
Appendix K

Fire Response Technical Memorandum

FIRE RESPONSE TECHNICAL MEMORANDUM

To:
From: Dudek Fire Protection Planning Team
Subject: Eddie Jones Way Industrial Project Fire and Medical Response Analysis
Date: January 20, 2023
cc: N/A
Attachment(s):
1. Modeled Emergency Response Time Results – Fire Station 7
2. Modeled Emergency Response Time Results – Fire Station 1

The following technical memorandum provides a summary of Dudek's fire service response analysis for the Eddie Jones Way Industrial Project (Project) in Oceanside, California. This letter provides a preliminary summary of the existing Oceanside Fire Department's (OFD) nearby resources, their modeled travel time responses into the Project, and their existing call volumes. The goal is to determine the potential impact of the Project on the OFD.

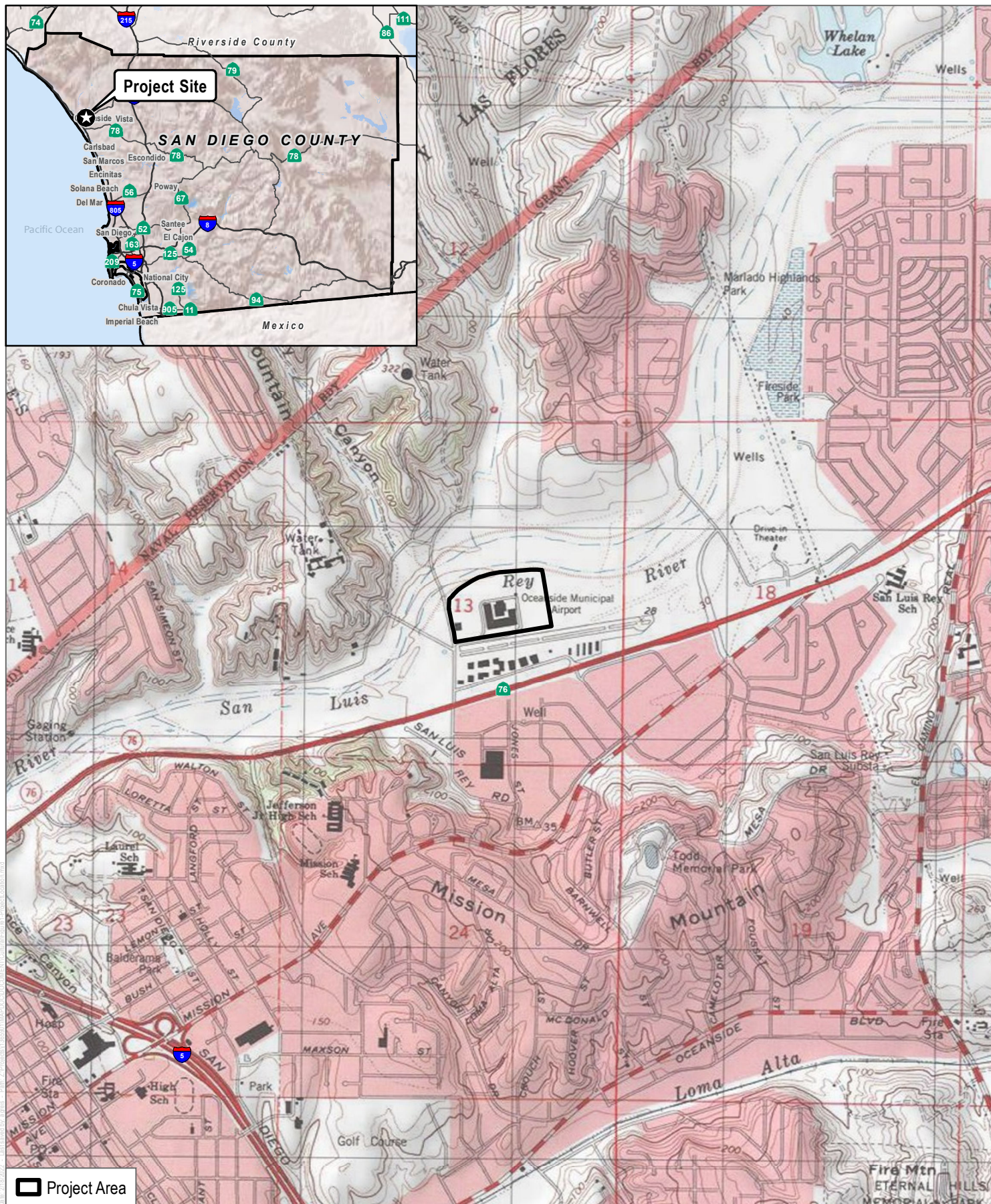
1 Assignment

Dudek's assignment was to:

