

**DATE:** February 28, 2023  
**TO:** Tracy Zinn, T&B Planning, Inc.  
**FROM:** Haseeb Qureshi, Urban Crossroads, Inc.  
**JOB NO:** 15283-02 AQ & GHG

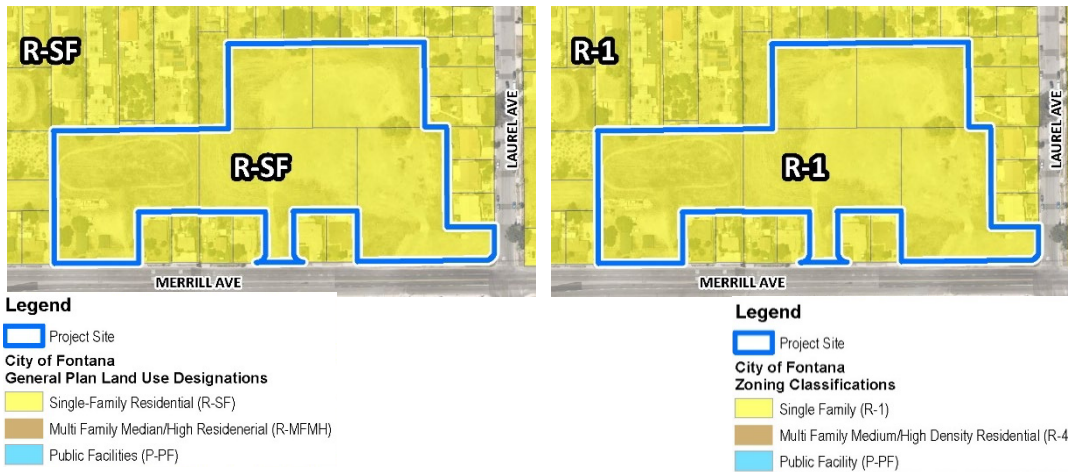
## **ALDER AND MERRILL AIR QUALITY AND GREENHOUSE GAS EVALUATION**

Urban Crossroads, Inc. is pleased to provide the following Air Quality and Greenhouse Gas Evaluation for the Alder and Merrill (**Project**), which is located north of Merrill Avenue, between Alder Avenue and Laurel Avenue in the City of Fontana.

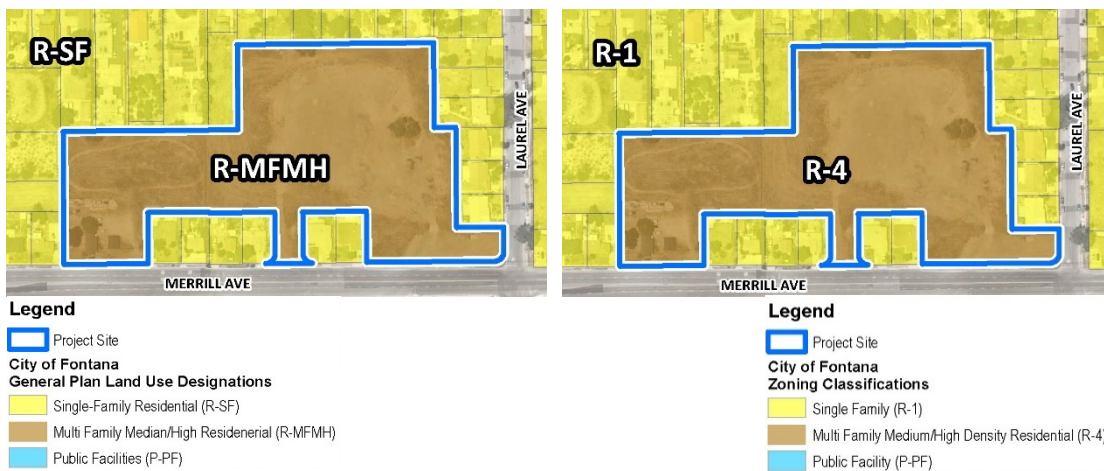
### **PROJECT OVERVIEW**

The Project consists of a proposed General Plan Amendment (**GPA**) and a Zone Change (**ZC**) for a 6.4-acre property that is located in the City of Fontana north of Merrill Avenue, between Alder Avenue and Laurel Avenue, and south of Citron Avenue. The GPA would change the General Plan land use designation of the Project site from Single Family Residential (**R-SF**) to Multifamily Medium High-Density Residential (**R-MFMH**) and the zoning of the Project site from Single Family Residential (**R-1**) to Multifamily Medium/High Density Residential (**R-4**). The existing General Plan land use and zoning are shown on Exhibit 1 and the proposed GPA and ZC are shown on Exhibit 2. The increased unit count allowance would increase from a maximum of 32 residential units (6.4 acres x 5.0 units/acre = 32 units) to 249 residential units (6.4 acres x 39 units/acre = 249 units), for a net increase of 217 units assuming maximum development potential under the existing and proposed designations. No development project is currently proposed, and no physical disturbance of the Project site is currently proposed. Only the proposed change to the underlying land use has been evaluated as part of this assessment.

**EXHIBIT 1: EXISTING GENERAL PLAN LAND USE AND ZONING**



**EXHIBIT 2: PROPOSED CHANGE OF ZONE**



**AIR QUALITY EMISSIONS**

In May 2022, the California Air Pollution Control Officers Association (CAPCOA) in conjunction with other California air districts, including SCAQMD, released the latest version of the CalEEMod Version 2022.1. The purpose of this model is to calculate construction-source and operational-source criteria pollutant (VOCs, NO<sub>x</sub>, SO<sub>x</sub>, CO, PM<sub>10</sub>, and PM<sub>2.5</sub>) and GHG emissions from direct and indirect sources; and quantify applicable air quality and GHG reductions achieved from mitigation measures (1). Accordingly, the latest version of CalEEMod has been used for this Project to determine construction and operational air quality and greenhouse gas emissions.

