LINSCOTT LAW & GREENSPAN engineers

REVISED TRAFFIC ASSESSMENT

THE COVE AT EL NIGUEL

Laguna Niguel, California

June 9, 2021

(Original dated January 14, 2021)

Engineers & Planners
Traffic
Transportation
Parking

LINSCOTT LAW & GREENSPAN
engineers

Engineers & Planners
Traffic
Transportation
Parking

Linscott, Law & Greenspan, Engineers
2 Executive Circle
Suite 250
Irvine, CA 92614
949.825.6175 T
949.825.6173 F
www.llgengineers.com

Pasadena
Irvine
San Diego
Woodland Hills

June 9, 2021

Michael Recupero
Recupero & Associates, Inc.
31877 Del Obispo Street, Suite 204
San Juan Capistrano, CA 92675

LLG Reference: 2.20.4357.1

Subject: **Revised Traffic Assessment for The Cove at El Niguel**
Laguna Niguel, California (original report dated January 14, 2021)

Dear Mr. Recupero:

Linscott, Law & Greenspan, Engineers (LLG) is pleased to submit this Revised Traffic Assessment associated with The Cove at El Niguel (hereinafter referred to as "Project") in the City of Laguna Niguel, California. The project site is located along Crown Valley Parkway, opposite of Paseo del Niguel, and is proposing to construct a 22-unit townhome residential community. This traffic assessment includes the following:

- Project trip generation assessment,
- VMT screening assessment,
- Sight distance analysis,
- Internal circulation evaluation,
- Queueing evaluation for the northbound left-turn lane at the project driveway,
- Traffic signal warrant analysis at the project driveway, and
- Construction assessment.

Further, this traffic assessment has been updated to address applicable comments/recommendations on the January 14, 2021 analysis as outlined in the *The Cove at El Niguel Traffic Assessment Peer Review, City of Laguna Niguel, dated March 24, 2021, prepared by RK engineering group, inc.,* on behalf of the City of Laguna Niguel.

PROJECT LOCATION AND DESCRIPTION

The Project site is located along Crown Valley Parkway, opposite of Paseo Del Niguel, and is currently a vacant 4.2± acre parcel of land located in the City of Laguna Niguel, California. Access to the Project site is currently provided via an existing private driveway located opposite Paseo Del Niguel. ***Figure 1***, located at the

rear of this letter report, presents a vicinity map which illustrates the general location of the project and the surrounding street system.

The proposed Project includes the construction of a 22-unit townhome residential community within eight (8) buildings. Parking for the Project incudes 44 garage spaces (2 spaces per unit) and nineteen (19) surface lot spaces. Access to the Project site will remain the same as the existing private driveway that currently serves the site, located along Crown Valley Parkway. ***Figure 2*** presents an existing aerial photograph of the Project site. ***Figure 3*** presents the proposed Project site plan prepared by Hunsaker & Associates in November 2020.

EXISTING TRAFFIC CONDITIONS

Existing Street Network

The principal local network of streets serving the project site includes Crown Valley Parkway. The following discussion provides a brief synopsis of the key area roadway:

> **Crown Valley Parkway** is primarily a six-lane, divided roadway oriented in the north-south direction that borders the project site to the east. On-street parking is not permitted on either side of this roadway. The posted speed limit on Crown Valley Parkway is 50 miles per hour (mph). Daily traffic volumes on the section of Crown Valley Parkway, adjacent to the Project site, totals 23,133 vehicles per day based on traffic volumes collected on Thursday, December 3, 2020. However, the anticipated pre-Covid-19 volumes is 27,083 vehicles per day based on the adjustment methodology identified in the Existing Traffic Volume Section noted below.

Figure 4 presents the existing roadway conditions for at the project driveway located along Crown Valley Parkway. This figure identifies the number of travel lanes along Crown Valley Parkway as well as intersection configurations and controls at the project driveway.

Existing Traffic Volumes

Due to the COVID-19 virus, the Governor of California has issued a state-wide "stay at home" order which has ultimately resulted in a decrease in traffic. Based on these current conditions, the ability to collect traffic counts to establish baseline conditions that would be reflective of traffic conditions without "stay at home" orders in effect is not possible. As such, to establish "baseline" traffic conditions, pre-COVID-19 (i.e. under normal circumstances without "stay at home" orders in effect), LLG has researched historical data and was able to obtain Year 2019 ADT counts on Crown

Valley Parkway, between Hillhurst Drive and Clubhouse Drive. Given the availability of historic data, the following steps were used to establish pre-COVID-19 traffic conditions:

(1) Historic data is available on Crown Valley Parkway, between Hillhurst Drive and Clubhouse Drive, for Year 2019.

(2) LLG has collected Year 2020 COVID-19 traffic counts on Crown Valley Parkway, between Hillhurst Drive and Clubhouse Drive, for use in establishing traffic counts/turning movement percentages. These traffic counts were collected in December 2020 by National Data and Surveying Services, Inc.

(3) Using information from (1) and (2), compare 2019 to 2020 to establish change in traffic counts due to the current COVID-19 environment.

(4) Apply the rate calculated in (3) to 2020 COVID-19 traffic counts and forecast 2019 traffic conditions.

(5) Lastly, apply an annual growth factor of 0.75% per year to the Year 2019 traffic conditions to establish Year 2020 pre-COVID-19 baseline traffic conditions. The annual growth factor is consistent with Section 4.2 of the *City of Laguna Niguel Transportation Assessment Guidelines*, dated November 2020.

Figure 5 illustrates the adjusted existing (Year 2020) weekday AM and PM peak hour traffic volumes at the Crown Valley Parkway/Project Driveway-Paseo del Niguel intersection. ***Appendix A*** contains the summary tables for the adjusted Year 2020 baseline volume development as well as the existing and historic traffic count sheets.

PROJECT TRAFFIC CHARACTERTISTICS

Trip Generation Forecast

Traffic generation is expressed in vehicle trip ends, defined as one-way vehicular movements, either entering or exiting the generating land use. Generation factors and/or equations used in this analysis are based on information found in the 10th Edition of *Trip Generation,* published by the Institute of Transportation Engineers (ITE) [Washington, D.C., 2017].

As presented in the upper portion of ***Table 1,*** the trip generation potential of the proposed Project has been estimated using the average rates for ITE Land Use 220: Multifamily Housing Low Rise[1].

The lower portion of ***Table 1*** presents the trip generation forecast for the proposed Project. As shown, the proposed Project is forecast to generate 161 daily trips, with 10 trips (2 inbound, 8 outbound) produced in the AM peak hour and 12 trips (8 inbound, 4 outbound) produced in the PM peak hour.

Based on Section 4.0 of the *City of Laguna Niguel Transportation Assessment Guidelines,* a LOS Traffic Impact Study is required for all projects that will add 51 or more trips during the AM or PM peak hours to any intersection. Given the results of the proposed Project's trip generation forecast, the proposed Project trips are expected to generate less than 50 trips during both the weekday AM and PM peak hours. Therefore, LLG concludes that the added Project trips, which amounts to 10 weekday AM peak hour trips and 12 weekday PM peak hour trips, would have minimal to no traffic impacts on the surrounding street network and no further analysis is needed.

Traffic Distribution and Assignment

Project trips have been further distributed and assigned to the adjacent street system based on the following considerations:

- the orientation of the site and the proximity to key area roadways (i.e. Crown Valley Parkway),
- expected localized traffic patterns based on adjacent street channelization and presence of traffic signals, and
- ingress/egress availability at the Project site driveways.

Figure 6 presents the Project trip distribution pattern at the project driveway. ***Figure 7*** presents the anticipated peak hour traffic volumes associated with proposed Project for the AM and PM peak hours at the project driveway. The AM and PM peak hour traffic volume assignments presented in *Figure 7* reflect the Project trip distribution characteristics illustrated in *Figure 6* and the Project trip generation forecast presented in *Table 1*.

Figure 8 presents the AM and PM peak hour traffic volumes at the project driveway with the addition of trips generated by the proposed Project to existing traffic volumes.

---

1 Low-rise multifamily housing includes buildings that have one or two levels (floors).

VMT SCREENING ASSESSMENT

The purpose of a VMT assessment is to evaluate the Project based on Senate Bill 743 (SB 743) requirements consistent with *Technical Advisory on Evaluating Transportation Impacts in California Environmental Quality Act* (CEQA), December 2018 prepared by State of California Governor's Office of Planning and Research (OPR) and the CEQA VMT Analysis guidelines identified within the *City of Laguna Niguel Transportation Assessment Guidelines*.

The City's VMT Guidelines provides guidance for analysis of VMT assessments under SB743. The City documents provides screening thresholds to assess whether further VMT analysis is required based on project location, size, or consistency with the SCAG Regional Transportation Plan/Sustainable Communities Strategy.

Section 3.2 of the *City of Laguna Niguel Transportation Assessment Guidelines dated November 2020* indicate that projects generating less than 500 vehicle trips per day based on the latest ITE Trip Generation Manual are presumed to be less than significant. Given the results of the proposed Project's trip generation forecast, the proposed Project trips are expected to generate less than 500 daily trips during the weekday. Therefore, LLG concludes that the Project would be screened out from a VMT assessment and its VMT impact are presumed to be less than significant.

SITE ACCESS EVALUATION

Sight Distance Analysis

At intersections and/or project driveways, a substantially clear line of sight should be maintained between the driver of a vehicle waiting at the crossroad and the driver of an approaching vehicle. Adequate time must be provided for the waiting vehicle to either cross all lanes of through traffic, cross the near lanes and turn left, or turn right, without requiring through traffic to radically alter their speed. A sight distance evaluation has been performed for the project driveway located on Crown Valley Parkway as well as the northbound left-turn into the project site on Crown Valley Parkway.

The Sight Distance Evaluation for the project driveway as included in the January 14, 2021 analysis utilized the criteria and procedures set forth by the California Department of Transportation (Caltrans) in the State's *Highway Design Manual (HDM)* for "Private Road Intersections" consistent with standard traffic engineering practice and as discussed with City staff prior to initiation of the Project traffic assessment. However, based on recommendations outlined in the March 24, 2021

RKE Peer Review, the line of sight evaluation for the proposed private roadway was also evaluated based using *Orange County Public Works Department (OCPDW) Standard Plan No. 1117 – Intersection Sight Distance.*

Orange County Sight Distance Criteria

Per OCPWD Standard Plan No. 1117, the intersection sight distance is measured along the centerline of the roadway and is defined as the distance required to allow 7.5 seconds for the driver on the crossroad (or left-turn pocket) to safely cross the main roadway or turn left while the approach vehicle travels at the assumed design speed of the main roadway. The sight distance is measured from a driver's line of sight (3.5-foot eye height) to oncoming vehicles (4.25-foot object height) while in a vehicle at an intersection 10 feet back from the projection of the curb line.

Crown Valley Parkway is defined as a Major roadway in the City of Laguna Niguel Circulation Element and the Orange County Master Plan of Arterial Highways (MPAH). Per OCPWD Standard Plan No. 1117, the intersection sight distance for an unsignalized intersection along a Major roadway is 660 feet.

The project site has been visited to determine the existing provided sight distance at the project driveway. The existing provided sight distance on Crown Valley Parkway is 1,390 feet for vehicles approaching from the right and 620 feet for vehicles approaching from the left at the project driveway.

Figure 9 presents the results of the sight distance evaluation at the project driveway for left and right-turning vehicles based on the application of the required sight distance OCPWD Standard Plan No. 1117 and actual sight distances. This figure also illustrates the limited use areas. As shown, the existing provided sight lines would be short 40 feet and thus would not satisfy the intersection sight distance for vehicles approaching from the left per the OCPWD Standard Plan No. 1117 (620 feet provided vs. a need of 660 feet).

To verify the adequacy of sight lines at the Project driveway, the criteria set forth criteria set forth in the most current Highway Design Manual (HDM) was utilized, The use of the Caltrans HDM is consistent with standard engineering practice and is widely accepted by most jurisdictions. As such, the sight lines based on the HDM criteria has been included as well and is considered applicable for the Project driveway.

Highway Design Manual (HDM) Sight Distance Criteria

The Sight Distance Evaluation for the Project driveway to verify the adequacy of sight lines was also based on the criteria and procedures set forth by the California Department of Transportation (Caltrans) in the State's *Highway Design Manual (HDM)* for "Private Road Intersections". Both stopping sight distance and corner sight distance was utilized for the evaluation, although the Caltrans HDM, in Section 405.1(2)(c), page 400-27, indicates that for Private Road Intersections, "The minimum corner sight distance shall be equal to the stopping sight distance as given in Table 201.1...". Stopping sight distance is measured from the driver's eyes, which are assumed to be 3.5 feet above the pavement surface, to an object 0.5-foot high on the roadway.

Stopping sight distance is defined in the Caltrans HDM to be the distance required by the driver of a vehicle, traveling at a given speed, to bring the vehicle to a stop after an object ½ foot high on the road becomes visible. Stopping sight distance is measured from the driver's eyes, which is assumed to be 3 ½ feet above the pavement surface, to an object ½ foot high on the road.

Corner sight distance is defined in the Caltrans HDM to be the distance required by the driver of a vehicle, traveling at a given speed, to maneuver their vehicle and avoid an object without radically altering their speed. Line of sight for corner sight distance is to be determined from a 3½ foot height at the location of the driver of a vehicle on a minor road to a 3½ foot object height in the center of the approaching lane of the major road.

The speed used in determining stopping sight distance is defined as the "critical speed" or 85th percentile speed which is the speed at which 85% of the vehicles are traveling at or less. The critical speed is the single most important factor in determining stopping sight distance. Table 201.1 in the HDM is used in determining stopping sight distance based on the critical speed of vehicles on the affected roadway. The posted speed limit on Crown Valley Parkway is 50 miles per hour (mph). For this analysis, a design speed of 60 mph for Crown Valley Parkway was utilized consistent with that which was required per OCPWD Standard Plan No. 1117. This design speed was based on speed surveys that were collected on Crown Valley Parkway at the project driveway, which indicated an 85th percentile speed of 60 mph.

Based on Table 201.1 of the Caltrans HDM and a speed of 60 mph on Crown Valley Parkway, a stopping sight distance of 580 feet is required for both a left-turning and right-turning vehicle at the project driveway.

To provide a conservative assessment, the "corner sight distance" criteria in Section 405.1(2)(b) of the *HDM* was also utilized. Based on the criteria set forth in Table 405.1A of the Caltrans HDM and a speed of 60 mph on Crown Valley Parkway, the corner sight distance required for a left-turning vehicle is 827 feet for vehicles approaching from the right and 739 feet for vehicles approaching from the left.

As previously noted, the existing provided sight distance on Crown Valley Parkway is 1,390 feet for vehicles approaching from the right and 620 feet for vehicles approaching from the left at the project driveway.

Project Driveway Outbound Left-Turn Evaluation

Figure 10 presents the results of the sight distance evaluation at the project driveway for left-turning vehicles based on the application of the stopping sight distance, corner sight distance and the actual sight distance. This figure also illustrates the limited use areas. As shown, the existing provided sight lines do not satisfy the required corner sight distance for vehicles approaching from the left and is therefore considered inadequate per the HDM standards, although the required stopping sight distance is met.

Project Driveway Outbound Right-Turn Evaluation

Figure 11 presents the results of the sight distance evaluation at the project driveway for right-turning vehicles based on the application of the stopping sight distance, corner sight distance and the actual sight distance. This figure also illustrates the limited use areas. As shown, the existing provided sight lines are expected to be adequate per the HDM standards as long as obstructions within the sight triangles are minimized. Adequate sight lines give the motorist the ability to see gaps in traffic to help with egress from the site. Due to these sight lines, a deceleration lane or an acceleration lane is not required for the right-turning vehicles either entering the site or exiting the site, respectively.

