NEWLAND SIERRA PARKWAY
FEASIBILITY STUDY

Evaluation of Alternatives to the
Widening of Deer Springs Road

PREPARED BY:

FUSCOE ENGINEERING in cooperation with

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I. Executive Summary

This feasibility study evaluates three alternatives to the Sierra Project’s proposed widening of Deer Springs Road submitted to the County of San Diego by Latham and Watkins LLP and Delane Engineering, Inc. on behalf of their client, Golden Door Properties, LLC, the owner and operator of the Golden Door Spa Resort to the south of Deer Springs Road. The three alternatives are design variations of a bypass road to Deer Springs Road named “Newland Sierra Parkway” by Golden Door Properties, LLC. These Newland Sierra Parkway Alternatives were submitted with the intent that this bypass road would serve to replace Deer Springs Road as County Route S-12 by diverting traffic, including both Sierra Project traffic and regional (pass-through) traffic, away from Deer Springs Road and onto Newland Sierra Parkway to such an extent that Deer Springs Road would not need to be widened or improved. Today, Deer Springs Road is a two-lane road not built to County Public Road Standards that accommodates over 19,000 Average Daily Trips (ADTs), causing the road to operate at a failing level of service (LOS) during the morning and evening peak hours of traffic.

The three alternatives analyzed in this study are evaluated in the context of the grading, private property, and construction traffic impacts they would have, their consistency with the County’s Public Road Standards, and their effectiveness at reducing traffic congestion on Deer Springs Road. To analyze the congestion relief potential of the alternatives, as with the Sierra Project’s Traffic Impact Analysis prepared Linscott, Law, and Greenspan, May 2017 (LLG 2017), SANDAG Series 12 Modeling was performed to predict the traffic volumes and distribution of traffic between Deer Springs Road and the hypothetical Newland Sierra Parkway.

Based on the analysis contained herein, this study found that (1) all three of the Newland Sierra Parkway Alternatives would result in greater impacts when compared to the Project; (2) all three of the alternatives, when compared to Deer Springs Road, would serve as a steeper, more circuitous route between the same two intersections (Sarver Lane and Mesa Rock Road) and all three would require design deviations for road grade and horizontal curves; (3) Newland Sierra Parkway, as a bypass/alternative to using Deer Springs Road, would not sufficiently divert traffic away from Deer Springs Road to improve the road’s LOS above failing; (4) as a four-lane bypass road in conjunction with Deer Springs Road remaining a two-lane public road, the hypothetical network of two roads would create a 24% increase in future traffic volumes (“induced demand”) when compared to the Project’s proposal to only improve Deer Springs Road; (5) under all three of the alternatives, with Deer Springs Road still operating at a failing LOS, the Sierra Project would add 1,400 ADTs to Deer Springs Road, resulting in a significant direct impact to the road. Under CEQA, to mitigate this impact to “Less than Significant”, Deer Springs Road would need to be widened to four lanes.

In summary, all three of the Newland Sierra Parkway Alternatives would not sufficiently divert traffic away from Deer Springs Road to avoid the need to widen and improve the road and all three of the alternatives would result in greater impacts when compared to the Sierra Project’s proposed improvements to Deer Springs Road.
II. Introduction

The purpose of this study is to: (a) summarize the history of Deer Springs Road in the context of San Diego County’s roadway network, (b) outline the widening and associated improvements to Deer Springs Road as proposed by the Newland Sierra Project (“Project”), referred to as “Option A” and “Option B”, and (c) analyze three onsite alternative alignments (“Alternatives”) to the Project’s proposed improvements to Deer Springs Road, referred to as the Newland Sierra Parkway Alternatives, which have been proposed by Golden Door Properties, LLC.

By way of background, on March 16, 2015, in response to the EIR Notice of Preparation for the Project and on behalf of Golden Door Properties, LLC, Latham & Watkins LLP recommended that the Project include an onsite alternative to the Project’s proposed improvements to Deer Springs Road. In lieu of widening Deer Springs Road, Golden Door Properties, LLC recommended construction of an internal parkway, “Newland Sierra Parkway”, through the Project Site. This initial proposed alternative alignment is identified in this study as Newland Sierra Parkway Alternative A.

On April 8, 2016, Latham & Watkins LLP submitted a second letter requesting that the County of San Diego (“County”) address two additional alignment options of the Newland Sierra Parkway Alternative, essentially variations on the same alternative. Latham & Watkins LLP hired Delane Engineering, Inc. to prepare a technical memorandum analyzing these two additional alignment options, identified in the Delane memorandum as Options C1 and C2 (please see Appendix E to this study). These two additional alternative alignments are identified in this study as Newland Sierra Parkway Alternative B (Delane Option C1) and Alternative C (Delane Option C2). Additional details on these Alternatives are found in Appendix A to this study.
III. Background

The Project’s proposed off-site improvements to Deer Springs Road are one of the components of the Project as a whole. The Project proposes to improve Deer Springs Road, a County of San Diego General Plan Mobility Element road designated as County Route S12, by grading, widening, and improving the existing two-lane road to accommodate forecasted traffic volumes. Specifically, the Project includes two options for widening and improving Deer Springs Road. One option, Option A, would improve an approximately 6,600-foot-long section of the segment of Deer Springs Road between Sarver Lane and Mesa Rock Road to a 2.1B Community Collector (two lanes of travel with a continuous center turn lane), and the balance of the road southwest into San Marcos and east to Interstate 15 (“I-15”), including its intersections with Sarver Lane and Mesa Rock Road, as a 4.1A Major Road (a four-lane road with a raised median). The second option, Option B, would construct the entire length of the road from I-15 to its intersection with Twin Oaks Valley Road as a four-lane road with an approximately 7,600-foot-long section of the road between Sarver Lane and Mesa Rock Road as a 4.1B Major Road (four lanes of travel with a continuous center turn lane) and the balance of the road, including its intersections with Sarver Lane and Mesa Rock Road, as a 4.1A Major Road. Both Option A and Option B would provide increased capacity on Deer Springs Road relative to existing conditions, although when considering level of service, only Option B would meet the County’s level of service standard of LOS D or better at Project buildout. Additional details regarding the two options are provided in Section III, Proposed Project.

Existing and future cumulative traffic volumes on Deer Springs Road include existing and future local and regional traffic, future Project-generated traffic, and traffic generated by the existing residential and non-residential land uses along Deer Springs Road. Deer Springs Road is currently constructed as a two-lane road with a 28-foot-wide paved width within an existing right-of-way that varies between 60 feet in width along much of its route between Interstate 15 (“I-15”) and Twin Oaks Valley Road, and between 81 – 86 feet in width for a 1,381-foot-long stretch along the road’s boundary with the Golden Door Properties, LLC, resort property. Please see Figure 1 below.

Deer Springs Road with its linkage to Twin Oaks Valley Road first appears on U.S. Geological Survey Maps in 1901. Figure 2 below shows the USGS Topography map from April 1901 of what is today the cities of San Marcos and Escondido and surrounding areas to the north and south. Twin Oaks Valley Road and Deer Springs Road were roads that connected the town of Twin Oaks (shown on the map) and the area known as “Los Vallecitos de San Marcos” (today the City of San Marcos) to the main north-south inland travel way, what eventually became U.S. 395 and ultimately I-15.

Deer Springs Road first begins to appear on the Automobile Club of Southern California Strip Maps as an unnamed public road in the early 1900’s. Figure 3 below shows an Auto Club Strip Map from 1917, and the enlarged area shows the towns of Vista, San Marcos, and Escondido, and the alignment of what is now Twin Oaks Valley Road and Deer Springs Road. At that time,
in cooperation with

these two roads, and what later became a rerouted portion of Old Highway 395 (U.S. 395), provided roadway connectivity between the town of Twin Oaks and San Marcos to the southwest and an area known as “Moosa” to the northeast (an area today that serves as the intersection of Gopher Canyon Road and I-15 and the Castle Creek Country Club).

In 1948, the County conducted a road survey of Deer Springs Road, Road Survey 1040, which served as the basis for a realignment of and significant improvements to the road. This survey and the associated improvements removed areas of the road along Deer Springs Creek that experienced flooding and increased the capacity of the road, signifying the importance of Deer Springs Road to the County’s roadway network. In 1951, three years following the County’s Road Survey 1040 and in response to the Collier-Burns Act passed in 1947, Deer Springs Road was added to the County’s Maintained Road System.

In 1956, the Federal Aid Highway Act authorized the expansion of the Interstate network, triggering a series of interstate improvements over the next ten years, including significant expansion of the freeway system in Riverside County connecting into North San Diego County. In 1961, as part of the California County Routes System, Deer Springs Road was made part of the San Diego County Routes System as “Route S12”. Today, County Route S12 is designated as a truck route and runs from I-5 (Palomar Airport Road) to I-15, connecting North San Diego County coastal areas with the inland areas.

By 1968, U.S. 395 served as a four-lane freeway (two lanes of travel in each direction) from downtown San Diego to just north of Escondido and then as a highway with pertinent intersections at Golden Circle Drive (now West Country Club Lane in Escondido), Deer Springs Road, Gopher Canyon Road, and Moosa Canyon Road, before turning back into a freeway at or about the San Diego/Riverside County line. Figure 4 below shows the 1968 USGS Map of the City of San Marcos and Twin Oaks Valley to the north along with the various roads, highways, and freeways in place at the time. As shown in Figure 4, the USGS classified Twin Oaks Valley Road and Deer Springs Road as “Medium Duty” Roads in 1968. That same year, Caltrans and the Federal Highway Administration earmarked more than $200 million to extend I-15 from Riverside County along U.S. 395 into San Diego. In 1980, the final leg of I-15 was completed with a new interchange at Deer Springs Road, replacing U.S. 395 as the main north-south route through San Diego County.

The evolution of Deer Springs Road and the US 395/I-15 corridor can be seen in Figure 5 below which shows historical aerial photographs of Deer Springs Road taken in 1946, 1967, and 1990. As evidenced by comparing the 1946 aerial to the 1967 aerial, and consistent with the road survey (Survey 1040) done in 1948, the road was realigned and improved after 1948. The function of Deer Springs Road to the County’s roadway network correlates with the changes and expansion of U.S. 395, I-15, and the planned growth of nearby towns and cities, including Twin Oaks, San Marcos, Escondido, and Vista. Since 1967, Deer Springs Road has been identified as a four-lane Major Road in the County’s Mobility Element, and subsequent right-of-way dedications have supported this four-lane road classification. The road serves the Twin
Oaks community just south of the Project site, as well as providing access to San Marcos to the southwest and Vista to the west.

In 1973, Map 7624 (recorded May 9, 1973) depicts the dedication of an additional 21 feet of right-of-way along the frontage of the resort property currently owned by Golden Door Properties, LLC (please see Appendix C to this study). This 1,381-foot-long dedication provided a total of 51 feet from the centerline of Deer Springs Road. On March 10, 1988, Assessor’s Parcel No. 182-040-54 (now owned by Golden Door Properties, LLC), depicts another right-of-way dedication via an Irrevocable Offer of Dedication (“IOD”) (see Appendix D to this study). The IOD offered 56 feet from the centerline of Deer Springs Road for a 53-foot-long segment on the west side of the previous 1973 dedication.

In 1997, Deer Springs Road was added to the Regional Arterial System (RAS) of existing and future freeways, expressways, and regional arterials and was included in the Regional Transportation Plan adopted by the San Diego Association of Governments (“SANDAG”) that same year. Since then, Deer Springs Road has remained a part of the RAS and has been included in subsequent Regional Transportation Plan updates, including SANDAG’s “San Diego Forward” Regional Plan (October 2015).

In 2011, the County adopted a comprehensive update of the General Plan, including the General Plan Mobility Element. In the updated General Plan, Deer Springs Road was designated as a six-lane Prime Arterial with an ultimate 122 foot right-of-way.

Today, Deer Springs Road and Twin Oaks Valley Road are considered principal arterials in the National Highway System as established by the U.S. Department of Transportation, Federal Highway Administration. At present, based on traffic counts taken for the Project’s Traffic Impact Analysis (LLG 2017), Deer Springs Road carries approximately 19,400 Average Daily Trips (ADTs) between Sarver Lane and Mesa Rock Road, causing the road to operate at a failing LOS primarily during morning and evening peak traffic periods.
FIGURE 2:
UNITED STATES GEOLOGICAL SURVEY TOPOGRAPHY MAP
San Marcos and Escondido, California
Print Date: April 1901
NEWLAND SIERRA PROJECT SITE, NORTH OF WHAT BECAME KNOWN AS DEER SPRINGS ROAD AND TWIN OAKS VALLEY ROAD

FIGURE 3:
AUTOMOBILE CLUB OF SOUTHERN CALIFORNIA STRIP MAP
Coast and Inland Routes: Los Angeles to San Diego
Print Date: January 1, 1917
FIGURE 4:
UNITED STATES GEOLOGICAL SURVEY TOPOGRAPHY AND ROAD MAP
San Marcos, California
Print Date: 1968
FIGURE 5:
HISTORICAL AERIAL PHOTOGRAPHS OF DEER SPRINGS ROAD AND SURROUNDING AREA
IV. Proposed Project

The Project proposes two options to improve Deer Springs Road between Sarver Lane and Mesa Rock Road, a two-lane option (Option A) and a four-lane option (Option B), to provide increased capacity and accommodate the forecasted traffic volumes along the road at Project buildout. With over 19,000 ADTs, Deer Springs Road currently experiences a deficient LOS in the AM and PM peak periods of the day, operating an LOS F during these periods. Option A would result in an increase in capacity relative to the existing condition of Deer Springs Road, however the LOS deficiency would remain by maintaining that portion of Deer Springs Road between Sarver Lane and Mesa Rock Road as a two-lane road. Option B would result in a greater increase in capacity compared to Option A and an acceptable LOS by building Deer Springs Road as a four-lane road from its interchange with I-15 all the way to its intersection/merging with Twin Oaks Valley Road. For more details on these two options, please refer to the Project’s Tentative Map.

