

Technical Memorandum

To: Steven Valdez, Senior Planner
 County of San Bernardino

From: Eliza Laws, Senior Environmental Analyst
 Monica Tobias, Associate Environmental Analyst

Date: September 2, 2021

Re: Air Quality/Greenhouse Gas Analysis/ Energy/HRA Evaluation for the 15719 and 15755 Arrow Route Warehouse Project (CUP No. 2020-00235)

The following memorandum was prepared to evaluate whether the proposed changes to the warehouse building size and warehouse building orientation of the 15719 and 15755 Arrow Route Warehouse Project (CUP No. 2020-00235) (see **Figure 1**) would cause exceedances of the South Coast Air Quality Management District's (SCAQMD) thresholds for air resources in the Project area, whether the greenhouse gas (GHG) emissions would cause exceedances of the County's *Greenhouse Gas Development Review Processes* (DRP) screening threshold, and whether the expected diesel particulate matter (DPM) emissions generated exceed the SCAQMD's thresholds for air toxics. The evaluation will entail a qualitative discussion.

In May 2021, Albert A Webb Associates (WEBB) prepared an Air Quality and Greenhouse Gas Analysis, Health Risk Assessment (HRA), and Energy consumption calculations for the 15719 and 15755 Arrow Route Warehouse Project (CUP No. 2020-0023) (hereinafter referred to as the Project). At the time the studies were prepared, the proposed Project included an approximately 196,654-square foot (sf) warehouse of which 4,000 sf was office space with 22 truck loading docks. The Project was designed to include two office areas and employee parking along Arrow Route and the loading dock and truck trailer parking lot were located on the south side of the building (see **Figure 2**). The Project site was redesigned in August 2021. As a result, the building's orientation changed and the size of the warehouse building increased by 13,105 sf to a total of 209,759 sf and the loading dock number increased by 6 docks to 28 docks. The warehouse increased approximately 6.7 percent in building size compared to the smaller 196,654-sf building that was previously analyzed. The current Project site design includes one office area with 10,000 sf split between two levels, an employee parking area on the eastern portion of the Project site and loading docks and the truck trailer parking area on the west side of the Project site. See the summary of changes in **Table A** below.

Table A – Project Changes

Project Elements	Previously Analyzed Project	Current Project	Delta
Building Size (sf)	196,654	209,759	13,105
Loading Docks	22	28	6

No changes to construction timing, construction equipment, land use, or offsite improvements result from the updated Project. As such, construction-related emissions were assumed to be similar to those previously estimated and are not discussed further in this analysis.

Air Quality and Greenhouse Gas Evaluation

The Air Quality and Greenhouse Gas Analysis previously prepared evaluated the smaller 196,654 sf warehouse building with a total of approximately 343 vehicular trips per day, which included 225 passenger car trips and 118 truck trips. Below is a summary of the results of the Air Quality and Greenhouse Gas Analysis for the 196,654 sf warehouse building which concluded that the Project would not exceed criteria pollutant thresholds established by SCAQMD on a regional or localized level and that the Project's total GHG emissions would not exceed the County's screening threshold of 3,000 metric tons of carbon dioxide equivalent per year (MTCO₂E/yr). Additionally, the Air Quality and Greenhouse Gas Analysis concluded that the Project would not result in CO hot spots.

Regional - Daily Operational Emissions

Source	Peak Daily Emissions (lb/day)					
	VOC	NO _x	CO	SO ₂	PM-10	PM-2.5
SCAQMD Daily Operational Thresholds	55	55	550	150	150	55
Summer Maximum Emissions	5.96	24.53	20.20	0.15	8.38	2.36
Exceeds Threshold?	No	No	No	No	No	No
Winter Maximum Emissions	5.89	24.95	17.85	0.14	8.38	2.36
Exceeds Threshold?	No	No	No	No	No	No

Source: Air Quality and Greenhouse Gas Analysis, Table 3 and Table 4

Localized - Daily Operational Emissions

Source	Peak Daily Emissions (lb/day)			
	NO _x	CO	PM-10 ¹	PM-2.5 ¹
LST Threshold for 5-acre at 200 meters	486	8,532	26	9
On-Site Mobile	8.60	1.43	0.05	0.02
Exceeds Threshold?	No	No	No	No