Project Driveway Inbound Left-Turn Evaluation

Figure 12 presents the sight distance evaluation for the northbound left-turn movement on Crown Valley Parkway based on the application of the stopping sight distance criteria. Based on Table 201.1 of the Caltrans HDM and a speed of 60 mph on Crown Valley Parkway, a stopping sight distance of 580 feet is required for the left-turn movement. The figure illustrates the limited use areas. As shown, the sight lines for the northbound left-turn movement are expected to be adequate as long as obstructions within the sight triangles are minimized.

Based on the above, it is recommended that the project driveway be limited to right turn in/out and left turn in only; outbound left-turn movements are recommended to be prohibited.

Internal Circulation Evaluation

The on-site circulation was evaluated in terms of vehicle-pedestrian conflicts. Based on our review of the proposed site plan, the overall layout does not create any unsafe vehicle-pedestrian conflict points and the driveway throating is sufficient such that access to parking spaces is not impacted by internal vehicle queuing/stacking. The on-site circulation is very good based on our review of the proposed site plan, whereas the alignment, spacing, and throating of the Project driveways is adequate. The circulation around the buildings is adequate with sufficient sight distance along the drive aisles. The turning template requirements of small service/delivery trucks (i.e., UPS, FedEx, and trash trucks), fire trucks and passenger vehicles were utilized to ensure these vehicles could properly access and circulate through the Project site. As such, vehicles entering the site via Crown Valley Parkway can do so unimpeded.

In addition, five years of crash data was researched at the intersection of Crown Valley Parkway at Paseo del Niguel via SWITRS, which is a statewide traffic data system used for collecting traffic collisions. Review of this data shows that the northbound right-turn movement had no rear end collision during the last five years. Since the southbound lane configuration is similar to that of the northbound approach it can be assumed that the potential conflicts between the southbound right-turn and the southbound through movement would have similar conflicts to that of the northbound movements which resulted in no collisions. As such, a deceleration lane into the site is not required.

Queueing Evaluation

A queueing evaluation was completed for the northbound left-turn lane at the project driveway to validate that the existing storage provided is adequate to accommodate the proposed Project traffic. The queueing evaluation was conducted based on Existing Plus Project peak hour traffic volumes and the HCM 95th Percentile methodology.

Table 2 presents the queueing results for the northbound left-turn pocket at the project driveway. Review of *Table 2* indicates that the anticipated queues do not exceed more than one (1) vehicle during both the AM and PM peak hours, and therefore the existing storage is considered adequate. ***Appendix B*** presents the queueing worksheets.

TRAFFIC SIGNAL WARRANT ANALYSIS

A signal warrant assessment has been completed for the Project driveway to determine whether the installation of a traffic signal is justified. This assessment is made on the basis of signal warrant criteria adopted by Caltrans. For this study, the need for signalization is assessed on the basis of the peak-hour traffic signal warrant as described in the *California Manual on Uniform Traffic Control Devices (MUTCD)*.

Warrant #3 has two parts:
(1) *Part A* evaluates peak hour vehicle delay for traffic on the minor street approach with the highest delay, and
(2) *Part B* evaluates peak-hour traffic volumes on the major and minor streets.

This method provides an indication of whether peak-hour traffic conditions or peak-hour traffic volume levels are, or would be, sufficient to justify installation of a traffic signal.

The decision to install a traffic signal should not be based purely on the warrants alone. Instead, the installation of a signal should be considered and further analysis performed when one or more of the warrants are met. Additionally, engineering judgment is exercised on a case-by-case basis to evaluate the effect a traffic signal will have on certain types of accidents and traffic conditions at the subject intersection as well as at adjacent intersections.

Table 3 presents the results of the peak-hour traffic signal warrant analysis (Warrant #3) for Existing Plus Project traffic conditions. Column (1) of *Table 3* indicates that the project driveway does not satisfy the criteria for a traffic signal. As such, the installation of a traffic signal at the project driveway is not recommended.

For informational purposes, a signal warrant analysis has also been completed to include the east leg (Paseo del Niguel) as part of the traffic signal. Currently, Paseo del Niguel allows for ingress only and would be converted to full access with the installation of a traffic signal. Column (2) of *Table 3* presents the results of the peak-hour traffic signal warrant analysis for Existing Plus Project conditions with full access[2] on Paseo del Niguel. The results indicate that the intersection does not satisfy the criteria for a traffic signal.

Appendix C presents the signal warrant analysis worksheets.

---

[2] The westbound volumes have been estimated based on the number of homes that would be serviced by the potential signal in combination with ITE trip rates.

RECOMMENDED PROJECT IMPROVEMENTS

Restrict Left-Turn Egress at Project Driveway

Currently, access to the Project site is anticipated to remain the same as the existing full-access driveway that currently serves the site, located along Crown Valley Parkway. However, the sight distance analysis presented earlier in this report indicate that the existing sight lines are not adequate to safely accommodate left-turn egress at the project driveway based on the corner sight distance requirements in comparison to the actual sight lines now provided. Additionally, the current travel speeds on Crown Valley Parkway will pose a challenge for vehicles leaving the project site to complete a left-turn. Since a traffic signal is not justified at this location, it is recommended to restrict left-turn egress at the project driveway as a safety enhancement. ***Figure 13*** presents the conceptual improvement plan related to the installation of a median diverter on Crown Valley Parkway to restrict outbound left-turn movements from the project driveway.

As a result, vehicles that were originally anticipated to complete a left-turn would be required to instead make a right-turn out of the project driveway and complete a U-turn at the intersection of Crown Valley Parkway/Club House Drive. The forecast number of project trips anticipated to complete this movement amount to five (5) trips in the AM peak hour and two (2) trips in the PM peak hour on a typical weekday. Therefore, LLG concludes that the added volume to Crown Valley Parkway/Club House Drive is considered nominal and would have minimal impacts to the surrounding street system, inclusive of the operations of the Crown Valley Parkway/Club House Drive intersection.

Appendix D contains the project trip distribution pattern based on the restriction of left-turn egress at the project driveway, the AM and PM peak hour traffic volumes associated with the proposed Project, and the AM and PM peak hour Existing Plus Project traffic volumes. *Appendix D* also contains the corresponding level of service and queueing calculation worksheets at the project driveway, which indicate that the proposed Project driveway is forecast to operate at acceptable service levels with the left-turn egress restriction, and the northbound left-turn queues are also expected to be adequate.

Northbound Left-Turn Pocket on Crown Valley Parkway at Project Driveway

Review of existing roadway conditions on Crown Valley Parkway indicates that the existing northbound left-turn pocket at the Project Driveway provides 115-feet of storage with a transition area of 60-feet. While the northbound left-turn pocket is designed appropriately per Section 400-34 of the Caltrans HDM, it is recommended

to modify the transition area of the turn pocket to better accommodate the high speeds along Crown Valley Parkway which have an 85th percentile speed of 60 mph.

Figure 12 also presents the conceptual improvement plan for modifying the left-turn pocket. It is recommended that, in conjunction with the installation of a median diverter, the left-turn pocket be modified, as shown, to provide a 100-foot left-turn lane with a transition area of 120-feet. The queueing results presented earlier in this report indicate that the anticipated queues do not exceed more than one (1) vehicle during the weekday peak hours, therefore, this improvement is not expected to impact vehicles entering the project site.

GAP ANALYSIS

A gap analysis has been completed for the northbound left-turn ingress and eastbound right-turn egress at the Project driveway to determine if the existing gaps along Crown Valley Parkway are considered adequate to accommodate the Project traffic volumes. For the purposes of this study, it is assumed that the minimum time for one vehicle to safely complete the eastbound right-turn movement and northbound left-turn movement is 7 seconds and 10 seconds, respectively.

Table 4 presents a summary of the gap survey performed in May 2021 for the eastbound right-turn egress from the Project site onto Crown Valley Parkway. Based on the project trips presented in *Figure D-2* (*Appendix D*), a total of 8 trips and 4 trips are forecast to make the eastbound right-turn egress movement during the AM peak hour and PM peak hour, respectively. Review of *Table 4* indicates that a total of 215 vehicles during the AM peak hour and 196 vehicles during the PM peak hour may be accommodated within the existing gaps on Crown Valley Parkway. Therefore, it can be concluded that the existing gaps along Crown Valley Parkway are considered adequate to accommodate the project traffic volumes.

Table 5 presents a summary of the gap survey performed in May 2021 for the northbound left-turn ingress to the Project site onto Crown Valley Parkway. Based on the project trips presented in *Figure D-2* (*Appendix D*), a total of 1 trip and 3 trips are forecast to make the northbound left-turn ingress movement during the AM peak hour and PM peak hour, respectively. Review of *Table 5* indicates that a total of 128 vehicles during the AM peak hour and 115 vehicles during the PM peak hour may be accommodated within the existing gaps on Crown Valley Parkway. Therefore, it can be concluded that the existing gaps along Crown Valley Parkway are considered adequate to accommodate the project traffic volumes.

CONSTRUCTION ASSESSMENT

A construction assessment has been completed to determine the potential traffic impacts due to construction activities at the Project site. Generally, construction activities include site grading/excavation, building foundation/framing/construction and paving/concrete/landscaping. The following section describes the potential construction-related trips associated with each construction activity and provides an assessment as to whether or not the forecast construction trips will have an impact on the existing street system. It should be noted that a majority of the construction information for the proposed Project is currently unknown, therefore, the following information has been estimated based on LLG's prior knowledge related to construction activities.

Construction Traffic Trip Generation

In order to forecast the potential construction related trips associated with the construction activities at the project site, the following assumptions have been utilized for the following three construction components:

Site Grading/Excavation

- A five-day workweek (Monday through Friday) and nine-hour workday was assumed.
- The Project site is generally considered near-balanced and will require approximately 130 cubic yards (CY) of soil to be exported for grading. Based on a capacity of 10 CY per truck, the site would require approximately 13 truckloads for soil export (i.e. 26 total daily truck trips).
- A total of 5 workers per day was assumed.

Building Foundation/Framing/Construction

- A five-day workweek (Monday through Friday) and nine-hour workday was assumed.
- A total of 7 trucks per day was assumed (i.e. 14 total daily truck trips).
- A total of 6 workers per day was assumed.

Paving/Concrete/Landscape

- A five-day workweek (Monday through Friday) and nine-hour workday was assumed.
- A total of 3 trucks per day was assumed (i.e. 6 total daily truck trips).
- A total of 6 workers per day was assumed.

In addition to the aforementioned assumptions for each construction component, the following assumptions were utilized for truck and employee trips:

- Each truckload requires an inbound trip and an outbound trip.
- The daily number of truck trips was averaged over the nine-hour workday to obtain the number of peak hour truck trips (50% entering and 50% exiting).
- All truck trips were converted to passenger car equivalents (P.C.E.'s) using a P.C.E factor of 3.0.
- Each worker would make 2 trips per day (one during the AM peak hour and one during the PM peak hour).

Based on the aforementioned assumptions, ***Table 6*** provides a summary of the forecast construction peak hour and daily traffic volumes for each of the three construction components. Review of the first row of *Table 6* shows that the site grading/excavation construction component is expected to generate 88 daily trips with 14 trips produced during the AM peak hour and 14 trips produced during the PM peak hour. Review of the second row of *Table 6* shows that the building foundation/framing/construction component is expected to generate 54 daily trips with 12 trips produced during the AM peak hour and 12 trips produced during the PM peak hour. Review of the last row of *Table 6* shows that the paving/concrete/landscaping component is expected to generate 30 daily trips with 9 trips produced during the AM peak hour and 9 trips produced during the PM peak hour.

It can be concluded that all three construction components will generate less than 50 trips during both the weekday AM and PM peak hours. Therefore, the added construction trips would have minimal impacts on the surrounding street network. As such no further analysis is recommended. Nevertheless, to reduce the impact of construction-related traffic the implementation of a Construction Management Plan is recommended to minimize traffic impacts upon the local circulation system in the area and improve ingress/egress to the construction site.

Construction Management Plan

To help minimize any potential congestion along Crown Valley Parkway related to the Project construction trips associated with trucks and employees traveling to and from the Project site in the morning and afternoon during Project construction activities, a Construction Management Plan is recommended to mitigate any potential short-term traffic impacts.

To ensure impacts to the surrounding street system are kept to a minimum, it is recommended that the Construction Management Plan for the proposed Project be developed in coordination with the City of Laguna Niguel prior to the start of construction and, at a minimum, address the following:

- Ingress and egress for the construction truck and worker traffic would be via Playa Blanca at Crown Valley Parkway. It is recommended to coordinate with the City to determine if a flagman would be required to assist with ingress and egress for trucks and construction equipment.
- Traffic control for any street closure, detour or other disruption to traffic circulation.
- Identify the routes that construction vehicles will utilize for the delivery of construction materials (i.e. lumber, tiles piping, windows, etc.), to access the site, traffic controls and detours and proposed construction phasing plan for the Project.
- Coordinate with the City to identify parking needs and parking areas for construction related equipment and workman support. Review of the existing site suggests that parking may potentially be available on site. As an alternative parking may be allowed along Crown Valley Parkway or near-by off-street parking lots such as City Hall and/or Laguna Niguel Racquet Club.
- Specify the hours during which transport activities can occur and methods to mitigate construction-related impacts to adjacent streets.
- Require the Applicant to keep all haul routes clean and free of debris including but not limited to gravel and dirt as a result of its operations. The Applicant shall clean adjacent streets, as directed by the City Engineer (or representative of the City Engineer) of any material which may have been spilled, tracked or blown onto adjacent streets or areas.
- Hauling or transport of oversize loads will be coordinated with the City as to the haul route as well as the hours allowed. Hauling or transport may be permitted/required during nighttime hours, weekends or Federal holidays, at the discretion of the City Engineer. All hauling/delivery access to and from the site will be from Crown Valley Parkway. An approved Haul Route Permit will be required from the City.
- Haul trucks entering or exiting public streets shall at all times yield to public traffic.

- If hauling operations cause any damage to existing pavement, street, curb and/or gutter along the haul route, the applicant will be fully responsible for repairs. The repairs shall be completed to the satisfaction of the City Engineer.
- This Plan shall meet standards established in the current *California Manual on Uniform Traffic Control Device (MUTCD)* as well as City of Laguna Niguel requirements.

CONCLUSION

When assessing the need for further analysis at study intersections, a "50 peak hour trip" threshold is applied based on the *City of Laguna Niguel Transportation Assessment Guidelines*. Given the results of the trip generation forecast, the proposed Project trips are expected to generate less than 50 trips during both the weekday AM and PM peak hours. Therefore, it can be concluded that the added Project trips would have minimal impacts on the surrounding street network and no further analysis is needed. In addition, the proposed Project trips are expected to generate less than 500 daily trips during the weekday, and therefore, it can also be concluded that the Project would be screened out from a VMT assessment and its VMT impact are presumed to be less than significant.

Review of the Project Driveway located on Crown Valley Parkway indicates that the existing sight lines at the project driveway are considered adequate for right-turning vehicles but insufficient for left-turning vehicles per the HDM standards. Therefore, an acceleration lane to help with right-turn egress from the site is not required. Review of the proposed site plan indicates that on-site circulation is adequate and therefore a deceleration lane into the site is not required. Additionally, a queueing evaluation for the northbound left-turn pocket at the project driveway indicates that the existing storage is adequate to accommodate the projected Project traffic.

A signal warrant assessment was completed for the Project driveway at Crown Valley Parkway and the installation of a traffic signal is not recommended.

It is recommended to implement improvements as part of the proposed Project, which include the installation of a median diverter on Crown Valley Parkway to restrict left-turn egress at the project driveway as a safety enhancement. Recommended improvements also include modifying the northbound left-turn at the project driveway to provide a storage of 100-feet with a transition area of 120-feet to better accommodate the 85th percentile speed of 60 mph on Crown Valley Parkway.

A gap analysis was completed for the northbound left-turn ingress and the eastbound right-turn egress at the Project driveway which indicates that the existing gaps along

LINSCOTT LAW & GREENSPAN engineers

Crown Valley Parkway are considered adequate to accommodate the project traffic volumes.