A. Deer Springs Road Widening, Option A

Option A can be seen in Figure 6 below. Option A would maintain Deer Springs Road as a two-lane road with two bike lanes for an approximately 6,600-foot-long section of the road between Mesa Rock Road and Sarver Lane but upgrade this road segment to conform to the County's 2.1B Community Collector with Continuous Turn Lane classification. The balance of Deer Springs Road, including its intersections with Sarver Lane and Mesa Rock Road, would be constructed as a 4.1A Major Road, a four-lane road with a raised median and with auxiliary lanes as necessary. Also under this Option, the 6,600-foot-long section of Deer Springs Road to be constructed as a two-lane road would be reclassified in the General Plan Mobility Element from a 6.2 Prime Arterial (six-lane) to the 2.1B Community Collector classification. This 6,660-foot-long section of the road east of Sarver Lane and west of Mesa Rock Road would have two travel lanes and a continuous two-way center left turn lane with a paved width of 50 feet in a 74-foot-wide right-of-way. The proposed alignment would follow the current road alignment except that the minimum centerline radius would be increased to 750 feet at the existing 90 degree curve as the road turns south at Sarver Lane.

Despite remaining as a two-lane road between Sarver Lane and Mesa Rock Road under this Option, the improved road would be consistent with the County’s road standards for the Mobility Element road classification for a 2.1B Collector and, therefore, would have a higher capacity than the existing road, however, the two-lane segment between Sarver Lane and Mesa Rock Road is forecasted to operate at LOS F under Project buildout conditions (See Table 16-6 in the Sierra TIA for specific segment details). Option A would require the Project applicant to acquire right-of-way and temporary construction and slope easements along the north and south sides of the existing Deer Springs Road right-of-way. The road improvements proposed under this Option would require grading of approximately 107,100 cubic yards of cut and 39,100 cubic yards of fill, and 68,000 cubic yards of export would be taken to and used within the Newland Sierra Project development site.
FIGURE 6:
PROJECT OPTION A
DEER SPRINGS ROAD IMPROVED TO A TWO-LANE COMMUNITY COLLECTOR STANDARD
B. Deer Springs Road Widening, Option B

Option B can be seen in Figure 7 below. Option B would widen and realign Deer Springs Road to four lanes of travel and two bike lanes with a paved width of between 64 and 76 feet within a right of way between 88 and 100 feet in width for its entire length from I-15 to its intersection with Twin Oaks Valley Road to conform to the County’s 4.1A and 4.1B Major Road standards. Under this Option, an approximately 7,600-foot-long section of Deer Springs Road between Sarver Lane and Mesa Rock Road would be constructed as a 4.1B Major Road, a four-lane road with a continuous center left turn lane, and the balance of the road from I-15 to its intersection with Twin Oaks Valley Road would be constructed as a 4.1A Major Road, a four-lane road with a 14-foot-wide raised median. Under this Option, a portion of the 4.1B segment west of Mesa Rock Road would be constructed with a reduced right-of-way width (down to 88 feet) to avoid the taking of an existing residence along the north side of Deer Springs Road. Unlike Option A, Option B would not reclassify Deer Springs Road and, therefore, would not require a General Plan Amendment. Instead, the Project would maintain the County’s Mobility Element classification of Deer Springs Road as a 6.2 Prime Arterial.

Additional right-of-way and a temporary construction and slope easements along the north and south sides of the existing Deer Springs Road right of way would be required to support the Major Road classification within the 88 to 100-foot-wide right of way. The road improvements proposed under this Option would require grading of approximately 202,700 cubic yards of cut and 99,900 cubic yards of fill; and 102,800 cubic yards of export would be taken to the Project Site for use on-site.

Under Option B, the segment of Deer Springs Road between Sarver Lane and Mesa Rock Road would operate at an acceptable LOS during the peak hours of the day as a 4.1B Major Road with project buildout and cumulative traffic volumes. The ultimate widening of the road to a full six lanes of capacity (to become a 6.2 Prime Arterial) is identified by the County’s Mobility Element to accommodate General Plan buildout conditions, however that classification is not required to mitigate the Project’s direct and cumulative impacts, and, therefore, is not proposed or analyzed by the Project.
FIGURE 7:
PROJECT OPTION B
DEER SPRINGS ROAD IMPROVED TO A FOUR-LANE MAJOR ROAD STANDARD
V. Evaluation of Newland Sierra Parkway Alternatives (A, B, and C)

During the EIR Notice of Preparation and public scoping process, on behalf of their client Golden Door Properties, LLC, Latham & Watkins LLP sent a March 16, 2016 letter to the County, requesting that the EIR address an onsite alternative to the widening of Deer Springs Road, identified as the Newland Sierra Parkway Alternative (“Alternative A”). On April 8, 2016, Latham & Watkins LLP submitted a second letter to the County, which was accompanied by a technical memorandum prepared by the engineering firm Delane Engineering, Inc. The Delane memorandum addressed Alternative A and presented two variations to Alternative A, referred to herein as Alternatives B and C.

According to Delane Engineering, Inc.’s technical memorandum, the “goal” is to "study alternatives to widening Deer Springs Road by instead maximizing the use of Newland-owned property for build-out of a major arterial.” The Latham & Watkins, LLP April 8th letter concludes that “Option C2 [Alternative C in this study] appears feasible from an engineering perspective, and would be comparable from an engineering and travel time perspective”. Based on that conclusion, the Latham & Watkins, LLP April 8th letter requests that the County “conduct a complete evaluation and alternatives analysis” for a northerly Deer Springs Road alignment through the Newland Sierra Project Site. This study evaluates the three Alternatives, Alternatives A, B, and C, based on preliminary design, engineering, and constructability considerations.

A. Newland Sierra Parkway Alternative A

Newland Sierra Parkway Alternative A is depicted in Figure 8 below and Appendix A to this study. Under this Alternative, a four-lane Major Road would be constructed generally along the southern edge of the Project Site north of and parallel to the existing Deer Springs Road. Newland Sierra Parkway would connect Sarver Lane to the Project entrance at Mesa Rock Road in the Town Center and be sized and designed to accommodate Project traffic and future cumulative traffic that would otherwise use Deer Springs Road. Other road improvements would include an improved intersection at the Sarver Lane/Deer Springs Road intersection. Alternative A would be approximately 9,800 feet in length, compared to the approximate 7,700 foot length of Deer Springs Road under the proposed Project.

Under this Alternative, Deer Springs Road would not be widened by the Project. It would remain a public road open to local and regional pass-through traffic. Under this Alternative, Newland Sierra Parkway would replace Deer Springs Road as County Route S12 and as a Mobility Element Road, which would require a County General Plan Amendment.

Alternative A would require acquisition of additional properties along the depicted alignment of this Alternative to accommodate the required road grading (see Appendix A for additional detail on this Alternative). The Project applicant does not presently own or control these off-site properties.
Using a slope ratio of 1.5:1, Alternative A would require the net export of approximately 3,883,000 cubic yards of dirt from the Project Site. Assuming a net hauling capacity of 16 cubic yards for the typical street-legal dirt hauler, Alternative A would result in approximately 242,700 round-trip truck trips (485,400 total trips) to and from the Project Site. To build Alternative A in the same 2-year timeframe as the Project proposes to widen and improve Deer Springs Road, assuming dirt haulers export dirt from the Project Site every hour for six hours a day (outside the a.m. and p.m. peak traffic periods) six days a week (300 working days/year), this Alternative would require approximately 400 round-trip truck trips (800 total trips) per day to transport the approximately 3.88 million cubic yards of dirt offsite within a 2-year period. This level of dirt hauling construction traffic along Deer Springs Road and through the Sarver Lane and Mesa Rock intersections could create considerable delays during this period for commuters and local residents.

**FIGURE 8:**
**NEWLAND SIERRA PARKWAY ALTERNATIVE A**

Further, Alternative A would require design exceptions to the County’s Public Road Standards, specifically to accommodate a road grade of up to 12% in steepness for an approximately
2,500-foot-long section of road. In contrast, the County’s Road Standards allow for a maximum road grade of 7% for a road of this classification. Given the four-lane design of the road and its classification under this Alternative, the County would need to approve a design exception for road grade. In our professional opinion, the steep grade and potential substandard design, in combination with the fact that available mitigating design features to control speed would be limited under the circumstances, has the potential to create a safety issue and present an impediment to trucks using the road, despite it serving as Route S12 under this Alternative.

In summary, this Alternative has significant implications for the Project and the County’s Mobility Element, some of which render this Alternative impractical, including: (a) 3.88 million yards of dirt exported over a 2-year period; (b) a Major Road with a grade of 12% (71% steeper than allowed by the County’s road standards for this classification); and (c) a road whose steepness would present an impediment to trucks despite serving as Route S12.

B. Newland Sierra Parkway Alternative B

Newland Sierra Parkway Alternative B is depicted in Figure 9 below and Appendix A to this study. Under this Alternative, a four-lane Major Road would be constructed generally along the southern edge of the Project Site north of and parallel to the existing Deer Springs Road. This alternative is similar to Alternative A on the westerly half. On the easterly half, the four-lane road would be aligned to bisect the Project's proposed Terraces neighborhood, requiring a redesign of this area of the Project. The road would join into the existing Mesa Rock Road in the Town Center and be sized and designed to accommodate Project traffic and future cumulative traffic that could otherwise use Deer Springs Road. The road profile also cuts down through the Terraces neighborhood, requiring the grade of the road to reach 9%. The eastern leg of this Alternative would require a 350-foot-tall cut slope along the side of Lusardi Mountain that would be visible from traffic along I-15 and at the I-15/Deer Springs Road Interchange. Alternative B would be approximately 10,500 feet in length, compared to the approximate 7,700 foot length of Deer Springs Road under the proposed Project.

As with Alternative A, Deer Springs Road would not be widened as planned under the proposed Project. It would remain a public road open to local and regional traffic. Under this Alternative, Newland Sierra Parkway would replace Deer Springs Road as County Route S12 and as a Mobility Element Road, which would require a County General Plan Amendment.

Alternative B would require the acquisition of additional properties along the depicted alignment of this Alternative to accommodate the required road grading (see Appendix A for additional detail on this Alternative). The Project applicant does not presently own or control these off-site properties.

According to Delane Engineering, Inc., Alternative B would require the net export of approximately 404,700 cubic yards of dirt from the Project Site. Assuming a net hauling capacity of 16 cubic yards for the typical street-legal dirt hauler, Alternative B would result in approximately 25,000 round-trip truck trips (50,000 total trips) to and from the Project Site.
Assuming dirt haulers export dirt from the site every hour for six hours a day (outside the a.m. and p.m. peak traffic periods) six days a week (an average of 25 working days/month) at a rate of 30 trucks per hour (60 trucks entering and exiting the site per hour), this Alternative would take approximately five and a half to six months to transport the 404,700 cubic yards of dirt offsite. If the rate of export is cut in half (half as many trucks operating), this Alternative would take approximately 11 months to one year in which to complete. Assuming a six month process, if the typical cycle time of the signal at the Deer Springs Road/Mesa Rock Road intersection is an average of 90 seconds during the off-peak periods (it takes 90 seconds for all three legs of the intersection to clear), this would mean that during any given cycle, 1 to 2 trucks would be using the intersection to enter and exit the Project site.

**FIGURE 9:**
**NEWLAND SIERRA PARKWAY ALTERNATIVE B**

Alternative B also would require design exceptions to the County’s Public Road Standards, specifically to accommodate a maximum road grade of up to 9% for an approximately 5,000-foot-long section of road. As stated above, the County’s Road Standards allow for a maximum road grade of 7% for a road of this classification. Given the four-lane design of the road and its classification under this Alternative, the County would need to approve a design exception for
road grade. In our professional opinion, the steep grade and potential substandard design, in combination with the fact that available mitigating design features to control speed would be limited under the circumstances, has the potential to create a safety issue and could present an impediment to trucks using the road, despite it serving as Route S12 under this Alternative.

In summary, Alternative B has significant implications for the Project and the County’s Mobility Element, some of which render this Alternative impractical, including: (a) a redesign of the Project; (b) a highly visible 350-foot-tall cut slope; (c) 404,700 yards of dirt export over a 6-month period; (d) a major road with a grade of 9% (28% steeper than allowed by the County’s road standards for this classification); and (e) a road whose steepness would present an impediment to trucks despite serving as Route S12.

C. Newland Sierra Parkway Alternative C

Newland Sierra Parkway Alternative C is depicted in Figure 10 below and Appendix A to this study. Under this Alternative, a four-lane Major Road would begin with a 25 degree skewed intersection with the existing Deer Springs Road at the Mesa Rock Road intersection. It then skirts the southern edge of the Project Site north of Deer Springs Road, similar to Alternative A, except, rather than ramping down to the Valley neighborhood to join Sarver Lane, this Alternative stays at a higher elevation and then turns to the south to cut through the saddle between two peaks on off-site property, which is not owned or controlled by the Project applicant. In so doing, the grade of the road reaches 9% in steepness. Under Alternative C, Newland Sierra Parkway would be sized and designed to accommodate Project traffic and future cumulative traffic as the new County Route S12. Alternative C would be approximately 9,400 feet in length, compared to the approximate 7,700 foot length of Deer Springs Road under the proposed Project.