Source: Air Quality and Greenhouse Gas Analysis, Table 6

Total Project-Related GHG Emissions

Source	Metric Tons per year (MT/yr)			
	CO ₂	CH ₄	N ₂ O	Total CO ₂ E
Amortized Construction	--	--	--	33.26
Vegetation	--	--	--	-3.23
Area, Energy, Solid Waste, Water	13.57	1.60	0.00	225.25
Mobile	2,480.69	0.10	0.00	2,483.11
Total	2,664.26	1.70	0.00	2,738.39
Exceeds 3,000 CO₂E Threshold?	No			

Source: Air Quality and Greenhouse Gas Analysis, Table 9

As previously indicated, the current Project design increased the previously analyzed warehouse building by 6.7 percent and added an additional 13,105 sf for a total of 209,759 sf of warehouse space. This larger 209,759-sf warehouse would also increase the overall vehicle trips and generate 239 daily passenger vehicles trips and 126 daily truck trips for a total of 365 daily vehicle trips per day.¹ As shown in **Table B**, the current Project's daily passenger vehicles trips would increase by 6.2 percent or 14 more

¹ Traffic Impact Analysis (TIA) and Vehicle Miles Traveled (VMT) Screening Analysis for WPT Arrow Industrial Warehouse Development at 15755 Arrow Boulevard in the County of San Bernardino, California (TRSTY-2021-00006) (August 2021)

trips; the daily truck trips would increase by 6.8 percent, or 8 more trips, and the total daily vehicle trips would increase by 6.4 percent, or 22 more trips.

Table B – Daily Vehicle Trips Comparison

Daily Vehicle Trips	Previously Analyzed Project	Current Project	Delta	Percent Change
Passenger Vehicle Trips	225	239	14	6.2
Truck Vehicle Trips	118	126	8	6.8
Total Vehicle Trips	343	365	22	6.4

As discussed above, and shown in **Table A**, the current Project's larger 209,759-sf warehouse building is approximately 6.7 percent larger than the Project's smaller 196,654-sf warehouse building previously analyzed. The traffic associated with the current Project's larger building, shown in **Table B**, would also increase approximately 6.4 percent.

The nominal increase in building size and in daily vehicle trips as a result of the larger warehouse building would not result in new or substantively different or substantively increased air quality or greenhouse emissions than those disclosed in the Air Quality and Greenhouse Gas Analysis and no new mitigation would be required.

Energy Evaluation

Energy calculations were conducted for the Project to determine energy demand for the Project. The Project's annual operational energy demand for the smaller 196,654-sf warehouse building is approximately 593,575 Kilowatt-hour (kWh) of electricity per year, 281,210 Kilo British Thermal Units (kBtu) of natural gas per year, and 81,935 gallons of gasoline and 150,663 gallons of diesel per year. The current Project with the larger warehouse building would adhere to the same applicable regulations and incorporate the same design features as the prior Project design. Since the current Project proposes a warehouse building that is approximately 6.7 percent larger, then a similar increase in energy consumption would occur. However, the increase in energy consumption as a result of the larger warehouse building would not significantly increase energy demand from what was previously analyzed. Therefore, the current Project's operational energy consumption would not result in wasteful, inefficient, or unnecessary consumption of energy resources and no new mitigation would be required.

Health Risk Assessment Evaluation

The Health Risk Assessment (HRA) prepared for the Project modeled the smaller 196,654-sf warehouse. The HRA evaluated cancer risk from diesel particulate matter (DPM) for eleven receptors near the Project vicinity. The HRA concluded that the maximum cancer risk at modeled receptors was 1.1 per million and that none of the modeled receptor locations were exposed to excess cancer risks from DPM on the modeled roadways that exceed the SCAQMD threshold of 10 in one million. Non-cancer risks associated with the Project is less than one percent of SCAQMD's allowed threshold of one (1). The current Project proposes a slightly larger warehouse building and would generate more trucks that would increase DPM in the vicinity. However, this increase is only 6.8 percent more, or 8 truck trips). The nominal increase in daily truck trips as would not result in new or substantively different or substantively increased DPM impacts than the impacts disclosed in the HRAs and no new mitigation would be required.

