APPENDIX 4.9 - 2

EVACUATION TIME ANALYSIS

EVACUATION TRAVEL TIME ANALYSIS

To:	Lindsey Young, Fire Marshal Anaheim Fire and Rescue
From:	Dudek Fire Protection Planning Team, Michael Huff, Director
Subject:	Festival Hills Project Evacuation Travel Time Analysis
Date:	May 29, 2025
cc:	Sean McEachern, Shea Properties
Attachment(s):	Figure 1 – Project Vicinity Map
	Figure 2 – Existing Project Site Map
	Figure 3 – Proposed Site Plan
	Figure 4a – Fire Progression – North Ignition – NE Wind (60 mph)
	Figure 4b – Fire Progression – Southwest Ignition – SSW Wind (40 mph)
	Figure 5 – Evacuation Area and Routes – Fire in Deer Canyon Park (Worst Case)
	Figure 6 – Evacuation Area and Routes – Fire East of the Project Site
	Figure 7 – Cumulative Projects
	Attachment A – Fire Progression Modeling Outputs
	Attachment B – Fire Evacuation Traffic Analysis for the Festival Hills Project
	Attachment C – Evacuation Travel Time Analysis for The Hills Preserve Project

As requested, Dudek is pleased to submit this Evacuation Travel Time Analysis for the Anaheim Hills Festival Specific Plan (Specific Plan) Amendment Project (Project). The Project site is located along Festival Drive, just south of Santa Ana Canyon Road, in the City of Anaheim, California. The Project site is currently a vacant movie theater and adjacent parking lot in the Anaheim Hills Festival Shopping Center. Figure 1, Project Vicinity, illustrates the general location of the Project site and depicts the existing surrounding circulation system, and Figure 2, Existing Conditions, presents an aerial depiction of the existing site.

The purpose of this Evacuation Travel Time Analysis is to evaluate the evacuation routes and travel times associated with a wildfire occurring in the vicinity of the Project site, with and without the Project, to determine impacts to evacuation times for residences and businesses in the area. As we understand it, this Evacuation Travel Time Analysis Memorandum will be an appendix to the Draft Environmental Impact Report (DEIR) being prepared for the Project.

The methods of analysis, findings, and recommendations are detailed in the following sections of this technical memorandum.

Project Description

The Project proposes to create a new development area (DA) within the existing Specific Plan to allow for the development of residential uses mixed in with the existing commercial development. The newly created DA is referred to as DA 5. As part of the Project, DA 5 would be created by reducing DA 2 from 48 to 31.8 acres. The net reduction of 16.2 acres from DA 2 would be used to create DA 5. The development that would occur as part of the Project would be limited to DA 5, and the existing Specific Plan's boundaries would not change. The Project would demolish the existing approximately 62,676-square-foot cinema and, in its place, allow for the development of a 447-unit multiple-family rental residential community. Approximately 13,310 square feet of commercial use would be retained in DA 2 for future development. As a result, a net reduction of 49,366 square feet of retail space would

occur. Approximately 57,560 square feet of existing non-residential uses would remain in DA 5, including an office, fitness center, and preschool/tutoring center. Figure 3 presents the Project's proposed site plan.

The Project is an infill development and would replace the existing cinema and associated parking within the Anaheim Hills Festival Shopping Center. The Project site is generally situated south of the State Route (SR-) 91, east of Fairmont Boulevard, and west of Weir Canyon Road; specifically, the Project is bound by Festival Drive to the south and west, and by existing commercial development to the north and east. Surrounding uses include a variety of residential communities, the Anaheim Hills Festival Shopping Center, and other urbanized uses. Primary access to the Project site will be provided via Festival Drive. The Project site is east of the Deer Canyon Park. The Project site is not located in an area designated as a Very High Fire Hazard Severity Zone (VHFHSZ) in a Local Responsibility Area or Fire Hazard Severity Zone in a State Responsibility Area. The area immediately south and west of Festival Drive and all of Deer Canyon Park are designated VHFHSZ in a Local Responsibility Area.

Wildfire Evacuation Analysis

Large and increasingly destructive wildfires have forced many Californians living in the Wildland Urban Interface (WUI) to evacuate when an encroaching wildfire threatens their community. The Project is proposing to redevelop the existing cinema and parking lot at the Anaheim Hills Festival Shopping Center with a 447 multiple-family rental residential community, reducing the overall allowed commercial square footage by 49,366 square feet. As a conservative approach to fire safety and evacuation, evacuation times for the existing, proposed, and cumulative land uses are analyzed to consider potential Project impacts related to wildfire and evacuation.

Worst Case Fire Study Scenario

To provide context for modeling a potential evacuation of the Project site and surrounding land uses, fire protection planners at Dudek first conducted fire progression modeling to determine which potential fire scenarios would cause an evacuation of the Project site and surrounding land uses and could in turn increase evacuation times for existing residences and businesses in the vicinity of the Project. The fire progression scenarios selected for this analysis represent fires that would cause an evacuation order for Zone 8, where the Project is located, and surrounding zones. It was determined that the most-likely worst-case fire scenario for the Project and surrounding land uses would be a fire that started in Deer Canyon Park to the west of the Project site (Figures 4a and 4b), which could cause an evacuation of Zones 4, 8, 9, 10, 11, 13. A second fire scenario in the open space east of the SR-91 and SR-241 interchange was also considered; however, it would result in the evacuation of Zones 1, 2, and 3, and Zone 8 would not be evacuated.

As stated above, the most likely worst-case fire progression scenario is a fire in the unmaintained open space in Deer Canyon Park to the west of the Project site. For this analysis, two fire progression scenarios in Deer Canyon Park were modeled; an ignition in the northeast portion of the canyon, close to the Project site, with 60 mile per hour (mph) north-east (NE) wind (Figure 4a), and an ignition in the southwestern portion of the canyon with 40 mph south-south-west (SSW) wind (Figure 4b) to demonstrate additional possible fires that would trigger an evacuation of the Project site and surrounding areas. As shown in Figure 4a, the fire is modeled to extend south toward Canyon Rim Road and Fairmont Boulevard after 120 – 180 minutes (2 – 3 hours). As shown in Figure 4b, the fire is modeled/forecast to conservatively extend north toward the Project site after 120 – 180 minutes (2 - 3 hours).

A fire progression model was also run with an ignition occurring in the unmaintained open space to the east of the SR-91 and SR-241 interchange, which was determined to cause an evacuation for Zones 1, 2, and 3, and Zone 8 would not be evacuated. As shown in Attachment A, this fire is modeled to extend west and south towards residential developments west of SR-241 and south of SR-91. It would reach these areas after approximately 60 – 120 minutes (1 – 2 hours). Attachment A. – Fire Progression Modeling shows all fire progression modeling scenarios.

Fire Progression Modeling and Assumptions

The fire progression scenarios were modeled using FARSITE within the Flammap software. The modeling inputs assumed the following:

1. Moisture Scenario will be 3, 4, 5, 30, 50 (extreme)
2. Wind will be assumed to be from:
    a. NE and E at 60 mph
    b. SSW at 40 mph
3. Fuel models to be used
    a. LCP_LF2022_FBFM40_220_CONUS will be used
    b. Modifications to any layers will be noted and explained in the narrative.
4. 20-foot wind speeds will be used with a 0.5 adjustment factor to flame length wind speeds.
5. Fire scenario will be with sustained winds (no diurnal effect)
6. No fuel conditioning is used with worst-case moisture scenario
7. Arrival Times are shown to eight hours
8. Foliar Moistures are assumed to be 100
9. Crown Fire Calculation Method is set to Finney (2004)
10. Spotting Probability is set to 0.99
11. Spotting Delay is set to 0
12. Fuels have not been adjusted to any disease or drought impacts
13. Slopes and Aspects have not been adjusted in the development area

At the request of the City, the fire modeling scenarios herein replicate the assumptions above, which are from the Hills Preserve Analysis (LLG 2024) and developed in coordination with the City of Anaheim Fire Department. However, there are a couple of variances from the Hills Preserve Analysis, which are analyzed in the following section. Additionally, the Hills Preserve Analysis predicted fire-spotting using a highly conservative method that diverges from industry standards. To accomplish the spotting effect, the Hills Preserve Analysis likely placed new ignition points where the fire protection planners assumed embers may drift and ignite in nearby vegetation. While this was likely modeled to show a highly conservative worst-case scenario, Dudek decided to model spotting using an approach consistent with current industry standard practices, using the MAXSPOT tool embedded within FARSITE, which predicts ember spotting from torching trees (Albini 1979). It should be noted that at each new "spot" or ignition point, the fire spread timing restarts at 0 minutes. Dudek decided to remain consistent throughout and maintain an accurate representation of the amount of time it would take for the fire to progress.

The Hills Preserve Analysis also showcases 26 scenarios (reference Attachment D) to determine the worst-case fire scenario. Considering the conservative approach in the Hills Preserve Analysis and its results, this analysis for the Project includes three additional fire progression scenarios specific to the Project that would represent potential worst-case scenarios. Outputs in these Project-specific runs were similar to those in the Hills Preserve Analysis; therefore, it is appropriate to consider this analysis for greater context. For this analysis, the most likely worst-case

scenario for the Project was determined to be in Deer Canyon Park, west of the Project. A fire in Deer Canyon Park would trigger the largest evacuation that would include Zone 8, where the Project would have the largest potential impact on evacuation time.

The Hills Preserve Project Comparison

Linscott, Law & Greenspan, Engineers (LLG) conducted a similar evacuation travel time analysis for the Hills Preserve Project and is referred to herein as the Hills Preserve Analysis (LLG 2024). Additionally, for reference, the fire progression modeling runs completed for the Hills Preserve Analysis are provided in Attachment D. Further, although Dudek used similar assumptions to the Hills Preserve Analysis, the following describes the variance in assumptions for the fire spread modeling conducted for the Project:

1. Developed areas are used as fire barriers due to fuel modification and defensible space protection. Community burn through is not expected.

2. Slopes and aspects have not been adjusted in the Hills Preserve development area; therefore, fire behavior and progression look slightly different across the Hills Preserve project site as compared to the modeling completed herein.

The first assumption is that the developed areas are used as fire barriers that would slow fire progression run times, as compared to the Hills Preserve Analysis, due to the defensible space and structures intercepting the main head of the fire shortly after ignition. The most likely worst-case scenario in both the Hills Preserve Analysis and this Evacuation Travel Time Analysis depicts an ignition in the northeastern portion of the Deer Canyon Park, progressing south through the canyon due to 60 mph winds from the northeast. Therefore, when compared to the same fire progression run in the Hills Preserve Analysis (Figure 4 of Attachment D), the output provided for this scenario (Figure 4a) shows the fire progressing to Fairmont Boulevard and Canyon Rim Road after 120-150 minutes (2-2.5 hours), as compared to the estimated 360 – 420 minutes (6 to 7 hours) progression run time disclosed in the Hills Preserve Analysis. While the difference in fire progression times appears to spread at a slower rate in the Hills Preserve Analysis, this is due to the second variance described above. The Hills Preserve Analysis assumes the development of the Hills Preserve project site (i.e., slopes and aspects edited for the Hills Preserve project site to represent development), fire progression time would be slower as the fire is modeled to burn through the Hills Preserve project site.

Another run depicted in the Hills Preserve Analysis (refer to page A-26 of Attachment D) shows a similar scenario with a fire starting in the northeastern portion of Deer Canyon Park with a wind direction from NNE. The fire progression model in the Hills Preserve Analysis resulted in an output where the fire reached Canyon Rim Road in 120-150 minutes (2-2.5 hours) and is more similar to the progression run time disclosed herein for the most-likely worst-case scenario, 120-180 minutes (2 - 3 hours) (Figure 4a). The outputs for these runs (A-26 of Attachment D and Figure 4a) are more similar due to the wind direction change in the Hills Preserve Analysis. With wind from the NNE rather than NE, the modeled fire pushes past the Hills Preserve project site; therefore the Hills Preserve's development areas would not impact fire behavior and slow progression as shown in the Hills Preserve Analysis (Figure 4 of Attachment D); therefore, run times on page A-26 of Attachment D are more similar to Figure 4a.

Potential Evacuation Scenarios

Utilizing the fire progression modeling scenarios discussed above and the City's Know Your Way Program, two evacuation scenarios were considered:

1) **Most-Likely Worst-Case Evacuation Scenario:** This evacuation scenario considers an evacuation resulting from a fire in Deer Canyon Park, which would likely result in the evacuation of Zones 4, 8, 9, 10, 11, and 13. Figure 5 presents the evacuation area for a fire originating in the northeast portion of Deer Canyon Park, west of the Project site. The areas shown in orange represent the evacuation area (Know Your Way Zones 4 and 8, including the Festival Center and proposed Project site), which includes approximately 3,014 existing homes and 447 proposed residential units. The majority of the vehicles (40% of Zone 4 and 100% of Zone 8; 6,481 vehicles) were assumed to travel east on Monte Vista Road and Santa Ana Canyon Road or north on Serrano Avenue, then north on Weir Canyon Road to SR-91. The remaining vehicles (60% of Zone 4, 1,055 vehicles) were assumed to evacuate west via Serrano Avenue and East Canyon Rim Road.

2) **Alternative Evacuation Scenario:** This evacuation scenario considers an evacuation resulting from a fire east of the SR-91 and SR-241 interchange, which would cause an evacuation of Zones 1, 2, and 3, and Zone 8 would not be evacuated. Figure 6 presents the evacuation area for a fire originating in the unmaintained open space east of the SR-91 and SR-241 interchange, east of the Project site. The areas shown in red represent the evacuation area (Know Your Way Zones 1, 2, and 3), which include approximately 2,986 existing residential units. The majority of the vehicles (Zones 1, 2, and 20% of Zone 3, 7,465 vehicles) were assumed to travel northbound out of the area via Serrano Avenue and Weir Canyon. The remaining vehicles (80% of Zone 3, 560 vehicles) were assumed to evacuate via Serrano Avenue to the west.

Additionally, this Evacuation Travel Time Analysis considers evacuation travel times for each of the scenarios above under the following conditions:

3) 1) The "Existing without Project" condition, which considers existing development within the study area and assumes the Project site with the existing cinema is vacant.

4) 2) The "Existing with Project" condition, which considers the existing development within the study area and assumes the proposed Project is operational.

5) 3) The "Existing with Cinema" condition, which considers the existing development within the study area and assumes the cinema is occupied rather than vacant (i.e., Existing Condition),

A complete description of the methodology, assumptions, and calculations for this evacuation travel time analysis can be found in Attachment B – Fire Evacuation Traffic Analysis for the Festival Hills Project. Additionally, this includes the Evacuation Area Plans and Study Intersections figure, which illustrates the evacuation area with evacuation routes for both evacuation scenarios, as well as study area intersections demonstrating how targeted evacuation would occur and how law enforcement would direct traffic to prioritize evacuating at-risk populations.

Deer Canyon Park Evacuation (Most-Likely Worst-Case Scenario)

The most likely and worst-case evacuation scenario was determined to be a fire in the Deer Canyon Park to the west of the Project site. In the event a fire were to ignite in this area, an evacuation would likely occur in the City's Know Your Way Zones 4 and 8. In the event a fire occurred in Deer Canyon Park, land uses to the west of the fire, which include Know Your Way Zones 9, 10, 11, and 13, would also likely be evacuated. The evacuating vehicles associated with these land uses would travel westbound on Santa Ana Canyon Road[1] and would not overlap with evacuating traffic from the Know Your Way Zones 4 and 8[2], which would direct all land uses to evacuate eastbound towards Weir Canyon Road, as shown in Figure 5; therefore, the evacuating vehicles associated with Know Your Way Zones 9, 10, 11, and 13 are not considered in the evacuation time analysis for this scenario.

This evacuation scenario evaluates evacuation travel times (1) Existing condition without the proposed Project and Cinema vacant ("Existing without Project"), (2) Existing Condition with the proposed Project ("Existing with Project"), (3) Existing condition with the existing Cinema occupied ("Existing with Cinema").

Table 1 details the number of evacuating vehicles, evacuation travel time, and the increase in evacuation time for each evacuation scenario. Figure 5 illustrates the Evacuation Area for a fire originating in Deer Canyon Park to the west of the Project site.

Table 1: Deer Canyon Park Scenario Evacuating Vehicles and Evacuation Travel Time

Condition	Total Vehicle Volume	Evacuation Time (HH:MM)	Δ Change from Without Project (HH:MM)
Existing Condition Without Project[1]	11,051(4,033 NB/7,018 EB)	02:51	N/A
Existing Condition With Project[2]	11,855 (4,033 NB/7,822 EB)	03:05	00:14
Existing Condition With Cinema[3]	11,466 (4,033 NB/7,433 EB)	02:58	00:07

[1] Without Project conditions considers existing uses within the Anaheim Hills Festival Shopping Center, including those existing uses in the proposed DA 5 (i.e., gym, tutoring center, etc.) with a vacant cinema and without the Project.
[2] With Project conditions is similar to Without Project conditions; however, in this scenario, the Project is operational and has replaced the cinema.
[3] With Cinema conditions is similar to Without Project conditions; however, in this scenario the cinema is operational.

Deer Canyon Park Scenario Effect on Evacuation

Existing without Project

This scenario includes the evacuation of Know Your Way Zones 4 and 8, which includes the Anaheim Hills Festival Shopping Center. The number of vehicles departing the evacuation area was based on the American Community Services (ACS) 2022 data for two census tracts (219.21 and 219.22), which represent these evacuation zones. The Orange County Traffic Analysis Model (OCTAM) utilizes an average of 2.24 vehicles per household and 3.11

[1] https://www.anaheim.net/5204/Know-Your-Way
[2] Project is located in Know Your Way Zone 8

people per household for the evacuation area. As a conservative assumption, 2.5 evacuating vehicles per home was assumed.

Using data from the ACS, approximately 3,014 homes would need to be evacuated in Zones 4 and 8. Using the vehicles per home assumption stated above, these 3,014 homes would produce approximately 7,536 evacuating vehicles. 2,592 homes or 6,481 vehicles (Zone 8 and 40% of Zone 4) were assumed to evacuate to the north and east, and 422 homes or 1,055 vehicles (60% of Zone 4) were assumed to evacuate to the south and west via Serrano Avenue and Canyon Rim Road.

Using the City's Know Your Way Plan, the evacuating vehicles in Zones 4 and 8 were assumed to evacuate to the SR-91, utilizing Monte Vista Road, Santa Ana Canyon Road, Serrano Avenue, and Weir Canyon Road[3].

The Anaheim Hills Festival Shopping Center currently provides 3,129 parking spaces, including 2,064 parking spaces in DA 1 and DA 2 and 1,065 parking spaces in DA 5. This scenario assumes the vacant cinema in DA 5; therefore, the parking spaces associated with the cinema (592 parking spaces) were removed from this analysis scenario, resulting in a net total of 2,537 parking spaces for the Festival Center. For consistency with the Hills Preserve Analysis (LLG 2024), this evacuation travel time analysis assumes an evening evacuation with 75% of the occupants evacuating from the Festival Center, resulting in a total of approximately 1,903 evacuating vehicles. Using the City's Know Your Way Plan, the evacuating vehicles were assumed to evacuate to the SR-91, or east on Santa Ana Canyon Road, utilizing Festival Drive, Santa Ana Canyon Road, and Weir Canyon Road.

This scenario considers the 6,481 evacuating vehicles from Zones 4 and 8, and the 1,903 evacuating vehicles from the Festival Center. The total number of evacuating vehicles for this scenario is 8,384.

The evacuation travel time for the surrounding areas (Zones 4 and 8) and the Festival Center without the proposed Project in the event of a fire occurring in Deer Canyon Park to the west of the Project site would take 2 hours and 51 minutes.

Existing with Project

This scenario includes the evacuation of Zones 4 and 8, the Anaheim Hills Festival Shopping Center, and the Project. The Project proposes to include 1,243 parking spaces within DA 5 as part of the current site plan, which includes 893 spaces for the proposed residential dwelling units and 473 spaces for the existing retail uses. For consistency with the Hills Preserve Analysis (LLG 2024), this evacuation travel time analysis assumes an evening evacuation with 90% of the occupants evacuating from the proposed residential units from the Project site, resulting in a total of approximately 804 evacuating vehicles. Using the City's Know Your Way Plan, the evacuating vehicles were assumed to evacuate to the SR-91, utilizing Festival Drive, Monte Vista Road, and Weir Canyon Road. The existing retail uses within the Project site are also evacuating under this scenario, but are already accounted for in the Festival Center evacuating volumes.

This scenario considers the 6,481 evacuating vehicles from Zones 4 and 8, 1,903 from the Festival Center, and 804 from the proposed Project. The total number of evacuating vehicles for this scenario is 9,188.

[3] https://www.anaheim.net/5204/Know-Your-Way

The evacuation travel time for Zones 4 and 8, the existing Festival Center, and the Project in the event of a fire occurring in Deer Canyon Park to the west of the Project site would take 3 hours and 05 minutes.

Existing with Cinema

This scenario includes the evacuation of Zones 4 and 8, the Anaheim Hills Festival Center, and the Cinema. The currently existing condition for the Project site is a cinema and adjacent parking lot. The cinema and existing uses served by parking within the created DA 5 currently provide approximately 1,065 parking spaces, which include 592 parking spaces for the cinema and 473 parking spaces for the existing uses. The parking demand during the afternoon or evening peak hours for cinemas was conservatively assumed as 70% occupancy[4]. Therefore, the cinema would likely produce approximately 415 evacuating vehicles. These vehicles were assumed to evacuate to the SR-91 utilizing Festival Drive and/or Santa Ana Canyon Road and Weir Canyon Road. The existing retail uses within the Project site are also evacuating under this scenario, but are already accounted for in the Festival Center evacuating volumes.

This scenario considers the 6,481 evacuating vehicles from Zones 4 and 8, the 1,903 evacuating vehicles from the Festival Center, and the 415 evacuating vehicles from the existing Cinema. The total number of evacuating vehicles for this scenario is 8,799.

The evacuation travel time for the Zones 4 and 8, the Festival Center, and the existing Cinema in the event of a fire occurring in Deer Canyon Park to the west of the Project site would take 2 hours and 58 minutes.

Fire From East of SR-91/SR-241 Interchange (Alternative Evacuation Scenario)

An alternative evacuation scenario was determined to be a fire in the open space areas east of the SR-91 and SR-241 interchange, east of the Project site. In the event a fire was to ignite in this area, an evacuation would likely occur in the City's Know Your Way Zones 1, 2 and 3.

This evacuation scenario evaluates evacuation travel times (1) without the proposed Project, (2) with the proposed Project, and (3) with the existing Cinema.

Table 2 details the number of evacuating vehicles, evacuation travel time, and the increase in evacuation time for each evacuation scenario. Figure 6 illustrates the Evacuation Area for a fire originating in the open space east of the SR-91 and SR-241 interchange, east of the Project site.

[4] ITE Parking Generation Manual (6th Edition) for Movie Theater (Land Use Code 444) during the PM peak hour of 6 – 7 PM. The Friday parking demand for the PM peak hour is 63% and 71% during Non-December and December conditions, respectively, so a conservative 70% occupancy was applied.

Table 2: Alternative Evacuation Scenario - Evacuating Vehicles and Evacuation Travel Time

Scenario	Total Vehicle Volume	Evacuation Time (HH:MM)	Δ Change from Without Project (HH:MM)
Existing Condition Without Project	9,709 (7,940 NB/578 EB/1,191 WB)	02:13	N/A
Existing Condition With Project	10,776 (7,940 NB/1,645 EB/1,191 WB)	02:35	00:22
Existing Condition With Cinema	10,479 (7,940 NB/1,348 EB/1,191 WB)	02:30	00:17

Alternative Fire Scenario Effects on Evacuation

Existing without Project

This scenario includes the evacuation of Know Your Way Zones 1, 2, and 3. A fire igniting in the open space to the east of the Project site would likely trigger an evacuation for Zones 1, 2, and 3. As described above, 2.5 vehicles per home was assumed.

Using data from the ACS, the total number of homes that would need to be evacuated in Zones 1, 2, and 3 is approximately 3,210. Using the 2.5 vehicles per home assumption stated above, these 3,210 homes would produce approximately 8,025 evacuating vehicles. Zones 1, 2, and 20% of Zone 3, for a total of 2,986 homes and approximately 7,465 vehicles, would utilize evacuation routes heading north. The remaining 224 homes and approximately 560 vehicles from the remainder of Zone 3 would evacuate to the south via Serrano Avenue.

The 7,465 vehicles evacuating to the north were assumed to evacuate to the SR-91, utilizing Serrano Avenue and Weir Canyon Road[5].

The evacuation travel time for the surrounding areas without the proposed Project in the event of a fire occurring in the open space to the east of the Project site would take 2 hours and 13 minutes.

Existing with Project

This scenario includes the evacuation of Know Your Way Zones 1, 2, and 3 and the Project site. Although the Project site is in Know Your Way Zone 8, and per the City's Fire Department[6] would likely not be evacuated in the alternative evacuation scenario. To be conservative, this scenario was modeled with Project traffic only to demonstrate the magnitude of change in evacuation times the Project would have on evacuation traffic.

The Project proposes to include 1,243 parking spaces in DA 5 as part of the current site plan, which includes 893 spaces for the proposed residential dwelling units and 350 spaces for the existing retail uses. This Evacuation

[5] https://www.anaheim.net/5204/Know-Your-Way

[6] Zoom Conference Call between members of Dudek's Fire Protection Planning Team and representatives from the City of Anaheim: Amanda Lauffer, Cory Wilkerson, Rafael Cobian, and Elaine Theinprasiddh, Anaheim Fire and Rescue: Fire Marshal Lindsey Young and Assistant Fire Marshal David Rodriguez, and Anaheim Police Department: Lieutenant Richard LaRochelle, on September 10, 2024.

Travel Time Analysis assumes an evening evacuation with 90% of the residential occupants and 75% of the retail occupants evacuating from the Project site, resulting in a total of approximately 1,067 evacuating vehicles. Using the City's Know Your Way Plan, the evacuating vehicles were assumed to evacuate to the SR-91, utilizing Festival Drive, Monte Vista Road, and Weir Canyon Road.

This scenario considers the 1,067 evacuating vehicles from the proposed Project site, as well as the 7,465 vehicles from Zones 1, 2, and 3. The total number of evacuating vehicles for this scenario is 8,532.

The evacuation travel time for the 'with Project' conditions in the event of a fire occurring in the open space to the east of the Project site would take 2 hours and 35 minutes.

Existing with Cinema

The proposed Project site's current condition is a cinema and adjacent parking lot. The cinema and existing uses served by parking within the created DA 5 currently provide approximately 1,065 parking spaces, which include 592 parking spaces for the cinema and 473 parking spaces for the existing uses. The parking demand during the afternoon or evening peak hours for cinemas is 70% occupancy[7] and 75% occupancy for the retail uses. Therefore, the cinema would produce approximately 415 evacuating vehicles, and the retail uses would produce approximately 355 evacuating vehicles, for a total of 770 vehicles evacuating DA 5. These vehicles were assumed to evacuate to the SR-91, utilizing Festival Drive, Monte Vista Road, and Weir Canyon Road.

This scenario considers the 770 evacuating vehicles from DA 5, which includes cinema and existing retail, as well as the 7,465 vehicles from Zones 1, 2, and 3. The total number of evacuating vehicles for this scenario is 8,235.

The evacuation travel time for the 'with Cinema' conditions in the event of a fire occurring in the open space to the east of the Project site would take 2 hours and 30 minutes.

Cumulative Analysis

Table 3, Cumulative Projects, presents the list of cumulative projects considered in the evacuation analysis for the Project.

Table 3: Cumulative Projects

	Project Name/Case Number	Land Use	Quantity /Units	Location
A1	The Hills Preserve Project	Multi-Family Residential	498 DU	South of Santa Ana Canyon Road, North of Deer Canyon Park, Between Eucalyptus & Festival Drive
		Single-Family Residential	6 DU	
		Non-Resident Amenity Access	12,700 TSF	
		Commercial	80,000 TSF	

[7] ITE Parking Generation Manual (6th Edition) for Movie Theater (Land Use Code 444) during the PM peak hour of 6 – 7 PM. The Friday parking demand for the PM peak hour is 63% and 71% during Non-December and December conditions, respectively, so a conservative 70% occupancy was applied.

	Project Name/Case Number	Land Use	Quantity /Units	Location
		Open Space Trails	43.2 acres	
A2	DEV2022-00055	Industrial	94,540 TSF	180 N Riverside Drive
A3	DEV2021-00046	Retail Plaza	5,315 TSF	8163 E Kaiser Boulevard
	DEV2013-0024C	Preschool	43 STU	
A4	DEV2022-00044	RV Storage	160 Spaces	S of Crystal Drive and W of Pullman Street
A5	DEV2020-00204	Cemetery	180.0 AC	APN 51401235
A6	DEV2020-00097	Single-Family Residential	4 DU	6268 E Rio Grande Drive
A7	DEV2022-00063	Warehouse	87,912 TSF	5510 E La Palma Avenue
A8	DEV2022-00030	Multi-Family Residential	360 DU	4679 E Orchard Drive
A9	DEV2019-00151	Single-Family Residential	4 DU	6140 E Santa Ana Canyon Road
A10	DEV2020-00096	Warehouse	169,000 TSF	3939 E Coronado Street
A11	DEV2021-00057	General Light Industrial	38,251 TSF	3855 La Palma Avenue
A12	DEV2021-00073	Single-Family Residential	3 DU	860 S Peralta Hills Drive
Y1	ECTO Homes	Senior Housing	240 DU	Southeast corner of Mariposa and Lakeview

Source: Urban Crossroads 2025

Notes: DU = dwelling units, TSF = thousand square feet, STU = Students, AC = Acres

The City's Know Your Way Program identifies evacuation zones and routes, including how traffic is expected to be directed during wildfire evacuation. The proposed Project is located in Zone 8, with evacuation traffic anticipated to be directed through the intersection of Santa Ana Canyon Road and Weir Canyon Road before accessing SR-91. This intersection is the primary focus of this cumulative analysis.

A comprehensive review of all cumulative project locations was conducted to determine their likely evacuation routes and potential to contribute to traffic volumes at the Santa Ana Canyon Road and Weir Canyon Road intersection. Figure 7, Cumulative Projects, identifies both cumulative Projects within the City's Know Your Way Evacuation Zones and cumulative projects that would contribute to the study intersection. Vehicle estimates were developed using parking ratios from Anaheim Municipal Code Chapter 18.42 (Parking and Loading), applying conservative assumptions that 100 percent of parked vehicles would evacuate during the PM peak hour.

The following three cumulative projects were identified as likely to route evacuation traffic through the Santa Ana Canyon Road and Weir Canyon Road intersection:

- **DEV2022-00055 – Industrial (94,540 SF) at 180 N Riverside Drive**
  According to Anaheim Municipal Code Section 18.42.040 (Non-Residential Parking Requirements), industrial uses are required to provide 1.55 parking spaces per 1,000 square feet of ground floor area (GFA). For the proposed 94,540 square feet of industrial development, this equates to approximately 147 parking spaces. For evacuation modeling purposes, it is conservatively assumed that 100 percent of these parked vehicles would evacuate during the PM peak hour. These vehicles are expected to travel westbound on Santa Ana Canyon Road, ultimately passing through the Santa Ana Canyon Road and Weir Canyon Road intersection.

- **DEV2021-00046 – Retail Plaza (5,315 SF) at 8163 E Kaiser Boulevard**
  According to Anaheim Municipal Code Section 18.42.040, retail uses are required to provide 4 parking spaces per 1,000 square feet of GFA. Based on this standard, the 5,315-square-foot retail plaza is expected to provide approximately 22 parking spaces. For evacuation modeling purposes, it is conservatively assumed that 100 percent of these vehicles would evacuate during the PM peak hour. These vehicles are anticipated to travel eastbound on Santa Ana Canyon Road towards the Santa Ana Canyon Road and Weir Canyon Road intersection.

- **DEV2021-00024C – Preschool (43 students) at 8163 E Kaiser Boulevard**
  According to Anaheim Municipal Code Section 18.42.040, educational institutions are required to provide 0.82 parking spaces per student, plus 4 spaces per 1,000 square feet of office GFA.[8] Applying this standard, the preschool is estimated to have 40 parking spaces. For evacuation modeling purposes, it is conservatively assumed that 100 percent of these vehicles would evacuate during the PM peak hour. These vehicles would also travel eastbound on Santa Ana Canyon Road toward the Santa Ana Canyon Road and Weir Canyon Road intersection.

These three projects collectively contribute approximately 209 vehicles to the Santa Ana Canyon Road and Weir Canyon Road intersection. Their estimated volumes were incorporated into the evacuation modeling for both the Deer Canyon Park and Alternative Fire scenarios (see Tables 4 and 5). A 5.10 percent ambient growth factor was applied to represent future growth associated with existing conditions.

The remaining cumulative projects identified in Table 3 were reviewed in the context of their geographic location and the City's Know Your Way evacuation planning framework. Based on this evaluation, these projects are expected to evacuate via alternate routes that do not intersect with the Santa Ana Canyon Road and Weir Canyon Road intersection and are therefore assumed to have no measurable impact (0 minutes) on the cumulative evacuation times presented in Tables 4 and 5. These projects include:

- The Hills Preserve, DEV2020-00097, DEV2019-00151 – Evacuate west via Santa Ana Canyon Road to Imperial Highway
- DEV2022-00044 – Evacuates via Yorba Linda Boulevard
- DEV2020-00204 – Evacuates west to Gypsum Canyon Road
- DEV2022-00063 – Evacuates west along La Palma Avenue to N Lakeview Avenue

[8] While the City of Anaheim also provides parking ratios for day care centers (i.e., one space per employee plus one space per ten children), the parking ratio for educational institutions—0.82 spaces per student plus 4 spaces per 1,000 square feet of office GFA—yields a higher parking demand. This more conservative standard was applied in the analysis to ensure a robust estimate of evacuation vehicle volumes.

- DEV2022-00030 – Evacuates east along Orchard Drive to Lakeview Avenue
- DEV2020-00096, DEV2021-00057 – Evacuate west along La Palma Avenue to North Tustin Avenue
- DEV2021-00073 – Evacuates south along S Peralta Hills Drive to Lakeview Avenue
- ECTO Homes – Evacuates east on Mariposa Avenue to N Lakeview Avenue

These routing assumptions are consistent with the City's adopted evacuation planning framework and reflect the most likely travel paths based on project location and roadway connectivity.

Table 4: Deer Canyon Park Cumulative Evacuation Scenario - Evacuating Vehicles and Evacuation Travel Time

Condition	Total Vehicle Volumes	Evacuation Time (HH:MM)	Δ Change from Without Project (HH:MM)
Existing Condition Without Project	11,249 (4,106 NB/7,134 EB)	02:54	N/A
Existing Condition With Project	12,053 (4,106 NB/7,947 EB)	03:08	00:14
Existing Condition With Cinema	11,664 (4,106 NB/7,558 EB)	03:01	00:07

Table 5: Alternative Cumulative Evacuation Scenario - Evacuating Vehicles and Evacuation Travel Time

Condition	Total Vehicle Volumes	Evacuation Time (HH:MM)	Δ Change from Without Project (HH:MM)
Existing Condition Without Project	10,032 (8,002 NB/669 EB/1,361 WB)	02:20	N/A
Existing Condition With Project	11,099 (8,002 NB/1,736 EB/1,361 WB)	02:42	00:22
Existing Condition With Cinema	10,802 (8,002 NB/1,439 EB/1,361 WB)	02:35	00:15

Under the cumulative scenario, evacuation times for the Deer Canyon Park Scenario (Table 4) increase by 14 minutes under the "With Project" condition and by 7 minutes under the "With Cinema" condition, compared to the "Existing Condition Without Project" condition. Additionally, the "With Project" condition results in a 7-minute increase in evacuation time compared to the "With Cinema" condition, which assumes the existing development on the Project site is occupied rather than vacant. For the Alternative Evacuation Scenario (Table 5), evacuation times increase by 22 minutes under the "With Project" condition and by 15 minutes under the "With Cinema" condition, relative to the "Existing Condition Without Project" condition. The "With Project" condition also results in a 7-minute increase compared to the "With Cinema" condition.

Evacuation Travel Time Analysis Results

Given that the City of Anaheim currently does not have adopted criteria for determining whether or not evacuation travel time increases are significant, this letter report simply details the change in evacuation travel time with the Project. The following provides a comparison of evacuation travel times for each scenario under each of the following conditions: 1) Without Project, 2) With Project, and 3) With Cinema.

Deer Canyon Park Scenario

In this scenario evacuation times would increase approximately 14 minutes for evacuating vehicles in Know Your Way Zones 4 and 8 with the Project, as compared to without Project conditions. Under this same scenario, for Existing Condition With Cinema, evacuation times for these same Know Your Way Zones would increase approximately 15 minutes. The difference between with Project and with Cinema conditions is an increase of 7 minutes.

Alternative Scenario

In this scenario evacuation times would increase approximately 22 minutes for evacuating vehicles in Know Your Way Zones 4 and 8 with the Project, as compared to without Project conditions. Under this same scenario, for Existing Conditions with Cinema, evacuation times for these same Know Your Way Zones would increase approximately 17 minutes. The difference between with Project and with Cinema conditions is a increase of 5 minutes.

Summary of Analysis

As stated above, this Evacuation Travel Time Analysis considers evacuation travel times under the following conditions:

1) The “Existing without Project” condition, which considers existing development within the study area and assumes the Project site with the existing cinema is vacant.

2) The “Existing with Project” condition, which considers the existing development within the study area and assumes the proposed Project is operational.

3) The “Existing with Cinema” condition, which considers the existing development within the study area and assumes the cinema is occupied rather than vacant (i.e., Existing Condition),

The forecasted evacuation travel time for ‘Existing without Project’ conditions for the most-likely worst-case fire scenario occurring in Deer Canyon Park, west of the Project site, is 2 hours and 51 minutes (171 minutes), whereas the forecast evacuation travel time for ‘With Project’ conditions is 3 hours and 05 minutes (185 minutes) based on a weekday PM peak hour background traffic condition. The evacuation travel time for ‘Existing with Project’ conditions increases 14 minutes from the ‘Existing without Project’ traffic condition. Further, under this same scenario, the ‘Existing with Cinema’ conditions, the evacuation travel time is 2 hours and 58 minutes (178 minutes), an increase of 7 minutes compared to ‘Existing without Project’ conditions. Additionally, the increase in evacuation

times for 'Existing with Project' conditions as compared to 'Existing with Cinema' conditions is approximately 7 minutes.

The forecasted evacuation travel time for 'Existing without Project' conditions for the alternative fire scenario occurring east of the SR-91 and SR-241 interchange, east of the Project site, is 2 hours and 13 minutes (133 minutes), whereas the forecast evacuation travel time for 'Existing with Project' conditions is 2 hours and 35 minutes (155 minutes) based on a weekday PM peak hour background traffic condition. The evacuation travel time difference between 'Existing without Project' and 'Existing with Project' conditions is 22 minutes over the 'Existing without Project' traffic condition. Further, under this same scenario, 'Existing with Cinema' conditions, the evacuation travel time is 2 hours and 35 minutes (150 minutes), a difference of 17 minutes compared to 'Existing without Project' conditions. Additionally, the increase in evacuation times for 'Existing with Project' conditions as compared to 'Existing with Cinema' conditions is approximately 5 minutes.

Recommendations

Given that the City of Anaheim currently does not have adopted criteria for determining whether or not evacuation travel time increases are significant, this analysis simply reports the changes in evacuation travel time with the Project. Nonetheless, the following project design features are recommended to improve fire safety during construction and operations of the Project:

PDF-1 Construction Fire Prevention Plan: The Property Owner/Developer will prepare and implement a construction fire prevention plan that designate fire safety measures to be implemented by the Project's contractor to reduce the possibility of fires during construction of the Project. The construction fire prevention plans will be reviewed and approved by Anaheim Fire and Rescue prior to the start of construction activities.

PDF 2.0 Wildfire Evacuation and Awareness Plan: Prior to issuance of a certificate of occupancy for the first multiple-family residential unit, the Property Owner/Developer will develop and implement a project-specific wildfire evacuation and awareness plan. The plan will be subject to review and approval by the City of Anaheim Planning Department, Anaheim Police Department, and Anaheim Fire and Rescue staff. The plan will include the following minimum requirements:

.01 The plan will be provided to all tenants along with all lease agreements for tenants.

.02 The plan will include the development and dissemination of wildfire evacuation outreach materials. These materials will be provided to residents and employees within the Project annually. The outreach materials will depict evacuation routes to use in case of a wildfire event and will provide other practical wildfire preparedness information.

.03 The plan will include requirements for annual emergency evacuation drills for residents and employees in the Project site.

.04 The plan will include the development, implementation, and ongoing maintenance of a method for the Property Owner/Developer to quickly and effectively communicate emergency alerts to individuals at the Project site, such as through the installation and maintenance of a wireless Public Address (PA) system

and/or wireless texting services, or other equivalent systems or methods approved by Anaheim Fire and Rescue staff.

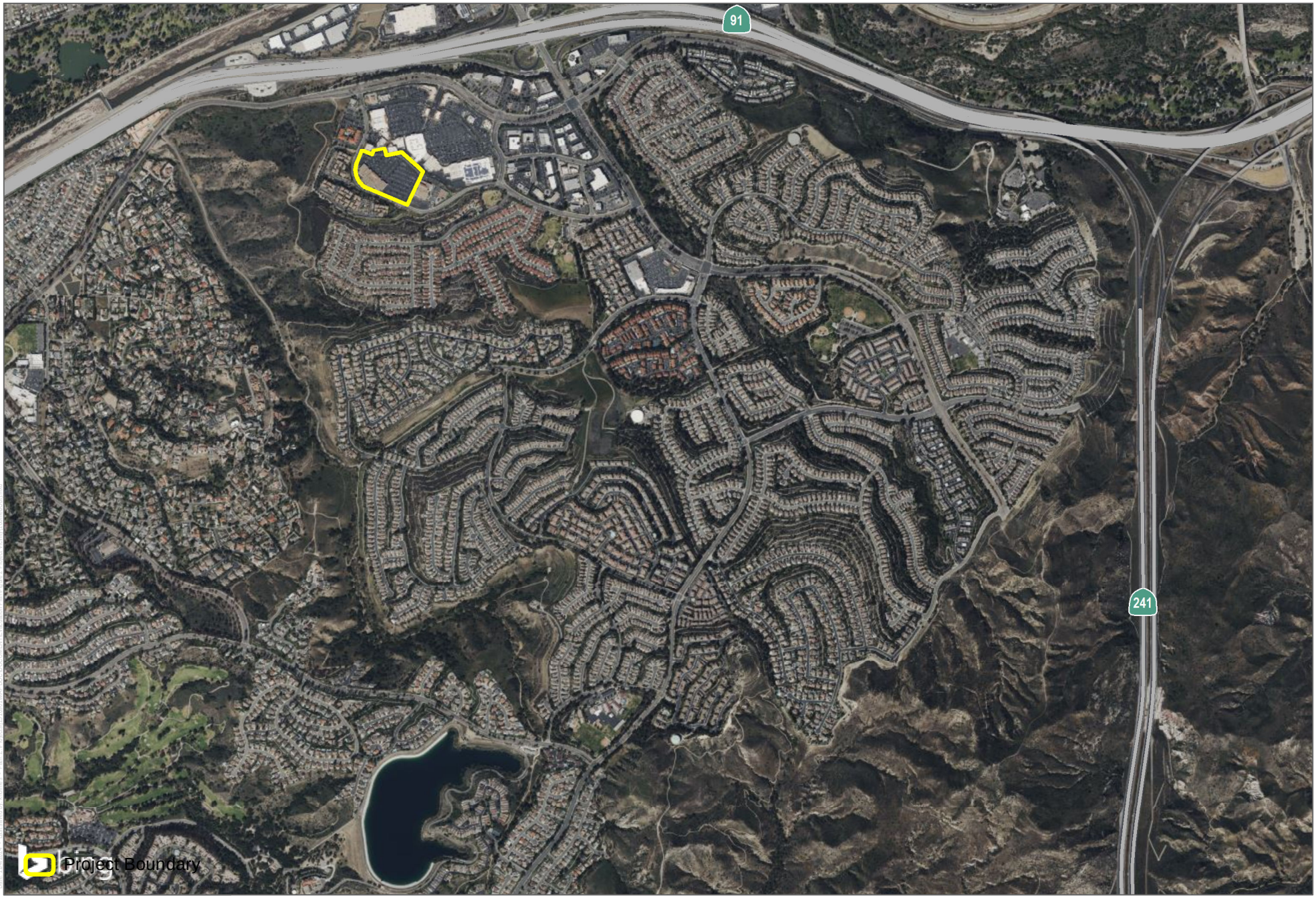
We appreciate the opportunity to provide these evacuation time results. Should you have any questions regarding this Evacuation Travel Time Memorandum, please call us at (619) 992-9161.

Sincerely,

Michael Huff

Dudek Fire Protection Planning Team

Figures 1-7



SOURCE: Bing Maps 2023; Open Street Map 2023

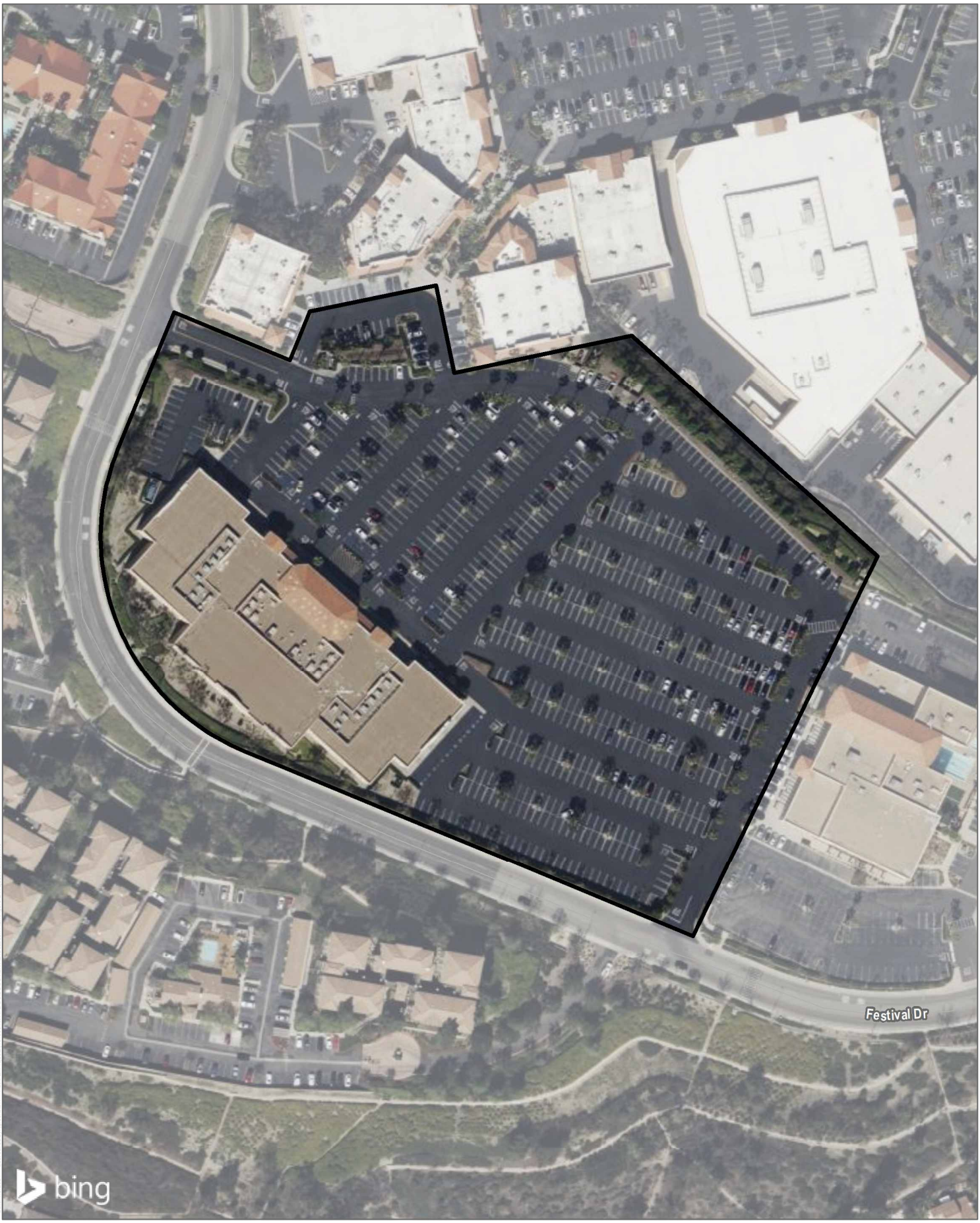
DUDEK

0 875 1,750 Feet

FIGURE 1

Project Vicinity Map

Festival Hills Project - Evacuation Study



SOURCE: Bing Maps 2023; Open Street Map 2023

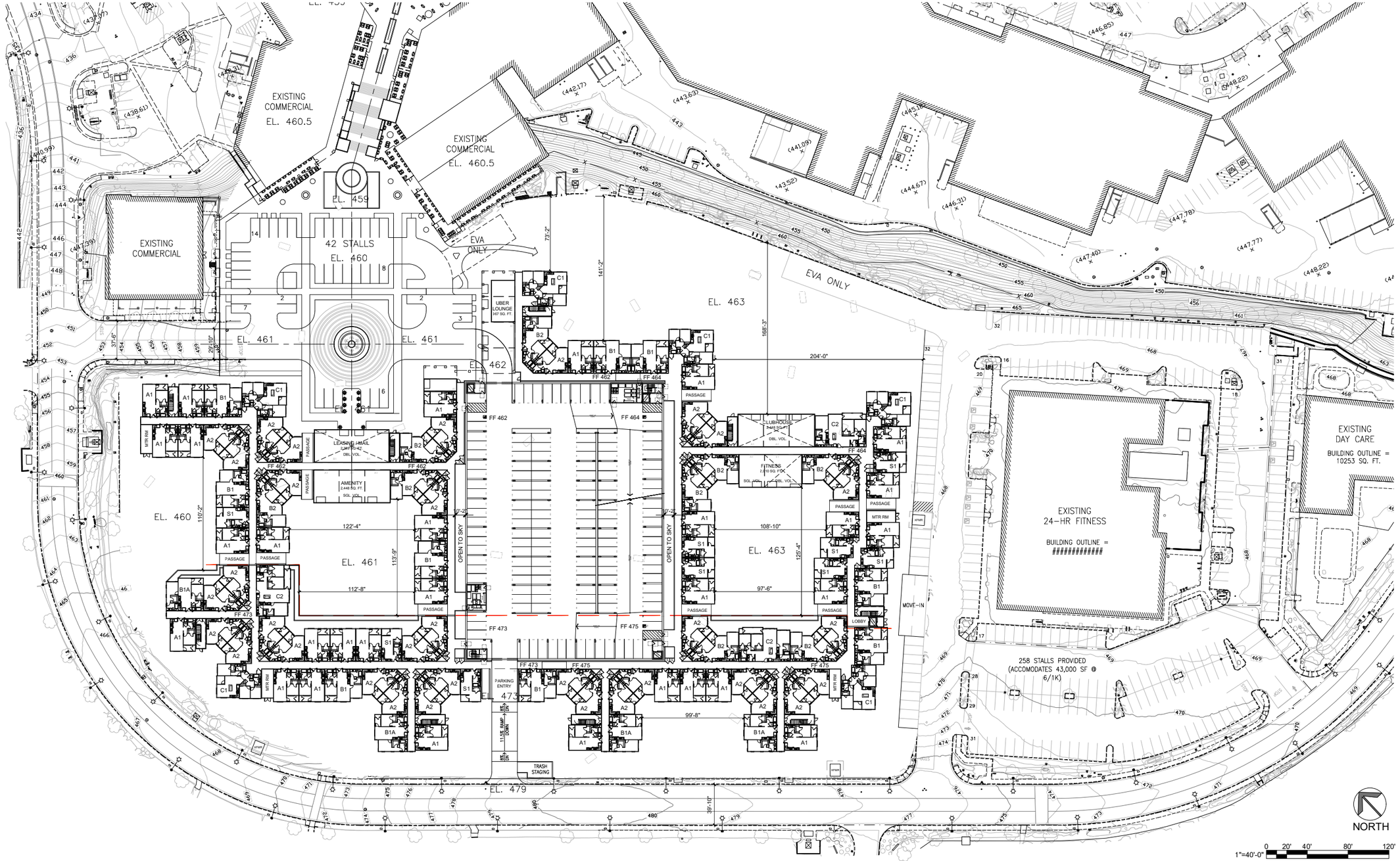
DUDEK

0 75 150 Feet

FIGURE 2

Existing Project Site Map

Festival Hills Project - Evacuation Analysis



SOURCE: AO 2023

ANAHEIM HILLS, CA
SHEA PROPERTIES

DUDEK

FIGURE 3

Job No. 2022-356
Date 02-28-2023

Proposed Site Plan

Festival Hills Project - Evacuation Study

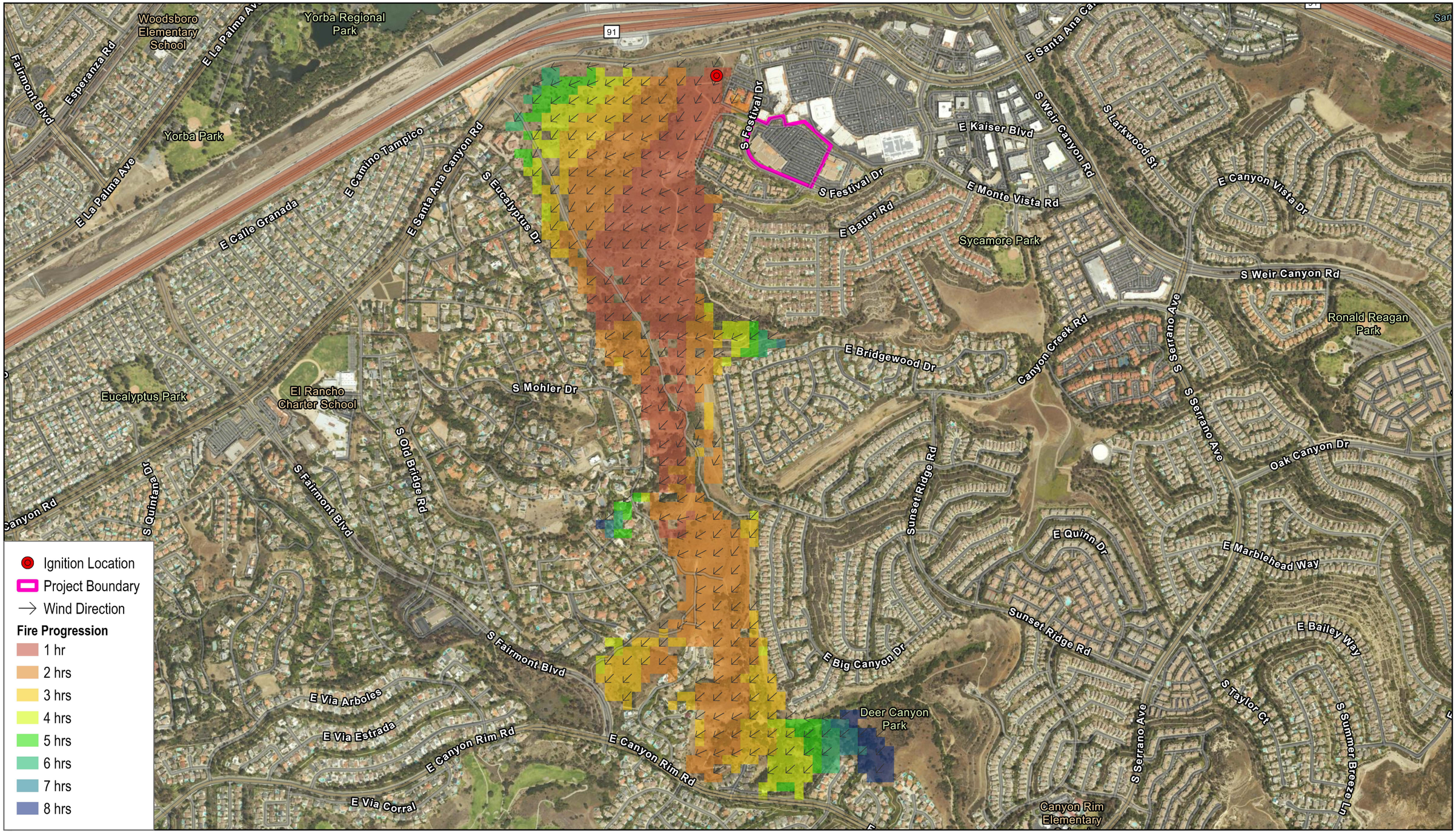


FIGURE 4A

Fire Progression - North Ignition - NE Wind (60mph)

