Appendix P

Fire Response Technical Memorandum

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FIRE RESPONSE TECHNICAL MEMORANDUM

To:	
From:	Dudek Fire Protection Planning Team, Michael Huff, Principal
Subject:	Harmon Ranch Project Fire and Medical Response Analysis
Date:	February 14, 2023
cc:	N/A
Attachment(s):	1. Poway Fire Department Fire Station 1 Modeled Response Time 2. Poway Fire Department Fire Station 3 Modeled Response Time

The following technical memorandum provides a summary of Dudek's fire service response analysis for the Harmon Ranch Project (Project) in Poway, California. This letter provides a preliminary summary of the existing Poway Fire Department's (PFD) nearby resources, their modeled travel time responses into the Project. The goal is to determine whether the Project can be served within the PFD's internal response time standards.

1 Assignment

Dudek's assignment was to:

- Conduct evaluation of existing, nearby PFD fire station travel times to the project site; and
- Analyze generated information to determine if any of the Project site cannot be reached within the City's response time goal.

2 Project Description

Lennar Homes of California, LLC ("Applicant"), is proposing a residential neighborhood on a 11.5-acre Project Site. The Project site is comprised of approximately 5.7 acres designated for residential development, 3.2 of open space areas, 1.9 acres for private streets and 0.5 acres of public right-of-way (Oak Knoll Road). The Proposed Project would include 64 single family detached homes. The Proposed Project density is consistent with the existing RS-7 designation. Primary access to the Project Site is planned via existing Oak Knoll Road and secondary emergency access is planned via the extension of existing Roca Grande Drive. Sixty of the homes are proposed to front newly constructed private streets, while four homes and an open space/overlook area front existing Oak Knoll Road.

The Project is located within the jurisdiction of the PFD. The fire department provides structural fire protection and advanced life support-level emergency medical services within the City limits; the Poway Fire Department is an all-hazard, all-risk response agency. From three fire stations, 17 personnel respond to emergency and non-emergency

calls for service by staffing three paramedic engines, a paramedic ladder truck, two paramedic ambulances and one incident commander (Fire Battalion Chief). Engine company personnel cross-staff ICS Type III wildland brush engines and provides staffing of a CalOES Type I engine when called upon. The Department maintains response aid agreements with surrounding jurisdictions and participates in the California State Fire & Rescue Mutual Aid System and FEMA's Urban Area Search & Rescue team. The Department's resources are grouped into the Metro Zone area of San Diego County Operational Area and partners with fire departments from San Diego City, Miramar, Chula Vista, National City, Coronado, Imperial Beach, and U.S. Navy Federal. The fire department operates two primary Fire Stations [Stations 1 and 3] that would respond to an incident at the proposed Project site, with first-due response likely from Station 1 given its closer location and greater coverage in a faster timeframe. Station 3 would respond as necessary and also provides fast response throughout the Project. Table 1 presents a summary of the location, equipment, and staffing levels for the two PFD stations responding to the site.

Table 1
Poway Fire Department Responding Fire Stations Summary

Fire Station	Location	Equipment	Staffing
Station 1	1350 Community Road Poway, CA	Paramedic Engine Co. Paramedic ambulance Type III Brush Engine Type I Fire Engine Battalion Chief	On duty: 6
Station 3	14322 Pomerado Road Poway, CA	Paramedic Engine Co. Type III Brush Engine Ladder Truck Company Paramedic Ambulance	On-duty: 8

3 Methods

3.1 Travel Time Response Modeling

Dudek conducted a GIS-based travel time coverage modeling effort in order to determine if the project meets the PFD's response goal. The PFD indicates that the City of Poway does not have a published response time standard but do track response time averages by geography and make appropriate adjustments based on those results. Many jurisdictions have published response time standards and they are typically shorter timeframes for dense, urban areas, and longer timeframes for suburban and rural areas.

Travel time is one part of the overall response time and is based largely on the distance from the fire station to the project. Typically, total response time also includes dispatch and turnout times as a constant i.e., 2 minutes and

30 seconds. The Project's entrance is within 1.5 miles from Fire Station 1. The most remote structure in the Project is within approximately 1.6 miles of the Fire Station.