Under this Alternative, the site design of the Project’s Terraces neighborhood would be affected thereby requiring re-design of this neighborhood. Additionally, Alternative C would not connect to Sarver Lane in the same manner as Alternatives A and B and, instead, would cut through 8 privately owned parcels requiring a substantial amount of additional grading. In this regard, Alternative C would require the acquisition of additional private properties, resulting in greater impacts to private property than with the Project, Alternative A, or Alternative B — properties that the Project applicant does not presently own or control (see Appendix A for additional detail on this Alternative).

Further, this Alternative would cross over the San Diego County Water Authority’s 66-inch aqueduct, a regional water supply transmission facility, requiring the placement of 100 to 125 feet of fill over an approximately 600-foot-long stretch of the aqueduct southwest of the Project site. This amount of fill placed over the aqueduct would require a partial removal and reconstruction of the aqueduct with a reinforced design in the area subject to the additional fill. The San Diego County Water Authority would be required to approve the placement of fill over the facility and the related rebuilding of the aqueduct. A 125-foot-high fill slope would be highly visible from Deer Springs Road and Twin Oaks Valley Road and would require acquisition
of private property in the affected area under the road and fill slope as the road connects with Deer Springs Road.

In addition, this Alternative would require construction of a new intersection with Deer Springs Road/Newland Sierra Parkway. As part of the construction, approximately 1,200 feet of Deer Springs Road to the southwest of the Project site would need to be raised so that it could merge with Newland Sierra Parkway, and approximately 1,100 feet of Deer Springs Road along the north side of the Golden Door Properties, LLC property would need to be raised approximately 90 feet in elevation to form a new intersection with Newland Sierra Parkway. As further explained below, these additional fill quantities and corresponding grading impacts were not addressed by Delane Engineering, Inc. in its technical memorandum regarding Alternatives A, B, and C. Moreover, additional design and engineering would be required in order for the Alternative to connect with Deer Springs Road; and the fill quantities required could increase substantially beyond the estimated quantities provided by Delane Engineering, Inc. (and further discussed below). As a result, the visual and noise impacts associated with the additional grading that would occur to neighboring properties, including the property owned by Golden Door Properties, LLC, would be significant.
According to Delane Engineering, Inc., Alternative C would require the net import of approximately 4,298,900 cubic yards of dirt to the Project Site and offsite areas near the Deer Springs Road/Sarver Lane intersection. Assuming a net hauling capacity of 16 cubic yards for the typical street-legal dirt hauler, Alternative C would result in approximately 268,700 round-trip truck trips (537,400 total trips) to and from the Project Site. To build Alternative C in the same 2-year time-frame as the Project proposes to widen and improve Deer Springs Road, if dirt haulers import dirt to the Project Site every hour for six hours a day (outside the a.m. and p.m. peak traffic periods) six days a week (300 working days/year), this Alternative would require approximately 450 round-trip truck trips (900 total trips) per day to transport the approximately 4.3 million cubic yards of dirt to the Project site within the 2-year period. This level of dirt hauling construction traffic along Deer Springs Road and through the Sarver Lane and Mesa Rock intersections could create considerable delays during this period for commuters and local residents.

In addition, Alternative C would require design exceptions to the County’s Public Road Standards, specifically an exception to accommodate a road grade of up to 9% in steepness for an approximately 7,000-foot-long road section. The County’s road standards allow for a maximum road grade of 7% for a road of this classification. Given the four-lane design of the road and its classification under this Alternative, the County would need to approve a design exception for road grade. In our professional opinion, the steep grade and potential substandard design, in combination with the fact that available mitigating design features to control speed would be limited under the circumstances, has the potential to create a safety issue and could present an impediment to trucks using the road, despite it serving as Route S12 under this Alternative.

Finally, as with Alternatives A and B, under this Alternative, Deer Springs Road would not be widened as planned under the proposed Project, although, it would remain a public road open to local and regional traffic. Furthermore, because Newland Sierra Parkway would replace Deer Springs Road as County Route S12 and as a Mobility Element Road, a County General Plan Amendment would be required under the Alternative.

In summary, Alternative C has significant implications for the Project and surrounding regional facilities. some of which render this Alternative impractical, including: (a) 4.3 million yards of dirt import over a 2-year period; (b) a redesign of the Project with a highly visible 125-foot-tall fill slope impacting a large area of private property, and the related partial removal and reconstruction of a County Water Authority aqueduct; (c) a Prime Arterial road with a grade of 9% (28% steeper than allowed by the County’s road standards for this classification); (d) the realignment, raising, and reconstruction of approximately 2,200 feet of the existing Deer Springs Road; and (e) a road whose steepness would present an impediment to trucks despite serving as Route S12.
D. Additional Considerations with Alternatives A, B, and C

This study also evaluates the effectiveness of the Newland Sierra Parkway Alternatives as a bypass to Deer Springs Road, the Project’s impacts to Deer Springs Road and the mitigation that would be required under these Alternatives, and the constructability and maintenance implications of two roads (Deer Springs Road and Newland Sierra Parkway) serving the same body of traffic. In the context of these additional considerations, absent a specific reference to one of the Alternatives, the statements and conclusions rendered in this section should be interpreted to apply equally to all three Alternatives and, therefore, the use of the term “Newland Sierra Parkway” in this section is meant to collectively and individually refer to Alternatives A, B, and C.

1. SANDAG Series 12 Model Results of Newland Sierra Parkway Alternatives

In its current configuration, Deer Springs Road is a two-lane road that operates at an acceptable LOS during its off-peak periods of traffic. However, between 6:00 a.m. and 9:00 a.m. and 3:00 p.m. and 7:00 p.m., periods when the road accommodates approximately half of its total daily traffic, Deer Springs Road experiences significant travel delays and congestion beginning at its interchange with I-15 and intersection with Mesa Rock Road to where it merges into Twin Oaks Valley Road in the City of San Marcos. The delays and congestion peak between the hours of 7:30 a.m. and 9:00 a.m. and 4:30 p.m. and 6:30 p.m. where the road operates at failing LOS. Outside of these peak periods of traffic, Deer Springs Road generally experiences minor or no delays. For this reason, particularly in the context of Newland Sierra Parkway serving as a steeper, longer route between the same two points, it is unlikely that Newland Sierra Parkway would be used by local and regional traffic during off-peak periods in lieu of that same traffic having the option to use Deer Springs Road. Instead, during the off-peak periods, Deer Springs Road would be predicted to continue to serve as the preferred (more direct) route for most off-peak traffic.

This prediction is supported by modeling performed by SANDAG of Deer Springs Road and Newland Sierra Parkway operating as two public roads handling traffic between Mesa Rock Road and Sarver Lane (Appendix F). To determine the net benefit Newland Sierra Parkway would have on reducing demand for Deer Springs Road, SANDAG modeled Newland Sierra Parkway Alternative A using their Series 12 (Year 2035) Model to predict the traffic volume that would be diverted away from Deer Springs Road and onto to the hypothetical Newland Sierra Parkway. Although SANDAG only modeled Alternative A, it was not necessary to also model Alternatives B and C because these two Alternatives would provide the same general access as Alternative A and, therefore, the results of the Alternative A analysis would apply equally to Alternatives B and C for the purposes of predicting the traffic distribution onto Newland Sierra Parkway and away from Deer Springs Road. The results, included in Appendix F illustrate the segment volumes for existing and long-term conditions, with and without Newland Sierra Project traffic, under both the “with” and “without” Newland Sierra Parkway Alternative scenarios.
To determine the net benefit of adding Newland Sierra Parkway to the circulation system, the Series 12 Model was first run excluding any traffic from the Sierra Project site (i.e., no land uses assigned to the Sierra Project site), establishing Newland Sierra Parkway as a four-lane Major Road, and leaving Deer Springs Road in its current configuration as a two-lane public road.

The results of this modeling are summarized in Table 1 below. The results show that rather than substantially diverting total daily non-Project traffic on to the hypothetical Newland Sierra Parkway, only about 53% of the non-Project traffic would use Newland Sierra Parkway in lieu of staying on Deer Springs Road. The other 47% would continue to use Deer Springs Road. It is reasonable to conclude that the majority of these diverted trips (onto Newland Sierra Parkway) would be expected to occur during the peak periods of the day when Deer Springs Road experiences significant travel delays and the hypothetical Newland Sierra Parkway might offer an alternative route around this congestion.

SANDAG’s Series 12 Model results show that, in addition to only diverting about half of the non-project traffic, building Newland Sierra Parkway as a four-lane Major Road would induce additional regional traffic demand (“induced demand”). This is due to the fact that effectively six lanes of travel would be provided, including the existing two lanes of travel on Deer Springs Road and four lanes on the hypothetical Newland Sierra Parkway. To calculate this induced demand, the volume on Deer Springs Road was first calculated with no traffic assigned to the Sierra Project site and without Newland Sierra Parkway being added to the circulation system. Under this scenario, SANDAG’s Series 12 Model predicts traffic volumes on Deer Springs Road growing to 26,900 ADTs by the year 2035. As a point of reference, based on traffic counts conducted for the Project and used in the Project’s Traffic Impact Analysis (LLG 2017), Deer Springs Road currently accommodates approximately 19,400 ADTs. Thus, SANDAG’s Series 12 Model shows traffic growing by 7,500 ADTs (a 39% increase) by the year 2035 on Deer Springs Road, not including any traffic generated by the Sierra Project site. When the hypothetical Newland Sierra Parkway is added to the model, the Series 12 Model shows total traffic, again excluding any traffic from the Sierra Project site, between the two roads growing to 33,400 ADTs, resulting in an induced demand of 6,500 ADTs (33,400 ADTs – 26,900 ADTs = 6,500 ADTs) between Mesa Rock Road and Sarver Lane for the combined road network of Deer Springs Road and Newland Sierra Parkway.

The Series 12 Model results show that, when compared to the existing traffic volume on the road, the hypothetical Newland Sierra Parkway would only marginally reduce traffic volumes along Deer Springs Road. With 15,600 ADTs, Deer Springs Road would still operate at an LOS E before the Sierra Project traffic is added. When the Project’s traffic is added to the network of dual roads (Deer Springs Road and the hypothetical Newland Sierra Parkway), the traffic volume on Deer Springs Road increases to 17,000 ADTs with the Sierra Project generating an additional 1,400 ADTs to Deer Springs Road between Mesa Rock Road and Sarver Lane (17,000 ADTs – 15,600 ADTs = 1,400 ADTs) and the level of service on Deer Springs Road deteriorates again to LOS F.
TABLE 1: Existing Deer Springs Road and Newland Sierra Parkway Traffic Volumes (Series 12 Modeling)

<table>
<thead>
<tr>
<th>Road Segment (Between Sarver Lane and Mesa Rock Road)</th>
<th>ADTs (w/o Sierra Traffic, w/o Newland Sierra Parkway)</th>
<th>ADTs (w/o Sierra Traffic, w/ Newland Sierra Parkway)</th>
<th>ADTs (w/ Sierra Traffic, w/ Newland Sierra Parkway)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Deer Springs Road</td>
<td>26,900 ADTs</td>
<td>15,600 ADTs (47%)</td>
<td>17,000 ADTs (43%)</td>
</tr>
<tr>
<td>Deer Springs Road LOS</td>
<td>LOS F</td>
<td>LOS E</td>
<td>LOS F</td>
</tr>
<tr>
<td>Newland Sierra Parkway</td>
<td>0 ADTs</td>
<td>17,800 ADTs (53%)</td>
<td>22,340 ADTs (57%)</td>
</tr>
<tr>
<td>Total ADTs</td>
<td>26,900 ADTs</td>
<td>33,400 ADTs</td>
<td>39,340 ADTs</td>
</tr>
<tr>
<td>Induced Demand</td>
<td></td>
<td>6,500 ADTs (24%)</td>
<td></td>
</tr>
</tbody>
</table>

2. Impacts to Deer Springs Road Under Newland Sierra Parkway Alternatives

As described above and shown in Table 1, the SANDAG Series 12 Modeling results show that the hypothetical Newland Sierra Parkway would serve as a marginal, ineffective solution to addressing the traffic congestion along Deer Springs Road. Without any Sierra Project traffic included, the road would operate at LOS E, a failing level of service. When the Project’s traffic (1,400 ADTs) is added, the traffic volume on Deer Springs Road would cause the road to operate at LOS F, with nearly the same congestion problem the road experiences today. As the Project would add more than 200 trips to Deer Springs Road, a two-lane Mobility Element Road that would operate at LOS E before the Project traffic is added, in accordance with the County’s CEQA “Guidelines for Determining Significance, Transportation and Traffic”, the Project would be required to identify this added traffic as a significant direct impact and to identify the mitigation necessary to mitigate this impact to “Less than Significant”. Consistent with the two Deer Springs Road Options proposed by the Project, the Project would logically identify improving Deer Springs Road to either a two-lane Community Collector or a four-lane Major Road as the mitigation for these impacts, with the four-lane Option being the only one to mitigate the impacts to Less than Significant.