H:\2020\20-0225\GIS\Fig 5 - Site Plan.mxd; Map created 13 Aug 2021

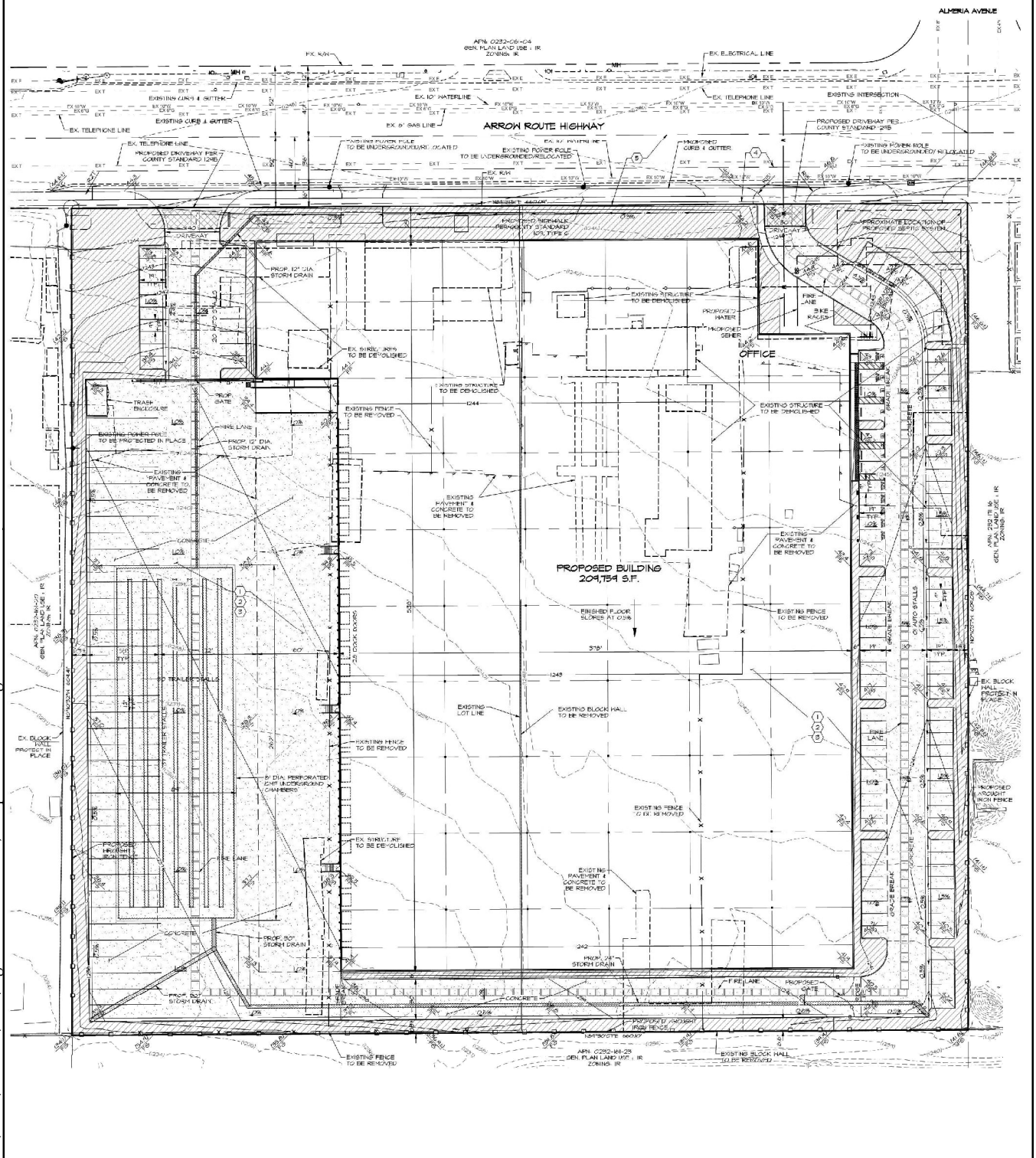


Figure 2 – Revised Site Plan
15719 and 15755 Arrow Route Warehouse



