Appendix I1

Addendum to the Alpine Community Park Transportation Impact Study

TO: Yara Fisher, HELIX Environmental Planning, Inc.

FROM: Phuong Nguyen, TE; CR Associates
Jorge Muradas, EIT; CR Associates

DATE: July 29, 2026

RE: Addendum to Address Vehicle Traffic Public Safety Impacts for the Alpine Community Park Project in the County of San Diego

This memo serves as an addendum to the Alpine Community Park Project Traffic Impact Analysis (TIA) to comply with a court order related to vehicle traffic public safety in the Writ of Mandate issued on January 23, 2026, for CASE NO: 37-2024-00000536-CU-WM-CTL (Writ), and as further detailed in the Minute Order issued on June 9, 2025, in the same proceeding (Minute Order). The court determined that the Environmental Impact Report (State Clearinghouse #2021030196, County of San Diego [County] 2023) (EIR) required further analysis and disclosure of traffic hazard impacts along South Grade Road, including driveway sight distance, traffic control device analysis, and pedestrian and bicyclist safety.

Project Background

The County of San Diego (County) Department of Parks and Recreation (DPR) is proposing to construct the approximately 25-acre Alpine Community Park project (project) in the community of Alpine, California. The project site encompasses 96.6 acres of undeveloped land, of which approximately 70 acres will be preserved as open space. The project is located adjacent to Back Country Land Trust (BCLT) Wright's Field Preserve, north of South Grade Road, east of Tavern Road, and south of Alpine Boulevard.

The project falls within the boundary of the Alpine Community Plan and has a land use designation of Semi-Rural Residential (SR-2) and is zoned as A70, Limited Agricultural Use, and as S80, Open Space. The property Assessor's Parcel Numbers (APNs) for the proposed park and open space are: 404-171-12 and a portion of 404-170-61.

Access to the park and its planned 240-off-street parking supply will be provided via two driveways located along South Grade Road. The primary park entrance (Driveway #1) would be located on the eastern side of the property as a new intersection leg of the South Grade Road and Calle de Compadres intersection, and it would operate as a side-street, stop-controlled intersection. The second driveway (Driveway #2) would include a new intersection at the southern end of the property that would operate as a side-street, stop-controlled intersection. Both driveways would allow full access to the project site.

Writ

The language included in the Writ regarding vehicle traffic public safety is included below:

> *Vehicle Traffic Public Safety. Respondent shall analyze and disclose the traffic hazard impacts concerning South Grade Road, in particular, whether the project will substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections). In doing so, Respondent shall not delay reasonably feasible analysis and potential impacts of the project's driveway, the driveway's traffic control device, and sight distance analysis on traffic collisions, including as to pedestrians and bicyclists.*

Minute Order

The language included in the Minute Order regarding vehicle traffic public safety, which provides further details regarding the Writ's directive, is included below:

> *The petition alleges the project is adjacent to a high-speed roadway that contains areas of low visibility and has been the location of multiple fatal accidents. The petition alleges the project would create a multi-way stop in a low visibility area, increasing traffic risks. Pet. ¶¶35, 55.*
>
> *Petitioners argue the EIR does not contain any analysis of the project's potential traffic hazard impacts to pedestrians and bicyclists. MPA at pp.24–25. They argue that the project is anticipated to draw approximately 300–500 people per day on weekdays, 1,000 per day on weekends, and up to 2,000 at the same time during special events. AR 2314. They argue the visitors who park on the shoulder of South Grade Road would need to walk on the road shoulder, and that South Grade Road is known for several accidents, including some fatal. MPA at p.24, citing AR 2462 (240 parking space lot); AR 5544 (noting three crashes along South Grade Road, with two involving pedestrians and two of the three resulting in fatalities).*
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> *The County argues substantial evidence supports the EIR's determination that the project will not substantially increase hazards because the project does not conflict with the circulation system of transit, roadway, bike and pedestrian facilities. Oppo. at p.25, citing AR 75, AR 2843–44. The County also contends the project does not include any "incompatible uses" such as farm equipment that might increase congestion on the road. Id., citing AR 2846. Additionally, argues the County, the project is anticipated to generate a number of trips onto South Grade Road that will not "degrade" the road to a "substandard level of service." Id., citing AR 76. It plans to install traffic control devices at a later date for the project's driveway and South Grade Road, but the type of device has not yet been determined because the location of the driveway is not yet known. Id. at p.26.*
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> *CEQA requires that an EIR include a "detailed statement" setting forth the "significant effects on the environment of the proposed project." (Pub. Res. Code, § 21100, subd. (b)(1).) It also requires that an EIR "contain a statement briefly indicating the reasons that various possible significant effects of a project were determined not to be significant and were therefore not discussed in detail." (Guidelines, § 15128.) "[A] 'significant effect on the environment' under CEQA is a substantial or potentially substantial adverse change in the physical conditions existing within the area affected by the project. City of Maywood v. Los Angeles Unified School Dist. (2012) 208 Cal.App.4th 362, 390–391.*
>
> *Appendix G to the CEQA Guidelines recommends that, in determining whether a project will have significant traffic impacts, lead agencies consider whether it will "[s]ubstantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?" 14 Cal. Code Regs. ("Guidelines") appen. G, § XVII, subd. (c). The Guidelines also ask whether the project will "conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?" Id., subd. (b).*
>
> *Here, although evidence in the record addresses the Guidelines in Appendix G regarding incompatible uses, the EIR lacks substantial evidence to the*

potential traffic hazard impacts to pedestrians and bicyclists concerning South Grade Road. In particular, the EIR lacks substantial evidence as to the yet-to-be-determined sight distance analysis for the traffic control device at the project's driveway, and analysis as to pedestrians who would be parking and walking along South Grade Road when the 240-vehicle space parking lot is full. The Court agrees with petitioners that City of Maywood v. Los Angeles Unified School Dist. is instructive. Id. (2012) 208 Cal.App.4th 362, 392 (concluding the FEIR did not analyze pedestrian hazards associated with the project and the extent to which the presence of an active roadway would impact pedestrian safety). The County does not cite to evidence in the record showing it analyzed and disclosed the traffic hazard impacts concerning South Grade Road.

Additionally, though an EIR is not required to include information that is not "reasonably feasible" for the agency to obtain and provide, Gooden v. County of Los Angeles (2024) 106 Cal.App.5th 1, 17) the County does not provide any supported reason as to why it could not yet determine the project's driveway location to assess the sight distance analysis and appropriate intersection control device. The purpose of an EIR is to inform the public and officials of "the environmental consequences of their decisions before they are made." Citizens of Goleta Valley v. Board of Supervisors (1990) 52 Cal.3d 553, 564. Petitioners have shown the County did not proceed in the manner required by CEQA by delaying the analysis and potential impacts of the driveway, multi-way stop control, and sight distance analysis on traffic collisions, including as to pedestrians and bicyclists.

Response to Writ

The Writ directs the County to analyze and disclose the traffic hazard impacts concerning South Grade Road, in particular, whether the project will substantially increase hazards due to a design feature such as sharp curves or dangerous intersections. The County is further directed not to delay the analysis of the project's driveway, the driveway's traffic control device, and the sight distance analysis on traffic collisions, including impacts to pedestrians and bicyclists.

To comply with the Writ, the following analyses have been prepared and are described in this memo:

- Safety Review – Review of accident history in the area.
- Parking Generation to determine whether a parking overflow would potentially result in project users parking along either South Grade Road or nearby residential streets.
- Sight distance analysis to determine whether there is sufficient line of sight along South Grade Road at the two project driveways.
- Traffic Control Device Evaluation.
- Determination of Pedestrian and Bicyclist Hazard Analysis along South Grade Road.
- Assessment of Design Features that Could Increase Traffic Hazards.

Safety Review

CR Associates conducted a safety review of existing conditions along South Grade Road in the vicinity of the proposed project to evaluate whether the project would substantially increase traffic hazards due to a design feature, consistent with the directive of the Writ and the Minute Order. The safety review is organized into two components, presented in sequence below: (1) a five-year crash history review covering the South Grade Road segment in the immediate vicinity of the project site (January

1, 2021 through December 31, 2025), consistent with the standard analytical window recommended in the Federal Highway Administration (FHWA) Highway Safety Improvement Program (HSIP)[1] guidance for corridor and intersection safety analyses; and (2) a separate review of historical incidents referenced in the Court's Minute Order via AR 5544 that fall outside the geographic segment evaluated in the crash history review, or predate the standard analytical period. To support a conservative analysis aligned with the Court's directive, these historical incidents are included even though they fall outside the immediate project vicinity or predate the standard analytical period, in order to confirm that the conditions associated with each prior incident are not introduced or replicated by the proposed project.

Crash History Review (January 2021 – December 2025)

To evaluate whether the project would substantially increase hazards due to a design feature (such as sharp curves or dangerous intersections), CR Associates reviewed crash history along South Grade Road within the vicinity of the project site using data obtained from the Transportation Injury Mapping System (TIMS), maintained by the University of California, Berkeley SafeTREC program and sourced from the California Statewide Integrated Traffic Records System (SWITRS) and the San Diego Association of Governments (SANDAG) Traffic Safety Dashboard. These are included in **Attachment A**.

South Grade Road is a long corridor traversing varied terrain with differing geometric conditions along its length. To ensure the analysis was focused and relevant to the project, the crash data query was limited specifically to the segment of South Grade Road within the immediate vicinity of the project site. The study period covered January 1, 2021, through December 31, 2025, representing five years of recent crash experience, consistent with the standard analytical window recommended in the Federal Highway Administration (FHWA) Highway Safety Improvement Program (HSIP)[2] guidance for corridor and intersection safety analyses.

The query returned a total of three crashes within the study area and study period (TIMS, 2026). One of the reported crashes occurred in between the location of the two planned project driveways at the intersection of South Grade Road with Via Viejas (approximately 700 feet south of the planned location for Driveway #1). The remaining two crashes occurred north of the intersection of South Grade Road with Calle de Compadres, at approximately 1,500 to 1,900 feet north of the planned location for Driveway #1. No fatal crashes were recorded.

A review of the three (3) subject collision records retrieved from the Transportation Injury Mapping System (TIMS), bearing Case IDs 94371540, 94784761, and 94807595, and occurring along South Grade Road within unincorporated San Diego County between August 17, 2024 and July 20, 2025, establishes that each collision was attributable exclusively to operator-specific Vehicle Code violations and not to any deficiency in roadway geometry or design.

In all three (3) instances, the Primary Collision Factor (PCF) as recorded by the investigating law enforcement authority reflects volitional or impaired driver conduct: PCF Category 08 (Improper Turning) in Case ID 94371540; PCF Category 01 (Driving or Bicycling Under the Influence of Alcohol or Drug) in Case ID 94807595; and PCF Category 09 (Automobile Right of Way) in Case ID 94784761. No PCF designation in any of the subject cases references or implicates substandard roadway design elements, including but not limited to inadequate stopping sight distance, deficient horizontal or vertical alignment, non-conforming lane width, or insufficient clear recovery zone.

[1] https://highways.dot.gov/safety/hsip/hsip-noteworthy-practice-series/hsip-project-evaluation

[2] https://highways.dot.gov/safety/hsip/hsip-noteworthy-practice-series/hsip-project-evaluation

Accordingly, the subject collision history, taken in its entirety, does not support a finding or inference that the roadway geometry of South Grade Road constitutes a contributing or proximate cause of the documented injury collisions. The crash data is legally and factually consistent with the conclusion that the subject collisions resulted solely from driver behavior, including improper turning maneuvers, failure to yield the right-of-way, and operation of a motor vehicle while under the influence of alcohol or a controlled substance; these are conditions that are not correctable through geometric roadway improvements and are not attributable to any deficiency in the physical design standards of the subject roadway. The proposed project does not introduce any design feature (including new geometric elements, access configurations, or changes to the cross-section of South Grade Road) that would replicate or exacerbate the driver behavior conditions identified as the primary collision factors in any of the three subject crashes.

Historical Pedestrian Fatality (2016)

As noted above, the Court's Minute Order references a fatal pedestrian collision at the South Grade Road and Calle de Compadres intersection that occurred on June 22, 2016 (SWITRS Case ID 90262214). Although this incident falls outside the standard five-year analytical window applied to the crash history review, it is addressed in this section in response to the Court's directive and to support a conservative analysis of conditions along South Grade Road in the vicinity of the proposed project.

The 2016 incident is documented in SWITRS as a Vehicle/Pedestrian fatal collision occurring approximately 145 feet south of the South Grade Road and Calle de Compadres intersection. The Primary Collision Factor (PCF) is recorded as Violation Category 11, representing a Pedestrian Violation, with fault assigned to the pedestrian party. The driver of the involved vehicle was found not at fault and was proceeding straight southbound at the time of the collision. While the fatality is acknowledged as a serious prior incident within the project corridor, the SWITRS record indicates it was not attributable to a geometric deficiency of the roadway but rather to a pedestrian violation. The project does not introduce conditions that would replicate or exacerbate the circumstances of this incident, as the proposed driveways are located at defined, stop-controlled access points with confirmed adequate stopping sight distance on the major road approaches.

Historical Vehicle Fatality (2012)

In addition to the 2016 pedestrian collision discussed above, the Court's Minute Order references a second fatality within the South Grade Road corridor. This incident has been identified as a single-vehicle collision that occurred on December 6, 2012, at approximately 5:20 p.m., at the intersection of South Grade Road and Via Viejas Oeste, in the vicinity of the proposed project. As with the 2016 collision, this incident falls outside the standard five-year analytical window applied to the crash history review and is addressed here in response to the Court's directive and to support a conservative analysis of conditions along South Grade Road.

The collision involved a single vehicle whose driver, who was the sole occupant, left the roadway and struck a wall and a utility pole. The driver was pronounced deceased at the scene. According to the San Diego Association of Governments (SANDAG) Traffic Safety Dashboard, the primary collision factor for this incident was improper turning (PCF Category 08), a violation of the California Vehicle Code. The record does not attribute the collision to any deficiency in roadway geometry or design, and the incident did not involve a pedestrian or bicyclist.

The proposed project does not introduce or modify any geometric element, access configuration, or cross-section of South Grade Road that would replicate or exacerbate the conditions associated with this incident. The proposed driveways are located at defined, stop-controlled access points with

confirmed adequate stopping sight distance on the major road approaches, further supporting the conclusion that the project will not substantially increase traffic hazards along the corridor.

Historical Pedestrian Collision (2021)

In addition to the 2016 pedestrian fatality and 2012 vehicle fatality discussed above, CR Associates has identified a third historical incident that, based on the crash characteristics described in the Minute Order's reference to AR 5544, is likely one of the three crashes cited therein. This incident is a vehicle/pedestrian collision that occurred on February 10, 2021, at approximately 11:15 AM on South Grade Road at Kenda Way, approximately 325 feet north of that intersection (SWITRS Case ID 91412970). This incident falls within the standard five-year analytical window applied to the crash history review and is addressed here in response to the Court's directive and to support a conservative analysis of conditions along South Grade Road. This location is approximately 0.8 miles north of the proposed Driveway #1 and falls outside the geographic segment of South Grade Road evaluated in the crash history review presented above, which was limited to the immediate vicinity of the project driveways.

The collision involved a pedestrian struck by a vehicle whose driver failed to remain at the scene. The Primary Collision Factor is recorded as Violation Category 08 (Improper Turning), consistent with the PCF recorded for the 2012 collision discussed above. The pedestrian, a 19-year-old female, sustained a suspected minor injury per the SWITRS record, and the collision was non-fatal.

Considered together, the 2016 incident, the 2012 incident, and this 2021 incident account for three historical crashes along South Grade Road: two involving pedestrians (2016, 2021) and two resulting in fatalities (2016, 2012), consistent with the characterization of AR 5544 in the Minute Order. Consistent with the findings for the 2016 and 2012 collisions, this incident resulted from operator conduct, specifically an improper turning maneuver, rather than from any geometric or design deficiency of South Grade Road. The proposed project does not introduce or modify any geometric element, access configuration, or cross-section of South Grade Road that would replicate or exacerbate the conditions associated with this incident. The collision's location approximately 0.8 miles from the proposed project driveways further distinguishes it from conditions at the project site.

Parking Demand Analysis

The Minute Order identified concerns raised by petitioners that the project's parking lot, with a capacity of 240 spaces, would be insufficient to accommodate anticipated park visitation of up to 1,000 visitors per day on weekdays and up to 2,000 visitors during weekend events (AR 2314; AR 2462). Petitioners argued that when the on-site lot reaches capacity, visitors would be forced to park on the shoulder of South Grade Road and walk along the roadway, creating pedestrian safety hazards on a high-speed road with a documented history of fatal accidents (AR 5544).

To respond to this concern, CR Associates prepared a parking demand analysis using parking demand rates published in the *Institute of Transportation Engineers (ITE) Parking Generation Manual, 6th Edition*. The ITE Parking Generation Manual is the nationally accepted standard for conducting parking demand analyses. To provide a conservative analysis, the calculated ITE parking demand was compared against observed parking demand at a local comparable community park, and the higher of the two values was used to evaluate the potential for spillover and to identify recommendations where appropriate.

Table 1 summarizes the average weekday and weekend parking demand calculated for the proposed project using the ITE methodology. As a conservative assumption, the total gross site area of 96.6 acres was applied to the per-acre demand rates.

Table 1 - ITE Parking Demand for the Proposed Project

Day	ITE Weighted Average Demand Rate (vehicles per acre)	Project Size (acres)	Calculated Parking Demand (vehicles)
Weekday	0.77	96.6	74
Saturday	0.60	96.6	58
Sunday (Peak)	2.33	96.6	225

Source: ITE Parking Generation Manual, 6th Edition (Public Park land use).

As shown in Table 1, the highest average parking demand is 225 vehicles on Sundays, which is well within the project's parking supply.

To validate the calculated parking demand, observed parking demand was collected at a comparable existing community park. The project team screened 76 public parks within East San Diego County and selected Hilton Head County Park as the comparable site for the parking demand validation survey. Hilton Head County Park was selected on the basis of several comparability factors, including: (a) active recreational programming featuring multi-use sports field practice; (b) comparable facility scale, with a 10-acre developed footprint and a 56-space parking lot; and (c) the absence of tournament-level events, consistent with the day-use operational character anticipated at the Alpine Community Park. Notably, Hilton Head County Park offers a playground, splash pad area, multi-use sports field, basketball courts, exercise stations, and shaded picnic and barbecue areas. A 2.5 area-based scale factor was applied to account for the difference in active program area between Hilton Head (10 acres) and Alpine (25 acres), proportionally adjusting the observed parking demand to reflect the proposed 240-space lot; this factor is within the range supported by National Recreation and Park Association (NRPA) guidance for transferable trip-rate studies. Hilton Head County Park is located in a denser, more urbanized setting and serves a larger surrounding population than the proposed Alpine Community Park site, conditions that would be expected to generate comparatively greater parking demand. No additional adjustment factor was applied to account for these differences, making the analysis conservative and representative of an upper-bound estimate of demand at the project site. The full findings of the parking demand analysis, including the comparable park screening criteria, are documented in **Attachment B***:* Alpine Community Park Parking Demand Analysis (CR Associates, May 2026).

Hilton Head County Park Parking Demand - Non-Event and Standard Weekday Conditions

On non-event days and standard weekday conditions, observed parking demand at the analog site averaged 17 vehicles in the on-site lot; well within the project's proposed 240-space supply. Under these baseline conditions, the on-site parking supply is more than sufficient to accommodate all park users, and no spillover onto South Grade Road or adjacent streets is anticipated. Most pedestrians accessing the park under these conditions would be expected to park and walk entirely within the project site, with no need to walk along South Grade Road.

Hilton Head County Park Parking Demand - Organized Sports Event Conditions

During standard park usage and organized sports event days, under conditions of single-sport practice and without simultaneous occurrence of sport activities, the observed parking demand at the analog site reached an average of 72 vehicles for baseball practice and 105 vehicles for multi-use field practice, with maximum observed demands of 119 and 131 vehicles, respectively. Both figures remain substantially below the project's proposed on-site supply of 240 spaces. Because the on-site parking supply exceeds projected demand under all single-sport event conditions, and because the on-site

parking areas are located in close proximity to the multi-use fields, park users attending organized sports events are not expected to seek off-site parking along South Grade Road or adjacent streets.