Festival Hills Evacuation Study

DUDEK

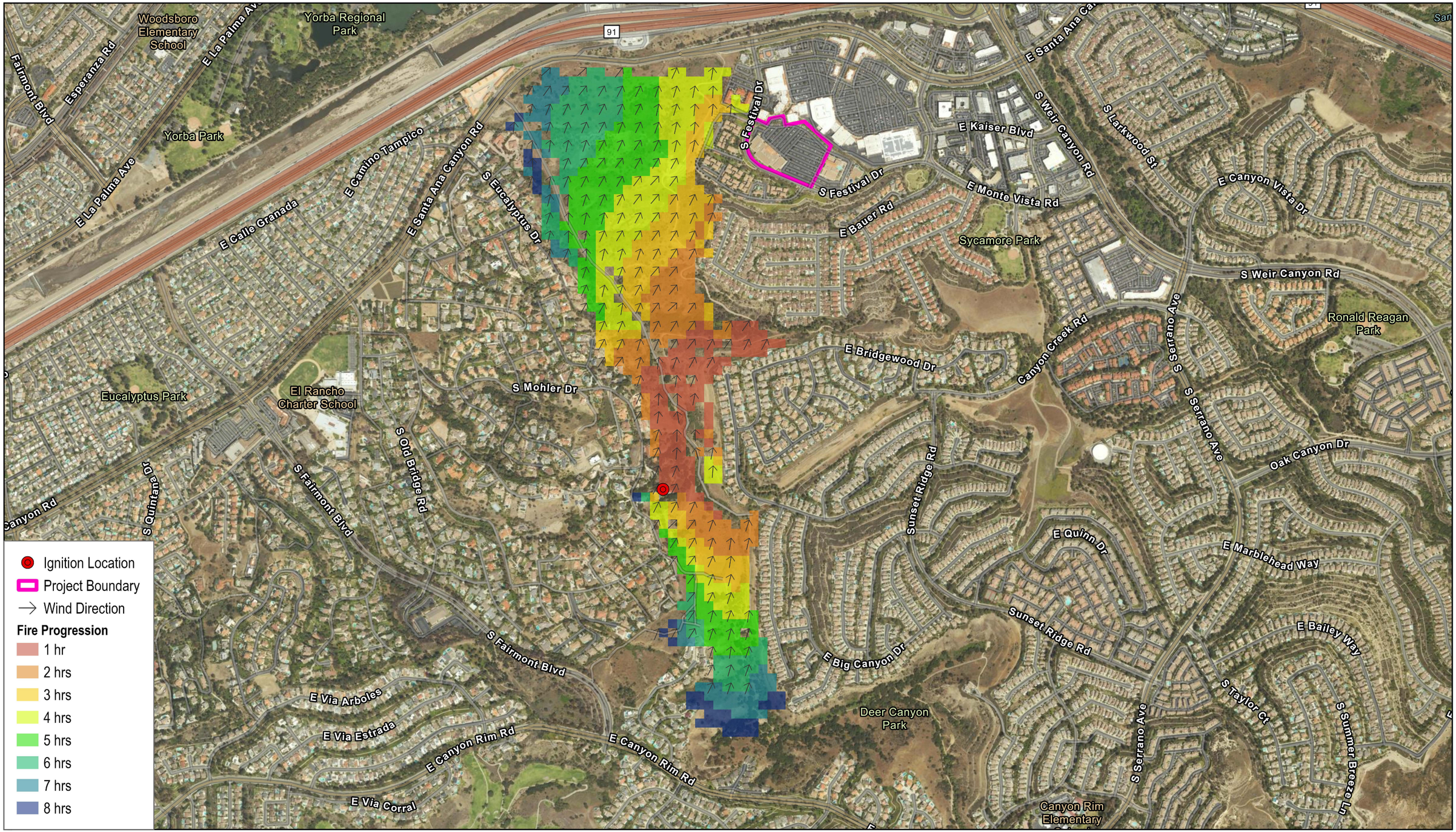


FIGURE 4B

Fire Progression - Southwest Ignition - SSW Wind (40mph)

Festival Hills Evacuation Study

DUDEK

N

0 230 460 Feet

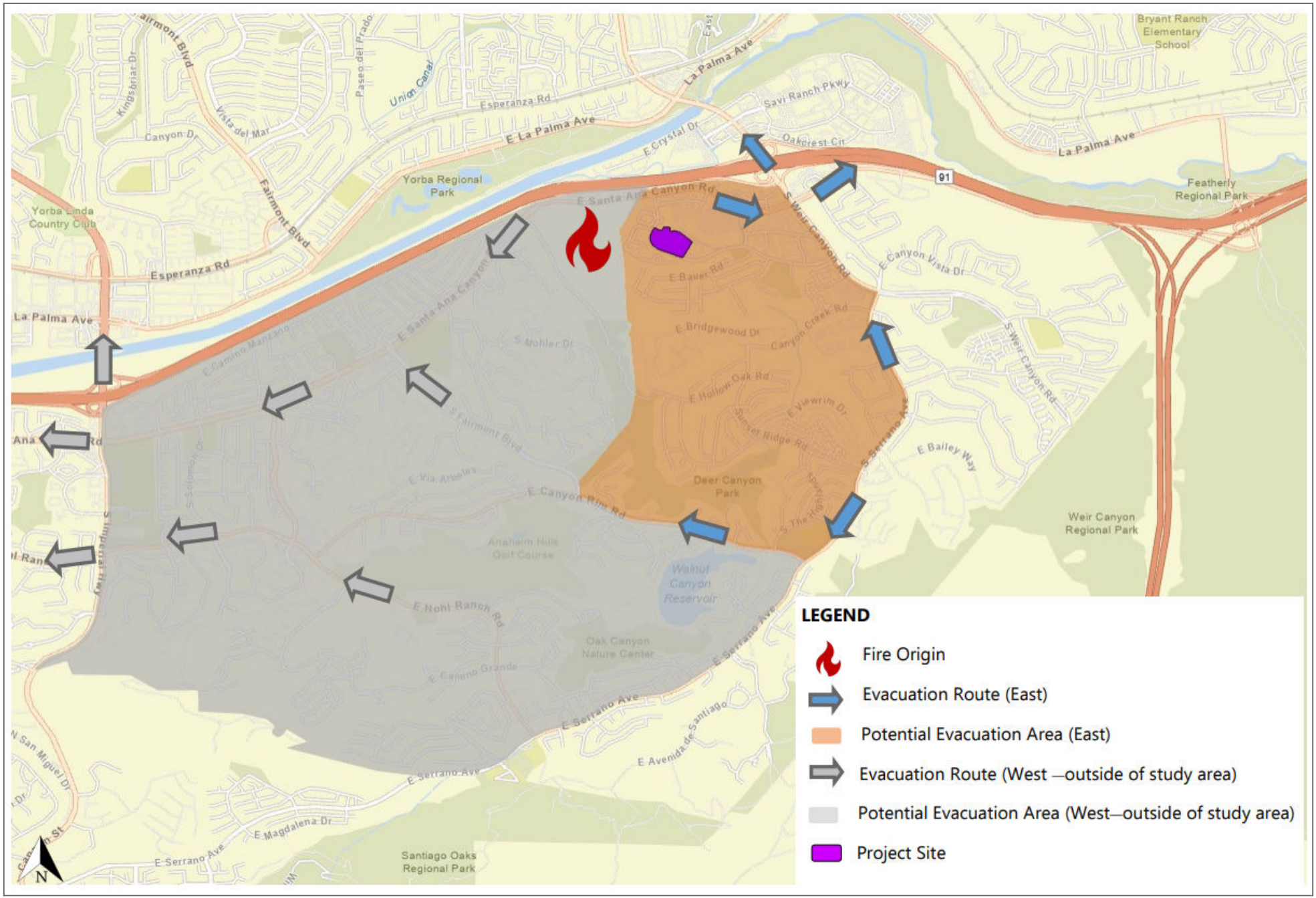


FIGURE 5

Evacuation Area and Routes - Fire in Deer Canyon Park (Worst Case)

Festival Hills Project - Evacuation Study

DUDEK

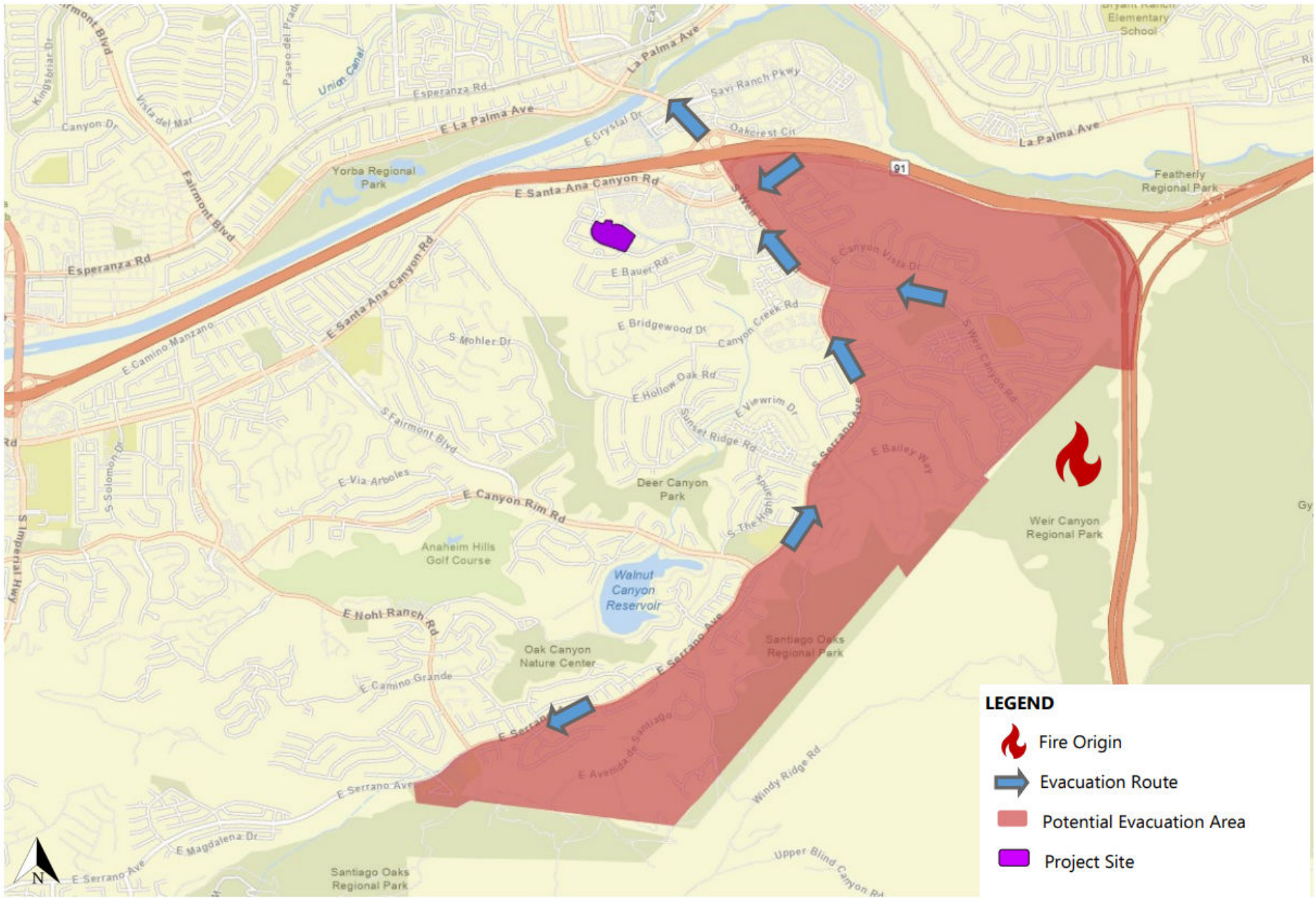
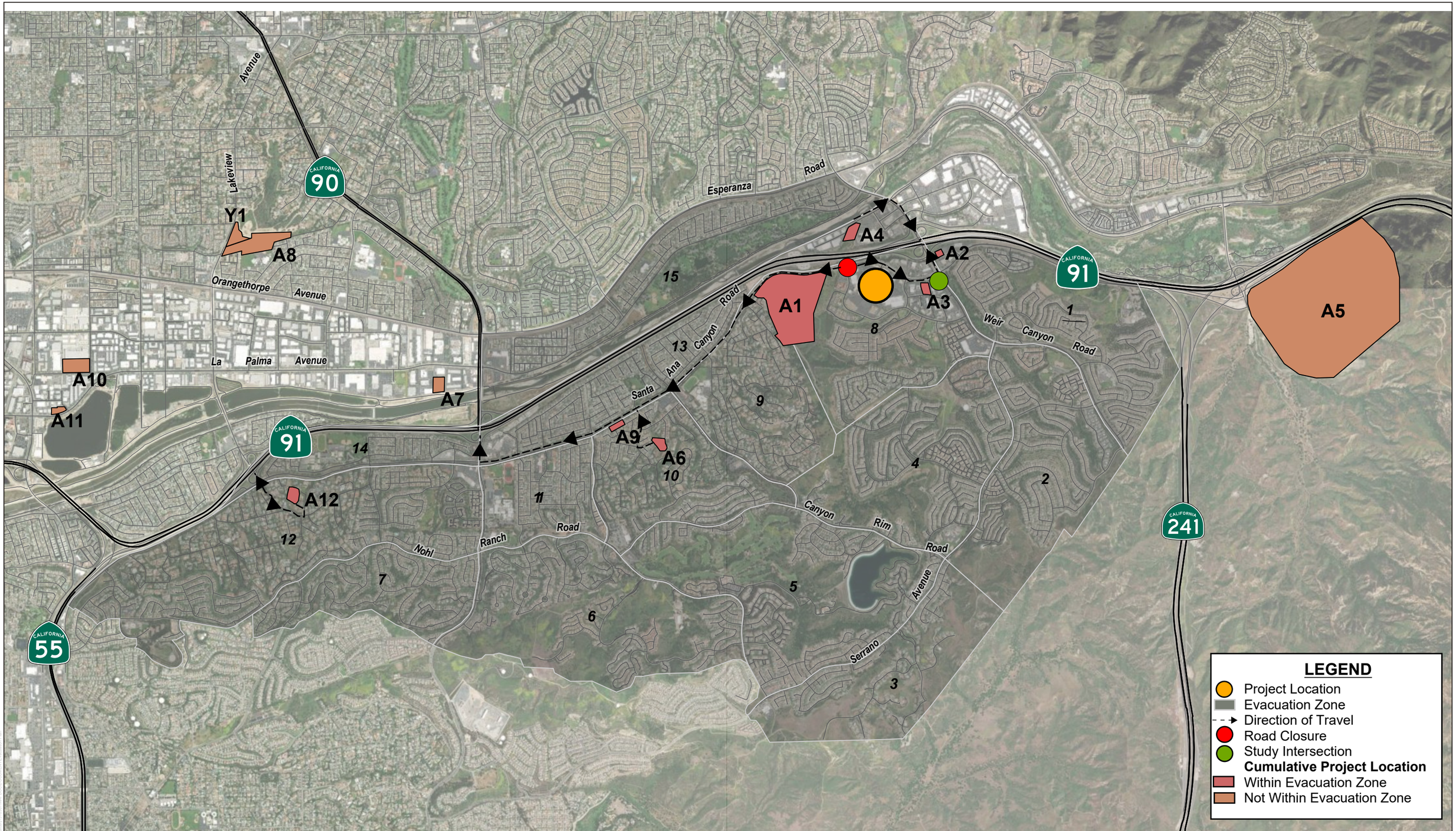


FIGURE 6

Evacuation Area and Routes - Fire East of the Project



SOURCE: Esri 2023; Open Street Maps 2023

0 0.25 0.5 1 Miles

DUDEK

FIGURE 7

Cumulative Projects

Anaheim Hills Festival

Attachment A
Fire Progression Modeling Outputs

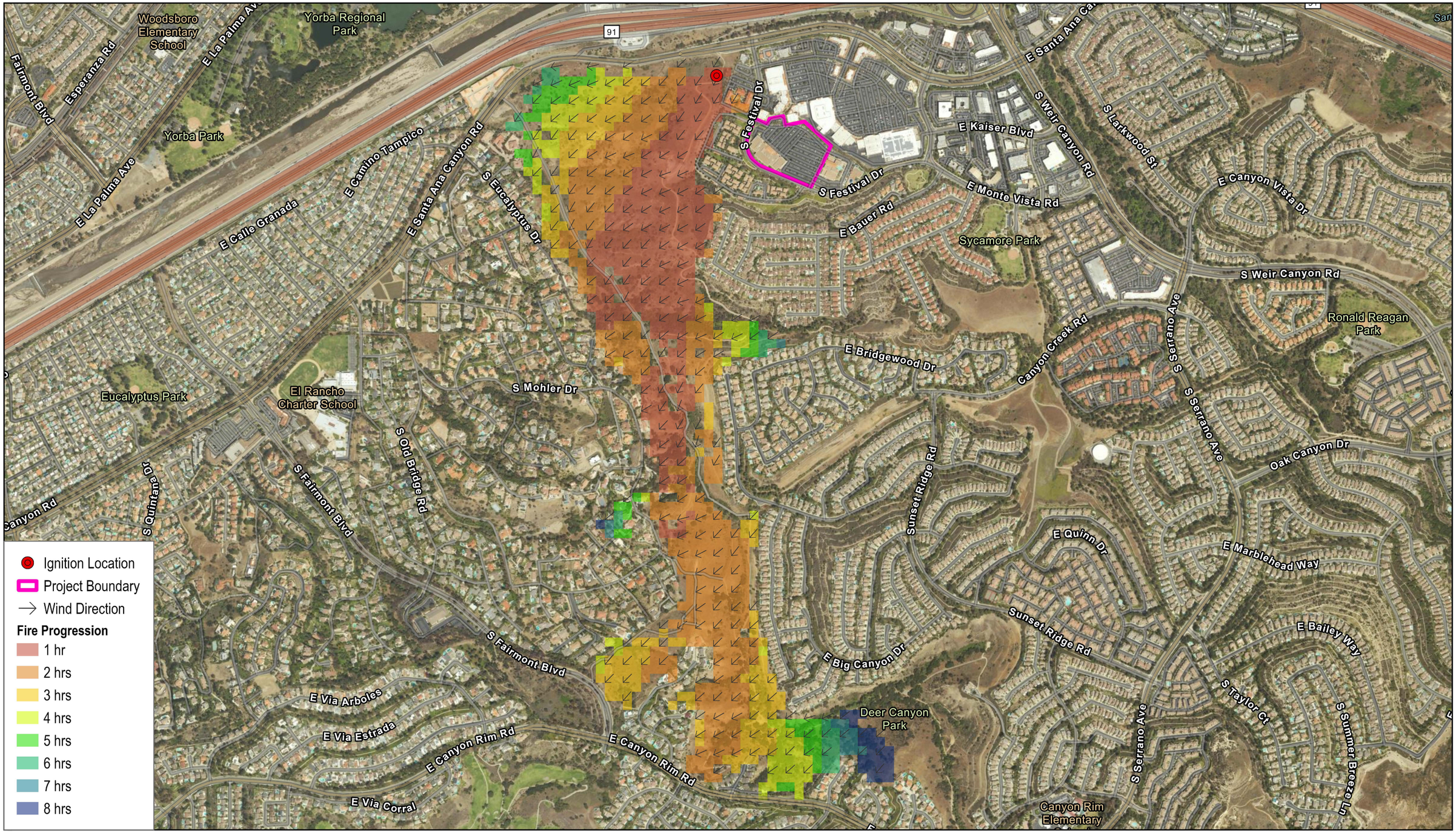


FIGURE A-1
Fire Progression - North Ignition - NE Wind (60mph)
Festival Hills Evacuation Study

DUDEK

N

0 230 460 Feet

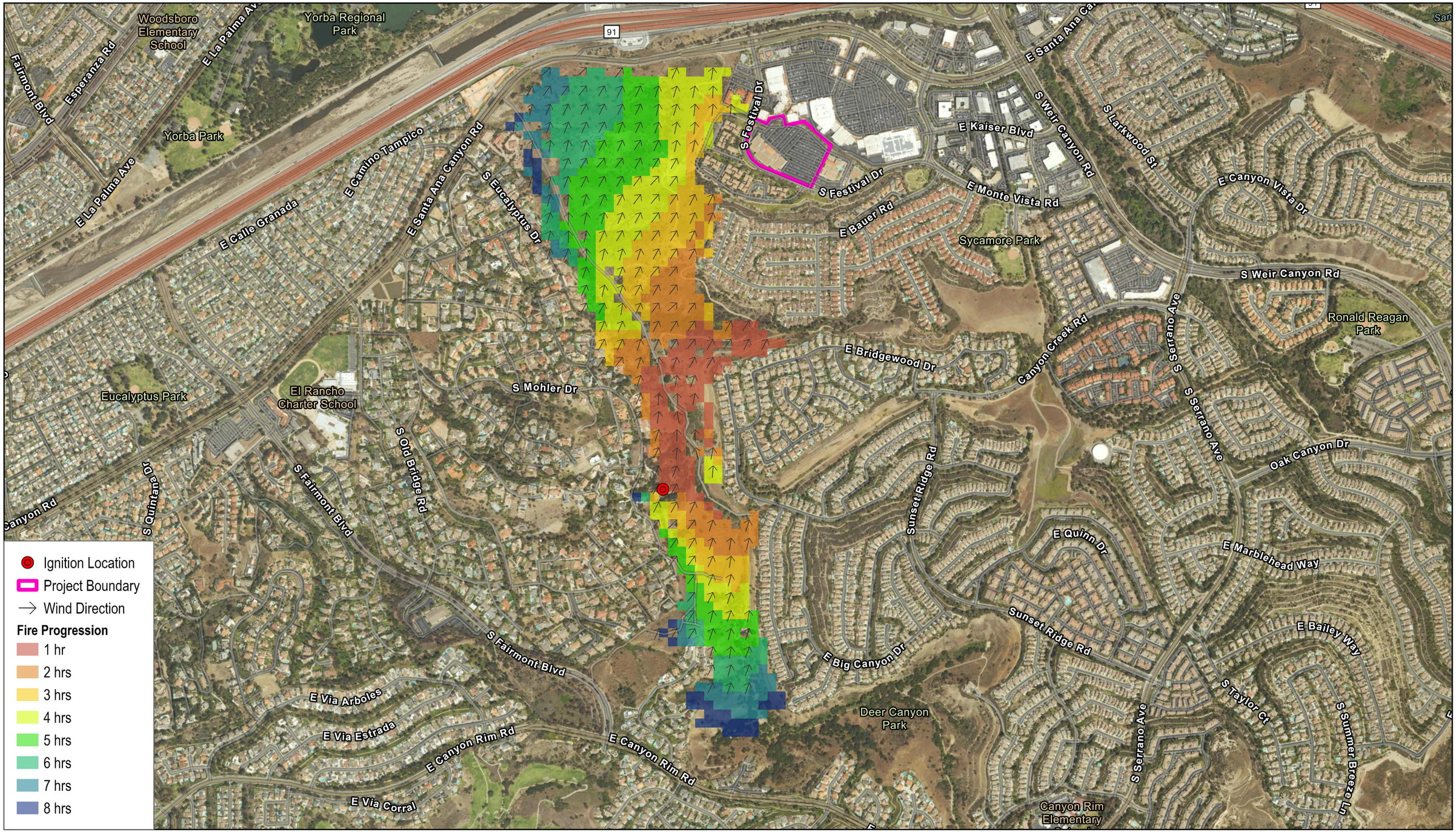
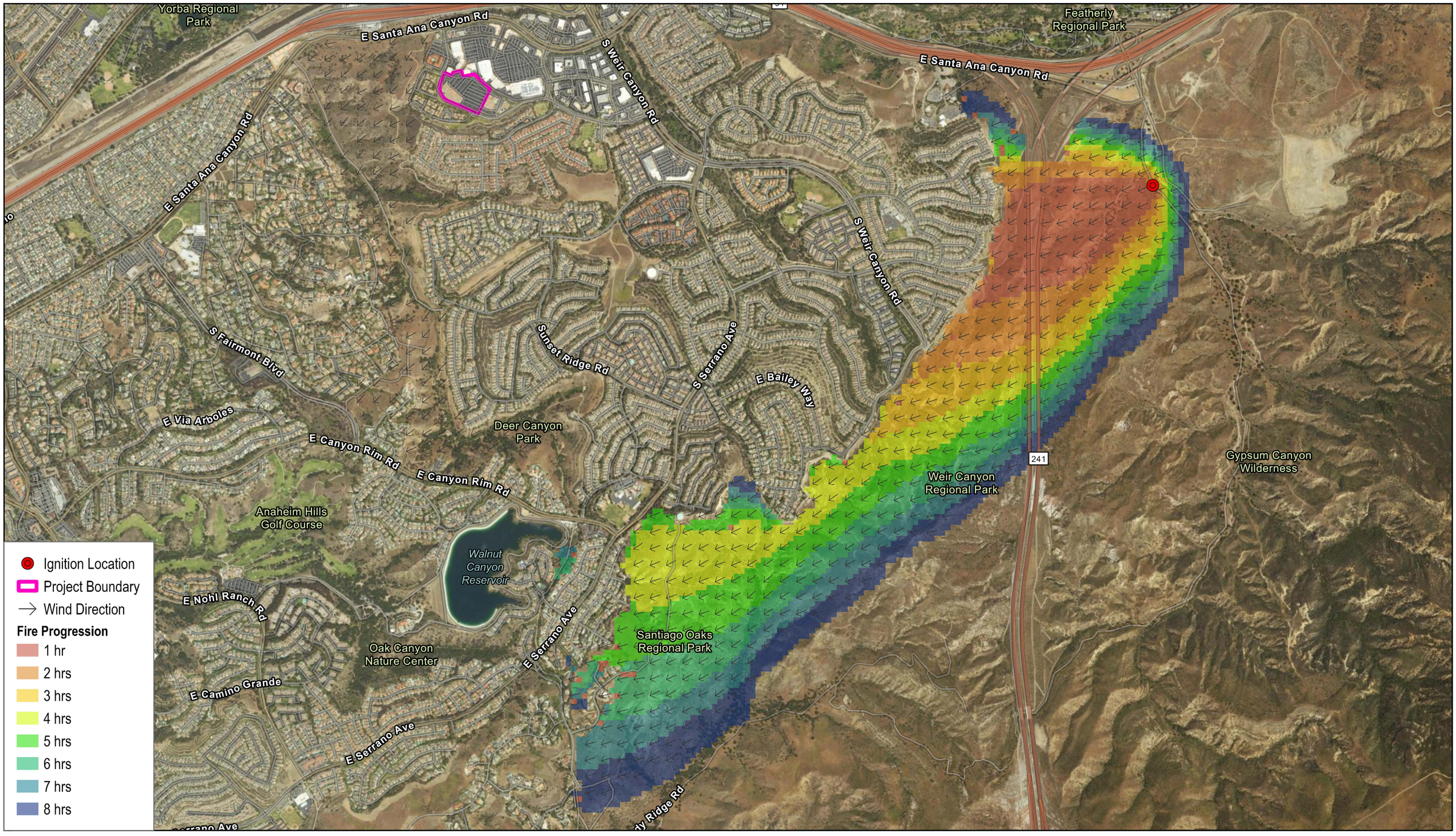


FIGURE A-2
Fire Progression - Southwest Ignition - SSW Wind (40mph)
Festival Hills Evacuation Study

DUDEK

N

0 230 460 Feet



DUDEK

FIGURE A-3

Fire Progression - East Ignition - E Wind (60mph)

Festival Hills Evacuation Study

Attachment B

Fire Evacuation Traffic Analysis for the Festival Hills Project

FESTIVAL HILLS PROJECT
FIRE EVACUATUION TRAFFIC ANALYSIS

ASSUMPTIONS

FIRE FROM DEER CANYON (Most Likely Worst Case)

This scenario assumes a fire originating within Deer Canyon with evacuation occurring at Zones 4 and 8 as well as at Festival Center. The analysis includes without Project, with the Proposed Project, and with the Cinema scenarios. The land uses west of the fire (Zones 9, 10, 11, and 13, and the Hills Preserve project) would also evacuate under this scenario, but these vehicles would travel westbound on Santa Ana Canyon Road and would not overlap with the Proposed Project's study area (i.e., neighborhoods and vehicles evacuating eastbound towards Weir Canyon Road). This assumption is similar to the Hills Preserve analysis.

EVACUATING VECHICLES

Zones 4 and 8
The number of vehicles departing the evacuation areas are based on the American Community Services (ACS) 2022 data for two census tracts (219.21 and 219.22) that represents Zones 4 and 8. A 2.5 vehicles per home (similar to the Hills Preserve analysis) was assumed.

Zone 8 and 40% of Zone 4 (2,592 homes, 6,481 vehicles) were assumed to evacuate to the north utilizing the following evacuation route: Vehicles were assumed to head east on East Monte Vista Road, Santa Ana Canyon Road, and/or Serrano Avenue then north on Weir Canyon Road onto the State Route (SR-) 91 Freeway (per the City's Know Your Way Program). The remaining 60% of Zone 4 (422 homes, 1,055 vehicles) were assumed to have utilized Serrano Avenue and East Canyon Rim Road to evacuate to the west.

Evacuation homes in Zones 4 and 8 = 2,592 homes
Evacuating vehicles in Zones 4 and 8 = 2,592 x 2.5 = 6,481 vehicles

Festival Center Commercial
The commercial center currently provides 3,129 parking spaces, including 2,064 parking spaces in DA-1 and DA-2, and 1,065 parking spaces in DA-5. This scenario assumes the vacant cinema in DA-5; therefore, the parking spaces associated with the cinema (592 parking spaces) were removed from this analysis scenario, which results in a net total of 2,537 parking spaces. A conservative 75% occupancy (similar to the Hills Preserve Evacuation Study) was assumed during a PM evacuation event.

Evacuating vehicles in Festival Center = 2,537 x 75% = 1,903 vehicles

Vehicles were assumed to head east on South Festival Dr and/or Santa Ana Canyon Road, then north on Weir Canyon Road towards the SR-91 Freeway or continue east on Santa Ana Canyon Road.

Proposed Project
The Proposed Project is planning to provide 1,243 parking spaces per the current site plan provided in Attachment 1. 893 spaces are allocated for the proposed multi-family residential units, while the remaining

350 parking spaces will be maintained for the existing retail uses. A conservative 90% occupancy (similar to the Hills Preserve Evacuation Study) of the Proposed Project's residential units was assumed during a PM evacuation event. A conservative 90% occupancy (similar to the Hills Preserve Evacuation Study) of the Proposed Project's residential units was assumed during a PM evacuation event. The existing retail uses within the Project site are also evacuating under this scenario, but are already accounted for in the Festival Center evacuating volumes.

Evacuating vehicles in Proposed Project (residential)= 893 x 90% = 804 vehicles

Vehicles were assumed to head east on South Festival Dr and/or Santa Ana Canyon Road, then north on Weir Canyon Road towards the SR-91 Freeway or continue east on Santa Ana Canyon Road.

Cinema

DA-5 currently provides 1,065 parking spaces, which includes approximately 473 parking spaces for the existing retail and 592 parking spaces for the Cinema. Per ITE Parking Generation Manual (6th Edition), the parking demand during the PM peak hour of a movie theater is 70%. The existing retail uses in DA-5 were already assumed to evacuate in the without Project scenario, and therefore not included in the Cinema evacuation volumes.

Evacuating vehicles for Cinema = 592 parking spaces x 70% = 415 vehicles

Vehicles were assumed to head east on South Festival Dr and/or Santa Ana Canyon Road, then north on Weir Canyon Road towards the SR-91 Freeway or continue east on Santa Ana Canyon Road.

FIRE FROM THE EAST (Alternative Evacuation Scenario)

This scenario assumes a fire coming from the east with evacuation occurring in Zones 1, 2, and 3. The analysis includes without Project, with the Proposed Project, and with the Cinema scenarios.

EVACUATING VECHICLES

Zones 1, 2, 3

The number of vehicles departing the evacuation area was based on the American Community Services (ACS) 2022 data for two census tracts (219.23 and 219.24) that represents Zones 1, 2, and 3. A 2.5 vehicles per home (similar to the Hills Preserve Evacuation Study) was assumed.

Zones 1, 2, and 20% of Zone 3 (2,986 homes, 7,465 vehicles) were assumed to evacuate to the north utilizing the following evacuation route: Vehicles were assumed to head north on Serrano Avenue then north on Weir Canyon Road onto the SR-91 Freeway (per the City's Know Your Way Program). The remaining 80% of Zone 3 (224 homes, 560 vehicles) were assumed to have utilized Serrano Avenue to evacuate to the south.

Evacuation homes in Zones 1, 2, and 3 = 2,986 homes
Evacuating vehicles in Zones 1, 2, and 3 = 2,986 x 2.5 = 7,465 vehicles

Proposed Project

The Proposed Project is planning to provide 1,243 parking spaces per the current site plan provided in Attachment A. 893 spaces are provided for the proposed multi-family residential units, while the remaining 350 parking spaces are provided for the existing retail uses. A conservative 90% occupancy (similar to the Hills Preserve Evacuation Study) of the Proposed Project's residential units was assumed during a PM evacuation event, and a conservative 75% occupancy (similar to the Hills Preserve Evacuation Study) of the existing retail in DA-5 was assumed during the PM peak hour.

Evacuating vehicles in Proposed Project (residential)= 893 x 90% = 804 vehicles
Evacuating vehicles in Proposed Project (retail)= 350 x 75% = 263 vehicles
Evacuating vehicles in Proposed Project (TOTAL) = 1,067 vehicles

Vehicles were assumed to head east on Santa Ana Canyon Road, then north on Weir Canyon Road towards the SR-91 Freeway or continue east on Santa Ana Canyon Road.

Cinema

DA-5 currently provides 1,065 parking spaces, which includes approximately 473 parking spaces for the existing retail and 592 parking spaces for the Cinema. Per ITE Parking Generation Manual (6th Edition), the parking demand during the PM peak hour of a movie theater is 70%.

Evacuating vehicles for Cinema = 592 parking spaces x 70% = 415 vehicles
Evacuating vehicles for Retail = 473 parking spaces x 75% = 355 vehicles
Evacuating vehicles TOTAL = 770 vehicles

Vehicles were assumed to head east on South Festival Dr or East Monte Vista Road, then north on Weir Canyon Road towards the SR-91 Freeway.

CUMULATIVE ANALYSIS

A comprehensive review of all cumulative project locations was conducted to determine their likely evacuation routes and potential to contribute to traffic volumes at the Santa Ana Canyon Road and Weir Canyon Road intersection. Vehicle estimates were developed using parking ratios from Anaheim Municipal Code Chapter 18.42 (Parking and Loading), applying conservative assumptions that 100 percent of parked vehicles would evacuate during the PM peak hour.

The following three cumulative projects were identified as likely to route evacuation traffic through the Santa Ana Canyon Road and Weir Canyon Road intersection:

- DEV2022-00055 – Industrial (94,540 SF) at 180 N Riverside Drive
  According to Anaheim Municipal Code Section 18.42.040 (Non-Residential Parking Requirements), industrial uses are required to provide 1.55 parking spaces per 1,000 square feet of ground floor area (GFA). For the proposed 94,540 square feet of industrial development, this equates to approximately 147 parking spaces. For evacuation modeling purposes, it is conservatively assumed that 100 percent of these parked vehicles would evacuate during the PM peak hour. These vehicles are expected to travel westbound on Santa Ana Canyon Road, ultimately passing through the Santa Ana Canyon Road and Weir Canyon Road intersection.

- DEV2021-00046 – Retail Plaza (5,315 SF) at 8163 E Kaiser Boulevard
  According to Anaheim Municipal Code Section 18.42.040, retail uses are required to provide 4 parking spaces per 1,000 square feet of GFA. Based on this standard, the 5,315-square-foot retail plaza is expected to provide approximately 22 parking spaces. For evacuation modeling purposes, it is conservatively assumed that 100 percent of these vehicles would evacuate during the PM peak hour. These vehicles are anticipated to travel eastbound on Santa Ana Canyon Road towards the Santa Ana Canyon Road and Weir Canyon Road intersection.

- DEV2021-00024C – Preschool (43 students) at 8163 E Kaiser Boulevard
  According to Anaheim Municipal Code Section 18.42.040, educational institutions are required to provide 0.82 parking spaces per student, plus 4 spaces per 1,000 square feet of office GFA.[1] Applying this standard, the preschool is estimated to have 40 parking spaces. For evacuation modeling purposes, it is conservatively assumed that 100 percent of these vehicles would evacuate during the PM peak hour. These vehicles would also travel eastbound on Santa Ana Canyon Road toward the Santa Ana Canyon Road and Weir Canyon Road intersection.

The total evacuation traffic from the three cumulative development projects would be 209 vehicles (147+22+40=209).

[1] While the City of Anaheim also provides parking ratios for day care centers (i.e., one space per employee plus one space per ten children), the parking ratio for educational institutions—0.82 spaces per student plus 4 spaces per 1,000 square feet of office GFA—yields a higher parking demand. This more conservative standard was applied in the analysis to ensure a robust estimate of evacuation vehicle volumes.

EXISTING PLUS PROJECT RESULTS

Table 1 – Fire From Deer Canyon – PM Peak Hour

Approach	Background Volume	Evacuation Peak Hour Volume	Total Volume	Approach V/C[1]	Intersection V/C Ratio	Approach Green Time %	Capacity vphpl	Adjusted Capacity	Evacuation Travel Time Hr	Evacuation Travel Time Minutes	Travel Time Diff from w/o Project Hr	Travel Time Diff from w/o Project Minutes
WITHOUT PROJECT												
NB	1441	2592	4033	0.71	2.012	35.16%	5100	1793	2.25	135		
EB	1226	5792	7018	1.30	2.012	64.84%	3400	2204	3.18	192		
TOTAL	**2667**	**8384**	**11051**			**OVERALL EVACUATION TRAVEL TIME[2]**			**2.84**	**171**		
WITH PROJECT												
NB	1441	2592	4033	0.71	2.131	33.16%	5100	1691	2.38	144	0.14	9
EB	1226	6596	7822	1.42	2.131	66.84%	3400	2273	3.44	207	0.26	15
TOTAL	**2667**	**9188**	**11855**			**OVERALL EVACUATION TRAVEL TIME[2]**			**3.08**	**185**	**0.24**	**14**
WITH CINEMA												
NB	1441	2592	4033	0.71	2.075	34.04%	5100	1736	2.32	140	0.07	5
EB	1226	6207	7433	1.37	2.075	65.96%	3400	2243	3.31	199	0.13	7
TOTAL	**2667**	**8799**	**11466**			**OVERALL EVACUATION TRAVEL TIME[2]**			**2.97**	**178**	**0.12**	**7**

Note:

[1] The approach V/C is an adjusted value that represents the ratio of the critical movement V/C (shown in the Traffix worksheets) in comparison to the total evacuation approach V/C, multiplied by the total intersection V/C. This was to yield green time percentages of 100% for the total evacuation approaches.

[2] Overall travel time is the weighted average (based on total approach volume) of the evacuation approaches travel time.

CUMULATIVE PLUS PROJECT RESULTS

Table 2 – Fire From Deer Canyon – PM Peak Hour

Approach	Background Volume	Evacuation Peak Hour Volume	Total Volume	Approach V/C[1]	Intersection V/C Ratio	Approach Green Time %	Capacity vphpl	Adjusted Capacity	Evacuation Travel Time Hr	Evacuation Travel Time Minutes	Travel Time Diff from w/o Project Hr	Travel Time Diff from w/o Project Minutes
WITHOUT PROJECT												
NB	1514	2592	4106	0.72	2.052	35.14%	5100	1792	2.29	138		
EB	1351	5792	7143	1.33	2.052	64.86%	3400	2205	3.24	195		
TOTAL	**2865**	**8384**	**11249**	**OVERALL EVACUATION TRAVEL TIME[2]**					**2.89**	**174**		
WITH PROJECT												
NB	1514	2592	4106	0.72	2.171	32.99%	5100	1683	2.44	147	0.15	9
EB	1351	6596	7947	1.45	2.171	67.01%	3400	2278	3.49	210	0.25	15
TOTAL	**2865**	**9188**	**12053**	**OVERALL EVACUATION TRAVEL TIME[2]**					**3.13**	**188**	**0.24**	**14**
WITH CINEMA												
NB	1514	2592	4106	0.72	2.115	33.85%	5100	1727	2.38	143	0.09	5
EB	1351	6207	7558	1.40	2.115	66.15%	3400	2249	3.36	202	0.12	7
TOTAL	**2865**	**8799**	**11664**	**OVERALL EVACUATION TRAVEL TIME[2]**					**3.01**	**181**	**0.12**	**7**

Note:

[1] The approach V/C is an adjusted value that represents the ratio of the critical movement V/C (shown in the Traffix worksheets) in comparison to the total evacuation approach V/C, multiplied by the total intersection V/C. This was to yield green time percentages of 100% for the total evacuation approaches.

[2] Overall travel time is the weighted average (based on total approach volume) of the evacuation approaches travel time.

EXISTING PLUS PROJECT RESULTS

Table 3 – Fire From East – PM Peak Hour

Approach	Background Volume	Evacuation Peak Hour Volume	Total Volume	Approach V/C[1]	Intersection V/C Ratio	Approach Green Time %	Capacity vphpl	Adjusted Capacity	Evacuation Travel Time Hr	Evacuation Travel Time Minutes	Travel Time Diff from w/o Project Hr	Travel Time Diff from w/o Project Minutes
WITHOUT PROJECT												
NB	1221	6719	7940	1.04	1.585	65.79%	5100	3355	2.37	142		
EB	578	0	578	0.18	1.585	11.18%	3400	380	1.52	92		
WB	445	746	1191	0.36	1.585	23.03%	3400	783	1.52	92		
TOTAL	**2244**	**7465**	**9709**				**OVERALL EVACUATION TRAVEL TIME[2]**		**2.21**	**133**		
WITH PROJECT												
NB	1221	6719	7940	1.04	1.899	54.64%	5100	2787	2.85	171	0.48	29
EB	578	1067	1645	0.50	1.899	26.23%	3400	892	1.84	111	0.32	19
WB	445	746	1191	0.36	1.899	19.13%	3400	650	1.83	110	0.31	18
TOTAL	**2244**	**8532**	**10776**				**OVERALL EVACUATION TRAVEL TIME[2]**		**2.58**	**155**	**0.37**	**22**
WITH CINEMA												
NB	1221	6719	7940	1.03	1.811	57.14%	5100	2914	2.72	164	0.36	22
EB	578	770	1348	0.41	1.811	22.86%	3400	777	1.73	105	0.21	13
WB	445	746	1191	0.36	1.811	20.00%	3400	680	1.75	106	0.23	14
TOTAL	**2244**	**8235**	**10479**				**OVERALL EVACUATION TRAVEL TIME[2]**		**2.49**	**150**	**0.27**	**17**

Note:

[1] The approach V/C is an adjusted value that represents the ratio of the critical movement V/C (shown in the Traffix worksheets) in comparison to the total evacuation approach V/C, multiplied by the total intersection V/C. This was to yield green time percentages of 100% for the total evacuation approaches.

[2] Overall travel time is the weighted average (based on total approach volume) of the evacuation approaches travel time.

CUMULATIVE PLUS PROJECT RESULTS

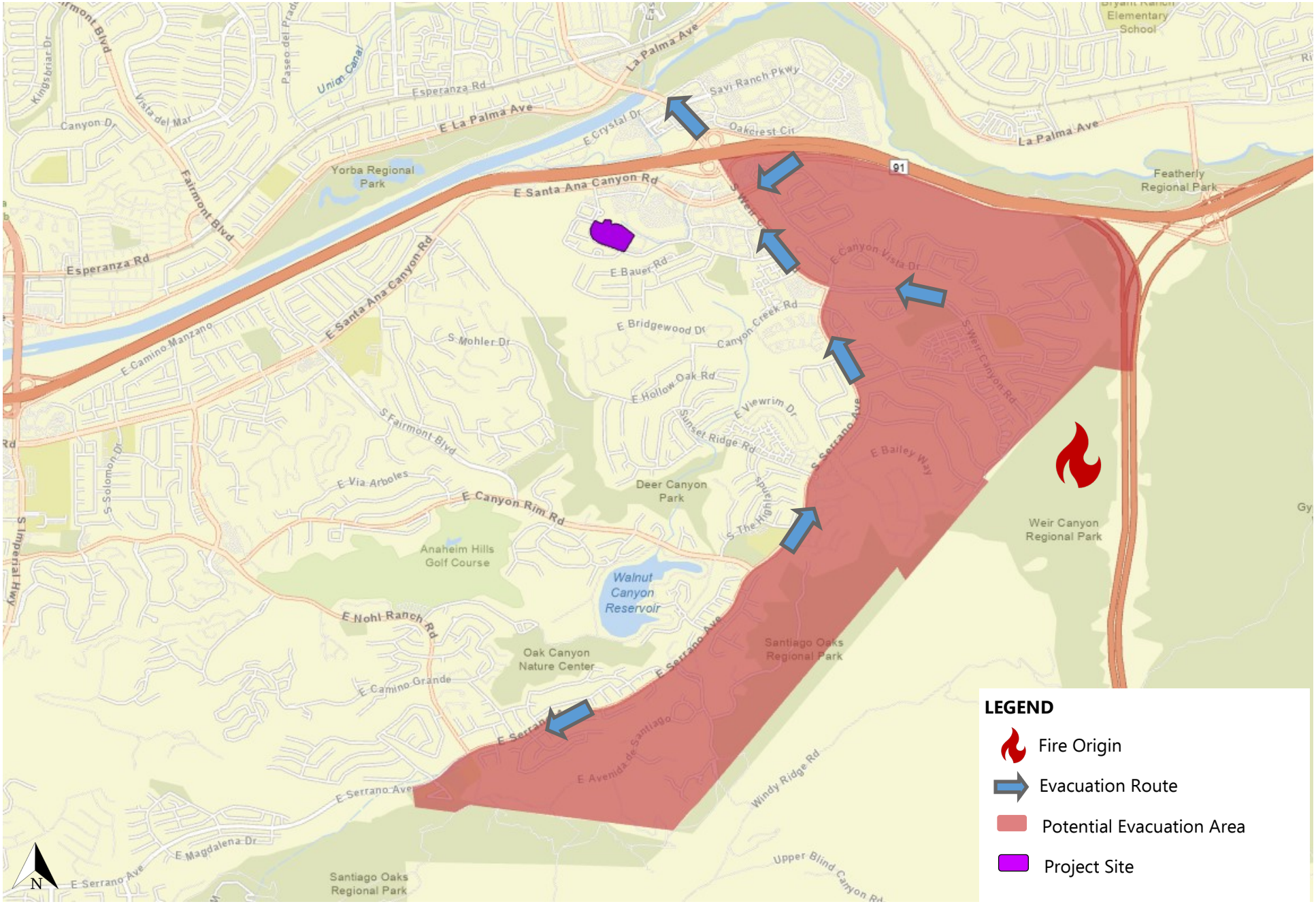
Table 4 – Fire From East – PM Peak Hour

Approach	Background Volume	Evacuation Peak Hour Volume	Total Volume	Approach V/C[1]	Intersection V/C Ratio	Approach Green Time %	Capacity vphpl	Adjusted Capacity	Evacuation Travel Time Hr	Evacuation Travel Time Minutes	Travel Time Diff from w/o Project Hr	Travel Time Diff from w/o Project Minutes
WITHOUT PROJECT												
NB	1283	6719	8002	1.04	1.664	62.73%	5100	3199	2.50	151		
EB	669	0	669	0.21	1.664	12.42%	3400	422	1.59	96		
WB	615	746	1361	0.41	1.664	24.84%	3400	845	1.61	97		
TOTAL	**2567**	**7465**	**10032**				**OVERALL EVACUATION TRAVEL TIME[2]**		**2.32**	**140**		
WITH PROJECT												
NB	1283	6719	8002	1.04	1.977	52.60%	5100	2683	2.98	179	0.48	28
EB	669	1067	1736	0.53	1.977	26.56%	3400	903	1.92	116	0.34	20
WB	615	746	1361	0.41	1.977	20.83%	3400	708	1.92	116	0.31	19
TOTAL	**2567**	**8532**	**11099**				**OVERALL EVACUATION TRAVEL TIME[2]**		**2.69**	**162**	**0.37**	**22**
WITH CINEMA												
NB	1283	6719	8002	1.04	1.89	55.19%	5100	2815	2.84	171	0.34	20
EB	669	770	1439	0.43	1.89	22.95%	3400	780	1.84	111	0.26	15
WB	615	746	1361	0.41	1.89	21.86%	3400	743	1.83	110	0.22	13
TOTAL	**2567**	**8235**	**10802**				**OVERALL EVACUATION TRAVEL TIME[2]**		**2.58**	**155**	**0.26**	**15**

Note:

[1] The approach V/C is an adjusted value that represents the ratio of the critical movement V/C (shown in the Traffix worksheets) in comparison to the total evacuation approach V/C, multiplied by the total intersection V/C. This was to yield green time percentages of 100% for the total evacuation approaches.

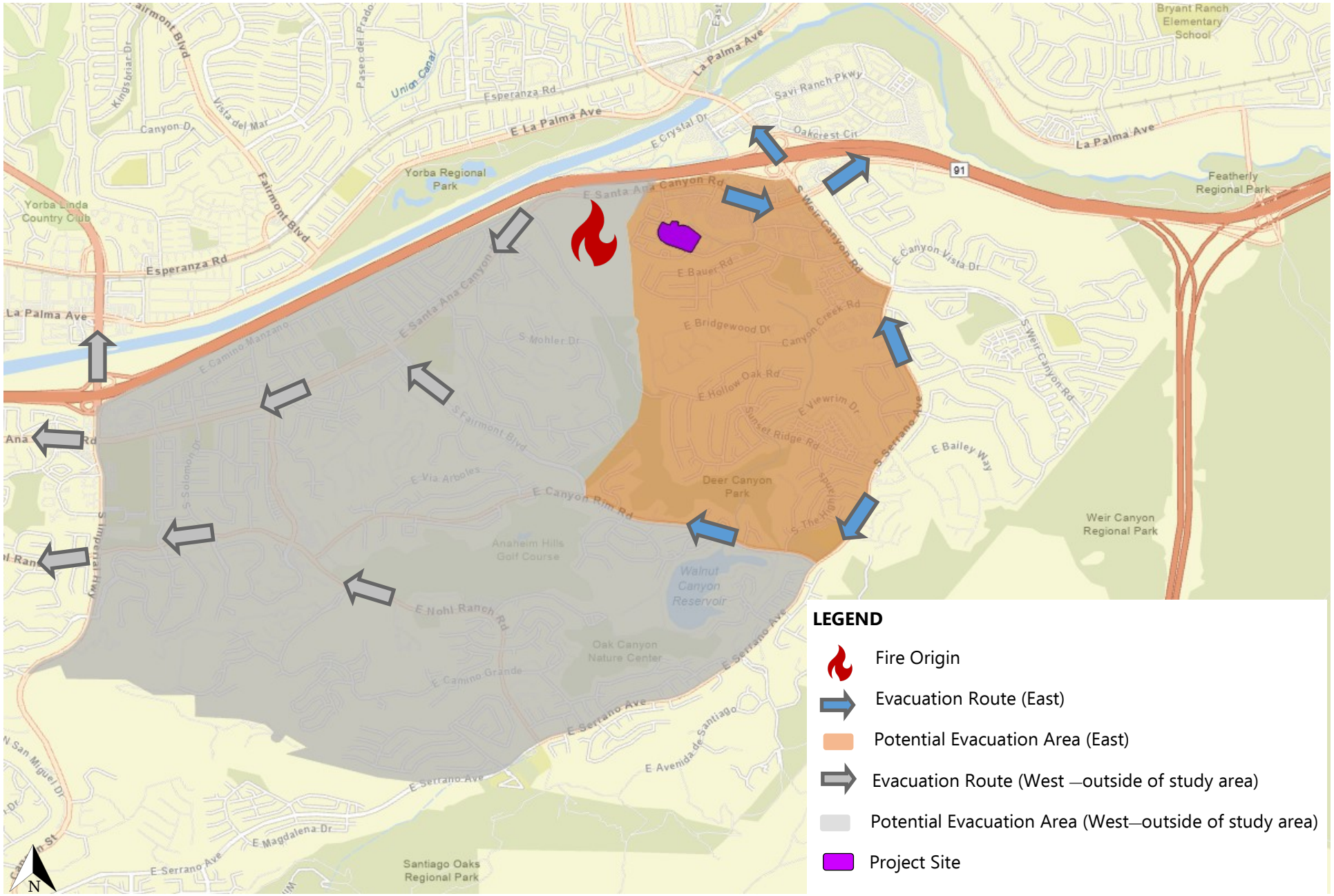
[2] Overall travel time is the weighted average (based on total approach volume) of the evacuation approaches travel time.