- Conduct evaluation of existing, nearby OFD fire station travel times to the project site;
- Acquire existing call volumes for nearby stations to determine their current work load;
- Analyze generated information to determine if any of the Project site cannot be reached within the City's response time goal; and
- Analyze call volume information to determine if the Project's projected call load would significantly impact the ability of existing stations to provide response to the Project.

2 Project Description

The site is located on an approximately 31.79-acre site at 250 Eddie Jones Way in the City of Oceanside, California (City) as shown in Figure 1, Project Location. The project site is located within the Airport Neighborhood Planning Area and is bound by the Oceanside Municipal Airport to the south, Benet Road to the west, the San Luis Rey River



SOURCE: USGS 7.5-Minute San Luis Rey Quadrangle
Township 11S / Range 5W / Section 13

DUDEK



0 1,000 2,000
Feet
0 300 600
Meters
1:24,000

FIGURE 1

Project Location

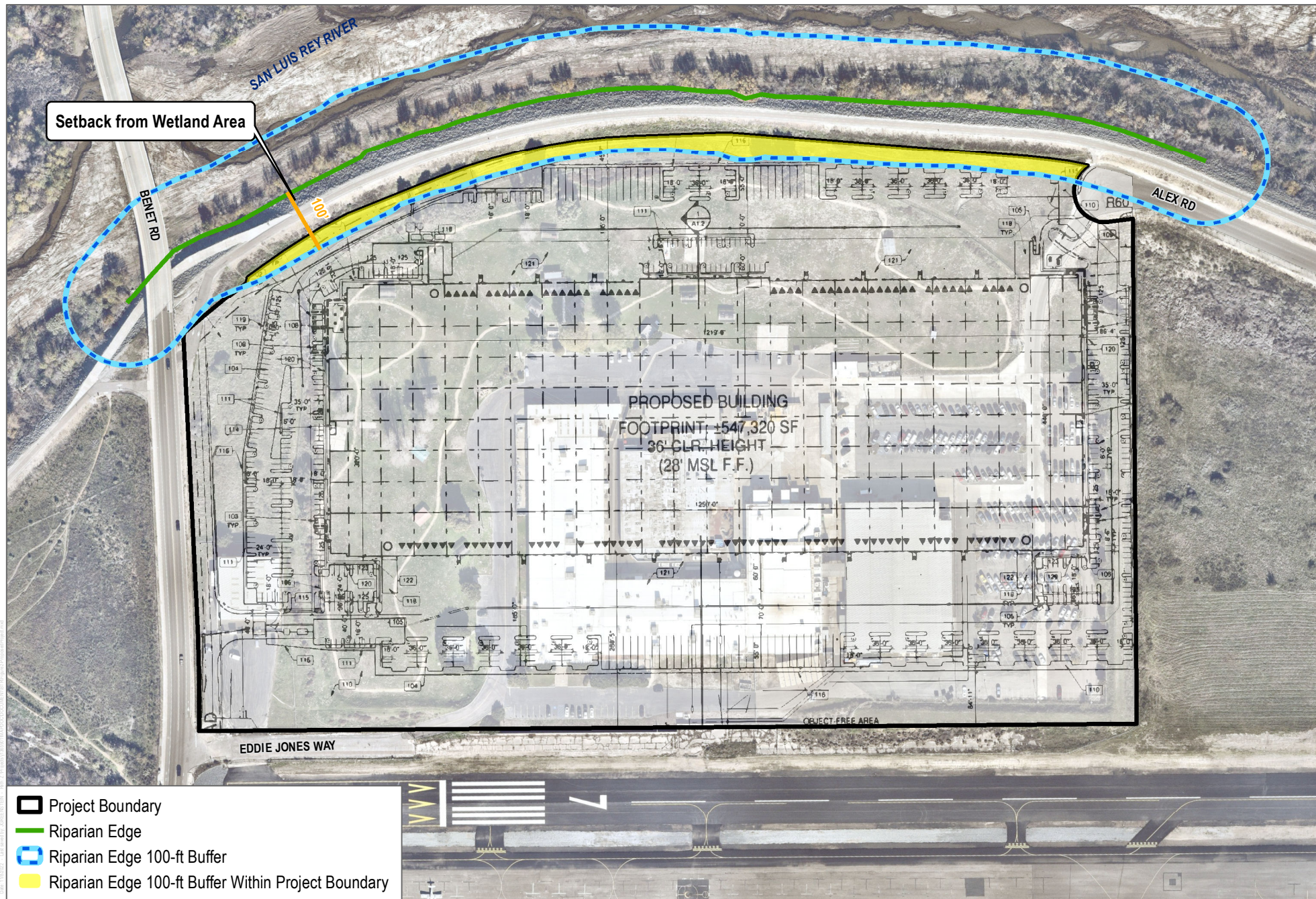
Eddy Jones Way Industrial

and recreational trail to the north and vacant light industrial land to the east. The terminus of Alex Road also connects to the site at its northeast corner. The project site is approximately 900 feet north of the Highway 76 corridor. The property is currently occupied by an approximate 172,300 square foot industrial manufacturing facility which was vacated in the summer of 2021. The General Plan designation for the property is Light Industrial (LI) with the associated zoning category of Limited Industrial (IL).

The proposed project consists of development of a new 566,905-square-foot warehouse and distribution facility (Figure 2, Site Plan). The proposed warehouse and distribution facility would consist of 369,415 square feet of warehouse area, 158,320 square feet of manufacturing space and 39,170 square feet of office area designed as a single building that could support multi-tenant occupancies. Separate office areas (with ground level and mezzanine level space) are planned at all four corners of the facility with associated warehouse/industrial space, adjacent parking, and access areas to facilitate multiple users. Development of the proposed project would include associated landscaping, stormwater features, 590 parking spaces for employee/visitor parking, 60 truck trailer parking stalls, and vehicle circulation area. Loading bays are proposed on the north and south sides of the building with a total of 114 truck terminals.