3.2 GIS Response Travel Time Modeling

Following compilation of all necessary data layers received from project applicant and acquired via publicly available sources, Dudek verified that all data layers were in the correct State Plane Zone coordinate system with units in feet. A network data set was then created utilizing ESRI's Network Analyst extension in the Arc Catalog module. The data set was created by merging the existing centerline street layer with the proposed Harmon Ranch Project centerline street data, provided by project applicants, and assigning parameters to the created data set. Several parameters are available during the creation of a network data set and include elevation constraints, U-turn capabilities, curb approach direction and travel impedance.

Due to the emergency nature of the response scenarios modeled in this analysis, U-turns were permitted on every road. Curb approach determines on which side of the street the vehicle needs to approach and includes three options, left, right, or either. The 'either' option was selected for all roads in this analysis based on the emergency nature of the response situations. Finally, travel impedance was utilized to include the effect of speed limits on response travel time. A custom impedance value was created for each road segment and was a function of road segment distance (miles) divided by speed (mph). This value was utilized in Network Analyst calculations for both modeling types and reflected the time necessary for a vehicle to cover the distance of the road segment. Speed was set at 35 mph, consistent with National Fire Protection Association (NFPA) 1142 Table C.11(b) and the Insurance Services Office (ISO) travel time formula (T=0.65 +1.7D).

Once the network data set parameters were finalized, the route analysis was run using the Network Analyst extension in ArcGIS 10.2.2. This function determines the best route between a minimum of two points based on the parameters chosen. The analysis includes response from PFD Fire Stations 1 and 3 , which are the closest stations to the Project. A route analysis procedure was then run using Network Analyst with each respective fire station as the starting point, and a remote location within the Project as the destination. The maps depicting each Station travel time coverage area are presented in Attachments 1 and 2.

3.3 Modeling Results

As indicated in Table 2 and Attachments 1 and 2, response to the project site from the closest existing PFD fire station (Station 1) would arrive at the Project's primary entrance off Oak Knoll Road within 3 minutes, 13 seconds travel time (5 minutes 49 seconds total response time). The most remote units within the Project are reached within 3 minutes 27 seconds travel time, or 5 minutes 57 seconds total response time. This analysis indicates that the entire Project is within a fast response time from the nearest fire station. For perspective, San Diego County uses a 5 minute travel time (7.5 minute total response time) as their standard. This analysis also indicates that Station 3 also has a fast response time, arriving in 3 minutes, 48 seconds trael at the Project entry (5 minutes 18 seconds total response time) and is an appropriate second-due engine.

Table 2
Poway Fire Department Station Response Time to Project

Call Response Times	Harmon Ranch Response Times from Poway Fire Station.			
	Fire Station 1		*Fire Station 3*	
	Travel Time	*Total Response Time*	*Travel Time*	*Total Response Time*
Less than 5 minutes travel/7.5 minutes Total Response Time	100%	100%	100%	100%

3.4 Response Time Capability Assessment

The Project includes a moderate number of new residential structures. Service level requirements could, in the absence of fire facilities and resources improvements, cause a decline in the PFD response times and capabilities for existing residents. However, it is clear that from a response time perspective, the project does comply with the City's total response time standard. From a call volume perspective, Project provided funding through tax revenues and other fire service fees are expected to offset the potential demand created by the Project's generated emergency calls.

4 Discussion and findings

4.1 Emergency Response

As presented, Stations 1 and 3 are well-within generally accepted response goals for first-in fire engine and medic ambulance to the entire Project site.