Lastly, the construction assessment indicates that the three construction components, including site grading/excavation, building foundation/framing/construction, and paving/concrete/landscape, will generate less than 50 trips during both the weekday AM and PM peak hours. Therefore, the added construction trips would have minimal impacts to the surrounding street network. However, to reduce any potential impacts of the construction-related traffic, it is recommended that a Construction Management Plan for the proposed Project be developed in coordination with the City of Laguna Niguel prior to the start of construction.

* * * * * * * * * *

We appreciate the opportunity to be of service on this Project. Should you need further assistance, or have any questions regarding this analysis, please call us at (949) 825-6175.

Sincerely,

Linscott, Law & Greenspan, Engineers

Richard E. Barretto, P.E.
Principal

Cc. Shane S. Green, P.E., LLG

Attachments

n:\4300\2204357 - crowne cove, laguna hills\dwg\4357 f-1.dwg LDP 10:58:03 01-14-2021 co

LINSCOTT LAW & GREENSPAN engineers

N NO SCALE

SOURCE: GOOGLE

KEY

= PROJECT SITE

FIGURE 1

VICINITY MAP

THE COVE AT EL NIGUEL, LAGUNA NIGUEL

n:\4300\2204357 - crowne cove, laguna hills\dwg\4357 f-2.dwg LDP 10:58:22 01-14-2021 co

LINSCOTT LAW & GREENSPAN engineers

N NO SCALE

SOURCE: GOOGLE

KEY

= PROJECT SITE

FIGURE 2

EXISTING SITE AERIAL

THE COVE AT EL NIGUEL, LAGUNA NIGUEL

LINSCOTT LAW & GREENSPAN engineers

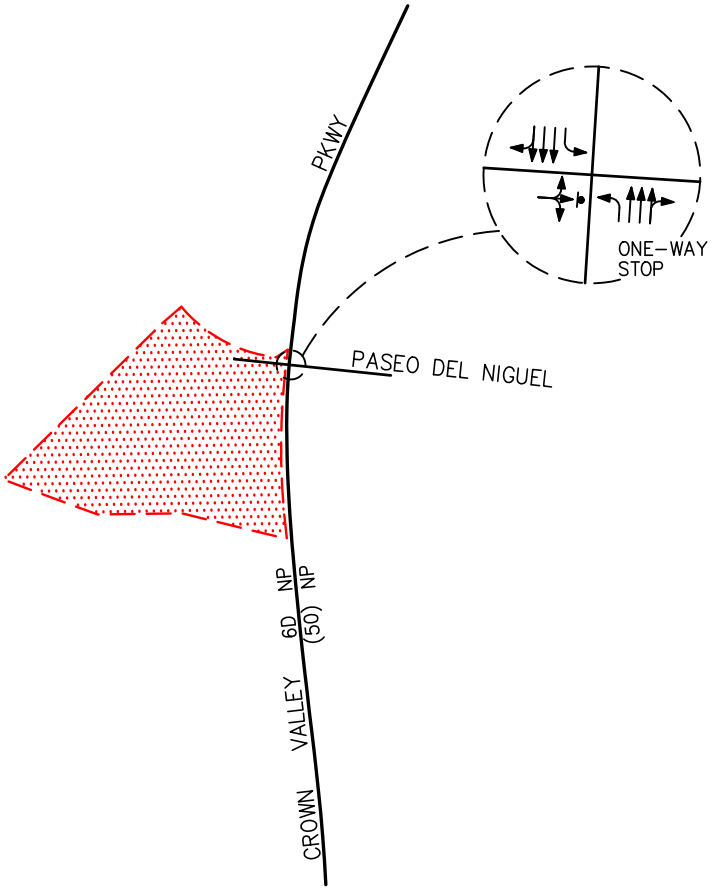
N NO SCALE

SOURCE: HUNSAKER & ASSOCIATES

FIGURE 3

PROPOSED SITE PLAN

THE COVE AT EL NIGUEL, LAGUNA NIGUEL



n:\4300\2204357 - crowne cove, laguna hills\dwg\4357 f-4.dwg LDP 10:59:09 01-14-2021 co

LINSCOTT LAW & GREENSPAN engineers

N NO SCALE

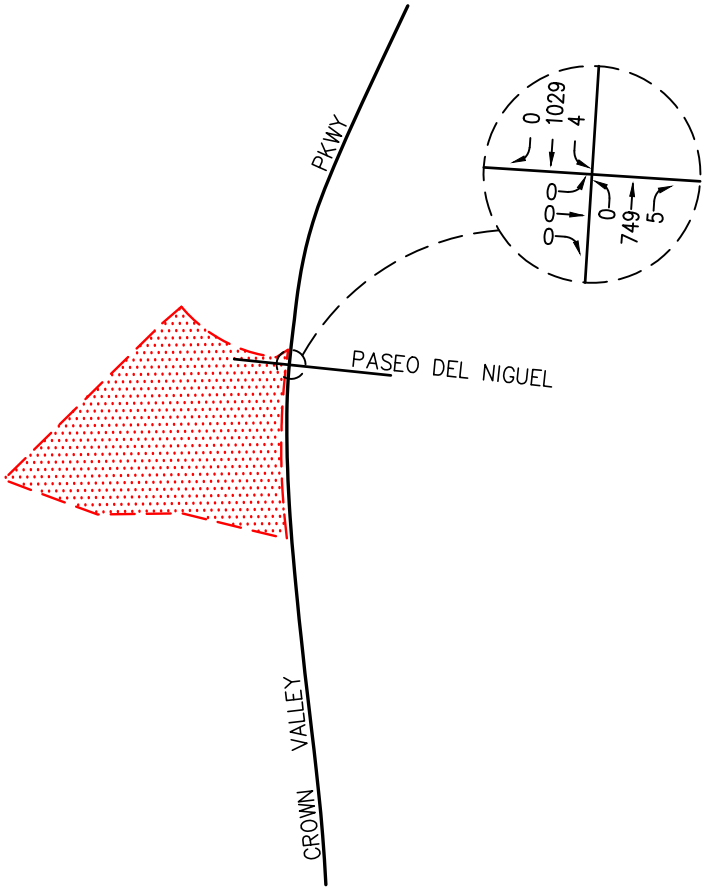
KEY

- ← = APPROACH LANE ASSIGNMENT
- ⊸ = STOP SIGN
- NP = NO PARKING
- D = DIVIDED
- 2 = NUMBER OF TRAVEL LANES
- (XX) = POSTED SPEED LIMIT (MPH)
- ▭ = PROJECT SITE

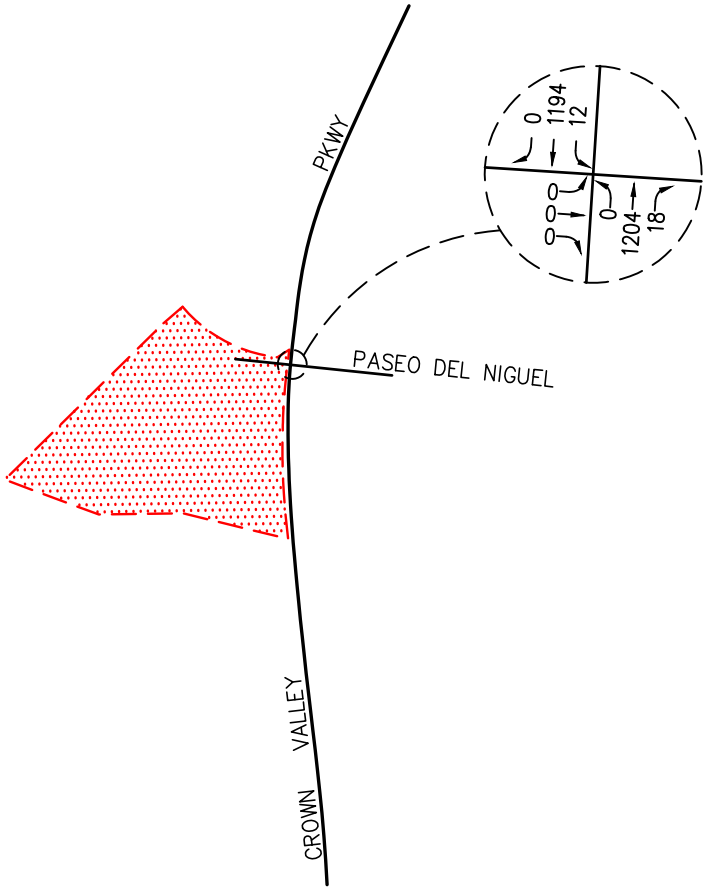
FIGURE 4

EXISTING ROADWAY CONDITIONS AND INTERSECTION CONTROLS

THE COVE AT EL NIGUEL, LAGUNA NIGUEL



AM PEAK HOUR



PM PEAK HOUR

n:\4300\2204357 - crowne cove, laguna hills\dwg\4357 f-5.dwg LDP 10:59:20 01-14-2021 co

LINSCOTT LAW & GREENSPAN engineers

N NO SCALE

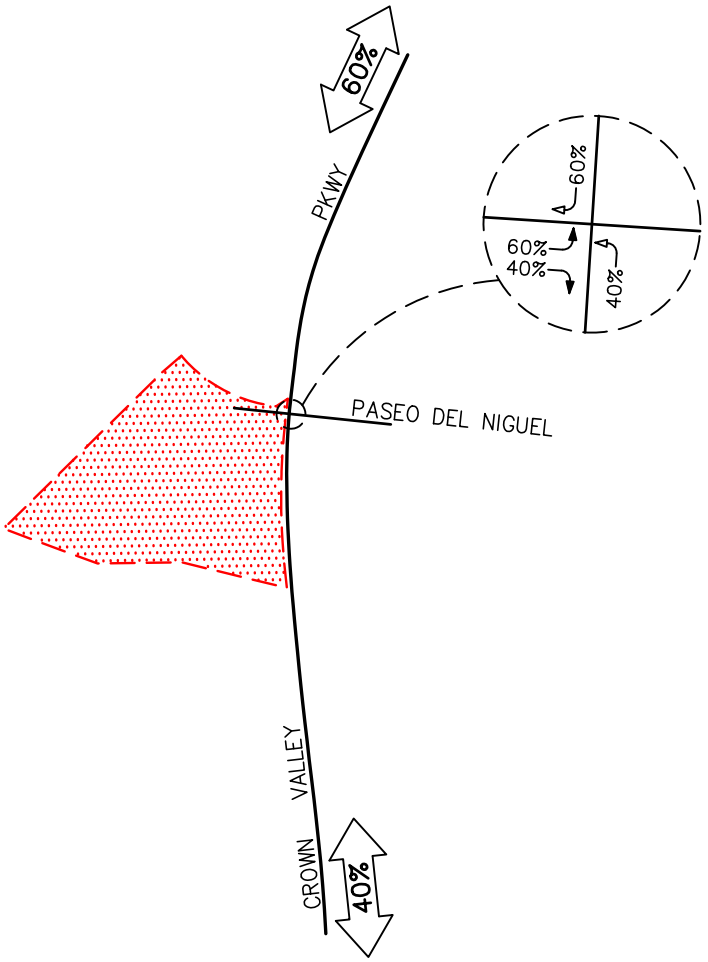
KEY

= PROJECT SITE

FIGURE 5

EXISTING (YEAR 2020) AM AND PM PEAK HOUR TRAFFIC VOLUMES

THE COVE AT EL NIGUEL, LAGUNA NIGUEL



n:\4300\2204357 - crowne cove, laguna hills\dwg\4357 f-6.dwg LDP 10:59:46 01-14-2021 co

LINSCOTT LAW & GREENSPAN engineers

N NO SCALE

KEY

= INBOUND PERCENTAGE

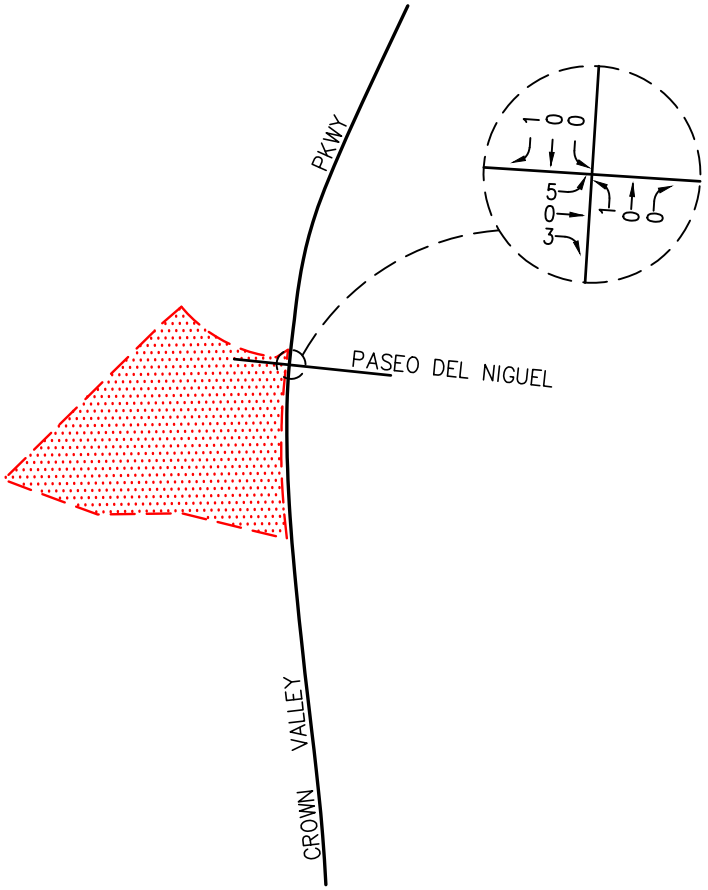
= OUTBOUND PERCENTAGE

= PROJECT SITE

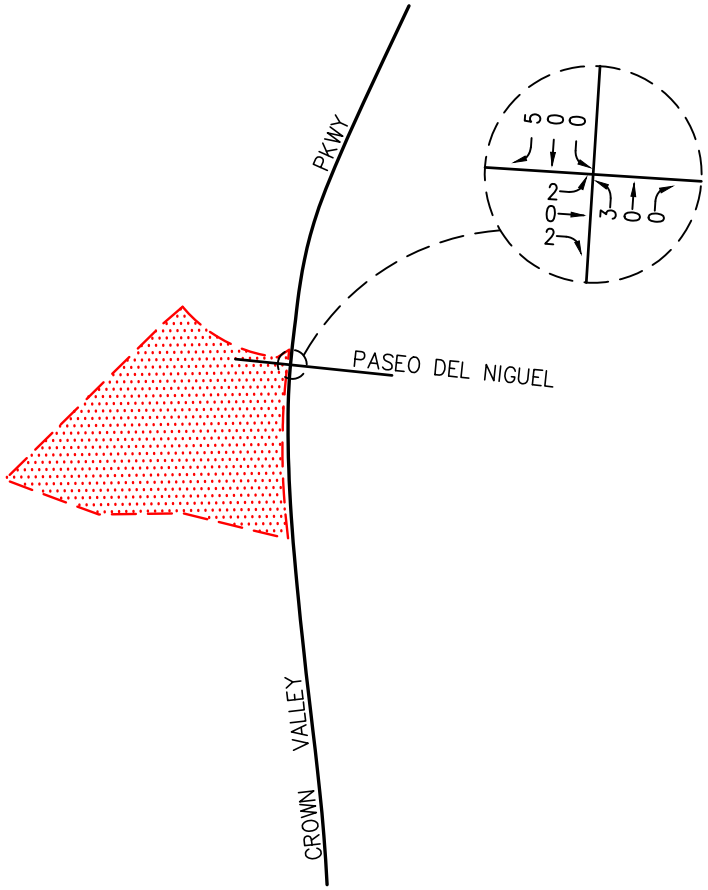
FIGURE 6

PROJECT TRIP DISTRIBUTION PATTERN

THE COVE AT EL NIGUEL, LAGUNA NIGUEL



AM PEAK HOUR



PM PEAK HOUR

n:\4300\2204357 - crowne cove, laguna hills\dwg\4357 f-7.dwg LDP 10:59:57 01-14-2021 co