To prevent demand from exceeding supply under concurrent multi-sport conditions, where combined maximum demand could approach approximately 250 vehicles, the parking demand analysis identifies a required project feature governing organized sports programming scheduling. With this scheduling protocol in place, on-site parking supply will remain sufficient to accommodate all event-day demand, and spillover onto South Grade Road is not anticipated. County Parks and Recreation Programming staff shall implement and maintain the following scheduling requirements for all organized sports activities at the park:

- Only one sport or user group shall occupy each park field/court at any given time; overlapping or simultaneous sports activities or practices are prohibited.
- Sports Programming staff will monitor the site between consecutive sessions to confirm no vehicular spillover onto the public right-of-way. If spillover is observed more than two times in any given season, a minimum one-hour buffer shall be implemented between consecutive sessions to allow full vehicle turnover before the next group arrives. For example, if a session ends at 1:00 PM, the next session may not begin until 2:00 PM. This one-hour buffer shall increase to two hours if additional spillover continues to be observed.
- Sports Programming staff shall be responsible for scheduling all organized activities in strict accordance with these requirements.
- Parks Programming staff and the on-site volunteer shall monitor scheduling compliance on an ongoing basis to ensure these requirements are met at all times.
- Vehicular spillover onto the public right-of-way, including South Grade Road, shall be prevented through enforcement of this scheduling protocol.

Because on-site parking is expected to accommodate all park users under both standard and event-day conditions, visitors are not expected to park on the shoulder of South Grade Road and walk along the roadway to access the park. The pedestrian safety concern identified by petitioners, that overflow parkers would be exposed to traffic hazards along South Grade Road, is therefore not substantiated under the conditions analyzed. The project, together with the recommended parking management measures, would not create a condition in which pedestrians are foreseeably required to walk along South Grade Road as a consequence of inadequate parking supply.

Driveway Location and Sight Distance

The proposed project includes two full-access driveways along South Grade Road. Driveway #1 is located at the existing South Grade Road and Calle de Compadres intersection at the northern end of the property, which will operate as a side-street stop-controlled intersection. Driveway #2 is a proposed side-street stop-controlled intersection at the southern end of the property along the northeast-southwest segment of South Grade Road.

Sight distance refers to the unobstructed line of sight available to a driver to perceive conditions ahead and respond accordingly. CR Associates conducted field observations on April 16, 2026 to measure sight distance conditions at the two proposed park access driveways on South Grade Road, referred to herein as Driveway #1 and Driveway #2. Two distinct but complementary forms of sight distance were evaluated, each governed by a separate applicable standard: (1) stopping sight distance on South Grade Road, which measures the view available to drivers *approaching* either driveway from the through road; and (2) corner sight distance at each driveway approach, which measures the view available to a driver *waiting at the driveway* before entering South Grade Road. These evaluations are described in the subsections below.

A design speed of 50 mph was applied to all approaches, reflecting the governing 85th percentile speed of 46 mph observed in the prior travel speed survey conducted as part of the Transportation Impact Study for the project (2020) and rounded up conservatively relative to the posted speed limits of 40 mph near Driveway #1 and 45 mph near Driveway #2. Speed survey data is included with the sight distance analysis included in **Attachment C.**

Stopping Sight Distance on South Grade Road

Stopping sight distance (SSD) is the distance, measured along the travel lane on South Grade Road, that a driver needs to perceive an object or vehicle ahead and bring their own vehicle to a complete stop before reaching it. In the context of a driveway intersection, SSD answers the question: *Does a driver traveling on the main road have enough distance to see a vehicle emerging from the driveway and stop before reaching it?* SSD is measured on the through road and is not affected by the physical characteristics of the driveway itself.

SSD was evaluated in accordance with the American Association of State Highway and Transportation Officials (AASHTO) *Policy on Geometric Design of Highways and Streets* (7th Edition, 2018) (hereinafter *AASHTO Green Book* or *AASHTO (2018)*). At a 50-mph design speed, the required SSD is 425 feet, as set forth in AASHTO (2018), Table 3-1, p.3-4 AASHTO (2018), Section 3.2.2.5, p.3-6, expressly provides that separate SSD criteria for trucks are not used in highway design; the passenger car standard governs all vehicle classes on the major road. Accordingly, the 425-foot requirement applies equally to passenger cars, recreational vehicles (RVs), and combination vehicles such as pickup trucks towing horse trailers.

Figure 1 shows a plan view schematic of the sight distance evaluated at the project driveway approaches: stopping sight distance (SSD), measured along South Grade Road, and corner sight distance (CSD), measured from the driveway stop position in each direction along South Grade Road. The figure is intended to illustrate the general concept of how SSD and CSD were evaluated. Existing sight distance conditions are documented separately in Attachment C. It should also be noted that construction of the site would likely require grading of the access roadways and other portions of the Project site. As part of the final site design, the required sight triangles, or clear visibility areas, would be incorporated into the site plan and maintained free of obstructions.

Figure 1 - Sight Distance Diagram for Project Driveway Approaches

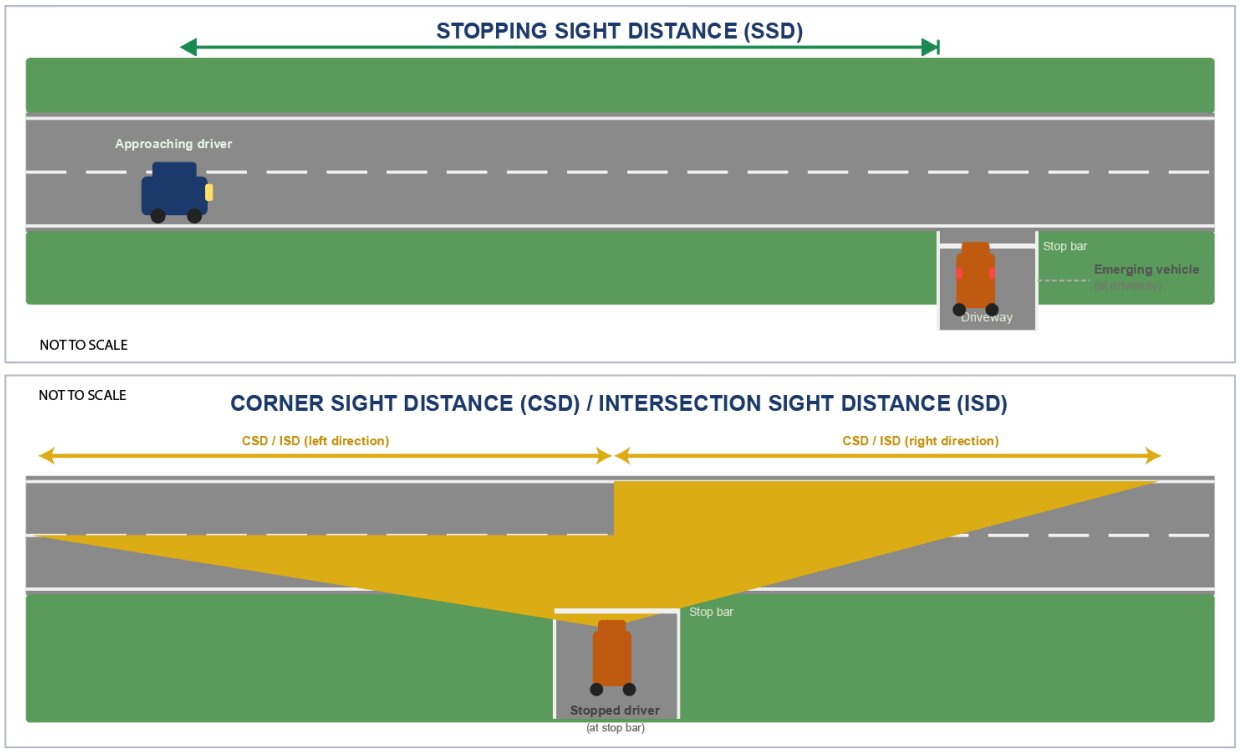


Table 2 shows the observed stopping sight distance evaluation results along South Grade Road at the project driveway approaches.

Table 2 - Stopping Sight Distance Evaluation Results along South Grade Road at the Project Driveway Approaches

Driveway	Approach Direction	Available SSD (ft)	Required SSD (ft)[1]	Compliance with SSD Standard
Driveway #1	NB	*425*	425	✓ Satisfies Standard
Driveway #1	SB	*700+*	425	✓ Satisfies Standard
Driveway #2	NEB	*700+*	425	✓ Satisfies Standard
Driveway #2	SWB	*450*	425	✓ Satisfies Standard

Sources: AASHTO (2018), CR Associates Field Observations on April 16, 2026.

Notes:
1. Required SSD = 425 ft at a 50 mph design speed. Per AASHTO (2018), Table 3-1, p.3-4. Per AASHTO (2018), Section 3.2.2.5, p.3-6, this standard governs all vehicle types on the major road.

As shown in **Table 2**, the available stopping sight distance on South Grade Road satisfies the AASHTO (2018) standard at all four driveway approach directions. This finding applies to all vehicle types, including passenger cars, RVs, and combination vehicles. Full SSD compliance at all four approach directions means that every driver traveling on South Grade Road, regardless of vehicle type, has the sight distance necessary to perceive a vehicle at either driveway approach and bring their vehicle to a complete stop before reaching it. This is the standard AASHTO designates as the applicable measure for through-road operations at driveway intersections.

Corner Sight Distance at Driveway Approaches

Corner sight distance (CSD) is the sight distance available to a driver stopped at the driveway approach, measured in each direction along South Grade Road. It addresses the question: *Does a driver waiting at the driveway have enough visibility along the main road to judge whether it is clear to enter?* CSD is distinct from SSD in an important respect: CSD measures the view from the *driveway*, whereas SSD measures the view from the *through road*. CSD conditions at the driveway do not affect the ability of drivers on South Grade Road to perceive and respond to vehicles at the intersection.

The AASHTO Green Book uses the term "intersection sight distance" (ISD) to describe this same measurement, namely the line of sight available to a driver stopped at the driveway approach, looking in each direction along South Grade Road. CSD and ISD refer to the same fundamental field condition, and the two terms are used interchangeably in this analysis. The distinction between the two applicable standards evaluated herein is not a difference in what is measured, but a difference in the required threshold: the AASHTO combination vehicle ISD threshold is higher than the County passenger car CSD threshold because a Class 8 vehicle (such as a pickup truck towing a horse trailer) accelerates more slowly and occupies the intersection longer during a turning maneuver, and therefore requires a longer observed gap in traffic to complete the movement safely.

CSD was evaluated under two applicable standards, each corresponding to a different class of vehicle anticipated to use the park driveways:

- Standard #1: Passenger Car (County CSD Standard). The County of San Diego Public Road Standards, Table 5, establishes required CSD values for standard passenger car operations at intersections and driveway approaches.
- Standard #2: Combination Vehicle (AASHTO Intersection Sight Distance). AASHTO (2018) establishes intersection sight distance (ISD) criteria for Case B turning movements, which apply to larger and more slowly accelerating vehicles. Per FHWA vehicle classification guidance (FHWA-HRT-13-091, Chapter 2, November 2014), RVs are classified as FHWA Class 5 or 6 single-unit vehicles and horse trailers towed by pickup trucks as FHWA Class 8 combination vehicles. Because both vehicle types are anticipated users of the park, the Class 8 combination vehicle standard was applied as the more conservative of the two. At a 50-mph design speed, the required ISD for a Class 8 combination vehicle is 845 feet for Case B1 (left turn from stop) and 772 feet for Case B2 (right turn from stop), per AASHTO (2018), Tables 9-6 and 9-8, p. 9-44 and 9-46 respectively.

Both evaluations use the same field-measured available sight distance at each driveway approach direction. **Table 3** presents the corner and intersection sight distance observation results.

Table 3 - Corner and Intersection Sight Distance Evaluation Results along South Grade Road at the Project Driveway Approaches

Driveway	Approach Direction	Available Sight Distance (ft)[1]	Required CSD, Passenger Car, County Standard (ft)[2]	Compliance with County CSD Standard	Required ISD, Combination Vehicle, Case B1, Left Turn (ft)[3]	Required ISD, Combination Vehicle, Case B2, Right Turn (ft)[3]	Compliance with AASHTO Combination Vehicle ISD Standard
Driveway #1	NB	*500*	*500*	✓ Satisfies Standard	845	772	Below Standard[4]
Driveway #1	SB	*700+*	*500*	✓ Satisfies Standard	845	772	Below Standard[4]
Driveway #2	NEB	*<500*	*500*	Below Standard[3]	845	772	Below Standard[4]
Driveway #2	SWB	*550+*	*500*	✓ Satisfies Standard	845	772	Below Standard[4]

Sources: AASHTO (2018), CR Associates Field Observations on April 16, 2026.

Notes

1. Available sight distance is the field-measured CSD recorded at each approach during CR Associate's field observations on April 16, 2026. The same value is applied to both the County passenger car CSD evaluation (Standard #1) and the AASHTO combination vehicle ISD evaluation (Standard #2).
2. Required CSD per County of San Diego Public Road Standards, Table 5. Design speed = 50 mph.
3. Northeastbound approach, Driveway #2: the available corner sight distance at this approach is below the County standard. This condition is attributable to pre-existing vegetation and rock outcroppings located within the sight triangle on the project site.
4. Required ISD per AASHTO (2018), Tables 9-6 and 9-8, p. 9-44 and 9-46 respectively.
5. Case B1 = left turn from stop; Case B2 = right turn from stop. Design vehicle = FHWA Class 8 combination vehicle. Design speed = 50 mph.

As shown in **Table 3**, the County of San Diego passenger car CSD standard is satisfied at both approach directions of Driveway #1 (northbound and southbound) and at the southwestbound approach of Driveway #2, three of the four approach directions evaluated. At the northeastbound approach of Driveway #2, the available corner sight distance is below the County standard. This condition is attributable to pre-existing vegetation and rock and boulder outcroppings located within the sight triangle on the project site, and is not a condition created or introduced by the proposed project.

Additionally, as shown in **Table 3,** the available sight distance at each of the four approach directions is below the AASHTO combination vehicle ISD threshold. This condition is attributable to fixed, pre-existing physical features of South Grade Road and the surrounding terrain: a vertical crest curve in the roadway near the northbound approach of Driveway #1, and the vegetation and rock outcroppings at the northeastbound approach of Driveway #2. The proposed project does not create, introduce, or alter either of these conditions.

The combination vehicle ISD finding should be understood in practical terms. The available sight distance at each approach is a fixed characteristic of the roadway and terrain; it does not change based on the type of vehicle waiting at the stop bar. What the ISD threshold reflects for a combination vehicle is that the available sight distance, while sufficient for a passenger car to enter the through-road traffic stream, falls below the distance at which AASHTO's standard allows a more slowly accelerating combination vehicle to confirm a full clear gap before completing the turn. A driver towing a horse trailer or recreational vehicle should exercise additional caution at either driveway and may need to wait for a larger gap than a passenger car driver would require. This is consistent with the level

of care expected of combination vehicle operators on rural roadways with pre-existing geometric constraints, and is not a condition created or worsened by the proposed project.

The combination vehicle ISD finding is appropriately read alongside the stopping sight distance results summarized above. SSD is met at all four approach directions for all vehicle types. A driver traveling along South Grade Road who observes a vehicle with a trailer entering from either park driveway has sufficient sight distance to bring their vehicle to a complete stop before reaching the driveway. The ISD finding therefore does not reflect an absolute safety deficiency; it identifies the extent to which pre-existing roadway geometry constrains the gap-acceptance margin for an emerging combination vehicle, while the through-road stopping sight distance remains fully compliant.

The vegetation and rock outcroppings at the northeastbound approach of Driveway #2 are located within the project site and will be addressed through vegetation clearing and grading of the sight triangle area as part of the final site plan. Sight distance compliance must be demonstrated on project improvement plans and approved by the County of San Diego Department of Public Works prior to the issuance of any grading or construction permit, consistent with the County Site Design Standards and Roadway Design Standards.

As established above, stopping sight distance on South Grade Road meets the applicable AASHTO standard at all four approach directions. Per AASHTO (2018) Section 3.2.2.5, separate SSD criteria for trucks are not applied in highway design; the passenger car standard governs and is considered adequate for all vehicle classes on the major road. Therefore, drivers on South Grade Road, including operators of recreational vehicles and horse trailers, have sufficient sight distance to perceive and stop for a vehicle emerging from either driveway.

Where the full combination vehicle ISD threshold cannot be achieved due to existing geometric constraints of the roadway, SSD compliance on the through road constitutes the applicable standard per AASHTO (2018). The sight distance conditions at Driveway #1 and Driveway #2 reflect pre-existing characteristics of South Grade Road and the adjacent terrain, not conditions introduced by the proposed project. Upon completion of the required vegetation clearing and grading at the northeastbound approach of Driveway #2, all applicable sight distance conditions will be addressed.

This sight distance analysis was conducted under normal daytime conditions during CR Associate's field observations on April 16, 2026, and does not constitute a roadway lighting study. The findings and standards applied herein are based on AASHTO and County criteria calibrated to adequate visibility during daytime hours. Sight distance conditions during dawn, dusk, or nighttime operations (including the effect of reduced ambient light and limited headlight illumination range on the effective available sight distance) were not evaluated as part of this study. The County's programming and operations plan for the park should take dawn and dusk access conditions into consideration, including whether operational measures such as restricted hours, signage, or roadway lighting are warranted to address low-light conditions at either driveway approach.

Traffic Control Device

South Grade Road is a continuous, uninterrupted two-lane roadway serving the Alpine community. Traffic control device selection for both project driveways was re-evaluated based on projected driveway volumes, crash history, available sight distance, and the operational characteristics of South Grade Road.

The 2020 TIS estimated project trip generation at 480 ADT, 20 AM peak hour trips, and 39 PM peak hour trips. The parking demand analysis found that, on non-event days, the analog site averaged 17 vehicles. On event days, maximum parking demand is projected at 131 vehicles for a single-sport

practice (including typical park use). Because vehicles can queue entirely within the on-site parking lot before entering South Grade Road, the site would buffer the through traffic stream from event-driven surges and would not require traffic control on South Grade Road to manage driveway operations.

The 2020 TIS recommended installation of all-way stop control at Driveway 1. That recommendation was based, in part, on a documented pedestrian fatality at the South Grade Road and Calle de Compadres intersection in 2016. As discussed in the crash history section of this memorandum, the SWITRS record for that incident assigns fault to the pedestrian party under PCF Violation Category 11 as a pedestrian violation. The collision was not attributable to a geometric deficiency or to the absence of all-way stop control at the intersection.

In light of the updated sight distance analysis and the detailed review of crash history along the project frontage, the prior driveway traffic control recommendation was re-evaluated using the all-way stop control warrants set forth in the 2026 California Manual on Uniform Traffic Control Devices, Sections 2B.12 through 2B.17. The evaluation was informed by the most recently available five years of crash data from 2021 through 2025 and current turning movement volumes. The evaluation considered five warrant categories, as summarized below.

Warrant A, Crash Experience, is not met. The updated crash record identifies three non-fatal crashes during the 2021 to 2025 study period, consistent with the standard analytical window recommended in the Federal Highway Administration (FHWA) Highway Safety Improvement Program (HSIP)[3] guidance for corridor and intersection safety analyses. None involved pedestrians, and none were identified as susceptible to correction through installation of all-way stop control. This falls well short of the five-crash threshold required under CA MUTCD Warrant A.

Warrant B, Sight Distance, is not met. Corner sight distance at the existing Calle de Compadres approach meets the County's 500-foot standard. For the proposed Driveway 1 approach, adequate corner sight distance is contingent on implementation of the brush management and vegetation clearing measures recommended in the companion sight distance memorandum, Alpine Community Park: Driveway Sight Distance Evaluation, prepared by CR Associates in May 2026. With those measures in place, sight distance will meet the applicable standard and Warrant B will not be triggered.

Warrant C, Transition to Signal Control, is not applicable. No traffic signal or roundabout installation is planned at this location.

Warrant D, 8-Hour Volume, is not met. Turning movement count data collected in June 2020 show peak hour volumes of 147 vehicles on South Grade Road during the AM peak hour and 248 vehicles during the PM peak hour. Calle de Compadres recorded 2 vehicles during the AM peak hour and 1 vehicle during the PM peak hour. Because the 85th percentile approach speed on South Grade Road exceeds 40 mph, the 70 percent speed adjustment to the Warrant D volume thresholds is applicable. With this adjustment, the major street threshold is 210 units per hour and the minor street threshold is 140 units per hour. While the PM peak hour volume on South Grade Road exceeds the adjusted major street threshold, the minor street volumes fall decisively below the adjusted threshold in both peak periods. Therefore, Warrant D is not met.

Warrant E, Other Factors, is not met. Turning movement count data collected in June 2020 recorded left-turn volumes from Calle de Compadres of 1 vehicle during the AM peak hour and 1 vehicle during the PM peak hour, confirming that left-turn demand from the minor street is effectively zero. Pedestrian crossing volumes observed during the same count period were 7 during the AM peak hour and 12

[3] https://highways.dot.gov/safety/hsip/hsip-noteworthy-practice-series/hsip-project-evaluation

during the PM peak hour; low absolute volumes that do not support installation of all-way stop control under the other factors criterion., Additionally, South Grade Road and Calle de Compadres do not share similar design or operating characteristics. These conditions do not support installation of all-way stop control under the other factors criterion.