To model the effect of the hypothetical Newland Sierra Parkway in conjunction with improving Deer Springs Road to either a two-lane Community Collector (Option A) or a four-lane Major Road (Option B), SANDAG’s Series 12 Model was used to predict the distribution of traffic across the network of two roads and any additional induced demand that would result. The Project’s proposed Option A improvements to Deer Springs Road in conjunction with Newland Sierra Parkway result in the same distribution of traffic and induced demand as leaving Deer Springs Road in its current configuration and building Newland Sierra Parkway as shown in Table 1 above. However, Option A does not fully mitigate the Project’s traffic impacts to Deer Springs Road. Therefore, Option B was also modeled using the Series 12 Model in the context of building Newland Sierra Parkway.
The Series 12 Model results show that, as a four-lane road, Deer Springs Road would carry 23,900 ADTs (71%) of total daily non-Project traffic and Newland Sierra Parkway would carry only 9,900 ADTs (29%). Additionally, having two four-lane roads serving the same body of traffic creates a modest amount of induced traffic demand of approximately 400 ADTs above the induced demand created by Newland Sierra Parkway as discussed above. Thus, under this scenario, the Series 12 Model resulted in a substantially lower diversion of traffic onto the hypothetical Newland Sierra Parkway and additional induced demand as shown in Table 2 below.

**TABLE 2:**
Deer Springs Road Options A and B, Newland Sierra Parkway Traffic Volumes
(Series 12 Modeling)

<table>
<thead>
<tr>
<th>Road Segment (Between Sarver Lane and Mesa Rock Road)</th>
<th>ADTs (w/ Deer Springs Road Option A, w/ Sierra Traffic)</th>
<th>ADTs (w/ Deer Springs Road Option B, w/ Sierra Traffic)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Deer Springs Road</td>
<td>17,000 ADTs (43%)</td>
<td>25,300 ADTs (64%)</td>
</tr>
<tr>
<td>Deer Springs Road LOS</td>
<td>LOS F</td>
<td>LOS C</td>
</tr>
<tr>
<td>Newland Sierra Parkway</td>
<td>22,340 ADTs (57%)</td>
<td>14,440 ADTs (36%)</td>
</tr>
<tr>
<td>Total ADTs</td>
<td>39,340 ADTs</td>
<td>39,740 ADTs</td>
</tr>
<tr>
<td>Total Induced Demand</td>
<td>6,500 ADTs</td>
<td>6,900 ADTs</td>
</tr>
<tr>
<td>Add’l. Induced Demand</td>
<td></td>
<td>400 ADTs</td>
</tr>
</tbody>
</table>

In summary, the Series 12 Model demonstrates that building Newland Sierra Parkway and leaving Deer Springs Road in its current configuration or improving the road to either a two-lane or four-lane road would not sufficiently address the existing congestion problem on Deer Springs Road and generates a 24% increase in regional traffic using the network of two roads. Improving Deer Springs Road in conjunction with building one of the Newland Sierra Parkway Alternatives would result in the same environmental impacts and impacts to private property as the proposed project plus the additional impacts associated with constructing Newland Sierra Parkway. Finally, building Deer Springs Road as a four-lane road (Option B) with the hypothetical Newland Sierra Parkway added to the circulation system creates two additional counterproductive effects. With Deer Springs Road being improved to four lanes and Newland Sierra Parkway also serving as a four-lane road providing access between the same two points (Mesa Rock Road and Sarver Lane), the diversion of trips onto Newland Sierra Parkway and off of Deer Springs Road is significantly decreased when compared to Deer Springs Road remaining a two-lane road and, with effectively eight lanes of travel being provided under this scenario, additional induced demand is created when compared by the network of two four-lane roads.
3. County General Plan Buildout Series 10 Volumes

As explained in the Newland Sierra Traffic Impact Analysis (LLG, 2017) prepared for the Project’s EIR, modeling for the General Plan Buildout Scenario is based on the SANDAG Series 10 Traffic Model. Since then, Series 10 has been archived and is no longer available for any new modeling, including modeling the net effect of adding a new road, such as Newland Sierra Parkway, to the circulation system. As discussed above, the SANDAG Series 12 (Year 2035) Model was used to conduct this modeling.

The Series 12 Model differs from the County General Plan Buildout Series 10 Model (County GP Model) in that the Series 12 Model does not include full build-out of the County’s General Plan. Instead, Series 12 approximates the level of build-out that will occur by the year 2035 to model the traffic generation on the region’s road network. As a result, when compared to the Series 12 Model results, the County GP Model generally produces higher ADTs on any given network of roads being analyzed. To compare apples to apples to the analysis contained in the TIA for the Project, it was necessary to predict the equivalent traffic that would result on Newland Sierra Parkway and Deer Springs Road if the County GP Model had been used. The first step in this exercise was to establish a ratio between the two different traffic volumes produced by the two different models for Deer Springs Road assuming Deer Springs Road remains in its current condition as a two-lane road, the hypothetical Newland Sierra Parkway is not built, and the Sierra Project site does not generate any traffic. Table 3 below shows the results of the two different models and the resultant traffic volume factor between the two models.

<table>
<thead>
<tr>
<th>Series 12 Model ADTs</th>
<th>County GP Model ADTs</th>
<th>Traffic Volume Factor</th>
</tr>
</thead>
<tbody>
<tr>
<td>26,900 ADTs</td>
<td>37,280 ADTs</td>
<td>37,280/26,900 = 1.39</td>
</tr>
</tbody>
</table>

This traffic volume factor of 1.39 was then used to forecast traffic volumes that would result under the County’s GP Model for the same three scenarios analyzed under the SANDAG Series 12 Model:

- Leaving Deer Springs Road in its current configuration and building Newland Sierra Parkway
- Improving Deer Springs Road to be a two-lane Community Collector and building Newland Sierra Parkway
- Improving Deer Springs Road to be a four-lane Major Road and building Newland Sierra Parkway
The results of applying this traffic volume factor to these three scenarios are shown in Tables 4 and 5 below.

**TABLE 4:**
County GP Build-Out Series 10 Model Results for Deer Springs Road and Newland Sierra Parkway (Without Sierra Project Traffic)

<table>
<thead>
<tr>
<th>Road Segment (Between Sarver Lane and Mesa Rock Road)</th>
<th>Existing Deer Springs Road</th>
<th>Existing Deer Springs Road Improved to Two-Lane Community Collector</th>
<th>Deer Springs Road Improved to Four-Lane Major Road</th>
</tr>
</thead>
<tbody>
<tr>
<td>Deer Springs Road</td>
<td>37,280 ADTs</td>
<td>21,600 ADTs (47%)</td>
<td>33,100 (71%)</td>
</tr>
<tr>
<td>Newland Sierra Pkwy.</td>
<td>0 ADTs</td>
<td>24,700 ADTs (53%)</td>
<td>13,700 (29%)</td>
</tr>
<tr>
<td>Deer Springs Rd. LOS</td>
<td>LOS F</td>
<td>LOS F</td>
<td>LOS D</td>
</tr>
<tr>
<td>Total ADTs</td>
<td>37,280 ADTs</td>
<td>46,300 ADTs</td>
<td>46,800 ADTs</td>
</tr>
<tr>
<td>Induced Demand</td>
<td>9,020 ADTs (24%)</td>
<td>9,520 ADTs (25%)</td>
<td></td>
</tr>
</tbody>
</table>

As shown above, when the Series 12 Model results are adjusted to forecast County GP Model volumes, the ineffectiveness of Newland Sierra Parkway as a solution to addressing the traffic congestion on Deer Springs Road becomes even more evident. In short, as shown in Table 5 above, when the Project traffic is included and Deer Springs Road remains as a two-lane road, traffic volumes on Deer Springs Road are forecasted to grow to 23,000 ADTs, a 19% increase over the current volume of 19,400 ADTs on the road, a volume that exceeds the County’s LOS D capacity for Deer Springs Road as a two-lane road, and a volume that would exacerbate the LOS F condition on the road today. Figures 11 and 12 below show the General Plan Buildout volumes along Deer Springs Road and hypothetical Newland Sierra Parkway with the Sierra Project traffic included.

**TABLE 5:**
County GP Buildout Series 10 Model Results for Deer Springs Road and Newland Sierra Parkway (With Sierra Project Traffic)

<table>
<thead>
<tr>
<th>Road Segment (Between Sarver Lane and Mesa Rock Road)</th>
<th>Existing Deer Springs Road</th>
<th>Deer Springs Road Improved to Two-Lane Community Collector</th>
<th>Deer Springs Road Improved to Four-Lane Major Road</th>
</tr>
</thead>
<tbody>
<tr>
<td>Deer Springs Road</td>
<td>23,000 ADTs (44%)</td>
<td>23,000 ADTs (44%)</td>
<td>34,500 (65%)</td>
</tr>
<tr>
<td>Newland Sierra Pkwy.</td>
<td>29,200 ADTs (56%)</td>
<td>29,200 ADTs (56%)</td>
<td>18,200 (35%)</td>
</tr>
<tr>
<td>Deer Springs Rd. LOS</td>
<td>LOS F</td>
<td>LOS F</td>
<td>LOS E</td>
</tr>
<tr>
<td>Total ADTs</td>
<td>52,200 ADTs</td>
<td>52,200 ADTs</td>
<td>52,700 ADTs</td>
</tr>
</tbody>
</table>
FIGURE 11:
NEWLAND SIERRA PARKWAY AND TWO-LANE DEER SPRINGS ROAD
WITH SIERRA TRAFFIC AT GENERAL PLAN BUILDOUT

FIGURE 12:
NEWLAND SIERRA PARKWAY AND FOUR-LANE DEER SPRINGS ROAD
WITH SIERRA TRAFFIC AT GENERAL PLAN BUILDOUT
4. Limitations of SANDAG Modeling of Newland Sierra Parkway

The SANDAG Series 12 (Year 2035) Model provides a forecast of daily segment volumes, but it should be noted that the percent of non-Project traffic predicted to utilize Newland Sierra Parkway discussed above for each of the three scenarios analyzed is based on the raw volumes from the SANDAG Series 12 Model and not adjusted for the steep grades sustained over long distances associated with the Newland Sierra Parkway Alternatives or the fact that there would be several signalized intersections along Newland Sierra Parkway internal to the Sierra Project site. Specifically, the following factors are expected to reduce the attraction of Newland Sierra Parkway as an alternative/by-pass to Deer Springs Road for regional traffic:

- The Series 12 Model does not recognize non-standard curves and steep grades and therefore does not make adjustments to the predicted volumes based on those factors. The distance between Mesa Rock Road and Sarver Lane along the proposed Newland Sierra Parkway is approximately a third of a mile (22%) longer than the distance along Deer Springs Road. Steeper, more circuitous routes are inherently less attractive to drivers.

- The Newland Sierra Parkway would run through the proposed Project site and intersect with the Project’s network of internal roads, resulting in potential conflicts between internal project traffic and regional (pass-through) traffic. Drivers from the Sierra Project intending to access Newland Sierra Parkway would need to turn onto a roadway with vehicles travelling at a high speed (the design speed of a County four-lane Major Road is 55 mph). As a result, there could be up to 4 new signalized intersections required along Newland Sierra Parkway internal to the Project site (in addition to the two required at Mesa Rock Road and Sarver Lane). In contrast, there would be no new signalized intersections along Deer Springs Road, aside from Mesa Rock and Sarver Lane. These additional signalized intersections would reduce the attractiveness of Newland Sierra Parkway as a bypass to Deer Springs Road.

- The Series 12 Model is also not able to account for intersection movements changing from through to left-turn and right-turn movements such as at the Deer Springs Road/Mesa Rock Road/Newland Sierra Parkway and Deer Springs Road/Sarver Lane/Newland Sierra Parkway intersections. It is important to clarify that the construction of Newland Sierra Parkway would still require all traffic to utilize the two constraining intersections along Deer Springs Road: Mesa Rock Road and Sarver Lane. As a rule, from a circulation standpoint, it is inherently less efficient to separate and then recombine the same flow of traffic through two parallel routes than to keep that body of traffic moving on the same route. For example, the shifting of eastbound traffic from Deer Springs Road to Newland Sierra Parkway would result in the shifting of a large amount of traffic from through movements to left-turn movements, which will result in a deterioration in the peak hour intersection delay and level of service and also increase queue lengths in key movements at the Deer Springs Road/ Mesa Rock Road and the Deer Springs Road/Sarver Lane intersections.
In light of these other factors affecting route choice, which are not accounted for in SANDAG’s Series 12 Model, during peak periods, a significant amount of traffic would still be expected to utilize Deer Springs Road. Therefore, due to the combination of these factors, the model has most likely predicted a higher estimate of the shift in traffic to Newland Sierra Parkway than what would be expected to occur on the ground.

5. Constructability Issues

In evaluating the three Alternatives, it was reasonably assumed that Newland Sierra Parkway would need to be constructed within the same 2-year time-frame as currently anticipated for the construction of improvements to Deer Springs Road under the proposed Project. Given the amount of dirt export and import associated with Alternatives A and C, respectively, the volume of dirt hauling trucks in and out of the Project site using the Mesa Rock Road/Deer Springs Road intersection and the Deer Springs Road/I-15 interchange and, in the case of Alternative C, hauling dirt down Deer Springs Road on a daily basis, could overwhelm these portions of the County’s roadway network. For example, Alternative C would require the import of approximately 4.3 million cubic yards of dirt. For this dirt to be imported to the site over a 2-year time-frame, 900 trucks per day would be entering and leaving the Project Site and/or driving up and down Deer Springs Road. This volume of truck traffic could cause the intersections, the interchange, and Deer Springs Road to be substantially congested with trucks.