LINSCOTT LAW & GREENSPAN engineers

N NO SCALE

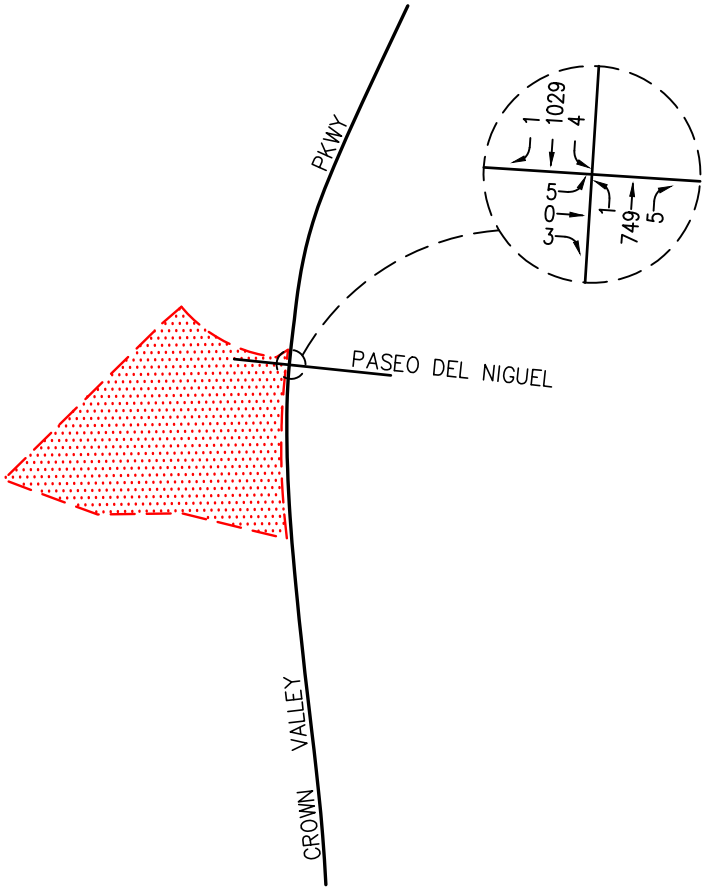
KEY

= PROJECT SITE

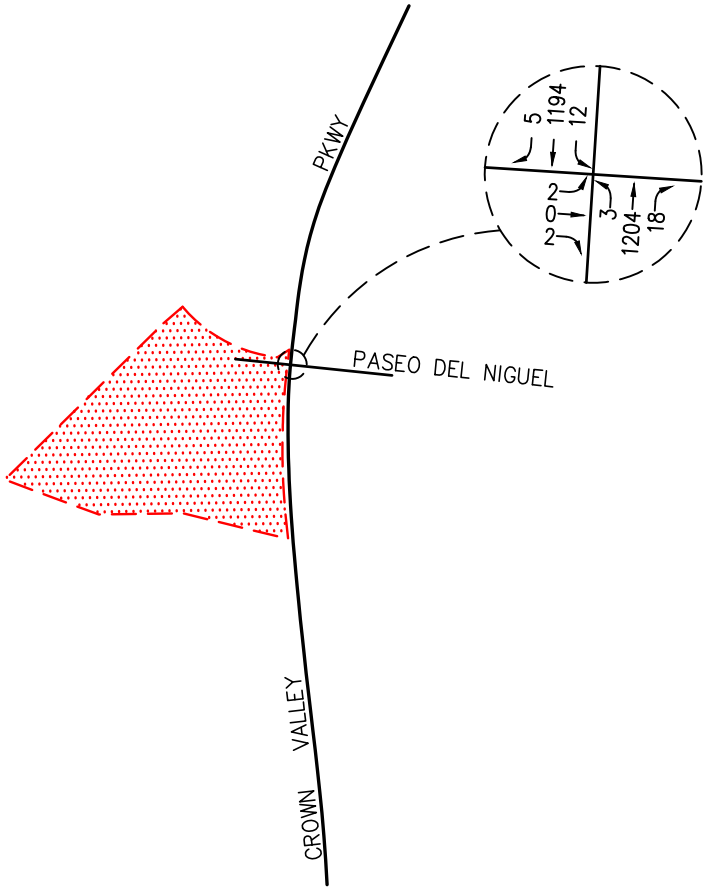
FIGURE 7

AM AND PM PEAK HOUR PROJECT TRAFFIC VOLUMES

THE COVE AT EL NIGUEL, LAGUNA NIGUEL



AM PEAK HOUR



PM PEAK HOUR

n:\4300\2204357 - crowne cove, laguna hills\dwg\4357 f-8.dwg LDP 11:00:11 01-14-2021 co

LINSCOTT LAW & GREENSPAN engineers

N NO SCALE

KEY

= PROJECT SITE

FIGURE 8

EXISTING PLUS PROJECT AM AND PM PEAK HOUR TRAFFIC VOLUMES

THE COVE AT EL NIGUEL, LAGUNA NIGUEL

SIGHT DISTANCE

DESIGN SPEED LIMIT:	60 MPH
REQUIRED STOPPING SIGHT DISTANCE:	660 FEET
EXISTING PROVIDED SIGHT DISTANCE FOR VEHICLES APPROACHING FROM THE RIGHT	1,390 FEET
EXISTING PROVIDED SIGHT DISTANCE FOR VEHICLES APPROACHING FROM THE LEFT	620 FEET

LEGEND

PUBLIC RIGHT-OF-WAY LIMITED USE AREA: TO ENSURE ADEQUATE SIGHT DISTANCE, HARDSCAPE AND/OR LANDSCAPE SHALL NOT BE HIGHER THAN 6 INCHES ABOVE THE CURB/SIDEWALK. NO FENCES OR WALLS IN LIMITED USE AREA.

n:\4300\2204357 - crowne cove, laguna hills\dwg\4357 f-9.dwg LDP 14:13:43 05-27-2021 aguilar

LINSCOTT LAW & GREENSPAN engineers

N NO SCALE

SOURCE: HUNSAKER & ASSOCIATES

FIGURE 9

SIGHT DISTANCE ANALYSIS AT THE PROJECT DRIVEWAY PER OC STANDARD PLAN

THE COVE AT EL NIGUEL, LAGUNA NIGUEL

SIGHT DISTANCE

DESIGN SPEED LIMIT:	60 MPH
REQUIRED STOPPING SIGHT DISTANCE:	580 FEET
REQUIRED CORNER SIGHT DISTANCE FOR VEHICLES APPROACHING FROM THE RIGHT	827 FEET
EXISTING PROVIDED SIGHT DISTANCE FOR VEHICLES APPROACHING FROM THE RIGHT	1,390 FEET
REQUIRED CORNER SIGHT DISTANCE FOR VEHICLES APPROACHING FROM THE LEFT	739 FEET
EXISTING PROVIDED SIGHT DISTANCE FOR VEHICLES APPROACHING FROM THE LEFT	620 FEET

LEGEND

PUBLIC RIGHT-OF-WAY LIMITED USE AREA: TO ENSURE ADEQUATE SIGHT DISTANCE, HARDSCAPE AND/OR LANDSCAPE SHALL NOT BE HIGHER THAN 6 INCHES ABOVE THE CURB/SIDEWALK. NO FENCES OR WALLS IN LIMITED USE AREA.

LINSCOTT LAW & GREENSPAN engineers

N NO SCALE

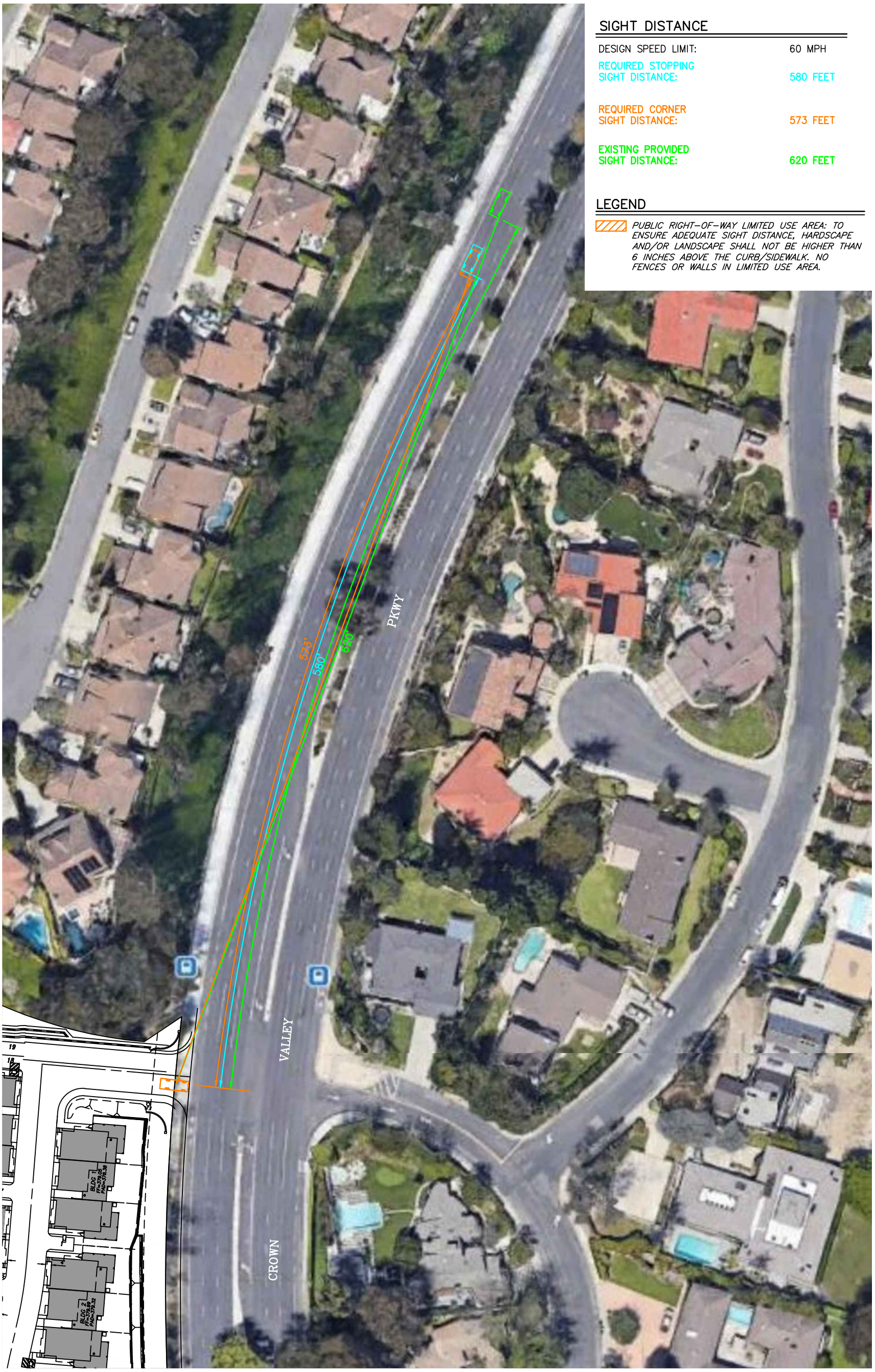
SOURCE: HUNSAKER & ASSOCIATES

FIGURE 10

SIGHT DISTANCE ANALYSIS FOR LEFT-TURNING VEHICLE AT THE PROJECT DRIVEWAY PER HDM STANDARDS

THE COVE AT EL NIGUEL, LAGUNA NIGUEL

n:\4300\2204357 - crowne cove, laguna hills\dwg\4357 f-10.dwg LDP 14:16:38 05-27-2021 aguilar



SIGHT DISTANCE

DESIGN SPEED LIMIT:	60 MPH
REQUIRED STOPPING SIGHT DISTANCE:	580 FEET
REQUIRED CORNER SIGHT DISTANCE:	573 FEET
EXISTING PROVIDED SIGHT DISTANCE:	620 FEET

LEGEND

PUBLIC RIGHT-OF-WAY LIMITED USE AREA: TO ENSURE ADEQUATE SIGHT DISTANCE, HARDSCAPE AND/OR LANDSCAPE SHALL NOT BE HIGHER THAN 6 INCHES ABOVE THE CURB/SIDEWALK. NO FENCES OR WALLS IN LIMITED USE AREA.

n:\4300\2204357 - crowne cove, laguna hills\dwg\4357 f-11.dwg LDP 14:19:11 05-27-2021 aguilar

LINSCOTT LAW & GREENSPAN engineers

N NO SCALE

SOURCE: HUNSAKER & ASSOCIATES

FIGURE 11

SIGHT DISTANCE ANALYSIS FOR RIGHT-TURNING VEHICLE AT THE PROJECT DRIVEWAY PER HDM STANDARDS

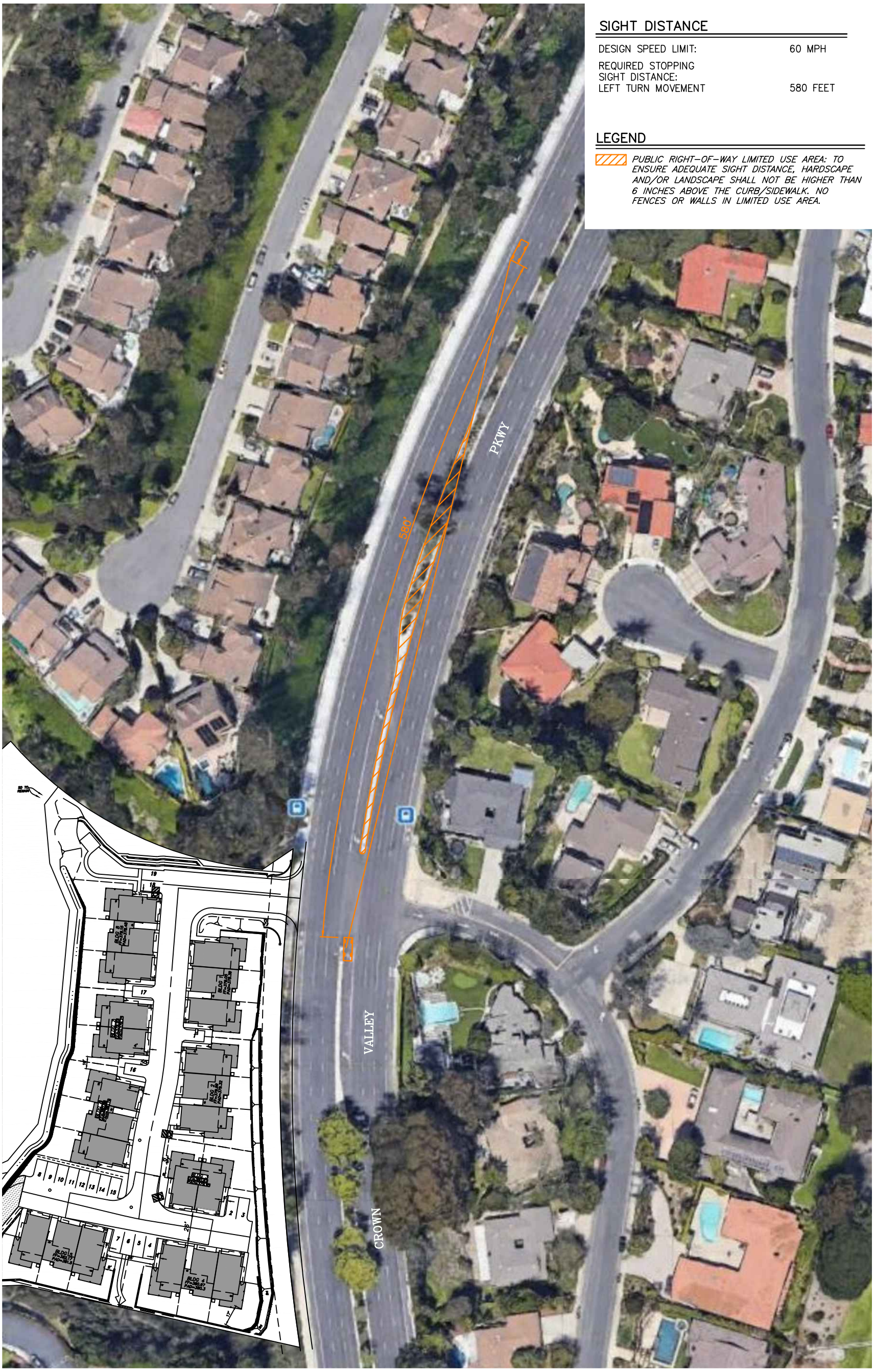
THE COVE AT EL NIGUEL, LAGUNA NIGUEL

SIGHT DISTANCE

DESIGN SPEED LIMIT:	60 MPH
REQUIRED STOPPING SIGHT DISTANCE: LEFT TURN MOVEMENT	580 FEET

LEGEND

PUBLIC RIGHT-OF-WAY LIMITED USE AREA: TO ENSURE ADEQUATE SIGHT DISTANCE, HARDSCAPE AND/OR LANDSCAPE SHALL NOT BE HIGHER THAN 6 INCHES ABOVE THE CURB/SIDEWALK. NO FENCES OR WALLS IN LIMITED USE AREA.