Based on the CA MUTCD warrant evaluation, an all-way stop or traffic signal at either driveway is not warranted. The relatively low side-street and driveway volumes compared to South Grade Road would create substantially differing approach volumes, and all-way stop control under these conditions would impose unnecessary delay on through traffic. This conclusion is consistent with the California MUTCD 2026, which states that all-way stop control should be based on an engineering study and cautions that "all-way stop controls at intersections with substantially differing approach volumes can reduce the effectiveness of these devices for all roadway users" (California MUTCD 2026, Part 2, Chapter 2B, Section 2B.12, All-Way Stop Control, p. 11). Installing all-way stop control at an unwarranted location may also introduce operational and safety concerns, including rear-end collision potential from unexpected deceleration on a high-speed approach, queue spillback into the through traffic stream, and reduced driver compliance over time if the control device is perceived as unnecessary. Accordingly, all-way stop control is no longer considered appropriate, and the prior all-way stop recommendation from the 2020 TIS at Driveway 1 is superseded.

Based on the availability of adequate stopping sight distance and corner sight distance, side-street stop control is recommended at both Driveway 1 and Driveway 2. This treatment would require exiting park vehicles to stop and yield before entering South Grade Road while allowing through traffic on South Grade Road to remain unimpeded.

Supplemental MUTCD Signing

The County should install the following signs along South Grade Road in advance of both driveways:

- Side Road warning (W4-3) in both directions, placed per MUTCD Table 2C-4 for the applicable approach speed, to alert drivers to the intersecting park driveways ahead.
- Recreational Area Direction sign (RA1-1) with the park name and directional arrow, installed per MUTCD Part 2D from both the east and west approaches, advising drivers they are approaching the Alpine Community Park entrance.

Pedestrian and Bicyclist Safety Evaluation

Pedestrian safety at the proposed project driveways was evaluated based on the sight distance findings documented above and the right-of-way provisions of the California Vehicle Code (CVC). Under CVC Section 21950(a), the driver of a vehicle is required to yield the right-of-way to a pedestrian crossing the roadway within any marked or unmarked crosswalk at an intersection. Pedestrians crossing South Grade Road at either project driveway are protected by this statutory right-of-way, and drivers exiting either driveway are required to yield to such pedestrians before entering the through travel lane.

As established in the Stopping Sight Distance evaluation above, the available SSD on South Grade Road satisfies the AASHTO 50 mph standard at all four driveway approach directions. A driver traveling on South Grade Road at the 85th percentile operating speed of 46 mph, under normal daytime conditions, therefore has sufficient sight distance to perceive a pedestrian at either driveway location and bring the vehicle to a complete stop before reaching the pedestrian. Pedestrians, in turn, have a clear view of oncoming traffic along South Grade Road from the driveway position. This is supported by the corner sight distance findings above for three of the four driveway approach directions, and will

be supported at the fourth approach (Driveway #2, northeastbound) upon completion of the vegetation clearing and grading measures identified as a condition of project approval.

The AASHTO-compliant stopping sight distance, together with the statutory pedestrian right-of-way protection under CVC Section 21950 and the low pedestrian volumes anticipated at the driveway locations, supports a finding that the project will not substantially increase hazards to pedestrians along South Grade Road.

Public outreach conducted during the planning process for the proposed project indicated that residents currently access the project area via preserve trails on County of San Diego and Back County Land Trust (BCLT) property. This existing pedestrian access pattern is consistent with a trail-oriented mode of arrival rather than direct pedestrian crossings of South Grade Road at the proposed driveway locations, and supports the finding that pedestrian crossing volumes at the driveways are expected to remain low.

Bicyclist safety at the proposed project driveways was evaluated based on the sight distance findings documented above. The available stopping sight distance on South Grade Road satisfies the AASHTO standard at all four driveway approach directions, which means a driver traveling on South Grade Road has sufficient distance to perceive a bicyclist near either driveway and bring the vehicle to a complete stop before reaching the bicyclist. On this basis, the proposed driveway locations are considered safe for bicyclists traveling along South Grade Road.

The project will construct its South Grade Road frontage improvements consistent with County of San Diego standards, including the provision of improvements applicable to the roadway frontage as required. This is consistent with the County General Plan, which designates Class II bicycle lanes along both sides of South Grade Road. The project's frontage improvements do not preclude the County from implementing the broader bicycle network envisioned in the County Active Transportation Plan along this corridor in the future.

South Grade Road in the vicinity of the project site does not include a dedicated bicycle lane on the project frontage. Under California Vehicle Code Section 21202, bicyclists operating on a roadway without a bicycle lane may legally occupy the full travel lane. Consequently, bicyclists traveling along South Grade Road in the project vicinity may be present within the southbound or northbound travel lane rather than at the roadway edge. Drivers exiting either park driveway should therefore anticipate the potential presence of bicyclists within the travel lane, not exclusively at the roadway shoulder in current conditions. These conditions are not proposed to be changed as part of the project.

The confirmed adequacy of stopping sight distance at all four driveway approach directions further supports bicyclist safety in this context. A driver on South Grade Road approaching either driveway has sufficient sight distance to perceive and stop for a bicyclist occupying the travel lane, consistent with the SSD findings documented in Attachment C.
Park visitors arriving by bicycle are anticipated to consist primarily of teens and adults, as younger children are generally chauffeured by parents or guardians, a travel pattern accounted for in the companion Parking Generation Study. As concluded in this memorandum, the project's construction of frontage improvements to County standards combined with confirmed adequate sight distance at both proposed driveways provides a safe operating environment for bicyclists traveling along South Grade Road, with drivers exiting either driveway having sufficient sight distance to identify and yield to an approaching bicyclist.

From a bicyclist safety perspective, the project's construction of frontage improvements to County standards, combined with the confirmation of adequate sight distance at both proposed project

driveways with implementation of the recommendations identified in the companion sight distance memorandum (*Alpine Community Park: Driveway Sight Distance Evaluation*, CR Associates, May 2026), provides a safe operating environment for bicyclists traveling along South Grade Road. Drivers exiting either driveway will have sufficient sight distance to identify and yield to approaching bicyclists, consistent with the requirements evaluated and documented in the sight distance analysis.

Beyond the sight distance and parking analyses, several physical design features of the proposed project collectively support a safe operating environment for pedestrians and bicyclists. Park access is limited to two defined, stop-controlled driveways along South Grade Road, concentrating vehicle entry and exit at locations evaluated for sight distance adequacy and channeling pedestrian and bicycle crossings to predictable, manageable points. The project will construct frontage improvements along its South Grade Road frontage consistent with County of San Diego standards, providing a paved, defined edge condition along the roadway that benefits both pedestrians and bicyclists in the project vicinity. The project is also designed in conformance with ADA accessibility requirements, ensuring accessible pathways and connections within the site. Taken together, these features support a finding that the project provides a safe environment for pedestrians and bicyclists consistent with applicable standards.

In addition to the measures discussed above, CRA considered three supplemental traffic control and pedestrian crossing treatments applicable to the project driveways and South Grade Road frontage. These treatments include a traffic signal at Driveway #1, a Pedestrian Hybrid Beacon (PHB), and a Rectangular Rapid-Flashing Beacon (RRFB) with high-visibility crosswalk. Each treatment is subject to its own applicable CAMUTCD warrant criteria, which evaluate factors such as vehicular and pedestrian volumes, crossing distance, and crash experience. These treatments are identified solely in the interest of full disclosure and for the County's future consideration, consistent with the ongoing post-occupancy monitoring and engineering judgment appropriately exercised by the agency with jurisdiction over the right-of-way. These treatments, along with the applicable warrant criteria and disclosure basis for each, are documented in **Attachment D**.

Design Features that Substantially Increase Hazards

The project does not propose any changes to the existing geometric design of South Grade Road. The two proposed driveways introduce new intersection legs at locations where, as documented in the companion sight distance memorandum (*Alpine Community Park: Driveway Sight Distance Evaluation*, CR Associates, May 2026), stopping sight distance meets AASHTO requirements at all approaches and corner sight distance meets or can be brought into compliance with County of San Diego Public Road Standards through implementation of the recommended project design measures. The project therefore does not introduce a design feature that would create or substantially increase traffic hazards along South Grade Road, and the crash history within the project vicinity does not indicate a pattern of geometry-related collisions that would be exacerbated by the project.

Supporting documentation is provided in the attachments to this memorandum as follows:

- **Attachment A** (South Grade Road Crash Summary, January 2021–December 2025, TIMS/ SWITRS) documents the crash history data underlying the safety review in this Memorandum;
- **Attachment B** (Alpine Community Park – Parking Demand Analysis) documents a parking study prepared for the project;
- **Attachment C** (Alpine Community Park — Driveway Sight Distance Evaluation) presents the SSD, CSD, and combination vehicle ISD field analysis; and
- **Attachment D** (Additional Safety Treatments) describes additional safety treatments considered during the analysis.

References

California Environmental Quality Act (CEQA) Guidelines, 14 Cal. Code Regs. §§ 15000 et seq.

City of Maywood v. Los Angeles Unified School Dist. (2012) 208 Cal.App.4th 362.

Citizens of Goleta Valley v. Board of Supervisors (1990) 52 Cal.3d 553.

County of San Diego. 2023. Final Environmental Impact Report for the Alpine Community Park Project (State Clearinghouse No. 2021030196). October.

Gooden v. County of Los Angeles (2024) 106 Cal.App.5th 1.

Minute Order, Case No. 37-2024-00000536-CU-WM-CTL, Superior Court of California, County of San Diego, June 9, 2025 (ROA 68).

Peremptory Writ of Mandate, Case No. 37-2024-00000536-CU-WM-CTL, Superior Court of California, County of San Diego, January 23, 2026.

U.S. Department of Transportation, Federal Highway Administration. Manual on Uniform Traffic Control Devices (MUTCD), 11th Edition. 2023.

Caltrans. 2020. Highway Design Manual. Chapter 200 – Sight Distance.

Attachment A - South Grade Road Crash Summary, January 2021 – December 2025 (TIMS/SWITRS)

Find address or place

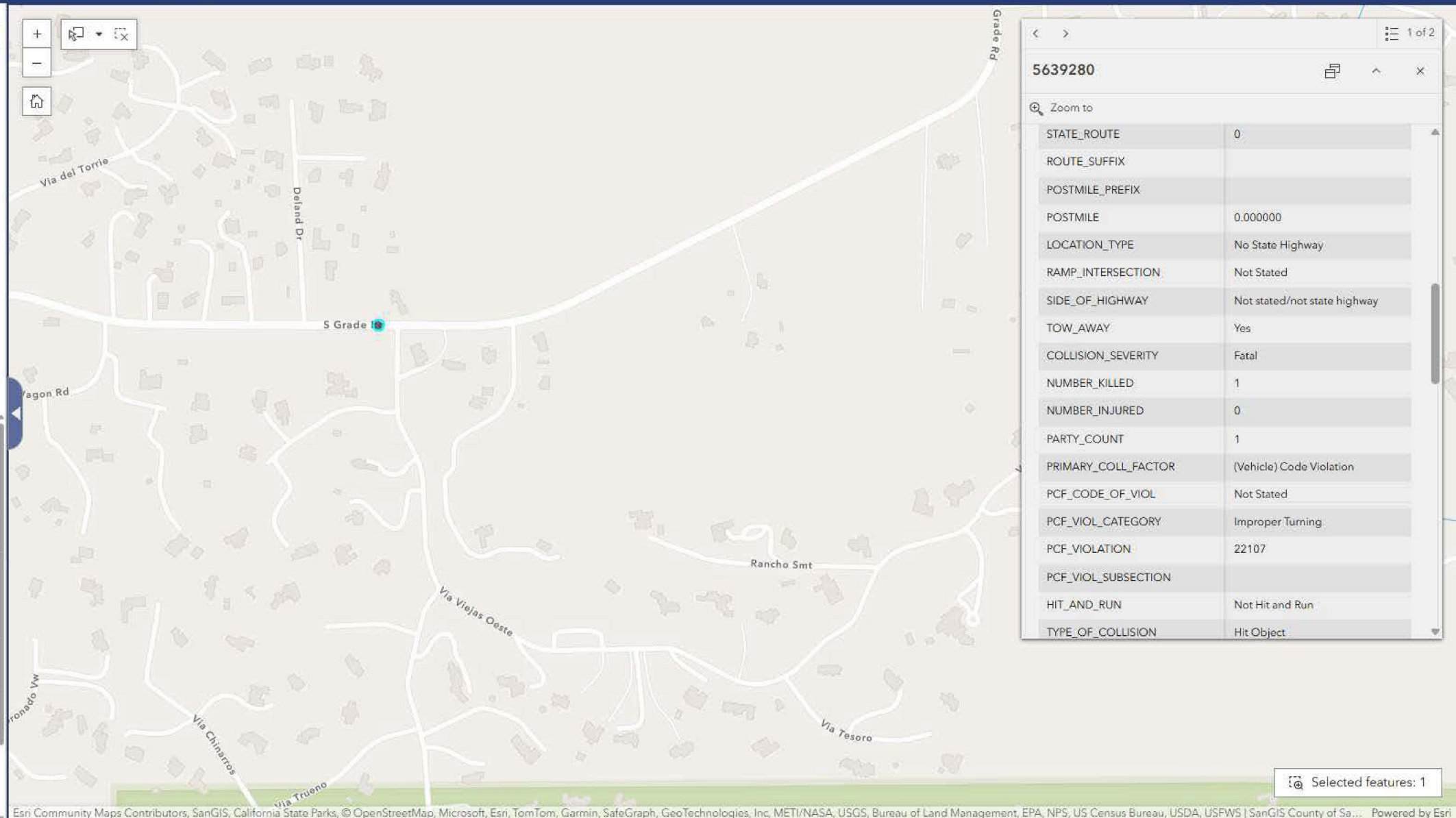
Collision year is any of
1 Selected

Collision severity is any of
1 Selected

Jurisdiction is any of
0 Selected

- Collisions (2012-2024)
- Bikeways
- Safety Focus Network
- Systemic Safety Network
- Jurisdictions

Cities



1 of 2

5639280

Zoom to

STATE_ROUTE	0
ROUTE_SUFFIX	
POSTMILE_PREFIX	
POSTMILE	0.000000
LOCATION_TYPE	No State Highway
RAMP_INTERSECTION	Not Stated
SIDE_OF_HIGHWAY	Not stated/not state highway
TOW_AWAY	Yes
COLLISION_SEVERITY	Fatal
NUMBER_KILLED	1
NUMBER_INJURED	0
PARTY_COUNT	1
PRIMARY_COLL_FACTOR	(Vehicle) Code Violation
PCF_CODE_OF_VIOL	Not Stated
PCF_VIOL_CATEGORY	Improper Turning
PCF_VIOLATION	22107
PCF_VIOL_SUBSECTION	
HIT_AND_RUN	Not Hit and Run
TYPE_OF_COLLISION	Hit Object

Selected features: 1

Esri Community Maps Contributors, SanGIS, California State Parks, © OpenStreetMap, Microsoft, Esri, TomTom, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, Bureau of Land Management, EPA, NPS, US Census Bureau, USDA, USFWS | SanGIS County of Sa… Powered by Esri

Crash Diagram

Primary Street:

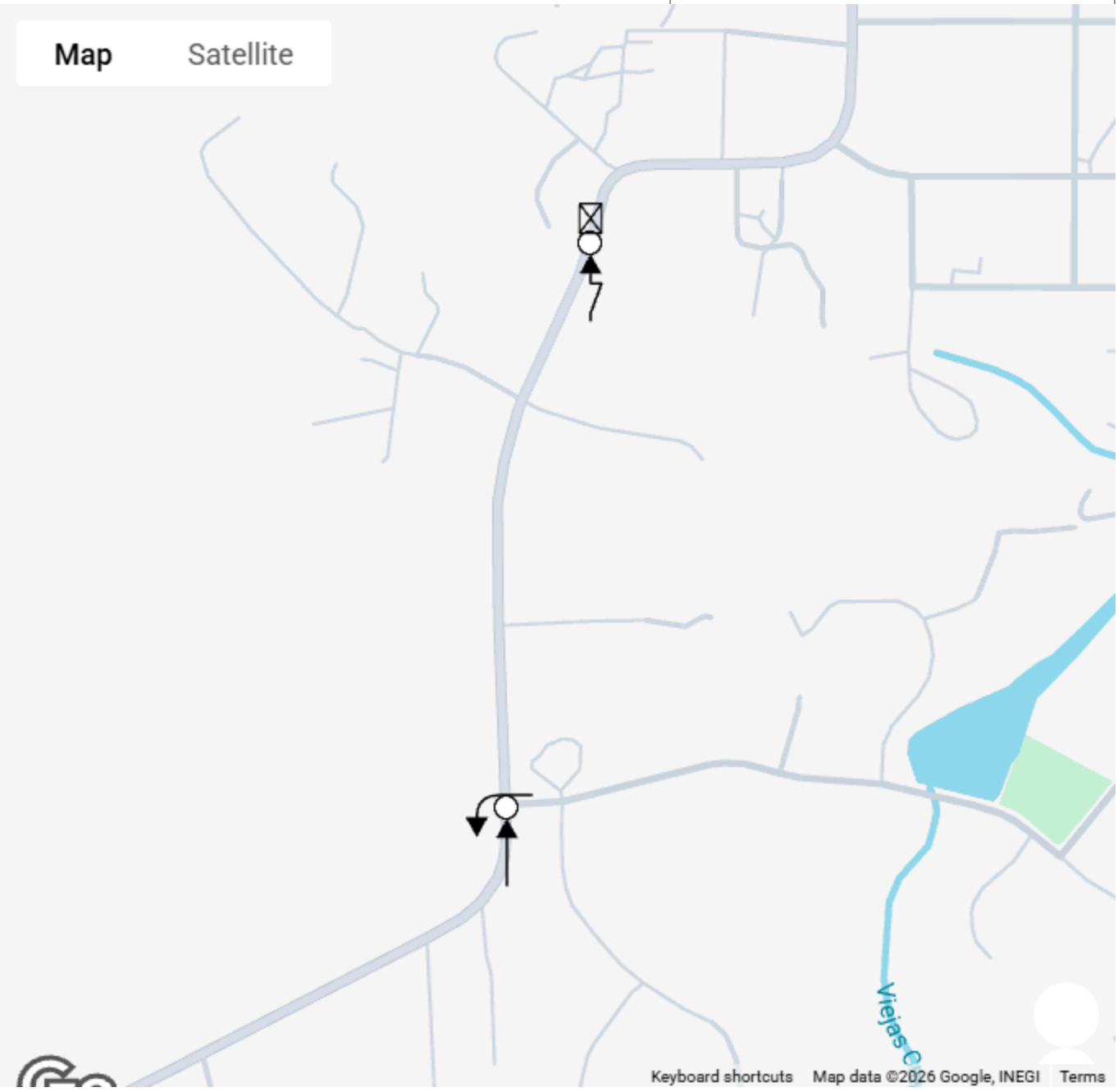
Secondary Street:

Time Period:

Agency Name:

Mapping Summary:	
Fatal Crash	0
Injury Crash	2
Mapped	2
Not Drawn	1
Total	3

- Straight
- Left Turn
- Right Turn
- U-Turn
- Overturned
- Ran Off Road
- Stopped
- Parked
- Pedestrian
- Bicycle
- Object
- Fatal Crash
- Injury Crash



Date Created: 04/19/2026

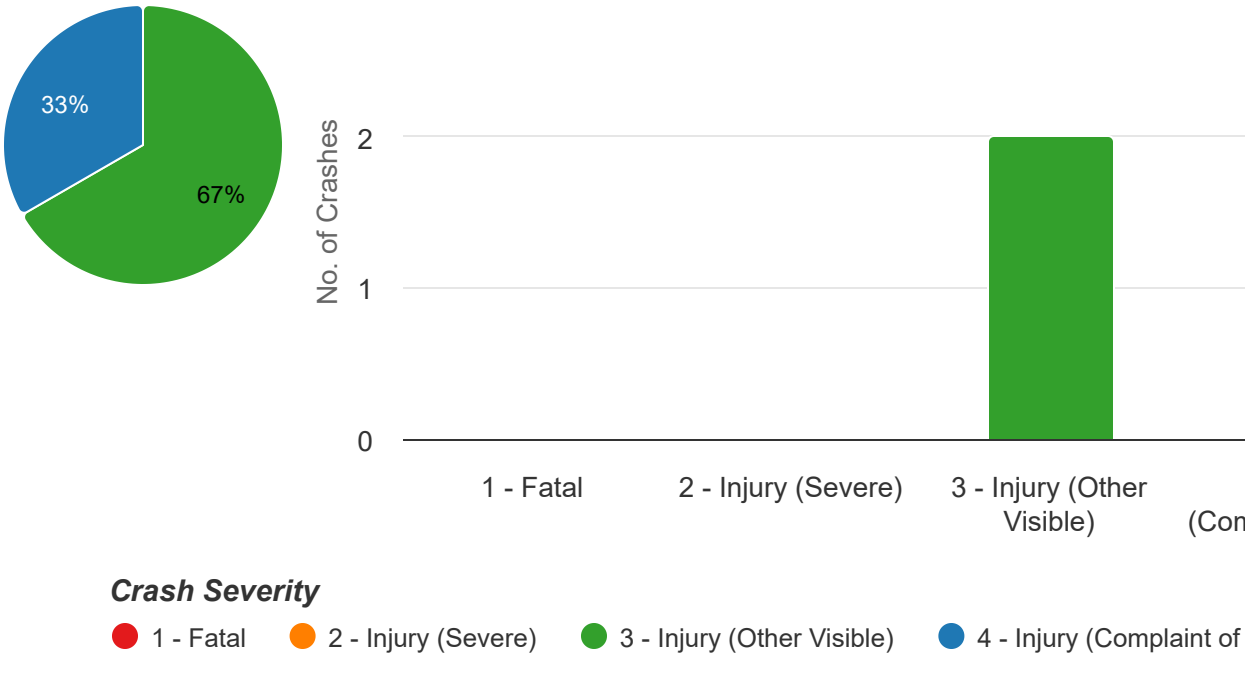
Created by TIMS (https://tims.berkeley.edu) © UC Regents, 2014-2026

