Fairview Specific Plan Update

Draft Initial Study – Mitigated Negative Declaration

prepared by

Alameda County
Planning Department
224 West Winton Avenue
Hayward, California 94544
Contact: Albert Lopez, Planning Director

prepared with the assistance of

Rincon Consultants, Inc.
449 15th Street, Suite 303
Oakland, California 94612

*In association with Barry Miller Consulting * Berkeley, California*

May 2020

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Environmental Scientists | Planners | Engineers
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Initial Study

1. Project Title

Fairview Specific Plan Update

2. Lead Agency Name and Address

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5. Location and Setting

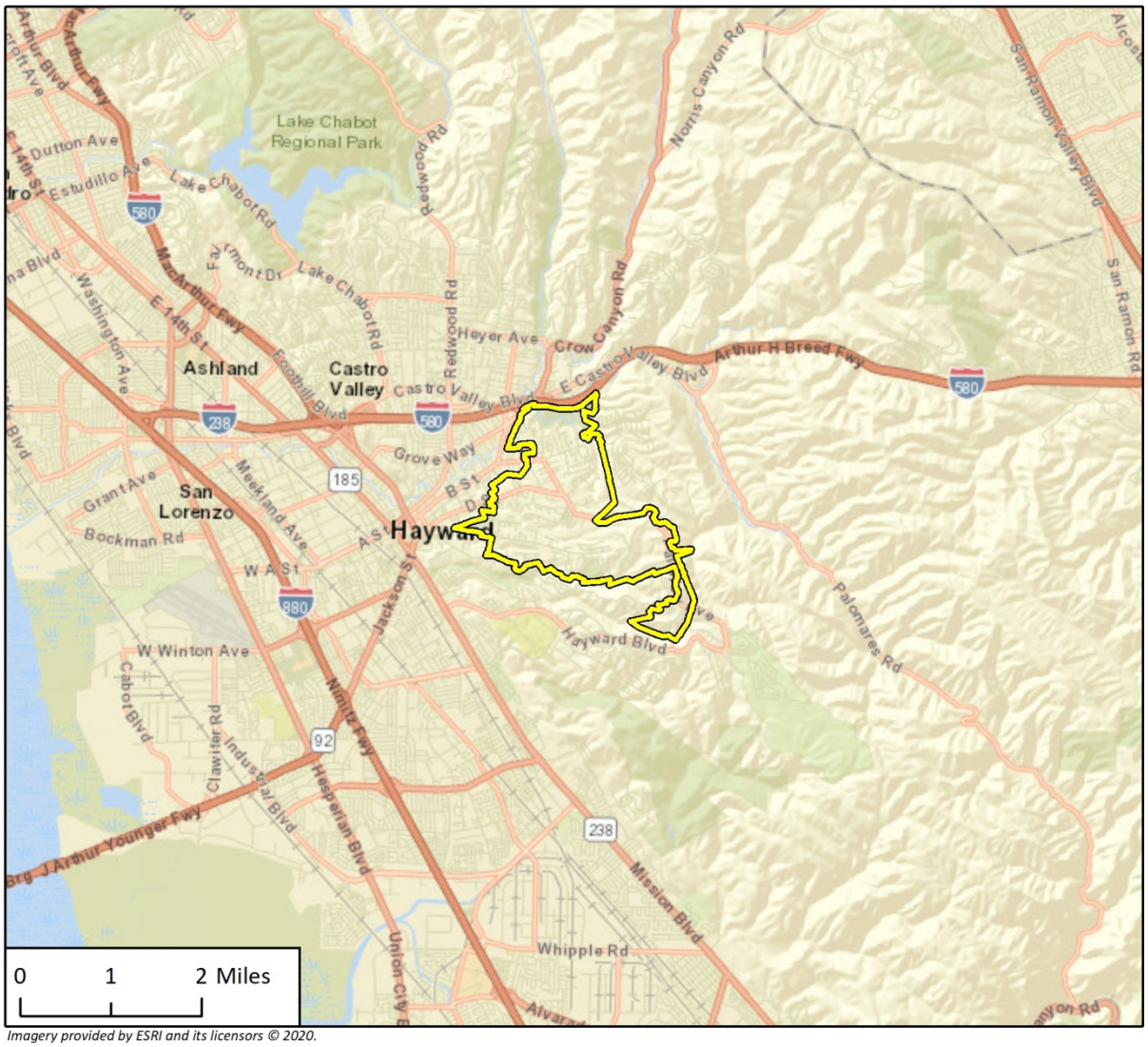
Local Setting

The Fairview Specific Plan Area ("Plan Area" or "Fairview") covers the unincorporated community of Fairview in western Alameda County. The Plan Area encompasses approximately 1,800 acres, or 2.8 square miles, and is located east of the City of Hayward, south of Interstate (I) 580, west of the Five Canyons community, and north of the Hayward Hills and north of Green Belt Park and California State University, East Bay. In the context of surrounding major cities, Fairview is located 17 miles southeast of Downtown Oakland and 30 miles north of Downtown San Jose.