FESTIVAL HILLS

Figure 1

Evacuation Area—Fire From the East



FESTIVAL HILLS

Figure 2

Evacuation Area—Fire From Deer Canyon

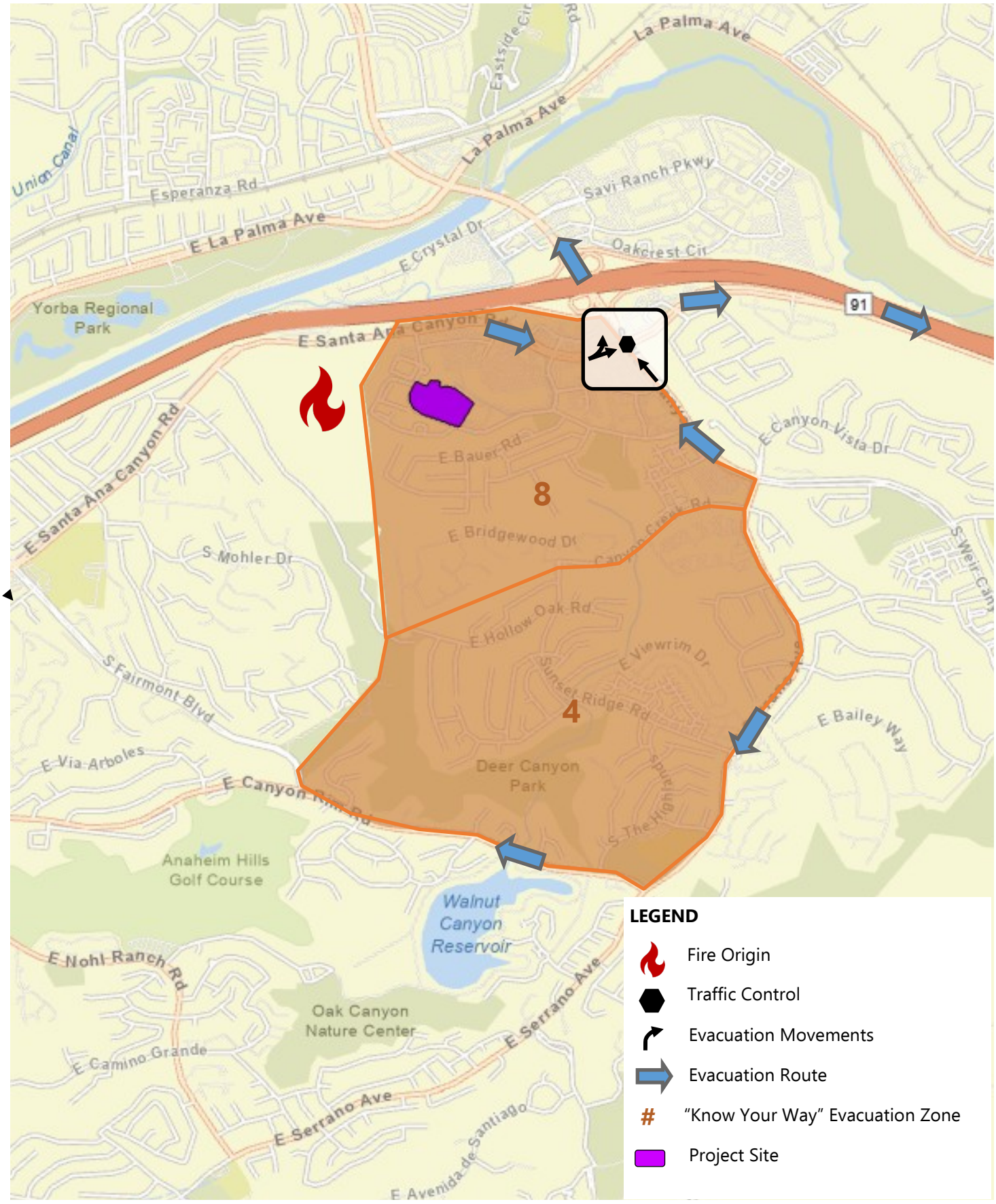


Figure 3
Study Area Evacuation Routing—
Fire From Deer Canyon

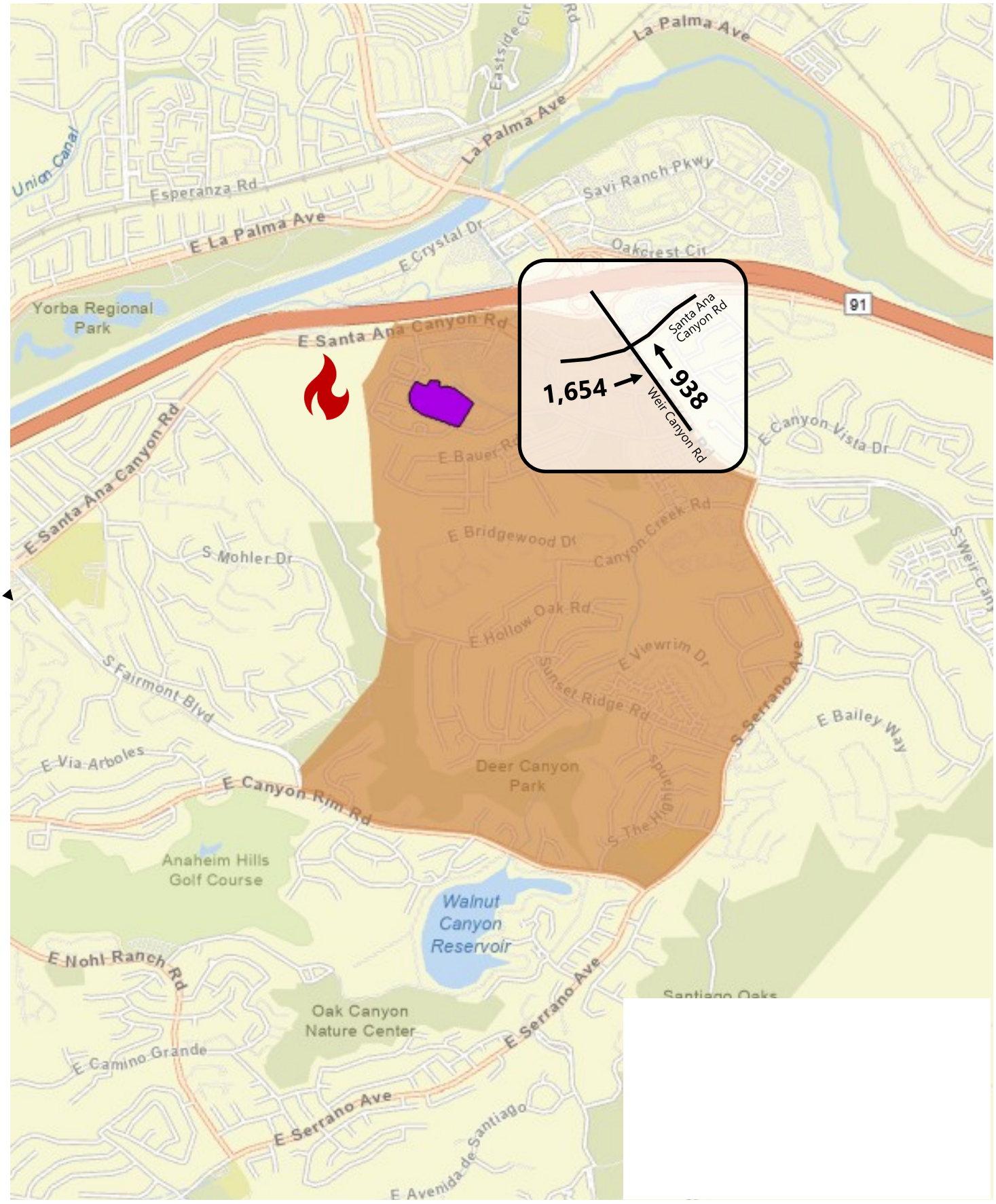


Figure 4
Number of Homes Evacuating—
Fire From Deer Canyon

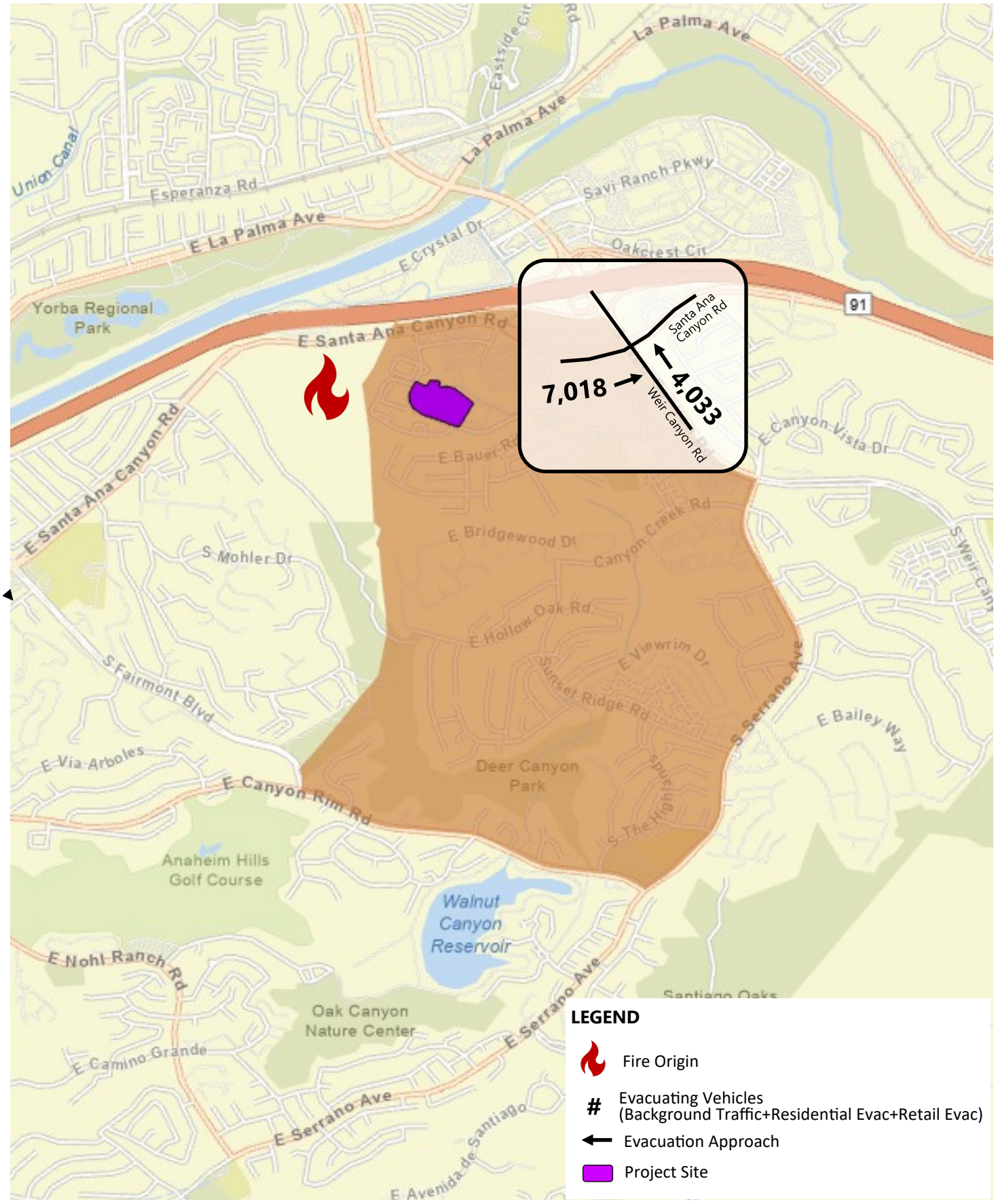


Figure 5

Existing PM Peak Hour Evacuation Traffic without Project — Fire From Deer Canyon

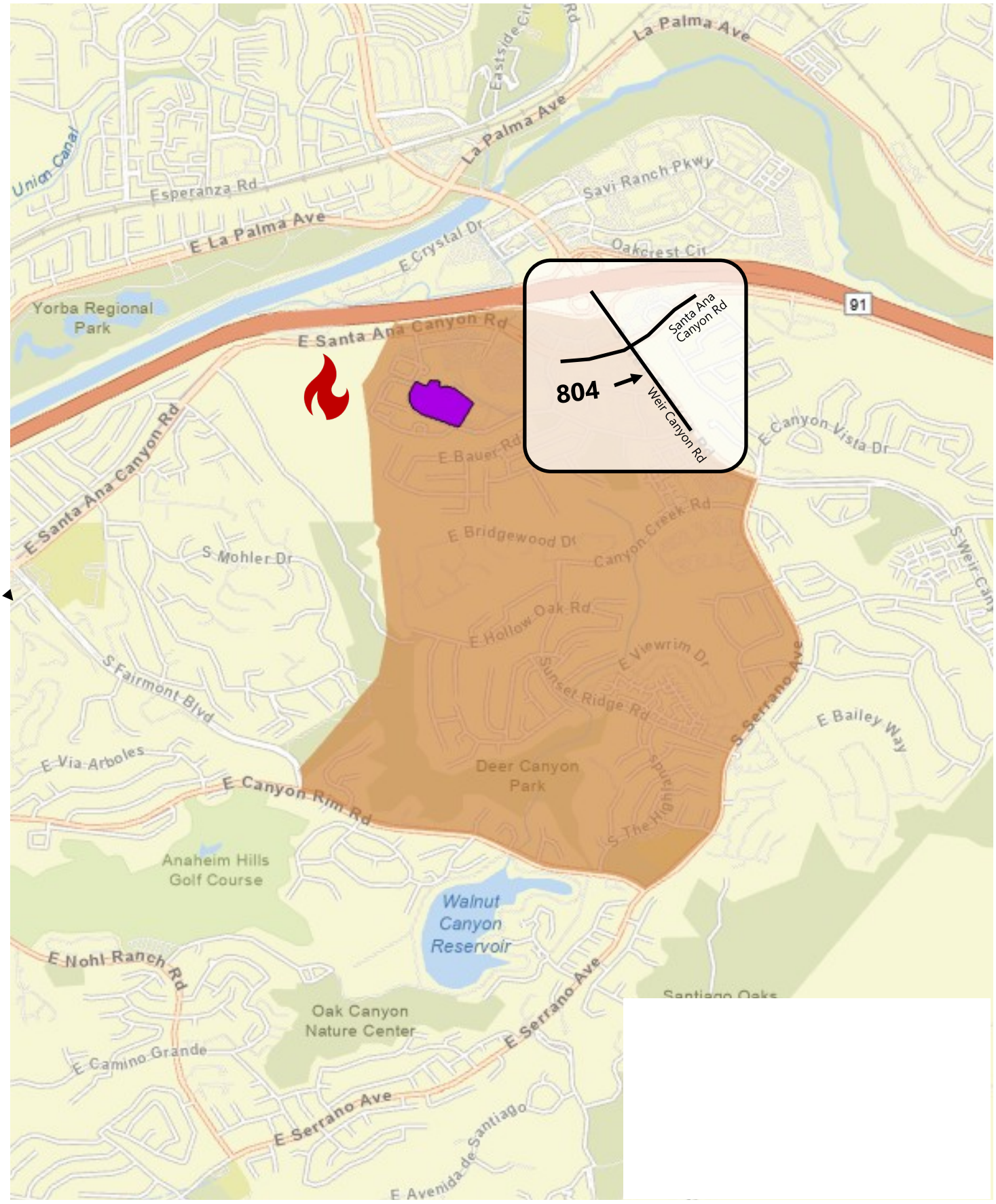


Figure 6
Project Evacuation Volumes—Fire From Deer Canyon

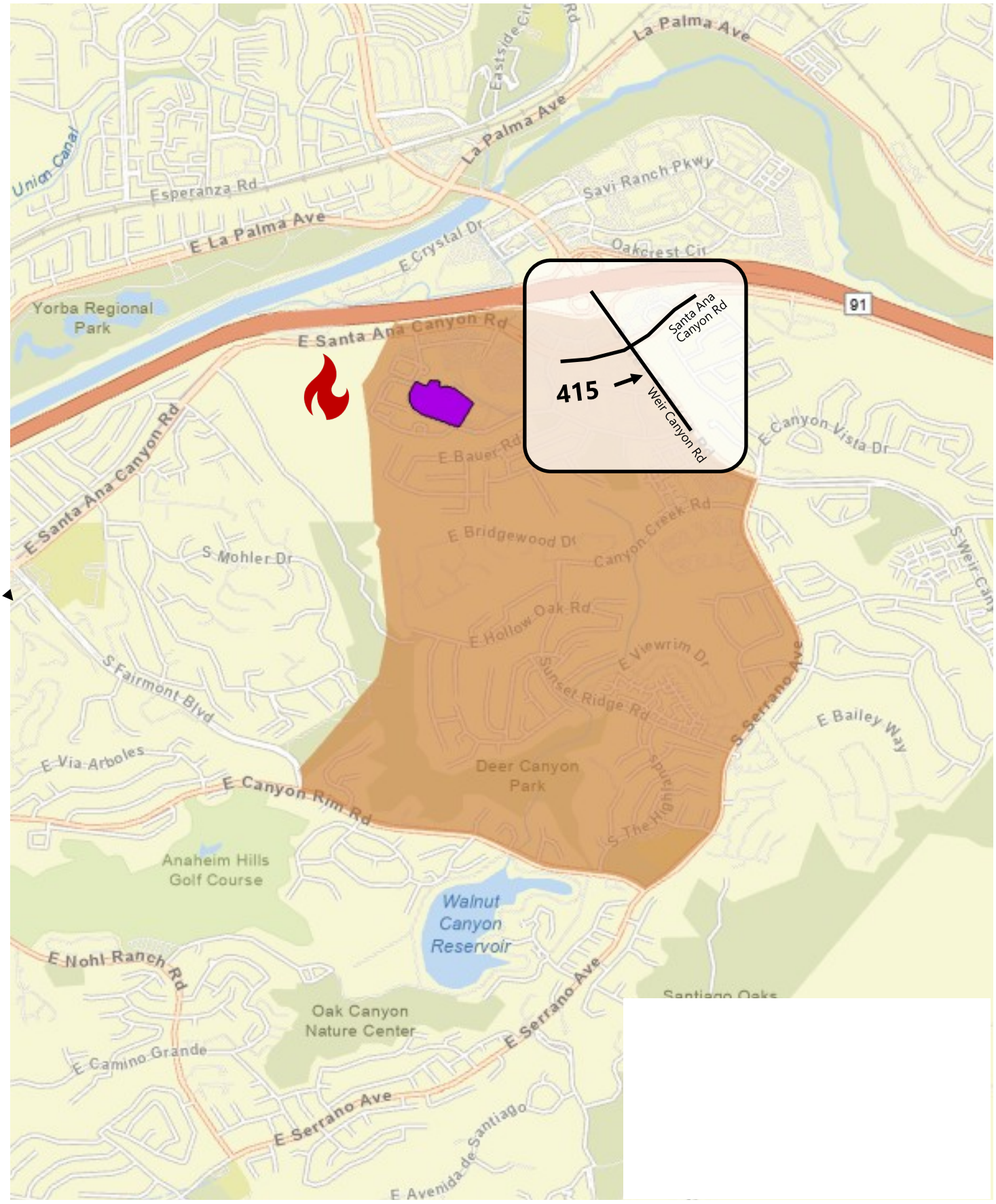


Figure 7
Cinema Evacuation Volumes—Fire From Deer Canyon

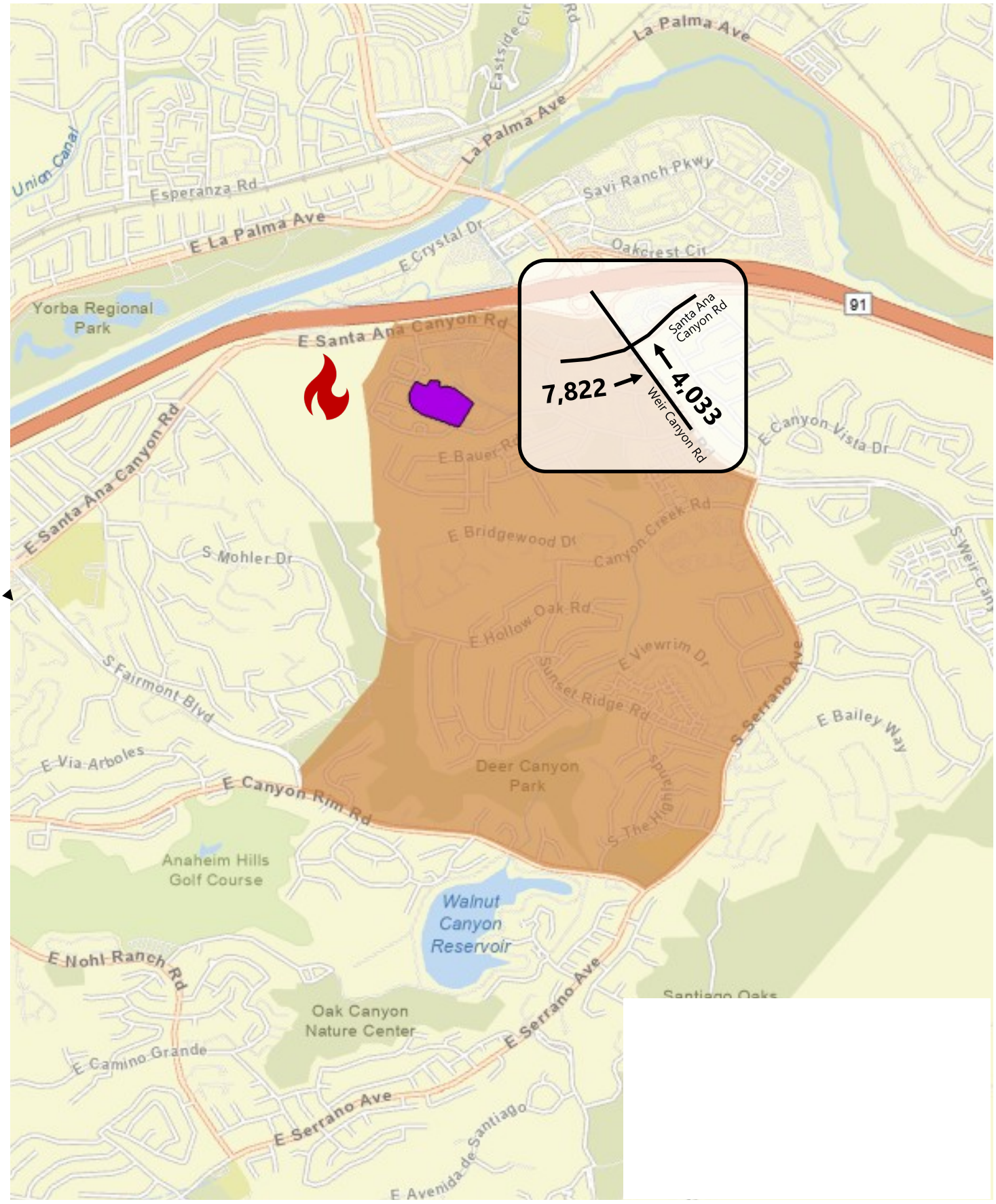


Figure 8

Existing PM Peak Hour Traffic Evacuation Volumes with Project—Fire From Deer Canyon

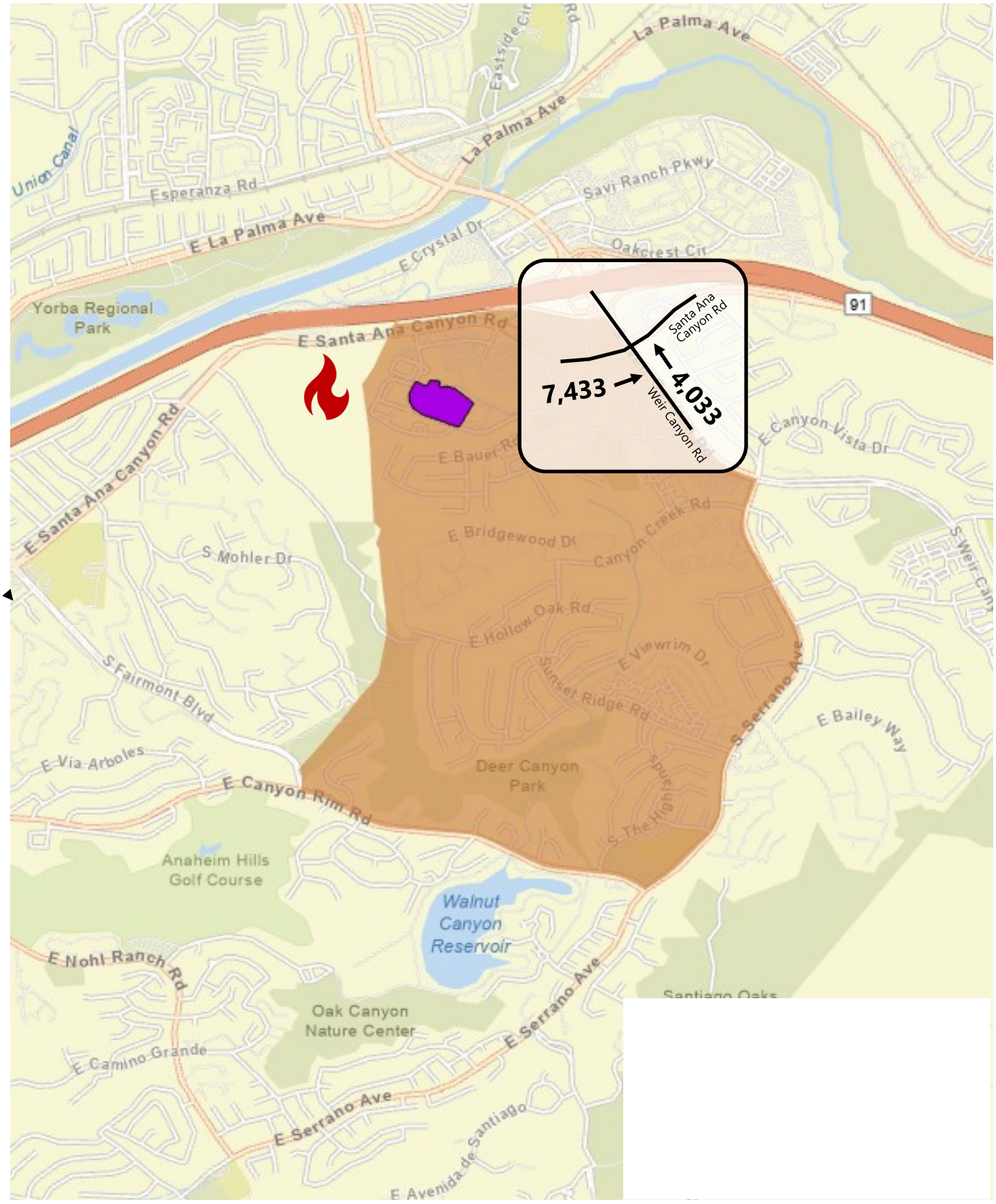


Figure 9

Existing PM Peak Hour Traffic Evacuation Volumes with Cinema—Fire From Deer Canyon

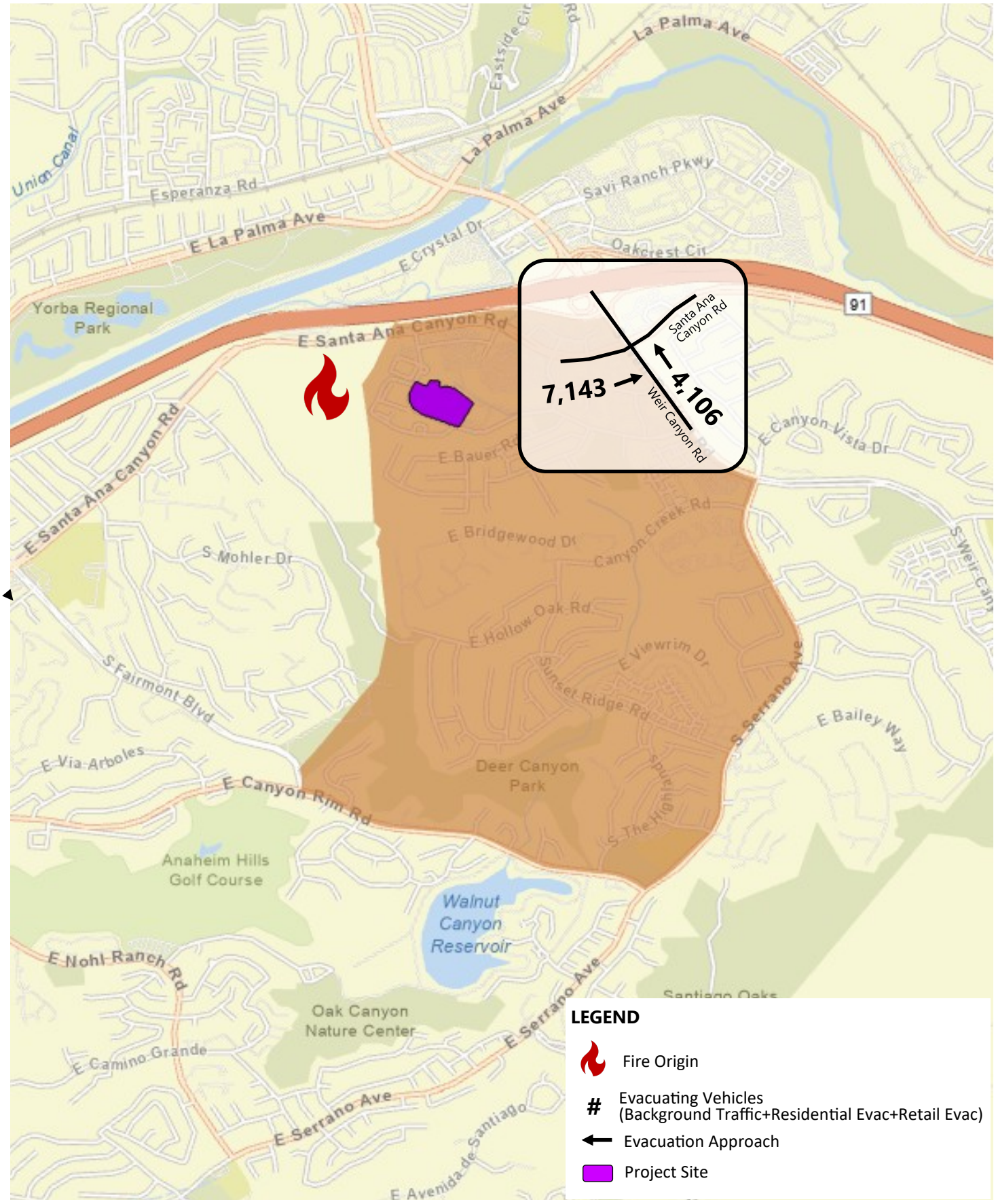


Figure 10

Cumulative PM Peak Hour Evacuation Traffic without Project — Fire From Deer Canyon

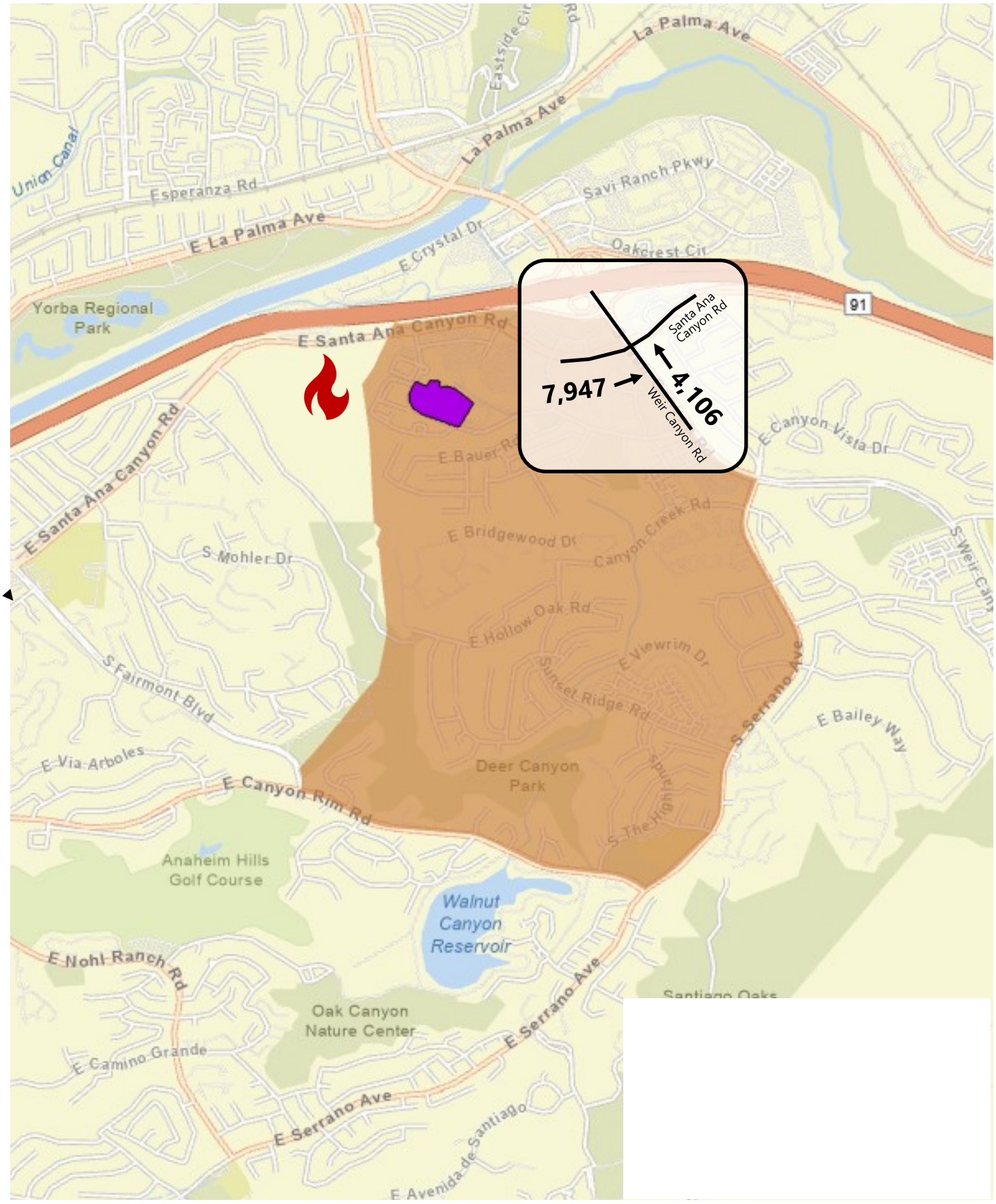


Figure 11
Cumulative PM Peak Hour Evacuation Traffic with Project — Fire From Deer Canyon

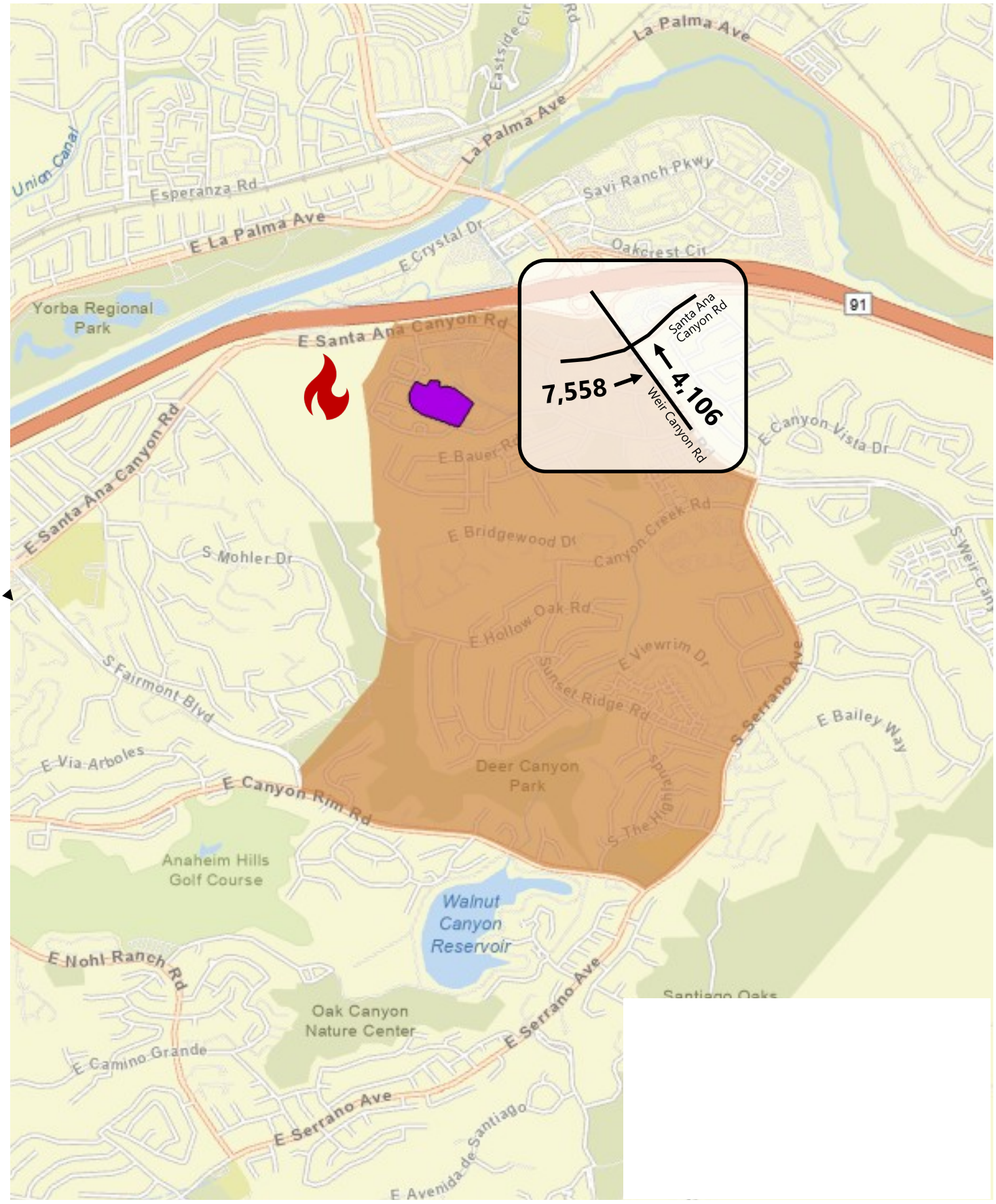


Figure 12
Cumulative PM Peak Hour Evacuation Traffic with Cinema — Fire From Deer Canyon

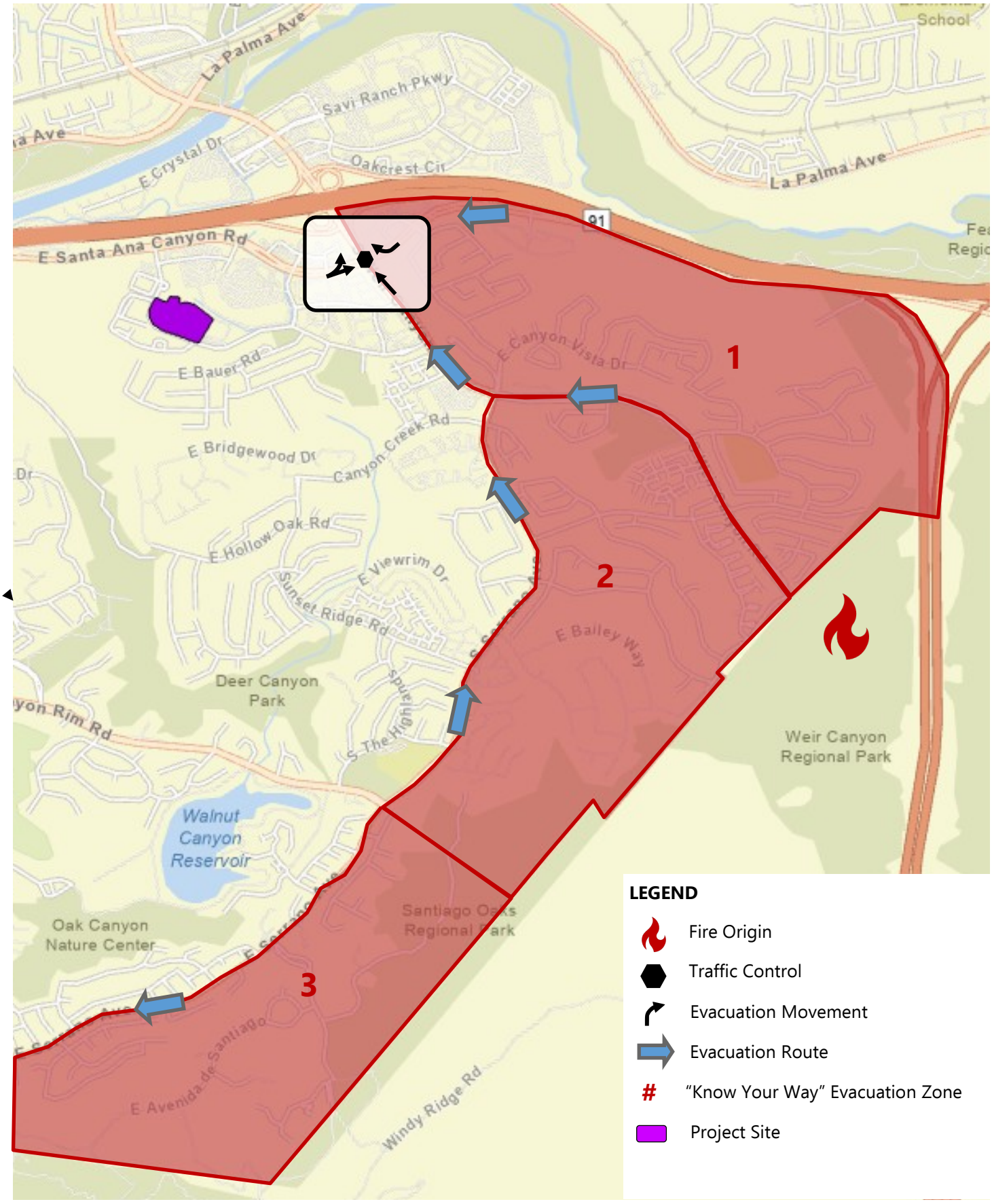


Figure 13
Study Area Road Evacuation Routing—Fire From the East

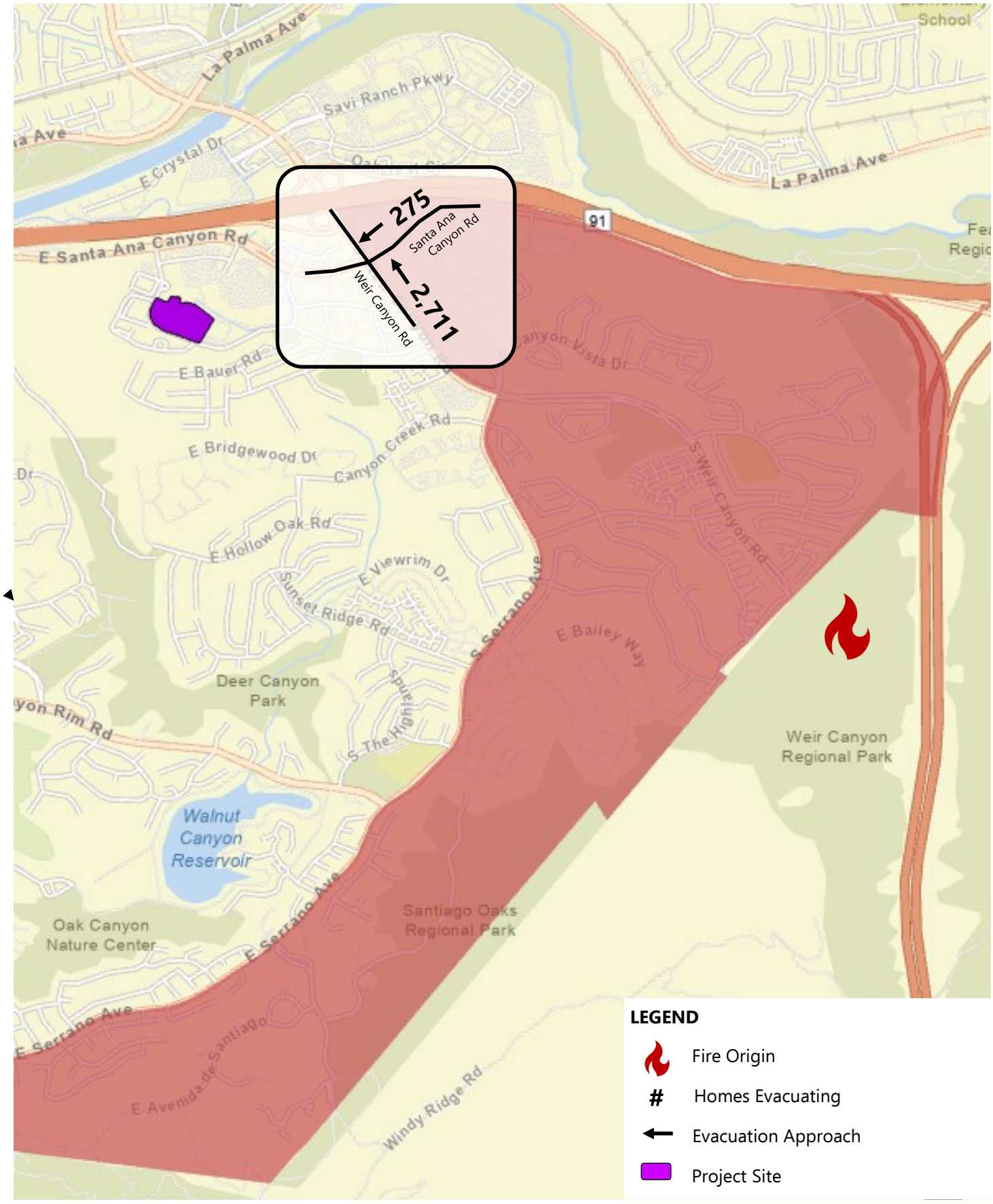


Figure 14
Number of Homes Evacuating—Fire From the East

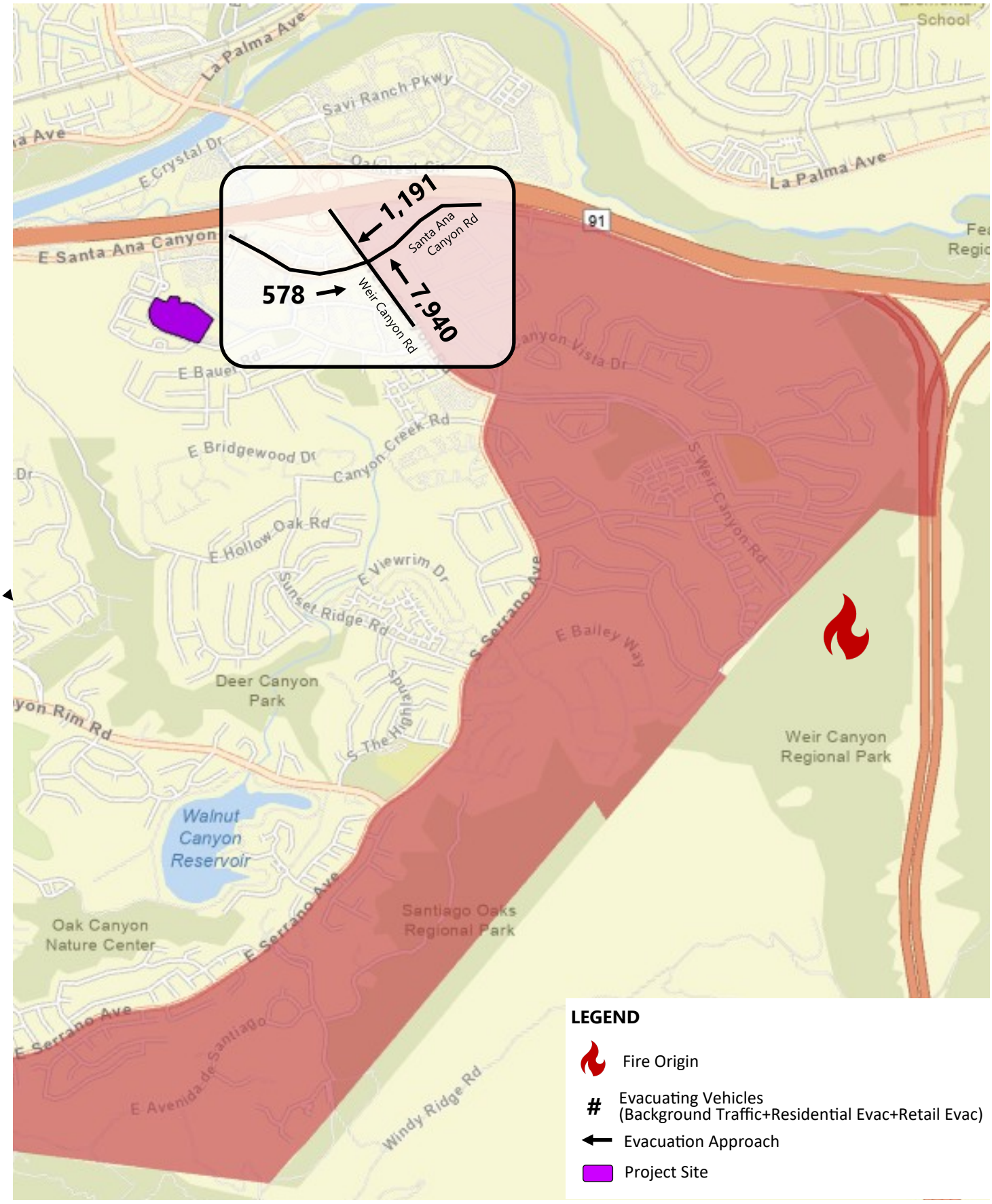


Figure 15
Existing PM Peak Hour Evacuation Traffic without Project — Fire From the East