Crash Summary by All | Selected Crashes

Crash Summary | Victim Summary | Ped Crash Summary

Crash Summary

By Crash Severity



Show Zero

Crash Severity	Count	%
1 - Fatal	0	0.00%
2 - Injury (Severe)	0	0.00%
3 - Injury (Other Visible)	2	66.67%
4 - Injury (Complaint of Pain)	1	33.33%

By Crash Type

BerkeleySafeTREC

SWITRS Crash Details for CASE ID - 91412970

Crash Information

County	San Diego
City	Unincorporated
Date & Time (M/D/Y)	02/10/2021 11:15
Location (Intersection)	South Grade Rd & Kenda Way
Dist. & Dir. from Intersection	325.00 ft North
State Highway	No
Geocoded Location	32.8316422, -116.7534256 Location

Type of Crash	G - Vehicle/Pedestrian
Motor Vehicle Involved With	B - Pedestrian
Crash Severity	3 - Injury (Other Visible)
PCF Violation Category	08 - Improper Turning
Weather	A - Clear
Alcohol Involved	No

Pedestrian Crash	Yes	**Bicycle Crash**	No
Motorcycle Crash	No	**Truck Crash**	No

Map View



Street View



Parties: 2

Party Number	Party Type	Statewide Vehicle Type	At Fault	Party Direction	Movement Preceding Collision
1	1 - Driver (including Hit and Run)	- - Not Stated	Yes	South	M - Other Unsafe Turning
2	2 - Pedestrian	N - Pedestrian	No	South	- - Not Stated

Victims: 1

Party Number	Victim Role	Victim Gender	Victim Age	Victim Degree of Injury
2	3 - Pedestrian	F - Female	19	6 - Suspected Minor Injury

BerkeleySafeTREC

Crash Details for Case ID - 94371540

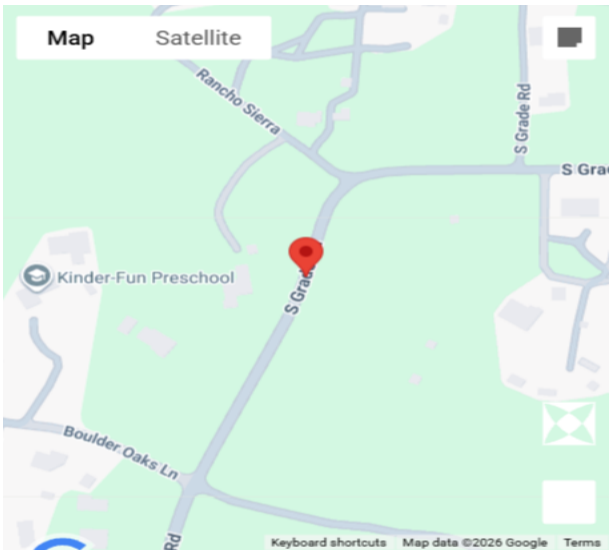
Crash Information

County	San Diego
City	Unincorporated
Date & Time (M/D/Y)	08/17/2024 22:30
Location (Intersection)	South Grade Rd & Rancho Sierra
Dist. & Dir. from Intersection	300.00 ft South
State Highway	No
Geocoded Location	32.8260269, -116.7572479

Type of Crash	E - Hit Object
Motor Vehicle Involved With	I - Fixed Object
Crash Severity	4 - Injury (Complaint of Pain)
PCF Violation Category	08 - Improper Turning
Weather	A - Clear
Alcohol Involved	No

Pedestrian Crash	No	**Bicycle Crash**	No
Motorcycle Crash	No	**Truck Crash**	No

Map View



Street View



Parties: 1

Party Number	Party Type	Statewide Vehicle Type	At Fault	Party Direction	Movement Preceding Collision
1	1 - Driver (including Hit and Run)	A - Passenger Car/Station Wagon	Yes	North	C - Ran Off Road

Victims: 1

Party Number	Victim Role	Victim Gender	Victim Age	Victim Degree of Injury
1	1 - Driver	F - Female	69	7 - Possible Injury

BerkeleySafeTREC

Crash Details for Case ID - 94784761

Crash Information

County	San Diego
City	Unincorporated
Date & Time (M/D/Y)	07/20/2025 16:55
Location (Intersection)	South Grade Rd & Via Viejas
Dist. & Dir. from Intersection	At Intersection
State Highway	No
Geocoded Location	32.8198318, -116.7583466

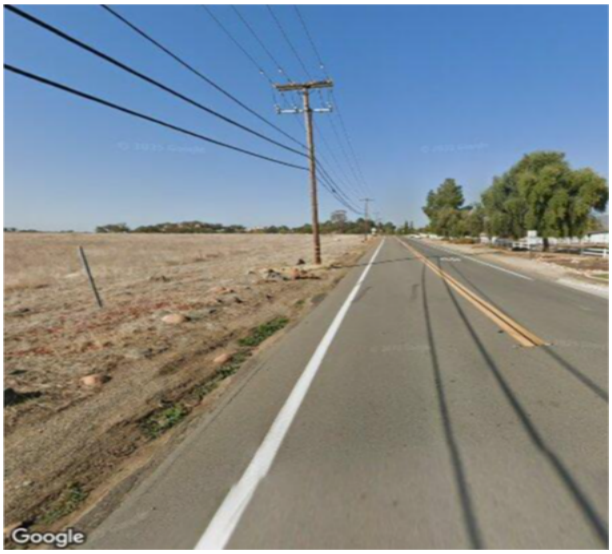
Type of Crash	D - Broadside
Motor Vehicle Involved With	C - Other Motor Vehicle
Crash Severity	3 - Injury (Other Visible)
PCF Violation Category	09 - Automobile Right of Way
Weather	A - Clear
Alcohol Involved	No

Pedestrian Crash	No	**Bicycle Crash**	No
Motorcycle Crash	No	**Truck Crash**	No

Map View



Street View



Parties: 2

Party Number	Party Type	Statewide Vehicle Type	At Fault	Party Direction	Movement Preceding Collision
1	1 - Driver (including Hit and Run)	A - Passenger Car/Station Wagon	Yes	West	E - Making Left Turn
2	1 - Driver (including Hit and Run)	A - Passenger Car/Station Wagon	No	North	B - Proceeding Straight

Victims: 1

Party Number	Victim Role	Victim Gender	Victim Age	Victim Degree of Injury
1	1 - Driver	F - Female	18	6 - Suspected Minor Injury

BerkeleySafeTREC

Crash Details for Case ID - 94807595

Crash Information

County	San Diego
City	Unincorporated
Date & Time (M/D/Y)	07/03/2025 22:25
Location (Intersection)	South Grade Rd & Rancho Sierra
Dist. & Dir. from Intersection	40.00 ft South
State Highway	No
Geocoded Location	32.8266907, -116.756958

Type of Crash	E - Hit Object
Motor Vehicle Involved With	I - Fixed Object
Crash Severity	3 - Injury (Other Visible)
PCF Violation Category	01 - Driving or Bicycling Under the Influence of Alcohol or Drug
Weather	A - Clear
Alcohol Involved	Yes

Pedestrian Crash	No	**Bicycle Crash**	No
Motorcycle Crash	No	**Truck Crash**	No

Map View



Street View



Parties: 1

Party Number	Party Type	Statewide Vehicle Type	At Fault	Party Direction	Movement Preceding Collision
1	1 - Driver (including Hit and Run)	A - Passenger Car/Station Wagon	Yes	South	M - Other Unsafe Turning

Victims: 1

Party Number	Victim Role	Victim Gender	Victim Age	Victim Degree of Injury
1	1 - Driver	F - Female	34	6 - Suspected Minor Injury

Attachment B - Alpine Community Park: Parking Demand Analysis

TO:	Yara Fisher, HELIX Environmental Planning, Inc.
FROM:	Phuong Nguyen, TE; CR Associates Jorge Muradas, EIT; CR Associates
DATE:	July 29, 2026
RE:	Alpine Community Park – Parking Demand Analysis

This memorandum presents the methodology and findings of a parking demand study prepared for the Alpine Community Park project (hereinafter referred to as the "project"). The study was conducted to evaluate anticipated parking conditions associated with organized sports activities at the project site and to assess whether the proposed parking supply would be sufficient to accommodate projected demand without resulting in spillovers onto adjacent streets or neighboring residential areas.

Project Background

The County of San Diego (County) Department of Parks and Recreation (DPR) proposes to construct the Alpine Community Park project within the community of Alpine, California. The project encompasses approximately 96.6 acres of undeveloped land, of which approximately 25 acres would be developed as an active community park, and the remaining 70 acres would be preserved as permanent open space.

The project site is located adjacent to the Back County Land Trust's (BCLT) Wright's Field Preserve, north of South Grade Road, east of Tavern Road, and south of Alpine Boulevard. The active park development area would incorporate modifications to existing trails and the construction of new recreational amenities, while the remaining acreage would be conserved as undisturbed open space.

CR Associates (CRA) previously prepared a Transportation Impact Study (TIS) for the proposed project (Alpine Community Park Transportation Impact Study, July 2020). The TIS evaluated two roadway segments and five intersections along South Grade Road under Existing and Near-Term Year 2023 Base conditions. Key findings from the TIS are summarized as follows:

- Project trip generation was estimated at 480 average daily trips (ADT), including 20 AM peak hour trips and 39 PM peak hour trips, based on the SANDAG Brief Guide to Vehicular Traffic Generation Rates for the San Diego Region (April 2002) at a rate of 20 trips per acre[1] for a 24-acre regional park.
    - While Alpine Community Park is intended to be a community park, not local park, the SANDAG trip generation rates do not have a standalone "community park" category. The Regional Park rate was selected as the more appropriate rate given the project's rural, unincorporated context and comparatively smaller surrounding population relative to a typical urban city park, while also consistent with the rate applied in the previously approved 2020 TIS. This rate is considered a conservative estimate of actual demand, which is further supported by the parking demand analysis presented in this memorandum.
- Under all studied scenarios, all analyzed roadway segments and intersections were found to operate at Level of Service (LOS) C or better, and no significant traffic impacts were identified.

[1] Weekday non-event trip generation rate.

- Parking requirements of 240 spaces were confirmed per County of San Diego Ordinance No. 10251.
- While project Driveway #1 (located at the intersection of South Grade Road at Calle de Compadres) does not meet CAMUTCD peak hour volume warrants for an all-way stop-controlled intersection, conversion to all-way stop control was recommended due to documented pedestrian collisions in the vicinity of the intersection.
- A stopping sight distance at the intersection of South Grade Road at Via Viejas is not met on the southbound approach.
    - Recommendation for the installation of "STOP AHEAD" warning signs on the south leg of the intersection.

In response to the Writ of Mandate issued on January 23, 2026 (Case No. 37-2024-00000536-CU-WM-CTL), CRA conducted a parking demand analysis to evaluate the anticipated parking conditions at the proposed project. The analysis was conducted to address the following objectives:

1. Quantify the observed average and maximum parking demand associated with organized sports activities at a comparable park facility. The proposed project is intended to accommodate organized sports practices, during which organizations or leagues may reserve fields for scheduled use; however, the site is not intended to host tournaments or other formal competitive events.
2. Evaluate whether projected parking demand could exceed the available on-site parking supply and result in spillover parking onto adjacent streets or nearby properties.
3. Identify appropriate parking management strategies, as warranted, to ensure that park-generated parking demand can be accommodated on-site and that spillover into the surrounding residential neighborhood is avoided.
4. Evaluate whether the available on-site parking supply and recommended management measures would contain park-related parking demand within the project site and prevent park users from parking within the surrounding residential neighborhood or along roadway shoulders, thereby reducing the potential for conflicts between park users and vehicular traffic in the vicinity of South Grade Road.

Analog Facility Selection

To address the study objectives, a structured, criteria-based screening of 76 public parks within and around the East San Diego County region was conducted to identify the facility most representative of the proposed Alpine Community Park program for purposes of parking demand observation. The candidate inventory was compiled from County of San Diego Parks and Recreation records, municipal parks departments (Cities of Santee, El Cajon, La Mesa, and Lemon Grove), and supporting capital improvement and planning documents.

The screening applied five sequential filters. A park eliminated at any screen was not advanced to subsequent screens. The screens are summarized below; the complete screening log documenting the disposition of all 76 candidate parks is provided in **Attachment A**.

- **Screen 0 — Geographic Eligibility:** Three parks were excluded as outside the East San Diego County study area — Sweetwater Summit Regional Park (Bonita/South Bay), Sycamore Canyon/Goodan Ranch County Preserve (Poway/North Inland), and Wilderness Gardens County Preserve (Pala/North County) — leaving a candidate universe of 73 East County public parks.

- **Screen 1 — Park Type:** Eighteen parks were eliminated for incompatible trip generation patterns: 12 programmed Sports Complexes, which generate scheduled league-based

demand concentrated around game and practice times rather than the mixed-use day-use pattern of a community park; and 6 Regional/Camping Parks, which generate multi-day overnight stays with stayover dwell times incompatible with day-use trip rates.

- **Screen 2 — Catchment Setting and Population Density:** Twenty-seven parks were eliminated whose catchment contexts — urbanized, far-rural, or established mixed-suburb settings — do not transfer to Alpine's rural/semi-rural East County setting. For purposes of this screening, catchment context was assessed based on the regional setting of each candidate park relative to Alpine, considering the surrounding community plan designations, land use character, and density patterns within San Diego County. Parks serving higher-density urban catchments exhibit greater walk and transit modal share and different per-household visitation rates than those anticipated at Alpine. Operating agency was deliberately not used as a screen criterion because catchment context, not jurisdictional ownership, is the determinant of park trip-generation transferability.

- **Screen 3 — Amenity Mix:** Twenty-five parks with predominantly passive, pocket-neighborhood, preserve-trailhead, or indoor-recreation programs were eliminated. Advancement required a destination-grade family park program including at minimum a playground, picnic areas, restrooms, and active sports facilities — consistent with the proposed Alpine Community Park improvements.

- **Screen 4 — Fine Demographic Alignment:** No additional parks were eliminated. All parks that satisfied Screens 2 and 3 also met the fine demographic alignment criteria (median household income of approximately $85,000 or greater, family-dominant household composition, high homeownership), confirming that the coarse catchment screen at Screen 2 effectively captured the relevant demographic filter.

- **Screen 5 — Scale and Survey Configuration:** Two parks — Collier County Park (Ramona) and Steele Canyon County Park (Spring Valley/Jamul) — were retained through Screen 4 but not selected as the primary comparable park. Collier County Park presents multiple access points requiring coordinated multi-station counts; its older facility vintage and lower current amenity intensity would yield a low-end attraction estimate inappropriate for forecasting peak design-year conditions. Steele Canyon County Park was retained through Screen 4, but not selected as the primary comparable park. This park's catchment straddles urbanized Spring Valley and rural Jamul, producing a mixed demographic signal that complicates rate transferability. Both parks are retained as secondary sensitivity references as discussed below.

Hilton Head County Park was selected as the primary analog facility on the basis of full alignment across all five screens. The park is a 10-acre County of San Diego Community/Neighborhood Park located in Rancho San Diego/Eastern El Cajon, a planned low-density suburban community with a family-dominant, high-homeownership, single-family-dominant household profile and population density directly comparable to Alpine's East County setting. Its amenity program — children's playground, multi-use sports field, basketball court, exercise stations, shaded picnic and BBQ areas, covered pavilions, drinking fountains, and restrooms — most closely parallels the proposed Alpine improvements among the parks that advanced through screening. Hilton Head has a single primary vehicular access from Hilton Head Road enabling a methodologically clean observation with a single station, and its current design reflects County community park standards comparable to the proposed Alpine improvements. A 2.5 area-based scale factor was applied to account for the difference in active program area between Hilton Head (10 acres) and Alpine (25 acres), proportionally adjusting the observed parking demand to reflect the proposed 240-space lot; this factor is within the range supported by National Recreation and Park Association (NRPA) guidance for transferable trip-rate

studies. Hilton Head's denser urban setting and larger surrounding population relative to Alpine's rural, unincorporated context results in comparatively greater baseline parking demand. No adjustment was made for differences in population density, retaining the unadjusted demand rates from the denser Hilton Head setting as a conservative upper-bound estimate for the proposed project.

In addition to the foregoing screening process, two additional East San Diego County parks — Cactus County Park and Valley Center Community Park — were considered but determined to be unsuitable analogs due to significant differences in facility size, parking capacity, recreational programming, and geographic and demographic context relative to both the proposed project and the selected analog site.

Sensitivity References

Although Hilton Head County Park is the primary analog facility, Collier County Park and Steele Canyon County Park are documented as secondary references for sensitivity comparison of the community-park parking demand rate. Where the Hilton Head observed rate falls within the range bracketed by the two secondary references after appropriate adjustment for demographic and amenity differences, the central forecast is considered robust. Additionally, because no East County park combines the full amenity-rich community-park program with equestrian access in a single facility, the equestrian-trip component is addressed through a supplementary sensitivity reference utilizing Oakoasis County Preserve (Lakeside) and Dos Picos County Park (Ramona) as data sources for the discrete equestrian-trip contribution, scaled to the proposed Alpine equestrian footprint.

ITE Reference Rate Comparison

As a supplemental reference, trip generation rates for Land Use Code (LUC) 411 (Public Park) from the Institute of Transportation Engineers (ITE) Trip Generation Manual (12th Edition) were reviewed. The ITE LUC 411 average weekday rate of 0.78 vehicle trips per acre yields an estimated 20 daily vehicle trips for Alpine Community Park's 25-acre active program area. The Saturday rate of 1.96 vehicle trips per acre yields approximately 49 daily vehicle trips. Because the ITE LUC 411 database encompasses a wide range of park types and sizes — including predominantly passive and trail-oriented facilities substantially larger than the proposed project, with an average study-site size of 612 acres — the resulting rates understate the parking demand that would be expected at a smaller, actively programmed sports park during organized practice conditions. As noted in the ITE data source, caution should be used when applying the acreage-based rate, as the percentage of park area used most intensively varies considerably across the study sites. The parks eliminated at earlier screens — particularly the passive, preserve-trailhead, and trail-corridor facilities eliminated at Screens 2 and 3 — more closely resemble the large passive facilities that anchor the lower end of the ITE LUC 411 rate distribution, confirming their inapplicability as analogs for an actively programmed community park.
The observed peak parking demand at Hilton Head County Park during organized practice days — averaging 72 vehicles for baseball and 105 vehicles for multi-use field practices — substantially exceeds the implied demand from ITE's generalized public park rates. This confirms that the Hilton Head analog captures peak active programming demand more accurately and conservatively than the ITE composite rate would suggest, and further reinforces the appropriateness of its selection as the primary analog facility.

Parking Demand Study

Parking demand was evaluated using Nearmap, a high-resolution aerial imagery platform that provides geo-referenced, time-stamped overhead imagery at recurring intervals throughout the year. Nearmap allows for systematic vehicle counts within defined parking areas and adjacent on-street segments and provides a non-intrusive, repeatable basis for evaluating parking utilization over time. Nearmap

imagery is typically collected near midday to minimize shadowing and optimize image clarity. Accordingly, the observed vehicle counts are assumed to be generally representative of peak daytime parking conditions, particularly for weekend observations when park visitation and associated parking demand are typically greatest.

A total of 14 survey dates spanning from February 2022 through January 2026 were reviewed. For each survey date, the aerial imagery was examined to identify the activity occurring at the site at the time of image capture. Survey observations were categorized into the following activity types:

- Baseball practice days
- Multi-use field practice days[2]
- Non-event days with no organized sports activity

Hilton Head County Park is served by a 56-space on-site parking lot. When on-site parking supply is fully utilized, overflow parking occurs along adjacent on-street segments along Hilton Head Road. Therefore, total parking demand at the analog site was defined as the combined utilization of the on-site parking lot and adjacent on-street parking supply.