As stated above, Deer Springs Road presently is designated as a six-lane Prime Arterial in the County’s General Plan. Although widening Deer Springs Road to a four-lane Major Road as proposed by this Project under Option B will accommodate Project buildout and future cumulative traffic volumes, it is possible the County will still proceed with widening Deer Springs Road to its ultimate General Plan classification as a six-lane Prime Arterial. Likewise, if one of the Newland Sierra Parkway Alternatives was to be selected by the County, it is possible that the County would require Newland Sierra Parkway to be built, or at least graded, to a 122-foot-wide right of way to ultimately accommodate a six-lane Prime Arterial. This right-of-way design would significantly increase the cut/fill quantities and associated grading/visual impacts associated with each of the Alternatives. These potential grading impacts associated with a six-lane road have not been analyzed at this time. Moreover, the Prime Arterial classification has more restrictive design criteria as it relates to road grade (maximum of 6% for a six-lane Prime Arterial vs. 7% for a four-lane Major Road), a larger minimum curve radius (minimum of 1,700 feet for a six-lane Prime Arterial vs. 1,200 feet for a four-lane Major Road), and a higher minimum design speed (65 miles per hour for a six-lane Prime Arterial vs. 55 miles per hour for a four-lane Major Road). Thus, designed as a six-lane Prime Arterial, each of the Alternatives would involve additional design exceptions and the speeding and public safety issues noted above would become more acute.
VI. Conclusion

Table 6 below provides a comparative summary of the engineering features of the Proposed Project under Options A or B and the Newland Sierra Parkway Alternatives A, B, and C. As shown on the table, each of the Alternatives would require substantially more grading than the improvements to Deer Springs Road proposed by the Project as Option A or B, and each would require either the export or import of substantial amounts of soil to/from the Project site. Additionally, each of the Alternatives would require a Design Exception from the County for the approval of grades in excess of County standards. Each of the Alternatives significant practical limitations and feasibility issues as follows:

- The grade of each Alternative would present a significant impediment to truck traffic, which means that trucks would likely continue to use Deer Springs Road.
- The length and steepness of the road under each Alternative (between 9% and 12%) may create traffic safety issues, particularly in the context of the hypothetical road being internal to the Sierra Project site, without other mitigating design features to control speed.
- Under each Alternative, Newland Sierra Parkway effectively exits and then rejoins Deer Springs Road, significantly undermining its effectiveness as an alternative route to Deer Springs Road since all traffic would still need to utilize the constraining intersections along Deer Springs Road (e.g., Sarver Lane and Mesa Rock Road).
- During non-peak hours, drivers will likely prefer the shorter, less steep, and more direct route of Deer Springs Road, even as a two-lane road, over each of the three Alternatives, undermining the effectiveness of Newland Sierra Parkway as a by-pass to Deer Springs Road.
- A General Plan Amendment would be required under Option A and each of the Parkway Alternatives; however, any proposal to declassifying Deer Springs Road under each of the Parkway Alternatives, despite its expected continued use as the preferred route for the majority of local and regional traffic, may present a General Plan consistency issue for decision-makers.
- Each Alternative presents significant design, engineering, and constructability issues and would result in greater impacts to offsite properties when compared to the Project’s proposed Options A and B.
- Construction of the Parkway Alternatives would result in large, highly visible cut or fill slopes.
- Alternative C may require partial removal and reconstruction of the 66-inch San Diego County Water Authority aqueduct, a regional water supply transmission facility.
### TABLE 6: PROPOSED PROJECT COMPARISON TO NEWLAND SIERRA PARKWAY ALTERNATIVES A, B, AND C

<table>
<thead>
<tr>
<th>PROPOSED PROJECT</th>
<th>NEWLAND SIERRA PARKWAY ¹</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Option A</td>
</tr>
<tr>
<td><strong>CUT</strong></td>
<td>107,100 CY</td>
</tr>
<tr>
<td><strong>FILL</strong></td>
<td>39,100 CY</td>
</tr>
<tr>
<td><strong>EXPORT/(IMPORT)</strong></td>
<td>68,000 CY</td>
</tr>
</tbody>
</table>

**PROJECT AREA NET EXPORT/(IMPORT)**

|                  | (34,800) CY | 0 CY | 3,883,000 CY | 404,700 CY | (4,298,900) CY |

**IMPORT/EXPORT/BALANCED?**

|                  | Import | Balanced | Export | Export | Import |

**LENGTH**

|                  | 7,700 FT | 7,700 FT | 9,800 FT | 10,500 FT | 9,400 FT |

**ROW WIDTH**

|                  | 74 FT | 100 FT | 100 FT | 100 FT |

### DESIGN EXCEPTIONS

<table>
<thead>
<tr>
<th>Curve Radius</th>
<th>750’</th>
<th>750’</th>
<th>750’</th>
<th>850’</th>
<th>700’</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grade / for a length of</td>
<td>7% / 2,100 FT ³</td>
<td>12% / 2,500 FT</td>
<td>9% / 5,000 FT</td>
<td>9% / 7,000 FT</td>
<td></td>
</tr>
<tr>
<td>Design Speed</td>
<td>Reduced to 45 mph</td>
<td>Other</td>
<td>Reduced to 45 mph</td>
<td>Other</td>
<td></td>
</tr>
</tbody>
</table>

**Other**

- Design exceptions
- Reduced to 45 mph
- 25 degree skewed intersection

### Footnotes:

¹ Alternatives B and C cut and fill quantities are per the Delane Engineering, Inc. designs (please see Appendix A) with the cut quantities bulked 17.5% to be consistent with the Alternative A quantity.

² Whether the Option or Alternative results in import or export or balances is in relation to the Project Site. For example, Option A requires the Project Site to import 34,800 CY of dirt to balance under this Option.

³ Deer Springs Road currently reaches grades as steep as 7.5%. Under Option B, the road would be constructed to a maximum grade of 7%, however, the County’s maximum grade for a 6.1 Prime Arterial is 6%.

### General Notes:

- CY – Cubic Yards
- FT – Feet
Finally, the SANDAG Series 12 (Year 2035) Model results and the County General Plan Buildout Series 10 Model results showed the following:

- As a two-lane road, Deer Springs Road would continue to operate at a failing level of service (LOS F) with Newland Sierra Parkway being added to the road network.
- By adding 1,400 ADTs to a failing road, the Project would still result in a significant direct impact to Deer Springs Road under all three of the Alternatives, and, therefore, the Project would be required to identify mitigation in the form of road improvements necessary to reduce the Project’s impact to Deer Springs Road to Less than Significant.
- At best, Newland Sierra Parkway would only divert about half of the non-Project traffic off of Deer Springs Road and less than a third if Deer Springs Road were widened to four lanes to mitigate the Project’s direct impact to the road.
- The Series 12 Model predicted that the addition of Newland Sierra Parkway would induce an additional 6,500 ADTs sharing the hypothetical network of two roads (Deer Springs Road and Newland Sierra Parkway). The forecasted induced demand under the County GP Model would rise to over 9,000 ADTs.

In light of the analyses and various considerations detailed herein, the Newland Sierra Parkway Alternatives, Alternatives A, B, and C, would be an ineffective, counterproductive solution to reducing traffic congestion on Deer Springs Road and result in greater grading, private property, and construction traffic impacts when compared to the Project’s proposal to widen and improve Deer Springs Road. Therefore, in our professional opinion, the Newland Sierra Parkway Alternatives should be considered impractical bordering on infeasible.
APPENDICES
APPENDIX A:

NEWLAND SIERRA PARKWAY ALTERNATIVES A, B, AND C EXHIBITS
NEWLAND SIERRA PARKWAY ALTERNATIVE A
NEWLAND SIERRA PARKWAY ALTERNATIVE B
CONCEPTUAL GRADING PLAN
Primary Arterial Alignment Option C1 - with Parcels
CITY OF SAN MARCOS, SAN DIEGO COUNTY, CA
MARCH 23, 2016
SHEET 2 OF 3
NEWLAND SIERRA PARKWAY ALTERNATIVE C
APPENDIX B:

1948 COUNTY OF SAN DIEGO ROAD SURVEY NO. 1040,

DEER SPRINGS ROAD
PLANS FOR IMPROVEMENT OF

ROAD SURVEY NO. 1040

Beginning at a point in Road Survey 881 in the S.E. 1/4, Sec. 20, T.10 S., R.3 W., and running thence N.Ely. in said Sec. and Sec. 30, T.11 S., R.2 W., to a connection with State Hiway Route 77 F., a distance of 1.66 miles.

SANDIEGO, CALIF.

SCALE AS SHOWN A SHEETS

RS 1040

Road Survey 1040
APPENDIX C:
GOLDEN DOOR PROPERTIES, LLC
DEER SPRINGS ROAD DEDICATION #1
MAP 7624
I hereby certify that I am the owner of or am interested in the land described by this map and I consent to the preparation and recording of the description and plat of this map and hereby dedicate to the public the portion of Deep Springs Road for use as a street or such other use as may be determined by the San Bernardino County Board of Supervisors.

I hereby grant to the County of San Diego an easement over, upon, across and under the San Bernardino Vocalic System for the purpose of constructing, maintaining and operating electric transmission lines and substations for the purpose of providing electric service to the public.

I hereby grant to the San Bernardino County Flood Control District an easement over, upon, across and under the San Bernardino Vocalic System for the purpose of constructing, maintaining and operating electric transmission lines and substations for the purpose of providing electric service to the public.

I hereby grant to the County of San Diego an easement over, upon, across and under the San Bernardino Vocalic System for the purpose of constructing, maintaining and operating electric transmission lines and substations for the purpose of providing electric service to the public.

This map is to be used for all purposes related to the San Diego County Flood Control District and is hereby accepted by the undersigned officer in accordance with the provisions of Section 11207 of the Public Resources Code of the State of California.

SIGNED and SEALED this 1st of January, 1973.

[Signature]

COUNTY CLERK

[Stamp]

[County Seal]

[Stamp]

COUNTY CLERK

[Stamp]

[County Seal]
APPENDIX D:

GOLDEN DOOR PROPERTIES, LLC

DEER SPRINGS ROAD DEDICATION #2

IRREVOCABLE OFFER OF DEDICATION, INSTRUMENT # 88-111436
PARCEL NUMBER

88-0032
Irrevocable Offer To Dedicate Real Property

Assessor’s Parcel No. 182-040-54

DEBORAH SZEKELY, an unmarried woman

hereinafter designated Grantor, represent that she is the owner(s) of the hereinafter described real property, and for a valuable consideration hereby make(s) an Irrevocable Offer of Dedication of the hereinafter described real property for the following public purpose:

PUBLIC HIGHWAY

The real property referred to above is situated in the unincorporated area of the County of San Diego, State of California, and is more particularly described as follows:

Parcel No. 88-0032-A (2-8-88) (AT:JA:mrt)

That portion of that land in the County of San Diego, State of California, described in deed as Parcel A to Deborah Szekely, an unmarried woman, recorded June 7, 1984 at File/Page No. 84-212935, in the Office of the County Recorder of said County, lying Northerly of a line that is 56.00 feet Southerly of and parallel and concentric with the centerline of Road Survey No. 1040, filed in the Office of the County Engineer of said County AND lying Easterly of the Easterly line of that land described in deed to San Marcos County Water District, recorded June 9, 1961 at File/Page No. 99068, in the Office of said County Recorder.
Grantor hereby further offers to the County of San Diego the privilege and right to extend drainage structures and excavation and embankment slopes beyond the limits of the herein described right-of-way where required for the construction and maintenance of said County Highway. RESERVING unto grantor of the above described parcel of land, his successors or assigns, the right to eliminate such slopes and/or drainage structures or portions thereof, when in written opinion of the County and/or District Engineer of Grantee, the necessity therefore is removed by substituting other protection, support and/or drainage facility, provided such substitution is first approved in writing by said Engineer(s).

The Grantor hereby further offers to Grantee all trees, growths (growing or that may hereafter grow), and road building materials within said right-of-way, including the right to take water, together with the right to use the same in such manner and at such locations as said Grantee may deem proper, needful or necessary, in the construction, reconstruction, improvement or maintenance of said highway.

The Grantor, for himself, his successors and assigns, hereby waives any claim for any and all damages to Grantor's remaining property contiguous to the right-of-way hereby conveyed by reason of the location, construction, landscaping or maintenance of said highway.
The Offer of Dedication is made pursuant to Section 7050 of the Government Code of the State of California and may be accepted at any time by the city council of the city within which such real property is located at the time of acceptance or, if located in the unincorporated territory, by the Board of Supervisors of the County of San Diego.

This Offer of Dedication may be terminated and the right to accept the offer may be abandoned in accordance with the summary vacation procedures in Section 8300 et seq. of the Streets and Highways Code of the State of California. The termination and abandonment may be made by the city council of the city in which the real property is located, or if located in unincorporated territory, by the Board of Supervisors of San Diego County.

This Offer of Dedication shall be irrevocable and shall be binding on the Grantor(s) her heirs, executors, administrators, successors and assigns.

In Witness Whereof, the Grantor(s) has caused this Irrevocable Offer of Dedication to be executed this ______ day of __________. 19__

DEBORAH SZEKELY

STATE OF VIRGINIA
Country of ARLINGTON ss.

On ______, 19__, before me, the undersigned, a Notary Public in and for said County and State, personally appeared Deborah Szekely

known to me to be the person whose name is subscribed to the within instrument, and acknowledged that she executed the same.