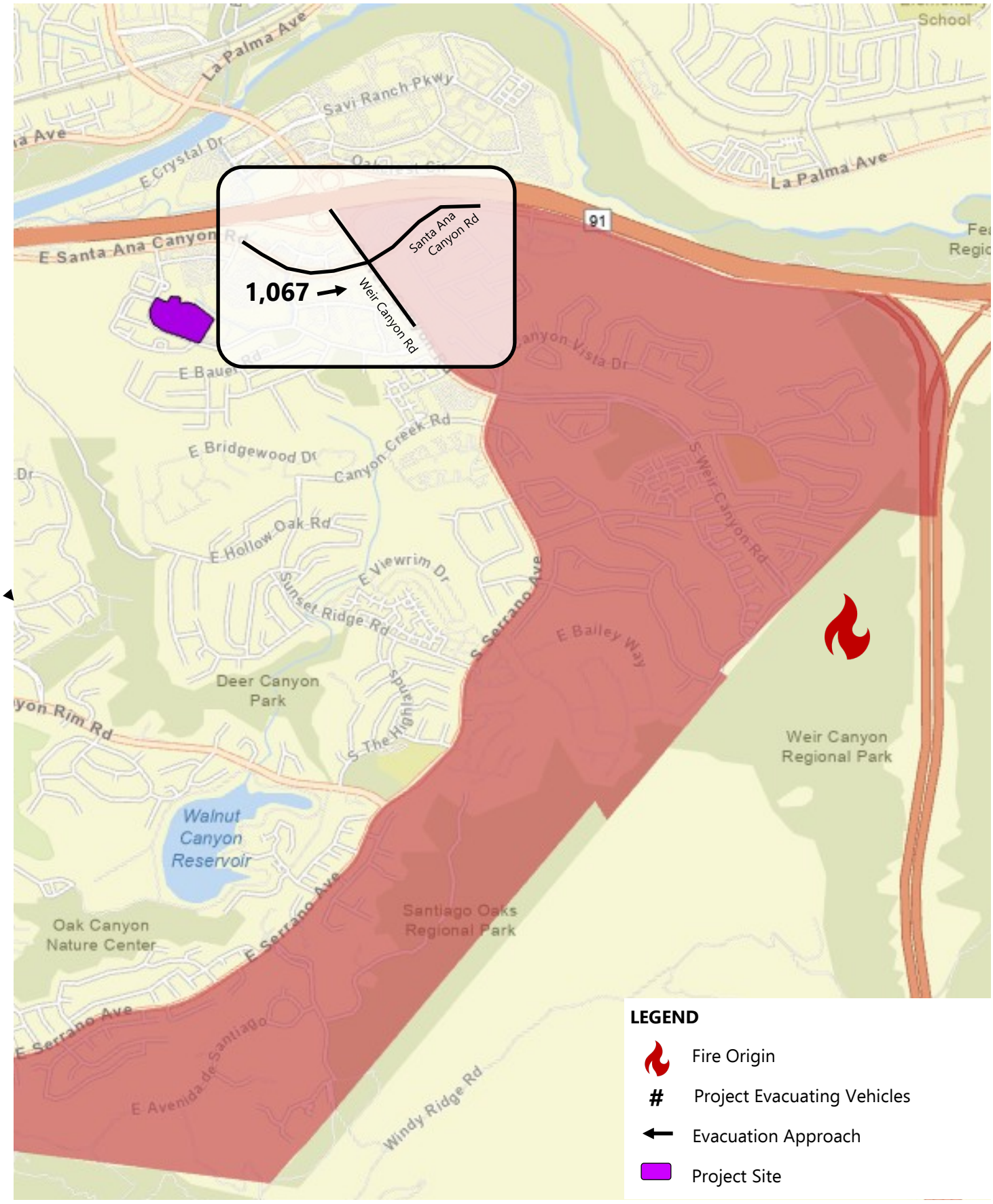


Figure 16
Project Evacuation Volumes—Fire From the East

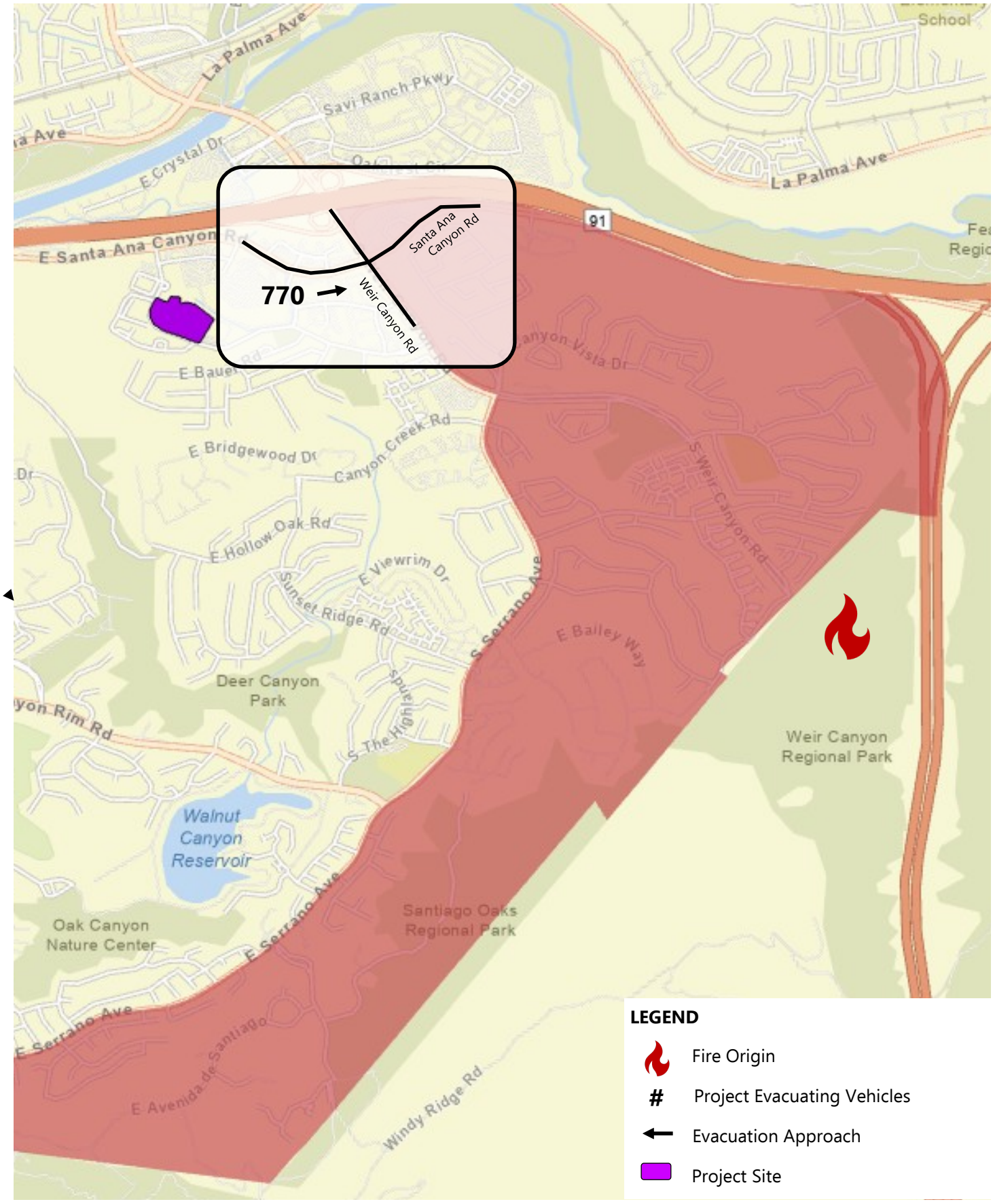


Figure 17
Cinema Evacuation Volumes—Fire From the East

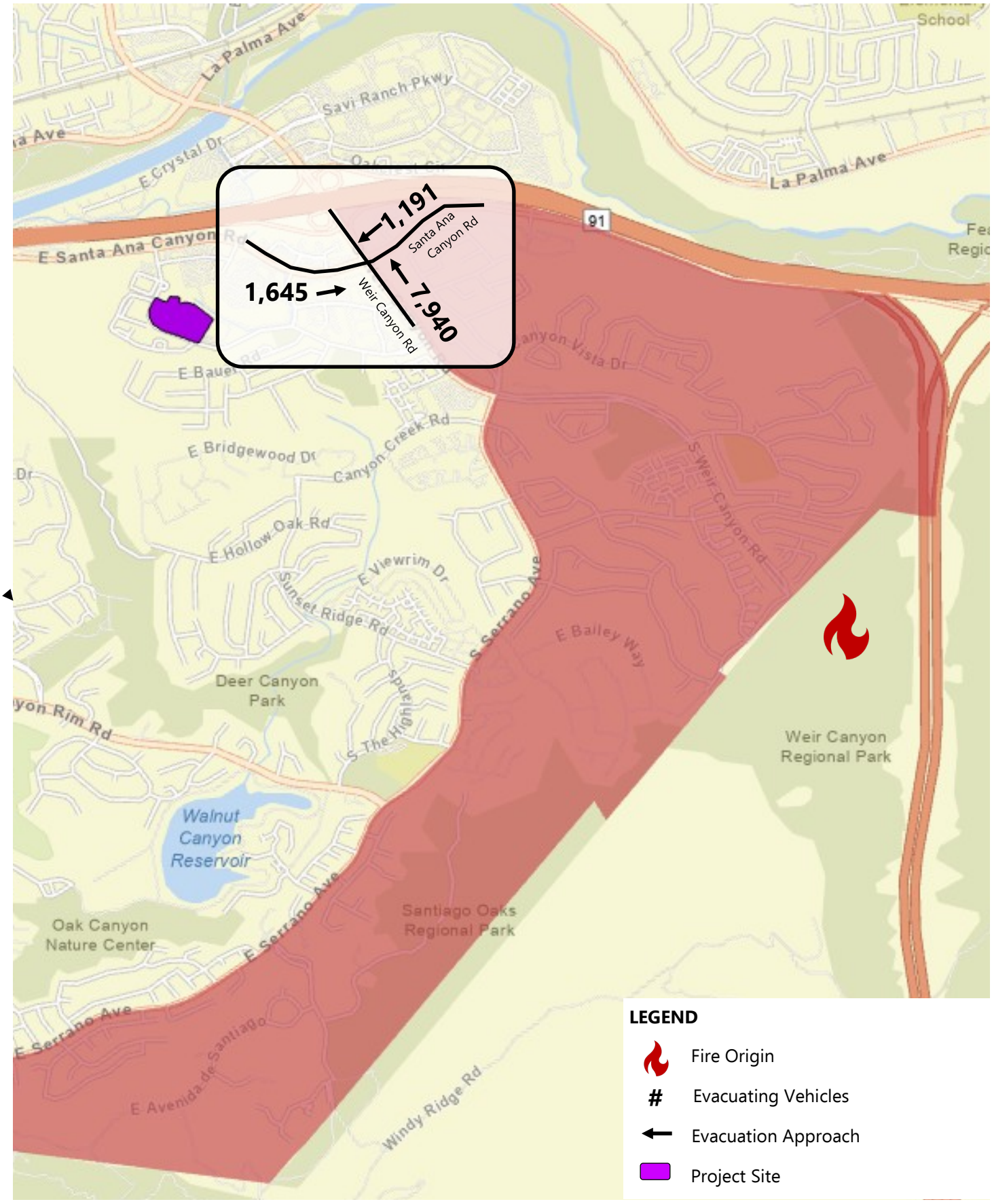


Figure 18

Existing PM Peak Hour Traffic Evacuation Volumes with Project—Fire From the East

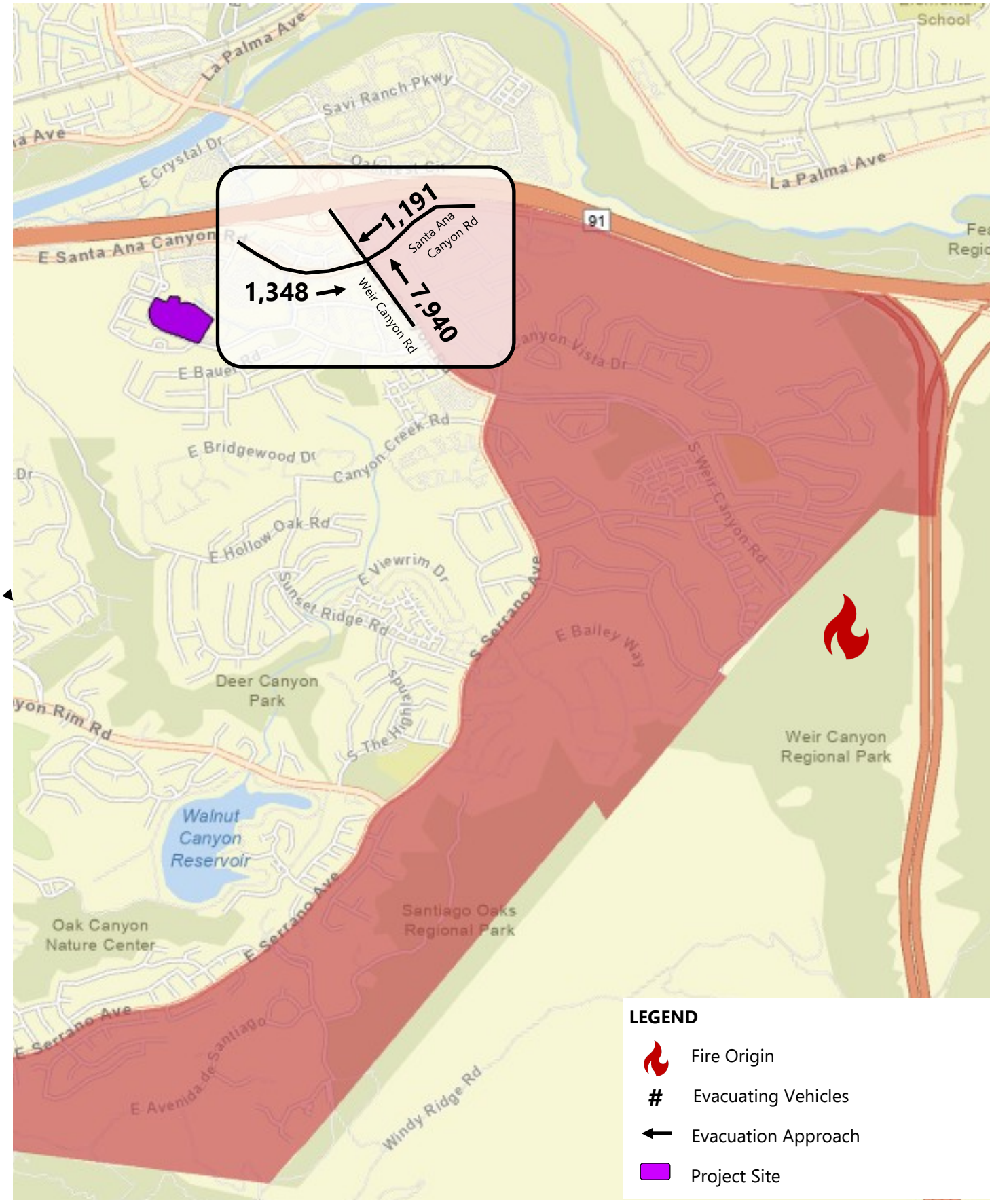


Figure 19
Existing PM Peak Hour Traffic Evacuation Volumes with Cinema—Fire From the East

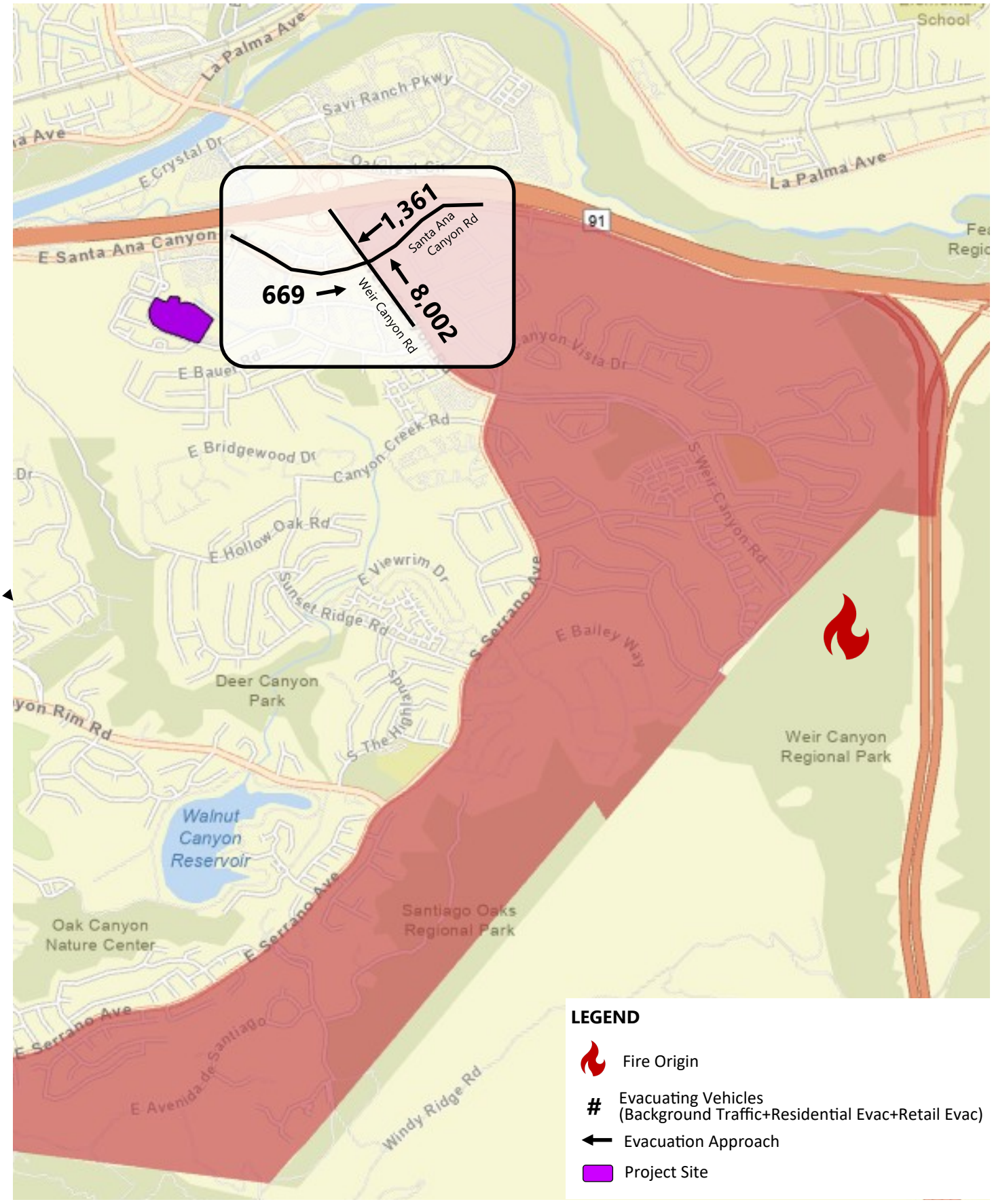


Figure 20
Cumulative PM Peak Hour Evacuation Traffic without Project — Fire From the East

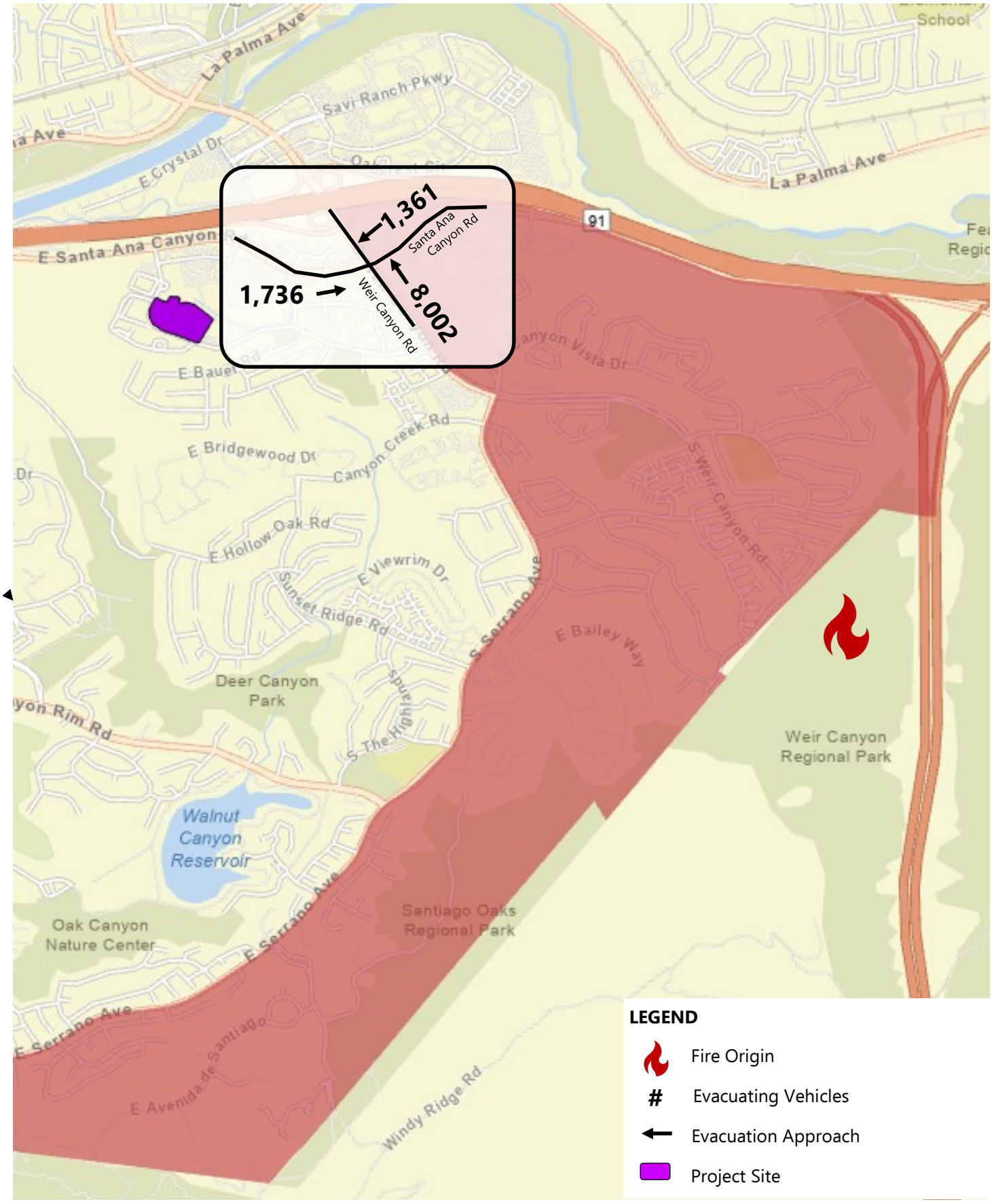


Figure 21
Cumulative PM Peak Hour Evacuation Traffic with Project — Fire From the East

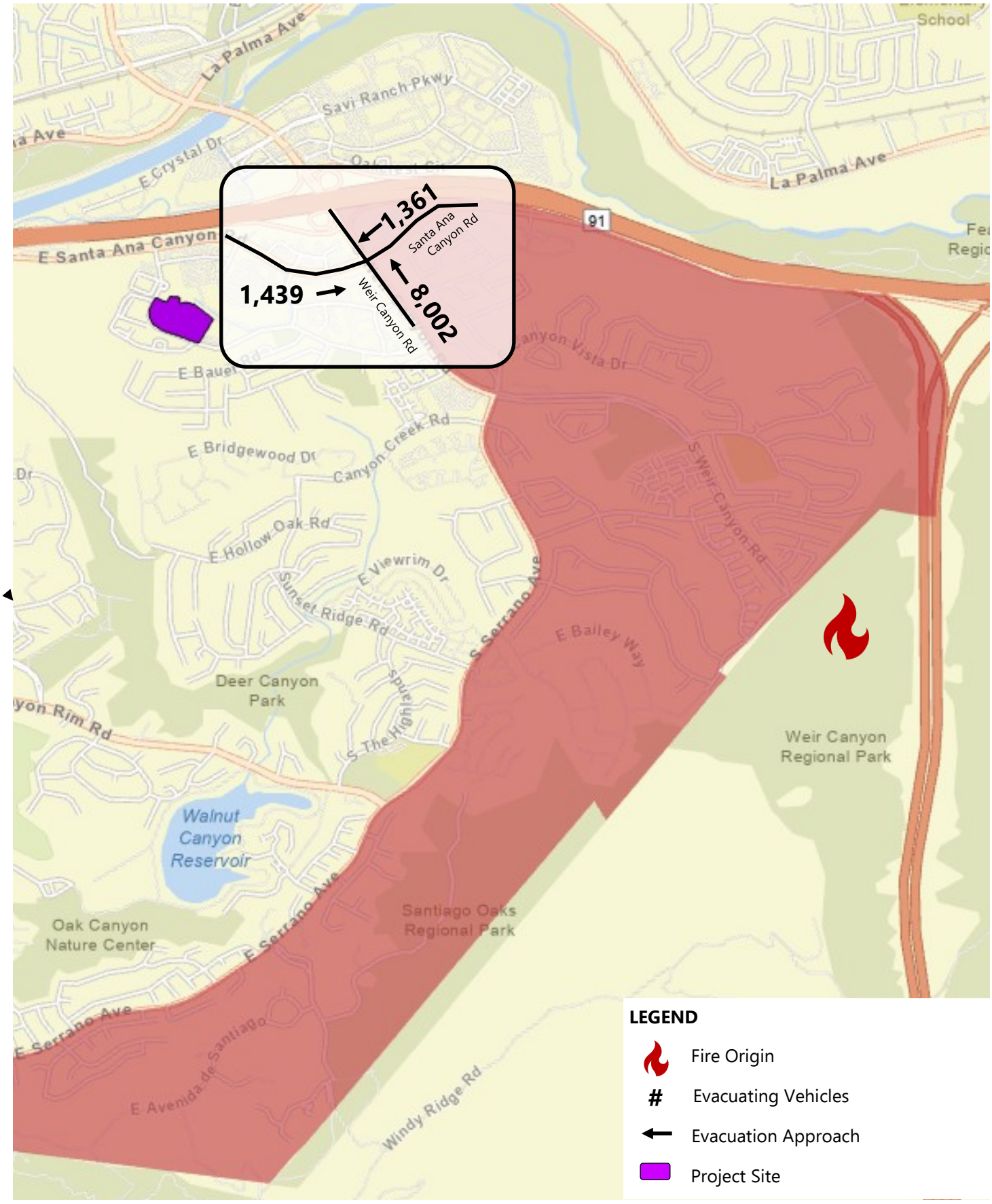


Figure 22
Cumulative PM Peak Hour Evacuation Traffic with Cinema — Fire From the East

ATTACHMENT 1 – PROPOSED PROJECT PARKING SUMMARY

BUILDING PROJECT DESCRIPTION

A 447 UNIT DEVELOPMENT CONSISTING OF A
4-STORY TYPE V-A RESIDENTIAL BUILDING
SURROUNDING 5 LEVELS OF TYPE I-A PARKING STRUCTURE

GROSS LAND AREA (DA 5)	705,672 SQ.FT.
	± **16.2 ACRES**
RESIDENTIAL GROSS SQUARE FEET:	546,593 SQ. FT.
PARKING STRUCTURE GROSS SQUARE FEET:	345,604 SQ. FT.
TOTAL UNITS:	**447 UNITS**
DENSITY:	**27.6 DU/AC**
OPEN SPACE: 232 S.F. /D.U.	103,639 SQ. FT.
COMMERICAL SQUARE FEET:	60,636 SQ. FT.
FAR OF REMAINING COMMERCIAL:	0.09 FAR
PLANNING AREA	**DA-5**

Residential Multi-Family Building 10.01.24

UNITS PER LEVEL SUMMARY

FF	LEVEL	1BR			2BR			3BR		TOTAL
		A0	A1	A2	B1	B1A	B2	C1	C2	
503	4- HIGH	2	11	21	5		3	2	2	46
493	4 - LOW	9	31	31	23	4	11	6	3	118
483	3	9	31	31	23	5	11	6	3	119
473	2	9	26	32	19	5	10	6	3	110
462	1	7	18	12	6		6	4	1	54
		36	117	127	76	14	41	24	12	**447**
	Totals	280			131			36		
		8.05%	26.2%	28.4%	17.0%	3.1%	9.2%	5.37%	2.68%	**100%**
		62.6%			29.3%			8.05%		

DWELLING UNIT INFO

UNIT	UNIT SF	QTY.	%	SF TOT.*
A0	591	36	8.05%	21,276
A1	743	117	26.2%	86,931
A2	728	127	28.4%	92,456
B1	1,087	76	17.0%	82,612
B1A	1,087	14	3.1%	15,218
B2	1,058	41	9.2%	43,378
C1	1,270	24	5.4%	30,480
C2	1,493	12	2.7%	17,916
Avg.	**873**	**447**	100.0%	**390,267**

* RESIDENTIAL UNIT NET AREA

AVG. SF

TYPE	SF
1-BR	717
2-BR	1078
3-BR	1344

OPEN SPACE SUMMARY

TYPE	REQ'D RATIO	REQ'D SF	PROVIDED SF
COMMON	200 SF/DU	89,400	
OUTDOOR			88,828
INDOOR			8,899
PRIVATE			5,912
COMBINED	**200 SF/DU**	**89,400**	**103,639** **232 SF/DU**

COMMON OPEN SPACE

OPEN SPACE	SF
POOL COURTYARD 1	15,798
POOL COURTYARD 2	12,439
PARK	37,052
COURTYARD 1	12,008
COURTYARD 2 & DOG PARK	11,531
TOTAL	**88,828**

COMMON INDOOR AMENITY

AMENITIES	SF
CLUBHOUSE 1	1,630
FITNESS	1,630
FITNESS MEZZANIE	815
CLUBHOUSE 2	2,010
UBER LOUNGE	967
CO-WORK	1,034
AMENITY @ LEVEL 2	813
TOTAL	**8,899**

PRIVATE OPEN SPACE

Unit	DECK AREA	TOT. AREA
C2*	135	1,350
B1[1]	230	230
A0[1]	211	211
A1[1]	227	227
B1A[1]	385	385
A1[2]	254	254
C2[2]	312	312
A1[2]	297	297
A1[2]	310	310
A1[2]	310	310
A0[2]	201	201
A1[2]	197	197
B1[2]	197	197
A1[2]	220	220
A1[3]	228	228
A0[3]	188	188
A0[3]	188	188
A1[3]	228	228
C2[3]	379	379
TOTAL		**5,912**

*NOTE: 10 TOTAL C2 UNITS

[1]NOTE: GROUND FLOOR PATIO ONLY AT COURTYARD 2

[2]NOTE: GROUND FLOOR PATIO ONLY AT POOL COUTYARD 2

[3]NOTE: GROUND LEVEL PATIO ONLY AT COURTYARD 1

STORAGE

UNIT	CF
A0*	103
A1	117
A2	103
B1	117
B1A	117
B2	103
C1	108
C2	114

* STORAGE LOCATED IN CORRIDOR ADJACENT TO UNIT

DA5 - PARKING SUMMARY

TYPE	COUNT	PROVIDED RATIO	PROVIDED STALLS
1 BR	280	1.75	490
2 BR	131	2.25	295
3 BR	36	3.00	108
TOTAL RESIDENTIAL		**2.0**	**893**
RESTAURANT	10 KSF GLA SF		65
OFFICE	4 KSF GLA SF		37
GYM/NASIUM	4 KSF GLA SF		153
RETAIL / DAYCARE	4 KSF GLA SF		41
MEDICAL OFFICE	6 KSF GLA SF		66
TOTAL STALLS REQUIRED			**1254**
TOTAL STALLS PROVIDED*			**1243**
DISCREPANCY PROVIDED VIA SHARED USE			11

*NOTE: 11 STALLS WILL BE SHARED FOR USE BY RETAIL AND RESIDENTIAL GUEST.

DA5 - PARKING PROVIDED

	OTHER			GUEST[1]					RESIDENTIAL							RETAIL[2]							
	USPS	LEASING			ACCESSIBLE		ELECT. VEHICLE[2]					ACCESSIBLE		ELECT. VEHICLE[2]				ACCESSIBLE		ELECTRIC VEHICLE			
		STD	AC-VAN	STD	STD	VAN	STD	8' Aisle	STD.	COMP.	TANDEM	STD	VAN	STD	8' Aisle	STD.	COMP.	STD	VAN	STD	AC-STD	AC-VAN	TOTAL
SURFACE - RETAIL																19		5	1	4	2	1	32
SURFACE - LEASING & USPS	1	3	1																				5
SURFACE - GYM+ TUTOR																222							222
SURFACE - NEW RETAIL																30							30
LEVEL 6									95			2											97
LEVEL 5									90			4		52	3								149
LEVEL 4									77			3		65	4								149
LEVEL 3									77			2	1	65	4								149
LEVEL 2 South Entry									76			3	1	65	2								147
LEVEL 1 North Entry				48	3	1			17							39				27			135
SUB-T LEVEL				7	2		44	2	18					55									128
TOTAL STALLS	1	3	1	55	5	1	44	2	450	0	0	14	2	302	13	310	0	5	1	31	2	1	1243
GRAND TOTALS	1	4		107					781							350							

[1]NOTE: SHARED STALL COUNT (TOW ARD GUEST) IS INCLUDED IN THE RETAIL STALL COUNT. GUEST STALLS PROVIDED BEHIND SECURITY GATE.

[2]NOTE: FOR RESIDENTIAL AND GUEST, THE 40% ELECTRIC VEHICLE STALLS ARE SUBDIVIDED AS FOLLOWS: 5% CHARGERS (EVCS FULL EQUIPMENT), 25% READY (INSTALLED W IRING FOR LOW POW ER) AND 10% CAPABLE. REFER TO CBC FOR DEFINITIONS.

[3]NOTE: RETAIL AND 11 SHARED GUESTS STALLS IN FRONT OF SECURITY GATE.

GENERAL DISCLAIMER

THESE CONCEPTUAL ARCHITECTURAL PLANS ARE FOR PLANNING & DEVELOPMENT PURPOSES ONLY. REVISIONS MAY BE REQUIRED DUE TO FURTHER REQUIREMENTS, INVESTIGATION FROM GOVERNING AGENCIES AND BUILDING CODE ANALYSIS. DIMENSIONS SHOWN ARE APPROXIMATE AND ARE BASED UPON THE INFORMATION AND SURVEYS AVAILABLE. PLEASE REFER TO CIVIL SURVEYS, DRAWINGS AND EXHIBITS FOR TECHNICAL INFORMATION AND MEASUREMENTS. PLEASE REFER TO THE LANDSCAPE ARCHITECT'S DRAWINGS AND EXHIBITS FOR ALL LANDSCAPE PLANTING, IRRIGATION, DESIGN AND SPECIFICATIONS.

2022 CALIFORNIA BUILDING CODE

TOTAL STALLS

RESIDENTIAL PARKING

PROVIDED STALLS

ASSIGNED RESIDENTIAL	781
UNASSIGNED/GUEST NOT INCLUDED W ITHIN THE RESIDENTIAL REQUIREMENT ABOVE	112

ASSIGNED PARKING MIX	STALLS
ASSIGNED RESIDENTIAL	781
UNASSIGNED GUEST	112
TOTAL REQUIRED RESIDENTIAL PARKING STALLS	893

MINIMUM REQUIRED STALLS

ACCESSIBLE STALLS - (CBC 1109.A.4 & 1109.A.5)

RESIDENTIAL STALLS	STALLS*	FACTOR	STD.		VAN 1/8		STALLS
ASSIGNED RESIDENTIAL	781	2%	14	+	2	=	16
UNASSIGNED GUEST	112	5%	5	+	1	=	6

* The accessible stalls for EV are calculated below and not included in this count.

EV STALLS - (CGBC 4.106.4.2.2 & 4.106.4.2.2.1.2)

ASSIGNED RESIDENTIAL	STALLS	FACTOR					STALLS
	781						
EV CHARGERS		5%					40
EV READY - LOW POWER		25%					196
EV CAPABLE		10%					79
			302	+	13	=	315
			STD.		1/25 - 8' AISLE*		

UNASSIGNED GUEST	STALLS	FACTOR					STALLS
	112						
EV CHARGERS		5%					6
EV READY - LOW POWER		25%					28
EV CAPABLE		10%					12
			44	+	2	=	46
			STD.		1/25 - 8' AISLE*		

* All EV accessible stalls are provided at initial buildout.
All accessible EVSE equipment shall comply with 11B-812.
All accessible EV stalls shall comply with 11A and 1109A.

NON-RESIDENTIAL PARKING, PARCEL 1 AND PARCEL A

PROVIDED STALLS

LEASING	4
RESTAURANT	65
OFFICE	37
MEDICAL OFFICE	66
EXISTING FITNESS*	30
TOTAL NON-RESIDENTIAL PARKING STALLS PARCEL 1 AND PARCEL A	202

*NOTE: THE 30 PARKING SPACES ARE NOT INCLUDED AS NEW SPACES, BUT IMPROVED EXISTING SPACES SERVING THE EXISTING FITNESS USE.

MINIMUM REQUIRED STALLS

ACCESSIBLE STALLS - (CBC 11B-208.2)

NON-RESIDENTIAL STALLS	STALLS	FACTOR	STANDARD		VAN 1/6		STALLS
LEASING	4	TABLE	0	+	1	=	1
RESTAURANT	52	TABLE	2	+	1	=	3
OFFICE	29	TABLE	1	+	1	=	2
MEDICAL OFFICE	53	TABLE	2	+	1	=	3

EV STALLS - (CGBC 5.106.5.3.1 & CBC TABLE 11B-228.3.2.1)

LEASING	STALLS	STD.	ACCESSIBLE* VAN	STD.	AMB.		STALLS
	4						
EV CHARGERS - EVSE		0	0	0	0	=	0
EV CAPABLE		0	0	0	0	=	0
							0

RESTAURANT	STALLS	STD.	ACCESSIBLE* VAN	STD.	AMB.		STALLS
	65						
EV CHARGERS - EVSE		2	1	0	0	=	3
EV CAPABLE		8	1	1	0	=	10
							13

OFFICE	STALLS	STD.	ACCESSIBLE* VAN	STD.	AMB.		STALLS
	37						
EV CHARGERS - EVSE		1	1	0	0	=	2
EV CAPABLE		4	1	1	0	=	6
							8

MEDICAL OFFICE	STALLS	STD.	ACCESSIBLE* VAN	STD.	AMB.		STALLS
	66						
EV CHARGERS - EVSE		2	1	0	0	=	3
EV CAPABLE		8	1	1	0	=	10
							13

* All EV accessible stalls are provided at initial buildout.
All accessible EV stalls shall comply with 11B-228.2.3.
All accessible EV equipment shall comply with 11B-309.4.
All EVCS to comply with 11B-802.

BIKE PARKING - MINIMUM REQUIRED STALLS PARCEL 1 AND PARCEL A

SHORT-TERM BICYCLE PARKING - (CGBC 5.106.4.1)

	STALLS	STALLS
LEASING	4	2 MIN
RESTAURANT	65	3
OFFICE	37	2 MIN
MEDICAL OFFICE	66	3

LONG-TERM BICYCLE PARKING - (CGBC 5.106.4.2)

	STALLS	STALLS
LEASING	4	1 MIN
RESTAURANT	65	3
OFFICE	37	2
MEDICAL OFFICE	66	3

*NOTE: THE 30 PARKING SPACES ARE NOT INCLUDED AS NEW SPACES, BUT IMPROVED EXISTING SPACES SERVING THE EXISTING FITNESS USE.

Shea Properties

FESTIVAL HILLS

ANAHEIM HILLS, CA
SHEA PROPERTIES

RESIDENTIAL BUILDING
Project Information - Unit Summary, Parking Analysis

AO Architecture. Design. Relationships.

G1.1

Scale 0" = 0'
Job No. 2022-356
Date 10-01-2024

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #1 Festival Hills Fire Evacuation [Fire from Deer Canyon]

Cycle (sec):	100	Critical Vol./Cap.(X):	2.012
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	180	Level Of Service:	F

Street Name:	Weir Canyon Rd						Santa Ana Canyon Rd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Ovl		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2 0	3 0	1	2 0	2 1	1	2 0	3 0	1	2 0	2 1	1
Volume Module:												
Base Vol:	0	3257	776	450	1525	0	3998	2917	102	23	0	501
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	3257	776	450	1525	0	3998	2917	102	23	0	501
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	3257	776	450	1525	0	3998	2917	102	23	0	501
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	3257	776	450	1525	0	3998	2917	102	23	0	501
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	3257	776	450	1525	0	3998	2917	102	23	0	501
OvlAdjVol:												51
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	3.00	1.00	2.00	3.00	1.00	2.00	3.00	1.00	2.00	2.00	2.00
Final Sat.:	3400	5100	1700	3400	5100	1700	3400	5100	1700	3400	3400	3400
Capacity Analysis Module:												
Vol/Sat:	0.00	0.64	0.46	0.13	0.30	0.00	1.18	0.57	0.06	0.01	0.00	0.15
OvlAdjV/S:												0.01
Crit Moves:	****			****			****					****

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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #1 Festival Hills Fire Evacuation [Fire from Deer Canyon]

Cycle (sec):	100	Critical Vol./Cap.(X):	2.131
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	180	Level Of Service:	F

Street Name:	Weir Canyon Rd						Santa Ana Canyon Rd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Ovl		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2 0	3 0	1	2 0	2 1	1	2 0	3 0	1	2 0	2 1	1
Volume Module:												
Base Vol:	0	3257	776	450	1525	0	4402	3317	102	23	0	501
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	3257	776	450	1525	0	4402	3317	102	23	0	501
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	3257	776	450	1525	0	4402	3317	102	23	0	501
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	3257	776	450	1525	0	4402	3317	102	23	0	501
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	3257	776	450	1525	0	4402	3317	102	23	0	501
OvlAdjVol:												51
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	3.00	1.00	2.00	3.00	1.00	2.00	3.00	1.00	2.00	2.00	2.00
Final Sat.:	3400	5100	1700	3400	5100	1700	3400	5100	1700	3400	3400	3400
Capacity Analysis Module:												
Vol/Sat:	0.00	0.64	0.46	0.13	0.30	0.00	1.29	0.65	0.06	0.01	0.00	0.15
OvlAdjV/S:												0.01
Crit Moves:	****			****			****					****

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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #1 Festival Hills Fire Evacuation [Fire from Deer Canyon]

Cycle (sec):	100	Critical Vol./Cap.(X):	2.075
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	180	Level Of Service:	F

Street Name:	Weir Canyon Rd						Santa Ana Canyon Rd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Ovl		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2 0	3 0	1	2 0	2 1	1	2 0	3 0	1	2 0	2 1	1
Volume Module:												
Base Vol:	0	3257	776	450	1525	0	4213	3117	102	23	0	501
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	3257	776	450	1525	0	4213	3117	102	23	0	501
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	3257	776	450	1525	0	4213	3117	102	23	0	501
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	3257	776	450	1525	0	4213	3117	102	23	0	501
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	3257	776	450	1525	0	4213	3117	102	23	0	501
OvlAdjVol:												51
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	3.00	1.00	2.00	3.00	1.00	2.00	3.00	1.00	2.00	2.00	2.00
Final Sat.:	3400	5100	1700	3400	5100	1700	3400	5100	1700	3400	3400	3400
Capacity Analysis Module:												
Vol/Sat:	0.00	0.64	0.46	0.13	0.30	0.00	1.24	0.61	0.06	0.01	0.00	0.15
OvlAdjV/S:												0.01
Crit Moves:	****			****			****					****

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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #1 Festival Hills Fire Evacuation [Fire from Deer Canyon]

Cycle (sec):	100	Critical Vol./Cap.(X):	2.052
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	180	Level Of Service:	F

Street Name:	Weir Canyon Rd						Santa Ana Canyon Rd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Ovl		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2 0	3 0	1	2 0	2 1	1	2 0	3 0	1	2 0	2 1	1
Volume Module:												
Base Vol:	0	3324	782	473	1603	0	4089	2946	108	24	0	502
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	3324	782	473	1603	0	4089	2946	108	24	0	502
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	3324	782	473	1603	0	4089	2946	108	24	0	502
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	3324	782	473	1603	0	4089	2946	108	24	0	502
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	3324	782	473	1603	0	4089	2946	108	24	0	502
OvlAdjVol:												29
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	3.00	1.00	2.00	3.00	1.00	2.00	3.00	1.00	2.00	2.00	2.00
Final Sat.:	3400	5100	1700	3400	5100	1700	3400	5100	1700	3400	3400	3400
Capacity Analysis Module:												
Vol/Sat:	0.00	0.65	0.46	0.14	0.31	0.00	1.20	0.58	0.06	0.01	0.00	0.15
OvlAdjV/S:												0.01
Crit Moves:	****			****			****					****

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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #1 Festival Hills Fire Evacuation [Fire from Deer Canyon]

Cycle (sec):	100	Critical Vol./Cap.(X):	2.171
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	180	Level Of Service:	F

Street Name:	Weir Canyon Rd						Santa Ana Canyon Rd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Ovl		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2 0	3 0	1	2 0	2 1	1	2 0	3 0	1	2 0	2 1	1
Volume Module:												
Base Vol:	0	3324	782	473	1603	0	4493	3346	108	24	0	502
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	3324	782	473	1603	0	4493	3346	108	24	0	502
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	3324	782	473	1603	0	4493	3346	108	24	0	502
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	3324	782	473	1603	0	4493	3346	108	24	0	502
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	3324	782	473	1603	0	4493	3346	108	24	0	502
OvlAdjVol:												29
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	3.00	1.00	2.00	3.00	1.00	2.00	3.00	1.00	2.00	2.00	2.00
Final Sat.:	3400	5100	1700	3400	5100	1700	3400	5100	1700	3400	3400	3400
Capacity Analysis Module:												
Vol/Sat:	0.00	0.65	0.46	0.14	0.31	0.00	1.32	0.66	0.06	0.01	0.00	0.15
OvlAdjV/S:												0.01
Crit Moves:	****			****			****					****

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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #1 Festival Hills Fire Evacuation [Fire from Deer Canyon]

Cycle (sec):	100	Critical Vol./Cap.(X):	2.115
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	180	Level Of Service:	F

Street Name:	Weir Canyon Rd						Santa Ana Canyon Rd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Ovl		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2 0	3 0	1	2 0	2 1	1	2 0	3 0	1	2 0	2 1	1
Volume Module:												
Base Vol:	0	3324	782	473	1603	0	4304	3146	108	24	0	502
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	3324	782	473	1603	0	4304	3146	108	24	0	502
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	3324	782	473	1603	0	4304	3146	108	24	0	502
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	3324	782	473	1603	0	4304	3146	108	24	0	502
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	3324	782	473	1603	0	4304	3146	108	24	0	502
OvlAdjVol:												29
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	3.00	1.00	2.00	3.00	1.00	2.00	3.00	1.00	2.00	2.00	2.00
Final Sat.:	3400	5100	1700	3400	5100	1700	3400	5100	1700	3400	3400	3400
Capacity Analysis Module:												
Vol/Sat:	0.00	0.65	0.46	0.14	0.31	0.00	1.27	0.62	0.06	0.01	0.00	0.15
OvlAdjV/S:												0.01
Crit Moves:	****			****			****					****

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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #1 Festival Hills Fire Evacuation [Fire from East]

Cycle (sec):	100	Critical Vol./Cap.(X):	1.585
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	180	Level Of Service:	F

Street Name:	Weir Canyon Rd						Santa Ana Canyon Rd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Ovl		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2 0	3 0	1	2 0	2 1	1	2 0	3 0	1	2 0	2 1	1
Volume Module:												
Base Vol:	2750	5082	108	0	0	699	578	0	0	23	56	1191
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	2750	5082	108	0	0	699	578	0	0	23	56	1191
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	2750	5082	108	0	0	699	578	0	0	23	56	1191
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	2750	5082	108	0	0	699	578	0	0	23	56	1191
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	2750	5082	108	0	0	699	578	0	0	23	56	1191
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	3.00	1.00	2.00	2.00	2.00	2.00	3.00	1.00	2.00	2.00	2.00
Final Sat.:	3400	5100	1700	3400	3400	3400	3400	5100	1700	3400	3400	3400
Capacity Analysis Module:												
Vol/Sat:	0.81	1.00	0.06	0.00	0.00	0.21	0.17	0.00	0.00	0.01	0.02	0.35
Crit Moves:	****					****	****					****

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #1 Festival Hills Fire Evacuation [Fire from East]

Cycle (sec):	100	Critical Vol./Cap.(X):	1.899
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	180	Level Of Service:	F

Street Name:	Weir Canyon Rd						Santa Ana Canyon Rd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Ovl		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2 0	3 0	1	2 0	2 1	1	2 0	3 0	1	2 0	2 1	1
Volume Module:												
Base Vol:	2750	5082	108	0	0	699	1645	0	0	23	56	1191
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	2750	5082	108	0	0	699	1645	0	0	23	56	1191
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	2750	5082	108	0	0	699	1645	0	0	23	56	1191
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	2750	5082	108	0	0	699	1645	0	0	23	56	1191
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	2750	5082	108	0	0	699	1645	0	0	23	56	1191
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	3.00	1.00	2.00	2.00	2.00	2.00	3.00	1.00	2.00	2.00	2.00
Final Sat.:	3400	5100	1700	3400	3400	3400	3400	5100	1700	3400	3400	3400
Capacity Analysis Module:												
Vol/Sat:	0.81	1.00	0.06	0.00	0.00	0.21	0.48	0.00	0.00	0.01	0.02	0.35
Crit Moves:	****					****	****					****

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #1 Festival Hills Fire Evacuation [Fire from East]

Cycle (sec):	100	Critical Vol./Cap.(X):	1.811
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	180	Level Of Service:	F

Street Name:	Weir Canyon Rd						Santa Ana Canyon Rd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Ovl		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2 0	3 0	1	2 0	2 1	1	2 0	3 0	1	2 0	2 1	1
Volume Module:												
Base Vol:	2750	5082	108	0	0	699	1348	0	0	23	56	1191
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	2750	5082	108	0	0	699	1348	0	0	23	56	1191
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	2750	5082	108	0	0	699	1348	0	0	23	56	1191
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	2750	5082	108	0	0	699	1348	0	0	23	56	1191
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	2750	5082	108	0	0	699	1348	0	0	23	56	1191
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	3.00	1.00	2.00	2.00	2.00	2.00	3.00	1.00	2.00	2.00	2.00
Final Sat.:	3400	5100	1700	3400	3400	3400	3400	5100	1700	3400	3400	3400
Capacity Analysis Module:												
Vol/Sat:	0.81	1.00	0.06	0.00	0.00	0.21	0.40	0.00	0.00	0.01	0.02	0.35
Crit Moves:	****					****	****					****

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #1 Festival Hills Fire Evacuation [Fire from East]

Cycle (sec):	100	Critical Vol./Cap.(X):	1.664
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	180	Level Of Service:	F

Street Name:	Weir Canyon Rd						Santa Ana Canyon Rd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Ovl		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2 0	3 0	1	2 0	2 1	1	2 0	3 0	1	2 0	2 1	1
Volume Module:												
Base Vol:	2757	5131	114	0	0	699	669	0	0	23	56	1361
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	2757	5131	114	0	0	699	669	0	0	23	56	1361
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	2757	5131	114	0	0	699	669	0	0	23	56	1361
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	2757	5131	114	0	0	699	669	0	0	23	56	1361
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	2757	5131	114	0	0	699	669	0	0	23	56	1361
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	3.00	1.00	2.00	2.00	2.00	2.00	3.00	1.00	2.00	2.00	2.00
Final Sat.:	3400	5100	1700	3400	3400	3400	3400	5100	1700	3400	3400	3400
Capacity Analysis Module:												
Vol/Sat:	0.81	1.01	0.07	0.00	0.00	0.21	0.20	0.00	0.00	0.01	0.02	0.40
Crit Moves:	****					****	****					****

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #1 Festival Hills Fire Evacuation [Fire from East - With Project]

Cycle (sec):	100	Critical Vol./Cap.(X):	1.977
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	180	Level Of Service:	F

Street Name:	Weir Canyon Rd						Santa Ana Canyon Rd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Ovl		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2 0	3 0	1	2 0	2 1	1	2 0	3 0	1	2 0	2 1	1
Volume Module:												
Base Vol:	2757	5131	114	0	0	699	1736	0	0	23	56	1361
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	2757	5131	114	0	0	699	1736	0	0	23	56	1361
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	2757	5131	114	0	0	699	1736	0	0	23	56	1361
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	2757	5131	114	0	0	699	1736	0	0	23	56	1361
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	2757	5131	114	0	0	699	1736	0	0	23	56	1361
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	3.00	1.00	2.00	2.00	2.00	2.00	3.00	1.00	2.00	2.00	2.00
Final Sat.:	3400	5100	1700	3400	3400	3400	3400	5100	1700	3400	3400	3400
Capacity Analysis Module:												
Vol/Sat:	0.81	1.01	0.07	0.00	0.00	0.21	0.51	0.00	0.00	0.01	0.02	0.40
Crit Moves:	****					****	****					****

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #1 Festival Hills Fire Evacuation [Fire from East]

Cycle (sec):	100	Critical Vol./Cap.(X):	1.890
Loss Time (sec):	5	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	180	Level Of Service:	F

Street Name:	Weir Canyon Rd						Santa Ana Canyon Rd					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Ovl		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2 0	3 0	1	2 0	2 1	1	2 0	3 0	1	2 0	2 1	1
Volume Module:												
Base Vol:	2757	5131	114	0	0	699	1439	0	0	23	56	1361
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	2757	5131	114	0	0	699	1439	0	0	23	56	1361
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	2757	5131	114	0	0	699	1439	0	0	23	56	1361
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	2757	5131	114	0	0	699	1439	0	0	23	56	1361
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	2757	5131	114	0	0	699	1439	0	0	23	56	1361
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	3.00	1.00	2.00	2.00	2.00	2.00	3.00	1.00	2.00	2.00	2.00
Final Sat.:	3400	5100	1700	3400	3400	3400	3400	5100	1700	3400	3400	3400
Capacity Analysis Module:												
Vol/Sat:	0.81	1.01	0.07	0.00	0.00	0.21	0.42	0.00	0.00	0.01	0.02	0.40
Crit Moves:	****					****	****					****

Attachment C

Evacuation Travel Time Analysis for The Hills Preserve Project

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Pasadena
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March 28, 2024

Mr. Ethan Bedingfield
Salt Development, LLC
205 North 400 West, Suite 300
Salt Lake City, UT 84103

LLG Reference: 2.22.4504.1

Subject: **Evacuation Travel Time Analysis for The Hills Preserve Project**
Anaheim, California

Dear Mr. Bedingfield:

As requested, Linscott, Law & Greenspan, Engineers (LLG) is pleased to submit this Evacuation Travel Time Analysis for The Hills Preserve Project (hereinafter referred to as Project). The project site is located along Santa Ana Canyon Road, just east of Eucalyptus Drive, in the City of Anaheim, California. The proposed project site is currently vacant. ***Figure 1***, located at the rear of this letter report, presents a Vicinity Map, which illustrates the general location of the project site and depicts the existing surrounding street system. ***Figure 2*** presents an aerial depiction of the existing site.

The purpose of this Evacuation Travel Time Analysis is to evaluate the evacuation routes and travel times associated with a wildfire in the vicinity of the project site without and with the proposed Project to determine how evacuation times may increase for residences and businesses in the area with the proposed Project. As we understand it, this Evacuation Travel Time Analysis will be an appendix to the Draft Environmental Impact Report (DEIR) that is being prepared for the Project.

Our method of analysis, findings, and recommendations are detailed in the following sections of this letter report.

PROJECT DESCRIPTION

The proposed Project will consist of a maximum of 498 luxury for-rent apartments ranging from 500 square-foot (SF) studios to 3,200 SF penthouse suites and private club with extensive amenities and services. Additionally, a maximum of 200 memberships will be available to non-residents for use of the on-site amenities, which includes the 6,350 SF gym and the 6,350 SF club house/club room (total of 12,700 SF). The proposed Project will also include six (6) single family residential lots, which were entitled as part of a larger residential development. Lastly, the proposed Project will also include a maximum of 80,000 SF of office space. The proposed

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An LGZWB Company Founded 1966

Project is expected to be completed by the Year 2029. ***Figure 3*** presents the proposed site plan for the proposed Project.

Primary access to the Project site will be provided via Deer Canyon Road at Santa Ana Canyon Road (i.e. Project Driveway No. 1). As part of the proposed Project, the median on Santa Ana Canyon Road will be modified to provide left-turns into and out of the site. A traffic signal will also be installed at Deer Canyon Road and Santa Ana Canyon Road (i.e. Project Driveway No. 1) as part of the proposed Project. Secondary access to the Project site will be provided via one right-turn in/right-turn out only unsignalized driveway located along Santa Ana Canyon Road near the east property line (i.e. Project Driveway No. 2).