Because the on-site parking lot and adjacent on-street parking are shared by organized sports participants, general park users, and residents of nearby multi-family residential uses, multiple survey observations were necessary to distinguish sports-related parking demand from baseline parking activity. To isolate the parking demand attributable to organized sports practices, the following assumptions and analytical procedures were applied:

- Vehicles observed in the same on-street locations across multiple non-event survey dates were assumed to represent residential spillover from adjacent properties.
- The average on-street occupancy observed on non-event days, equal to 16 vehicles, was established as the residential spillover baseline.
- For sports activity days, this 16-vehicle baseline was subtracted from total observed on-street occupancy to estimate the incremental on-street parking demand attributable to organized sports practices.

Parking demand observed at Hilton Head County Park during sports activity days reflects the types of active programming that may occur at the proposed project, including organized sports activities and concurrent general recreational use by non-sports visitors. Hilton Head County Park is also located in a denser and more urbanized setting, which likely results in a higher regular park usage rate than would be expected at the proposed project. Therefore, applying the Hilton Head regular park usage rate to the proposed project provides a conservative assumption for estimating total parking demand during active programming conditions, while excluding recurring background parking not associated with park activities to avoid overstating park-generated demand.

Table 1 summarizes the observed average and maximum parking demand by activity type. Supporting calculations are provided in **Attachment B**.

[2] Note: The organized field-sport activity observed at Hilton Head County Park, which included soccer practice, is considered representative of the parking demand anticipated during scheduled multi-use field use at Alpine Community Park. Multi-use fields accommodate a similar range of organized team sports, and the associated parking demand is expected to be comparable regardless of the specific sport being played.

Table 1: Observed Parking Demand by Activity Type – Hilton Head County Park

Activity Type	Observations (n)	Park Lot (vehicles)	Multi-Use Field Practice (vehicles)	Total Parking Demand (vehicles)
Baseball Game	5	Avg: 41 / Max: 50	Avg: 31 / Max: 69	**Avg: 72 / Max: 119**
Multi-Use Field Practice	2	Avg: 54 / Max: 59	Avg: 51 / Max: 72	**Avg: 105 / Max: 131**

Source: CR Associates (2026)

Notes:
1. Game On-Street Demand = Observed On-Street Parking minus Residential Spillover Baseline (16 vehicles).
2. See **Attachment B** for detailed calculations.

As presented in **Table 1**, the average total parking demand on baseball practice days was 72 vehicles, with a maximum observed demand of 119 vehicles. For multi-use field practice days, the average total demand was 105 vehicles, with a maximum of 131 vehicles. In both cases, total parking demand reflects the combined utilization of the on-site park lot and the adjacent on-street supply, net of the 16-vehicle residential spillover baseline.

Conclusion

The parking demand analysis indicates that parking demand associated with a single organized sports practice would remain within the proposed project's on-site parking supply of 240 spaces. Specifically, the average total parking demand observed at the analog site was 72 vehicles for baseball practices and 105 vehicles for multi-use field practices, while the maximum observed demands were 119 vehicles and 131 vehicles, respectively. Each of these demand levels is below the proposed on-site parking supply. On this basis, parking demand generated by a single organized sports practice at any given time is not expected to exceed available on-site parking at the project site.

Potential exceedance of parking supply would occur only under conditions in which multiple organized sports practices overlap. For example, if baseball and multi-use field practices were to occur concurrently, the combined parking demand could be as follows:

- Combined average parking demand: approximately 177 vehicles
- Combined maximum parking demand: approximately 250 vehicles

Under the maximum concurrent condition, total parking demand could exceed the proposed 240-space parking supply, which could result in spillover parking onto adjacent streets, roadway shoulders, or into the surrounding residential neighborhood.

To prevent demand from exceeding supply under concurrent multi-sport conditions, where combined maximum demand could approach approximately 250 vehicles, The following scheduling requirements shall apply to all organized sports activities at the park. With this scheduling protocol in place, on-site parking supply will remain sufficient to accommodate all event-day demand, and spillover onto South Grade Road is not anticipated. County Parks and Recreation Programming staff shall implement and maintain these requirements:

- Only one sport or user group shall occupy each park field/court at any given time; overlapping or simultaneous sports activities or practices are prohibited.

- Sports Programming staff will monitor the site between consecutive sessions to confirm no vehicular spillover onto the public right-of-way. If spillover is observed more than two times in any given season, a minimum one-hour buffer shall be implemented between consecutive sessions to allow full vehicle turnover before the next group arrives. For example, if a session ends at 1:00 PM, the next session may not begin until 2:00 PM. This one-hour buffer shall increase to two hours if additional spillover continues to be observed.
- Sports Programming staff shall be responsible for scheduling all organized activities in strict accordance with these requirements.
- Parks Programming staff and the on-site volunteer shall monitor scheduling compliance on an ongoing basis to ensure these requirements are met at all times.
- Vehicular spillover onto the public right-of-way, including South Grade Road, shall be prevented through enforcement of this scheduling protocol.

Implementation of these measures would reduce the potential for overlapping parking demand and help ensure that park-generated parking remains fully accommodated on-site.

It should also be recognized that actual parking demand at the proposed project site may be lower than the demand observed at Hilton Head County Park. As discussed previously, Hilton Head County Park is located in a denser and more urbanized setting and serves a larger surrounding population than the proposed project site. Accordingly, the parking demand rates applied in this analysis are considered conservative and likely represent an upper-bound estimate of parking demand that could occur at the project site.

Following project opening, County staff and park rangers will monitor on-site and nearby on-street parking conditions for a minimum of one year of operation. If field observations demonstrate that actual parking demand associated with organized sports practices is consistently and materially lower than the levels estimated herein, modification of the parking management program may be considered. Any such modification, including potential relaxation of the single-sport restriction, should occur only following review of observed parking data and in coordination with the County Traffic Engineer

Attachment A - Comparable Park Screening Log

The table below documents the disposition of all 76 parks evaluated in the structured screening process. Rows are sorted with the selected comparable park first (green-highlighted), runner-up parks retained for sensitivity reference second (yellow-highlighted), then remaining parks grouped by the screen at which they were eliminated. Geographic exclusions at Screen 0 are highlighted in gray. The Score column (0–5) indicates how far through the screening process the park advanced.

Park / Facility	Community / Area	Primary Category	Setting	Median HHI	Screen	Score	Rationale / Disposition
Hilton Head County Park	Rancho San Diego / El Cajon	Community / Neighborhood Park	Suburban (planned)	~$100k+	SELECTED	5	Selected as primary comparable park.
Collier County Park	Ramona	Community / Neighborhood Park	Rural / semi-rural	~$90-105k	Screen 5	4	Runner-up; multiple access points; older vintage.
Steele Canyon County Park	Spring Valley / Jamul	Community / Neighborhood Park	Suburban / urbanized	~$70-80k	Screen 5	4	Runner-up; mixed catchment; multiple entries.
Barnett Ranch County Preserve	Ramona	Open-Space Preserve	Rural / semi-rural	~$90-105k	Screen 3	2	Eliminated: insufficient amenity mix (passive/preserve).
Big Rock Park	Santee	Community / Neighborhood Park	Suburban	~$95-110k	Screen 3	2	Eliminated: insufficient amenity mix (missing restrooms, active sports).
Boulder Oaks County Preserve	Lakeside / Alpine area	Open-Space Preserve	Suburban / rural edge	~$85-95k	Screen 3	2	Eliminated: passive/preserve program.
Deputy Ken Collier Park	Santee	Community / Neighborhood Park	Suburban	~$95-110k	Screen 3	2	Eliminated: insufficient amenity mix.
Forester Creek Trail	Santee	Trail Corridor	Suburban	~$95-110k	Screen 3	2	Eliminated: trail corridor, no active sports.
Lakeside Linkage County Preserve	Lakeside	Open-Space Preserve	Suburban / rural edge	~$85-95k	Screen 3	2	Eliminated: passive/preserve program.
Louis A. Stelzer County Park	Lakeside	Day-Use / Picnic Park	Suburban / rural edge	~$85-95k	Screen 3	2	Eliminated: no playground or active sports.
Luelf Pond County Preserve	Ramona	Open-Space Preserve	Rural / semi-rural	~$90-105k	Screen 3	2	Eliminated: passive/preserve program.
Marine Memorial Trails	Santee	Trail Corridor	Suburban	~$95-110k	Screen 3	2	Eliminated: trail corridor.
Mast Park	Santee	Community / Neighborhood Park	Suburban	~$95-110k	Screen 3	2	Eliminated: missing playground and restrooms.
Mast Park West Trail	Santee	Trail Corridor	Suburban	~$95-110k	Screen 3	2	Eliminated: trail corridor.

Park / Facility	Community / Area	Primary Category	Setting	Median HHI	Screen	Score	Rationale / Disposition
Mission Creek Trail	Santee	Trail Corridor	Suburban	~$95-110k	Screen 3	2	Eliminated: trail corridor.
Mt. Gower County Preserve	Ramona	Open-Space Preserve	Rural / semi-rural	~$90-105k	Screen 3	2	Eliminated: passive/preserve program.
Oakoasis County Preserve	Lakeside	Open-Space Preserve	Suburban / rural edge	~$85-95k	Screen 3	2	Eliminated: passive/preserve; retained as equestrian sensitivity reference.
Ramona Grasslands / Santa Maria Creek	Ramona	Open-Space Preserve	Rural / semi-rural	~$90-105k	Screen 3	2	Eliminated: passive/preserve program.
Shadow Hill Park	Santee	Community / Neighborhood Park	Suburban	~$95-110k	Screen 3	2	Eliminated: insufficient amenity mix.
Simon County Preserve	Ramona	Open-Space Preserve	Rural / semi-rural	~$90-105k	Screen 3	2	Eliminated: passive/preserve program.
Sky Ranch Park	Santee	Community / Neighborhood Park	Suburban	~$95-110k	Screen 3	2	Eliminated: insufficient amenity mix.
Town Center Community Park East	Santee	Community / Neighborhood Park	Suburban	~$95-110k	Screen 3	2	Eliminated: insufficient amenity mix.
Town Center Community Park West	Santee	Community / Neighborhood Park	Suburban	~$95-110k	Screen 3	2	Eliminated: insufficient amenity mix.
Walker Preserve Trail	Santee	Open-Space Preserve	Suburban	~$95-110k	Screen 3	2	Eliminated: trail/preserve.
West Hills Park	Santee	Community / Neighborhood Park	Suburban	~$95-110k	Screen 3	2	Eliminated: missing restrooms.
Weston Park	Santee	Community / Neighborhood Park	Suburban	~$95-110k	Screen 3	2	Eliminated: insufficient amenity mix.
Weston Trail	Santee	Trail Corridor	Suburban	~$95-110k	Screen 3	2	Eliminated: trail corridor.
Woodglen Vista Park	Santee	Community / Neighborhood Park	Suburban	~$95-110k	Screen 3	2	Eliminated: missing picnic and restrooms.
Aztec Park	La Mesa	Community / Neighborhood Park	Established suburb	~$80-90k	Screen 2	1	Eliminated: established mixed suburb, lower HHI, mixed tenure.

Park / Facility	Community / Area	Primary Category	Setting	Median HHI	Screen	Score	Rationale / Disposition
Berry Street Park	Lemon Grove	Community / Neighborhood Park	Urbanized	~$65-75k	Screen 2	1	Eliminated: urbanized catchment, lower HHI.
Bill Beck Park	El Cajon	Community / Neighborhood Park	Urbanized	~$60-70k	Screen 2	1	Eliminated: urbanized catchment.
Bostonia Park / Bostonia Recreation Center	El Cajon	Civic / Recreation Facility	Urbanized	~$60-70k	Screen 2	1	Eliminated: urbanized catchment.
Briercrest Park	La Mesa	Day-Use / Picnic Park	Established suburb	~$80-90k	Screen 2	1	Eliminated: established suburb.
Collier Park	La Mesa	Day-Use / Picnic Park	Established suburb	~$80-90k	Screen 2	1	Eliminated: established suburb.
Dictionary Hill Open Space Preserve	Spring Valley	Open-Space Preserve	Suburban / urbanized	~$70-80k	Screen 2	1	Eliminated: suburban/urbanized catchment.
El Capitan County Preserve	Lakeside / El Cajon Mtn	Open-Space Preserve	Urbanized	~$60-70k	Screen 2	1	Eliminated: urbanized catchment.
Estrella County Park	Spring Valley	Community / Neighborhood Park	Suburban / urbanized	~$70-80k	Screen 2	1	Eliminated: suburban/urbanized catchment.
Eucalyptus County Park	La Mesa / Spring Valley	Community / Neighborhood Park	Suburban / urbanized	~$70-80k	Screen 2	1	Eliminated: suburban/urbanized catchment.
Fletcher Hills Center & Pool	El Cajon	Community / Neighborhood Park	Urbanized	~$60-70k	Screen 2	1	Eliminated: urbanized catchment.
Goodland Acres County Park	Spring Valley	Community / Neighborhood Park	Suburban / urbanized	~$70-80k	Screen 2	1	Eliminated: suburban/urbanized catchment.
Highwood Park	La Mesa	Community / Neighborhood Park	Established suburb	~$80-90k	Screen 2	1	Eliminated: established suburb.
Hillside Park	El Cajon	Day-Use / Picnic Park	Urbanized	~$60-70k	Screen 2	1	Eliminated: urbanized catchment.
Ildica Street County Park	Spring Valley	Community / Neighborhood Park	Suburban / urbanized	~$70-80k	Screen 2	1	Eliminated: suburban/urbanized catchment.
In-Ko-Pah County Park	Jacumba / East County	Open-Space Preserve	Far rural / desert	~$45-55k	Screen 2	1	Eliminated: far-rural/desert, insufficient density.
Judson Park	El Cajon	Day-Use / Picnic Park	Urbanized	~$60-70k	Screen 2	1	Eliminated: urbanized catchment.

Park / Facility	Community / Area	Primary Category	Setting	Median HHI	Screen	Score	Rationale / Disposition
Kennedy Recreation Center / JFK Park	El Cajon	Civic / Recreation Facility	Urbanized	~$60-70k	Screen 2	1	Eliminated: urbanized catchment.
Lamar County Park	Spring Valley	Community / Neighborhood Park	Suburban / urbanized	~$70-80k	Screen 2	1	Eliminated: suburban/urbanized catchment.
Lemon Grove Park	Lemon Grove	Civic / Recreation Facility	Urbanized	~$65-75k	Screen 2	1	Eliminated: urbanized catchment.
MacArthur Park	La Mesa	Civic / Recreation Facility	Established suburb	~$80-90k	Screen 2	1	Eliminated: established suburb.
Monterey Heights Park	Lemon Grove	Community / Neighborhood Park	Urbanized	~$65-75k	Screen 2	1	Eliminated: urbanized catchment.
Renette Park	El Cajon	Civic / Recreation Facility	Urbanized	~$60-70k	Screen 2	1	Eliminated: urbanized catchment.
Santa Ysabel County Preserves	Santa Ysabel / Julian	Open-Space Preserve	Far rural	~$70-85k	Screen 2	1	Eliminated: far-rural, insufficient density.
Spring Valley County Park	Spring Valley	Community / Neighborhood Park	Suburban / urbanized	~$70-80k	Screen 2	1	Eliminated: suburban/urbanized catchment.
Sweetwater Place County Park	Spring Valley	Community / Neighborhood Park	Suburban / urbanized	~$70-80k	Screen 2	1	Eliminated: suburban/urbanized catchment.
Volcan Mountain Wilderness Preserve	Julian	Open-Space Preserve	Far rural	~$70-85k	Screen 2	1	Eliminated: far-rural, insufficient density.
Agua Caliente County Park	East County desert	Regional / Camping Park	Mixed East County	~$70-90k	Screen 1	0	Eliminated: overnight destination park, incompatible trip pattern.
Cajon Valley Middle School Park	El Cajon	Sports Complex	Urbanized	~$60-70k	Screen 1	0	Eliminated: programmed sports complex, event-driven trip pattern.
Dos Picos County Park	Ramona	Regional / Camping Park	Rural / semi-rural	~$90-105k	Screen 1	0	Eliminated: overnight destination park; retained as equestrian sensitivity reference.
El Monte County Park	Lakeside	Sports Complex	Suburban / rural edge	~$85-95k	Screen 1	0	Eliminated: programmed sports complex.
Flinn Springs County Park	El Cajon / Lakeside	Sports Complex	Urbanized	~$60-70k	Screen 1	0	Eliminated: programmed sports complex.

Park / Facility	Community / Area	Primary Category	Setting	Median HHI	Screen	Score	Rationale / Disposition
Karl Tuttle Park	El Cajon	Sports Complex	Urbanized	~$60-70k	Screen 1	0	Eliminated: programmed sports complex.
La Mesita Park / Junior Seau Sports Complex	La Mesa	Sports Complex	Established suburb	~$80-90k	Screen 1	0	Eliminated: programmed sports complex.
Lake Morena County Park	Campo	Regional / Camping Park	Far rural	~$60-75k	Screen 1	0	Eliminated: overnight destination park.
Lakeside Baseball Park	Lakeside	Sports Complex	Suburban / rural edge	~$85-95k	Screen 1	0	Eliminated: programmed sports complex.
Lindo Lake County Park	Lakeside	Sports Complex	Suburban / rural edge	~$85-95k	Screen 1	0	Eliminated: programmed sports complex, event-driven trip pattern.
Pine Valley County Park	Pine Valley	Sports Complex	Far rural	~$75-85k	Screen 1	0	Eliminated: programmed sports complex.
Potrero County Park	Potrero	Regional / Camping Park	Far rural	~$60-75k	Screen 1	0	Eliminated: overnight destination park.
Sportsplex USA Santee	Santee	Sports Complex	Suburban	~$95-110k	Screen 1	0	Eliminated: programmed sports complex.
Sunset Park	La Mesa	Sports Complex	Established suburb	~$80-90k	Screen 1	0	Eliminated: programmed sports complex.
Sweetwater Lane County Park	Spring Valley	Sports Complex	Suburban / urbanized	~$70-80k	Screen 1	0	Eliminated: programmed sports complex.
Vallecito County Park	East County desert	Regional / Camping Park	Mixed East County	~$70-90k	Screen 1	0	Eliminated: overnight destination park.
Wells Park	El Cajon	Sports Complex	Urbanized	~$60-70k	Screen 1	0	Eliminated: programmed sports complex.
William Heise County Park	Julian	Regional / Camping Park	Far rural	~$70-85k	Screen 1	0	Eliminated: overnight destination park.
Sweetwater Summit Regional Park	Bonita / South Bay	Regional / Camping Park	Suburban / urbanized	~$70-80k	Screen 0	0	Eliminated: outside East County study area (South Bay).
Sycamore Canyon / Goodan Ranch Preserve	Santee / Poway edge	Open-Space Preserve	Suburban	~$95-110k	Screen 0	0	Eliminated: outside East County study area (North Inland/Poway).
Wilderness Gardens County Preserve	Pala / North County edge	Open-Space Preserve	Mixed East County	~$70-90k	Screen 0	0	Eliminated: outside East County study area (North County/Pala).

Source: CR Associates (2026). Screening log based on review of County of San Diego Parks and Recreation records, municipal parks departments, and supporting planning documents.