The Project is located within the jurisdiction of the Oceanside Fire Department (OFD). The OFD provides structural fire protection and advanced life support-level emergency medical services within the City limits as well as providing automatic aid to surrounding communities. The fire department operates eight Fire Stations, two of which (Stations 7 and 3) that would be considered first due and second due responder to an incident at the proposed Project site, although primary response would be from Station 7 due to its close proximity, with Station 3 responding as necessary. Table 1 presents a summary of the location for the two OFD stations responding to the site.

Fire Station	Location
Station 7	3350 Mission Avenue Oceanside, California 92058
Station 3	3101 Oceanside Boulevard Oceanside, California 92058



SOURCE: SANGIS 2020, 2022

FIGURE 2

Proposed Project

Eddie Jones Warehouse, Manufacturing & Distribution Facility Project

3 Methods

3.1 Travel Time Response Modeling

Dudek conducted a GIS-based travel time coverage modeling effort in order to determine if the project meets the OFD's response goal. The OFD indicates "the average initial total response standard in the City of Oceanside is to arrive within five minutes for 90% of the emergency calls received, including three minutes for travel time and 2 minutes for dispatch and turnout.

Travel time is one part of the overall response time and is based largely on the distance from the fire station to the project. The analysis that follows evaluates travel time and assumes the dispatch and turnout times as a constant i.e., 2 minutes, total.

3.2 GIS Response Travel Time Modeling

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

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

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

OFD has established internal goals for emergency response to all priority Level One or Emergency type calls within 5 minutes (3 minutes travel), 90% of the time. This is a more stringent response than suggested by the National Fire Protection Association (NFPA) which publishes a national guideline of 6

minutes and 30 seconds (4 minutes travel), 90% of the time. Travel time is one part of the overall response time and is based largely on the distance from the fire station to the project. The analysis that follows is based on travel time and assumes the dispatch and turnout times as a constant.