n:\4300\2204357 - crowne cove, laguna hills\dwg\4357 f-12.dwg LDP 14:21:48 05-27-2021 aguilar

LINSCOTT LAW & GREENSPAN engineers

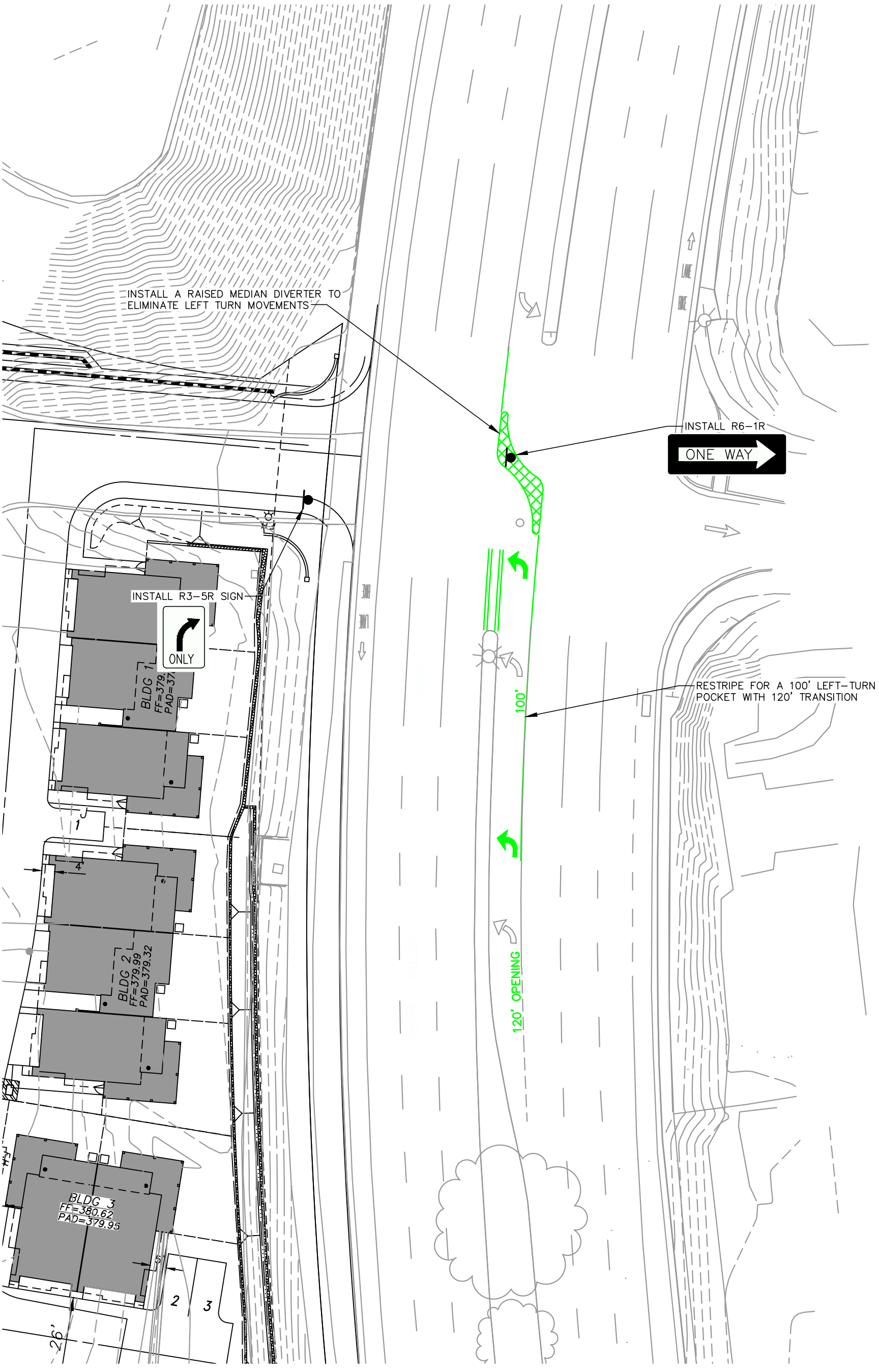
N NO SCALE

SOURCE: HUNSAKER & ASSOCIATES

FIGURE 12

SIGHT DISTANCE ANALYSIS FOR NORTHBOUND LEFT ON CROWN VALLEY PARKWAY PER HDM STANDARDS

THE COVE AT EL NIGUEL, LAGUNA NIGUEL



SOURCE: HUNSAKER & ASSOCIATES

LINSCOTT LAW & GREENSPAN engineers

N

SCALE: 1"=30'

FIGURE 13

CONCEPT PLAN FOR MEDIAN DIVERTER AND FOR NORTHBOUND LEFT-TURN POCKET

THE COVE AT EL NIGUEL, LAGUNA NIGUEL

n:\4300\2204357 - crowne cove, laguna hills\dwg\4357 f-13.dwg LDP 10:12:36 05-28-2021 aguilar

LINSCOTT LAW & GREENSPAN engineers

TABLE 1
PROJECT TRAFFIC GENERATION FORECAST[3]
THE COVE AT EL NIGUEL, LAGUNA NIGUEL

Project Description	Daily 2-Way	AM Peak Hour Enter	AM Peak Hour Exit	AM Peak Hour Total	PM Peak Hour Enter	PM Peak Hour Exit	PM Peak Hour Total
Trip Generation Rates							
▪ 220: Multifamily Housing Low Rise[4] (TE/DU)	7.32	23%	77%	0.46	63%	37%	0.56
Trip Generation Forecast							
▪ The Cove at El Niguel (22 DU)	161	2	8	10	8	4	12

Notes:
TE/DU = Trip ends per dwelling unit

3 Source: *Trip Generation*, 10th Edition, Institute of Transportation Engineers (ITE), Washington, D.C. (2017).

4 Low-rise multifamily housing includes buildings that have one or two levels (floors).

LINSCOTT LAW & GREENSPAN engineers

TABLE 2
EXISTING PLUS PROJECT QUEUEING ANALYSIS
THE COVE AT EL NIGUEL, LAGUNA NIGUEL

Key Intersection	(1) Existing Plus Project Traffic Conditions				
		AM Peak Hour		PM Peak Hour	
	Provided Storage	Max. Queue/ Min. Storage Required[5]	Adequate Storage (Yes / No)	Max. Queue/ Min. Storage Required[5]	Adequate Storage (Yes / No)
A. Crown Valley Parkway at Project Driveway/Paseo del Niguel Northbound Left-Turn	115’	25’	Yes	25’	Yes

[5] Maximum queue in feet (ft) is based on the HCM 95th percentile methodology.

LINSCOTT LAW & GREENSPAN engineers

TABLE 3
EXISTING PLUS PROJECT TRAFFIC SIGNAL WARRANT ANALYSIS SUMMARY[6]
THE COVE AT EL NIGUEL, LAGUNA NIGUEL

Key Intersection	Time Period	(1) Existing Plus Project Traffic Conditions		(2) Existing Plus Project Traffic Conditions including full access for Paseo del Niguel	
		Part A of Warrant 3 Satisfied?	Part B of Warrant 3 Satisfied?	Part A of Warrant 3 Satisfied?	Part B of Warrant 3 Satisfied?
A. Crown Valley Parkway at Project Driveway/Paseo del Niguel	AM	No	No	No	No
	PM	No	No	No	No

[6] Signal warrant checks based on Warrant 3, Part A - Peak-Hour Delay Warrant and Part B - Peak-Hour Volume Warrant are contained in the California MUTCD.

LINSCOTT LAW & GREENSPAN engineers

TABLE 4
PROJECT DRIVEWAY RIGHT-TURN EGRESS VEHICLE GAP ANALYSIS
THE COVE AT EL NIGUEL, LAGUNA NIGUEL

Gap[7] (seconds)	AM Peak Hour (7:45AM – 8:45AM)			PM Peak Hour (4PM – 5PM)		
	Vehicles Served by Gap[8]	Gaps Occurring During Peak Hour[9]	Total Vehicles Served[10]	Vehicles Served by Gap[8]	Gaps Occurring During Peak Hour[9]	Total Vehicles Served[10]
7 – 13	1	74	74	1	62	62
14 – 20	2	25	50	2	24	48
21 – 27	3	9	27	3	14	42
≥ 28	4	16	64	4	11	44
	Total Accommodated Vehicles		**215**	**Total Accommodated Vehicles**		**196**

7 A gap is defined as the time interval between cars crossing the Project driveway.

8 For purposes of this study, it is assumed the minimum time for one vehicle to safely complete a turning movement out of the Project driveway is 7 seconds. For each vehicle subsequently following the first, the time to complete a turn is 7 seconds.

9 Values are based on gap survey performed on Tuesday, May 11, 2021.

10 Total Vehicles Served = (Number of Vehicles Served) x (Number of Gaps During Peak Hour)

LINSCOTT LAW & GREENSPAN engineers

TABLE 5
PROJECT DRIVEWAY LEFT-TURN INGRESS VEHICLE GAP ANALYSIS
THE COVE AT EL NIGUEL, LAGUNA NIGUEL

Gap[11] (seconds)	AM Peak Hour (7:45AM – 8:45AM)			PM Peak Hour (4PM – 5PM)		
	Vehicles Served by Gap[12]	Gaps Occurring During Peak Hour[13]	Total Vehicles Served[14]	Vehicles Served by Gap[8]	Gaps Occurring During Peak Hour[9]	Total Vehicles Served[10]
10-19	1	57	57	1	47	47
20-29	2	13	26	2	19	38
30-39	3	7	21	3	6	18
≥ 40	4	6	24	4	3	12
	Total Accommodated Vehicles		**128**	**Total Accommodated Vehicles**		**115**

11 A gap is defined as the time interval between cars crossing the Project driveway.

12 For purposes of this study, it is assumed the minimum time for one vehicle to safely complete a turning movement into the Project driveway is 10 seconds. For each vehicle subsequently following the first, the time to complete a turn is 10 seconds.

13 Values are based on gap survey performed on Tuesday, May 11, 2021.

14 Total Vehicles Served = (Number of Vehicles Served) x (Number of Gaps During Peak Hour)

LINSCOTT LAW & GREENSPAN engineers

TABLE 6
PROJECT CONSTRUCTION TRAFFIC GENERATION FORECAST
THE COVE AT EL NIGUEL, LAGUNA NIGUEL

Project Description	Daily 2-Way	AM Peak Hour Enter	AM Peak Hour Exit	AM Peak Hour Total	PM Peak Hour Enter	PM Peak Hour Exit	PM Peak Hour Total
Site Grading/Excavation Generation Forecast							
▪ Construction Truck Traffic (13 trucks)	26	2	1	3	1	2	3
Passenger Car Equivalent Factor[15]	3	3	3	3	3	3	3
Subtotal	78	6	3	9	3	6	9
▪ Employees (5 workers)	10	5	0	5	0	5	5
Total Site Grading/Excavation Trip Generation Potential	**88**	**11**	**3**	**14**	**3**	**11**	**14**
Building Foundation/Framing/Construction Generation Forecast							
▪ Construction Truck Traffic (7 trucks)	14	1	1	2	1	1	2
Passenger Car Equivalent Factor	3	3	3	3	3	3	3
Subtotal	42	3	3	6	3	3	6
▪ Employees (6 workers)	12	6	0	6	0	6	6
Total Building Foundation/Framing/Construction Trip Generation Potential	**54**	**9**	**3**	**12**	**3**	**9**	**12**
Paving/Concrete/Landscape Generation Forecast							
▪ Construction Truck Traffic (3 trucks)	6	1	0	1	0	1	1
Passenger Car Equivalent Factor	3	3	3	3	3	3	3
Subtotal	18	3	0	3	0	3	3
▪ Employees (6 workers)	12	6	0	6	0	6	6
Total Paving/Concrete/Landscape Trip Generation Potential	**30**	**9**	**0**	**9**	**0**	**9**	**9**

[15] A passenger car equivalent factor of 3.0 was applied to the truck trips to convert them into passenger car trips.

APPENDIX A

EXISTING TRAFFIC COUNT DATA

Table A-1
2020 COVID-19 Growth Rate Calculation

Roadway Segment	(1) 2019 ADT Volume	(2) 2020 COVID-19 ADT Volume	(3) 2020 COVID-19 Growth Per Year (%) [1]
A. Crown Valley Parkway between Via Valle and Clubhouse Drive	26,887	23,133	16.2%

Notes

[1] (Column 1 - Column 2) / Column 2

Table A-2
Year 2020 Pre-COVID-19 Baseline Volume Development [1]

Study Intersection	Time Period	(1) 2020 COVID-19 NBT Volume [2]	(2) 2020 COVID-19 SBT Volume [3]	(3) 2020 COVID-19 Growth Per Year (%) [4]	(4) 2019 Adjusted Baseline NBT Volume [5]	(5) 2019 Adjusted Baseline SBT Volume [5]	(6) 2020 Pre-COVID-19 Baseline NBT Volume [6]	(7) 2020 Pre-COVID-19 Baseline SBT Volume [6]
1. Crown Valley Parkway at Paseo del Niguel	AM	639	879	16.2%	743	1,021	749	1,029
	PM	1,028	1,020		1,195	1,185	1,204	1,194

Notes

[1] Volume entering Paseo del Niguel (i.e. the northbound right-turn and southbound left-turn volumes) was developed based on Google Earth observations of the existing residential area to the east of the intersection. There is approximately 65 DU single-family residential homes in the area which would utilize the intersection. Trips were forecasted based on ITE *Trip Generation* 10th Edition and distributed to the intersection, which resulted in the following volume estimations:

AM Peak Hour: NBR = 5, SBL = 4

PM Peak Hour: NBR = 18, SBL = 12

It should be noted that since volumes were estimated for the residential area east of the intersection, adjustments to the NBR and SBL volumes for COVID-19 are not required.

[2] NBT volumes are derived from the ADT counts and adjusted to account for the existing residential area to the east of the intersection, which resulted in the following volume estimations:

AM Peak Hour: 644 - 5 = 639

PM Peak Hour: 1,046 - 18 = 1,028

[3] SBT volumes are derived from the ADT counts and adjusted to account for the existing residential area to the east of the intersection, which resulted in the following volume estimations:

AM Peak Hour: 883 - 4 = 879

PM Peak Hour: 1,032 - 12 = 1,020

[4] The 2020 COVID-19 growth per year is referenced from Column 3 of Table A-1.