6 Recommendations

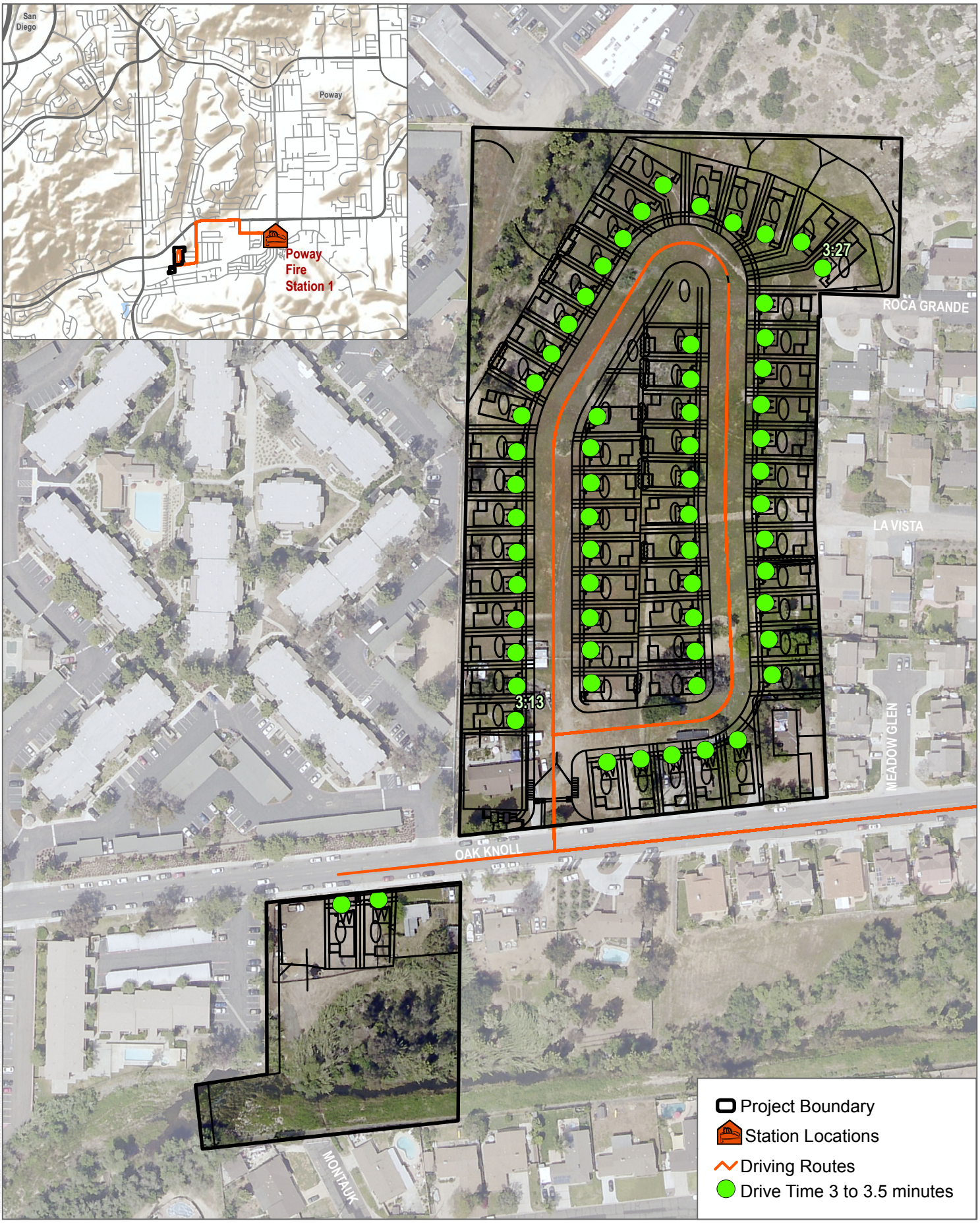
The following Recommendation is provided based on the preceding analysis:

It is recommended that PFD provide emergency response to the proposed Project from Station 1. Factors supporting this recommendation are the absorbable number of calls that would be anticipated as the Project is built and the response time that is within range of local and national standards.

Please feel free to contact me if you have any questions or need any additional information. I look forward to continuing to work with you on this project's fire safety considerations.