3.3 Modeling Results

As indicated in Table 2 and Attachments 1 and 2, response to the project site from the closest existing OFD fire station (Station 7) would arrive at the Project's entrances in less than 2 minutes travel and can reach all portions of the Project in under 3 minutes travel time (4 to 5 minutes total response time). This analysis indicates that the first arriving paramedic engine and ambulance from Station 7 can respond within OFD's five-minute total response goal to an estimated 100% of the project site. The other modeled OFD Fire Station (Station 1) is further away from the site and would have travel times of less than 5 minutes to 90 percent of the Project site and less than 6 minutes to the entire Project site and total response times ranging from 7:30 to 8:30 minutes.

Table 2
Oceanside Fire Department Fire Station Time Response to Project

Call Response Times	Estimated Percent of Eddie Jones Industrial Project Achievable			
	Fire Station 7		Fire Station 3	
	Travel Time	Total Response Time	Travel Time	Total Response Time
	Less than 5 minutes	100%	0%	0%

3.4 Response Time Capability Assessment

The Project includes a new warehouse facility. Service level requirements are anticipated to be minimal as opposed to a residential development at this site. However, it is clear that from a response time perspective, the project does comply with the City's total response time standard.

4 Call Volume Analysis

4.1 Estimated Calls and Demand for Service from the Project

The OFD estimates approximately 21,138 total annual calls (OFD 2019) and a City population of approximately 176,000 in 2019 (OFD 2023). The per capita call volume is roughly .12 for the City of Oceanside. The Project plans for up to 590 employees and visitors 5 days per week. As a conservative approach, this analysis assumes a population of 590 people on-site 16 hours per day and therefore, bases anticipated emergency calls on a 2/3rd day and 5/7th year timeframe since there would not be employees on site during the overnight hours (8 hours per day)

or on weekends (104 days per year). Therefore, the annual calls generated by the site's population are calculated on an annual basis and then discounted to more accurately represent the part-time status.

A population of 590 would generate approximately 71 calls per year if they were associated with a residential development. As a conservative approach, this analysis ignores the overnight depopulation and focuses on the absence of workers on weekends. Subtracting the 104 weekend days from 365 total days, there are people on site 261 days per year. This represents 72% of the year. Discounting the 71 calls per year generated from a full-time population by 28% results in a projected 51 calls per year, most of which are expected to be medical-related calls, consistent with typical emergency call statistics. Further discounting this number based on the 8 hours per day (overnight) where workers would not be on site, results in a total anticipated annual call volume of 34.

The closest OFD fire station, Station 7 currently responds to roughly 7 calls per day (2,600 calls per year) in its primary service area. This is a moderately busy fire station and adding calls can cumulatively create an impact and result in longer response times or stacked calls requiring assistance from more distant fire stations. It is anticipated that the Project's contributions, along with other projects' contributions to fire service and availability fees through property taxes and/or other avenues provide funding needed to augment service capabilities such that an impact is not experienced. Despite the current busy call load, an addition of 34 calls per year, or 1 call per 11 days, is not expected to significantly impact service level requirements.

5 Discussion and findings

5.1 Emergency Response

As presented, Station 7 is well-within the City's time response goal for first-in fire engine and medic ambulance to the entire Project site.

5.2 Call Volume/Load

The Project would generate emergency calls, primarily medical, proportionally with its population and less than full-time on-site status. At build out, there may be as many as 0.009 calls per day generated by the on-site population. The addition of one call per 11 days to a station that is currently running approximately 7 calls per day is not considered a significant increase. Based on the information provided by OFD, the Project's additional call volume should not cause a significant stress on the response capabilities. However, OFD would make the final determination, based on specific fire station call volumes (which were not provided for this analysis), whether the station would incur delayed response times or an increase in call volume that could not be absorbed.

6 Recommendations

The following Recommendation is provided based on the preceding analysis:

It is recommended that OFD provide emergency response to the proposed Project from Station 7. Factors supporting this recommendation are the absorbable number of calls that would be anticipated as the Project is built and the response time that is within range of local and national standards.

Please feel free to contact Dudek if you have any questions or need any additional information.

Attachment 1

Travel Time Response to Project from Existing Oceanside Fire Station 7



SOURCE: Bing 2022, Open Street Map 2019, County of San Diego 2022

FIGURE 3
Oceanside Fire Station 7 - Drive Times
 Eddie Jones Way Industrial Project, Fire Protection Plan

Attachment 2

Travel Time Response to Project from Existing Oceanside Fire Station 3