Notes: Green highlight = selected primary analog. Yellow highlight = runner-up/sensitivity reference. Gray highlight = excluded at Screen 0 (geographic eligibility).
HHI = Median Household Income

Attachment B - Count Observation Data & ITE Parking Generation

HILTON HEAD COUNTY PARK – PARKING SURVEY SUMMARY					
Survey Date	Day of Week	Activity Observed	Park Lot (vehicles)	Adjacent Street (vehicles)	Total Observed (vehicles)
1/16/2026	Friday	Baseball Game	49	45	94
9/23/2025	Tuesday	None	11	25	36
5/14/2025	Wednesday	None	37	20	57
4/24/2025	Thursday	None	14	14	28
1/19/2025	Sunday	None	15	12	27
10/26/2024	Saturday	Soccer Game	50	46	96
5/12/2024	Sunday	None	15	8	23
1/15/2024	Monday	Baseball Game	50	34	84
9/14/2023	Thursday	Soccer Game	59	88	147
5/7/2023	Sunday	Baseball Game	50	85	135
1/13/82023	Friday	None	9	12	21
8/28/2022	Sunday	None	16	23	39
4/23/2022	Saturday	Baseball Game	19	43	62
2/2/2022	Sunday	Baseball Game	37	29	66

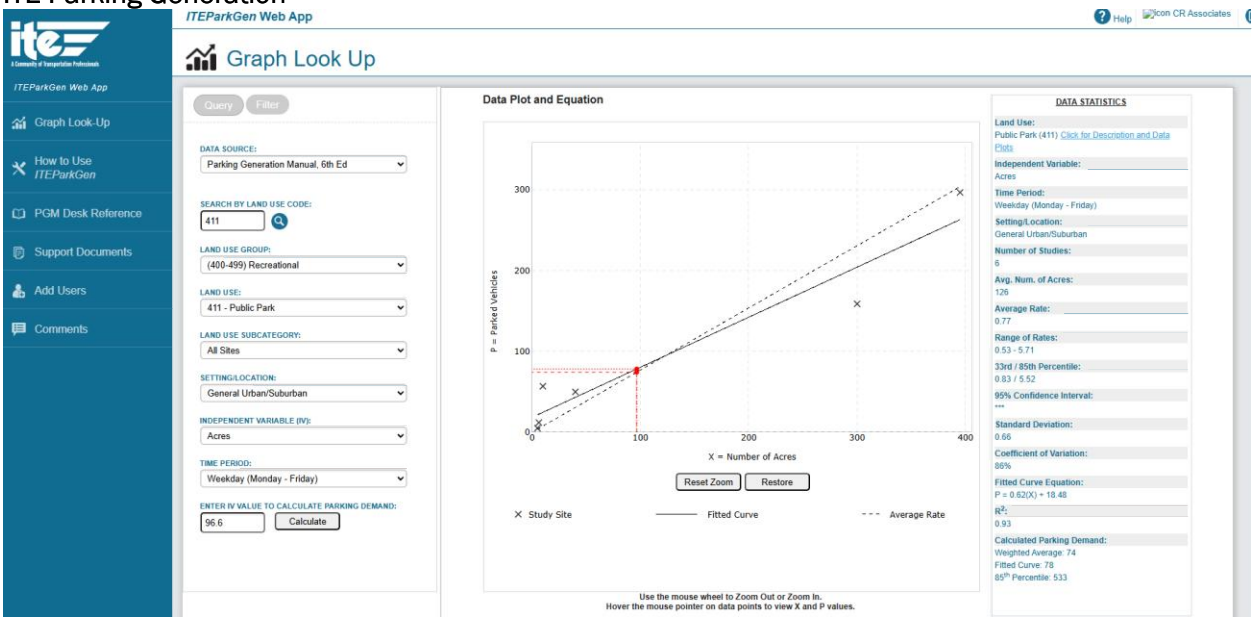
NO-ACTIVITY DAYS – RESIDENTIAL SPILLOVER ESTIMATE (ON-STREET)			
Metric	Park Lot (vehicles)	Adjacent Street (vehicles)	Residential Spillover Baseline (vehicles)
Observations (n)	7	7	**16**
Average (vehicles)	17	16	
Maximum (vehicles)	37	25	
Minimum (vehicles)	9	8	

Note:
1. Interpretation: On days with no organized events, park lot occupancy reflects background/passive use. The adjacent on-street occupancy is attributed to residential spillover (cell I2), establishing a baseline residential parking demand.

PARKING DEMAND BY ACTIVITY TYPE					
Activity Type	Observations (n)	Average Total Observed Vehicles	Residential Spillover Credit	Average Parking Demand (Vehicles)	Max Total Observed Vehicles
Baseball Game	5	88	-16	72	119
Multi-Use Field Practice	2	122	-16	106	131
No Activity	7	17	0	17	37

Note:
1. Game On-Street Demand = Observed Adjacent Street Parking − Residential Spillover Baseline.

ITE Parking Generation



ITEParkGen Web App

Help | Icon CR Associates

Graph Look Up

Query | Filter

DATA SOURCE: Parking Generation Manual, 6th Ed

SEARCH BY LAND USE CODE: 411

LAND USE GROUP: (400-499) Recreational

LAND USE: 411 - Public Park

LAND USE SUBCATEGORY: All Sites

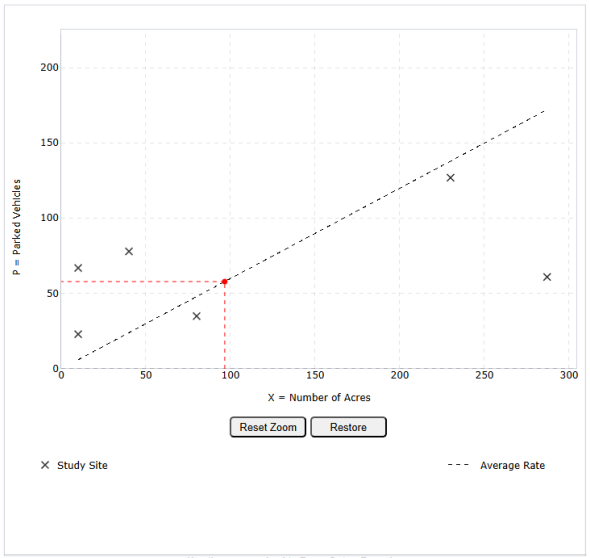
SETTING/LOCATION: General Urban/Suburban

INDEPENDENT VARIABLE (IV): Acres

TIME PERIOD: Saturday

ENTER IV VALUE TO CALCULATE PARKING DEMAND: 96.6 Calculate

Data Plot and Equation



Use the mouse wheel to Zoom Out or Zoom In.
Hover the mouse pointer on data points to view X and P values.

DATA STATISTICS

Land Use: Public Park (411) Click for Description and Data Plots

Independent Variable: Acres

Time Period: Saturday

Setting/Location: General Urban/Suburban

Number of Studies: 6

Avg. Num. of Acres: 110

Average Rate: 0.60

Range of Rates: 0.21 - 6.71

33rd / 85th Percentile: 0.47 / 6.49

95% Confidence Interval: ***

Standard Deviation: 0.98

Coefficient of Variation: 163%

Fitted Curve Equation: ***

R^2: ***

Calculated Parking Demand:
Weighted Average: 58
Fitted Curve: Not Available
85th Percentile: 627

ITEParkGen Web App

Help | Icon CR Associates | Sig

Graph Look Up

Query | Filter

DATA SOURCE: Parking Generation Manual, 6th Ed

SEARCH BY LAND USE CODE: 411

LAND USE GROUP: (400-499) Recreational

LAND USE: 411 - Public Park

LAND USE SUBCATEGORY: All Sites

SETTING/LOCATION: General Urban/Suburban

INDEPENDENT VARIABLE (IV): Acres

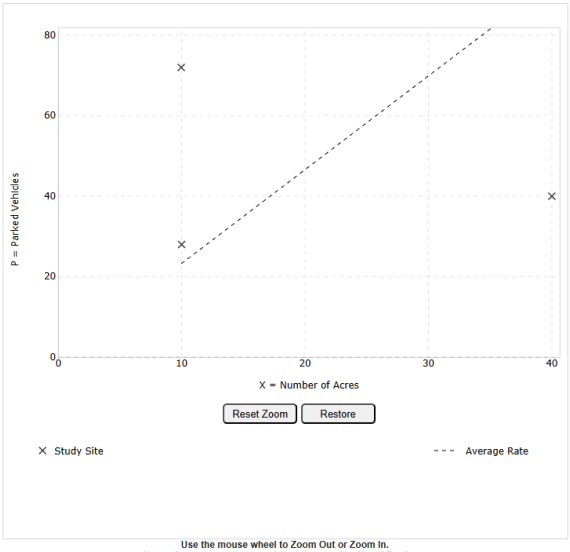
TIME PERIOD: Sunday

ENTER IV VALUE TO CALCULATE PARKING DEMAND: 96.6 Calculate

Data Range: 9.98 - 40.00

Data Plot and Equation

Caution – Small Sample Size



Use the mouse wheel to Zoom Out or Zoom In.
Hover the mouse pointer on data points to view X and P values.

DATA STATISTICS

Land Use: Public Park (411) Click for Description and Data Plots

Independent Variable: Acres

Time Period: Sunday

Setting/Location: General Urban/Suburban

Number of Studies: 3

Avg. Num. of Acres: 20

Average Rate: 2.33

Range of Rates: 1.00 - 7.21

33rd / 85th Percentile: 1.58 / 7.21

95% Confidence Interval: ***

Standard Deviation: 2.79

Coefficient of Variation: 120%

Fitted Curve Equation: ***

R^2: ***

Calculated Parking Demand:
Weighted Average: 225
Fitted Curve: Not Available
85th Percentile: 696

Hilton Head County Park – Study Area



Attachment C - Alpine Community Park: Driveway Sight Distance Evaluation

TO: Yara Fisher, HELIX Environmental Planning, Inc.

FROM: Phuong Nguyen, TE; CR Associates
Jorge Muradas, EIT; CR Associates

DATE: July 29, 2026

RE: Alpine Community Park – Driveway Sight Distance Evaluation – Technical Memorandum

---

This memorandum documents field observations of stopping sight distance (SSD) and corner sight distance (CSD) conducted on April 16, 2026, at the two (2) proposed project driveways along South Grade Road for the Alpine Community Park project (the "project"). This analysis is prepared as a supplemental technical deliverable in response to the Writ of Mandate issued on January 23, 2026, for CASE NO: 37-2024-00000536-CU-WM-CTL (Writ), and as further detailed in the Minute Order issued on June 9, 2025, in the same proceeding (Minute Order), which identified a deficiency in the prior Environmental Impact Report (EIR) regarding the deferred driveway sight distance analysis.

Project Background

The County of San Diego Department of Parks and Recreation proposes the Alpine Community Park project on a 96.6-acre undeveloped site in Alpine, with about 25 acres developed as an active community park and the remaining roughly 70 acres preserved as permanent open space. The site is adjacent to the Back Country Land Trust's (BCLT) Wright's Field Preserve, north of South Grade Road, east of Tavern Road, and south of Alpine Boulevard. Access to the park is proposed from two full-access driveways on South Grade Road: one at the existing all-way stop-controlled intersection with Calle de Compadres and a second at a new side-street stop-controlled intersection near the southern end of the property. Site plan is provided in **Figure 1**.

South Grade Road is a two-lane undivided Light Collector with posted speeds of 40 mph near the northern driveway and 45 mph near the southern driveway. CRA previously prepared a Transportation Impact Study for the project in July 2020, which included a speed study conducted by Elite Traffic Dynamics along South Grade Road. Using that speed study, CRA then performed field observations at both proposed driveway locations to evaluate stopping sight distance against AASHTO standards, assess corner sight distance relative to County standards, identify physical or visual obstructions, and recommend measures where substandard sight conditions were identified.

Methodology

The following methodology was applied to evaluate stopping sight distance (SSD) and corner sight distance (CSD) at the two proposed project driveways. SSD criteria are based on AASHTO's A Policy on Geometric Design of Highways and Streets (2018), and CSD criteria are based on the County of San Diego Public Road Standards (March 2012) – Table 5 – Standard Corner Sight Distance at Intersections. Both are evaluated using a design speed derived from the 85th percentile speed observed along South Grade Road, consistent with standard engineering practice. For each driveway approach, the observer was positioned on the minor road at a setback of 10 feet from the edge of the major road pavement, with an eye height of 3.5 feet above the roadway surface. Corner sight distance was measured along the direction of travel on the major road to an object height of 4.25 feet, identifying the most restrictive sight-limiting feature within the sight triangle. Where the available sight

distance did not meet the corner sight distance standard, the nature and location of the obstruction were documented and photographic evidence was collected.

Design Speed

The speed study collected 24-hour speed data in both directions, yielding 85th percentile speeds of 44 mph northbound and 46 mph southbound from a combined sample of 950 vehicles. The higher southbound value of 46 mph governs and was rounded up to 50 mph per standard engineering practice. Data collected as part of the speed survey is provided as **Attachment A**.

Figure 1 - Site Plan



SITE ELEMENT KEY

1. MULTI-USE TRAIL
2. ADMIN/RESTROOM
3. RESTROOM
4. SHADE PAVILION
5. SHADE SHELTER
6. SHADE SAIL
7. ADA PARKING
8. ALL-WHEEL PARK GATEWAY
9. COMMUNITY GARDEN
10. GARDEN STORAGE
11. NATURE PLAY AREA
12. 2-5 PLAY AREA
13. VOLUNTEER PAD
14. PICKLEBALL COURTS
15. BASKETBALL COURT
16. GAME TABLE PLAZA
17. PICNIC AREA
18. CORRAL
19. EQUESTRIAN STAGING
20. DROP-OFF/PICK-UP
21. BIKE PARK
22. ALL-WHEEL PARK
23. BASEBALL FIELD
24. MULTI-USE TURF AREA
25. SECONDARY PARK ENTRANCE
26. PRIMARY PARK ENTRANCE
27. PARKING
28. DOG PARK
29. EXISTING TRAIL
30. EXISTING TREES
31. BERMED LANDSCAPE SCREEN
32. PARK MONUMENT SIGN
33. NATIVE PLANTS
34. FITNESS STATIONS
35. ENGINEERED WOOD FIBER
36. TRASH ENCLOSURE
37. RETENTION BASIN
38. EXISTING LANDSCAPE/TERRAIN
39. EXISTING FENCE

PARKING SUMMARY

240 SPACES (including standard, ADA, trailers)

DPR DIRECTOR SIGNATURE/APPROVAL DATE

NORTH

Stopping Sight Distance Criteria

Required SSD values were determined per AASHTO (2018) Exhibits 3-1 and 3-2, using the 50-mph design speed established in Section 3.1. SSD is measured along the road from a driver's eye height of 3.5 feet to an object height of 2.0 feet on the roadway surface, representing the distance required to perceive a hazard and brake to a complete stop. Grade adjustments were applied where applicable; for uphill approaches, the unadjusted level-grade requirement was conservatively retained. Required SSD values by approach are summarized in Table 1 below.

Table 1 - AASHTO – Stopping Sight Distance Standard

Location	Approach	Grade (%)	Required SSD (ft)	AASHTO Reference
Driveway #1 (S. Grade Rd at Calle de Compadres)	NB	+5.3%	425	Exhibit 3-1 (level grade, conservative)
Driveway #1 (S. Grade Rd at Calle de Compadres)	SB	−3.9%	446	Exhibit 3-2 (grade-adjusted, downgrade)
Driveway #2 (S. Grade Rd, south driveway)	NEB	+2.7%	425	Exhibit 3-1 (level grade)
Driveway #2 (S. Grade Rd, south driveway)	SWB	Level	425	Exhibit 3-1 (level grade)

Note:
1. Design speed = 50 mph for all approaches. Grade-adjusted SSD applied on the SB downgrade per Exhibit 3-2; level-grade SSD conservatively retained on all uphill approaches.
2. NB = Northbound; SB = Southbound; NEB = Northeastbound; SWB = Southwestbound

Corner Sight Distance

CSD represents the sight distance available to a driver on the minor road (driveway) when deciding whether to enter the major road traffic stream. It is measured from a setback position 10 feet from the edge of the major road pavement, using a height of eye of 3.5 feet on the minor road and an object height of 4.25 feet on the major road, consistent with County of San Diego guidelines. Required CSD values by approach are summarized in Table 2 below.

Table 2 - County of San Diego Corner Sight Distance Standard

Location	Approach	Setback (ft)	Required CSD (ft)	Standard
Driveway #1 (S. Grade Rd at Calle de Compadres)	NB	10	500	County of San Diego (50 mph)
Driveway #1 (S. Grade Rd at Calle de Compadres)	SB	10	500	County of San Diego (50 mph)
Driveway #2 (S. Grade Rd, south driveway)	NEB	10	500	County of San Diego (50 mph)
Driveway #2 (S. Grade Rd, south driveway)	SWB	10	500	County of San Diego (50 mph)

Note:
1. NB = Northbound; SB = Southbound; NEB = Northeastbound; SWB = Southwestbound

Field Observations

Field observations were conducted on April 16, 2026, at the two (2) proposed project driveway locations along South Grade Road. At each driveway, available SSD was measured in the field for each approach direction by identifying the most restrictive sight-limiting feature along the roadway, such as vertical crest curves, horizontal curvature, roadside vegetation, terrain, or existing structures, and measuring the distance from that feature to the anticipated stop bar location at the driveway. SSD

measurements were taken from a height of eye of 3.5 feet above the roadway surface to an object height of 2.0 feet, consistent with AASHTO criteria for passenger vehicle sight distance evaluation. Roadway grade conditions were observed in the field at each approach and factored into the required SSD determination as described in Section 3.2. Available SSD was stress tested at distances greater than the minimum required values, up to approximately 700 feet, to characterize the extent of available sight lines beyond the minimum standard.

CSD observations were conducted from a setback of 10 feet from the edge of the major road pavement at each proposed driveway, with measurements taken from a height of eye of 3.5 feet on the minor road to an object height of 4.25 feet on the major road, consistent with County of San Diego Public Road Standards (*March* 2012). At locations where the CSD standard was not met, the nature and extent of sight obstructions were documented in the field and photographic evidence was collected. Observed obstructions include overgrown brush and vegetation, differential in elevation between the roadway surface and the project site, existing wooden utility poles and signage, and rock and boulder outcroppings, as documented in the Findings section and supporting field observation photographs.

Findings

This section presents the results of the stopping sight distance and corner sight distance field observations at the two proposed project driveways along South Grade Road. The results of the SSD and CSD field observations are summarized in **Table 3** below.

Field observation photographs documenting sight conditions at each approach are provided in **Attachments B** through **E** of this memorandum.

Attachment F includes CSD triangle exhibits for the two proposed project driveways.

Table 3 - Sight Distance Summary – Alpine Community Park Driveways

Location	Approach	Grade (%)	SSD (ft)		CSD (ft)		SSD Met?	CSD Met?
			Required	Available	Required	Available		
Driveway #1 (S. Grade Rd at Calle de Compadres)	NB	+5.3%[1]	425’	425’	500’	500’[2]	Yes	Yes[2]
Driveway #1 (S. Grade Rd at Calle de Compadres)	SB	−3.9%	446’[3]	700’+	500’	700’+	Yes	Yes
Driveway #2 (S. Grade Rd, south driveway)	NEB	+2.7%[1]	425’	700’+	500’	<500[4]	Yes	No[4]
Driveway #2 (S. Grade Rd, south driveway)	SWB	Level	425’	450’+	500’	550’+	Yes	Yes

Sources: CR Associates Field Observations on April 16, 2026.

Notes:

1. Positive grade present; approach evaluated conservatively using level-grade SSD requirement of 425 feet per AASHTO (2018) Exhibit 3-1.
2. CSD met at 500 feet; partial visibility obstructions (overgrown vegetation, utility poles, sign pole) observed from both major and minor street approaches. Stress test at 520 feet yielded similar results.
3. Grade-adjusted required SSD at 50 mph design speed for a 3.9% downgrade, per AASHTO (2018) Exhibit 3-2. Available SSD stress tested at 700 feet and met. Grade of 4.2% observed at CSD setback location; not directly incorporated into CSD calculation consistent with County of San Diego methodology, but stress tested at 700’ and met.
4. CSD not met for NEB approach at Driveway #2 due to overgrown vegetation and rock/boulder outcroppings obstructing sightlines.

As shown in **Table 3**, available SSD meets or exceeds AASHTO-required values at all four approach directions at both proposed driveways, and the CSD is met for three out of the four approaches. A detailed discussion of findings for each approach follows.

Driveway #1 – South Grade Road at Calle de Compadres

Stopping Sight Distance (NB Approach) – The northbound approach is situated on a 5.3% positive grade and was evaluated conservatively using the level-grade SSD requirement of 425 feet. Available SSD was measured at 425 feet, meeting the requirement at the minimum threshold. The limited margin is attributable to a vertical crest curve near the proposed driveway location, which creates a geometric constraint on vertical sight lines; stress testing confirmed 425 feet as the effective maximum available SSD on this approach. Sensitivity checks at 3% and 6% grade adjustments (405 feet and 388 feet required, respectively) confirm compliance under either assumption.

Corner Sight Distance (NB Approach) – The northbound approach meets the 500-foot County standard; however, partial obstructions including overgrown vegetation, a utility pole, and a sign pole were observed within the sight triangle from both the major and minor street approaches. A stress test at 520 feet yielded similar conditions. Field observation photographs are included in **Attachment B**.

Stopping Sight Distance (SB Approach) – The southbound approach is situated on a 3.9% downgrade, yielding a grade-adjusted required SSD of 446 feet per AASHTO (2018) Exhibit 3-2. Available SSD substantially exceeds this value, confirmed at 700 feet and beyond during stress testing. Field observation photographs are included in **Attachment C**.

Corner Sight Distance (SB Approach) – The southbound approach meets the 500-foot County standard. A downgrade of 4.2% was observed along South Grade Road at the CSD setback location. Available CSD was confirmed at 700 feet during stress testing, providing a substantial margin above the 500-foot standard. No significant obstructions were identified. Field observation photographs are included in **Attachment C**.