Donald S. Hultman
Notary Public in and for said County and State
My Commission Expires July 24, 1990

I certify on behalf of the Board of Supervisors of the County of San Diego pursuant to authority conferred by Resolution of said Board adopted on March 20, 1979, that the County of San Diego consents to the making of the foregoing Irrevocable Offer and consents to recordation thereof by its duly authorized officer.

Dated ______

FRANK C. DEHLING, Deputy Director
Real Property Management Division
Department of General Services

CCSF, 85.32, 10/85
WHEREAS,

1. DEBORAH SZEKEL.Y, an unmarried woman warrants that she is the owner of the FEE SIMPLE ESTATE in and to the land in the County of San Diego, State of California, described in Exhibit "A" attached hereto ("The Subject Land"); which estate is or may be subject to real estate taxes, assessments, conditions, restrictions and easement as the same may be of record, and

2. It is the desire of the Grantor and the County of San Diego, a political subdivision of the State of California (herein after referred to as "COUNTY"), that the Subject Land remain OPEN SPACE.

NOW THEREFORE,

1. The GRANTOR grants to the County,

   (A) A perpetual easement for OPEN SPACE purposes over, upon, across and under the Subject Land, and no building, structure or other thing whatsoever shall be constructed, erected, placed or maintained on the Subject Land except

   (B) The perpetual right, but not the obligation to enter upon the Subject Land and remove any buildings, structures or other things whatsoever constructed, erected, placed or maintained on the Subject Land contrary to any term, covenant or condition of this easement and to do any work necessary to eliminate the effects of any excavation or placement of sand, soil, rock or gravel or any other material done or placed on the Subject Land contrary to any term, covenant or conditions of this easement.

2. GRANTOR covenants and agrees for himself and his successors and assigns as follows:

   (A) That he shall not erect, construct, place or maintain, or permit the erection, construction, placement or maintenance of any building or structure or other thing whatsoever on the Subject Land other than such buildings, structures and other things as may be permitted

   (B) That he shall not use the Subject Land for any purpose except as OPEN SPACE purposes.

   (C) That he shall not excavate or grade or permit any excavating or grading to be done, or place or allow to be placed any sand, soil, rock, gravel or other material whatsoever on the Subject Land without the written permission of the County or its successors or assigns: provided, however, that Grantor may excavate, grade or place sand, soil, rock gravel or other material on the Subject Land as may be permitted by special use permit issued pursuant to the zoning ordinance of the County of San Diego.

   (D) That the terms, covenants and conditions set forth herein may be specifically enforced or enjoined by proceedings in the Superior Court of the State of California.

The grant of this easement and its acceptance by the County of San Diego shall not authorize the public or any members thereof to use or enter upon all or any portion of the Subject Land, it being understood that the purpose of this easement is solely to restrict the uses to which the Subject Land may be put.

This easement shall bind the Grantor and his successors and assigns.

OCT 13 1988
REAL PROPERTY
EXHIBIT "A"

Parcel No. 88-0032-B (8-29-88) (ENG:AT:mrt)

That portion of the Southwest Quarter of the Northeast Quarter of Section 25, Township 11 South, Range 3 West, San Bernardino Base and Meridian, in the County of San Diego, State of California, included in that land described as Parcel A in deed to Deborah Szekely, recorded June 7, 1984 at File/Page No. 84-212935 in the Office of the County Recorder of said County, described as follows:

BEGINNING at a point on the Easterly line of said Southwest Quarter of the Northeast Quarter of Section 25, being also the Easterly line of said Parcel A, said point being distant thereon South 03°37'35" East, 240.00 feet from the Northeast corner of said Southwest Quarter; thence along said Easterly line South 03°37'35" East, 56.67 feet; thence leaving said Easterly line South 86°22'25" West, 180.00 feet; thence North 03°37'35" West, 56.67 feet; thence North 86°22'25" East, 180.00 feet to the POINT OF BEGINNING.
This Open Space Easement precludes grading, placement of structures, or any other thing, or vegetation addition or removal within the easement area, except that vegetation may be selectively removed upon written order of the appropriate fire control authority for the express purpose of reducing an identified fire hazard.

The aforesaid covenants and conditions shall not prevent the use of the airspace above said easement for the installation of electric and telephone power cables and wires for the transmission of electricity and communications by any bona fide public utility company, their representative, successors or assigns.

Any said public utility company, its representative, successor or assigns shall permit foot traffic only within said easement for the purpose of installing said wires and cables.

Any said public utility company, its representative, successor or assigns, shall not place or install any poles, towers, pads or any other appurtenances to said cables and wires upon or under the ground surface of said easement, and shall not store or stockpile anything within the boundaries of said easement without prior written approval of the Director of the County of San Diego Department of Planning and Land Use.

Any said public utility company, its representative, successor or assigns, shall exercise due care while being within the boundary of said easement to preserve the intent of creating this Open Space Easement.
Dated this 6th day of September, 1988

DEBORAH SZEKELY

STATE OF California
County of San Diego

On September 6, 1988, before me, the undersigned, a Notary Public in and for said State, personally appeared Deborah Szechely

and proved to me on the basis of satisfactory evidence, to be the person(s) whose name(s) is (are) subscribed to the within instrument and acknowledged that he executed the same.

WITNESS my hand and official seal.

Signature Carla R. Martinez
Name (Typed or Printed)

This is to certify that the interest in real property conveyed by the foregoing deed or grant to the County of San Diego, a political corporation, is hereby accepted on behalf of the Board of Supervisors of said County of San Diego pursuant to authority conferred by Resolution of said Board adopted on March 20, 1979, and the Grantee consents to recordation thereof by its duly authorized officer.

Signed September 15, 1988

RALPH M. WEISMANN, Deputy Director (Acting)
Real Property Management Division
Department of General Services
DEER SPRINGS ROAD

P.O.C.
NE CORNER OF THE SW 1/4
OF THE NE 1/4 SEC. 25

88-0032A
10. FIP88-11436

SW 1/4 NE 1/4 SEC 25
T11S R3W SBM

ZONING LINE

N 86°22'25"E 180.00'
N 86°22'25"E 180.00'
N 3°37'55"W 80.27'

OPEN SPACE ACQUIRED
88-0032B, FIP88-464315

LEGEND

INDICATES OPEN
SPACE BASEMENT
10,200 SQ. FT.

OSE approved
8/19/88

M. D. Olsen

PLAT TO ILLUSTRATE
LEGAL DESCRIPTION

MAY 13, 1988
APPENDIX E:

DELANE ENGINEERING, INC. TECHNICAL MEMORANDUM ON NEWLAND SIERRA PARKWAY ALTERNATIVES B AND C
April 8, 2016

VIA ELECTRONIC MAIL AND FEDERAL EXPRESS

Ashley Smith, Land Use/Environmental Planner
County of San Diego
Planning & Development Services
5510 Overland Avenue, Suite 310
San Diego, California 92123

Re: Engineering Design Information for Options for Alignment of County Route S12 to Reduce Environmental Impacts

Dear Ms. Smith:

As you know, we represent the Golden Door Properties LLC (the “Golden Door”). Adjacent to the Golden Door, the Newland Real Estate Group, LLC (“Newland”) has proposed a revised Merriam Mountains project, known as the “Sierra” project (the “Newland Project” or “Project”) on property located near Deer Springs Road. Newland’s proposal includes 2,135 residential units, 81,000 square feet of commercial development, a school, and various parks and equestrian facilities.

The Project also includes a proposal to build a new major east-west road to connect the various parts of the Project and widen County Route S12 to 4 to 6 lanes through Deer Springs Road. This new road would be located off-site from Newland’s development, rather than included within Newland’s development area and integrated into Newland’s project. This new road will also require Caltrans to undertake a major redesign and reconfiguration of the Deer Spring Road interchange. This letter transmits a conceptual report commissioned by the Golden Door that describes the feasibility of an on-site alignment for a major east-west road through Newland’s proposed development.

Background

The Golden Door opposes the Project. As we have discussed in previous letters, if the Project is built over our objection, it should be reduced in size and rely upon transportation options other than new roads or road widening. If, however, the Project must be built with new 4- or 6- lane (plus trails) widened County Route S12, we believe the new widened County S12
should be built in a location which minimizes or eliminates impacts to biological resources, including sensitive, endangered, and protected species; wildlife corridors; historic resources; tribal cultural resources; sensitive noise receptors; and community character.

As confirmed in our previous letters, the Golden Door has asked both Newland and County staff to analyze alternative alignments for County Route S12—rather than assuming that the road must be built through Deer Springs Valley. From a common sense perspective, it seems odd that the developer of a new major community would not design its project to include major new roads on the developer’s own property. Additionally, we believe that the County has an obligation to study alternative alignments for Newland’s road that could reduce or avoid significant environmental impacts. See 14 Cal. Code Regs. § 15126.2(a); Pub. Res. Code § 21081.5.

We have approached Newland about studying an “Option C” alignment for the road in addition to the Options A and B included in Newland’s application. Newland’s response thus far to the Golden Door has been that Option C is infeasible. We have specifically requested any information from Newland that supports that conclusion, but they have not yet provided us with any engineering or other information about their planning efforts involving a potential “Option C.” We hope that you will take an independent look at these possible alternatives.

The Golden Door’s Commissioned Concept Study for “Option C”

The Golden Door has hired Delane Engineering, Inc. to complete a technical memorandum (the “Memorandum”) analyzing a Concept Alternative Alignment Study for County Route S12. As detailed in the attached Memorandum, an alternative alignment of expanded County Route S12 across Newland’s own property—“Option C”—appears feasible from an engineering perspective, and would be comparable from an engineering and travel time perspective. For your reference, aerial photos of two proposed “Option C” alignments from the Memorandum are included below.
We hope the County will use the Memorandum as the basis for retaining an independent engineering firm to conduct a complete evaluation and alternatives analysis for the County’s environmental impact report under the California Environmental Quality Act. The analysis may also assist the County in the alternatives analysis that may be required for any federal permit or approvals from the Army Corps of Engineers, such as for wetlands impacts.

In addition, Delane’s report identifies certain errors and inconsistencies in Newland’s January 2016 submittals on proposed widening of Deer Springs Road.

Please note that the proposed Option C alignments in the attached Memorandum are conceptual. Both the County and Newland may conclude that there are other possible routes for an Option C approach beyond these preliminary concepts to provide an east-west route across Newland’s property as part of their development plans. We look forward to the County’s more detailed evaluation when the County takes an independent look at possible routes.

Thank you for your time and attention to our comments and the enclosed Memorandum. Please feel free to contact me at (858) 523-5400 or christopher.garrett@lw.com if you would like to discuss these matters further.

Best regards,

Christopher W. Garrett
of LATHAM & WATKINS LLP

cc: Kathy Van Ness, Golden Door
    Mark Slovick, County Planning and Development Services
    Peter Eichar, County Planning and Development Services
    Dan Silver, Endangered Habitats League
    Doug Hageman, Newland
    Paul Robinson, Hecht Solberg Robinson Goldberg & Bagley
    Mark Dillon, Gatzke Dillon & Balance
    Stephanie Saathoff, Clay Co.
    Maddy Kilkenny, Clay Co.
    John Prince, Delane Engineering, Inc.
    Kim Baranek, Baranek Consulting Group
    Andrew Yancey, Latham & Watkins
Attachment:

Delane Engineering Technical Memorandum
TECHNICAL MEMORANDUM

DATE      April 5, 2016
TO        Kathy Van Ness – COO/GM Golden Door Spa
CC        Christopher Garrett and Andrew Yancey – Latham and Watkins, LLP
FROM      John Prince, PE, PMP – DELANE Engineering, Inc.
SUBJECT   Concept Alternative Alignment Study for Deer Springs Road

DELANE Engineering, Inc. was retained to provide a limited conceptual comparative analysis of alternative “Newland Sierra Parkway” alignments (Option C) to the 4-Lane Deer Springs Road widening (Option B) proposed on preliminary plans for the Newland Sierra development prepared by Fuscoe Engineering dated January 22, 2016. The goal of the alternative alignment is to study alternatives to widening Deer Springs Road by instead maximizing the use of Newland owned property for build-out of a major arterial. The following items were evaluated with respect to elements considered for Option C:

- Earthwork Volumes
- Pavement areas
- Travel Time
- Intersection/Interchange Operations
- Property Impacts
- Biological Resources

This memorandum incorporates references to the following Attachments and Exhibits:

Attachments
“A” – Traffic Assessment of Deer Spring Road Alternatives (travel times and intersection operations) prepared by STC Traffic, Inc. dated April 5, 2016

Exhibits
“A” – I-15 Interchange Options (2 sheets)
“B” – Alternative Alignment Option C1 (3 sheets)
“C” – Alternative Alignment Option C2 (3 sheets)
“D” – Duplicated Deer Springs Road Improvements Option B at 98-ft ROW (3 sheets)
“E” – Duplicated Deer Springs Road Improvements Option B at 100-ft ROW (3 sheets)
Initial Research and Review of Newland Sierra Documents

DELANE Engineering received the Newland Sierra Specific Plan and Preliminary Grading Plans dated January 2016. Upon review of reference documents, the following inconsistencies were noted:

- The Newland Sierra development documents referred to the Deer Springs Road conditions as “Options” in the Specific Plan and as “Alternatives” in the Preliminary Grading Plans. The term “Option” is used in this analysis to reference the Newland Sierra documents.
- On Fuscoe Grading Plans for Option A (Sheet 6) and Option B (Sheet 16), the side slopes are drawn at 1:1 for a portion of Deer Springs Road at the east end, while the plan view and sections call out 1.5:1. The feasibility of incorporating 1:1 slopes should be verified. For the proposed additional Option C, 1.5:1 slopes were used. The use of 1:1 slopes may reduce cuts/fills.
- On Grading Plans for Option B (Sheet 16), Section H3/16 incorrectly shows six-lanes, instead of four-lanes as Option B calls for. A rogue section callout indicates 122-ft Right-of-Way width where the four-lane width is 100-ft.
- On Grading Plans for Option B, Plan view ROW scales out at 98-ft and the median scales out at 12-ft (instead of 100-ft and 14-ft, respectively, per Section H2/2). Adding 2-ft will expand the grading daylight and impact limits.
- The Fuscoe grading plans use vertical datum NAVD-88, which is consistent with Caltrans, but not with the County and most typical municipal and private improvements. The difference in elevation from the Fuscoe plans to Option C analysis included herein is approximately 2.2-ft (Fuscoe higher). These differences have been taken into account for this analysis, however variations may still exist due to the approximate nature of the analysis.