Attachment 1

Travel Time Response to Project from Existing Poway Fire Station 1



SOURCE: SAN GIS 2017

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0 80 160 Feet

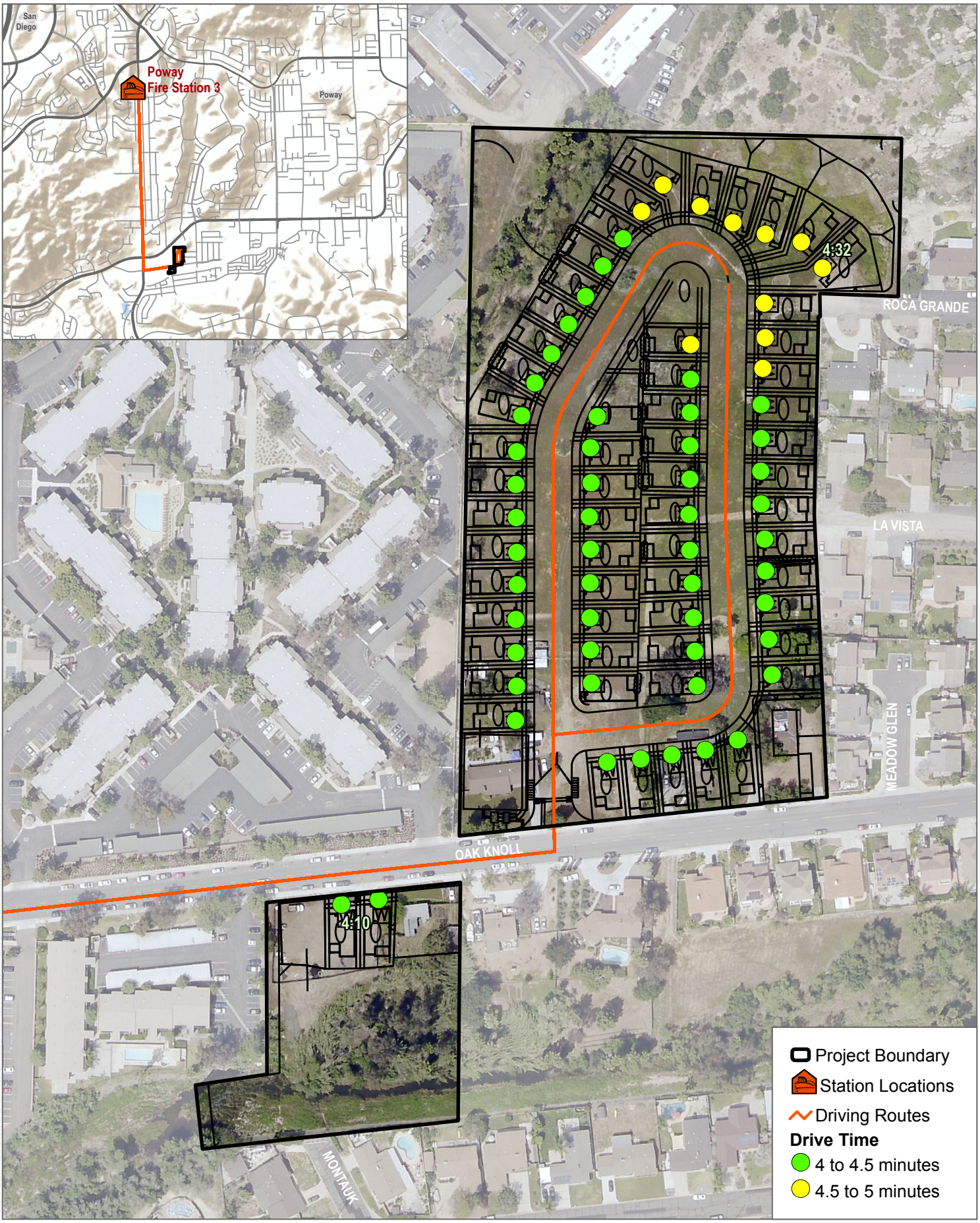
FIGURE 1

Poway Fire Station #1 - ISO Drive Times

Harmon Ranch Specific Plan Project EIR

Attachment 2

Travel Time Response to Project from Existing Poway Fire Station 3



SOURCE: SAN GIS 2017

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0 80 160 Feet

FIGURE 2

Poway Fire Station #3 ISO Drive Times

Harmon Ranch Specific Plan Project EIR