Not to Scale

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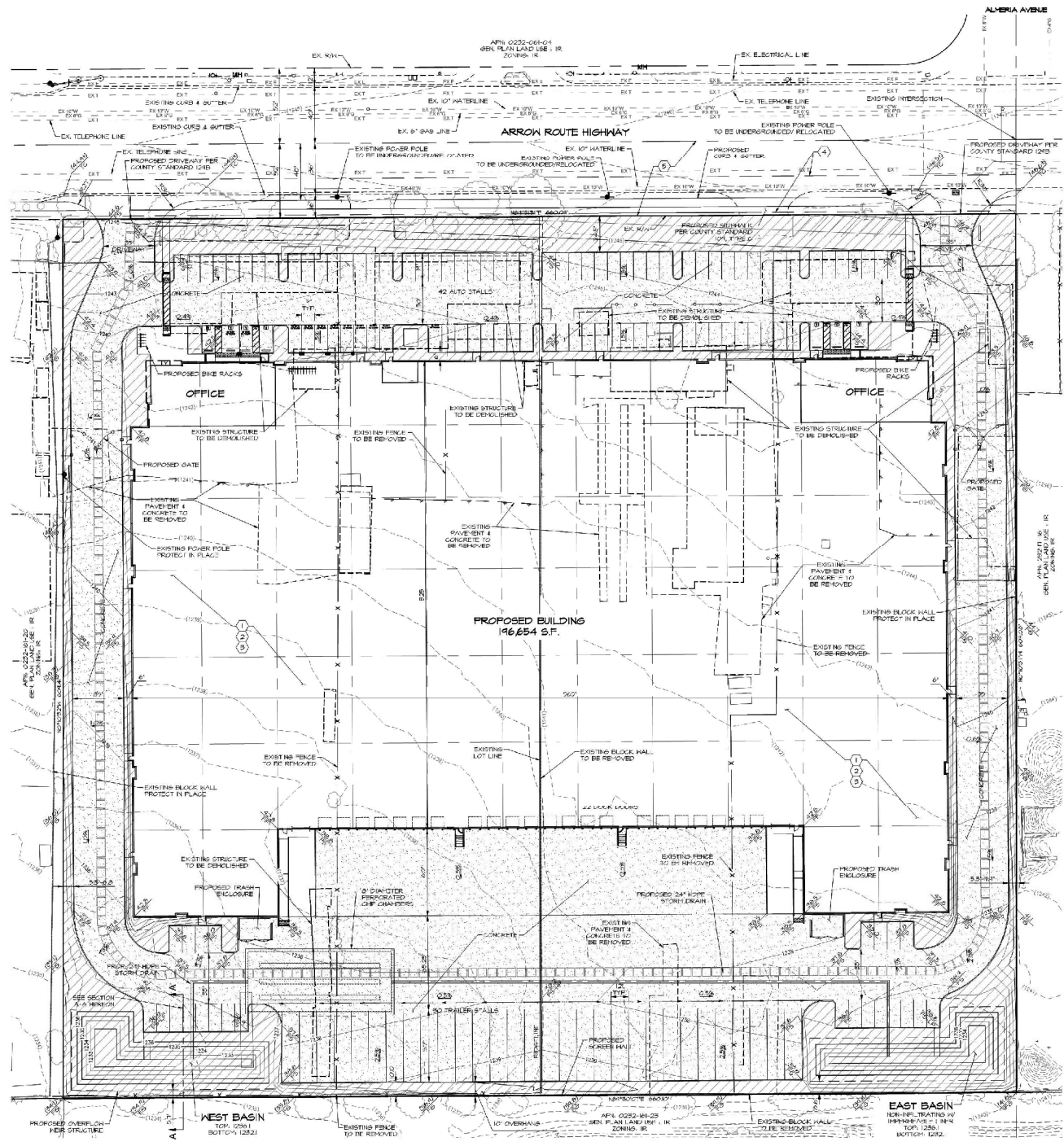


Figure 1 – Original Site Plan
15719 and 15755 Arrow Route Warehouse



Not to Scale