Newlands Engineer (Eric Armstrong at Fuscoe Engineering) was contacted during our research to obtain clarifications and additional information, as available. Contact was made via email and voicemail of February 10th and 22nd, 2016. Eric returned our call February 22nd, 2016 and said he would make contact again after meeting with his client. We contacted Eric again February 25th, 2016, he said he did not get a chance to discuss our requests with his client. No additional contact was made or information received. The following items were requested, and not received:

- Any related CAD files, topo, maps, etc. you are willing to share.
- Estimated earthwork/blasting volumes for Deer Springs Road Alternates A and B
- Previous alignment studies you might have done for a new bypass road through the hills to avoid additional traffic on DSR, associated constraints and reasons why it may be deemed infeasible.

Caltrans (Kazim Mamdani - Sr Design Manager, Ismael Salazar, and Andrew Rice - I-15 Corridor PM) and The Tait Group (David Tait) were contacted in February 2016 to get the latest plans for proposed interchange improvements at I-15 and Deer Springs Road. Both confirmed that the PSR submitted early 2015 was rejected because of the lack of an option free of design exceptions. David said they are in the process of evaluating options for resubmittal of PSR later this year. David talked to Rita with Newland and said he could not share any current layouts/exhibits. However, the following was gathered through discussions and research:

- It is understood that a second interchange alternative with a roundabout was proposed by Newland in PSR to Caltrans. No updated interchange plans are available for analysis.
- On Fuscoe Grading Plans for Option A (Sheet 6), Fuscoe is showing no improvements to I-15 interchange. For Option B (Sheet 16), Fuscoe is showing improvements consisting of a diverging diamond interchange.
Option C Alignment Development

An analysis of the proposed Newland Sierra grading plans and existing topography was performed to determine other potential alignments for a major arterial through the development. Two alignments for Option C are presented below, termed C1 and C2, as shown in Exhibits “B” and “C”. The exhibits consist of three sheets; the first shows proposed grading over Newland proposed grading, the second over assessor’s parcels and numbers, and the third over aerial image. Option C1 is approximately 10,500-ft in length and Option C2 is approximately 9,400-ft. Potential interchange configurations as shown in Exhibit “A”.

Design criteria used, data sources, and limitations of the analysis are as follows:

- Cross-Section as proposed by Newland for Option B (4.1A Major Arterial with 100-ft ROW, not 98-ft)
- Min Radius 750-ft, same as proposed by Newland (1,200-ft is min per County Public Road Standards)
- Max Grade 9% as proposed by Newland. 12% is also used by Newland. (County Standard is 7%)
- 6% Superelevation
- Side Slopes 1.7:1 effective (1.5:1 side slope with benching at 25-ft intervals)
- Topographic survey data was not collected. Available topographic data was obtained from InterMap at 25-ft contours.
- Property lines were obtained from the SANGIS website. The linework does not match that shown on the Newland grading plans (the source is unknown). No verification was performed and no adjustments were made to the linework.
- For comparative purposes, only PDF’s of the Fuscoe grading plans were available. No CAD files or quantities were available. The quantities and analysis for Deer Springs Road was approximated by attempting to duplicate the design (see Exhibits “D” and “E”). For the 100-ft Right-of-Way condition, the additional two feet was added only to the north side of the section. In addition, the Fuscoe grading plans use vertical datum NAVD-88, which is consistent with Caltrans, but not with the County and most typical municipal and private improvements. The difference in elevation from the Fuscoe plans to Option C analysis included herein is approximately 2.2-ft (Fuscoe higher). These differences have been taken into account for this analysis, however variations may still exist due to the approximate nature of the analysis.

Each Option can be broken down into three main sections; east end, center potion, and west end. The components of each alternative are compatible or interchangeable with each other, giving a range of possible impacts and conditions. A description of each Option/Section is presented below:

East End - at Interstate 15 Interchange and Mesa Rock Road (see Exhibit “A”)

The Newland Grading Plans only show one interchange alternative (diverging diamond) along with Option B, and no interchange improvements with Option A. It is understood that a second interchange alternative with a roundabout was proposed by Newland in PSR to Caltrans. However, none of the interchange alternatives proposed by Newland were free of design exceptions. No updated interchange plans are available for analysis.

Roundabout – Two lane roundabout using 150-ft inscribed diameter and 32-ft circulatory road width. Further analysis is needed to optimize the size and configuration to provide proper sizing and turn patterns and address operational issues.
**Hook-Ramp** - This configuration maintains the existing southbound off-ramp and moves the southbound on-ramp to the north side as a hook ramp. By teeing Deer Springs Road into Mesa Rock Road and aligning Mesa Rock Road with the existing off-ramp intersection, this reduces the number of intersections along the main arterial and provides for turn radius area to direct traffic onto Newland Sierra Parkway as the primary alignment.

**Diverging Diamond** - with the primary arterial directed up into Newland property and Mesa Rock Road teeing into Deer Springs Road. By shifting the Deer Springs Road intersection further west as shown provides for great spacing between intersections and better operational performance.

Consideration was made as to potential for an additional interchange further north off the I-15. However, topographical constraints restrict such option. Also, an additional southbound on/off ramp will only accommodate some of the traffic.

All options provide more space for the Park-n-Ride facility. The only mass-transit in the area is one bus route (NCTD Route 389). There are no other transit facilities or known planned improvements or expansions in the area.

**Center Portion (through Newland Sierra)**

**Option C1** stays as close to the proposed Newland roads as possible, minimizing impact to the current development layout staying mostly on the Newland property. See Exhibit “B”.

**Option C2** attempts to provide for a more direct routing and lower travel times by taking a more southern route. See Exhibit “C”.

**West End (at Sarver Lane)**

**Option C1** follows generally the alignment of the proposed Newland Road/Sarver Lane, however the larger cross-section and radii cause for variations in impacts. Several smaller lots, homes, and businesses line the existing Sarver Lane. Deer Springs Road from the east would then tee into the new Newland Road. See Exhibit “B”.

**Option C2** coincides with the more southern alignment of the center section and utilizes a lot owned by Newland to reduce impacts to other private properties and structures, most notably those on Sarver. Deer Springs Road from the east would then tee into the new Newland Road. Alternatively, the Newland Road could run straight south and connect with Deer Springs Road as a roundabout. This may further limit impact to adjacent property. See Exhibit “C”.

---

K. Van Ness  
March 29, 2016  
Page 4 of 6
A summary of impacts comparing 4-Lane Newland Parkway (Option C1, C2) vs 4-Lane Deer Springs Road (Option B) is provided in **Table 1** below:

**Table 1: Option Impact Comparison**

<table>
<thead>
<tr>
<th></th>
<th>Length (linear feet)</th>
<th>Pavement(^2) (square feet)</th>
<th>Earthwork/Blasting(^3) (thousand cubic yards)</th>
<th>Property Impacts(^4) (acres)</th>
<th>Biological Resources(^5) (acres)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Option B (98-ft ROW)(^1)</td>
<td>7,600</td>
<td>577,600</td>
<td>247</td>
<td>10.7</td>
<td>6.4</td>
</tr>
<tr>
<td>Option B (100-ft ROW)(^1)</td>
<td>7,600</td>
<td>592,800</td>
<td>268</td>
<td>11.2</td>
<td>6.5</td>
</tr>
<tr>
<td>Option B (100-ft ROW and 1:5 slopes)(^1)</td>
<td>7,600</td>
<td>592,800</td>
<td>370</td>
<td>11.2</td>
<td>6.5</td>
</tr>
<tr>
<td>Option C1</td>
<td>10,500</td>
<td>819,000</td>
<td>1,900</td>
<td>11.1</td>
<td>15.7</td>
</tr>
<tr>
<td>Option C2</td>
<td>9,400</td>
<td>733,200</td>
<td>1,250</td>
<td>10.9</td>
<td>28.1</td>
</tr>
</tbody>
</table>

\(^1\)The Deer Springs Road Alternative B section as depicted on the Fuscoe Preliminary Grading Plans dated January 2016. An additional 2-ft is added to correct the section (see notes regarding inconsistency in this memo). A portion of Option B proposes 1:1 slopes, the third row provides earthwork volumes if 1.5:1 slopes are needed.

\(^2\)The pavement area for Option C1 and C2 include areas of pavement for new roads already a part of the Newland Sierra development. **Therefore, the differential for additional pavement for C1 and C2 compared to B is less than shown.**

\(^3\)Earthwork volumes for Option C1 and C2 may include areas where the Newland Sierra plans already propose grading. Earthwork proposed by Newland on the Preliminary Grading Plans is 10,700,000 cubic yards of cut and the same volume of fill. Adjustments to the Newland Development to accommodate the proposed Option C may also yield less additional earthwork volumes. For C1 and C2, the use of 1:1 slopes or retaining walls may allow for reduced earthwork quantities. For C2, fill volumes may be reduced by lowering the grade of the road on the west end and center section. Blasting volumes were not calculated due to lack of soils information available. The use of retaining walls was not deemed necessary due to this limited analysis. Perhaps based on biological, property, or other constraints, retaining walls may be desired.

\(^4\)Property impacts for “outside” Right-of-Way would consist of slope and drainage easements and temporary construction easements. C1 does not account for the property impacts already proposed by the Newland Sierra development. **Therefore, the differential for additional property impacts for C1 and C2 compared to B is less than shown.** Detailed area calculations are shown on Sheet 2 of Exhibits “B” and “C”.

\(^5\)Due to site access and scheduling restrictions, DELANE was unable to visit the site and perform a general biological reconnaissance. Therefore, biological impacts are not considered at this time.
Travel Time and Intersection Operational Analysis

Based on the Option C alignments and I-15 interchange options considered, STC Traffic performed an assessment of future road service levels, travel times and intersection operations based on Horizon Year 2035 traffic volumes assuming a 4-lane arterial. This analysis is provided as Attachment “A”.

Anticipated free flow travel times between Sarver and Mesa Rock road are:

- Existing Deer Springs Road = 7,900 feet / 73 fps = 108 seconds or 1 minutes 48 seconds
- Newland Sierra Parkway (Option C1) = 10,500 feet / 73 fps = 143 seconds or 2 minutes 23 seconds
- Newland Sierra Parkway (Option C2) = 9,400 feet / 73 fps = 128 seconds or 2 minutes 8 seconds

Under free-flow conditions, the travel time for Deer Springs Road would be slightly less than Option C1 and C2. However, the development of Option C1 and C2 directs thru-traffic onto the Newland Sierra Parkway and adds stop control and other measures to the existing eastbound and westbound approach on Deer Springs Road making this route the less obvious choice for drivers. This condition would also occur at the west end intersection at Sarver Ln/Deer Springs Road. Taking this into account, along with potential signal timing adjustments and increased delay in turning on and off of Deer Springs Road, the travel times would be comparable between the alignment options. Under more congested conditions, there is even greater potential for drivers to utilize Option C over Deer Springs Road. See Attachment “A” for further details.

Intersection operational analysis findings show that only the diverging diamond interchange configuration shown in Exhibit “A” will operate at an acceptable level of service in Horizon Year 2035. A roundabout does not operate acceptably as proposed. Additional analysis is needed to determine if a leg can be removed from the interchange.

End of memorandum
April 5, 2016

Delane Engineering
Attention: John Prince
jprince@delanegroup.com

Subject: Golden Door Spa – Traffic Assessment of Deer Springs Road Alternative Alignments

Dear Mr. Prince,

STC Traffic conducted travel time runs along Deer Springs Road from Sarver Lane to the I-15 interchange on March 22, 2016 in both the morning (7:00am to 9:00am) and afternoon (4:00pm to 6:00pm) to determine travel time and queuing along Deer Springs Road. General observations during this study period included:

- In the morning peak, queues were observed on the southbound I-15 off ramp at Deer Springs Road. These trips were heading west toward San Marcos. However, traffic typically traveled at or above the speed limit from the freeway to south of Sarver Lane (towards Twin Oaks Valley Road).

- In the afternoon peak, the queue extended from Sarver Lane to I-15 heading eastbound on Deer Springs Road. Approximately 75% of the traffic on Deer Springs was observed to head north on I-15 and 25% continued east. The queue resulted in stop and go traffic a distance of approximately 1.7 miles at 4:42pm. The queues died off approaching 6:00pm.