Driveway #2 – South Grade Road, South Driveway

Stopping Sight Distance (NEB) – The northeast bound approach is situated on a 2.7% positive grade and was evaluated conservatively using the level-grade SSD requirement of 425 feet. Available SSD substantially exceeds the minimum requirement, confirmed at 700 feet and beyond during stress testing. Field observation photographs are included in **Attachment D**.

Corner Sight Distance (NEB) – The northeast bound approach does not meet the County of San Diego 500-foot CSD standard. Overgrown vegetation and rock and boulder outcroppings within the sight triangle physically limit the available sight line from the minor street setback position, constituting a confirmed deficiency attributable to existing site conditions and is not a condition created or introduced by the proposed project. Field observation photographs are included in **Attachment D**.

Stopping Sight Distance (SWB) – The southwest bound approach is on a level grade. Available SSD was confirmed at 425 feet, with a stress test at 450 feet also confirming compliance. Field observation photographs are included in **Attachment E**.

Corner Sight Distance (SWB) – The southwest bound approach meets the 500-foot County standard, with a stress test at 550 feet confirming continued compliance. No significant obstructions were identified. Field observation photographs are included in **Attachment E**.

Sight Distance Evaluation for Larger Vehicles

This section evaluates sight distance conditions at the proposed project driveways with respect to larger vehicle types anticipated to use the facility, specifically recreational vehicles (RVs) and horse trailers.

Vehicle Classification

Per the Federal Highway Administration's vehicle classification guidance (FHWA-HRT-13-091, Chapter 2, November 2014), the vehicle types considered in this supplemental evaluation fall within the following FHWA classification categories:

- **Recreational Vehicles (RVs/Motorhomes):** Self-propelled recreational vehicles, including motorhomes and campers, are classified as FHWA Class 5 (Two-Axle, Six-Tire, Single-Unit Trucks) or Class 6 (Three-Axle Single-Unit Trucks), depending on configuration. These vehicles are analogous to the Single-Unit Truck (SU) or Recreational Vehicle (RV) design vehicle classes defined in AASHTO (2018).
- **Horse Trailers:** A pickup truck towing a horse trailer constitutes a two-unit combination vehicle, classified under FHWA Class 8 (Four or Fewer Axle Single-Trailer Combination Truck). This vehicle type is analogous to the Combination Vehicle (WB-12) design vehicle class defined in AASHTO (2018).

Because both vehicle types are anticipated users of the park driveways, and because horse trailers (FHWA Class 8, AASHTO combination vehicle) represent the more demanding design vehicle with respect to intersection sight distance time gap requirements, the combination-truck vehicle standard is applied as the conservative governing design vehicle for the ISD evaluation presented below.

Intersection Sight Distance — Combination Vehicle

Intersection sight distance (ISD) represents the sight distance required for a driver on the minor road to safely enter or cross the major road traffic stream. ISD was evaluated per AASHTO (2018) for two stop-controlled cases applicable to exiting park vehicles: Case B1 (left turn from stop), requiring the driver at the minor street approach to identify and enter an acceptable gap in traffic from both directions; and Case B2 (right turn from stop), requiring the driver at the minor street approach to identify an acceptable gap from the left. Required ISD values are computed using the following formula:

$$ISD = 1.47 \times V \times t_g,$$

Where: V is the major road design speed (50 mph)

t_g is the design time gap

Time gap values for a combination-truck vehicle were obtained from AASHTO (2018), where t_g is 11.5 seconds for Case B1 and 10.5 seconds for Case B2. Applying the formula, the required ISD for Case B1 is 845 feet, and for Case B2 is 772 feet. No minor road grade adjustment was applied, as the proposed driveways are yet to be constructed and a flat grade at the stop bar is assumed. Available ISD at each approach is taken as the available CSD observed during field observations, consistent with the measurement methodology applied in the passenger car analysis."

Table 4 shows the intersection sight distance and stopping sight distance summary results for larger vehicles at the proposed project driveways.

Table 4 - Intersection Sight Distance and Stopping Sight Distance Summary — Combination Vehicle — Alpine Community Park Driveways

Location	Approach	Available ISD/CSD (ft)	ISD Case B1 Met? (Req. 845 ft)	ISD Case B2 Met? (Req. 772 ft)	SSD Met? (Req. varies[1])
Driveway #1 (S. Grade Rd at Calle de Compadres)	NB	500’	No	No	Yes
Driveway #1 (S. Grade Rd at Calle de Compadres)	SB	700’+	No	No	Yes
Driveway #2 (S. Grade Rd, south driveway)	NEB	<500’[4]	No	No	Yes
Driveway #2 (S. Grade Rd, south driveway)	SWB	550’+	No	No	Yes

Sources: CR Associates Field Observations (April 16, 2026); AASHTO (2018)

Notes:

1. SSD required values per AASHTO (2018) Exhibits 3-1 and 3-2 at 50 mph design speed: 425 ft for NB, NEB, and SWB approaches (level/uphill grade); 446 ft for SB approach (3.9% downgrade, grade-adjusted). Per AASHTO (2018) Section 3.2.2.5, the passenger car SSD standard governs design for all vehicle types. ISD = 1.47 × V × t_g per AASHTO (2018) Exhibit 9-54; combination vehicle t_g = 11.5 sec (Case B1, required 845 ft) and 10.5 sec (Case B2, required 772 ft) at V = 50 mph. Available ISD taken as available CSD from field observations; no minor road grade adjustment applied (driveways yet to be constructed, flat grade assumed).
2. NB = Northbound; SB = Southbound; NEB = Northeastbound; SWB = Southwestbound.
3. Grade-adjusted SSD at 50 mph for a 3.9% downgrade per AASHTO (2018) Exhibit 3-2.
4. CSD not met for NEB approach at Driveway #2 due to overgrown vegetation and rock/boulder outcroppings; available CSD is less than 500 feet.

As shown in **Table 4**, the available ISD does not meet the required combination-truck vehicle standard at any approach under either Case B1 or Case B2. Required ISD values of 845 feet (Case B1) and 772 feet (Case B2) exceed the available sight distance at all four driveway approaches. The basis for this finding, the applicable safety standard under these conditions, and the significance of the deficiency are discussed in the paragraphs below.

Per AASHTO (2018) Section 3.2.2.5, separate stopping sight distances for trucks and passenger cars are not generally used in highway design. The longer braking distances required by trucks are largely offset by the higher eye position of the truck driver, which provides a comparatively greater available sight line. Consequently, the passenger car SSD standard governs design at all approaches and is considered adequate for major road vehicles of all types, including trucks. As documented in the Findings section and summarized in **Table 3**, available SSD meets or exceeds AASHTO requirements at all four approach directions at both proposed driveways. Major road drivers including truck operators traveling along South Grade Road, have sufficient sight distance to perceive and brake to a stop for a vehicle emerging from either driveway, regardless of the emerging vehicle type.

The ISD evaluation demonstrates that available sight distance at the proposed project driveways is insufficient to satisfy the AASHTO combination-truck vehicle standard under either Case B1 (left turn from stop) or Case B2 (right turn from stop). This deficiency is attributable to existing geometric and physical constraints along South Grade Road; specifically, the vertical crest curve near the NB approach of Driveway #1 and the overgrown vegetation and rock and boulder outcroppings at the NEB approach of Driveway #2.

Notwithstanding the ISD deficiency, available SSD is met at all four approaches for major road traffic in both directions. SSD compliance establishes that drivers traveling along South Grade Road have sufficient sight distance to perceive and brake to a stop for a vehicle emerging from either driveway

under any combination of design vehicle conditions. This provides a meaningful and quantifiable safety margin even where full ISD cannot be achieved.

It is acknowledged that SSD compliance represents the lower end of the sight distance safety spectrum. ISD is the preferred standard because it provides the emerging driver with the time needed to complete an entry maneuver without requiring the major road driver to brake. Where ISD cannot be met due to existing geometric constraints that are not correctable within the project footprint, SSD compliance on the major road establishes that the corridor retains a baseline level of safety for major road traffic. The corrective measures identified in this memorandum (vegetation clearing at both driveways and removal or grading of the rock and boulder outcroppings at the NEB approach of Driveway #2) will improve available CSD and partially reduce the ISD deficiency where physically achievable, further strengthening the safety posture of both driveway locations.

ISD deficiencies at existing rural driveways are not uncommon where roadway geometry such as vertical crest curves, cut slopes, or natural terrain features constrain available sight lines beyond what project-level improvements can correct. The AASHTO (2018) combination-truck ISD standard is a design objective applied during facility planning and does not, in and of itself, characterize a location as unsafe where SSD on the major road is confirmed. When existing geometric constraints preclude full ISD compliance, SSD confirmation at the major road approach is the applicable safety benchmark, and its satisfaction at all four approaches demonstrates that South Grade Road retains a functional safety margin at both driveway locations. Operators of combination vehicles are expected to exercise appropriate gap judgment and, where necessary, wait for a larger gap in traffic than a passenger car driver would require a behavioral expectation consistent with standard rural driving practice.

Conclusions and Recommendations

SSD meets or exceeds AASHTO requirements at all four approach directions at both driveways. The following recommendations address CSD conditions where obstructions were identified.

At Driveway #1, CSD is met on all approaches; however, partial obstructions including overgrown vegetation were observed within the sight triangle on the northbound approach, resulting in a degraded quality of the available line of sight. Brush management and vegetation clearing within the sight triangle are recommended to improve the quality of the available sight line beyond the minimum CSD 500-foot threshold to provide additional margin above the County standard, thereby enhancing safety for vehicles exiting the driveway.

An existing CSD deficiency at Driveway #2 northeast bound approach is attributed to overgrown vegetation and rock/boulder outcroppings within the sight triangle that limit the available sight line below the County's 500-foot threshold at this location. Corrective measures, including vegetation clearing and removal or grading of the rock/boulder outcroppings shall be adequately addressed through the site plan review and improvement plan approval process pursuant to the County of San Diego Site Design Standards and Roadway Design Standards, which require that sight distance requirements be satisfied and shown on project plans prior to approval by the County of San Diego Department of Public Works. Compliance with these standards shall be verified and approved before final design approval and issuance of a grading or construction permit.

The sight distance triangles for both proposed driveways, including the constrained NEB approach at Driveway #2, are depicted in **Attachment F** and illustrate the general sight lines evaluated for this analysis. These exhibits shall serve as a reference during the site plan review and improvement plan approval process, at which time the precise dimensions of the required clear zone, along with any associated height restrictions, will be established and confirmed.

Additionally, a driver towing a horse trailer or recreational vehicle should exercise additional caution at either driveway and may need to wait for a larger gap than a passenger car driver would require. This is consistent with the level of care expected of combination vehicle operators on rural roadways with pre-existing geometric constraints, and is not a condition created or worsened by the proposed project.

Attachment A - Speed Survey Data

S GRADE RD - VIA VIEJAS TO CALLE DE COMPADRES

ETD20-0619-01

NORTHBOUND

Wednesday, July 8, 2020

PREPARED BY: ELITE TRAFFIC DYNAMICS, LLC

Time	1 - 10	11 - 15	16 - 20	21 - 25	26 - 30	31 - 35	36 - 40	41- 45	46 - 50	51 - 55	56 - 60	61 - 65	66 +	TOTAL	%VEHICLES
12:00:00 AM	0	0	0	0	0	0	1	0	0	0	0	0	0	1	0.08%
12:15:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00%
12:30:00 AM	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0.08%
12:45:00 AM	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0.08%
1:00:00 AM	0	0	0	0	0	0	1	0	0	0	0	0	0	1	0.08%
1:15:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00%
1:30:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00%
1:45:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00%
2:00:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00%
2:15:00 AM	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0.08%
2:30:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00%
2:45:00 AM	0	0	0	0	0	0	0	1	1	0	0	0	0	2	0.15%
3:00:00 AM	0	0	0	0	2	0	0	0	1	0	0	0	0	3	0.23%
3:15:00 AM	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0.08%
3:30:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00%
3:45:00 AM	0	0	0	0	0	0	1	1	0	0	0	0	0	2	0.15%
4:00:00 AM	0	0	0	0	0	0	2	1	0	0	0	0	0	3	0.23%
4:15:00 AM	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0.08%
4:30:00 AM	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0.08%
4:45:00 AM	0	0	0	0	1	0	0	0	0	0	0	1	0	2	0.15%
5:00:00 AM	0	0	0	0	1	1	0	1	0	0	0	0	0	3	0.23%
5:15:00 AM	0	0	0	0	1	0	0	1	0	0	0	0	0	2	0.15%
5:30:00 AM	0	0	0	1	2	0	0	0	1	0	0	0	0	4	0.31%
5:45:00 AM	0	0	0	0	3	2	0	2	1	0	0	0	0	8	0.62%
6:00:00 AM	0	0	0	2	2	0	3	3	0	0	0	0	0	10	0.77%
6:15:00 AM	0	0	0	0	1	1	0	4	4	0	0	0	0	10	0.77%
6:30:00 AM	0	0	0	2	4	2	3	0	1	0	0	0	0	12	0.92%
6:45:00 AM	0	0	0	0	2	2	0	2	3	0	0	0	0	9	0.69%
7:00:00 AM	0	0	0	1	3	2	1	2	1	1	0	0	0	11	0.85%
7:15:00 AM	0	1	0	1	3	5	3	3	3	0	0	0	0	19	1.46%
7:30:00 AM	0	0	0	0	7	1	3	3	3	0	0	0	0	17	1.31%
7:45:00 AM	0	0	0	0	2	4	4	7	1	0	0	0	0	18	1.39%
8:00:00 AM	0	0	0	2	7	4	7	4	1	0	0	0	0	25	1.93%
8:15:00 AM	0	0	0	3	8	3	6	2	2	0	0	0	0	24	1.85%
8:30:00 AM	0	0	1	2	5	4	6	3	1	1	0	0	0	23	1.77%
8:45:00 AM	0	0	0	1	5	4	9	7	2	0	0	0	0	28	2.16%
9:00:00 AM	0	0	0	2	4	3	4	6	3	0	0	0	0	22	1.69%
9:15:00 AM	0	0	0	0	9	6	8	5	0	0	0	0	0	28	2.16%
9:30:00 AM	0	0	1	0	6	4	7	4	0	0	0	0	0	22	1.69%
9:45:00 AM	0	0	1	0	7	4	4	4	1	1	0	0	0	22	1.69%
10:00:00 AM	0	0	0	0	1	4	3	4	3	0	0	0	0	15	1.16%
10:15:00 AM	0	0	0	0	2	3	4	1	2	0	0	0	0	12	0.92%
10:30:00 AM	0	0	0	1	9	6	8	3	0	0	0	0	0	27	2.08%
10:45:00 AM	0	0	1	1	5	7	7	5	3	0	0	0	0	29	2.23%
11:00:00 AM	0	0	0	2	6	6	4	6	2	0	0	0	0	26	2.00%
11:15:00 AM	0	0	0	1	3	4	7	2	2	1	0	0	0	20	1.54%
11:30:00 AM	0	0	0	2	2	3	9	6	0	1	0	0	0	23	1.77%
11:45:00 AM	0	0	0	0	2	3	3	4	2	0	0	0	0	14	1.08%
AM TOTAL	0	1	4	25	115	89	118	99	46	5	0	1	0	503	38.75%
PERCENTAGE	0.0%	0.2%	0.8%	5.0%	22.9%	17.7%	23.5%	19.7%	9.1%	1.0%	0.0%	0.2%	0.0%		
CUMULATIVE	0	1	5	30	145	234	352	451	497	502	502	503	503		
PERCENTAGE	0.0%	0.2%	1.0%	6.0%	28.8%	46.5%	70.0%	89.7%	98.8%	99.8%	99.8%	100.0%	100.0%		

15th Percentile	28	Mean Speed Average	36
50th Percentile	36	10 MPH Pace Speed	34-43
85th Percentile	44	Number in Pace	233
95th Percentile	47	Percent in Pace	46%

S GRADE RD - VIA VIEJAS TO CALLE DE COMPADRES
NORTHBOUND

ETD20-0619-01

Wednesday, July 8, 2020

PREPARED BY: ELITE TRAFFIC DYNAMICS, LLC

Time	1 - 10	11 - 15	16 - 20	21 - 25	26 - 30	31 - 35	36 - 40	41- 45	46 - 50	51 - 55	56 - 60	61 - 65	66 +	TOTAL	%VEHICLES
12:00:00 PM	0	0	0	1	6	6	6	6	0	0	0	0	0	25	1.93%
12:15:00 PM	0	0	1	1	8	2	3	2	1	0	0	0	0	18	1.39%
12:30:00 PM	0	0	0	0	2	6	8	4	0	0	0	0	0	20	1.54%
12:45:00 PM	0	0	0	5	4	1	1	6	0	0	0	0	0	17	1.31%
1:00:00 PM	0	0	0	0	3	3	8	8	0	1	0	0	0	23	1.77%
1:15:00 PM	0	0	0	1	5	3	4	5	2	1	0	0	0	21	1.62%
1:30:00 PM	0	0	1	2	8	5	8	4	3	0	1	0	0	32	2.47%
1:45:00 PM	0	0	0	1	3	3	4	10	2	0	0	0	0	23	1.77%
2:00:00 PM	0	0	0	1	3	5	5	3	0	0	0	0	0	17	1.31%
2:15:00 PM	0	0	0	1	3	3	3	1	1	0	0	0	0	12	0.92%
2:30:00 PM	0	0	0	1	0	5	3	2	1	1	0	0	0	13	1.00%
2:45:00 PM	0	0	1	0	5	6	4	6	2	1	0	0	0	25	1.93%
3:00:00 PM	0	0	0	2	7	8	6	3	4	0	0	0	0	30	2.31%
3:15:00 PM	0	0	0	3	7	3	4	5	4	0	0	0	0	26	2.00%
3:30:00 PM	0	0	0	0	3	2	3	9	0	0	0	0	0	17	1.31%
3:45:00 PM	0	0	0	1	3	7	4	5	0	1	0	0	1	22	1.69%
4:00:00 PM	0	0	1	1	4	4	1	7	1	1	0	0	0	20	1.54%
4:15:00 PM	0	0	0	1	1	6	4	7	3	0	0	0	0	22	1.69%
4:30:00 PM	0	0	0	0	4	3	3	7	1	1	1	0	0	20	1.54%
4:45:00 PM	0	0	0	1	7	9	6	10	4	2	0	0	0	39	3.00%
5:00:00 PM	0	0	0	3	5	1	8	3	4	0	0	0	0	24	1.85%
5:15:00 PM	0	0	0	0	4	4	5	12	4	1	0	0	0	30	2.31%
5:30:00 PM	0	0	0	2	7	7	4	8	2	1	1	0	0	32	2.47%
5:45:00 PM	0	0	0	0	1	5	4	3	4	1	0	0	0	18	1.39%
6:00:00 PM	0	0	0	0	3	9	7	8	5	0	0	0	0	32	2.47%
6:15:00 PM	0	0	1	1	3	3	5	5	5	0	0	0	0	23	1.77%
6:30:00 PM	0	0	0	0	0	4	3	7	5	0	0	0	0	19	1.46%
6:45:00 PM	0	0	0	1	5	3	1	2	2	0	0	0	0	14	1.08%
7:00:00 PM	0	0	0	2	5	4	3	6	1	0	0	0	0	21	1.62%
7:15:00 PM	0	0	0	1	2	1	6	10	2	1	0	0	0	23	1.77%
7:30:00 PM	0	0	0	1	6	2	6	4	2	0	0	0	0	21	1.62%
7:45:00 PM	0	0	0	0	3	1	2	2	4	0	0	0	0	12	0.92%
8:00:00 PM	0	0	0	1	3	2	1	2	4	1	0	1	0	15	1.16%
8:15:00 PM	0	0	0	1	3	1	5	2	0	0	0	0	1	13	1.00%
8:30:00 PM	0	0	0	0	0	0	4	4	2	0	0	0	0	10	0.77%
8:45:00 PM	0	0	0	0	0	1	1	1	1	0	1	0	0	5	0.39%
9:00:00 PM	0	0	0	0	1	0	0	0	1	1	0	0	0	3	0.23%
9:15:00 PM	0	0	0	0	1	1	2	0	0	0	0	0	0	4	0.31%
9:30:00 PM	0	0	0	0	1	1	0	2	0	0	1	0	0	5	0.39%
9:45:00 PM	0	0	0	0	1	0	1	2	0	0	0	0	0	4	0.31%
10:00:00 PM	0	0	0	0	0	1	0	0	1	0	1	0	0	3	0.23%
10:15:00 PM	0	0	0	0	3	0	1	0	1	0	0	0	0	5	0.39%
10:30:00 PM	0	0	0	0	0	0	1	1	0	0	0	0	0	2	0.15%
10:45:00 PM	0	0	0	0	0	1	3	1	1	0	1	0	0	7	0.54%
11:00:00 PM	0	0	0	0	0	1	1	0	0	0	0	0	0	2	0.15%
11:15:00 PM	0	0	0	0	0	1	1	0	0	0	0	0	0	2	0.15%
11:30:00 PM	0	0	0	0	1	1	0	0	0	0	0	0	0	2	0.15%
11:45:00 PM	0	0	0	0	0	1	0	0	1	0	0	0	0	2	0.15%
PM TOTAL	0	0	5	36	144	146	163	195	81	15	7	1	2	795	61.25%
PERCENTAGE	0.0%	0.0%	0.6%	4.5%	18.1%	18.4%	20.5%	24.5%	10.2%	1.9%	0.9%	0.1%	0.3%		
CUMULATIVE	0	0	5	41	185	331	494	689	770	785	792	793	795		
PERCENTAGE	0.0%	0.0%	0.6%	5.2%	23.3%	41.6%	62.1%	86.7%	96.9%	98.7%	99.6%	99.7%	100.0%		