Although Fairview originated as an agricultural area, with orchards, ranches, and small farms, many of the larger agricultural parcels have been converted to residential uses, including suburban-style subdivisions and large ranchettes. Existing land uses in the Plan Area are primarily residential, but also include public, commercial, and agricultural uses. Several properties in the Plan Area continue to support small farms and non-commercial livestock operations, including barns, stables, and facilities for horses, as well as agricultural operations, including a vineyard. Land uses adjoining the Plan Area to the east still consist of rural and agricultural or undeveloped properties.

Figure 1 shows the Plan Area's regional location and Figure 2 shows the boundaries of the Plan Area.

Figure 1 Regional Location



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Plan Area Boundary

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Fig1.1 Regional Loc

Figure 2 Plan Area Location

Regulatory Setting

Alameda County General Plan

The Alameda County General Plan is a comprehensive, and long-range policy document of countywide priorities and values developed to guide public decision-making in future years. The General Plan's goals are implemented through decisions and actions consistent with the objectives, policies, and actions of each of its seven elements: Land Use, Circulation, Housing, Open Space, Conservation, Safety, and Noise. The objectives, policies, and actions of these elements apply to all unincorporated communities within County limits and aim to guide physical, economic, and environmental growth. Three "area plans" have been developed to address land use and transportation issues for their respective geographic areas, which include Eden Township, Castro Valley, and East County.

Under Government Code Section 65450 et seq., a specific plan implements and must be consistent with the governing general plan. However, a specific plan is a separate document from the general plan and contains a greater degree of detail, including functions of zoning, land use regulations, design standards, and capital improvement plans.

Alameda County Zoning Ordinance

The County's Zoning Ordinance (Title 17 of the Municipal Code) and associated Zoning map identifies specific zoning districts in Alameda County and development standards that apply to each district. The zoning districts in the Plan Area are described in Subsection 2.2.2.

Alameda County Design Guidelines

Alameda County has adopted Residential Design Standards and Guidelines for the unincorporated areas of Western Alameda County, including Fairview. The Standards establish metrics for new development, while the Guidelines are more qualitative and descriptive. The County has also adopted Engineering Design Guidelines for streets, sidewalks intersections, streetlights, storm drainage, water quality, grading, and other aspects of infrastructure. The Design Standards and Guidelines and Engineering Design Guidelines apply to Fairview, unless they would conflict with the provisions of the Specific Plan. The Specific Plan governs in those instances. Therefore, the Design Standards and Guidelines and Engineering Design Guidelines are applicable to Fairview on topics where the Specific Plan is silent.

Eden Area General Plan

The Eden Area General Plan serves as the County General Plan for unincorporated Eden Township, an area that includes Ashland, Cherryland, Hayward Acres, San Lorenzo, and Fairview. However, the Eden Area Plan explicitly defers to the Fairview Specific Plan as the source of "goals, policies, and zoning regulations that apply to this area." This created a policy gap for Fairview in the past, as the 1997 Fairview Specific Plan was structured as a regulatory document rather than a collection of policies.

Castro Valley General Plan

The Castro Valley General Plan was adopted in 2012 to guide land use and transportation in unincorporated Castro Valley. The Castro Valley Area includes Five Canyons (east of Fairview), the area along Grove Way and Center Street (west of Fairview), and the remainder of Castro Valley

north of I-580. In many respects, Castro Valley's planning policies are more reflective of Fairview's setting than the Eden Area Plan, since parts much of the community are semi-rural.

Hayward General Plan

The City of Hayward adopted its General Plan 2040 in 2016. Fairview is contained within Hayward's sphere of influence, as defined by the Alameda County Local Agency Formation Commission (LAFCo). As a result, Fairview is within the Hayward Planning Area and is covered by its General Plan. Policies and maps for Fairview appear throughout the Hayward General Plan and were derived by consulting applicable County planning documents. Both the City and County documents call for the preservation of the semi-rural character of the Hayward Hills, protection of open space and natural resources, and carefully managed low-density infill development.

Existing Plan Area Characteristics

This section summarizes the land use and development conditions in the Plan Area to establish a general setting against which to describe the proposed Specific Plan. More detailed description and illustrations of existing conditions are provided in the relevant environmental analysis sections in the Environmental Checklist section of this IS-MND.

Current Land Use Designation and Zoning

There are approximately 3,600 residences in Fairview today. Average residential density is two units per acre, ranging from apartment complexes near San Felipe Park to rural residences on properties exceeding 10 acres. Residential densities roughly correlate to elevation and slope. The highest densities occur in the lower-elevation, flatter areas along Kelly Street, D Street, and East Avenue. The lowest densities occur in the area east of Lone Tree Cemetery and include a mix of large higher-end residences and older ranch style residences on steep or sloping lots. As shown on Figure 3, most of the Plan Area falls within in the *Low Density Residential* and *Rural Residential* General Plan land use designations. The remaining Plan Area is characterized with *Medium Density Residential*, *Public and Institutional*, *Commercial*, *Park*, *Private Open Space*, and *Vacant/Agriculture* land use designations.