Table 1 below summarizes the existing conditions travel times from Olive Street to Champagne Boulevard during the morning (7:00 to 9:00 am) and afternoon (4:00 to 6:00pm) peak periods. As shown, the longest travel time occurred eastbound on Deer Springs Road during the afternoon peak (10 minutes and 19 seconds). During this time, traffic conditions were bumper to bumper traveling at speeds less than 25 mph from approximately Sarver Lane to I-15 (distance of approximately 2 miles).

| Table 1: Existing Conditions Travel Time (Olive Street to Champagne Boulevard) |
|---------------------------------|----------------|----------------|
| Eastbound:                      | Average Travel Time | Maximum Travel Time |
| AM Peak                         | 4 minutes, 23 seconds | 4 minutes, 38 seconds |
| PM Peak                         | 7 minutes, 55 seconds | 10 minutes, 19 seconds |
| Westbound:                      |                   |                   |
| AM Peak                         | 5 minutes, 5 seconds | 5 minutes, 38 seconds |
| PM Peak                         | 6 minutes, 16 seconds | 7 minutes, 12 seconds |

Based on information available from the I-15 Deer Springs PSR, the existing traffic volumes along Deer Springs between Sarver Lane and I-15 are as follows:

- Eastbound AM = 368 vph
- Eastbound PM = 1,010 vph
- Westbound AM = 1,270 vph
- Westbound PM = 592 vph
The proposed Newland Community will result in an increase in traffic along Deer Springs Road during the peak hours. This will result in higher traffic volumes during the peak hour, higher delays at intersections and longer travel times during congested conditions. Table 2 below summarizes the anticipated traffic volume during the peak hours under Existing plus Project and Horizon Year with project conditions (based on four lane Deer Springs Road).

<table>
<thead>
<tr>
<th>Table 2: Existing and Future Year Peak Hour Traffic Volumes</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Peak Hour Volume (vph)</strong></td>
</tr>
<tr>
<td><strong>Eastbound</strong></td>
</tr>
<tr>
<td><strong>Westbound</strong></td>
</tr>
<tr>
<td>Existing Condition</td>
</tr>
<tr>
<td>AM Peak</td>
</tr>
<tr>
<td>PM Peak</td>
</tr>
<tr>
<td>Existing Plus Project</td>
</tr>
<tr>
<td>AM Peak</td>
</tr>
<tr>
<td>PM Peak</td>
</tr>
<tr>
<td>Horizon Year Plus Project</td>
</tr>
<tr>
<td>AM Peak</td>
</tr>
<tr>
<td>PM Peak</td>
</tr>
</tbody>
</table>

As shown in Table 2, the volume of traffic along Deer Springs Road is anticipated to increase significantly during the peak periods in both directions of travel by the year 2035 should four lanes be constructed along Deer Springs Road. The construction of new travel lanes along Deer Springs Road would result in an increase in through traffic, which would be partially attributed to the Newland Communities project.

**Travel Time Analysis**

With this understanding of the existing queuing condition and the need for additional through lanes on Deer Springs Road to accommodate the forecast increase in traffic, STC evaluated the free flow travel times along both the existing Deer Springs Road and the proposed Newland Sierra Parkway (Option C1 and C2), as developed by Delane Engineering. The following assumptions were included in the travel time and traffic redistribution analysis:

- Free flow speed along existing Deer Springs Road = 50 mph
- Free flow speed along Newland Sierra Parkway = 50 mph (design speed is 45 mph based on 750’ curve radius design)
- Travel Route is Sarver Lane to Mesa Rock Road

Based on these assumptions, the following summarizes the anticipated travel times:

- Existing Deer Springs Road = 7,900 feet / 73 fps = 108 seconds or 1 minutes 48 seconds
- Newland Sierra Parkway (Option C1) = 10,500 feet / 73 fps = 143 seconds or 2 minutes 23 seconds
- Newland Sierra Parkway (Option C2) = 9,400 feet / 73 fps = 128 seconds or 2 minutes 8 seconds

Under free-flow conditions, the travel time for Deer Springs Road would be slightly lower than Option C1 and C2. However, the development of Option C1 and C2 directs through traffic onto the Newland Sierra Parkway and adds stop control and other measures to the existing eastbound and westbound approach on Deer Springs Road making this route the less obvious choice for drivers. This condition would also occur at the west end intersection at Sarver Ln/Deer Springs Road. Taking this into account, along with potential signal timing
adjustments and increased delay in turning on and off of Deer Springs Road, the travel times would be comparable between the alignment options.

Additionally, the decision of drivers to shift from one route to the other will occur to a point where the volumes reach an equilibrium and free-flow conditions change. The single lane service flow rate (capacity) along Deer Springs Road is approximately 1,000 vph in each direction based on analysis conducted using the Synchro software for roadway segment analysis, particularly near Mesa Rock Road and the I-15 interchange. A “free-flow” condition will be reached when the level of service along Deer Springs Road is LOS C or better, which corresponds to volume to capacity ratio of 0.70. Using a per lane capacity of 1,200 vph, the maximum directional volume that could be processed on Deer Springs Road under a “free-flow” condition is 700 vph. When volumes exceed 700 vph on the existing Deer Springs Road, travel speeds begin to drop below the free-flow condition.

Using the data in Table 2, STC estimated the volume of traffic that would potentially shift from one road to the other.

<table>
<thead>
<tr>
<th>Table 3: Potential Shift in Traffic Volumes</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Eastbound</strong></td>
</tr>
<tr>
<td><strong>Peak Hour Volume (vph)</strong></td>
</tr>
<tr>
<td><strong>Existing Condition</strong></td>
</tr>
<tr>
<td>AM Peak</td>
</tr>
<tr>
<td>PM Peak</td>
</tr>
<tr>
<td><strong>Existing Plus Project</strong></td>
</tr>
<tr>
<td>AM Peak</td>
</tr>
<tr>
<td>PM Peak</td>
</tr>
<tr>
<td><strong>Horizon Year Plus Project</strong> (assuming 4 lanes)</td>
</tr>
<tr>
<td>AM Peak</td>
</tr>
<tr>
<td>PM Peak</td>
</tr>
<tr>
<td><strong>Horizon Year Plus Project</strong> (assuming 2 lanes)</td>
</tr>
<tr>
<td>AM Peak</td>
</tr>
<tr>
<td>PM Peak</td>
</tr>
</tbody>
</table>

During the peak hours, congestion on Deer Springs Road currently prevents travel speeds from reaching the free-flow speed (50 mph) in the peak direction of travel. During non-peak hours, free-flow speeds can typically be achieved in either direction of travel. By the Horizon Year with the Newland project, travel speeds on the existing 2 lane Deer Springs Road would likely fall well below the free-flow speed throughout the day, in one or both directions of travel. If the future speed on the existing Deer Springs Road degrades to less than 50 mph during the non-peak as well as peak hours, traffic would be expected to divert to Newland Sierra Parkway if it was constructed until volumes and speeds reached an equilibrium.

The following illustrates the change in travel time between the 50 mph free-flow speed and lower speeds over a distance of 7,900 feet:

- Travel Time at 50 mph = 1 minute 48 seconds
- Travel Time at 40 mph = 2 minutes 14 seconds
- Travel Time at 30 mph = 2 minutes 59 seconds
- Travel Time at 25 mph = 3 minutes 25 seconds
Travel times exceeding 2 minutes 23 seconds on Deer Springs Road would exceed the estimated free-flow travel speed on the Newland Sierra Parkway, which would likely result in traffic shifting from Deer Springs Road to Newland Sierra Parkway. The information listed above suggests that a reduction in speed of 10 mph or more may result in a shift, however the lower the speed on Deer Springs Road, the greater the shift in traffic.

**Intersection Operational Analysis**

Delane Engineering developed three conceptual alternatives to improve the intersection of Deer Springs Road, Mesa Rock Road, Newland Sierra Parkway, and the I-15 Interchange; for which STC evaluated the operating conditions of the three alternatives;

- Roundabout at Deer Springs/Mesa Rock Road/I-15 Ramps
- Diverging Diamond at Deer Springs / Mesa Rock Road/I-15 Ramp
- Hook Ramp at Deer Springs / Mesa Road Road/I-15 SB Ramps

The operational analysis was conducted using the Synchro 9 analysis software and HCM 2000 analysis methodology using the existing conditions volumes as well as the Horizon Year traffic volumes forecast for the Deer Springs Road/I-15 PSR (4 lane condition). The results of the analysis are summarized in Table 4.

As shown in the table, the roundabout volume exceeds the capacity for a two-lane roundabout. In order to properly function as a roundabout, the following changes would need to be made:

- One leg of the roundabout would need to be removed from the interchange
- Volume through the roundabout would need to be reduced by approximately 500 vehicles per hour (total of all movements through the intersection)

The first bullet may not be feasible due to the close spacing of the intersections. The second bullet may be feasible if the through volume on Deer Springs Road is less than forecast for the 4-lane condition (with the Mountain Meadow Road extension), or if the capacity along Deer Springs Road and the future Newland Sierra Parkway is exceeded such that traffic that currently uses this route would prefer to remain on I-15 to the SR-78 interchange, or vice-versa.

Table 4 also shows that the existing diamond interchange and the hook ramp alternative configuration would both result in LOS F operations during the peak hours in the Horizon Year with the Newland Project. The diverging diamond configuration for the interchange is the only alternative that would provide acceptable levels of service at all intersections through the interchange, including the Deer Springs Road/Newland Sierra Parkway intersection.

**CLOSURE**

Should you have any questions regarding the information provided herein, please contact me at (760) 585-4494.

Sincerely,

*STC Traffic, Inc.*

Dawn L. Wilson, PE TE
Principal
Table 4: Intersection Operational Analysis for Deer Springs Road / Mesa Rock Road/I-15 SB Ramps

<table>
<thead>
<tr>
<th>#</th>
<th>Intersection</th>
<th>Traffic Control</th>
<th>Peak Hour</th>
<th>Existing Conditions</th>
<th>Horizon Year 2035</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Diamond Interchange</td>
<td>Diverging Diamond Interchange</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Delay (a)</td>
<td>LOS (b)</td>
</tr>
<tr>
<td>2</td>
<td>I-15 NB/Deer Springs Rd</td>
<td>Signal</td>
<td>AM</td>
<td>32.5</td>
<td>C</td>
<td>69.2</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>PM</td>
<td>40.6</td>
<td>D</td>
<td>438.8</td>
</tr>
<tr>
<td>3</td>
<td>I-15 SB/Deer Springs Rd (includes New Street with Hook Ramp Alternative)</td>
<td>Signal</td>
<td>AM</td>
<td>37.1</td>
<td>D</td>
<td>47.9</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>PM</td>
<td>34.3</td>
<td>C</td>
<td>262.0</td>
</tr>
<tr>
<td>4</td>
<td>Mesa Rock Rd/Deer Springs Rd/Newland Sierra Parkway</td>
<td>Signal</td>
<td>AM</td>
<td>11.3</td>
<td>B</td>
<td>467.6</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>PM</td>
<td>11.1</td>
<td>B</td>
<td>510.6</td>
</tr>
</tbody>
</table>

Maximum crossing capacity is 1,200 vph. This capacity is exceeded.
DNE = Does not exist in scenario
Deer Springs Road Interchange Options

- Roundabout Interchange
- Diverging Diamond Interchange
- Hook-Ramp Interchange
HOOK-RAMP INTERCHANGE

ROUNDABOUT INTERCHANGE

DIVERGING DIAMOND INTERCHANGE

Deer Springs Road Interchange Options
EXHIBIT "B"

Primary Arterial Alignment Option C1 - with Newland Sierra Grading

CITY OF SAN MARCOS, SAN DIEGO COUNTY, CA

MARCH 23, 2016

SHEET 1 OF 3
EXHIBIT "B"

CONCEPTUAL GRADING PLAN
Primary Arterial Alignment Option C1 - with Parcels
CITY OF SAN MARCOS, SAN DIEGO COUNTY, CA

MARCH 23, 2016
SHEET 2 OF 8
CONCEPTUAL GRADING PLAN
Primary Arterial Alignment Option C2 - with Newland Sierra Grading
CITY OF SAN MARCOS, SAN DIEGO COUNTY, CA
MARCH 23, 2016
SHEET 1 OF 3

4-LANE, 100 FT WIDE ROW
(BASED ON PROPOSED ALTERNATE B SECTION PRELIMINARY GRADING PLAN 1/8/15)
Deer Springs Road - Roadway Alignment: Fuscoe 98 ft ROW

CITY OF SAN MARCOS, SAN DIEGO COUNTY, CA

EXHIBIT "D"
CONCEPTUAL GRADING PLAN
Deer Springs Road - Roadway Alignment: Fuscoe 100 ft ROW
CITY OF SAN MARCOS, SAN DIEGO COUNTY, CA
APPENDIX F:
SANDAG TRAFFIC MODELING RESULTS FOR DEER SPRINGS ROAD AND NEWLAND SIERRA PARKWAY
SANDAG SERIES 12 (YEAR 2035) MODEL A

- TWO-LANE DEER SPRINGS ROAD
- NO NEWLAND SIERRA PARKWAY
- NO SIERRA PROJECT TRAFFIC
SANDAG SERIES 12 (YEAR 2035) MODEL B
• TWO-LANE DEER SPRINGS ROAD
• NEWLAND SIERRA PARKWAY ADDED
• NO SIERRA PROJECT TRAFFIC
SANDAG SERIES 12 (YEAR 2035) MODEL C
• FOUR-LANE DEER SPRINGS ROAD
• NEWLAND SIERRA PARKWAY ADDED
• NO SIERRA PROJECT TRAFFIC