15th Percentile	29	Mean Speed Average	37
50th Percentile	38	10 MPH Pace Speed	36-45
85th Percentile	45	Number in Pace	374
95th Percentile	48	Percent in Pace	47%

DAY TOTAL	0	1	9	61	259	235	281	294	127	20	7	2	2	1,298	100.00%
PERCENTAGE	0.0%	0.1%	0.7%	4.7%	20.0%	18.1%	21.6%	22.7%	9.8%	1.5%	0.5%	0.2%	0.2%	1,298	100.00%
	0.0%	0.1%	0.8%	5.5%	25.4%	43.5%	65.2%	87.8%	97.6%	99.2%	99.7%	99.8%	100.0%		

S GRADE RD - VIA VIEJAS TO CALLE DE COMPADRES SOUTHBOUND

ETD20-0619-01

Wednesday, July 8, 2020

PREPARED BY: ELITE TRAFFIC DYNAMICS, LLC

Time	1 - 10	11 - 15	16 - 20	21 - 25	26 - 30	31 - 35	36 - 40	41- 45	46 - 50	51 - 55	56 - 60	61 - 65	66 +	TOTAL	%VEHICLES
12:00:00 AM	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0.07%
12:15:00 AM	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0.07%
12:30:00 AM	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0.07%
12:45:00 AM	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0.07%
1:00:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00%
1:15:00 AM	0	0	0	0	0	0	1	0	1	1	0	0	0	3	0.22%
1:30:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00%
1:45:00 AM	0	0	0	0	0	0	0	1	0	1	0	0	0	2	0.15%
2:00:00 AM	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0.07%
2:15:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00%
2:30:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00%
2:45:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00%
3:00:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00%
3:15:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00%
3:30:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00%
3:45:00 AM	0	0	0	0	0	2	0	0	0	0	0	0	0	2	0.15%
4:00:00 AM	0	0	0	0	0	0	1	0	0	0	0	0	0	1	0.07%
4:15:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00%
4:30:00 AM	0	0	0	0	0	0	0	0	1	0	1	0	0	2	0.15%
4:45:00 AM	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0.07%
5:00:00 AM	0	0	0	0	0	0	0	1	1	0	0	0	0	2	0.15%
5:15:00 AM	0	0	0	0	0	2	1	0	0	0	0	0	0	3	0.22%
5:30:00 AM	0	0	0	0	0	1	0	4	1	0	0	0	0	6	0.44%
5:45:00 AM	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0.07%
6:00:00 AM	0	0	0	0	1	2	3	4	2	0	0	0	0	12	0.89%
6:15:00 AM	0	0	0	0	0	1	1	3	2	0	0	0	0	7	0.52%
6:30:00 AM	0	0	0	0	1	0	2	4	1	0	1	0	0	9	0.66%
6:45:00 AM	0	0	0	0	1	3	1	2	1	0	0	0	0	8	0.59%
7:00:00 AM	0	0	0	0	0	1	9	8	1	1	0	0	0	20	1.48%
7:15:00 AM	0	0	0	0	0	4	5	7	1	0	0	0	0	17	1.25%
7:30:00 AM	0	0	1	1	2	2	1	5	3	2	0	0	0	17	1.25%
7:45:00 AM	0	0	0	0	1	3	2	7	2	0	0	0	0	15	1.11%
8:00:00 AM	0	0	0	0	2	2	4	2	5	1	0	0	0	16	1.18%
8:15:00 AM	0	0	0	0	1	2	3	5	2	0	0	0	0	13	0.96%
8:30:00 AM	0	0	0	0	0	2	6	10	1	0	0	0	0	19	1.40%
8:45:00 AM	0	0	0	0	1	8	6	3	3	1	0	0	0	22	1.62%
9:00:00 AM	0	0	0	0	1	6	6	10	2	0	0	0	0	25	1.85%
9:15:00 AM	1	0	0	1	0	7	5	11	0	0	0	0	0	25	1.85%
9:30:00 AM	0	0	0	1	1	4	4	3	2	2	0	0	0	17	1.25%
9:45:00 AM	0	0	0	1	2	2	8	8	0	0	0	0	0	21	1.55%
10:00:00 AM	0	0	0	0	1	3	2	5	3	1	0	0	0	15	1.11%
10:15:00 AM	0	0	0	0	1	2	7	6	5	1	1	0	0	23	1.70%
10:30:00 AM	0	0	0	0	0	7	5	4	1	0	0	0	0	17	1.25%
10:45:00 AM	0	0	0	0	2	3	10	3	4	1	0	0	0	23	1.70%
11:00:00 AM	0	0	0	1	2	3	12	3	3	0	0	0	0	24	1.77%
11:15:00 AM	0	0	0	1	4	4	6	5	3	0	0	0	0	23	1.70%
11:30:00 AM	0	0	0	0	0	1	4	6	7	0	0	0	0	18	1.33%
11:45:00 AM	0	0	0	1	2	0	2	3	4	1	0	0	0	13	0.96%
AM TOTAL	1	0	1	7	26	77	117	137	63	15	3	0	0	447	32.99%
PERCENTAGE	0.2%	0.0%	0.2%	1.6%	5.8%	17.2%	26.2%	30.6%	14.1%	3.4%	0.7%	0.0%	0.0%		
CUMULATIVE	1	1	2	9	35	112	229	366	429	444	447	447	447		
PERCENTAGE	0.2%	0.2%	0.4%	2.0%	7.8%	25.1%	51.2%	81.9%	96.0%	99.3%	100.0%	100.0%	100.0%		

15th Percentile	33	Mean Speed Average	40
50th Percentile	40	10 MPH Pace Speed	36-45
85th Percentile	46	Number in Pace	276
95th Percentile	49	Percent in Pace	62%

S GRADE RD - VIA VIEJAS TO CALLE DE COMPADRES
SOUTHBOUND

ETD20-0619-01

Wednesday, July 8, 2020

PREPARED BY: ELITE TRAFFIC DYNAMICS, LLC

Time	1 - 10	11 - 15	16 - 20	21 - 25	26 - 30	31 - 35	36 - 40	41- 45	46 - 50	51 - 55	56 - 60	61 - 65	66 +	TOTAL	%VEHICLES
12:00:00 PM	0	0	0	0	0	2	9	5	3	0	0	0	0	19	1.40%
12:15:00 PM	0	0	0	0	1	3	7	7	3	1	0	0	0	22	1.62%
12:30:00 PM	0	0	0	0	0	7	9	4	4	2	0	0	0	26	1.92%
12:45:00 PM	0	0	0	0	0	10	3	7	6	0	0	0	0	26	1.92%
1:00:00 PM	0	0	0	0	2	3	5	3	7	0	1	0	0	21	1.55%
1:15:00 PM	0	0	0	1	0	1	11	7	5	2	0	0	1	28	2.07%
1:30:00 PM	0	0	0	0	0	6	3	9	2	2	1	0	0	23	1.70%
1:45:00 PM	0	0	0	0	1	5	5	3	3	1	0	0	0	18	1.33%
2:00:00 PM	0	0	0	0	0	3	10	10	3	0	0	0	0	26	1.92%
2:15:00 PM	0	0	0	0	2	5	7	10	1	0	0	0	0	25	1.85%
2:30:00 PM	0	0	1	0	1	3	7	5	2	1	0	0	0	20	1.48%
2:45:00 PM	0	0	0	1	0	6	11	6	4	2	0	0	0	30	2.21%
3:00:00 PM	0	0	0	0	0	6	9	14	4	2	0	0	0	35	2.58%
3:15:00 PM	0	0	0	0	3	9	8	7	5	1	0	0	0	33	2.44%
3:30:00 PM	0	0	0	1	3	7	10	9	5	0	0	0	0	35	2.58%
3:45:00 PM	0	0	0	0	1	4	3	7	2	1	0	0	0	18	1.33%
4:00:00 PM	0	0	0	0	2	4	3	8	2	0	0	0	0	19	1.40%
4:15:00 PM	0	0	0	0	1	7	6	12	3	0	0	0	0	29	2.14%
4:30:00 PM	0	0	0	1	1	0	10	8	4	1	0	0	0	25	1.85%
4:45:00 PM	0	0	0	1	3	4	9	6	1	1	0	0	0	25	1.85%
5:00:00 PM	0	0	0	3	0	2	12	7	1	1	0	0	0	26	1.92%
5:15:00 PM	0	0	0	0	0	9	9	4	3	0	1	0	0	26	1.92%
5:30:00 PM	0	0	0	0	2	8	12	8	3	2	0	0	0	35	2.58%
5:45:00 PM	0	0	0	0	1	13	8	5	4	1	0	0	0	32	2.36%
6:00:00 PM	0	0	0	0	0	7	3	6	3	0	0	0	0	19	1.40%
6:15:00 PM	0	0	0	0	1	3	5	9	2	0	0	0	0	20	1.48%
6:30:00 PM	0	0	0	0	3	2	5	8	2	1	1	0	0	22	1.62%
6:45:00 PM	0	0	0	0	0	1	6	4	4	3	1	0	0	19	1.40%
7:00:00 PM	0	0	0	0	0	4	2	5	2	0	0	0	0	13	0.96%
7:15:00 PM	0	0	0	0	1	9	12	1	3	0	0	0	0	26	1.92%
7:30:00 PM	0	0	0	0	2	6	6	5	4	1	0	0	0	24	1.77%
7:45:00 PM	0	0	0	0	1	4	9	3	3	1	0	0	0	21	1.55%
8:00:00 PM	0	0	0	0	1	3	7	2	1	1	0	0	0	15	1.11%
8:15:00 PM	0	0	0	0	3	6	2	6	0	1	0	0	0	18	1.33%
8:30:00 PM	0	0	0	0	2	3	2	1	1	2	0	0	0	11	0.81%
8:45:00 PM	0	0	0	0	2	3	2	5	2	1	0	0	0	15	1.11%
9:00:00 PM	0	0	0	0	0	4	5	1	2	0	0	0	0	12	0.89%
9:15:00 PM	0	0	0	1	1	1	2	3	0	0	0	0	0	8	0.59%
9:30:00 PM	0	0	0	0	1	0	1	0	1	0	0	0	0	3	0.22%
9:45:00 PM	0	0	0	0	0	3	2	1	2	0	0	0	0	8	0.59%
10:00:00 PM	0	0	0	0	0	0	4	3	1	1	1	0	0	10	0.74%
10:15:00 PM	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0.07%
10:30:00 PM	0	0	0	0	0	0	2	1	2	1	0	0	0	6	0.44%
10:45:00 PM	0	0	0	0	0	1	0	3	0	0	0	0	0	4	0.30%
11:00:00 PM	0	0	0	0	0	1	3	1	0	0	0	0	0	5	0.37%
11:15:00 PM	0	0	1	0	0	0	1	0	1	1	0	1	0	5	0.37%
11:30:00 PM	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0.07%
11:45:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00%
PM TOTAL	0	0	2	9	42	188	267	240	117	35	6	1	1	908	67.01%
PERCENTAGE	0.0%	0.0%	0.2%	1.0%	4.6%	20.7%	29.4%	26.4%	12.9%	3.9%	0.7%	0.1%	0.1%		
CUMULATIVE	0	0	2	11	53	241	508	748	865	900	906	907	908		
PERCENTAGE	0.0%	0.0%	0.2%	1.2%	5.8%	26.5%	55.9%	82.4%	95.3%	99.1%	99.8%	99.9%	100.0%		

15th Percentile	34	Mean Speed Average	40
50th Percentile	40	10 MPH Pace Speed	36-45
85th Percentile	46	Number in Pace	563
95th Percentile	49	Percent in Pace	62%

DAY TOTAL	1	0	3	16	68	265	384	377	180	50	9	1	1	1,355	100.00%
PERCENTAGE	0.1%	0.0%	0.2%	1.2%	5.0%	19.6%	28.3%	27.8%	13.3%	3.7%	0.7%	0.1%	0.1%	1,355	100.00%
	0.1%	0.1%	0.3%	1.5%	6.5%	26.1%	54.4%	82.2%	95.5%	99.2%	99.9%	99.9%	100.0%		

Attachment B - Stopping & Corner Sight Distance Field Observations – Driveway #1 – NB Approach



SSD at 425’



CSD at 500’ from Major Roadway



CSD at 500’ from Minor Roadway

Attachment C - Stopping & Corner Sight Distance Field Observations – Driveway #1 – SB Approach



SSD at 446’



CSD at 500’ from Major Roadway



CSD at 500’ from Minor Roadway



CSD at 700’ from Major Roadway



CSD at 700’ from Minor Roadway

Attachment D - Stopping & Corner Sight Distance Field Observations – Driveway #2 – NEB Approach



SSD at 425’



CSD at 500’ from Major Roadway



CSD at 500’ from Minor Roadway

Attachment E - Stopping & Corner Sight Distance Field Observations – Driveway #2 – SWB Approach



SSD at 425’



CSD at 500’ from Major Roadway



CSD at 500’ from Minor Roadway

Attachment F - CSD Triangle Exhibits



CSD Triangles for Driveway #1



CSD Triangles for Driveway #2

Attachment D - Additional Safety Treatments

TO: Yara Fisher, HELIX Environmental Planning, Inc.

FROM: Phuong Nguyen, TE; CR Associates

Jorge Muradas, EIT; CR Associates

DATE: July 29, 2026

RE: Additional Safety Treatments for the access driveways of the Alpine Community Park Project in the County of San Diego

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This memorandum documents the consistency of the Alpine Community Park's project frontage improvements at the two driveway access points along South Grade Road with the County of San Diego General Plan and Alpine Community Plan Mobility Element classification, and it clarifies that corridor-scale improvements beyond the project frontage remain the responsibility of the County of San Diego Department of Public Works. This memorandum further documents additional traffic control and pedestrian crossing treatments that CR Associates considered during the analysis, identified for the County's information and future consideration, but are not recommended at this time. These topics are addressed in the subsections that follow.

General Plan Consistency

South Grade Road is identified in the County of San Diego General Plan Mobility Element and the Alpine Community Plan Mobility Element as a public road serving the semi-rural community of Alpine. The applicable Mobility Element classification establishes the ultimate roadway design as a two-lane facility with intermittent left-turn lanes at appropriate locations along the corridor. The two-lane configuration with intermittent left-turn pockets is consistent with the rural and semi-rural community character of Alpine and with the operational and design objectives set forth in the County of San Diego Public Road Standards for roadways serving this community.

The project's frontage improvements along South Grade Road have been designed in a manner consistent with the applicable Mobility Element classification described above. The project's two driveway access points have been located, designed, and reviewed for sight distance, traffic control device selection, and pedestrian and bicyclist accommodation in accordance with the applicable County of San Diego, AASHTO, and California Manual on Uniform Traffic Control Devices (CA MUTCD) standards, as documented in the preceding sections of this memorandum.

It is acknowledged that the project is not constructing South Grade Road to its ultimate Mobility Element classification. Roadway widening to add intermittent left-turn pockets at locations beyond the project's frontage, corridor-wide pavement reconstruction, alignment correction, drainage improvements, and similar corridor-scale capital improvements remain the responsibility of the County of San Diego Department of Public Works (DPW) and are subject to the County's capital improvement programming, environmental review, and funding processes. The project, as a single-parcel

development, is responsible only for the frontage improvements applicable to the project's portion of the South Grade Road right-of-way, in accordance with the County of San Diego Public Road Standards and the conditions of project approval. The project's frontage improvements do not preclude the County from implementing additional corridor-scale improvements at or in the vicinity of the project site at any time in the future, and the project's driveway design has been coordinated to remain compatible with such future corridor improvements should they be undertaken.

Additional Safety Treatments Considered

In the course of preparing this analysis, CR Associates considered additional traffic control and pedestrian crossing treatments that could provide further enhancement to operating and crossing conditions in the immediate vicinity of the project's driveways and along the broader South Grade Road corridor. These treatments are identified and described below for the County's information, awareness, and future consideration. Nothing in this memorandum, and no omission of any treatment from the current project scope, shall be construed as an engineering determination that such treatments are or will be unnecessary in perpetuity, or as a representation by the engineer of record regarding the post-occupancy operating conditions that may exist at this location following project construction. The engineer of record's analysis is limited to the conditions and data evaluated as set forth in this memorandum and the accompanying attachments. Future field conditions, vehicular and pedestrian volumes, driver behavior, and crash experience may differ from those evaluated, and any subsequent determination regarding the installation of an additional traffic control or pedestrian crossing treatment along South Grade Road is reserved to the County and other agencies with jurisdiction.

1. Traffic Signal with Advance Warning Signage. A conventional traffic signal at the South Grade Road / Calle de Compadres / Driveway #1 intersection, accompanied by advance warning signage on the South Grade Road approaches, could enhance vehicular operational control and pedestrian crossing protection at this location if and when actual traffic volumes, pedestrian volumes, and crash experience warrant such control. Traffic signal warrants under the CA MUTCD (Sections 4C.01 through 4C.09) are determined on the basis of field-observed operating conditions, including eight-hour and four-hour vehicular volumes, peak-hour delay, pedestrian volumes, school crossings, coordinated signal systems, and crash experience. These conditions are inherently post-occupancy in nature and cannot be definitively measured or warranted prior to project construction and the establishment of stable operating conditions at the project site. For this reason, a traffic signal is not recommended for installation as part of the present project scope.

2. Pedestrian Hybrid Beacon (PHB). A Pedestrian Hybrid Beacon (formerly known as a HAWK beacon), installed at a designated pedestrian crossing of South Grade Road in the vicinity of the project, could enhance pedestrian crossing safety by providing a positive driver indication (steady red signal phase) of an active pedestrian crossing demand on a high-speed roadway. PHB installation is governed by CA MUTCD Section 4F.02, which establishes a warrant matrix based on the major-street posted or 85th percentile operating speed, the major-street vehicular volume, the pedestrian crossing volume, and the length of the crossing. The applicability of a PHB at this location is therefore a function of field-observed, post-occupancy pedestrian crossing volume at any designated crossing of South Grade

Road in the project vicinity, which cannot be definitively forecast prior to project construction and occupancy. For this reason, a PHB is not recommended for installation as part of the present project scope.

3. Rectangular Rapid-Flashing Beacon (RRFB) with High-Visibility Crosswalk and Advance Warning Signage. A Rectangular Rapid-Flashing Beacon installed in conjunction with a high-visibility (continental or ladder-style) crosswalk treatment and W11-2 pedestrian advance warning signage on the South Grade Road approaches could enhance pedestrian crossing conditions at a designated mid-block or driveway crossing location. RRFBs are recognized by the Federal Highway Administration (FHWA) under Interim Approval 21 (IA-21) and are addressed under CA MUTCD Section 4L.03 as a permissible pedestrian crossing treatment for uncontrolled crossing locations on roadways with elevated operating speeds. Like the PHB, the appropriateness of an RRFB at this location is a function of post-occupancy field conditions, including observed pedestrian crossing demand, driver yielding compliance, and the proximity of existing or planned designated crossing locations along the corridor. These conditions cannot be definitively forecast prior to project construction and the establishment of stable operating conditions at the project site. For this reason, an RRFB with high-visibility crosswalk and advance warning signage is not recommended for installation as part of the present project scope.

The treatments identified in this subsection are not necessary, and are not required, in order for the project to satisfy the applicable CEQA, AASHTO, County of San Diego, and CA MUTCD standards as documented in the preceding sections of this memorandum, and the non-inclusion of any such treatment in the present project scope does not constitute, and shall not be construed as, an engineering finding that the project will substantially increase hazards to vehicular traffic, pedestrians, or bicyclists along South Grade Road. The treatments are identified solely in the interest of full disclosure and for the County's future consideration, in recognition of the fact that traffic safety treatments along a public roadway are, by their nature, appropriately the subject of ongoing post-occupancy monitoring and engineering judgment by the agency with jurisdiction over the right-of-way. The engineer of record makes no representation as to the appropriateness of any specific treatment at this location under field conditions that have not been measured or observed at the time of this analysis, and reserves to the County and other agencies with jurisdiction the determination of whether, when, and how any such treatment is to be designed, funded, installed, operated, and maintained.