EVACUATION ANALYSIS

Fire Study Scenario

The first step of the evacuation analysis is to determine the appropriate fire scenario(s) to be evaluated for the proposed Project. Fire modeling was conducted by Firesafe Planning Solutions to determine which fire scenarios would require the project site to evacuate, which in turn may increase evacuation times for residences and businesses in the vicinity of the proposed Project. It should be noted that multiple fire modeling runs were prepared as part of the Project's Fire Protection Plan, and based on an evaluation of the fire scenarios, Firesafe Planning Solutions determined the worst case fire scenario to be evaluated for the evacuation analysis, in which the proposed Project site would need to be evacuated. It should be further noted that most of the other fire modeling scenarios would not necessitate that the Project site be evacuated and instead would result in the proposed Project to shelter in place per Firesafe Planning Solutions and as such, the Project would not impact any other area evacuation travel times. Lastly, it should also be noted that the fire modeling scenarios prepared by Firesafe Planning Solutions were developed in coordination with the City of Anaheim Fire Department.

Figure 4 presents the Fire Study Scenario as provided by Firesafe Planning Solutions. As indicated previously, there were other fire modeling scenarios, however the scenario presented in *Figure 4* presents the worst case scenario involving the proposed Project site and the surrounding area that would utilize the same evacuation route. As shown in *Figure 4,* the fire origin identified in the study fire modeling scenario would be located immediately east of the Project site within the Deer Canyon open space with a westerly wind (Santa Ana wind pattern from the northeast). This figure shows how the fire would progress without any fire suppression, which is highly unlikely given the existing fire services in the vicinity of the Project site. Nonetheless, as shown in *Figure 4,* the fire is modeled/forecast to

conservatively extend to the area near Nohl Ranch Road in the vicinity of the Anaheim Hills Golf Course after 600-660 minutes (10 to 11 hours) per the Firesafe Planning Solutions report.

Appendix A contains The Hills Fire Modeling Outputs prepared by Firesafe Planning Solutions for reference. It should be noted that the fire study scenario presented in *Figure 4* is page B-24 of the data contained in *Appendix A*.

Potential Evacuation Area Plan

Utilizing the Fire Study Scenario presented in *Figure 4* and the City's *Know Your Way Program*, a Potential Evacuation Area Plan was developed. ***Figure 5*** presents the Potential Evacuation Area Plan for a fire origin located immediately east of the Project site. The area shown in magenta represents the western potential evacuation area, which includes approximately 5,520 homes, Canyon Plaza, Big Lots Center and El Rancho Plaza. Vehicles in the southern and western portion of the evacuation area were assumed to travel westbound out of the area via either Santa Ana Canyon Road (i.e. ±2,903 homes), Nohl Ranch Road or Serrano Avenue (i.e. ±2,617 homes). Furthermore, for information purposes only, the area shown in blue represents the eastern potential evacuation area associated with this fire scenario, which includes approximately 2,375 homes and Festival Center. Vehicles in this eastern potential evacuation area were assumed to travel eastbound out of the area via either Santa Ana Canyon Road or Serrano Avenue, which would not coincide with the evacuation pattern for the proposed Project. It should be noted that the number of homes in each area were counted using Google aerial maps.

Santa Ana Canyon Road Evacuation Area and Evacuation Plan

Figure 6 presents the Santa Ana Canyon Road Evacuation Area, which focuses to the 2,903 homes and businesses (i.e. Canyon Plaza, Big Lots Center and El Rancho Plaza) as well as the proposed Project site, that would utilize Santa Ana Canyon Road to evacuate the area to the west. *Figure 6* also shows the City's *Know Your Way Evacuation Zones #9, #10, #11* and *#13* that are within the evacuation area. It should be noted that if this area was required to evacuate, the students at the schools located within the evacuation area (i.e. El Rancho Charter School, etc.) would be evacuated via school busses per discussions with City Staff, if needed, and approximately 20 buses would be utilized to evacuate the ±1,000 students. No parents would be allowed to enter the evacuation area to pick-up any students per City of Anaheim and Anaheim Unified School District policies/guidelines.

Figure 7 presents the Santa Ana Canyon Road Evacuation Plan, which shows the location of road closures and the intersection locations that would require traffic

control by the City of Anaheim Police Department. As shown in *Figure 7,* road closure delineators would be placed at the intersection of Imperial Highway and Santa Ana Canyon Road preventing northbound right-turns, southbound left-turns and eastbound through movements at the intersection. In addition, road closure delineators would also be placed at the intersection of Festival Drive and Santa Ana Canyon Road intersection preventing northbound left-turns and westbound through movements. As further shown in *Figure 7,* City of Anaheim Police Department personnel would be placed at these identified intersections to direct vehicular traffic westerly towards the intersection of Imperial Highway and Santa Ana Canyon Road to evacuate the area. As part of this evacuation plan, emergency vehicles would be allowed to enter the area from both directions, as needed, with the eastbound lanes on Santa Ana Canyon kept clear for emergency vehicles. It is expected that the proposed Project will be conditioned by the City of Anaheim to develop a project evacuation plan consistent with the plan presented in *Figure 7,* inclusive of Anaheim Police Department personnel being placed at the identified locations.

Peak Condition Traffic Evacuation Volumes Without Project Traffic

Figure 8 illustrates the anticipated evacuation pattern of the estimated 2,903 homes that would utilize Santa Ana Canyon Road to evacuate the area and is shown as number of homes. As shown at the Imperial Highway and Santa Ana Canyon Road intersection, there would be 2,903 homes evacuating the area towards Imperial Highway, which very conservatively reflects a scenario where every home is occupied for the evacuation traffic time analysis.

In order to convert the homes at each intersection into vehicles, the Orange County Traffic Analysis Model (OCTAM) was reviewed to determine the average vehicle ownership per household within the evacuation area. Based on review of the OCTAM traffic model, the data revealed a 2.24 vehicle ownership per household and a 3.11 population per household for the evacuation area. It should be noted that the Southern California Association of Governments (SCAG) Transportation Model has a 2.32 vehicle ownership per household and a 2.65 population per household within the evacuation area. In order to provide a conservative forecast, the homes at each intersection from *Figure 8* were converted to vehicles utilizing a conservative 2.50 vehicles (drivers) per home assumption.

Figure 9 illustrates the peak condition traffic evacuation volumes (vehicles) without project traffic. As shown at the Imperial Highway and Santa Ana Canyon Road intersection, there would be 8,343 vehicles evacuating the area towards Imperial Highway. It should be noted that the traffic volumes shown in *Figure 9,* also include vehicular traffic associated with Canyon Plaza (i.e. southbound right-turn at Via Cortez/Santa Ana Canyon Road) and Big Lots Center/El Rancho Plaza (i.e.

northbound left-turn at Fairmont Boulevard/Santa Ana Canyon Road). The parking supply provided for each commercial development was utilized to estimate the potential vehicular traffic of these land uses during an evacuation event. Although a large portion of the traffic at these commercial developments is from the adjacent neighborhoods and already accounted for via the home trips within the evacuation area, a conservative 75% occupancy was assumed in the analysis to determine the number of vehicles for each commercial development during an evacuation. It should be noted that the Urban Land Institutes (ULI's) *Shared Parking 3rd Edition* publication indicates that retail uses have an 85% parking demand at 5:00 PM on a typical weekday. As such, use of a 75% retail occupancy assumes that only 10% of the retail trips are from the adjacent neighborhoods resulting in a conservative forecast. For Canyon Plaza, there is a parking supply of approximately 950 spaces and assuming a conservative 75% occupancy would result in 713 vehicles. For Big Lots Center, there is a parking supply of approximately 340 spaces and assuming a conservative 75% occupancy would result in 255 vehicles. For El Rancho Plaza, there is a parking supply of approximately 150 spaces and assuming a conservative 75% occupancy would result in 113 vehicles.

Peak Condition Traffic Evacuation Volumes With Project Traffic

Consistent with the approach utilized to estimate the evacuating vehicles for the existing commercial developments, the parking supplies required per the City of Anaheim Municipal Code for the Residential Project component and the Office Project component were utilized. The proposed 498 luxury for-rent apartments require 958 parking spaces per the City of Anaheim Municipal Code. Assuming a conservative 90% occupancy during an evacuation event would result in 863 vehicles. The proposed 80,000 SF of office space requires 320 parking spaces per the City of Anaheim Municipal Code. Assuming a conservative 75% occupancy during an evacuation event would result in 240 vehicles. It should be noted that the Institute of Transportation Engineers (ITE) *Parking Generation, 6th Edition* publication indicates that multi-family residential uses and office uses have peak parking demands of 62% and 57% at 5:00 PM on a typical weekday, respectively. As such, use of a 90% occupancy for the Residential Project component and a 75% occupancy for the Office Project component results in a conservative forecast. For the six (6) single family residential lots, the same conservative 2.50 vehicles per home assumption was utilized, resulting in 15 vehicles. Overall, a total of 1,118 Project vehicles would be evacuating the area towards Imperial Highway. ***Figure 10*** illustrates the peak condition Project traffic evacuation volumes (vehicles). As shown at the Imperial Highway and Santa Ana Canyon Road intersection, there would be 1,118 Project vehicles evacuating the project site towards Imperial Highway.

Figure 11 illustrates the peak condition traffic evacuation volumes (vehicles) with proposed Project traffic. As shown at the Imperial Highway and Santa Ana Canyon Road intersection, there would be a total of 9,461 vehicles evacuating the area towards Imperial Highway.

Evacuation Travel Time Analysis

Utilizing the aforementioned forecast evacuation traffic volumes (i.e. 8,343 vehicles from *Figure 9* and the 9,461 vehicles from *Figure 11*), a travel time analysis was prepared for Without and With Project conditions to determine the increase in travel time for area residents and businesses with the proposed Project. The following summarizes the results of the travel time analysis.

In order to determine the estimated travel times for Without and With Project conditions, a roadway segment capacity needs to be determined. Given that all vehicles will be travelling westbound on Santa Ana Canyon Road towards the intersection of Imperial Highway at Santa Ana Canyon Road, this intersection will be the constraint to vehicles evacuating this area. As such, a westbound peak hour roadway segment capacity was developed for the three westbound through lanes approaching Imperial Highway. Utilizing the existing Friday PM peak hour traffic volumes, which represent a worst case scenario for area traffic, an ICU level of service calculation was prepared for the Imperial Highway at Santa Ana Canyon Road intersection with the road closure movements re-routed (i.e. no northbound right-turns, no southbound left-turns and no eastbound throughs) to determine what percentage of green time would be allocated for the westbound segment for the Without Project traffic volume scenario. It should be noted that based on discussions with City Traffic Engineering Staff, this intersection would be controlled by Police personnel, which would likely increase the westbound traffic flow (capacity) compared to the green time calculated for the analysis. This percentage was applied to the 1700 peak hour per lane capacity to determine the capacity per lane to be utilized in the analysis. Given that Santa Ana Canyon Road has three westbound through lanes as it approaches Imperial Highway, the evaluation assumes three westbound through lanes. It should be noted that this approach is generally consistent with the approach utilized for the peak hour roadway segment analysis contained within the Project's Traffic Impact Analysis Report and was approved for use by City of Anaheim Public Works Department Staff.

Appendix B contains the Without Project level of service calculation worksheets for the intersection of Imperial Highway and Santa Ana Canyon Road utilized to determine the westbound through percent green time to adjust the standard roadway capacity.

Table 1 presents the travel time analysis summary for Without and With Project traffic conditions. Column one (1) presents the westbound through V/C ratio, column two (2) presents the intersection's overall V/C ratio and column three (3) presents the westbound through percent green time. Column four (4) presents the standard capacity for a through lane and column five (5) presents the adjusted capacity. Column six (6) presents the peak hour volume utilized in the evaluation and column seven (7) presents the total travel time.

Review of row A and column 7 of *Table 1* indicates that the evacuation travel time for Without Project Traffic Conditions is 3.09 hours or 186 minutes. Review of row B and column 7 of *Table 1* indicates that the evacuation travel time for With Project Traffic Conditions is 3.50 hours or 210 minutes. Review of the last row of *Table 1* shows that the evacuation travel time difference between Without Project Traffic Conditions and With Project Traffic Conditions is 0.41 hours or 24 minutes. The 24 minute evacuation travel time increase represents a 12% travel time increase over the without project traffic condition. As stated above, this assumes a fire origin located immediately east of the project site. It should be noted that it was determined that the proposed Project would shelter in place for the other fire origins evaluated in the Firesafe Planning Solutions fire modeling scenarios, which would therefore result in no increase in evacuation travel times along Santa Ana Canyon Road. However, should residents/employees of the proposed Project choose to voluntarily evacuate the area, they would presumably travel both eastbound and westbound from the Project site, such that any increase in evacuation travel times for the other fire origin scenarios, with the addition of Project traffic, would be minimal to negligible.

Given that the City of Anaheim currently does not have adopted criteria for determining whether or not evacuation travel time increases are significant, this letter report simply reports the change in evacuation travel time with the proposed Project (i.e. 24 minute increase). Nonetheless, it is recommended that the proposed Project develop a project evacuation plan consistent with the plan presented in *Figure 7,* inclusive of Anaheim Police Department personnel being placed at the identified locations.

CONCLUSION

- The forecast evacuation travel time for Without Project Traffic Conditions is 3.09 hours or 186 minutes, whereas the forecast evacuation travel time for With Project Traffic Conditions is 3.50 hours or 210 minutes based on a Friday PM peak hour background traffic condition. The evacuation travel time difference between Without Project Traffic Conditions and With Project Traffic Conditions is 0.41 hours or 24 minutes and represents a 12% travel time increase over the without project traffic condition. As stated previously, this assumes a fire origin

located immediately east of the Project site. In addition, should residents/employees of the proposed Project choose to voluntarily evacuate the area under any of the other fire origin scenarios, they would presumably travel both eastbound and westbound from the Project site, such that any increase in evacuation travel times, with the addition of Project traffic, would be minimal to negligible.

- Given that the City of Anaheim currently does not have adopted criteria for determining whether or not evacuation travel time increases are significant, this letter report simply reports the change in evacuation travel time with the proposed Project (i.e. 24 minute increase). Nonetheless, it is recommended that the proposed Project develop a project evacuation plan consistent with the plan presented in *Figure 7,* inclusive of Anaheim Police Department personnel being placed at the identified locations.

We appreciate the opportunity to provide this Evacuation Travel Time Analysis. Should you have any questions, please call us at 949.825.6175.

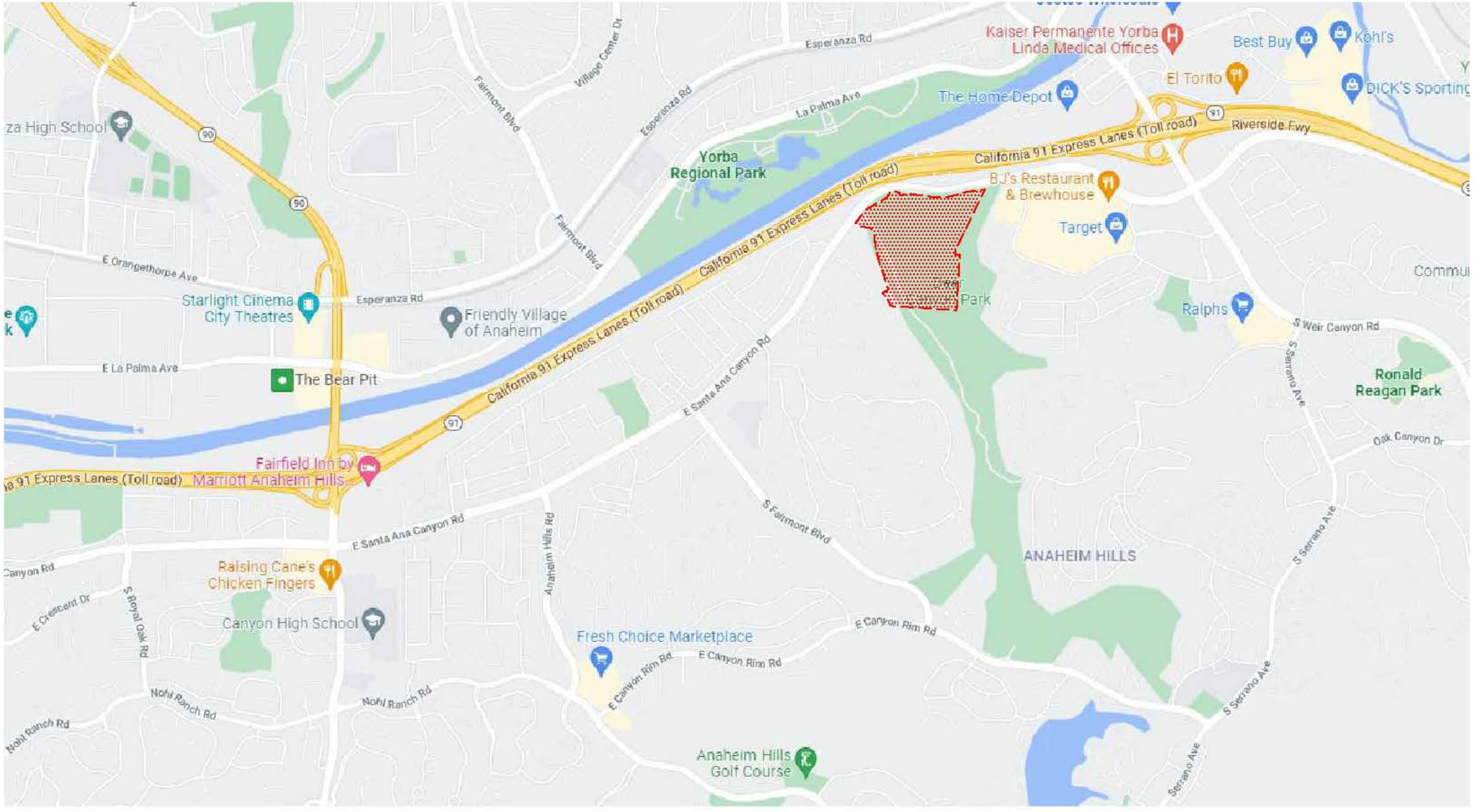
Sincerely,
Linscott, Law & Greenspan, Engineers

Keil D. Maberry
Principal
California Registration: TR 1802



Daniel A. Kloos, P.E.
Associate Principal
California Registration: TR 2200





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LLG

NO SCALE

SOURCE: GOOGLE

KEY

= PROJECT SITE

FIGURE 1

VICINITY MAP

HILLS PRESERVE PROJECT, ANAHEIM



SOURCE: GOOGLE

KEY

= PROJECT SITE

NO SCALE

FIGURE 2

EXISTING SITE AERIAL

HILLS PRESERVE PROJECT, ANAHEIM

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LEGEND

- PROJECT BOUNDARY LINE
- PROPOSED RIGHT OF WAY
- PROPOSED LOT LINE
- EXISTING LOT LINE
- PROPOSED CURB
- EXISTING CURB
- EASEMENT LINE
- PROPOSED CENTERLINE
- W — PROPOSED DOMESTIC WATER
- S — PROPOSED SEWER
- SD — PROPOSED STORM DRAIN
- W — EXISTING DOMESTIC WATER
- S — EXISITNG SEWER
- SD — EXISITNG STORM DRAIN
- PROPOSED FIRE HYDRANT
- 5' RTWL — RETAINING WALL/ WALL HEIGHT
- TOP OF SLOPE
- TOE OF SLOPE

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SOURCE: HUNSAKER & ASSOCIATES

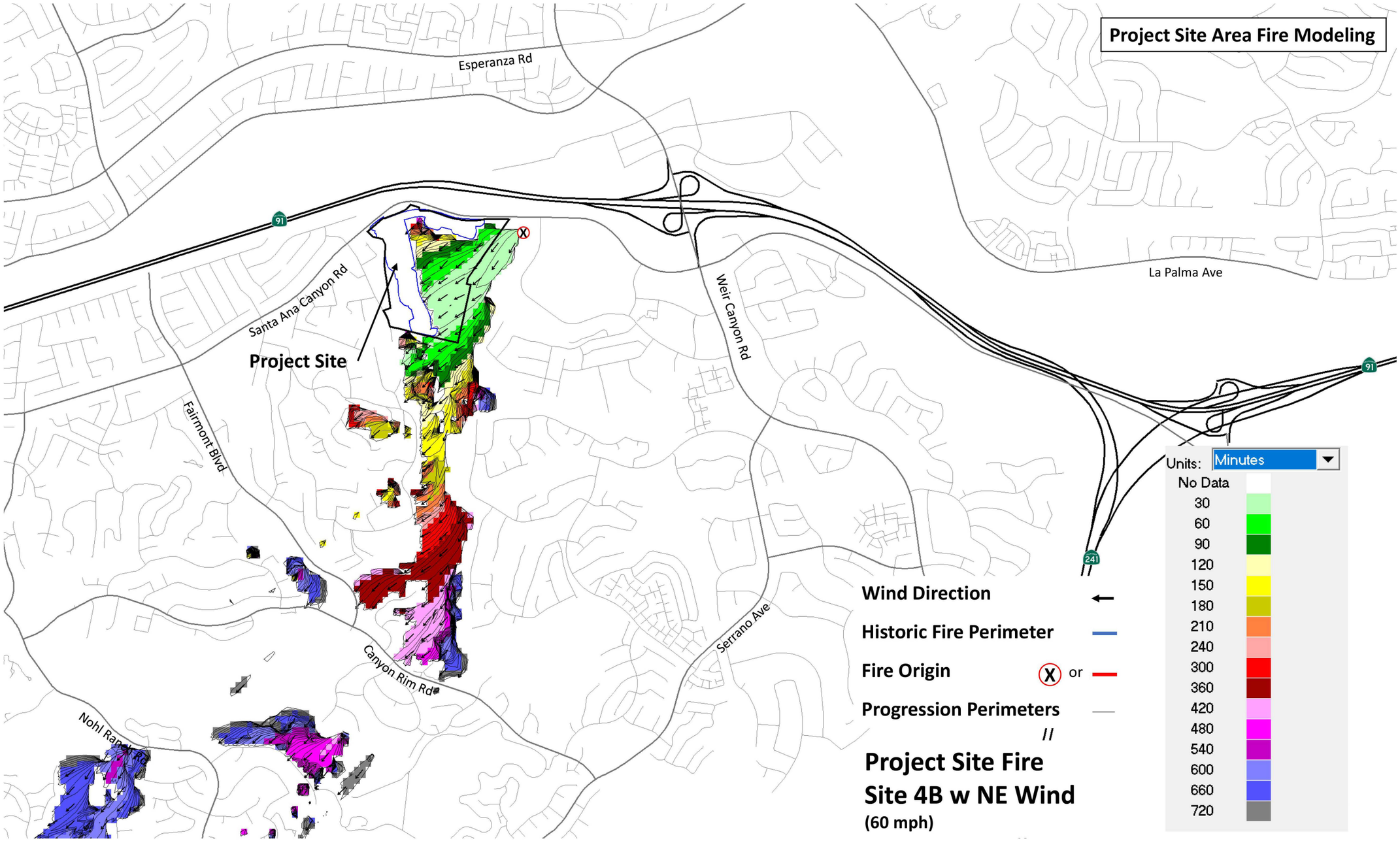
LLG

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FIGURE 3

PROPOSED SITE PLAN

HILLS PRESERVE PROJECT, ANAHEIM



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SOURCE: FIRE PROTECTION PLAN PREPARED BY FIRESAFE PLANNING SOLUTIONS

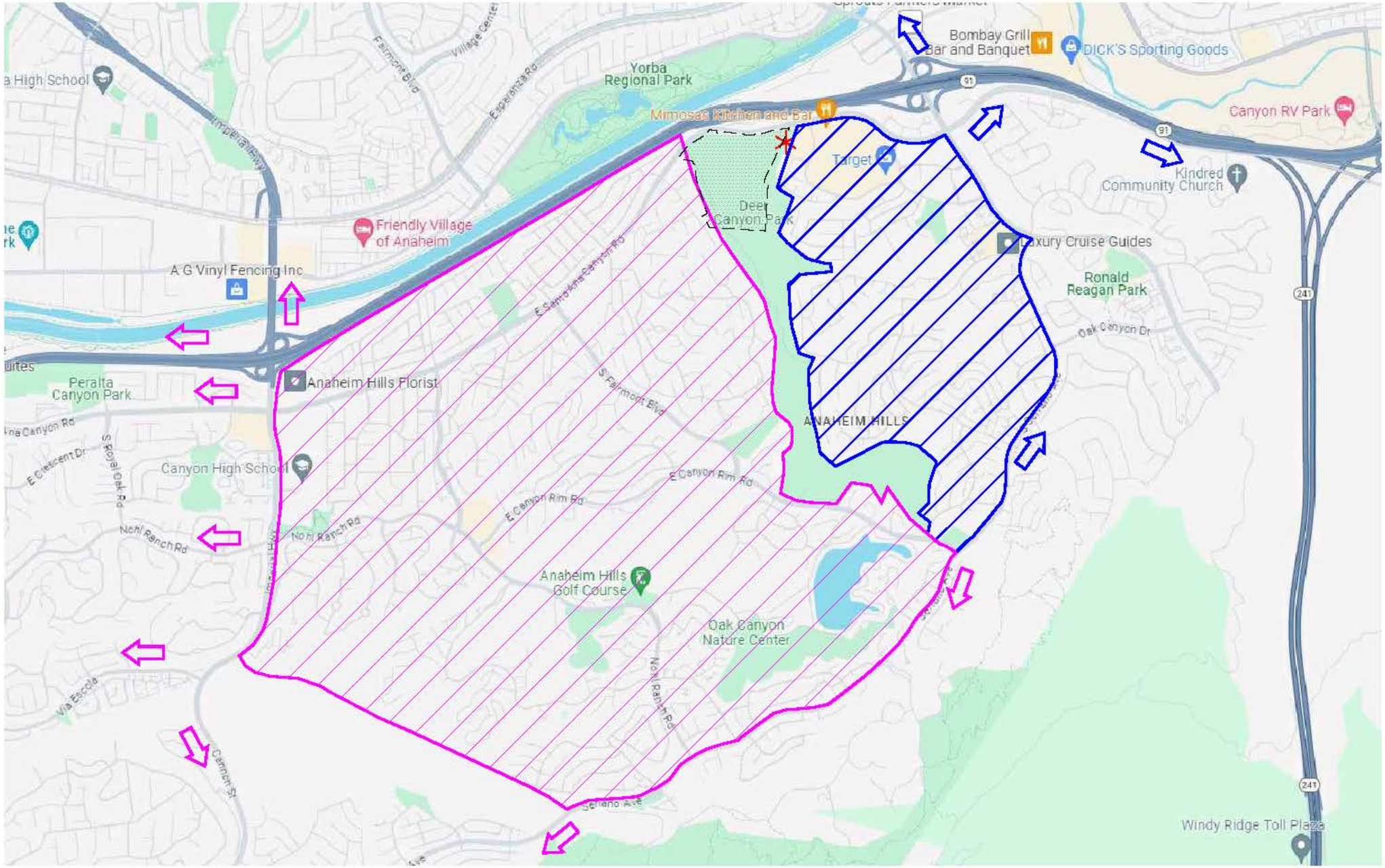
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FIGURE 4

FIRESAFE REPORT FIRE STUDY SCENARIO

HILLS PRESERVE PROJECT, ANAHEIM



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LLG

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SOURCE: GOOGLE

KEY

= PROJECT SITE

= WESTERN POTENTIAL EVACUATION AREA

= EASTERN POTENTIAL EVACUATION AREA

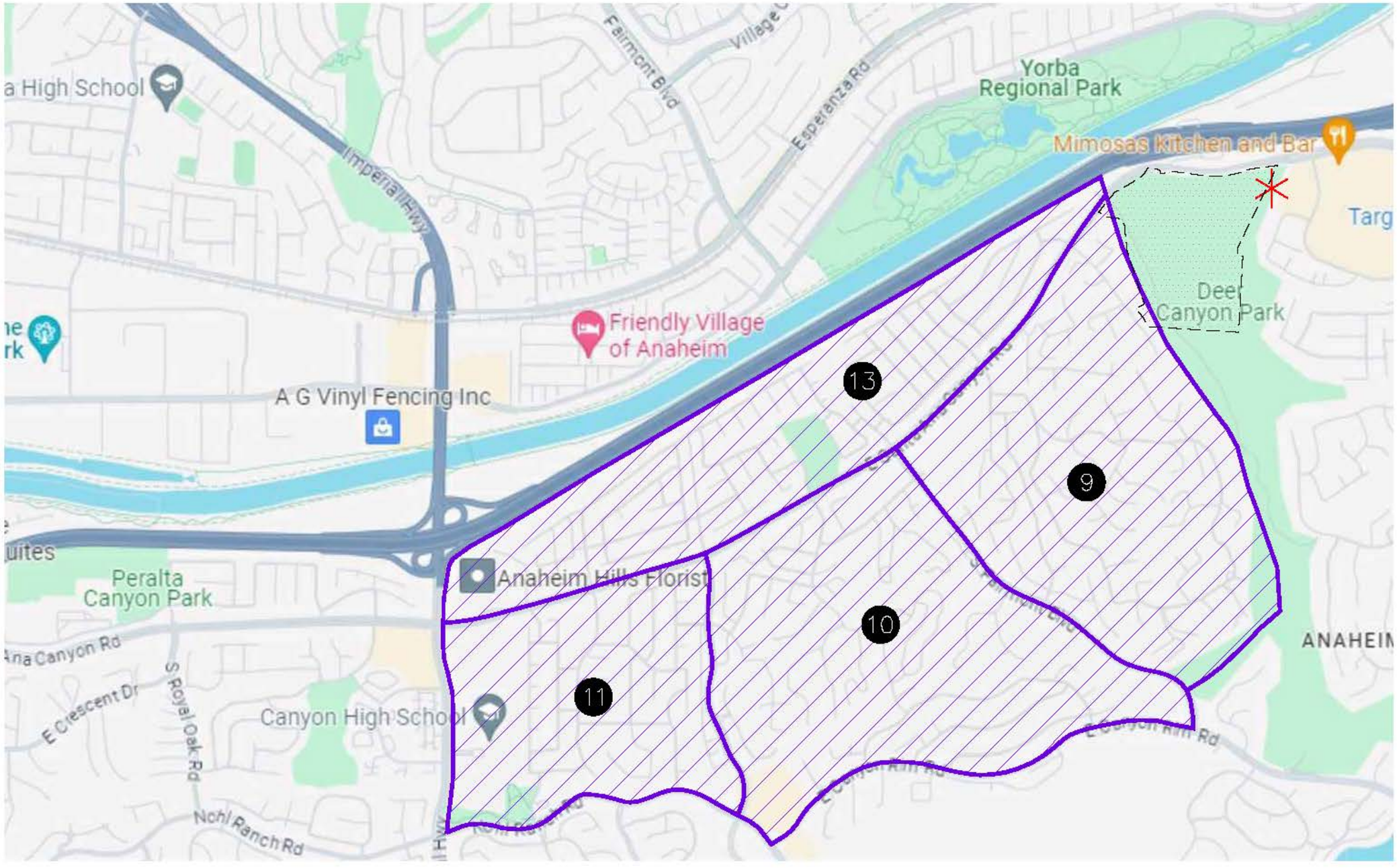
= EVACUATION ROUTE PATTERN

= FIRE ORIGIN

FIGURE 5

POTENTIAL EVACUATION AREA PLAN

HILLS PRESERVE PROJECT, ANAHEIM



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SOURCE: GOOGLE

KEY

= PROJECT SITE

= SANTA ANA CANYON ROAD EVACUATION AREA

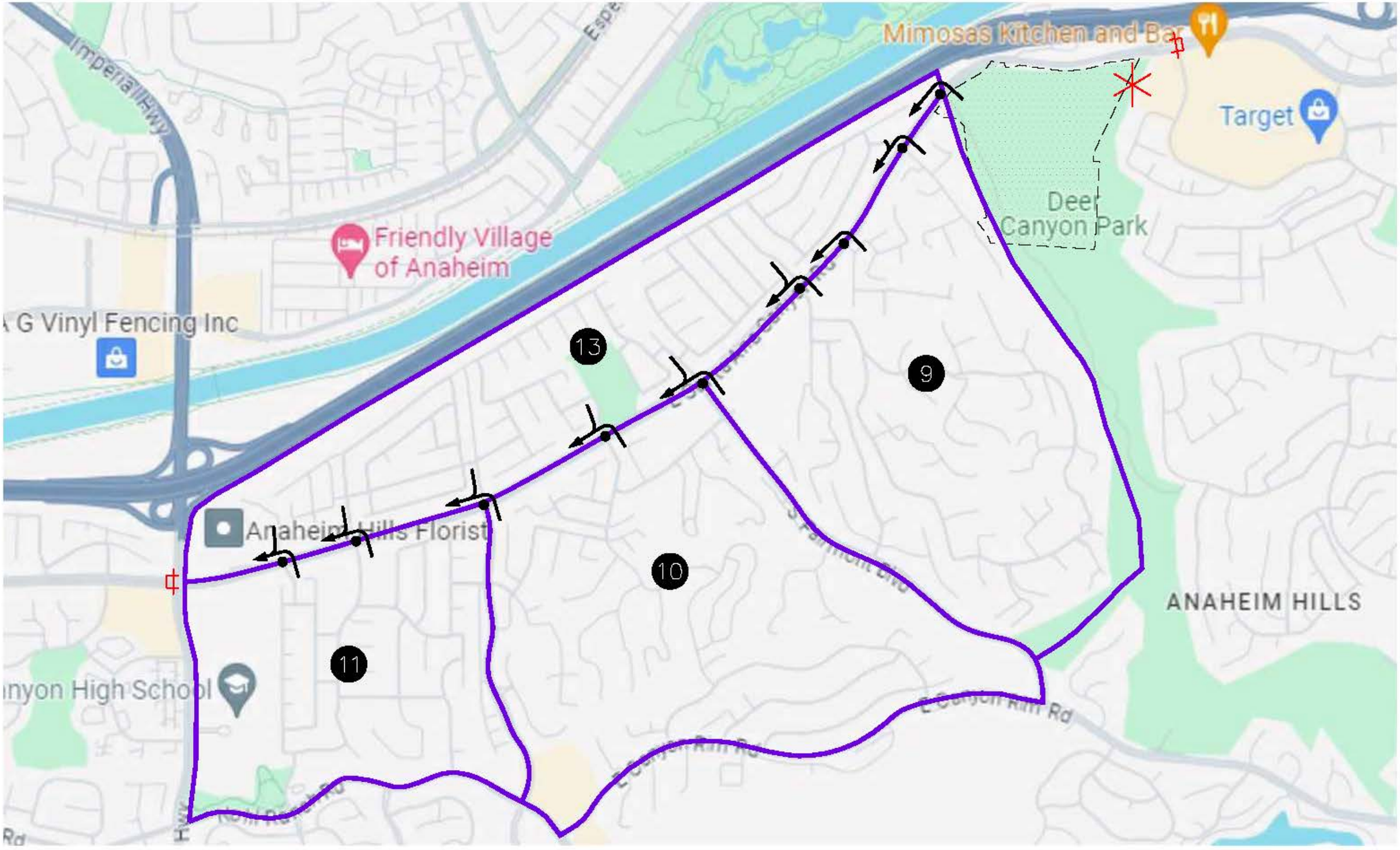
= FIRE ORIGIN

= CITY OF ANAHEIM "KNOW YOUR WAY" EVACUATION ZONES

FIGURE 6

SANTA ANA CANYON ROAD EVACUATION AREA

HILLS PRESERVE PROJECT, ANAHEIM



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SOURCE: GOOGLE

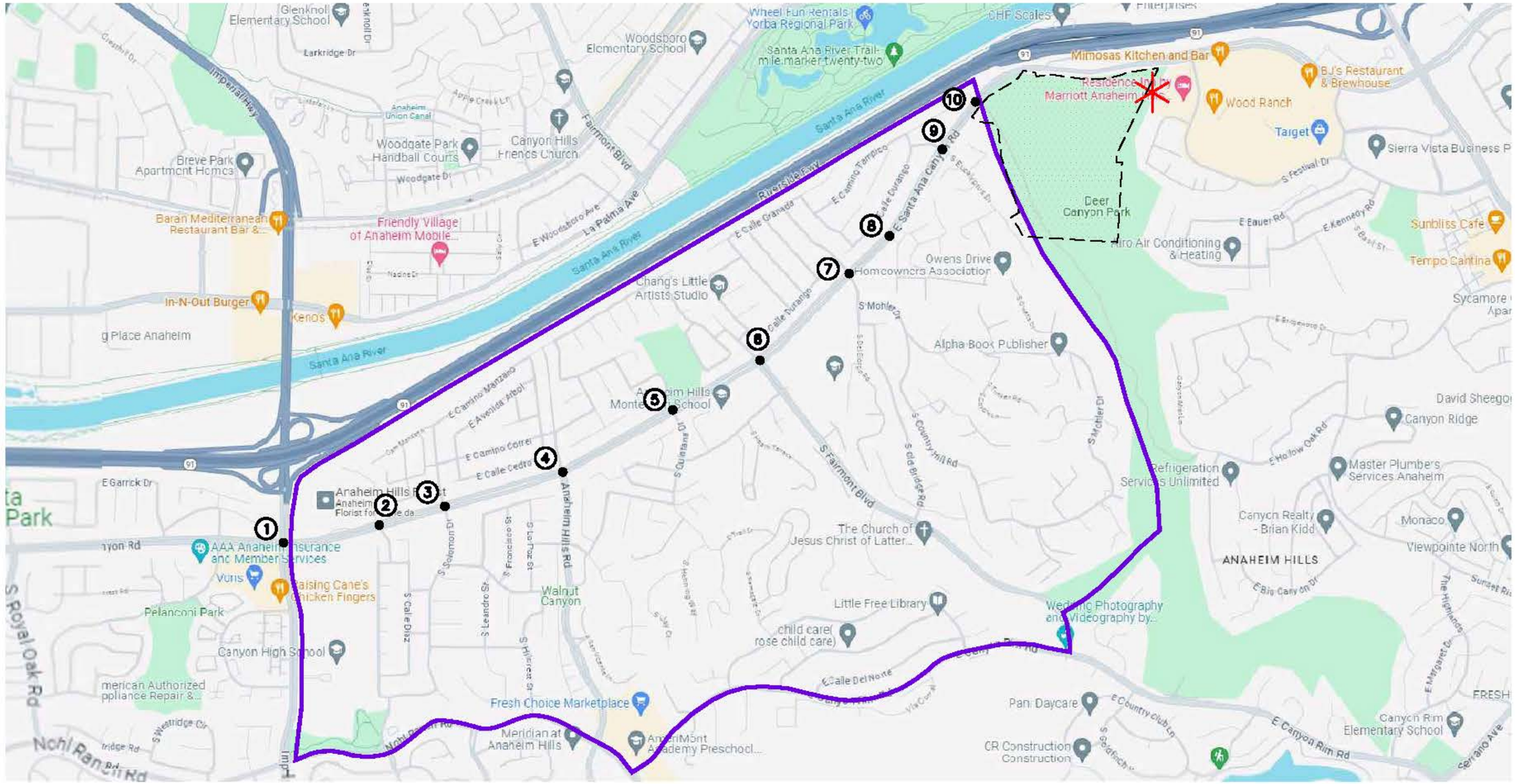
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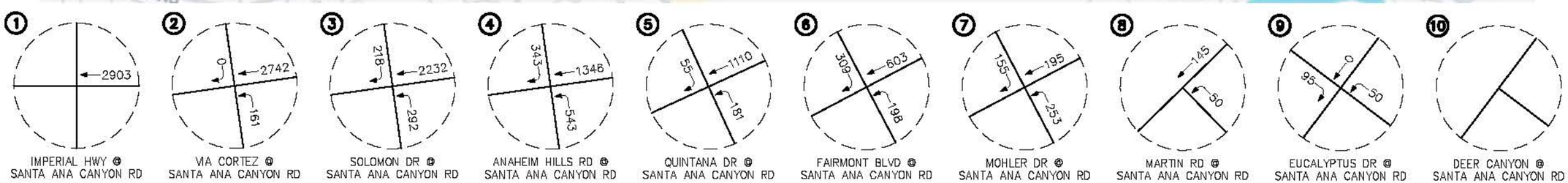
= PROJECT SITE
= FIRE ORIGIN
= EVACUATION ROUTING
= CITY OF ANAHEIM "KNOW YOUR WAY" EVACUATION ZONES
= TRAFFIC CONTROL
= ROAD CLOSURE

FIGURE 7

SANTA ANA CANYON ROAD EVACUTION PLAN

HILLS PRESERVE PROJECT, ANAHEIM





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SOURCE: GOOGLE

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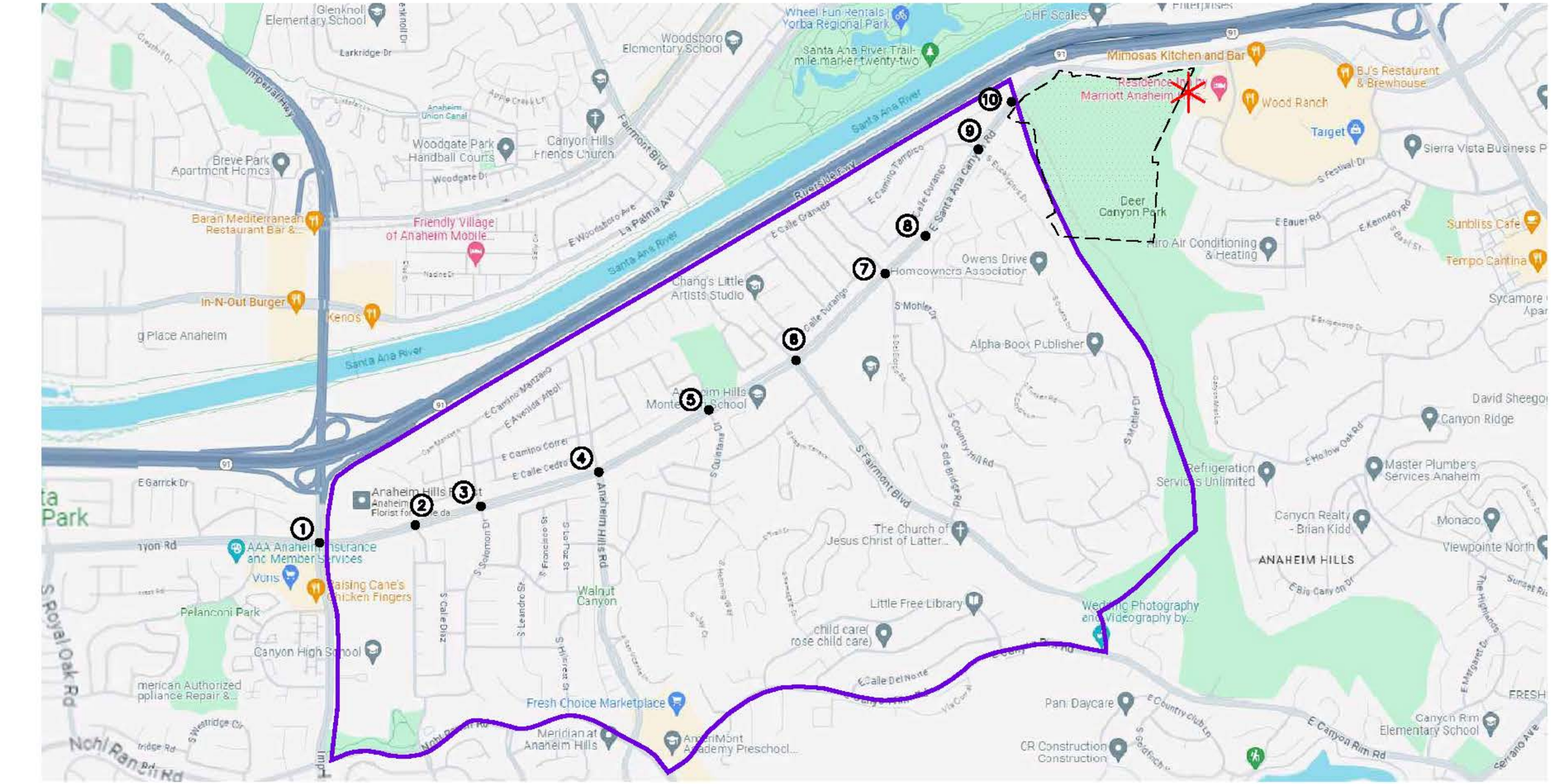
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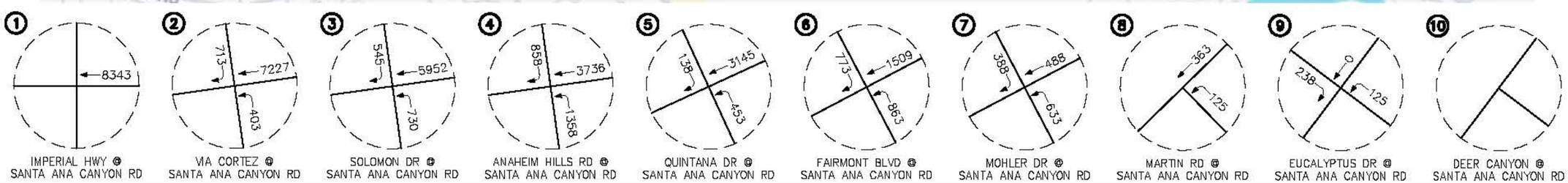
= FIRE ORIGIN

FIGURE 8

PEAK CONDITION TRAFFIC EVACUATION WITHOUT PROJECT – HOMES

HILLS PRESERVE PROJECT, ANAHEIM





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SOURCE: GOOGLE

KEY

= PROJECT SITE

* = FIRE ORIGIN

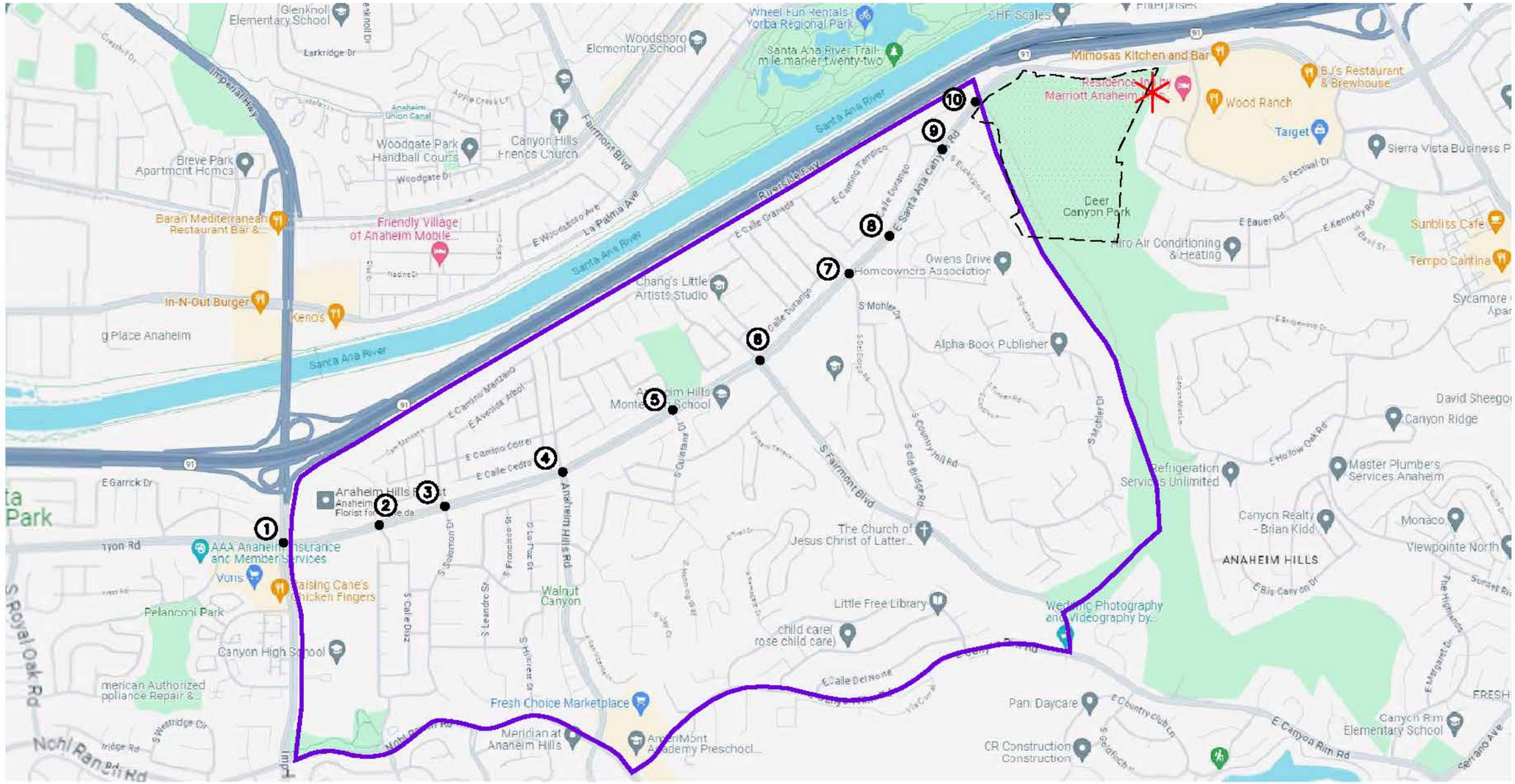
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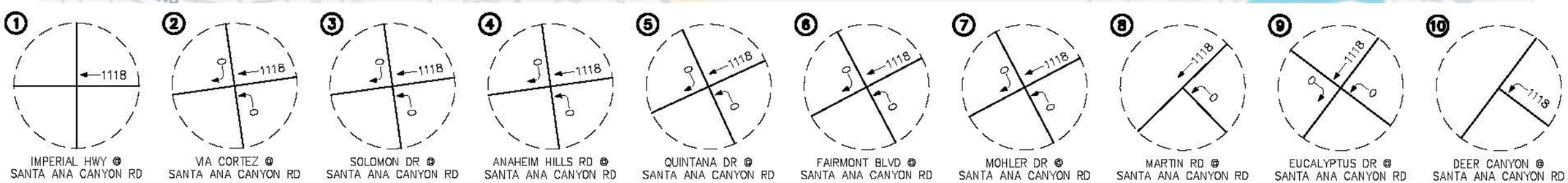
N NO SCALE

FIGURE 9

PEAK CONDITION TRAFFIC EVACUATION VOLUMES (VEHICLES) WITHOUT PROJECT TRAFFIC

HILLS PRESERVE PROJECT, ANAHEIM





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SOURCE: GOOGLE

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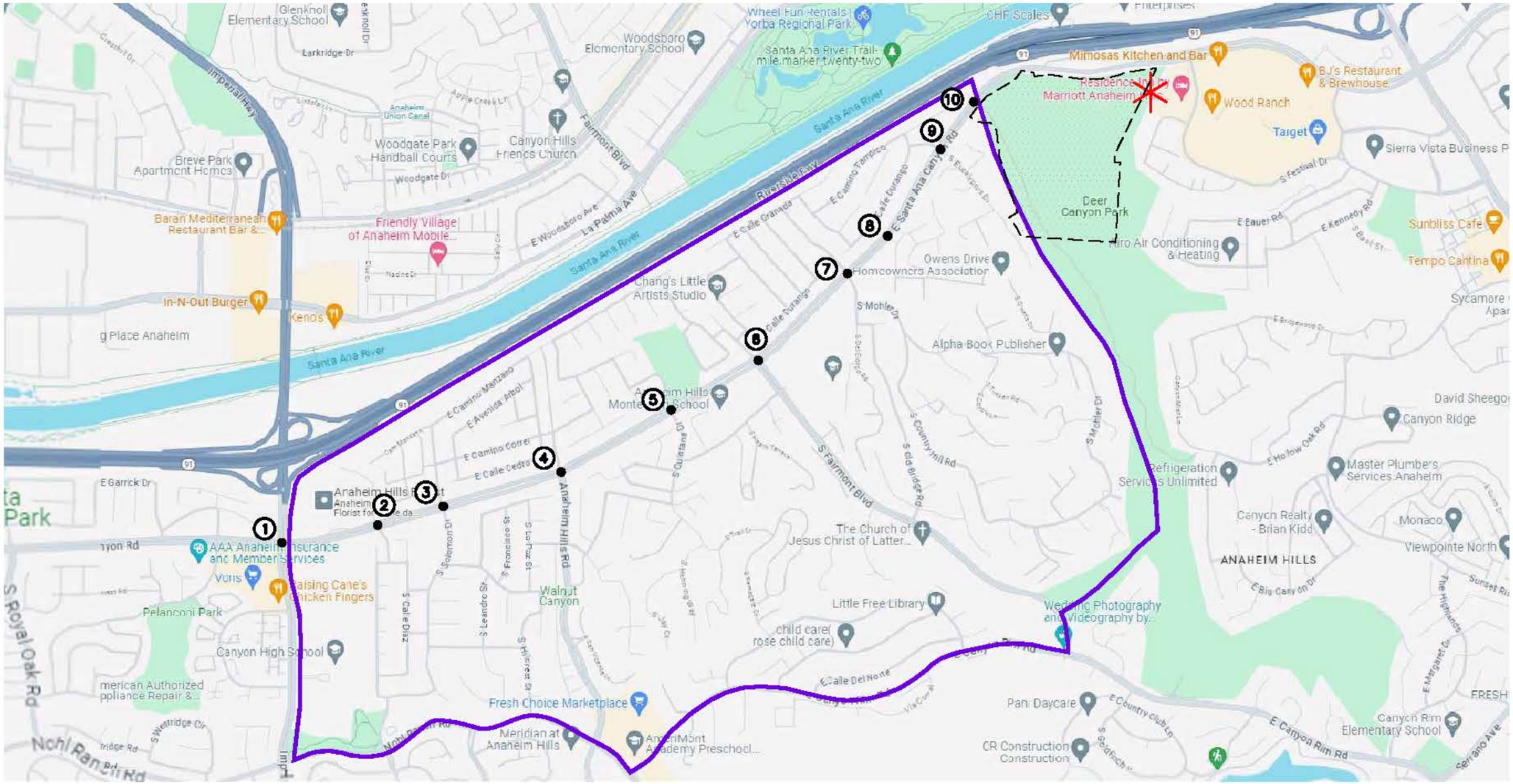
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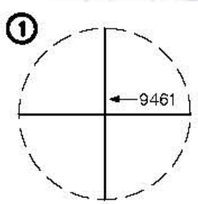
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FIGURE 10

