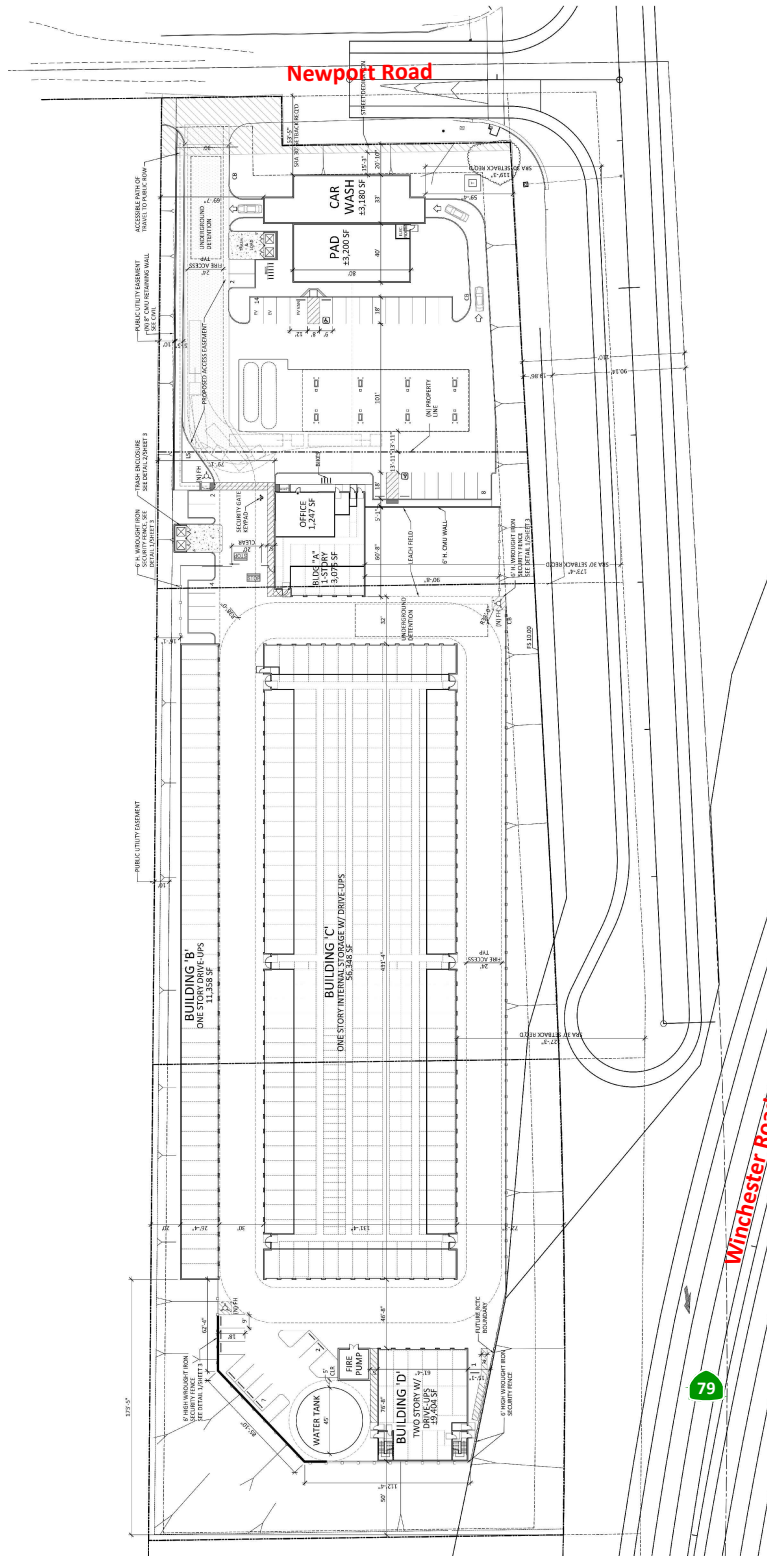


Figure 2  
Site Plan



**APPENDIX A**

**GLOSSARY OF TRANSPORTATION TERMS**

## GLOSSARY OF TRANSPORTATION TERMS

### COMMON ABBREVIATIONS

|           |   |
|-----------|---|
| AC:       | Acres                                   |
| ADT:      | Average Daily Traffic                   |
| Caltrans: | California Department of Transportation |
| DU:       | Dwelling Unit                           |
| ICU:      | Intersection Capacity Utilization       |
| LOS:      | Level of Service                        |
| TSF:      | Thousand Square Feet                    |
| V/C:      | Volume/Capacity                         |
| VMT:      | Vehicle Miles Traveled                  |

### TERMS

**AVERAGE DAILY TRAFFIC:** The total volume during a year divided by the number of days in a year. Usually, only weekdays are included.

**BANDWIDTH:** The number of seconds of green time available for through traffic in a signal progression.

**BOTTLENECK:** A constriction along a travelway that limits the amount of traffic that can proceed downstream from its location.

**CAPACITY:** The maximum number of vehicles that can be reasonably expected to pass over a given section of a lane or a roadway in a given time period.