[5] 2019 Adjusted Baseline Volumes were developed by applying the growth rate from Column 3 to the 2020 COVID-19 Volumes:

NBT: Column 1 + (Column 1 × Column 3)

SBT: Column 2 + (Column 2 × Column 3)

[6] 2020 Pre-COVID-19 Baseline Volumes were developed by applying an additional growth of 0.75% to the 2019 Adjusted Baseline Volumes:

NBT: Column 4 + (Column 4 × 0.75%)

SBT: Column 5 + (Column 5 × 0.75%)

Prepared by NDS/ATD

VOLUME

Crown Valley Pkwy Bet. Hillhurst Dr & Via Valle

Day: Thursday
Date: 4/18/2019

City: Laguna Niguel
Project #: CA19_1074_005

DAILY TOTALS	NB	SB	EB	WB	Total
	12,012	14,875	0	0	26,887

AM Period	NB		SB		EB	WB	TOTAL		PM Period	NB		SB		EB	WB	TOTAL	
00:00	14		12				26		12:00	235		253				488	
00:15	6		14				20		12:15	204		247				451	
00:30	6		14				20		12:30	213		236				449	
00:45	9	35	7	47			16	82	12:45	191	843	274	1010			465	1853
01:00	8		6				14		13:00	188		250				438	
01:15	3		3				6		13:15	210		270				480	
01:30	2		5				7		13:30	188		270				458	
01:45	1	14	3	17			4	31	13:45	208	794	276	1066			484	1860
02:00	4		4				8		14:00	209		250				459	
02:15	4		2				6		14:15	196		248				444	
02:30	3		5				8		14:30	223		281				504	
02:45	3	14	2	13			5	27	14:45	233	861	270	1049			503	1910
03:00	2		4				6		15:00	253		261				514	
03:15	4		7				11		15:15	224		288				512	
03:30	7		6				13		15:30	243		261				504	
03:45	5	18	4	21			9	39	15:45	228	948	278	1088			506	2036
04:00	3		3				6		16:00	248		264				512	
04:15	5		4				9		16:15	266		309				575	
04:30	14		10				24		16:30	234		289				523	
04:45	11	33	14	31			25	64	16:45	256	1004	327	1189			583	2193
05:00	14		14				28		17:00	237		310				547	
05:15	24		39				63		17:15	252		311				563	
05:30	33		54				87		17:30	224		288				512	
05:45	34	105	66	173			100	278	17:45	217	930	298	1207			515	2137
06:00	49		57				106		18:00	195		267				462	
06:15	59		80				139		18:15	204		255				459	
06:30	91		124				215		18:30	172		271				443	
06:45	87	286	150	411			237	697	18:45	162	733	230	1023			392	1756
07:00	122		184				306		19:00	137		215				352	
07:15	155		201				356		19:15	133		164				297	
07:30	173		235				408		19:30	156		164				320	
07:45	198	648	253	873			451	1521	19:45	131	557	154	697			285	1254
08:00	196		254				450		20:00	134		130				264	
08:15	219		230				449		20:15	96		136				232	
08:30	211		253				464		20:30	103		128				231	
08:45	204	830	201	938			405	1768	20:45	67	400	118	512			185	912
09:00	173		176				349		21:00	99		132				231	
09:15	210		191				401		21:15	82		103				185	
09:30	184		232				416		21:30	69		129				198	
09:45	182	749	223	822			405	1571	21:45	81	331	81	445			162	776
10:00	173		208				381		22:00	69		69				138	
10:15	192		214				406		22:15	64		52				116	
10:30	222		249				471		22:30	63		67				130	
10:45	187	774	231	902			418	1676	22:45	45	241	40	228			85	469
11:00	173		236				409		23:00	44		27				71	
11:15	215		242				457		23:15	21		36				57	
11:30	180		261				441		23:30	20		34				54	
11:45	193	761	247	986			440	1747	23:45	18	103	30	127			48	230
TOTALS		4267		5234				9501	TOTALS		7745		9641				17386
SPLIT %		44.9%		55.1%				35.3%	SPLIT %		44.5%		55.5%				64.7%

DAILY TOTALS	NB	SB	EB	WB	Total
	12,012	14,875	0	0	26,887

AM Peak Hour	11:45	11:30					11:45		PM Peak Hour	16:00	16:30					16:15		
AM Pk Volume	845	1008					1828		PM Pk Volume	1004	1237					2228		
Pk Hr Factor	0.899	0.966					0.936		Pk Hr Factor	0.944	0.946					0.955		
7 - 9 Volume	1478	1811	0	0			3289		4 - 6 Volume	1934	2396	0	0			4330		
7 - 9 Peak Hour	08:00	07:45					07:45		4 - 6 Peak Hour	16:00	16:30					16:15		
7 - 9 Pk Volume	830	990	0	0			1814		4 - 6 Pk Volume	1004	1237	0	0			2228		
Pk Hr Factor	0.947	0.974	0.000	0.000			0.977		Pk Hr Factor	0.944	0.946	0.000	0.000			0.955		

Prepared by NDS/ATD

Prepared by National Data & Surveying Services

VOLUME

Crown Valley Pkwy Bet. Club House Dr & Via Valle

Day: Thursday
Date: 12/3/2020

City: Laguna Niguel
Project #: CA20_010035_001

DAILY TOTALS	NB	SB	EB	WB	Total
	11,004	12,129	0	0	23,133

AM Period	NB		SB		EB	WB	TOTAL		PM Period	NB		SB		EB	WB	TOTAL	
00:00	7		4		0	0	11		12:00	189		251		0	0	440	
00:15	8		7		0	0	15		12:15	200		235		0	0	435	
00:30	3		5		0	0	8		12:30	206		271		0	0	477	
00:45	6	24	7	23	0	0	13	47	12:45	221	816	209	966	0	0	430	1782
01:00	3		3		0	0	6		13:00	215		256		0	0	471	
01:15	8		1		0	0	9		13:15	204		221		0	0	425	
01:30	4		3		0	0	7		13:30	204		206		0	0	410	
01:45	4	19	0	7	0	0	4	26	13:45	213	836	247	930	0	0	460	1766
02:00	2		4		0	0	6		14:00	220		213		0	0	433	
02:15	0		2		0	0	2		14:15	248		240		0	0	488	
02:30	2		4		0	0	6		14:30	206		215		0	0	421	
02:45	1	5	3	13	0	0	4	18	14:45	269	943	274	942	0	0	543	1885
03:00	2		2		0	0	4		15:00	266		258		0	0	524	
03:15	3		3		0	0	6		15:15	252		257		0	0	509	
03:30	1		8		0	0	9		15:30	255		274		0	0	529	
03:45	6	12	8	21	0	0	14	33	15:45	307	1080	285	1074	0	0	592	2154
04:00	5		3		0	0	8		16:00	253		271		0	0	524	
04:15	4		6		0	0	10		16:15	264		260		0	0	524	
04:30	10		8		0	0	18		16:30	254		287		0	0	541	
04:45	6	25	14	31	0	0	20	56	16:45	275	1046	214	1032	0	0	489	2078
05:00	16		19		0	0	35		17:00	250		222		0	0	472	
05:15	21		31		0	0	52		17:15	257		227		0	0	484	
05:30	22		43		0	0	65		17:30	201		221		0	0	422	
05:45	29	88	52	145	0	0	81	233	17:45	188	896	211	881	0	0	399	1777
06:00	32		45		0	0	77		18:00	189		207		0	0	396	
06:15	47		80		0	0	127		18:15	138		156		0	0	294	
06:30	65		107		0	0	172		18:30	130		173		0	0	303	
06:45	56	200	149	381	0	0	205	581	18:45	117	574	136	672	0	0	253	1246
07:00	90		155		0	0	245		19:00	107		128		0	0	235	
07:15	111		165		0	0	276		19:15	81		112		0	0	193	
07:30	140		191		0	0	331		19:30	99		110		0	0	209	
07:45	150	491	239	750	0	0	389	1241	19:45	74	361	89	439	0	0	163	800
08:00	151		192		0	0	343		20:00	76		83		0	0	159	
08:15	161		238		0	0	399		20:15	75		64		0	0	139	
08:30	182		214		0	0	396		20:30	72		68		0	0	140	
08:45	151	645	196	840	0	0	347	1485	20:45	84	307	54	269	0	0	138	576
09:00	169		195		0	0	364		21:00	66		51		0	0	117	
09:15	154		196		0	0	350		21:15	65		43		0	0	108	
09:30	166		193		0	0	359		21:30	48		54		0	0	102	
09:45	190	679	206	790	0	0	396	1469	21:45	51	230	36	184	0	0	87	414
10:00	158		168		0	0	326		22:00	49		34		0	0	83	
10:15	185		183		0	0	368		22:15	45		40		0	0	85	
10:30	181		196		0	0	377		22:30	45		38		0	0	83	
10:45	184	708	206	753	0	0	390	1461	22:45	37	176	23	135	0	0	60	311
11:00	202		175		0	0	377		23:00	25		14		0	0	39	
11:15	201		202		0	0	403		23:15	16		16		0	0	32	
11:30	169		213		0	0	382		23:30	19		8		0	0	27	
11:45	205	777	223	813	0	0	428	1590	23:45	6	66	0	38	0	0	6	104
TOTALS		3673		4567				**8240**	**TOTALS**		7331		7562				**14893**
SPLIT %		44.6%		55.4%				**35.6%**	**SPLIT %**		49.2%		50.8%				**64.4%**

DAILY TOTALS	NB	SB	EB	WB	Total
	11,004	12,129	0	0	23,133

AM Peak Hour	11:45	11:45			**11:45**	**PM Peak Hour**	15:00	15:45			**15:45**
AM Pk Volume	800	980			**1780**	**PM Pk Volume**	1080	1103			**2181**
Pk Hr Factor	0.971	0.904			**0.933**	**Pk Hr Factor**	0.879	0.961			**0.921**
7 - 9 Volume	1136	1590	0	0	**2726**	**4 - 6 Volume**	1942	1913	0	0	**3855**
7 - 9 Peak Hour	08:00	07:45			**07:45**	**4 - 6 Peak Hour**	16:00	16:00			**16:00**
7 - 9 Pk Volume	645	883	0	0	**1527**	**4 - 6 Pk Volume**	1046	1032	0	0	**2078**
Pk Hr Factor	0.886	0.924	0.000	0.000	**0.957**	**Pk Hr Factor**	0.951	0.899	0.000	0.000	**0.960**

Prepared by National Data & Surveying Services

SPEED

Crown Valley Pkwy Bet. Club House Dr & Via Valle

Day: Thursday
Date: 12/3/2020

City: Laguna Niguel
Project #: CA20_010035_001n

North Bound

Time	< 15	15 - 19	20 - 24	25 - 29	30 - 34	35 - 39	40 - 44	45 - 49	50 - 54	55 - 59	60 - 64	65 - 69	70 +	Total
00:00 AM	0	0	0	0	0	0	1	6	5	3	5	2	2	**24**
01:00	0	0	0	0	0	0	1	5	3	3	6	1	0	**19**
02:00	0	0	0	0	0	1	0	0	2	1	1	0	0	**5**
03:00	0	0	0	0	0	0	0	3	2	2	2	3	0	**12**
04:00	0	0	0	0	0	0	1	2	7	9	2	2	2	**25**
05:00	0	0	0	0	0	3	6	8	17	24	17	6	7	**88**
06:00	0	0	0	1	1	1	10	27	57	60	30	10	3	**200**
07:00	0	0	0	0	2	2	9	54	169	166	69	14	6	**491**
08:00	0	0	0	0	0	3	24	82	202	228	89	13	4	**645**
09:00	0	0	0	0	1	2	18	117	239	216	67	15	4	**679**
10:00	0	0	0	0	0	4	28	114	219	219	93	23	8	**708**
11:00	0	0	0	0	0	1	33	122	275	224	90	23	9	**777**
12:00 PM	0	0	0	0	0	2	25	158	300	205	96	23	7	**816**
13:00	0	0	0	0	3	7	23	152	297	233	89	26	6	**836**
14:00	0	0	0	0	1	7	55	226	360	181	89	19	5	**943**
15:00	0	0	0	1	0	12	43	194	399	291	107	25	8	**1080**
16:00	0	0	0	1	0	4	30	184	375	289	124	32	7	**1046**
17:00	0	0	0	0	1	5	43	192	336	220	72	16	11	**896**
18:00	0	0	0	1	0	6	25	95	202	165	59	15	6	**574**
19:00	0	0	0	1	0	4	12	59	117	107	38	13	10	**361**
20:00	0	0	0	0	1	2	15	52	93	95	37	8	4	**307**
21:00	0	0	0	0	0	1	7	36	76	68	22	13	7	**230**
22:00	0	0	0	0	1	0	4	23	51	52	26	11	8	**176**
23:00	0	0	0	0	0	1	6	10	21	18	7	3	0	**66**
Totals				**5**	**11**	**68**	**419**	**1921**	**3824**	**3079**	**1237**	**316**	**124**	**11004**
% of Totals				0%	0%	1%	4%	17%	35%	28%	11%	3%	1%	100%

AM Volumes	0	0	0	1	4	17	131	540	1197	1155	471	112	45	3673
% AM				0%	0%	0%	1%	5%	11%	10%	4%	1%	0%	33%
AM Peak Hour				06:00	07:00	10:00	11:00	11:00	11:00	08:00	10:00	10:00	11:00	11:00
Volume				1	2	4	33	122	275	228	93	23	9	777
PM Volumes	0	0	0	4	7	51	288	1381	2627	1924	766	204	79	7331
% PM				0%	0%	0%	3%	13%	24%	17%	7%	2%	1%	67%
PM Peak Hour				15:00	13:00	15:00	14:00	14:00	15:00	15:00	16:00	16:00	17:00	15:00
Volume				1	3	12	55	226	399	291	124	32	11	1080

Directional Peak Periods	**AM 7-9**		**NOON 12-2**		**PM 4-6**		**Off Peak Volumes**	
All Speeds	Volume	%	Volume	%	Volume	%	Volume	%
	1136 ⟷	10%	1652 ⟷	15%	1942 ⟷	18%	6274 ⟷	57%

Street Name	Direction	Percentiles					
		15th	50th	Average	85th	95th	ADT
Crown Valley Pkwy	North Bound	48	54	A-6 54	60	65	11004
Crown Valley Pkwy	South Bound	48	54	54	60	64	12129