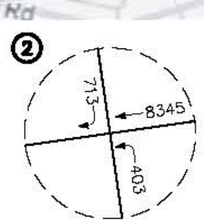
PEAK CONDITION PROJECT TRAFFIC EVACUATION VOLUMES (VEHICLES)

HILLS PRESERVE PROJECT, ANAHEIM

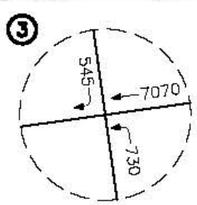




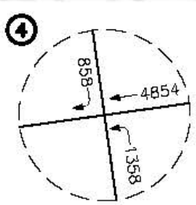
IMPERIAL HWY @ SANTA ANA CANYON RD



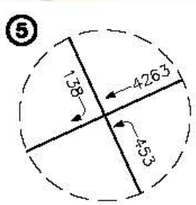
VIA CORTEZ @ SANTA ANA CANYON RD



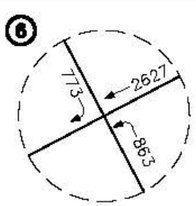
SOLOMON DR @ SANTA ANA CANYON RD



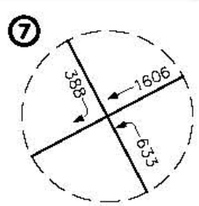
ANAHEIM HILLS RD @ SANTA ANA CANYON RD



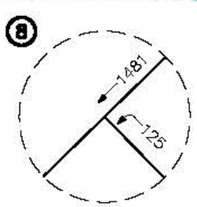
QUINTANA DR @ SANTA ANA CANYON RD



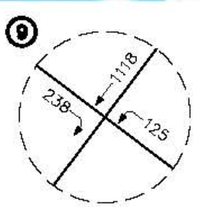
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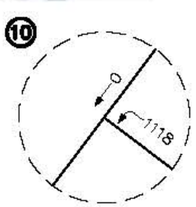
MOHLER DR @ SANTA ANA CANYON RD



MARTIN RD @ SANTA ANA CANYON RD



EUCALYPTUS DR @ SANTA ANA CANYON RD



DEER CANYON @ SANTA ANA CANYON RD

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SOURCE: GOOGLE

KEY

= PROJECT SITE

= FIRE ORIGIN

NO SCALE

FIGURE 11

PEAK CONDITION TRAFFIC EVACUATION VOLUMES (VEHICLES) WITH PROJECT TRAFFIC

HILLS PRESERVE PROJECT, ANAHEIM

TABLE 1
TRAVEL TIME ANALYSIS SUMMARY
THE HILLS PRESERVE PROJECT, ANAHEIM

Traffic Scenario	(1) WBT V/C Ratio	(2) Intersection V/C Ratio	(3) WBT % Green Time (1) / (2)	(4) Capacity 1700 vphpl (3 Lanes)	(5) Adjusted Capacity (3) * (4)	(6) Peak Hour Volume	(7) Travel Time (6) / (5)
➢ [A] Without Project	0.82	1.541	53%	5,100 veh/hr	2,703 veh/hr	8,343 vehicles	3.09 hours or 186 minutes
➢ [B] With Project	0.82	1.541	53%	5,100 veh/hr	2,703 veh/hr	9,461 vehicles	3.50 hours or 210 minutes
						➢ **Travel Time Difference**	**0.41 hours or 24 minutes**

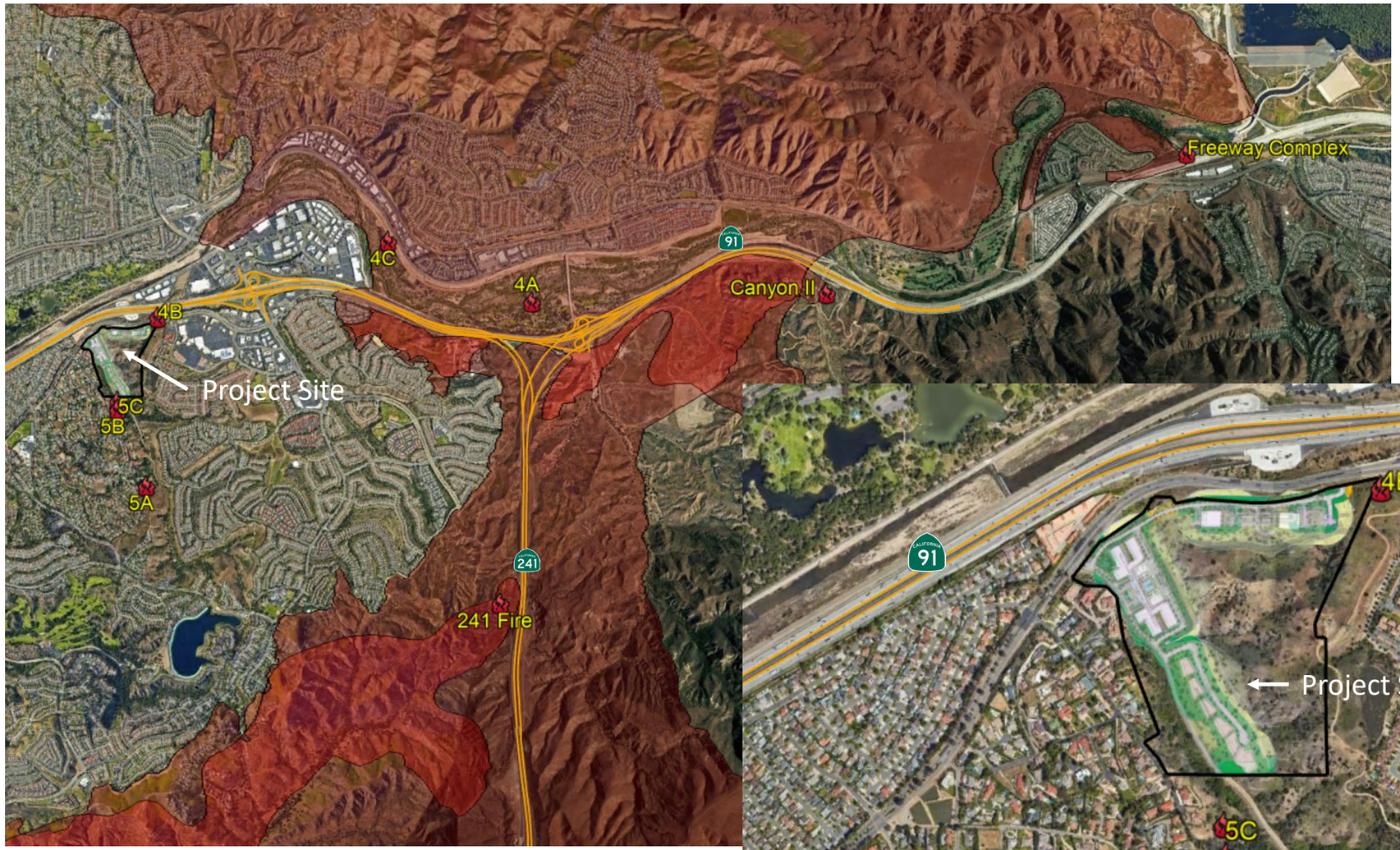
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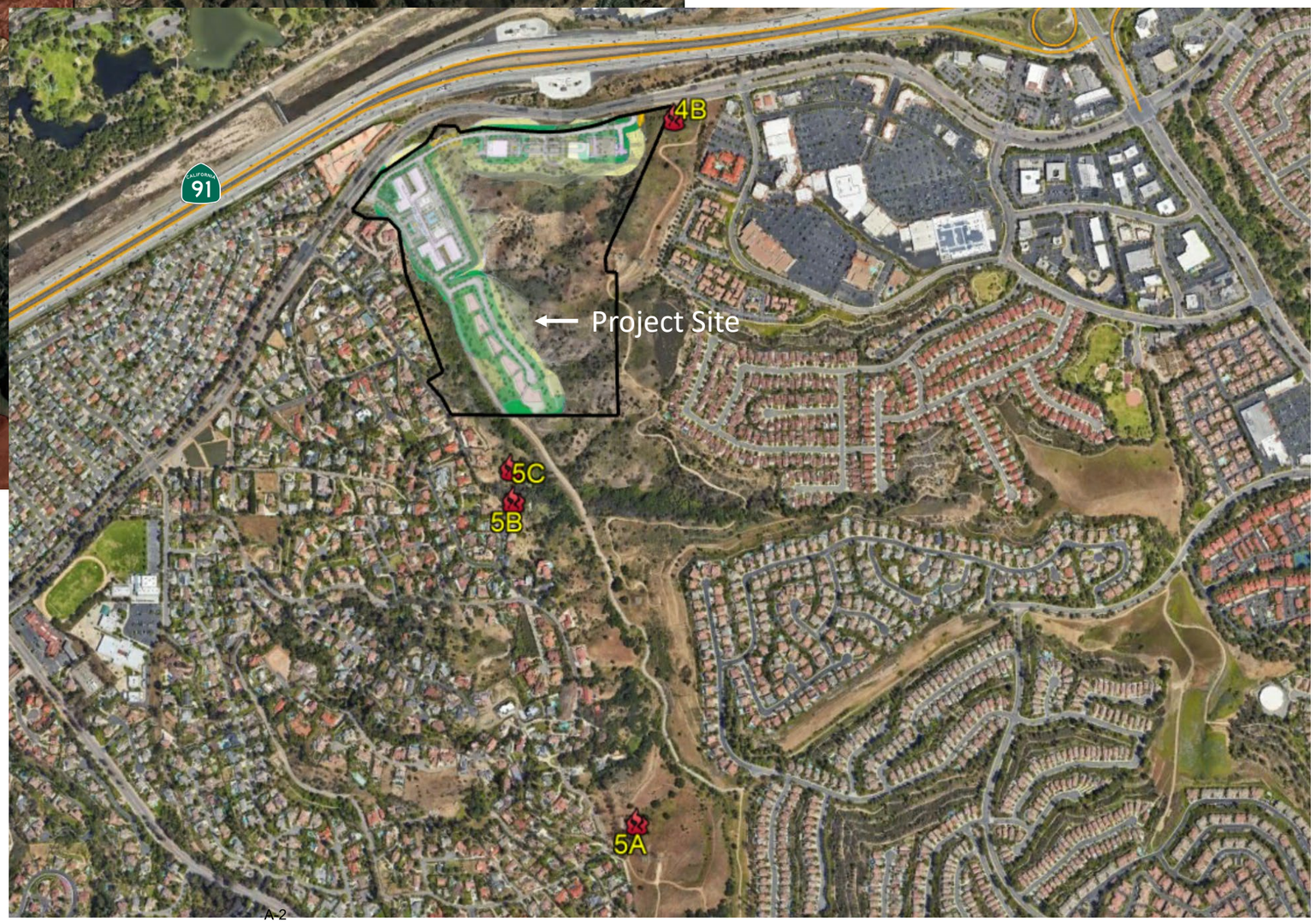
- vphpl = vehicles per hour per lane
- veh/hr = vehicles per hour

APPENDIX A

THE HILLS FIRE MODELING OUTPUTS

Appendix B
TheHills Fire Modeling Outputs



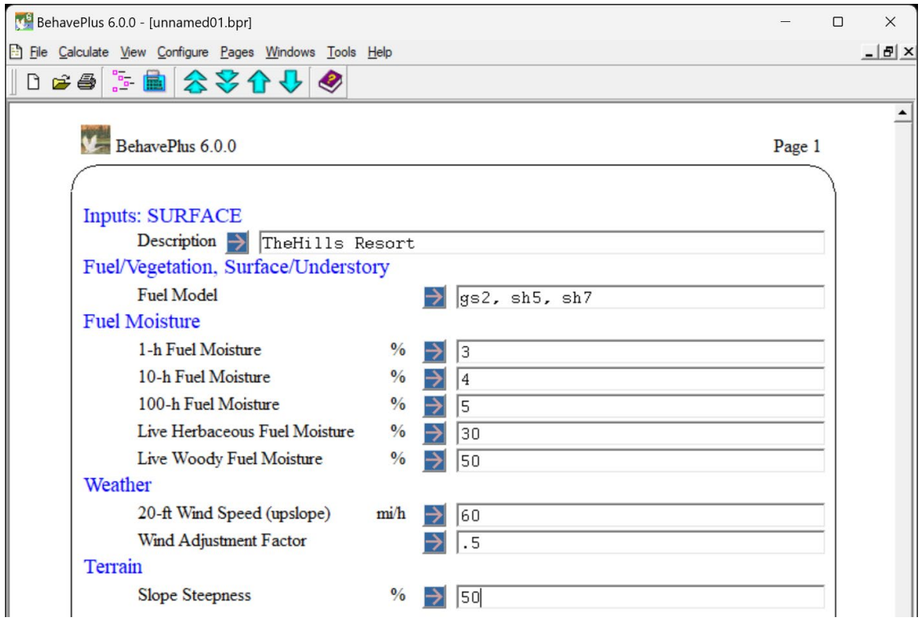


Assumptions for BehavePlus, FlamMap and FarSite

1. Moisture Scenario will be 3, 4, 5, 30, 50 (extreme)
2. Wind will be assumed to be from:
   a) NE, ENE and E at 60 mph
   b) S, SSW, SW, WSW at 40 mph
3. Fuel models to be used
   a) LCP_LF2022_FBFM40_220_CONUS will be used or a newer version if available.
   b) Modifications to any layers will be noted and explained in the narrative.
4. 20-foot wind speeds will be used with 0.5 adjustment factor to flame length wind speeds.
5. Development areas are used as fire barriers due to fuel modification and defensible space protection. Community burn through is not expected.
6. Fire scenario will be with sustained winds (no diurnal effect)
7. No fuel conditioning is used with worst-case moisture scenario
8. Arrival Times are shown to eight hours
9. Foliar Moistures are assumed to be 100
10. Crown Fire Calculation Method is set to Finney (2004)
11. Spotting Probability is set to 0.99
12. Spotting Delay is set to 0
13. Fuels have not been adjusted to any disease or drought impacts
14. Slopes and Aspects have not been adjusted in the development area (barrier file are used to adjusts this to some degree)

•Moisture scenarios, “3, 4, 5, 30, 50”

3, 4,5,30, 50 is an extreme moisture scenario with fully cured herbaceous fuels and nearly dead live woody fuels. Dead fuel moisture are set to levels not normally seen.



The following tables are rough guidelines for estimating live fuel moisture content when no other information is available.

Guidelines for Estimating Live Fuel Moisture Content

Moisture	Stage of Vegetative Development
300%	Fresh foliage, annuals developing, early in growing cycle
200%	Maturing foliage, still developing with full turgor
100%	Mature foliage, new growth complete and comparable to older perennial foliage
50%	Entering dormancy, coloration starting, some leaves may have dropped from the stem
30%	Completely cured, treat as dead fuel

Fuel Load Transfer for Dynamic Fuel Models

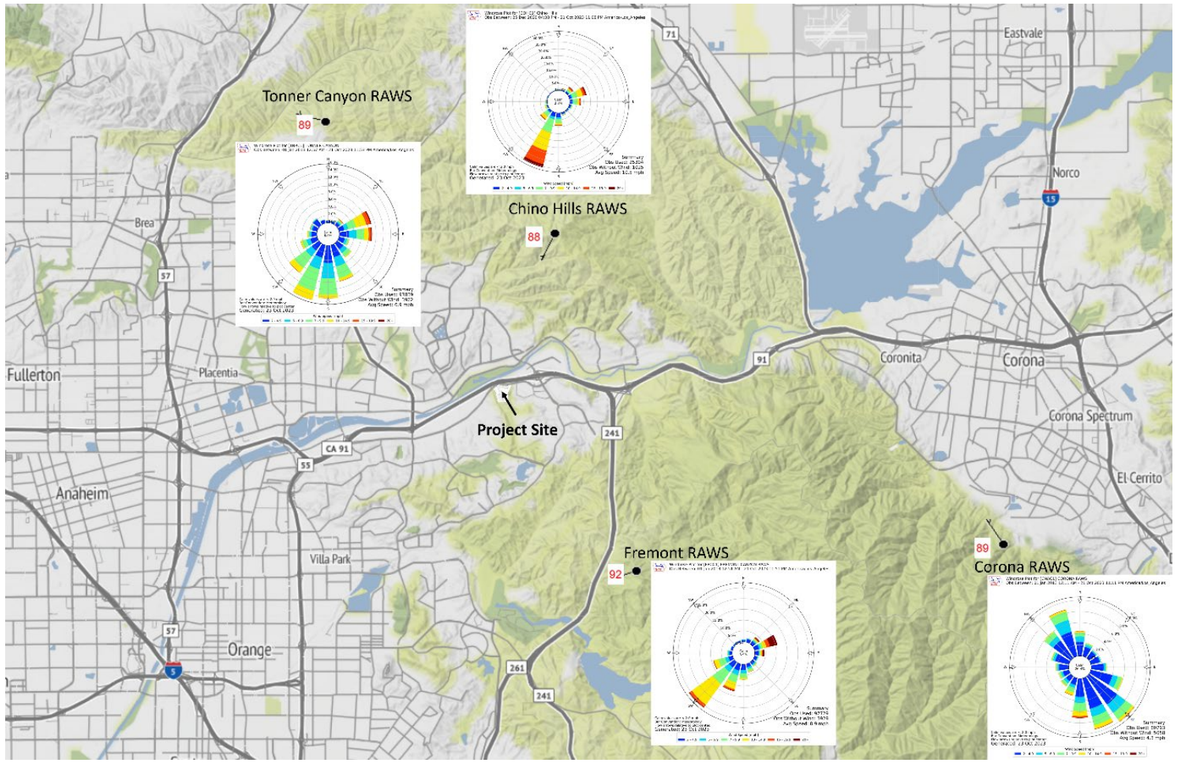
Live herbaceous fuel moisture	Curing	Fuel load transfer portion
120%	Uncured	0%
98%	One-quarter cured	25%
90%	One-third cured	33.3%
75%	One-half cured	50%
60%	Two-thirds cured	66.7%
53%	Three-quarters cured	75%
30%	Fully cured	100%

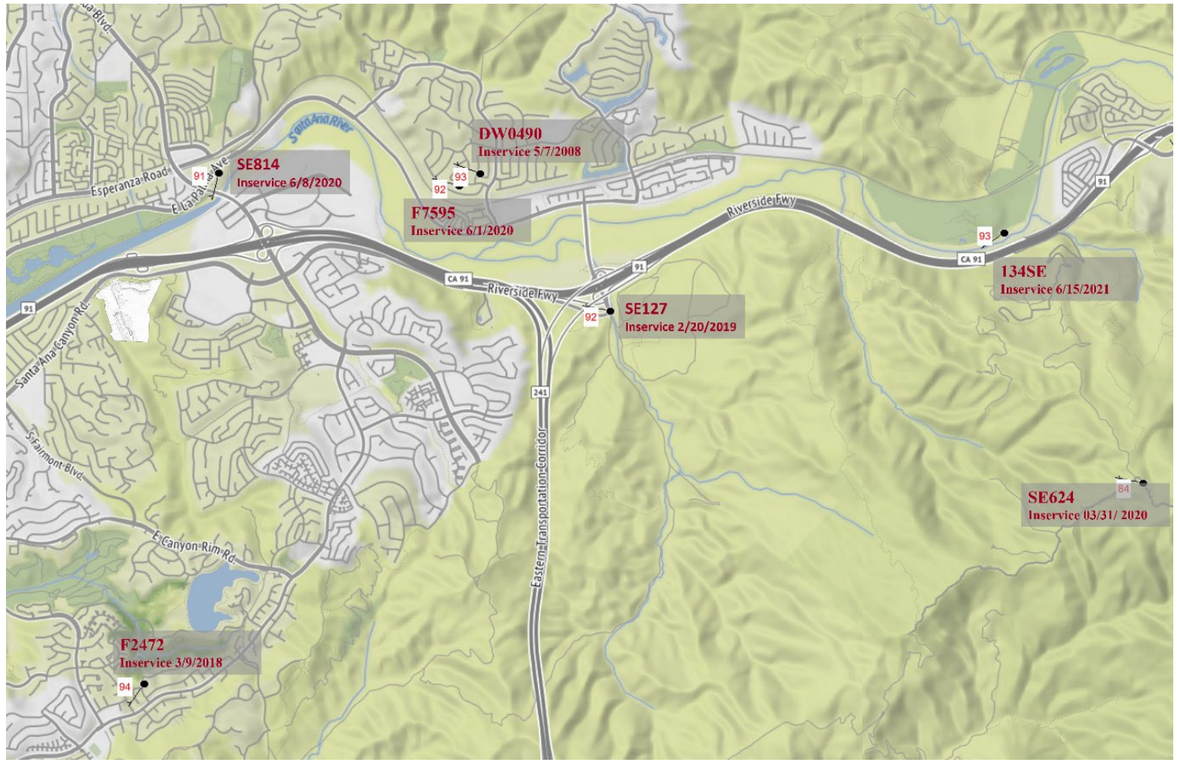
FMS Code	FMS Description	Fuel Moisture Content (%)					
		Herb	Shrub	Crown [1]	1 h	10 h	100 h
D1L1	Very low dead FMC, fully cured herb	30	60	60	3	4	5
D2L2	Low dead FMC, 2/3 cured herb	60	90	60	6	7	8
D3L3	Moderate dead FMC, 1/3 cured herb	90	120	120	9	10	11
D4L4	High dead FMC, fully green herb	120	150	150	12	13	14

[1] The Scott and Burgan original FMSs do not include FMCs for Crown. These data were extracted from the description of the variables inside the FCCS software.

RAWS locations nearest to the project

The next closest RAWS is Chino Hills, but it only has data for 2.9 years which does not make it very reliable. Tonner RAWS has over ten years as does Fremont RAWS. Corona RAWS is too far down the valley to be representative of the project site.





This analysis also examined non-RAWS sites (SCE sites(SE814, SE127), Automatic Position Reporting System WX NET/Citizen Weather Observer Program sites(F2472 and DW0490)). The CWOP sites have missing data in nearly 1/3 of the observations. The SCE sites, while having good data, simply have not been up and running during most of the large fire history. Sites F7595, SE134 and SE624 do not have enough data to be useful.

All data will be analyzed to the maximum, minimum, average and fractile (95^{th} and 5 percentiles).

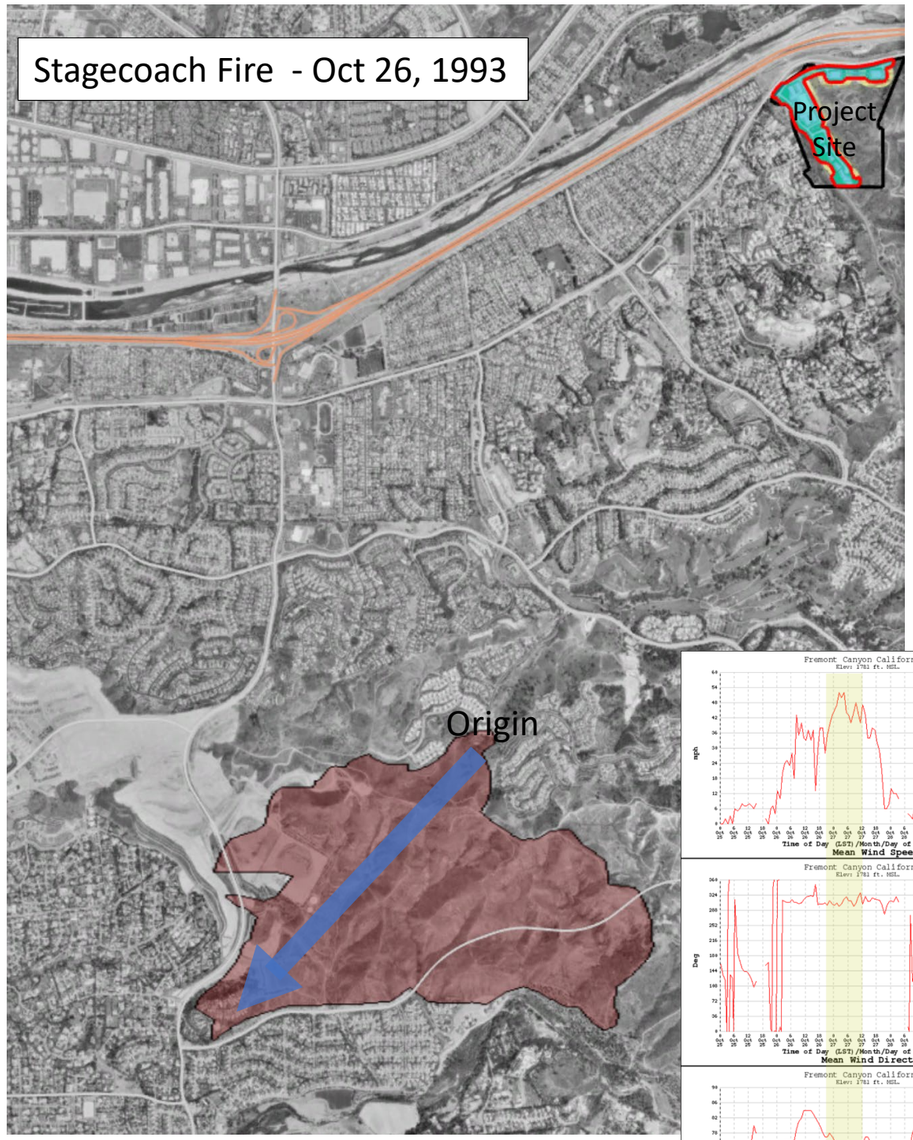
Data from the adjacent RAWS and non-RAWS sites do not change the modeling assumptions proposed using Fremont RAWS as the worst-case.

Barrier files and justification

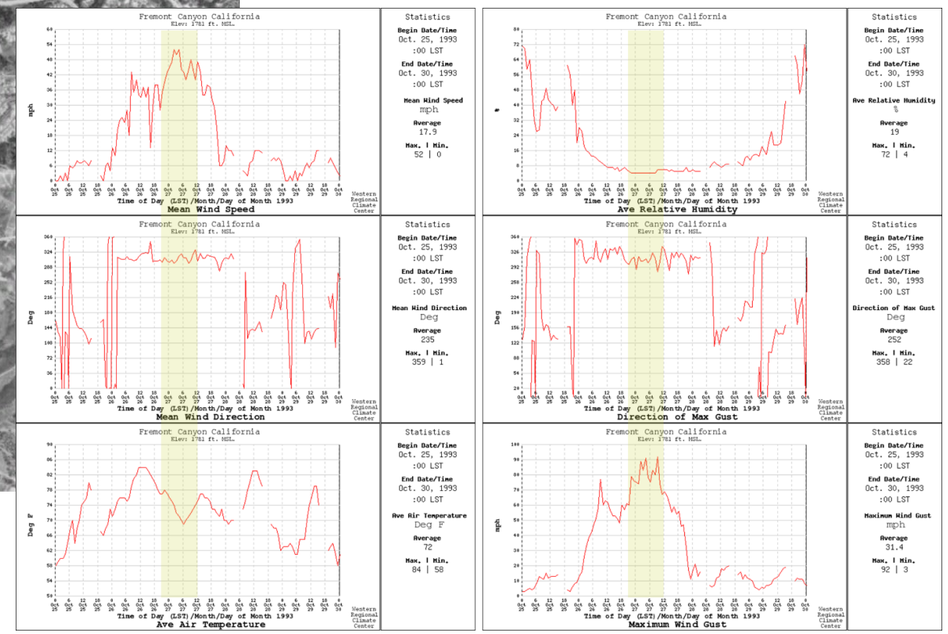
The only barrier file that will be used in for the development area o the project site. The area shown below, outlined in red and shaded in blue. It consists of the hardscape, Zone A and Zone B irrigated fuel modification zones. It assumes that fire will not "burn through" theses areas.



Stagecoach Fire (1993)

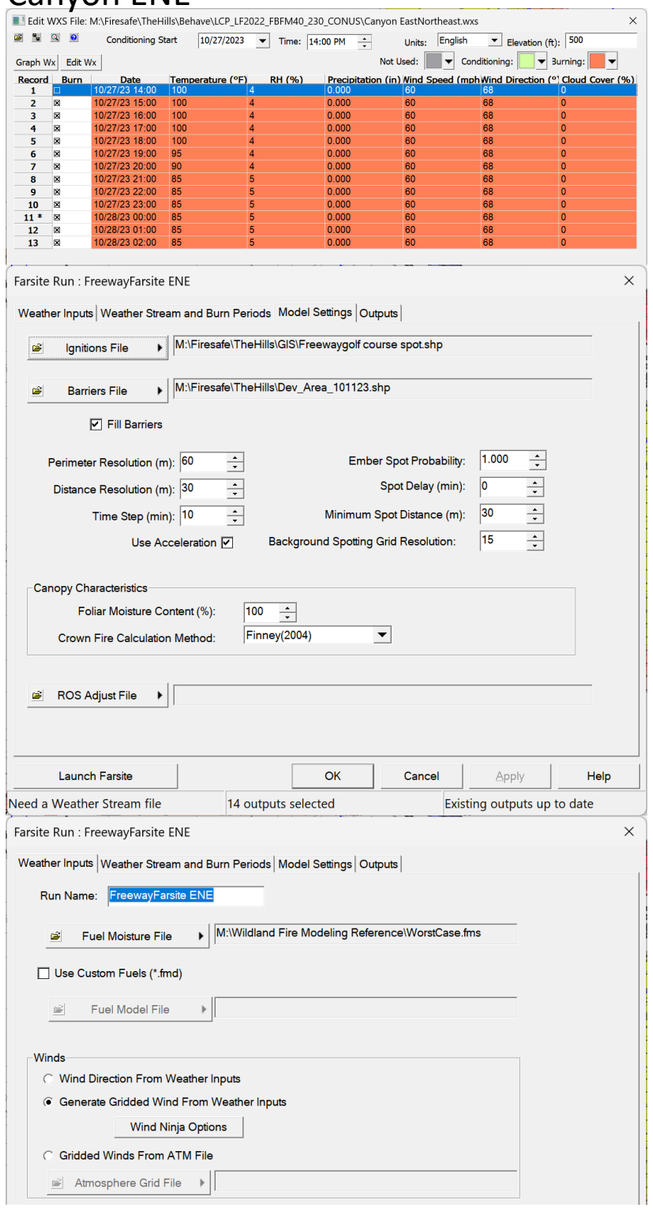


Drawing data from the Stagecoach Fire in 1993, we find the weather data from the Fremont RAWS shows a maximum average wind speed during the period when homes were damaged or destroyed at 52 mph (gusts at 92 mph), the RH at a minimum of 4% and generally stay below 6% for the critical period. Wind was out of the north (with the azimuth correction) at the RAWS location, but the after-action report indicated that it was N to NE on the fireline.

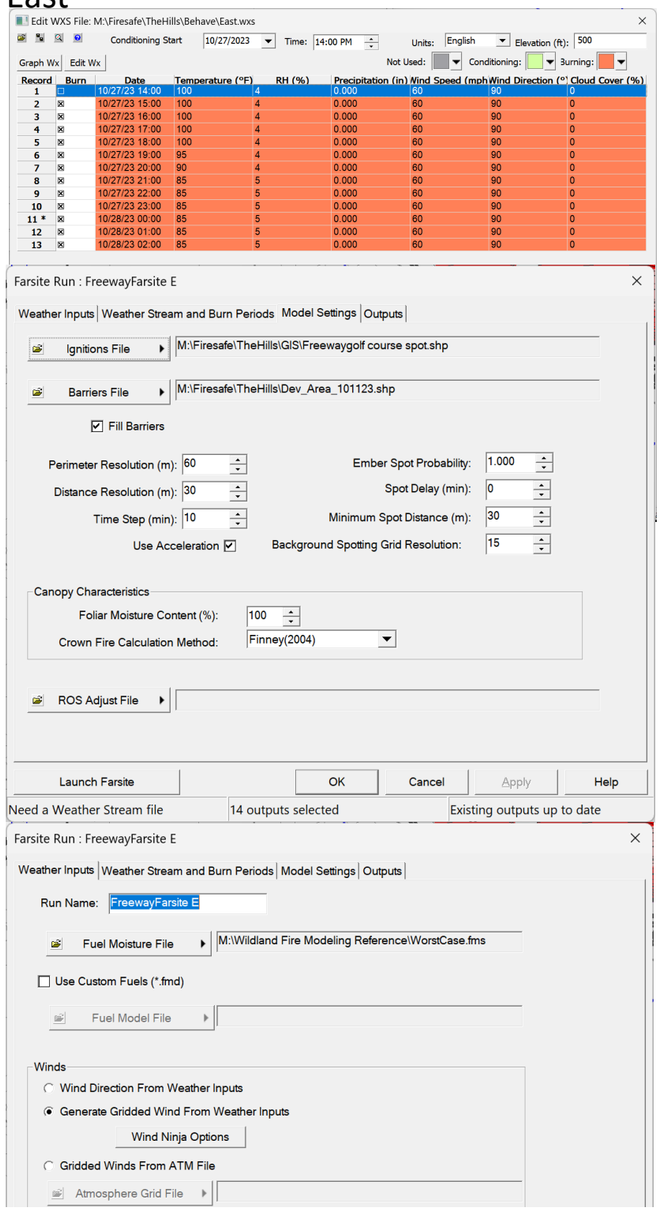


FarSite Modeling Assumptions

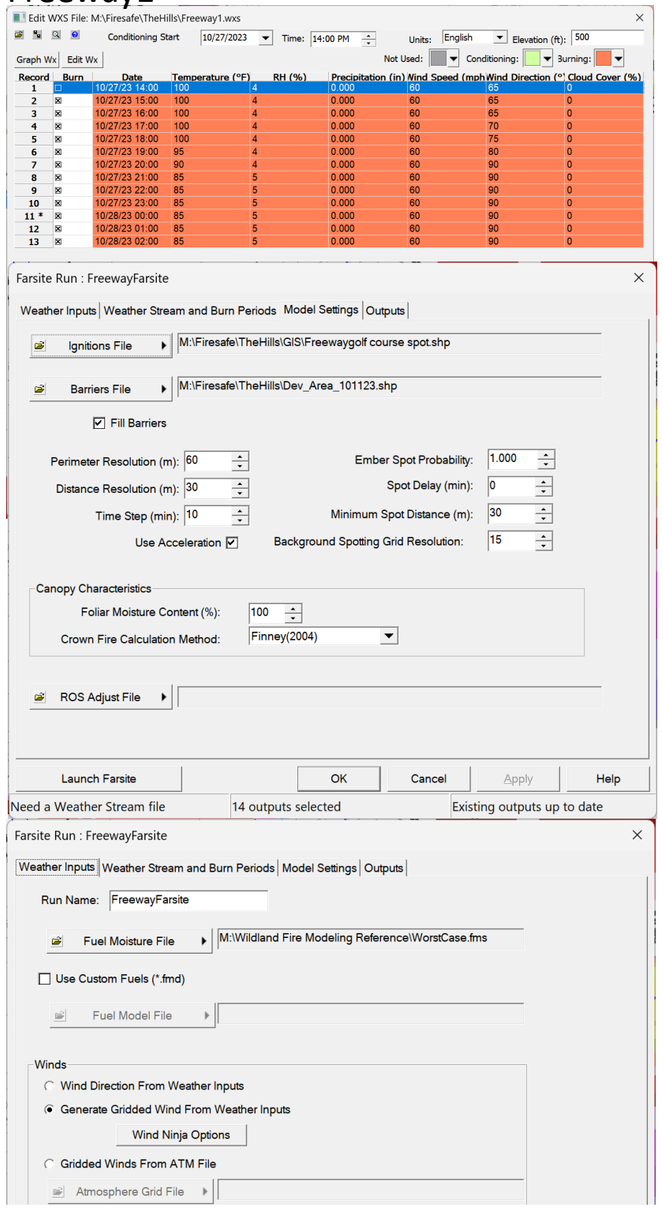
Canyon ENE



East

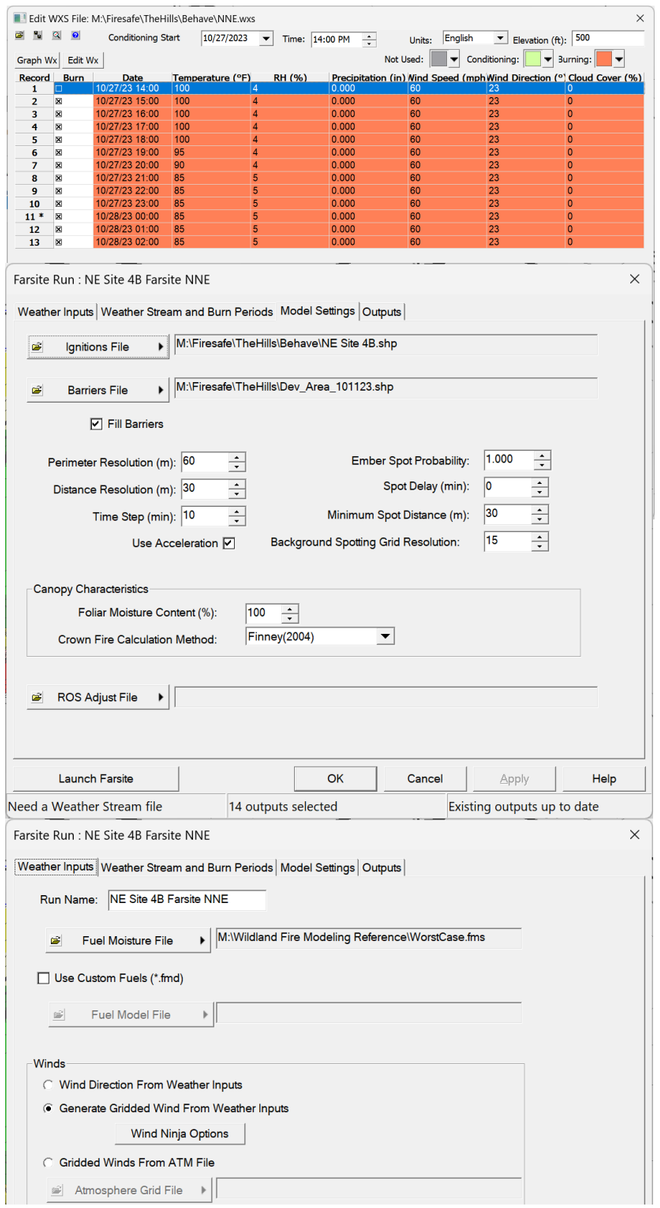


Freeway1

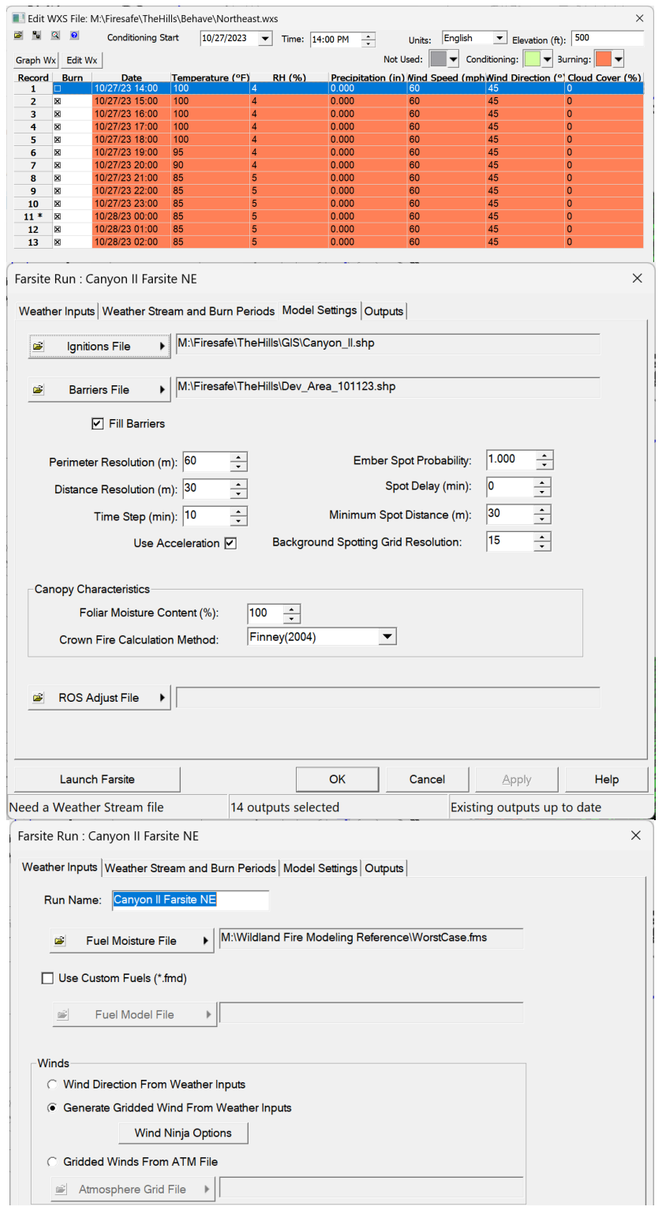


FarSite Modeling Assumptions

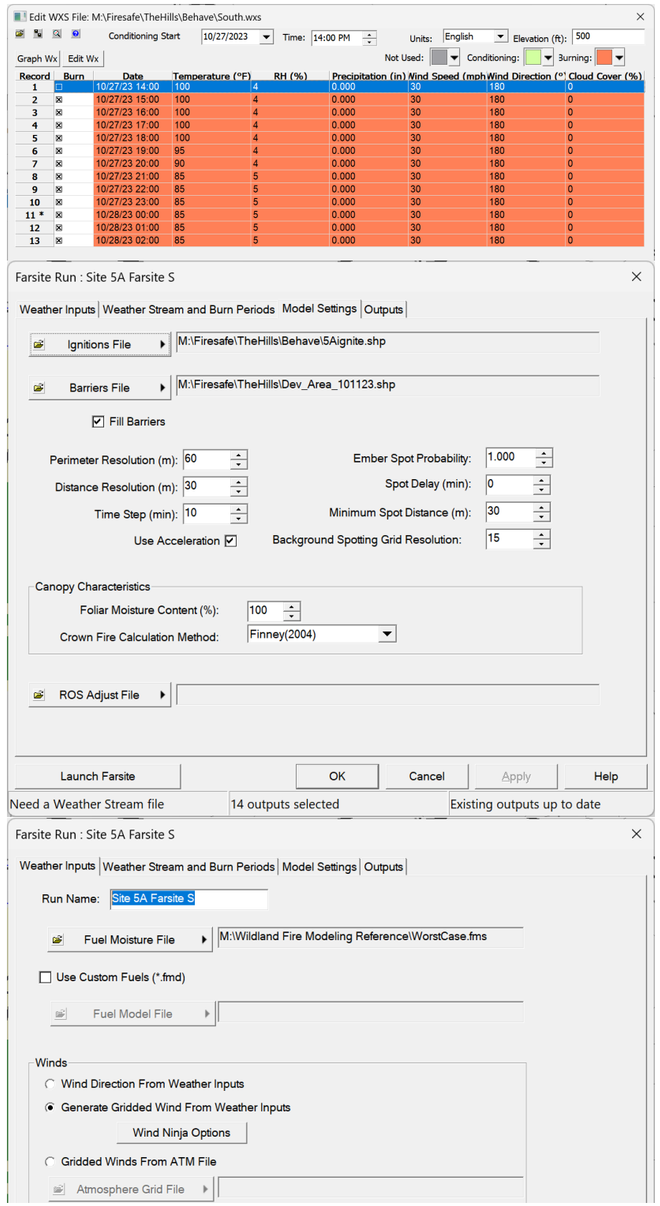
NNE



NE

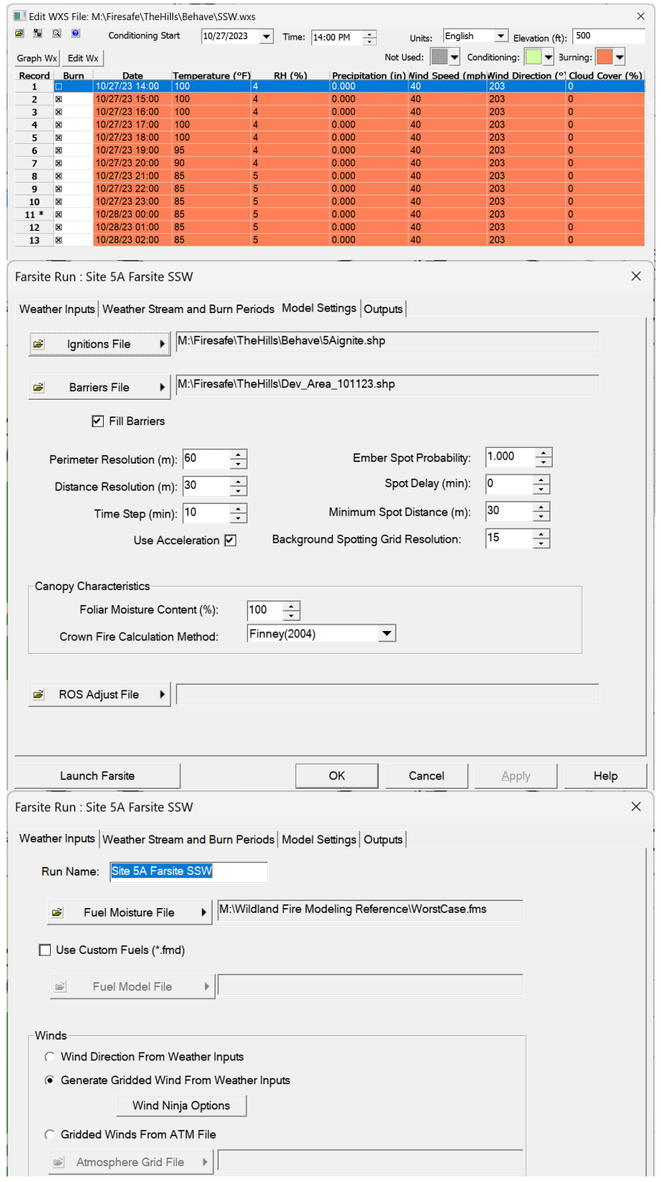


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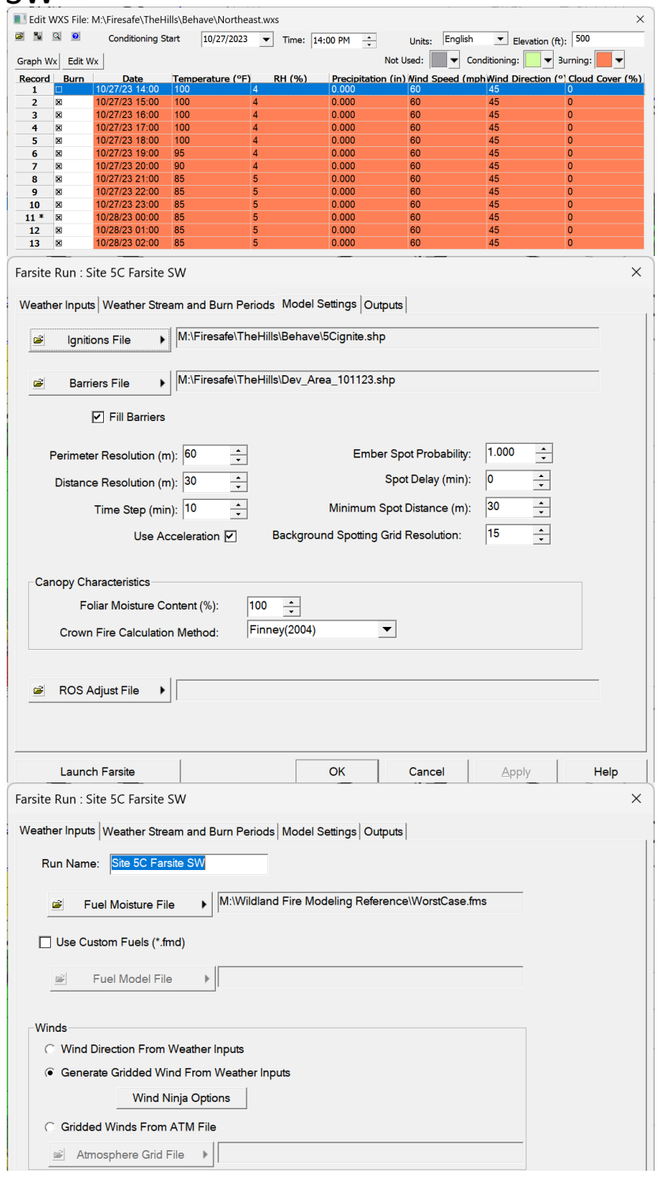


FarSite Modeling Assumptions

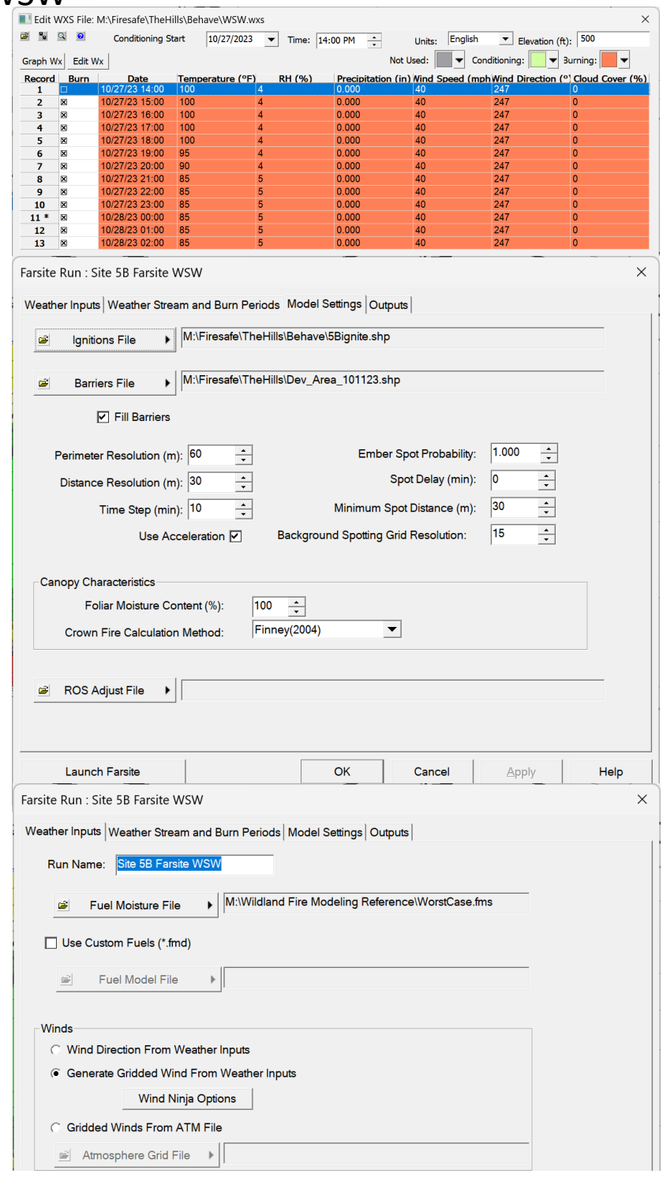
SSW

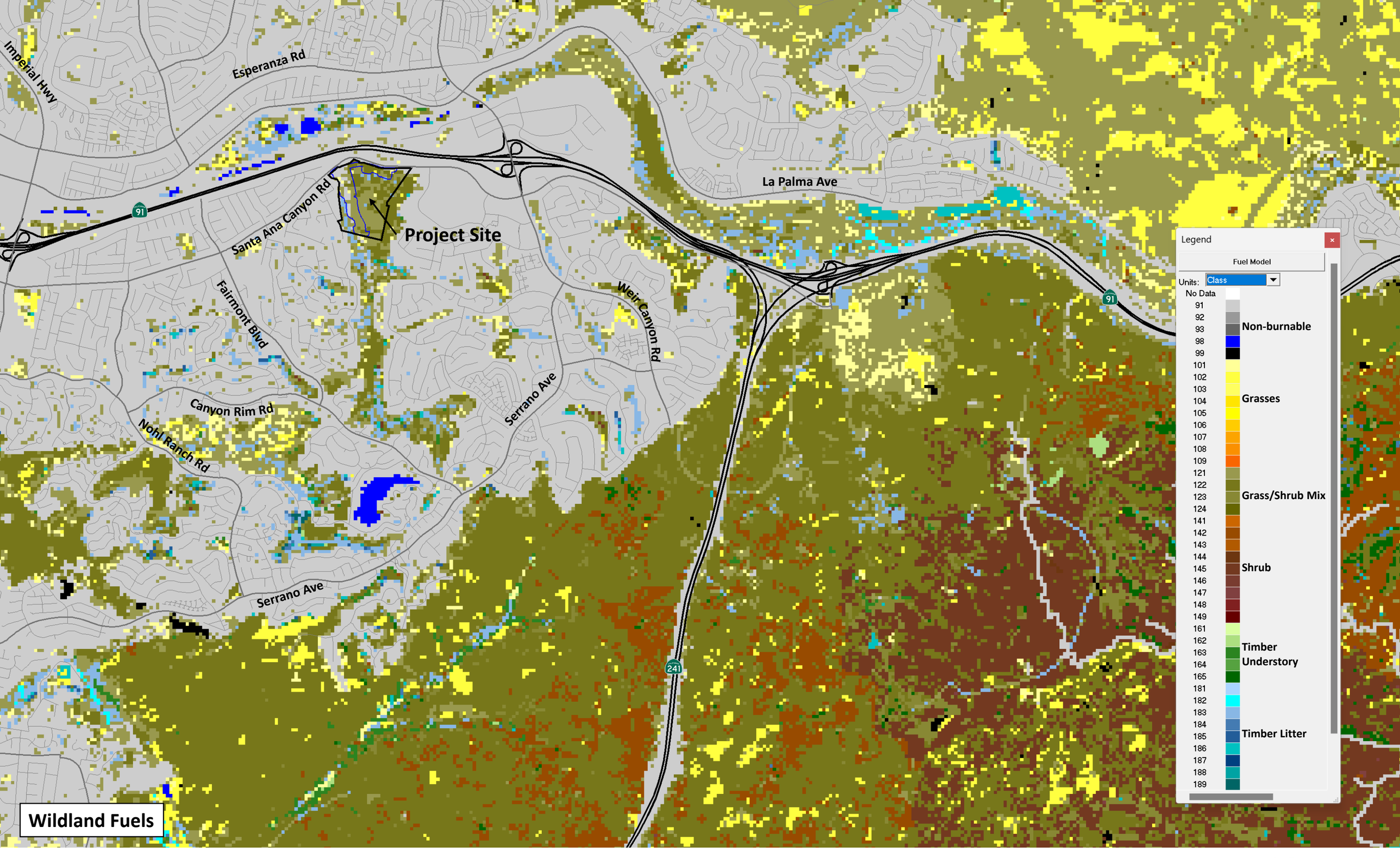


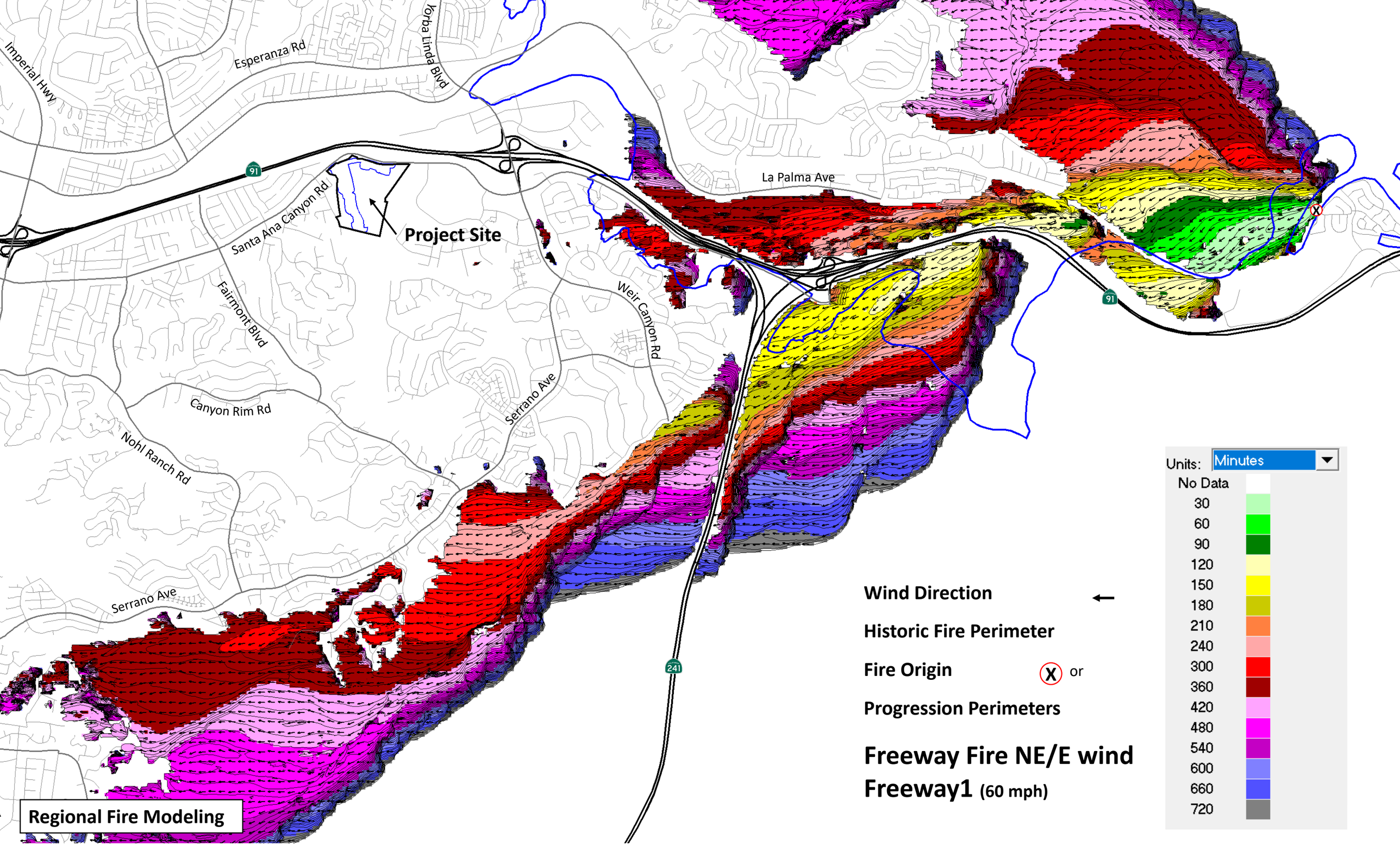
SW



WSW




Imperial Hwy
Esperanza Rd
Santa Ana Canyon Rd
Project Site
La Palma Ave
Fairmont Blvd
Weir Canyon Rd
Canyon Rim Rd
Nohl Ranch Rd
Serrano Ave
Serrano Ave
91
91
241
Legend
Fuel Model
Units: Class
No Data
91
92
93
98
99
Non-burnable
101
102
103
104
105
106
107
108
109
Grasses
121
122
123
124
141
142
143
144
145
146
147
148
149
Grass/Shrub Mix
Shrub
161
162
163
164
165
Timber Understory
181
182
183
184
185
186
187
188
189
Timber Litter
Wildland Fuels


