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## MEMORANDUM

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**To:** Red Tail Acquisitions, LLC  
**From:** Robert Vander Weele, P.G.  
**Date:** 7/21/2022  
**Subject:** Traffic Noise, Arrive Fairfield Workforce Housing Project, Fairfield, California

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Padre Associates, Inc. (Padre) has prepared this Memorandum regarding noise levels at the Arrive Fairfield Workforce Housing Project (Project), located at 1176 Sunset Avenue, Fairfield, California (Project Site). The Project proposes to construct a multi-family residential housing development within the Project Site.

Padre understands that City of Fairfield California (City) has raised concerns over noise levels at the Project Site and indicated that a noise study may be needed as part of the proposed Project's California Environmental Quality Act (CEQA) process. Red Tail Acquisitions, LLC (RTA) requested that Padre review the City's General Plan and review the proposed Project plans to evaluate the need for a noise study for the proposed Project, below is a summary of Padre's review and evaluation.

### **Review of General Plan**

The City's General Plan, Health and Safety Element establishes the following maximum allowable transportation noise exposure levels for residential land use:

- 60 decibels (dB) for residential outdoor activity areas
- 45 dB for residential interior spaces

The General Plan indicates that new residential zoning will not be applied to land where exterior noise levels exceed the exposure levels. Noise levels that exceed the noise exposure levels in outdoor activity areas and/or interior spaces are required to be mitigated.

### **Evaluation of the Proposed Project and Surrounding Area**

The Project Site consists of three parcels totaling approximately 8.71-acres in size which are identified by the Solano County Assessor's Office as Assessor's Parcel Numbers (APN) 0037-030-200, 0037-030-210, and 0037-060-480. The proposed Project consists of the development of multi-family residential development. The Project Site is located within a residential neighborhood consisting of single-family multi-family developments currently zoned medium residential with a density of 8 to 15 dwellings per acre. Grange Middle School is located within approximately 500 feet to the east of the Project Site. Laurel Creek Flood Control Channel borders the eastern boundary of the Project Site. Based on a review of the

surrounding area, no point noise sources appear to be located within approximately 2,000 feet of the Project Site. Residential traffic on South Sunset Avenue and East Tabor Avenue appears to be the main source of noise in the Project Site area. The speed limit on these roads is indicated at a maximum of 35 miles per hour.

Based on a review of the proposed Project plans provided to Padre, outdoor activity areas are proposed to be located in the eastern and central portions of the Project Site at distances of 150 feet or more from South Sunset Avenue and East Tabor Avenue. The proposed Project would utilize appropriate construction materials and noise mitigation measures that would ensure the reduction of noise levels within the residential building interiors.

### **Noise Attenuation**

Sound from a localized source (point source) propagates uniformly outward in a spherical pattern, and the sound level decreases at a rate of 6 dB each time the distance doubles from a point or stationary source. Roadways and highways consist of several localized noise sources on a defined path; these are treated as “line” sources, which approximate the effect of several point sources. Sound levels for line sources decrease at a rate of 3 dB for each time the distance doubles from a line source. Therefore, noise from a line source decreases less with distance than noise from a point source. The California Department of Transportation (Caltrans) indicates that a busy urban street traffic has a sound level of approximately 70 dB to 74 db at 50 feet (Caltrans, 2022). A typical residential street would have lower traffic speed, lower traffic volume and traffic would on average consist of cars and light trucks. The Traffic Noise Screening (TNS) procedure is a screening tool developed by using the Federal Highway Administration (FHWA) noise prediction models (JAWMA, 1995). Using the TNS procedure noise levels 50 feet from the center line of a 2-lane roadway with traffic travelling at a speed of 35 MPH at a volume of 200 vehicles per hour would be approximately 55 dB.

### **Summary**

The Project Site is located within an area currently zoned as residential. According to the General Plan the land use of the proposed Project is consistent with current zoning. No point noise sources appear to be located within approximately 2,000 feet. Traffic related noise appears to be the main noise source for the Project Site. Using the noise level of a typical two-lane roadway as a traffic noise scenario the areas of the Project Site immediately adjacent to the street would likely receive noise levels ranging from 55 to 60 dB, however noise levels would attenuate with distance from the roadway. Outdoor activity areas of the proposed Project would likely receive traffic noise levels well below the City’s residential outdoor activity area noise limit of 60 dB. In addition, the residential structures of the Proposed Project would likely further attenuate the noise levels at the proposed outdoor activity areas.

### **Recommendation**

Padre does not recommend a noise study for the Proposed Project at this time.

## References

Journal of the Air & Waste Management Association (JAWMA), 1995, Prediction of Traffic Noise: A Screening Technique, September

California Department of Transportation (CalTrans), 2022, Typical Noise Levels Intensity Scale, accessed at <https://dot.ca.gov/programs/maintenance/pavement/noise-levels>, accessed on July 19, 2022.