Prepared by National Data & Surveying Services

SPEED

Crown Valley Pkwy Bet. Club House Dr & Via Valle

Day: Thursday
Date: 12/3/2020

City: Laguna Niguel
Project #: CA20_010035_001s

South Bound

Time	< 15	15 - 19	20 - 24	25 - 29	30 - 34	35 - 39	40 - 44	45 - 49	50 - 54	55 - 59	60 - 64	65 - 69	70 +	Total
00:00 AM	0	0	0	0	0	0	1	2	12	6	1	1	0	**23**
01:00	0	0	0	0	0	0	1	2	2	1	1	0	0	**7**
02:00	0	0	0	0	1	0	1	1	5	5	0	0	0	**13**
03:00	0	0	0	0	0	1	1	2	7	5	2	3	0	**21**
04:00	0	0	0	0	0	0	4	4	6	8	4	3	2	**31**
05:00	0	0	0	0	0	3	6	28	38	41	19	6	4	**145**
06:00	0	0	0	0	1	5	12	44	110	119	64	19	7	**381**
07:00	0	0	0	1	0	1	17	112	248	250	95	18	8	**750**
08:00	0	0	0	0	2	5	17	134	288	283	85	19	7	**840**
09:00	0	0	0	0	2	3	39	134	261	230	100	17	4	**790**
10:00	0	0	0	0	1	7	27	133	277	228	69	7	4	**753**
11:00	0	0	0	0	3	3	27	155	312	232	64	14	3	**813**
12:00 PM	0	0	0	0	1	6	31	150	399	274	86	14	5	**966**
13:00	0	0	0	0	0	4	34	186	328	257	93	21	7	**930**
14:00	0	0	0	0	2	6	45	197	319	276	85	8	4	**942**
15:00	0	0	0	0	1	3	26	212	405	307	99	16	5	**1074**
16:00	0	0	0	0	1	5	39	209	383	274	98	21	2	**1032**
17:00	0	0	0	0	2	6	37	147	334	241	95	17	2	**881**
18:00	0	0	0	0	0	2	32	125	237	185	68	20	3	**672**
19:00	0	0	0	0	0	4	22	91	154	111	43	11	3	**439**
20:00	0	0	0	0	0	3	11	43	95	79	29	4	5	**269**
21:00	0	0	0	0	0	3	9	29	63	53	21	6	0	**184**
22:00	0	0	0	0	0	2	9	20	41	39	13	6	5	**135**
23:00	0	0	0	0	0	0	4	6	8	9	7	1	3	**38**
Totals				**1**	**17**	**72**	**452**	**2166**	**4332**	**3513**	**1241**	**252**	**83**	**12129**
% of Totals				0%	0%	1%	4%	18%	36%	29%	10%	2%	1%	100%

AM Volumes	0	0	0	1	10	28	153	751	1566	1408	504	107	39	4567
% AM				0%	0%	0%	1%	6%	13%	12%	4%	1%	0%	38%
AM Peak Hour				07:00	11:00	10:00	09:00	11:00	11:00	08:00	09:00	06:00	07:00	08:00
Volume				1	3	7	39	155	312	283	100	19	8	840
PM Volumes	0	0	0	0	7	44	299	1415	2766	2105	737	145	44	7562
% PM					0%	0%	2%	12%	23%	17%	6%	1%	0%	62%
PM Peak Hour					14:00	12:00	14:00	15:00	15:00	15:00	15:00	13:00	13:00	15:00
Volume					2	6	45	212	405	307	99	21	7	1074

Directional Peak Periods	**AM 7-9**			**NOON 12-2**			**PM 4-6**			**Off Peak Volumes**		
All Speeds	Volume	↔	%	Volume	↔	%	Volume	↔	%	Volume	↔	%
	1590	↔	13%	1896	↔	16%	1913	↔	16%	6730	↔	55%

Street Name	Direction	Percentiles					
		15th	50th	Average	85th	95th	ADT
Crown Valley Pkwy	North Bound	48	54	A-7 54	60	65	11004
Crown Valley Pkwy	South Bound	48	54	54	60	64	12129

SPEED

Crown Valley Pkwy Bet. Club House Dr & Via Valle

Day: Thursday
Date: 12/3/2020

City: Laguna Niguel
Project #: CA20_010035_001

Summary

Time	< 15	15 - 19	20 - 24	25 - 29	30 - 34	35 - 39	40 - 44	45 - 49	50 - 54	55 - 59	60 - 64	65 - 69	70 +	Total
00:00 AM	0	0	0	0	0	0	2	8	17	9	6	3	2	**47**
01:00	0	0	0	0	0	0	2	7	5	4	7	1	0	**26**
02:00	0	0	0	0	1	1	1	1	7	6	1	0	0	**18**
03:00	0	0	0	0	0	1	1	5	9	7	4	6	0	**33**
04:00	0	0	0	0	0	0	5	6	13	17	6	5	4	**56**
05:00	0	0	0	0	0	6	12	36	55	65	36	12	11	**233**
06:00	0	0	0	1	2	6	22	71	167	179	94	29	10	**581**
07:00	0	0	0	1	2	3	26	166	417	416	164	32	14	**1241**
08:00	0	0	0	0	2	8	41	216	490	511	174	32	11	**1485**
09:00	0	0	0	0	3	5	57	251	500	446	167	32	8	**1469**
10:00	0	0	0	0	1	11	55	247	496	447	162	30	12	**1461**
11:00	0	0	0	0	3	4	60	277	587	456	154	37	12	**1590**
12:00 PM	0	0	0	0	1	8	56	308	699	479	182	37	12	**1782**
13:00	0	0	0	0	3	11	57	338	625	490	182	47	13	**1766**
14:00	0	0	0	0	3	13	100	423	679	457	174	27	9	**1885**
15:00	0	0	0	1	1	15	69	406	804	598	206	41	13	**2154**
16:00	0	0	0	1	1	9	69	393	758	563	222	53	9	**2078**
17:00	0	0	0	0	3	11	80	339	670	461	167	33	13	**1777**
18:00	0	0	0	1	0	8	57	220	439	350	127	35	9	**1246**
19:00	0	0	0	1	0	8	34	150	271	218	81	24	13	**800**
20:00	0	0	0	0	1	5	26	95	188	174	66	12	9	**576**
21:00	0	0	0	0	0	4	16	65	139	121	43	19	7	**414**
22:00	0	0	0	0	1	2	13	43	92	91	39	17	13	**311**
23:00	0	0	0	0	0	1	10	16	29	27	14	4	3	**104**
Totals				**6**	**28**	**140**	**871**	**4087**	**8156**	**6592**	**2478**	**568**	**207**	**23133**
% of Totals				0%	0%	1%	4%	18%	35%	28%	11%	2%	1%	100%

AM Volumes	0	0	0	2	14	45	284	1291	2763	2563	975	219	84	8240
% AM				0%	0%	0%	1%	6%	12%	11%	4%	1%	0%	36%
AM Peak Hour				06:00	09:00	10:00	11:00	11:00	11:00	08:00	08:00	11:00	07:00	11:00
Volume				1	3	11	60	277	587	511	174	37	14	1590
PM Volumes	0	0	0	4	14	95	587	2796	5393	4029	1503	349	123	14893
% PM				0%	0%	0%	3%	12%	23%	17%	6%	2%	1%	64%
PM Peak Hour				15:00	13:00	15:00	14:00	14:00	15:00	15:00	16:00	16:00	13:00	15:00
Volume				1	3	15	100	423	804	598	222	53	13	2154

Directional Peak Periods	**AM 7-9**			**NOON 12-2**			**PM 4-6**			**Off Peak Volumes**		
All Speeds	Volume	↔	%	Volume	↔	%	Volume	↔	%	Volume	↔	%
	2726	↔	12%	3548	↔	15%	3855	↔	17%	13004	↔	56%

Street Name	Direction	Percentiles					
		15th	50th	Average	85th	95th	ADT
Crown Valley Pkwy	Summary	48	54	54	60	64	23133

APPENDIX B

QUEUEING WORKSHEETS

Intersection Level Of Service Report
Intersection 1: Crown Valley Parkway at Project Driveway/Paseo del Niguel

Control Type:	Two-way stop	Delay (sec / veh):	30.2
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.034

Intersection Setup

Name	Crown Valley Pkwy			Crown Valley Pkwy			Project Dwy			Paseo del Niguel		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	50.00			50.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Crown Valley Pkwy			Crown Valley Pkwy			Project Dwy			Paseo del Niguel		
Base Volume Input [veh/h]	1	749	5	4	1029	1	5	0	3	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1	749	5	4	1029	1	5	0	3	0	0	0
Peak Hour Factor	0.9600	0.9600	0.9600	0.9600	0.9600	0.9600	0.9600	0.9600	0.9600	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	195	1	1	268	0	1	0	1	0	0	0
Total Analysis Volume [veh/h]	1	780	5	4	1072	1	5	0	3	0	0	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			No	
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			No	
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.01	0.00	0.01	0.01	0.00	0.03	0.00	0.01	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	15.00	0.00	0.00	12.31	0.00	0.00	30.21	56.55	14.39	0.00	0.00	0.00
Movement LOS	C	A	A	B	A	A	D	F	B			
95th-Percentile Queue Length [veh/ln]	0.01	0.00	0.00	0.02	0.00	0.00	0.13	0.13	0.13	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.21	0.00	0.00	0.61	0.00	0.00	3.20	3.20	3.20	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	0.02			0.05			24.28			0.00		
Approach LOS	A			A			C			A		
d_I, Intersection Delay [s/veh]	0.14											
Intersection LOS	D											

Intersection Level Of Service Report
Intersection 1: Crown Valley Parkway at Project Driveway/Paseo del Niguel

Control Type:	Two-way stop	Delay (sec / veh):	49.7
Analysis Method:	HCM 6th Edition	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.024

Intersection Setup

Name	Crown Valley Pkwy			Crown Valley Pkwy			Project Dwy			Paseo del Niguel		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	50.00			50.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Crown Valley Pkwy			Crown Valley Pkwy			Project Dwy			Paseo del Niguel		
Base Volume Input [veh/h]	3	1204	18	12	1194	5	2	0	2	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	3	1204	18	12	1194	5	2	0	2	0	0	0
Peak Hour Factor	0.9600	0.9600	0.9600	0.9600	0.9600	0.9600	0.9600	0.9600	0.9600	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	314	5	3	311	1	1	0	1	0	0	0
Total Analysis Volume [veh/h]	3	1254	19	13	1244	5	2	0	2	0	0	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			No	
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			No	
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.01	0.00	0.05	0.01	0.00	0.02	0.00	0.01	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	17.28	0.00	0.00	18.08	0.00	0.00	49.68	150.74	15.64	0.00	0.00	0.00
Movement LOS	C	A	A	C	A	A	E	F	C			
95th-Percentile Queue Length [veh/ln]	0.03	0.00	0.00	0.14	0.00	0.00	0.09	0.09	0.09	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.77	0.00	0.00	3.53	0.00	0.00	2.29	2.29	2.29	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	0.04			0.19			32.66			0.00		
Approach LOS	A			A			D			A		
d_I, Intersection Delay [s/veh]	0.16											
Intersection LOS	E											

APPENDIX C

TRAFFIC SIGNAL WARRANT WORKSHEETS

Signal Warrants Report For Intersection 1: Crown Valley Parkway at Project Driveway/Paseo del Niguel

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	No
#2	Four Hour Vehicular Volume	No
#3	Peak Hour	No

Intersection Warrants Parameters

Major Approaches	S, N
Minor Approaches	W
Speed > 40mph	Yes
Population < 10,000	No
Warrant Factor	70%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets
	S	N	W
1	755	1034	8
2	732	1003	8
3	717	982	8
4	672	920	7
5	596	817	6
6	589	807	6
7	581	796	6
8	529	724	6
9	521	713	6
10	513	703	5
11	445	610	5
12	415	569	4
13	408	558	4
14	302	414	3
15	302	414	3
16	211	290	2
17	121	165	1
18	121	165	1
19	68	93	1
20	38	52	0
21	23	31	0
22	8	10	0
23	8	10	0
24	8	10	0

Warrant Analysis by Hour

Hour	Major Lanes		Minor Lanes		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	8	1789	1	8	No	No	No	No	No	No	No	No	No	No
2	8	1735	1	8	No	No	No	No	No	No	No	No	No	No
3	8	1699	1	8	No	No	No	No	No	No	No	No	No	No
4	8	1592	1	7	No	No	No	No	No	No	No	No	No	No
5	8	1413	1	6	No	No	No	No	No	No	No	No	No	No
6	8	1396	1	6	No	No	No	No	No	No	No	No	No	No
7	8	1377	1	6	No	No	No	No	No	No	No	No	No	No
8	8	1253	1	6	No	No	No	No	No	No	No	No	No	No
9	8	1234	1	6	No	No	No	No	No	No	No	No	No	No
10	8	1216	1	5	No	No	No	No	No	No	No	No	No	No
11	8	1055	1	5	No	No	No	No	No	No	No	No	No	No
12	8	984	1	4	No	No	No	No	No	No	No	No	No	No
13	8	966	1	4	No	No	No	No	No	No	No	No	No	No
14	8	716	1	3	No	No	No	No	No	No	No	No	No	No
15	8	716	1	3	No	No	No	No	No	No	No	No	No	No
16	8	501	1	2	No	No	No	No	No	No	No	No	No	No
17	8	286	1	1	No	No	No	No	No	No	No	No	No	No
18	8	286	1	1	No	No	No	No	No	No	No	No	No	No
19	8	161	1	1	No	No	No	No	No	No	No	No	No	No
20	8	90	1	0	No	No	No	No	No	No	No	No	No	No
21	8	54	1	0	No	No	No	No	No	No	No	No	No	No
22	8	18	1	0	No	No	No	No	No	No	No	No	No	No
23	8	18	1	0	No	No	No	No	No	No	No	No	No	No
24	8	18	1	0	No	No	No	No	No	No	No	No	No	No
Hours Met					0	0	0	0	0	0	0	0	0	0

Warrant 3 Condition A

Orientation	W
Total Stopped Delay Per Vehicle on Minor Approach (s)	22.9
Number of Lanes on Minor Street Approach	1
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	0:03
Delay Condition Met	No
Volume on Minor Street Approach During Same Hour	8
High Minor Volume Condition Met	No
Total Entering Volume on All Approaches During Same Hour	1797
Number of Approaches on Intersection	3
Total Volume Condition Met	Yes
Warrant Met for Approach	No
Warrant Met for Intersection	**No**

Signal Warrants Report For Intersection 1: Crown Valley Parkway at Project Driveway/Paseo del Niguel

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	No
#2	Four Hour Vehicular Volume	No
#3	Peak Hour	No

Intersection Warrants Parameters

Major Approaches	S, N
Minor Approaches	W
Speed > 40mph	Yes
Population < 10,000	No
Warrant Factor	70%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets
	S	N	W
1	1225	1211	4
2	1188	1175	4
3	1164	1150	4
4	1090	1078	4
5	968	957	3
6	956	945	3
7	943	932	3
8	858	848	3
9	845	836	3
10	833	823	3
11	723	714	2
12	674	666	2
13	662	654	2
14	490	484	2
15	490	484	2
16	343	339	1
17	196	194	1
18	196	194	1
19	110	109	0
20	61	61	0
21	37	36	0
22	12	12	0
23	12	12	0
24	12	12	0