Imperial Hwy
Esperanza Rd
Yorba Linda Blvd
91
Santa Ana Canyon Rd
Project Site
La Palma Ave
Fairmont Blvd
Weir Canyon Rd
Canyon Rim Rd
Serrano Ave
Nohl Ranch Rd
Serrano Ave
241
91
Regional Fire Modeling
Wind Direction
Historic Fire Perimeter
Fire Origin
X
or
Progression Perimeters
Freeway Fire NE/E wind
Freeway1 (60 mph)
Units: Minutes
No Data
30
60
90
120
150
180
210
240
300
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420
480
540
600
660
720

Imperial Hwy
Esperanza Rd
Yorba Linda Blvd
La Palma Ave
91
Santa Ana Canyon Rd
Project Site
Fairmont Blvd
Weir Canyon Rd
Canyon Rim Rd
Serrano Ave
Nohl Ranch Rd
Serrano Ave
241
91

Regional Fire Modeling

Wind Direction ←

Historic Fire Perimeter

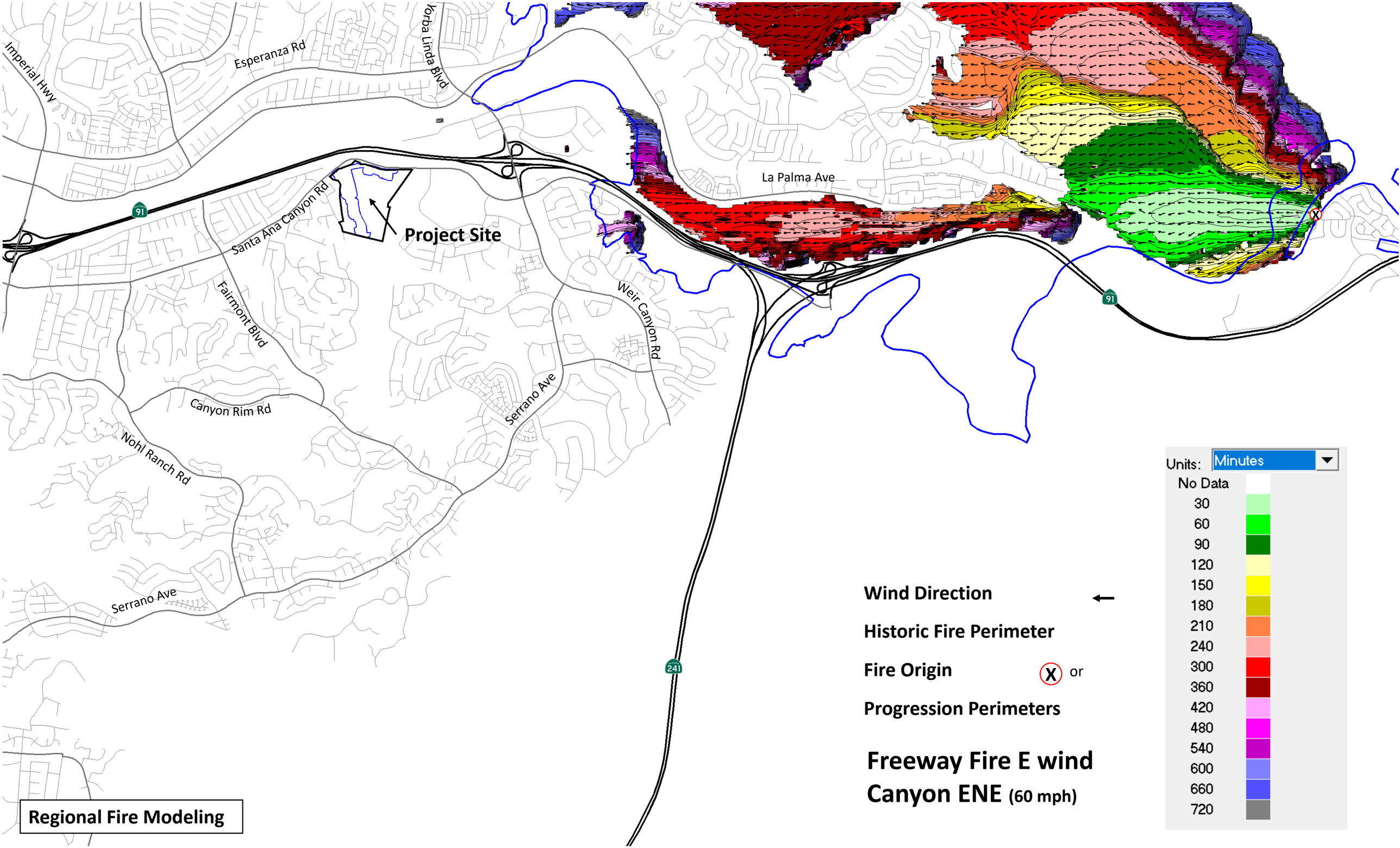
Fire Origin X or

Progression Perimeters

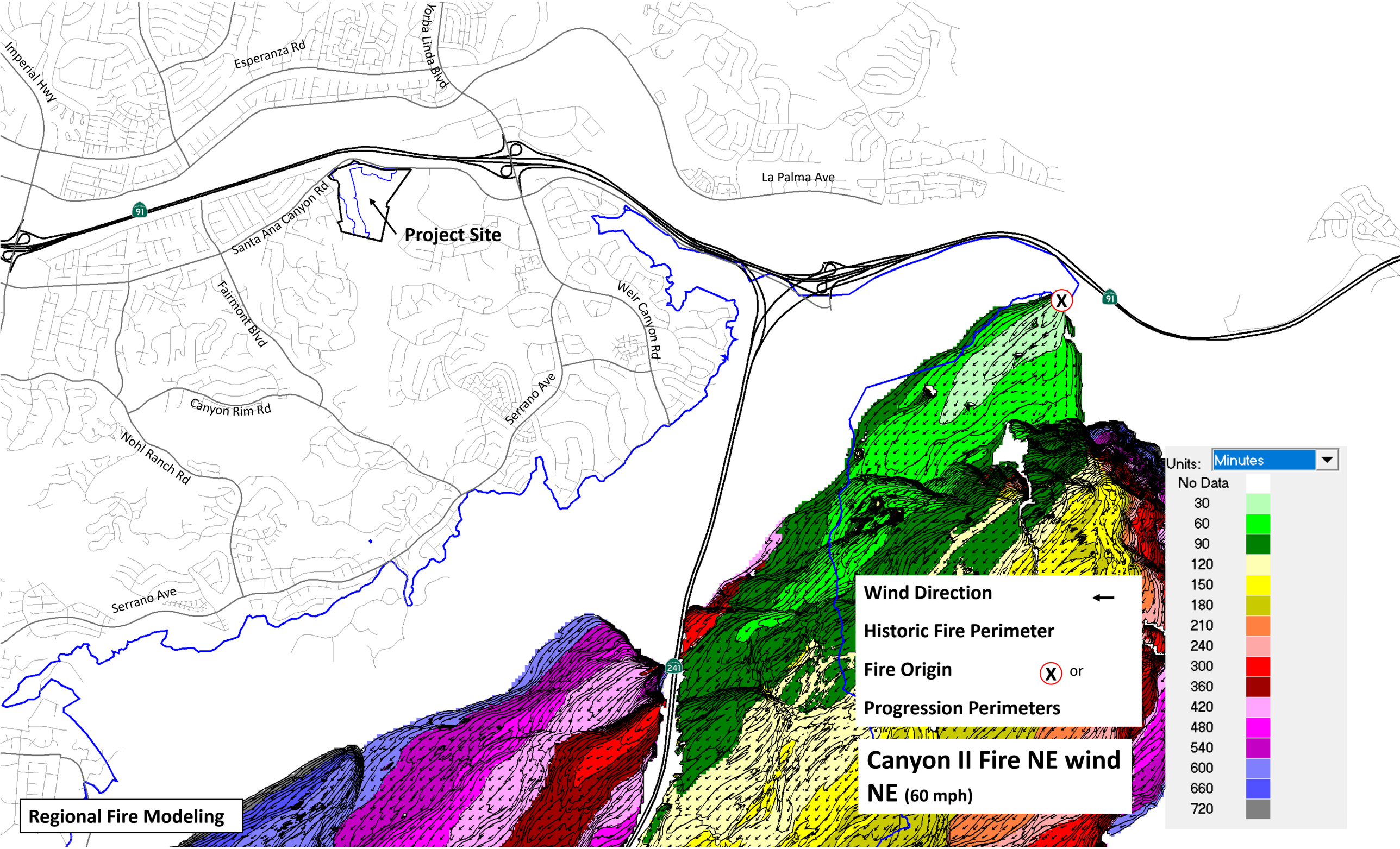
Freeway Fire ENE wind
Canyon ENE (60 mph)

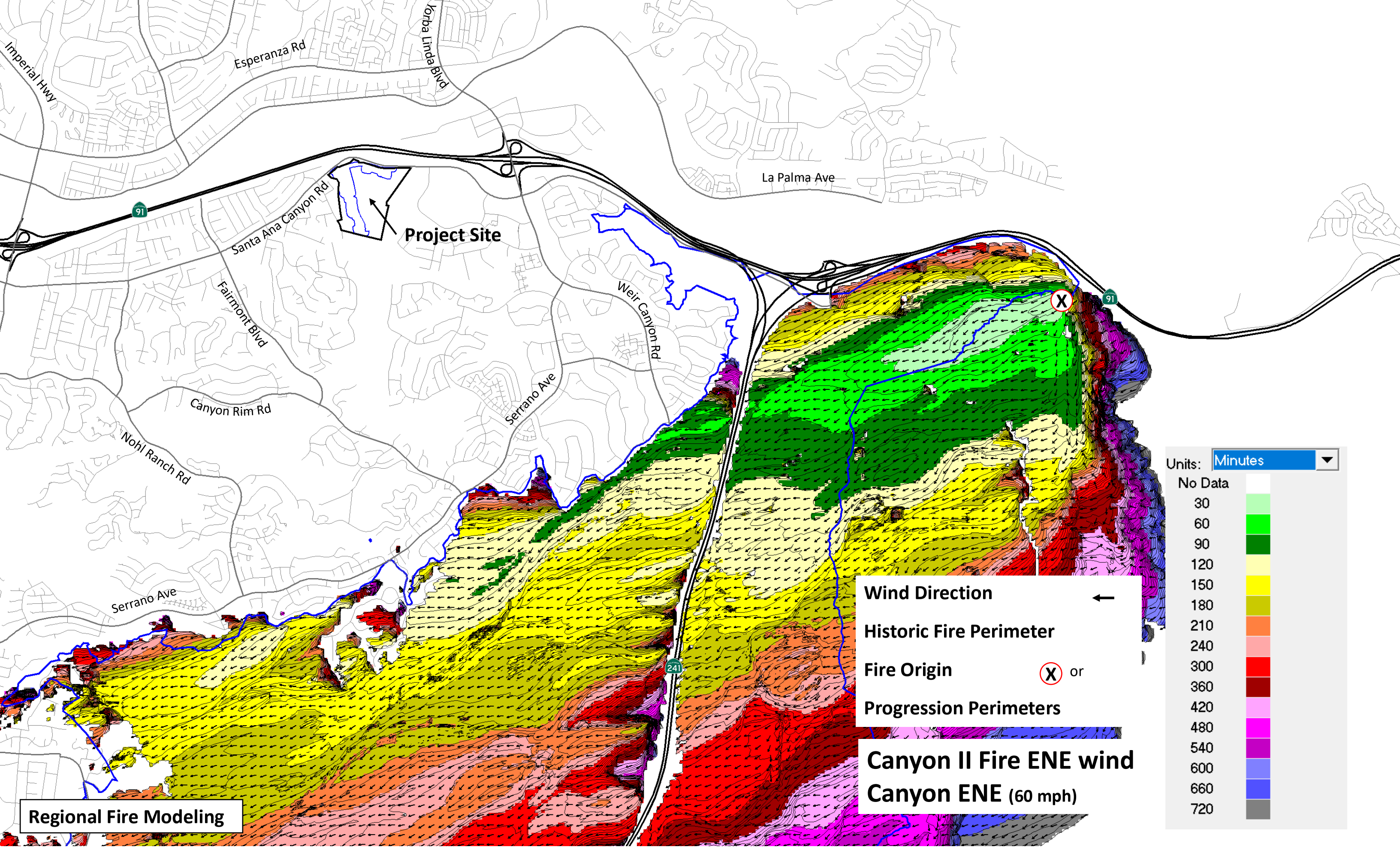
Units: Minutes

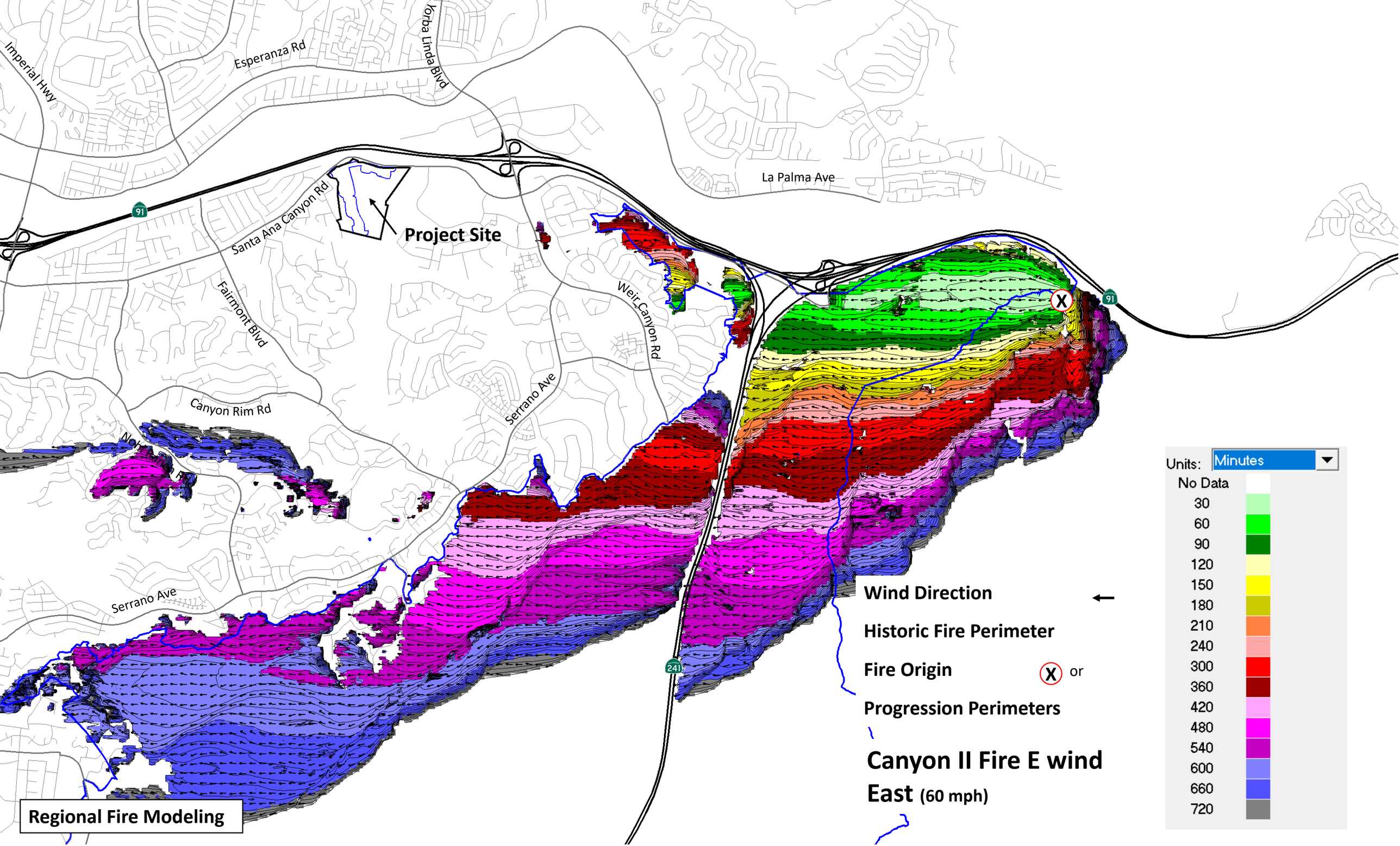
No Data	
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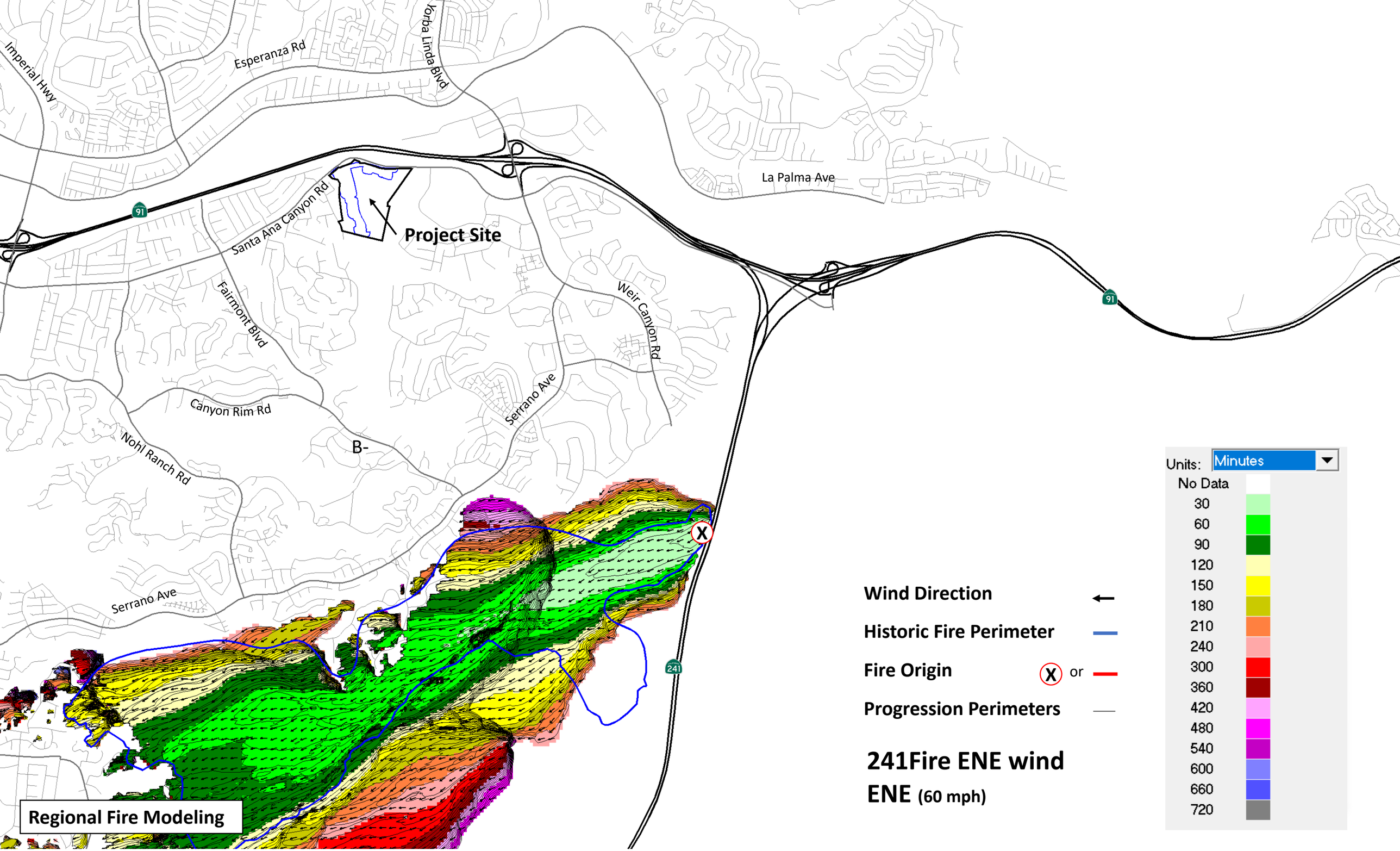


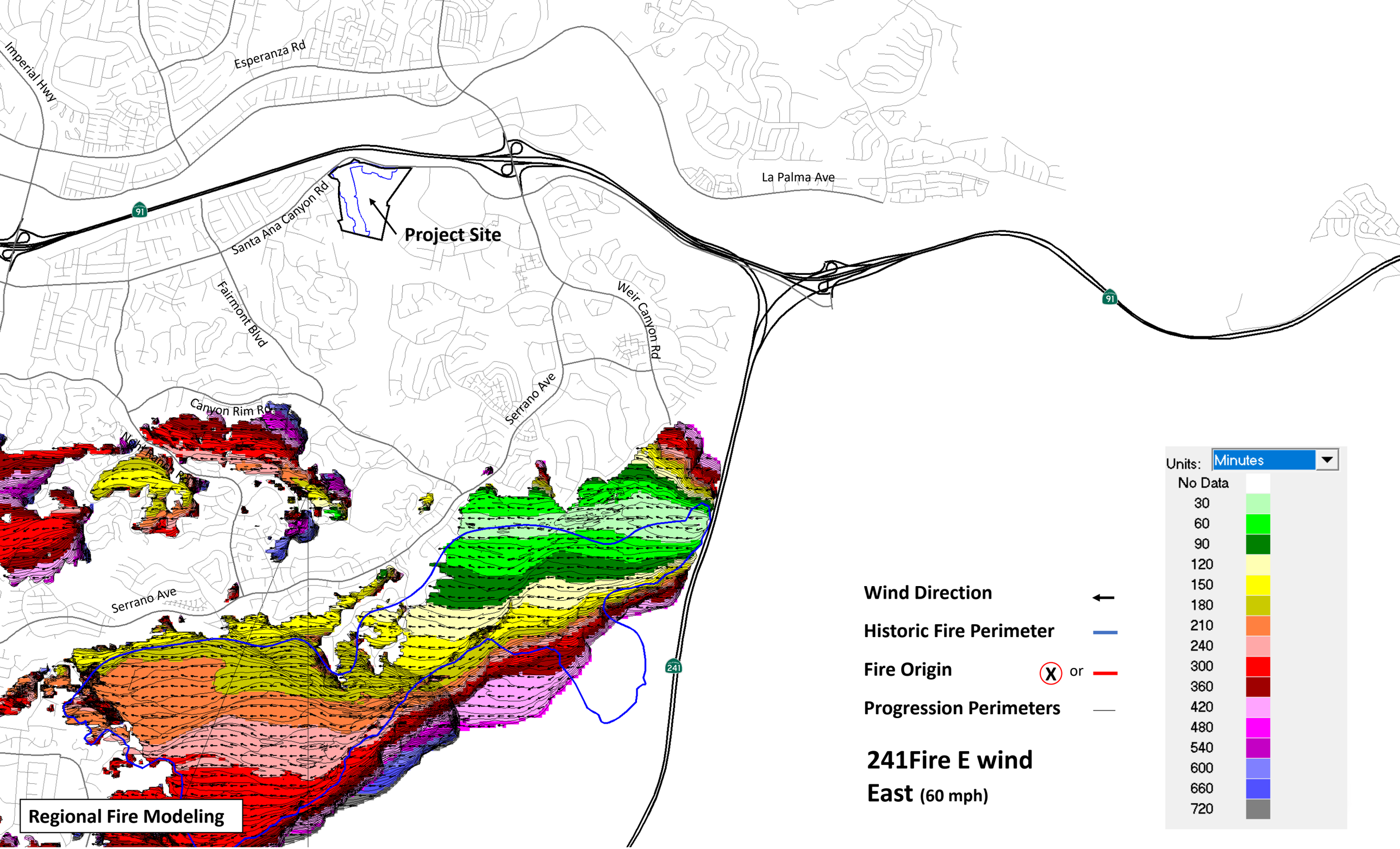
Regional Fire Modeling

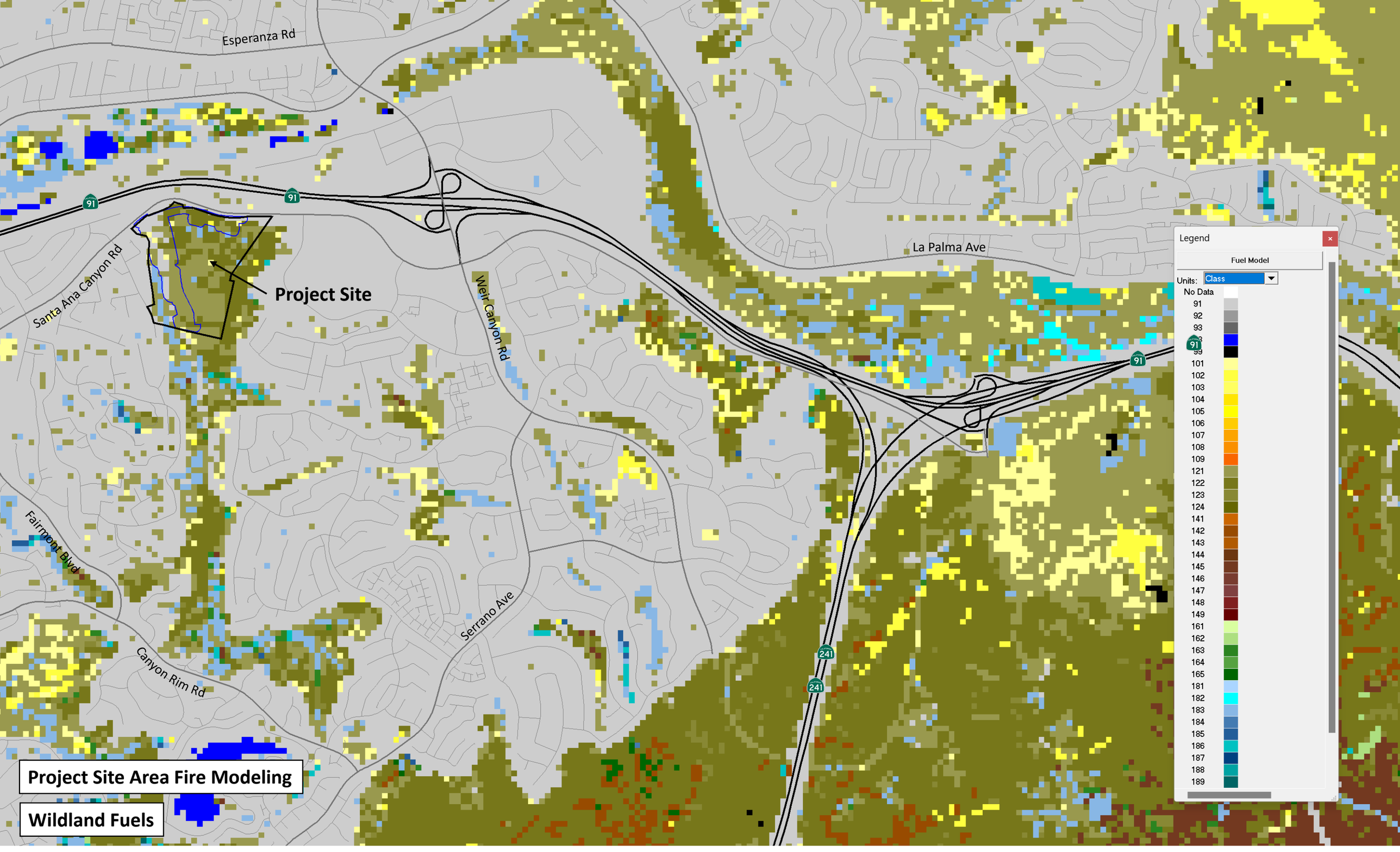

Imperial Hwy
Esperanza Rd
Yorba Linda Blvd
La Palma Ave
91
Santa Ana Canyon Rd
Project Site
Fairmont Blvd
Weir Canyon Rd
Canyon Rim Rd
Serrano Ave
Nohl Ranch Rd
Serrano Ave
241
91
X
Wind Direction
Historic Fire Perimeter
Fire Origin
X or
Progression Perimeters
Canyon II Fire NE wind
NE (60 mph)
Units: Minutes
No Data
30
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90
120
150
180
210
240
300
360
420
480
540
600
660
720
Regional Fire Modeling


Imperial Hwy
Esperanza Rd
Yorba Linda Blvd
La Palma Ave
91
Santa Ana Canyon Rd
Project Site
Fairmont Blvd
Weir Canyon Rd
Canyon Rim Rd
Nohl Ranch Rd
Serrano Ave
Serrano Ave
241
91
X
Units: Minutes
No Data
30
60
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120
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300
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420
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540
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Wind Direction
Historic Fire Perimeter
Fire Origin
X or
Progression Perimeters
Canyon II Fire ENE wind
Canyon ENE (60 mph)
Regional Fire Modeling

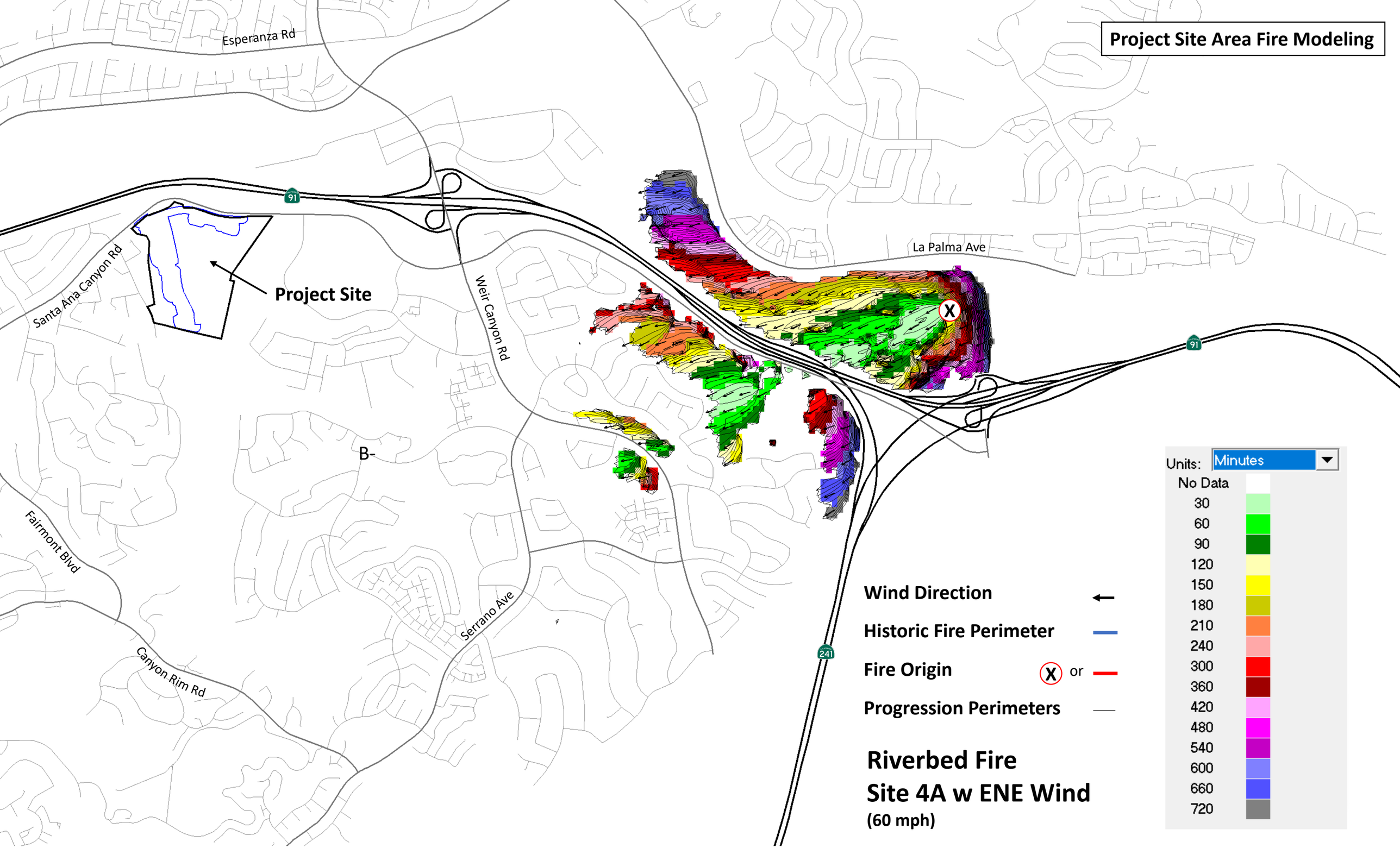

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Fairmont Blvd
Weir Canyon Rd
Canyon Rim Rd
Serrano Ave
Serrano Ave
91
241
X
Wind Direction
Historic Fire Perimeter
Fire Origin
X or
Progression Perimeters
Canyon II Fire E wind East (60 mph)
Units: Minutes
No Data
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240
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660
720
Regional Fire Modeling


Imperial Hwy
Esperanza Rd
Yorba Linda Blvd
La Palma Ave
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Santa Ana Canyon Rd
Project Site
Fairmont Blvd
Weir Canyon Rd
Canyon Rim Rd
Nohl Ranch Rd
Serrano Ave
241
X
Regional Fire Modeling
Wind Direction
Historic Fire Perimeter
Fire Origin
X or
Progression Perimeters
241Fire ENE wind
ENE (60 mph)
Units: Minutes
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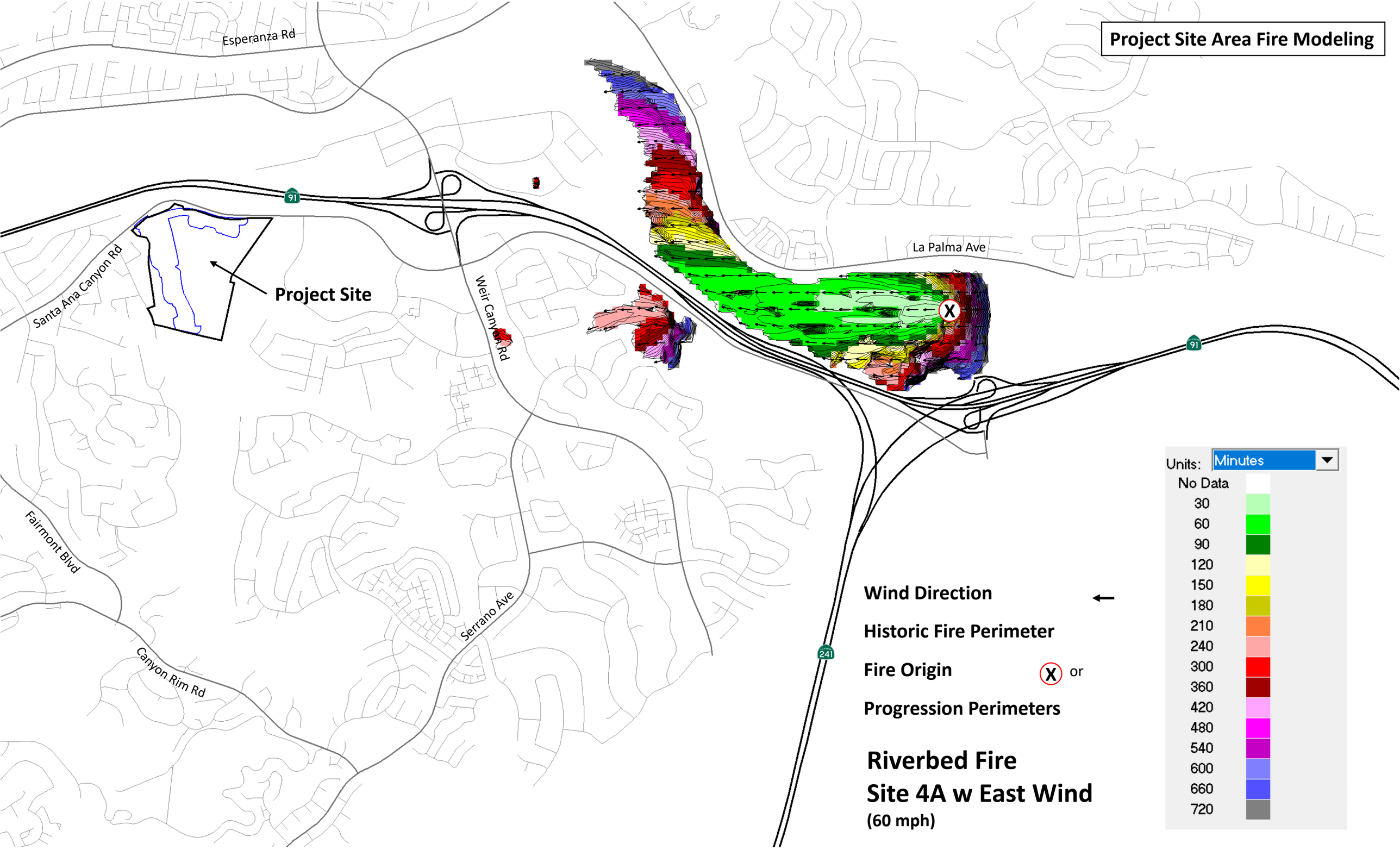

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La Palma Ave
Santa Ana Canyon Rd
Project Site
Fairmont Blvd
Weir Canyon Rd
Canyon Rim Rd
Serrano Ave
North Fork Rd
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241
Regional Fire Modeling
Wind Direction
Historic Fire Perimeter
Fire Origin
X
or
Progression Perimeters
241Fire E wind
East (60 mph)
Units:
Minutes
No Data
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Esperanza Rd
Santa Ana Canyon Rd
Project Site
Weir Canyon Rd
La Palma Ave
Fairmont Blvd
Canyon Rim Rd
Serrano Ave
91
241
Legend
Fuel Model
Units:
Class
No Data
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Project Site Area Fire Modeling
Wildland Fuels

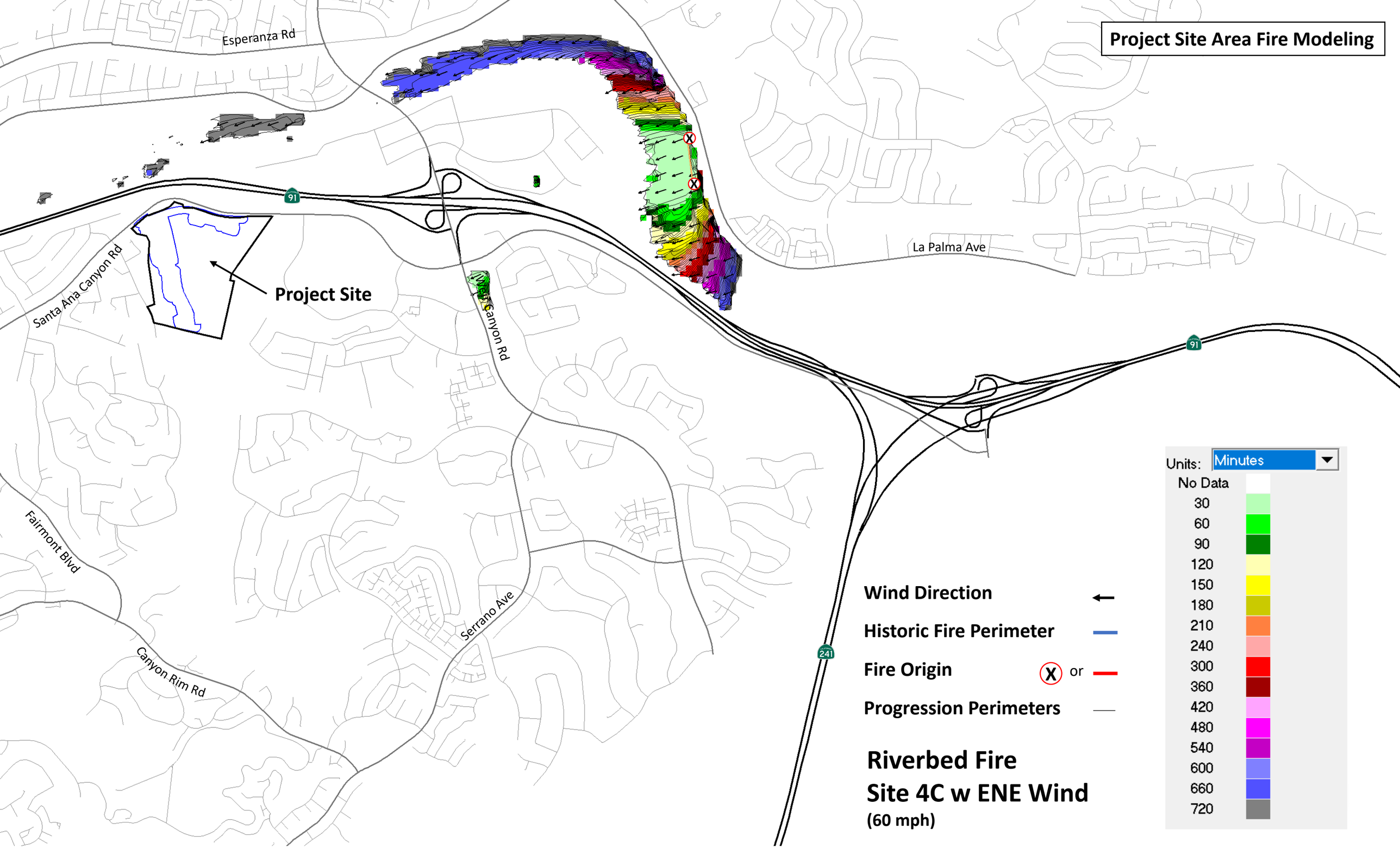
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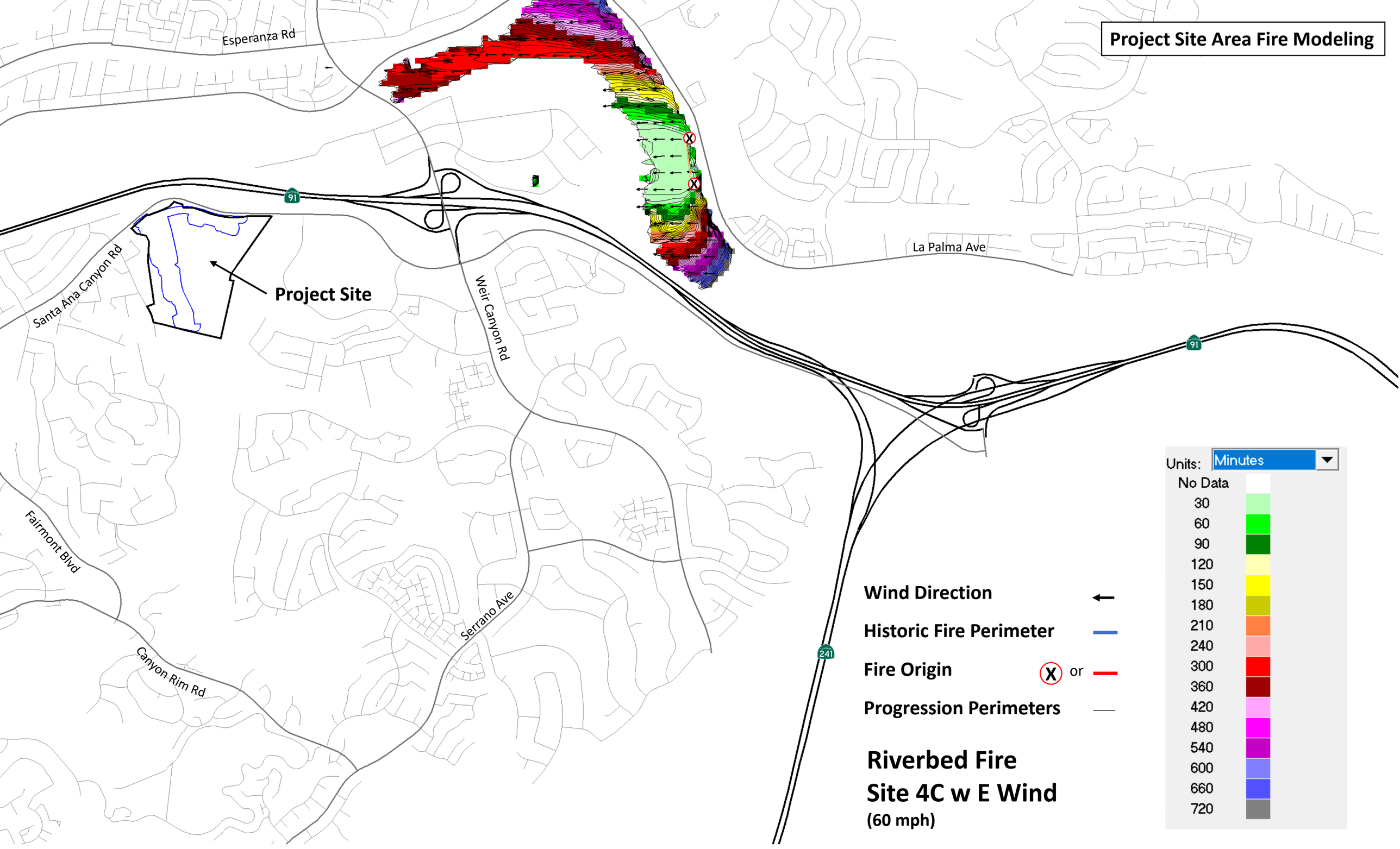
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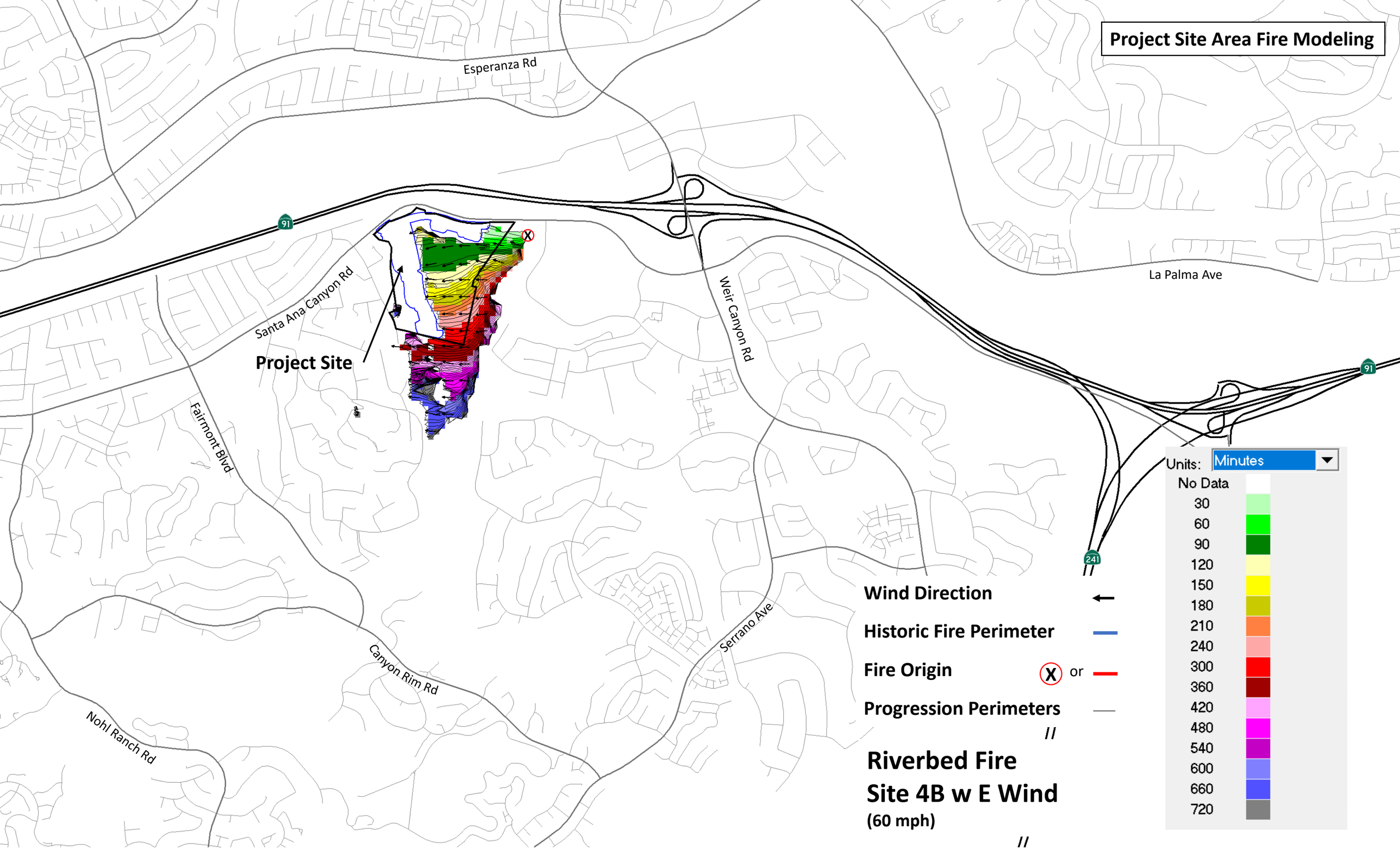
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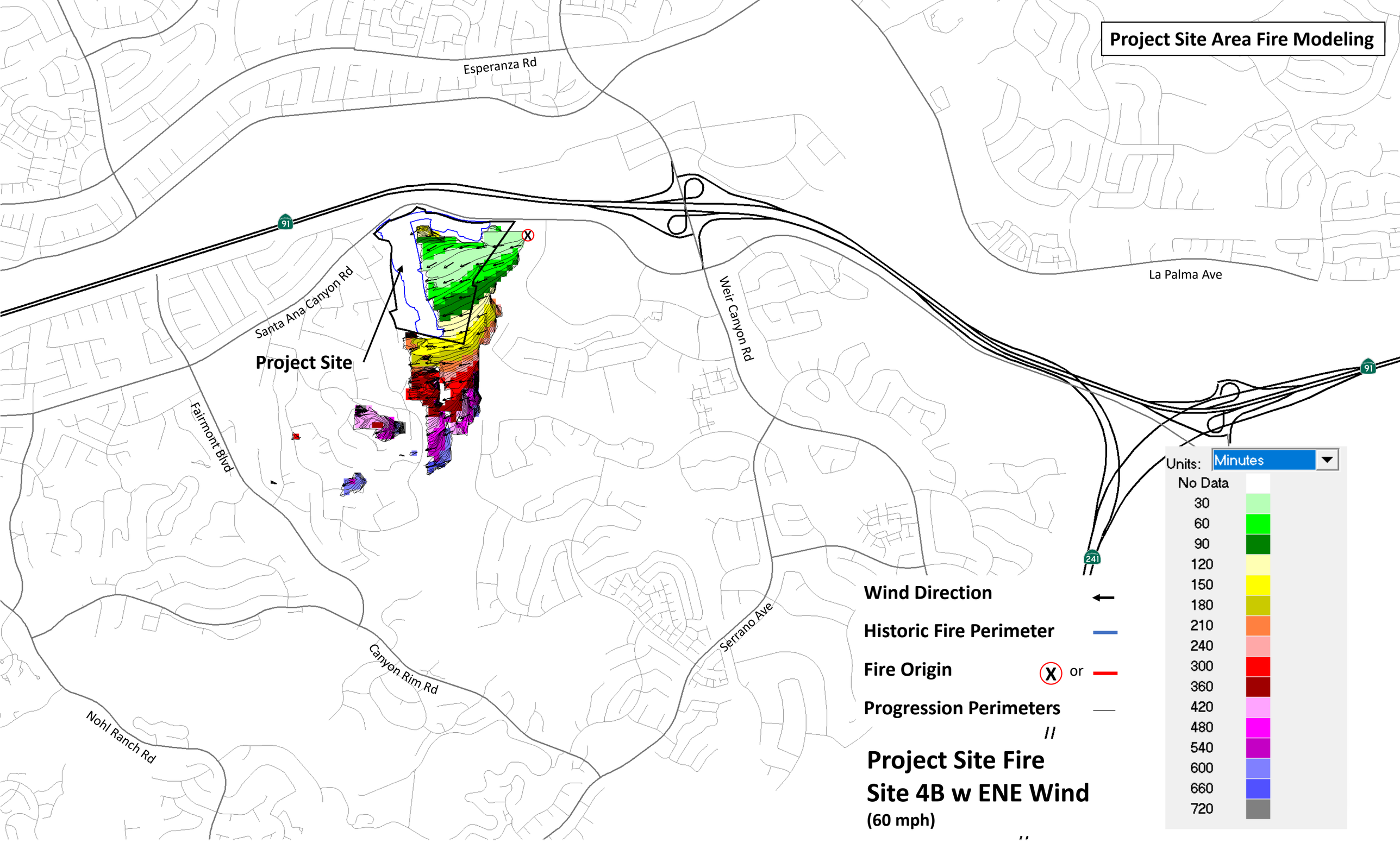
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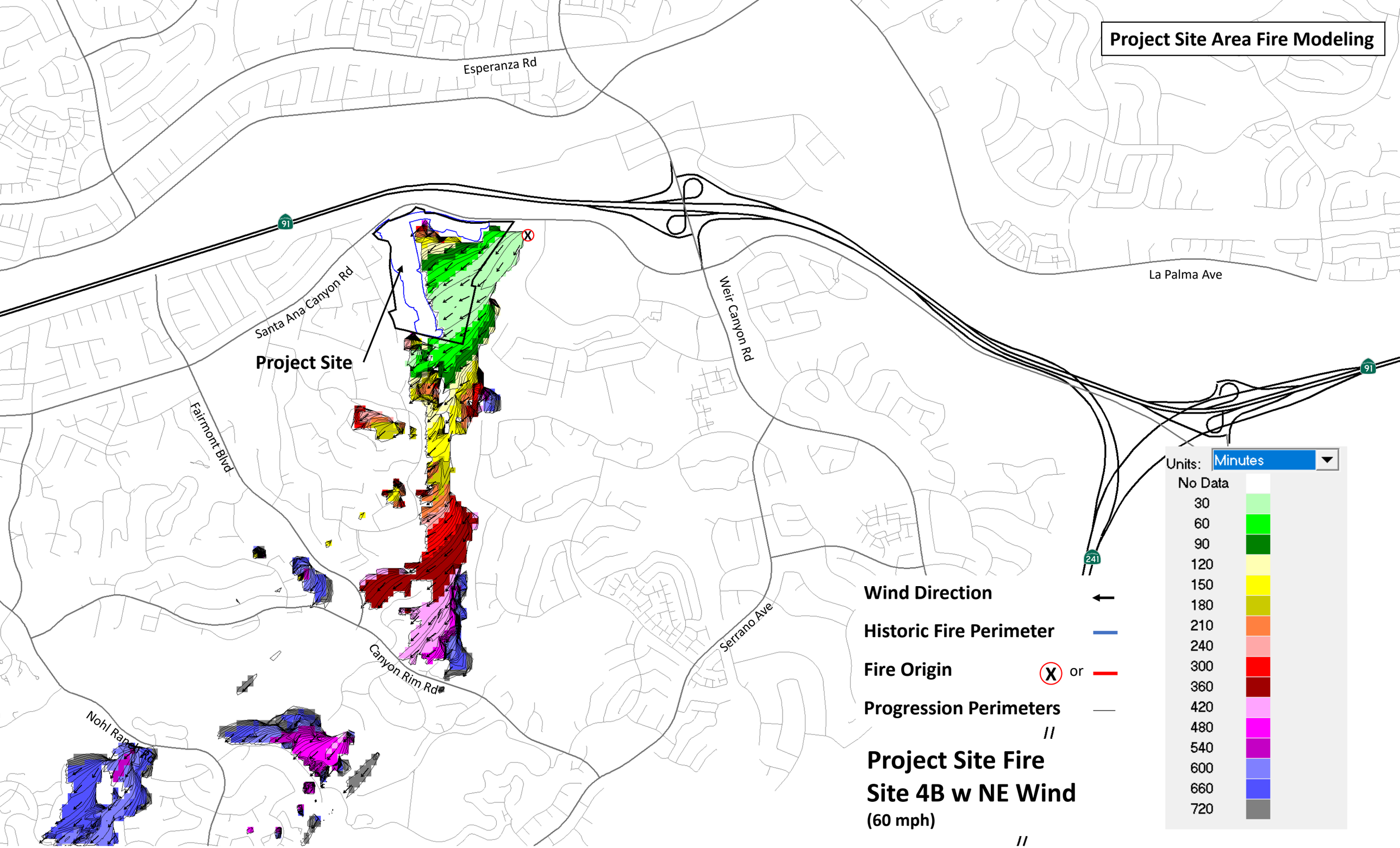
Project Site Area Fire Modeling