### **EXISTING GENERAL PLAN LAND USE/ZONING**

The existing General Plan land use designation of the Project site is R-SF and the zoning is R-1 which allows for a maximum development 32 residential units (6.4 acres x 5.0 units/acre = 32 units).

The estimated operation-source emissions associated with the existing General Plan land use designation are summarized on Table 1. Detailed operation model outputs are presented in Attachment A.

**TABLE 1: AIR QUALITY EMISSIONS FOR EXISTING GENERAL PLAN LAND USE**

Land Use	Emissions (lbs/day)					
	VOC	NO <sub>x</sub>	CO	SO <sub>x</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Single Family Detached Housing	2.88	1.77	10.95	0.02	0.70	0.18

### **PROPOSED GENERAL PLAN LAND USE/ZONING**

The GPA would change the General Plan land use designation of the Project site to R-MFMH and the zoning of the Project site R-4, which allows for a maximum of 249 residential units (6.4 acres x 39 units/acre = 249 units). The net increase is 217 units assuming maximum development potential under the existing (32 units) and proposed (249 units) designations.

The estimated operation-source emissions associated with the proposed General Plan Land Use are summarized on Table 2. Detailed operation model outputs are presented in Attachment B.

**TABLE 2: AIR QUALITY EMISSIONS FOR PROPOSED GENERAL PLAN LAND USE**

Land Use	Emissions (lbs/day)					
	VOC	NO <sub>x</sub>	CO	SO <sub>x</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Multifamily (Mid-Rise) Residential	11.68	8.30	49.10	0.09	2.75	0.83

### **AIR QUALITY EMISSIONS COMPARISON**

Table 3 shows the emissions comparison between the proposed and existing General Plan Land Use/Zoning. The resulting net emissions are identified on Table 3.

**TABLE 3: NET AIR QUALITY EMISSIONS (PROPOSED – EXISTING GENERAL PLAN LAND USE)**

Land Use	Emissions (lbs/day)					
	VOC	NO <sub>x</sub>	CO	SO <sub>x</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Current General Plan (R-SF): Single Family	2.88	1.77	10.95	0.02	0.70	0.18
Proposed General Plan (R-MFMH): Multifamily	11.68	8.30	49.10	0.09	2.75	0.83
<b>Net Emissions (Proposed – Existing)</b>	<b>8.80</b>	<b>6.53</b>	<b>38.15</b>	<b>0.07</b>	<b>2.05</b>	<b>0.65</b>

## GREENHOUSE GAS EMISSIONS

### EXISTING GENERAL PLAN LAND USE/ZONING

The existing General Plan land use designation of the Project site is R-SF and the zoning is R-1 which allows for a maximum development of 32 residential units (6.4 acres x 5.0 units/acre = 32 units). The estimated GHG emissions for the existing General Plan use are summarized on Table 4. The estimated GHG emission include emissions from Carbon Dioxide (CO<sub>2</sub>), Methane (CH<sub>4</sub>), Nitrous Oxide (N<sub>2</sub>O), and Refrigerants (R). As shown on Table 4, the existing General Plan Land Use would generate a total of approximately 426.65 MTCO<sub>2</sub>e/yr.

**TABLE 4: GHG EMISSIONS FOR EXISTING GENERAL PLAN LAND USE**

Land Use	Emissions (MT/yr)
	Total CO <sub>2</sub> E
Single Family Detached Housing	<b>426.65</b>

### PROPOSED GENERAL PLAN LAND USE/ZONING

The GPA would change the General Plan land use designation of the Project site to R-MFMH and the zoning of the Project site R-4, which allows for a maximum of 249 residential units (6.4 acres x 39 units/acre = 249 units). The net increase is 217 units assuming maximum development potential under the existing (32 units) and proposed (249 units) designations. The estimated GHG emissions for the proposed General Plan Land Use are summarized on Table 5 and as shown, the proposed General Plan Land Use would generate a total of approximately 1,600.18 MTCO<sub>2</sub>e/yr.

**TABLE 5: GHG EMISSIONS FOR PROPOSED GENERAL PLAN LAND USE**

Land Use	Emissions (MT/yr)
	Total CO <sub>2</sub> E
Multifamily (Mid-Rise) Residential	<b>1,600.18</b>

## GREENHOUSE GAS EMISSIONS COMPARISON

Table 6 shows the GHG emissions comparison between the proposed and existing General Plan Land Use/Zoning. The resulting net GHG emissions are identified on Table 6 and as shown, the proposed General Plan Land Use would generate a net increase of approximately 1,173.53 MTCO<sub>2</sub>e/yr, as compared to the existing General Plan Land Use.

**TABLE 6: NET GHG EMISSIONS (PROPOSED – EXISTING GENERAL PLAN LAND USE)**

Land Use	Emissions (MT/yr)
	Total CO <sub>2</sub> E
Current General Plan (R-SF): Single Family	426.65
Proposed General Plan (R-MFMH): Multifamily	1,600.18
Net Emissions (Proposed – Existing)	<b>1,173.53</b>

## REFERENCES

1. **California Air Pollution Control Officers Association (CAPCOA)**. California Emissions Estimator Model (CalEEMod). [Online] May 2022. [www.caleemod.com](http://www.caleemod.com).

**ATTACHMENT A**  
**CALEEMOD EXISTING GENERAL PLAN EMISSIONS MODEL**  
**OUTPUTS**

**ATTACHMENT B**  
**CALEEMOD PROPOSED GENERAL PLAN EMISSIONS MODEL**  
**OUTPUTS**