Warrant Analysis by Hour

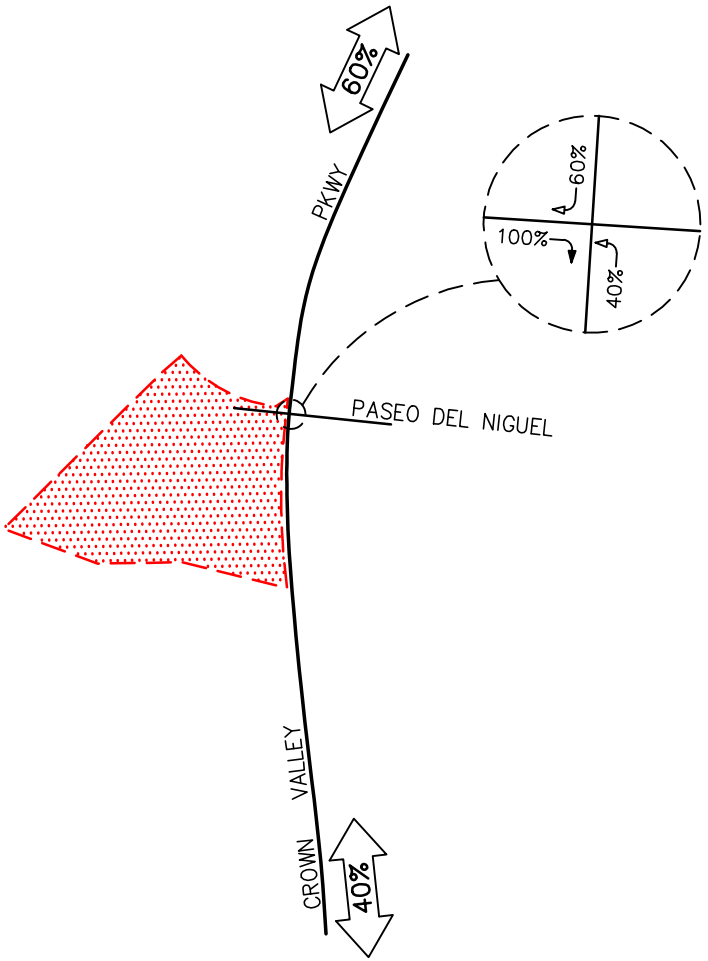
Hour	Major Lanes		Minor Lanes		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		Condition B
1	8	2436	1	4	No	No	No	No	No	No	No	No	No	No
2	8	2363	1	4	No	No	No	No	No	No	No	No	No	No
3	8	2314	1	4	No	No	No	No	No	No	No	No	No	No
4	8	2168	1	4	No	No	No	No	No	No	No	No	No	No
5	8	1925	1	3	No	No	No	No	No	No	No	No	No	No
6	8	1901	1	3	No	No	No	No	No	No	No	No	No	No
7	8	1875	1	3	No	No	No	No	No	No	No	No	No	No
8	8	1706	1	3	No	No	No	No	No	No	No	No	No	No
9	8	1681	1	3	No	No	No	No	No	No	No	No	No	No
10	8	1656	1	3	No	No	No	No	No	No	No	No	No	No
11	8	1437	1	2	No	No	No	No	No	No	No	No	No	No
12	8	1340	1	2	No	No	No	No	No	No	No	No	No	No
13	8	1316	1	2	No	No	No	No	No	No	No	No	No	No
14	8	974	1	2	No	No	No	No	No	No	No	No	No	No
15	8	974	1	2	No	No	No	No	No	No	No	No	No	No
16	8	682	1	1	No	No	No	No	No	No	No	No	No	No
17	8	390	1	1	No	No	No	No	No	No	No	No	No	No
18	8	390	1	1	No	No	No	No	No	No	No	No	No	No
19	8	219	1	0	No	No	No	No	No	No	No	No	No	No
20	8	122	1	0	No	No	No	No	No	No	No	No	No	No
21	8	73	1	0	No	No	No	No	No	No	No	No	No	No
22	8	24	1	0	No	No	No	No	No	No	No	No	No	No
23	8	24	1	0	No	No	No	No	No	No	No	No	No	No
24	8	24	1	0	No	No	No	No	No	No	No	No	No	No
Hours Met					0	0	0	0	0	0	0	0	0	0

Warrant 3 Condition A

Orientation	W
Total Stopped Delay Per Vehicle on Minor Approach (s)	30.1
Number of Lanes on Minor Street Approach	1
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	0:02
Delay Condition Met	No
Volume on Minor Street Approach During Same Hour	4
High Minor Volume Condition Met	No
Total Entering Volume on All Approaches During Same Hour	2440
Number of Approaches on Intersection	3
Total Volume Condition Met	Yes
Warrant Met for Approach	No
Warrant Met for Intersection	**No**

APPENDIX D

RESTRICT LEFT-TURN EGRESS AT PROJECT DRIVEWAY



n:\4300\2204357 - crowne cove, laguna hills\dwg\4357 d-1.dwg LDP 14:25:13 05-27-2021 aguilar

LINSCOTT LAW & GREENSPAN engineers

N NO SCALE

KEY

= INBOUND PERCENTAGE

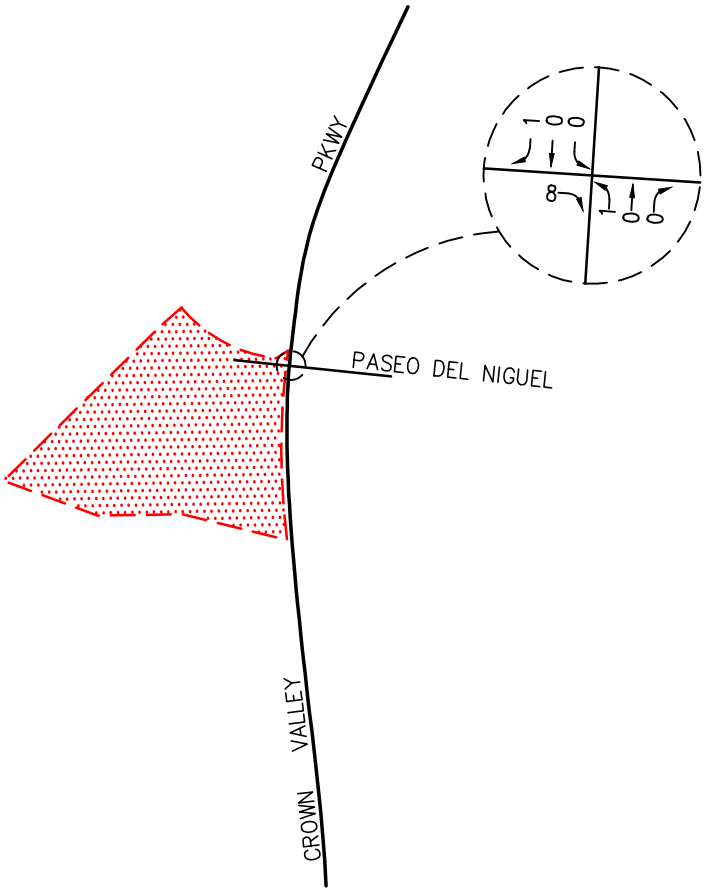
= OUTBOUND PERCENTAGE

= PROJECT SITE

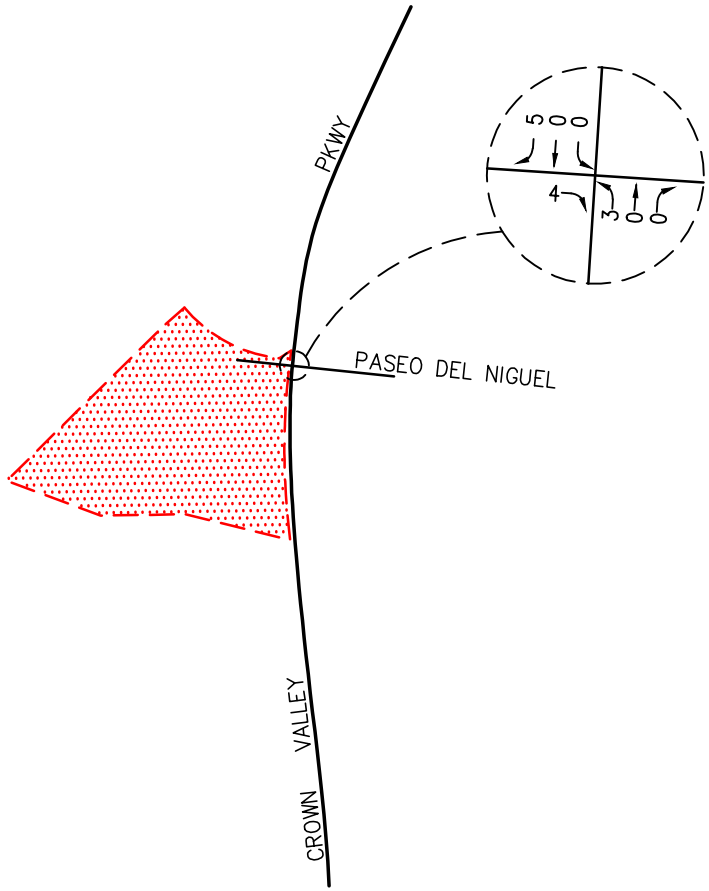
FIGURE D-1

PROJECT TRIP DISTRIBUTION PATTERN (RESTRICT LEFT-TURN ENGRESS)

THE COVE AT EL NIGUEL, LAGUNA NIGUEL



AM PEAK HOUR



PM PEAK HOUR

n:\4300\2204357 - crowne cove, laguna hills\dwg\4357 d-2.dwg LDP 14:37:57 05-27-2021 aguilar

LINSCOTT LAW & GREENSPAN engineers

N NO SCALE

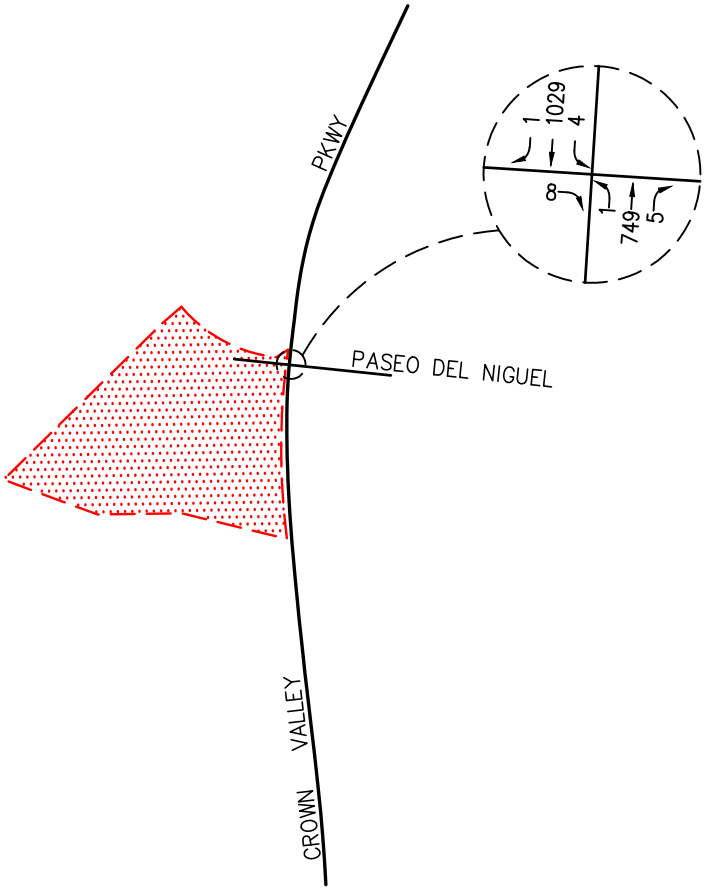
KEY

= PROJECT SITE

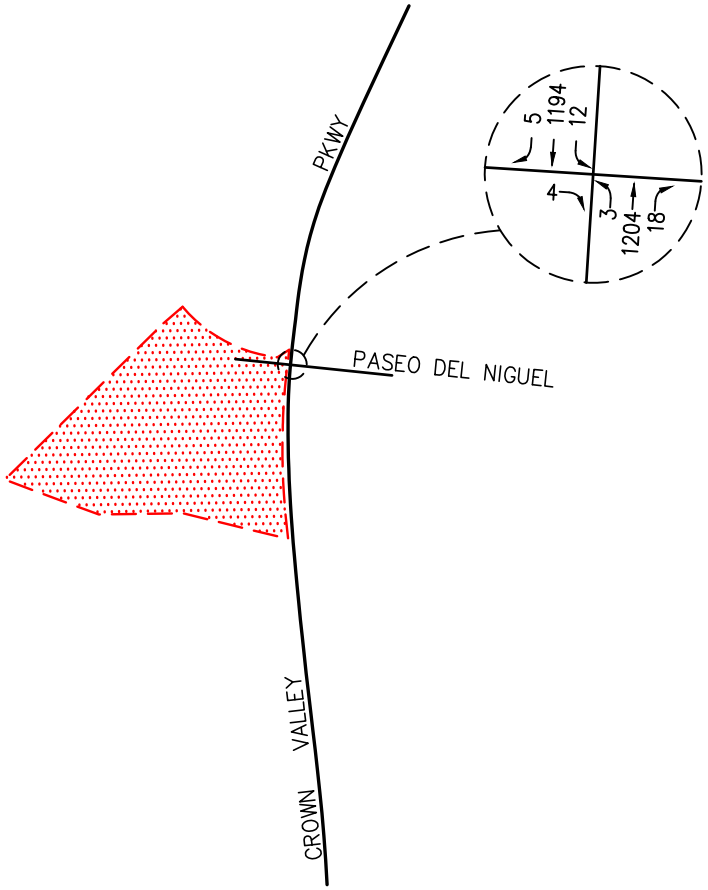
FIGURE D-2

AM AND PM PEAK HOUR PROJECT TRAFFIC VOLUMES (RESTRICT LEFT-TURN EGRESS)

THE COVE AT EL NIGUEL, LAGUNA NIGUEL



AM PEAK HOUR



PM PEAK HOUR

n:\4300\2204357 - crowne cove, laguna hills\dwg\4357 d-3.dwg LDP 14:41:00 05-27-2021 aguilar

LINSCOTT LAW & GREENSPAN engineers

N NO SCALE

KEY

= PROJECT SITE

FIGURE D-3

EXISTING PLUS PROJECT AM AND PM PEAK HOUR TRAFFIC VOLUMES (RESTRICT LEFT-TURN EGRESS)

THE COVE AT EL NIGUEL, LAGUNA NIGUEL

Intersection Level Of Service Report
Intersection 1: Crown Valley Parkway at Project Driveway/Paseo del Niguel

Control Type:	Two-way stop	Delay (sec / veh):	15.0
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.003

Intersection Setup

Name	Crown Valley Pkwy			Crown Valley Pkwy			Project Dwy			Paseo del Niguel		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	50.00			50.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Crown Valley Pkwy			Crown Valley Pkwy			Project Dwy			Paseo del Niguel		
Base Volume Input [veh/h]	1	749	5	4	1029	1	0	0	8	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1	749	5	4	1029	1	0	0	8	0	0	0
Peak Hour Factor	0.9600	0.9600	0.9600	0.9600	0.9600	0.9600	0.9600	0.9600	0.9600	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	195	1	1	268	0	0	0	2	0	0	0
Total Analysis Volume [veh/h]	1	780	5	4	1072	1	0	0	8	0	0	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane				
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			No	
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.01	0.00	0.01	0.01	0.00	0.00	0.00	0.02	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	15.00	0.00	0.00	12.31	0.00	0.00	0.00	0.00	13.77	0.00	0.00	0.00
Movement LOS	C	A	A	B	A	A			B			
95th-Percentile Queue Length [veh/ln]	0.01	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.21	0.00	0.00	0.61	0.00	0.00	0.00	0.00	1.46	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	0.02			0.05			13.77			0.00		
Approach LOS	A			A			B			A		
d_I, Intersection Delay [s/veh]	0.09											
Intersection LOS	C											

Intersection Level Of Service Report
Intersection 1: Crown Valley Parkway at Project Driveway/Paseo del Niguel

Control Type:	Two-way stop	Delay (sec / veh):	18.1
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.045

Intersection Setup

Name	Crown Valley Pkwy			Crown Valley Pkwy			Project Dwy			Paseo del Niguel		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	50.00			50.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Crown Valley Pkwy			Crown Valley Pkwy			Project Dwy			Paseo del Niguel		
Base Volume Input [veh/h]	3	1204	18	12	1194	5	0	0	4	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	3	1204	18	12	1194	5	0	0	4	0	0	0
Peak Hour Factor	0.9600	0.9600	0.9600	0.9600	0.9600	0.9600	0.9600	0.9600	0.9600	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	314	5	3	311	1	0	0	1	0	0	0
Total Analysis Volume [veh/h]	3	1254	19	13	1244	5	0	0	4	0	0	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane				
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			No	
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.01	0.00	0.05	0.01	0.00	0.00	0.00	0.01	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	17.28	0.00	0.00	18.08	0.00	0.00	0.00	0.00	14.92	0.00	0.00	0.00
Movement LOS	C	A	A	C	A	A			B			
95th-Percentile Queue Length [veh/ln]	0.03	0.00	0.00	0.14	0.00	0.00	0.00	0.00	0.03	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.77	0.00	0.00	3.53	0.00	0.00	0.00	0.00	0.83	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	0.04			0.19			14.92			0.00		
Approach LOS	A			A			B			A		
d_I, Intersection Delay [s/veh]	0.14											
Intersection LOS	C											