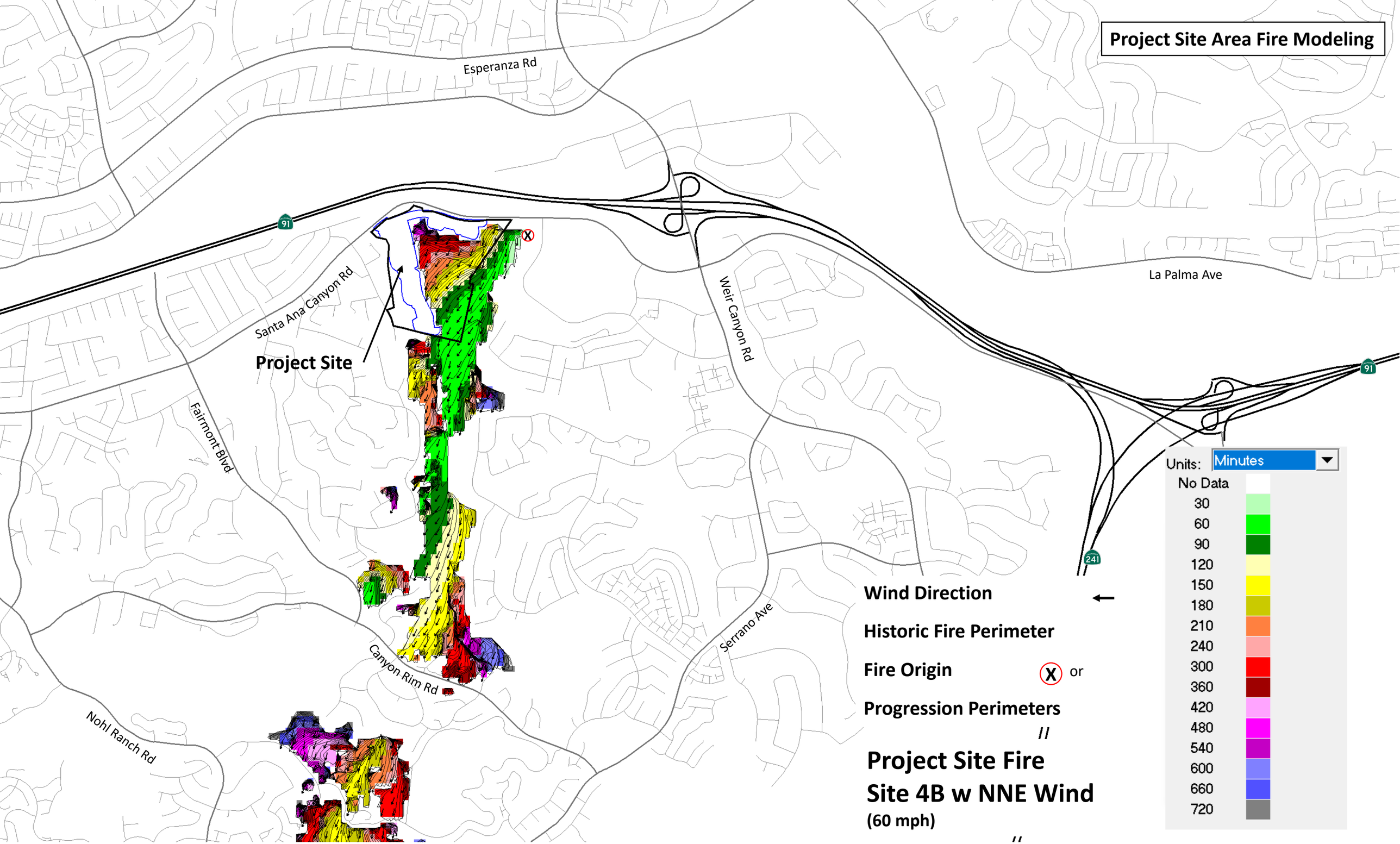
Project Site Area Fire Modeling



Project Site Area Fire Modeling

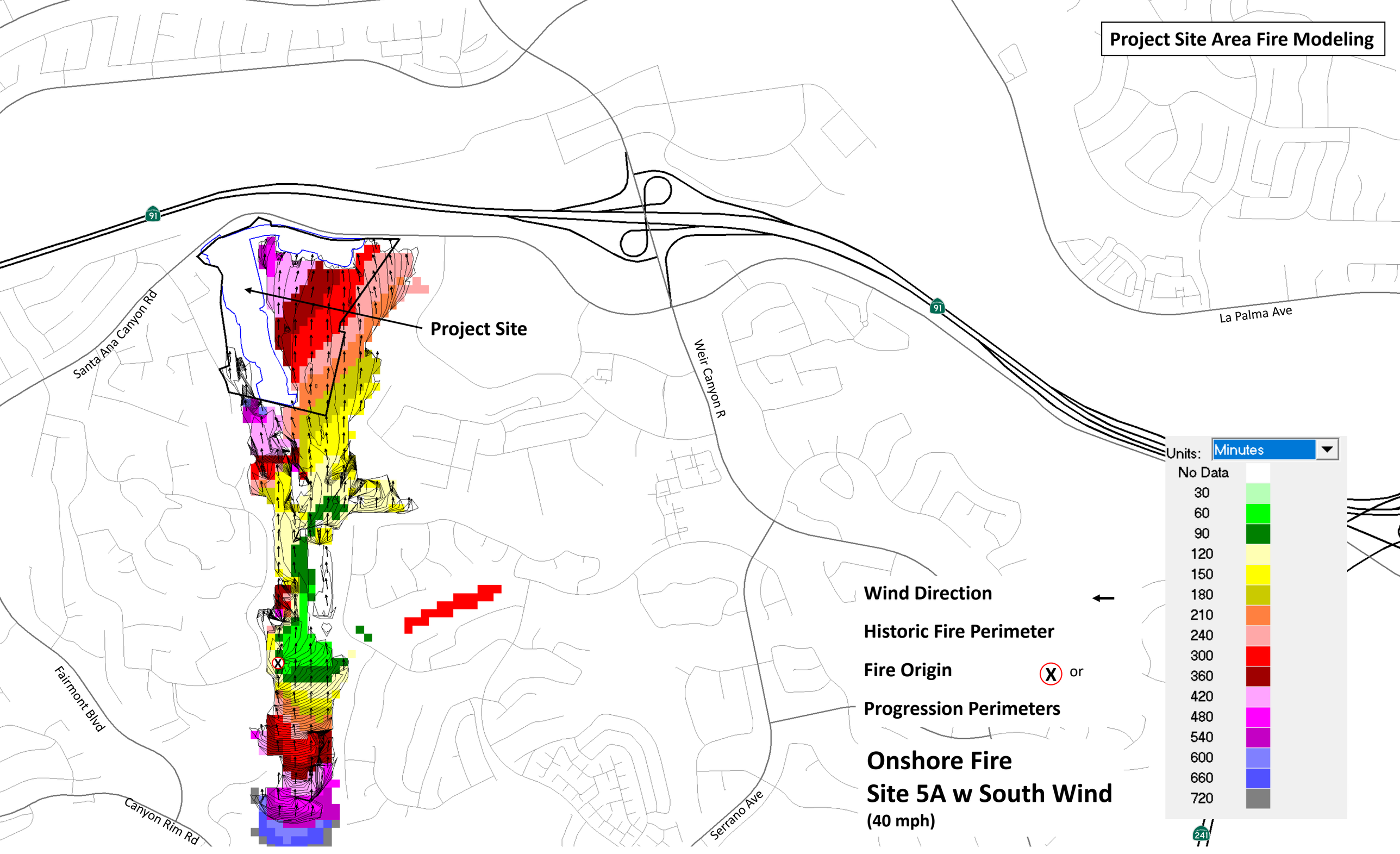


Project Site Area Fire Modeling

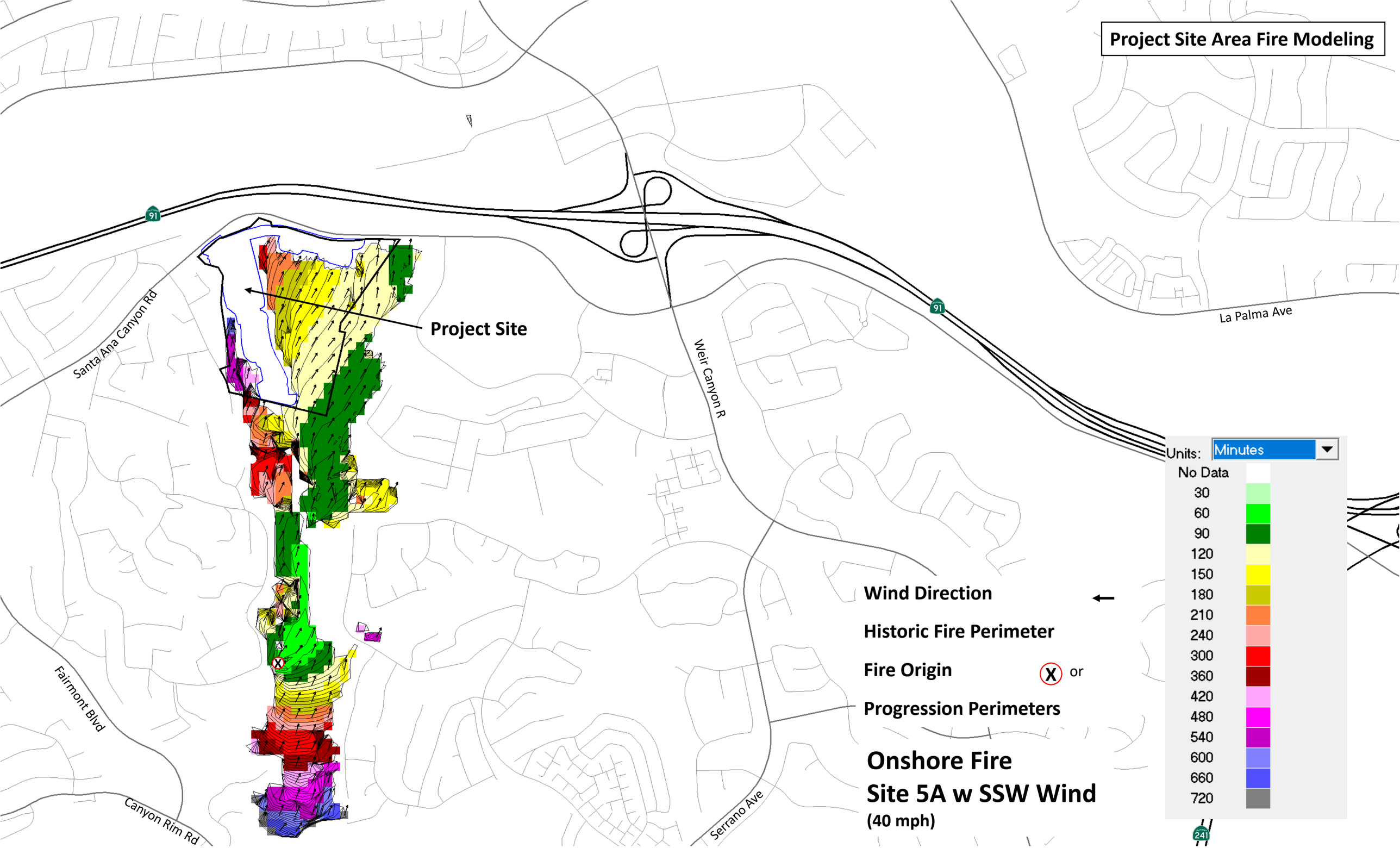


Project Site Fire Site 4B w NNE Wind (60 mph)

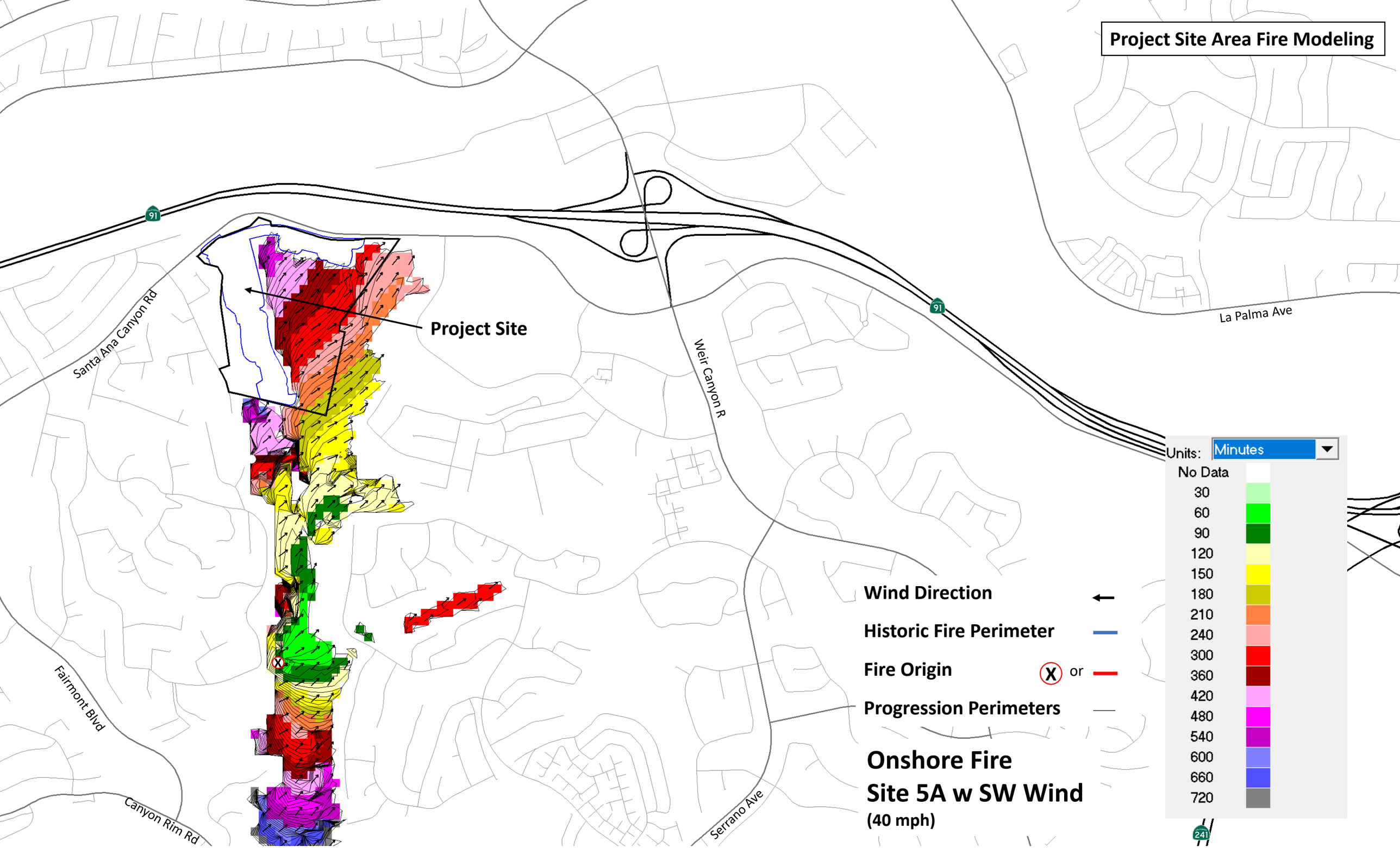
Project Site Area Fire Modeling



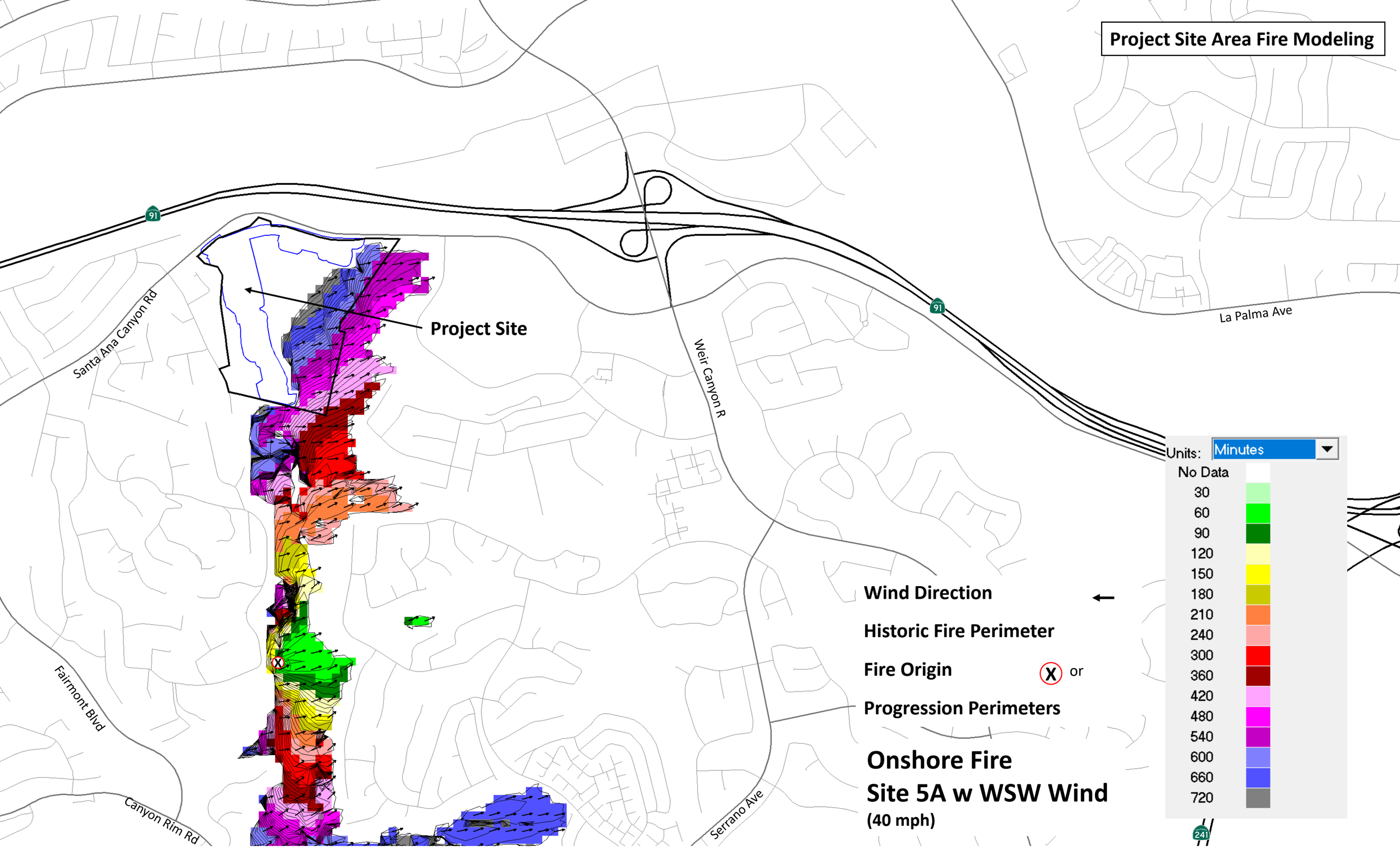
Project Site Area Fire Modeling



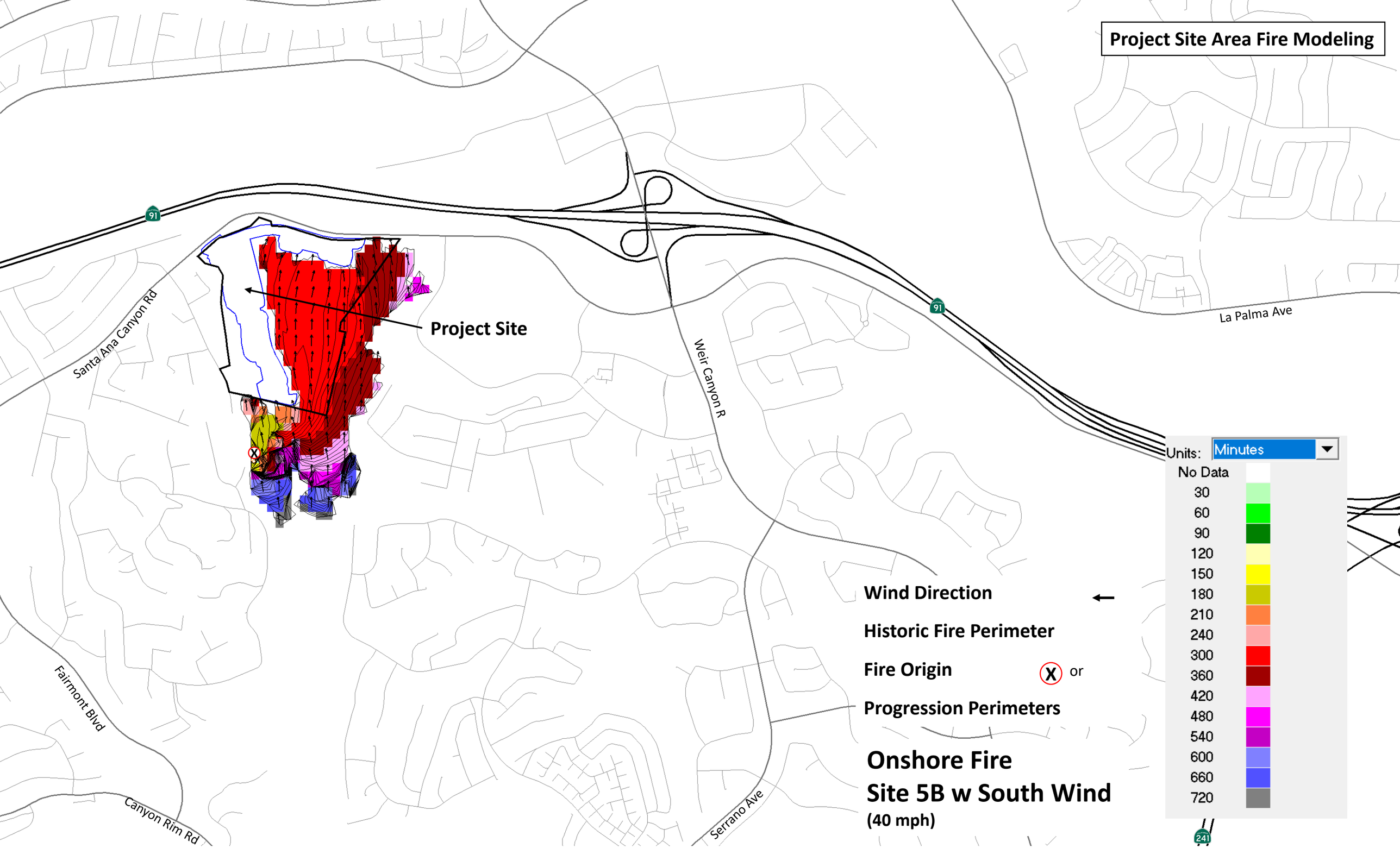
Project Site Area Fire Modeling



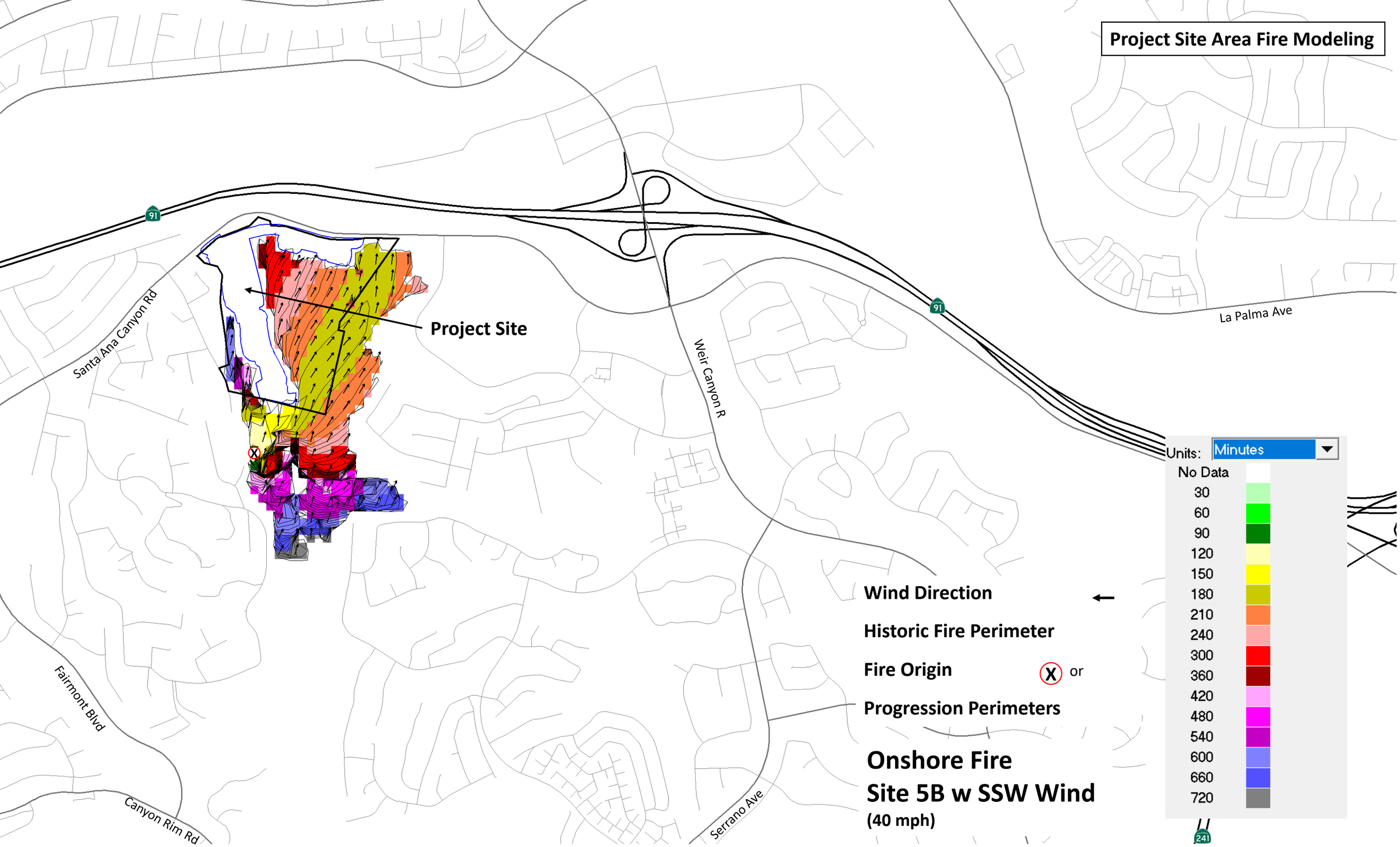
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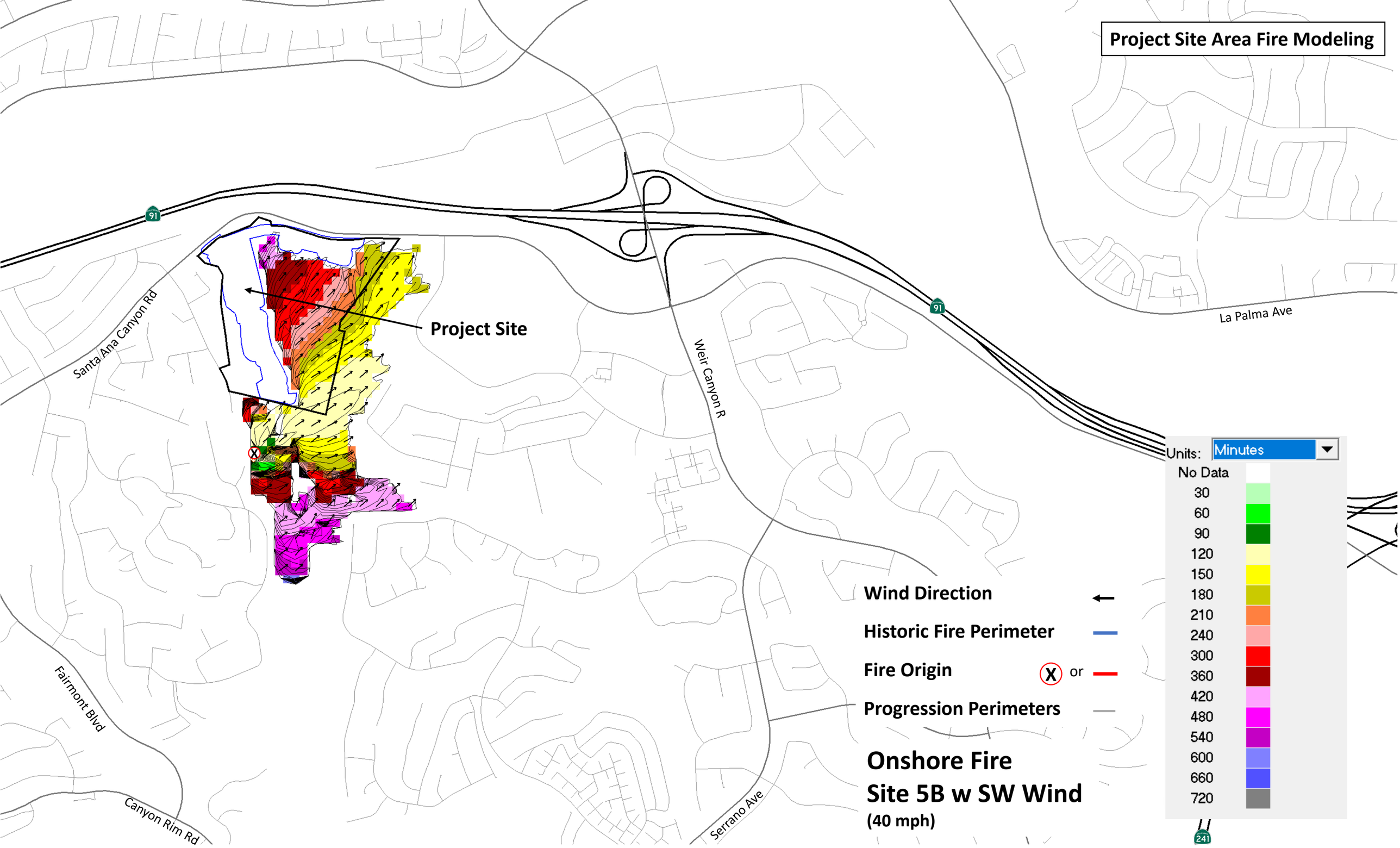
Project Site Area Fire Modeling



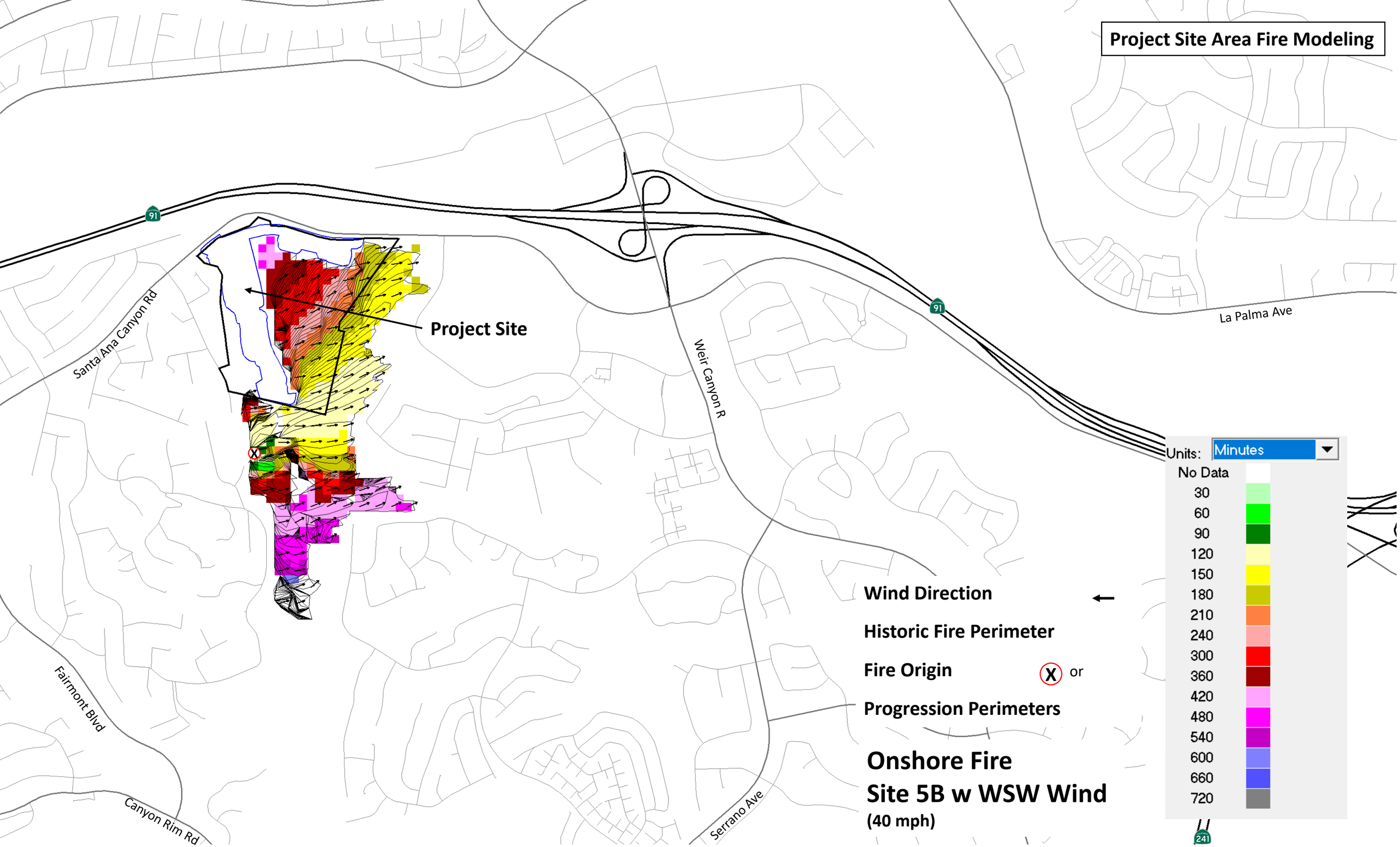
Project Site Area Fire Modeling



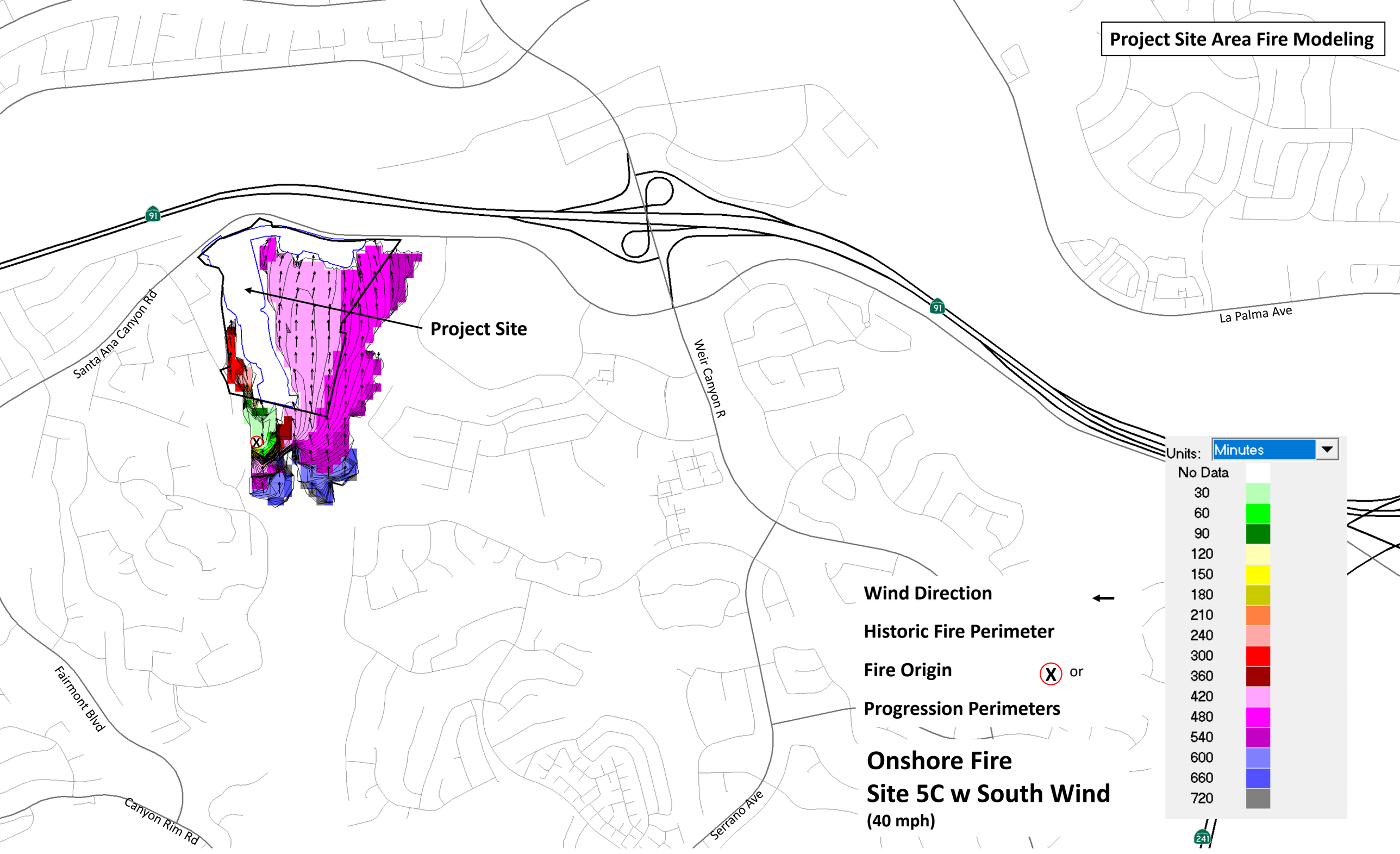
Project Site Area Fire Modeling



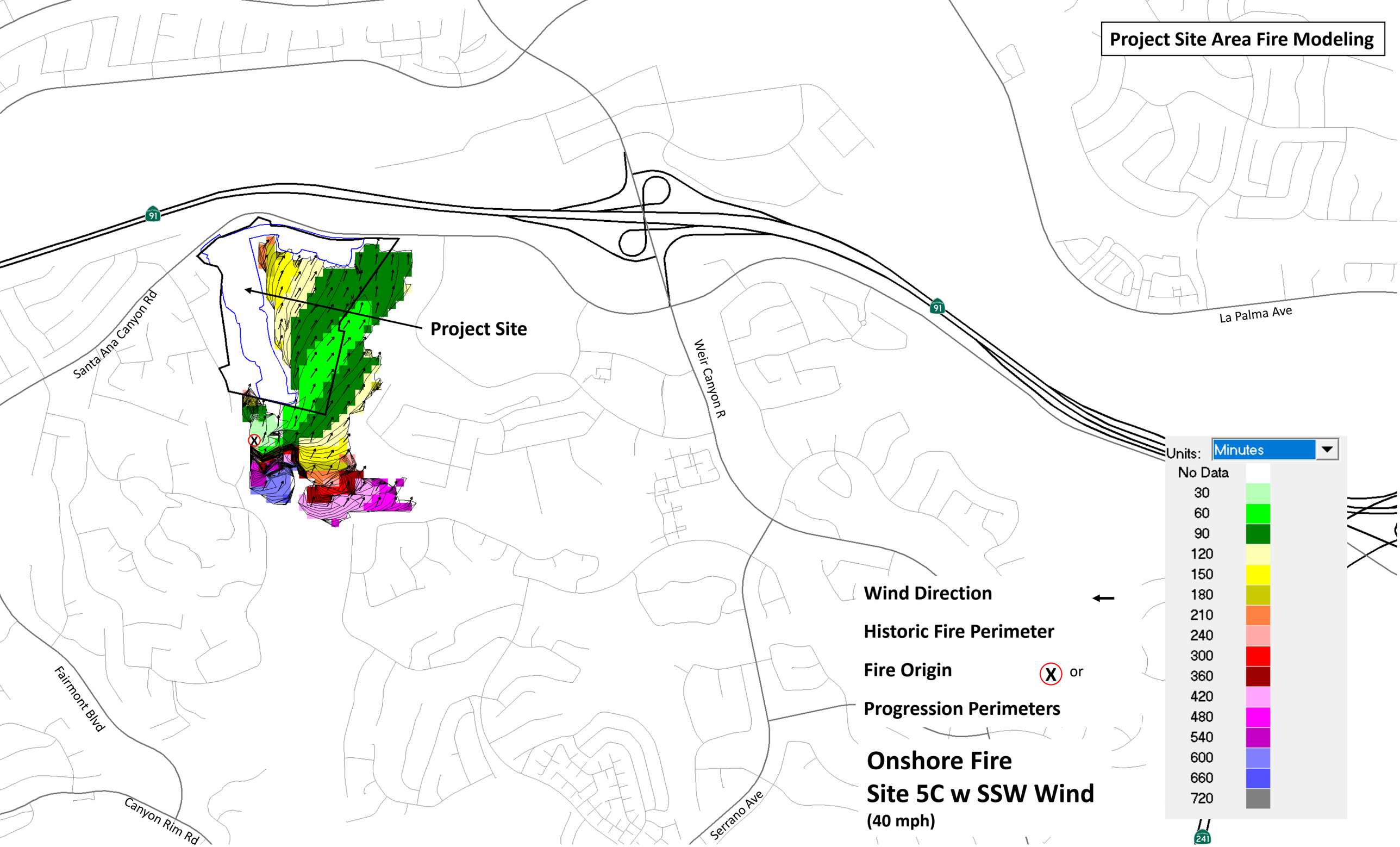
Project Site Area Fire Modeling



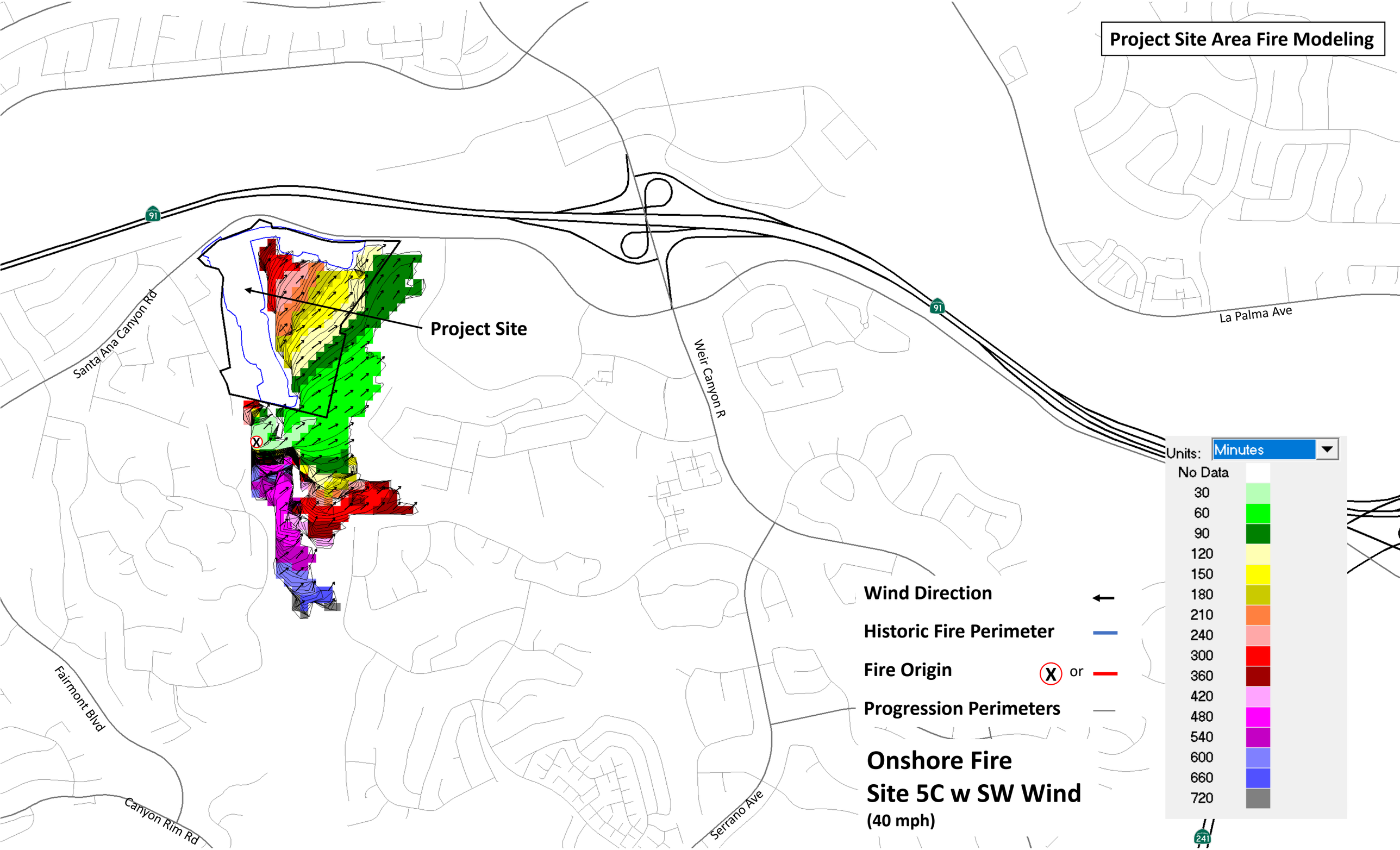
Project Site Area Fire Modeling



Project Site Area Fire Modeling



Project Site Area Fire Modeling



APPENDIX B

INTERSECTION LEVEL OF SERVICE CALCULATION WORKSHEETS

APPENDIX B-I

WITHOUT PROJECT TRAFFIC CONDITIONS

Intersection Level Of Service Report
Intersection 3: Imperial Highway at Santa Ana Canyon Road

Control Type:	Signalized	Delay (sec / veh):	-
Analysis Method:	ICU 1	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.541

Intersection Setup

Name	Imperial Highway			Imperial Highway			Santa Ana Canyon Road			Santa Ana Canyon Road		
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	1	1	0	1	1	0	1
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]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Imperial Highway			Imperial Highway			Santa Ana Canyon Road			Santa Ana Canyon Road		
Base Volume Input [veh/h]	69	985	0	0	2409	168	403	0	655	2086	4171	2086
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]	69	985	0	0	2409	168	403	0	655	2086	4171	2086
Peak Hour 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
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]	17	246	0	0	602	42	101	0	164	522	1043	522
Total Analysis Volume [veh/h]	69	985	0	0	2409	168	403	0	655	2086	4171	2086
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Cycle Length [s]	100
Lost time [s]	5.00

Phasing & Timing

Control Type	Protect	Permis	Permis	Protect	Permis	Permis	Protect	Permis	Permis	Protect	Permis	Overla
Signal Group	1	6	0	5	2	0	3	8	0	7	4	4
Auxiliary Signal Groups												4,5
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.02	0.19	0.00	0.00	0.47	0.10	0.12	0.00	0.39	0.61	0.82	0.61
Intersection LOS	F											
Intersection V/C	1.541											