**CHANNELIZATION:** The separation or regulation of conflicting traffic movements into definite paths of travel by the use of pavement markings, raised islands, or other suitable means to facilitate the safe and orderly movements of both vehicles and pedestrians.

**CLEARANCE INTERVAL:** Nearly same as yellow time. If there is an all red interval after the end of a yellow, then that is also added into the clearance interval.

**CORDON:** An imaginary line around an area across which vehicles, persons, or other items are counted (in and out).

**CYCLE LENGTH:** The time period in seconds required for one complete signal cycle.

**CUL-DE-SAC STREET:** A local street open at one end only, and with special provisions for turning around.

**DAILY CAPACITY:** The daily volume of traffic that will result in a volume during the peak hour equal to the capacity of the roadway.

**DELAY:** The time consumed while traffic is impeded in its movement by some element over which it has no control, usually expressed in seconds per vehicle.

**DEMAND RESPONSIVE SIGNAL:** Same as traffic-actuated signal.

**DENSITY:** The number of vehicles occupying in a unit length of the through traffic lanes of a roadway at any given instant. Usually expressed in vehicles per mile.

**DETECTOR:** A device that responds to a physical stimulus and transmits a resulting impulse to the signal controller.

**DESIGN SPEED:** A speed selected for purposes of design. Features of a highway, such as curvature, superelevation, and sight distance (upon which the safe operation of vehicles is dependent) are correlated to design speed.

**DIRECTIONAL SPLIT:** The percent of traffic in the peak direction at any point in time.

**DIVERSION:** The rerouting of peak hour traffic to avoid congestion.

**FORCED FLOW:** Opposite of free flow.

**FREE FLOW:** Volumes are well below capacity. Vehicles can maneuver freely and travel is unimpeded by other traffic.

**GAP:** Time or distance between successive vehicles in a traffic stream, rear bumper to front bumper.

**HEADWAY:** Time or distance spacing between successive vehicles in a traffic stream, front bumper to front bumper.

**INTERCONNECTED SIGNAL SYSTEM:** A number of intersections that are connected to achieve signal progression.

**LEVEL OF SERVICE:** A qualitative measure of a number of factors, which include speed and travel time, traffic interruptions, freedom to maneuver, safety, driving comfort and convenience, and operating costs.

**LOOP DETECTOR:** A vehicle detector consisting of a loop of wire embedded in the roadway, energized by alternating current and producing an output circuit closure when passed over by a vehicle.

**MINIMUM ACCEPTABLE GAP:** Smallest time headway between successive vehicles in a traffic stream into which another vehicle is willing and able to cross or merge.

**MULTI-MODAL:** More than one mode; such as automobile, bus transit, rail rapid transit, and bicycle transportation modes.

**OFFSET:** The time interval in seconds between the beginning of green at one intersection and the beginning of green at an adjacent intersection.

**PLATOON:** A closely grouped component of traffic that is composed of several vehicles moving, or standing ready to move, with clear spaces ahead and behind.

**ORIGIN-DESTINATION SURVEY:** A survey to determine the point of origin and the point of destination for a given vehicle trip.

**PASSENGER CAR EQUIVALENTS (PCE):** One car is one Passenger Car Equivalent. A truck is equal to 2 or 3 Passenger Car Equivalents in that a truck requires longer to start, goes slower, and accelerates slower. Loaded trucks have a higher Passenger Car Equivalent than empty trucks.

**PEAK HOUR:** The 60 consecutive minutes with the highest number of vehicles.



**PRETIMED SIGNAL:** A type of traffic signal that directs traffic to stop and go on a predetermined time schedule without regard to traffic conditions. Also, fixed time signal.

**PROGRESSION:** A term used to describe the progressive movement of traffic through several signalized intersections.

**SCREEN-LINE:** An imaginary line or physical feature across which all trips are counted, normally to verify the validity of mathematical traffic models.

**SIGNAL CYCLE:** The time period in seconds required for one complete sequence of signal indications.

**SIGNAL PHASE:** The part of the signal cycle allocated to one or more traffic movements.

**STARTING DELAY:** The delay experienced in initiating the movement of queued traffic from a stop to an average running speed through a signalized intersection.

**TRAFFIC-ACTUATED SIGNAL:** A type of traffic signal that directs traffic to stop and go in accordance with the demands of traffic, as registered by the actuation of detectors.

**TRIP:** The movement of a person or vehicle from one location (origin) to another (destination). For example, from home to store to home is two trips, not one.

**TRIP-END:** One end of a trip at either the origin or destination; i.e. each trip has two trip-ends. A trip-end occurs when a person, object, or message is transferred to or from a vehicle.

**TRIP GENERATION RATE:** The quantity of trips produced and/or attracted by a specific land use stated in terms of units such as per dwelling, per acre, and per 1,000 square feet of floor space.

**TRUCK:** A vehicle having dual tires on one or more axles, or having more than two axles.

**UNBALANCED FLOW:** Heavier traffic flow in one direction than the other. On a daily basis, most facilities have balanced flow. During the peak hours, flow is seldom balanced in an urban area.

**VEHICLE MILES OF TRAVEL:** A measure of the amount of usage of a section of highway, obtained by multiplying the average daily traffic by length of facility in miles.