As shown on Figure 4, most of the Plan Area is zoned as Single-Family Residence (R-1), while the remaining Plan Area is zoned as Suburban Residence Residential (R-S), Planned Development (PD), Agriculture, and Commercial. The R-1 district is accompanied by suffixes (R-1-BE-6,000; R-1-BE-8,000, etc.) which establish minimum lot size requirements for subdivision purposes.

Existing Development

Approximately 65 percent of the community is comprised of residential uses. The remaining 35 percent is comprised of parks, schools, churches, private open space, vacant land, agricultural land, and roads. Commercial uses represent just one-tenth of one percent of Fairview, with only two acres. Table 1 indicates existing land use acreages in Fairview in 2017.

Figure 3 Existing Plan Area Land Uses

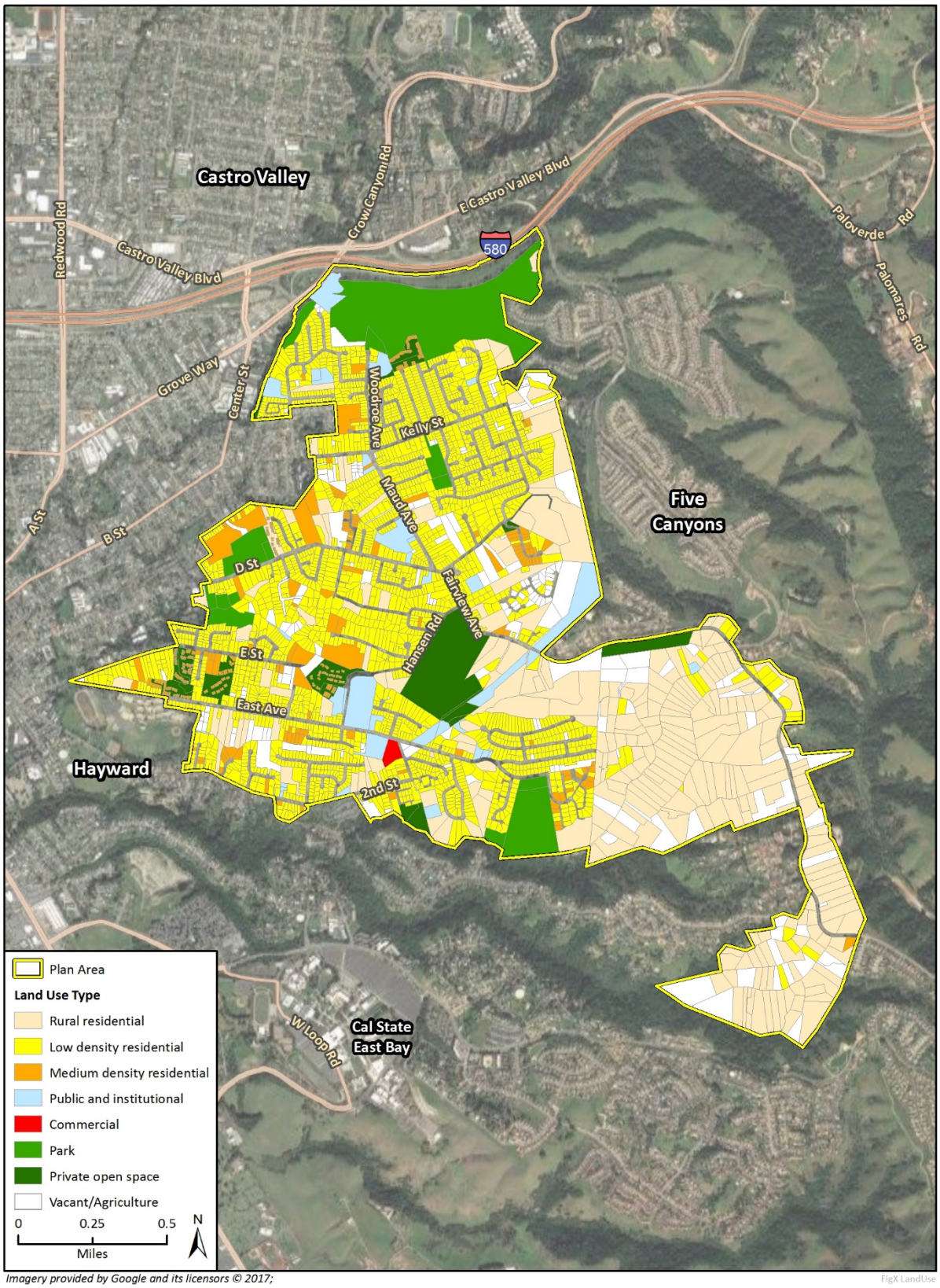

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Figure 4 Existing Plan Area Zoning

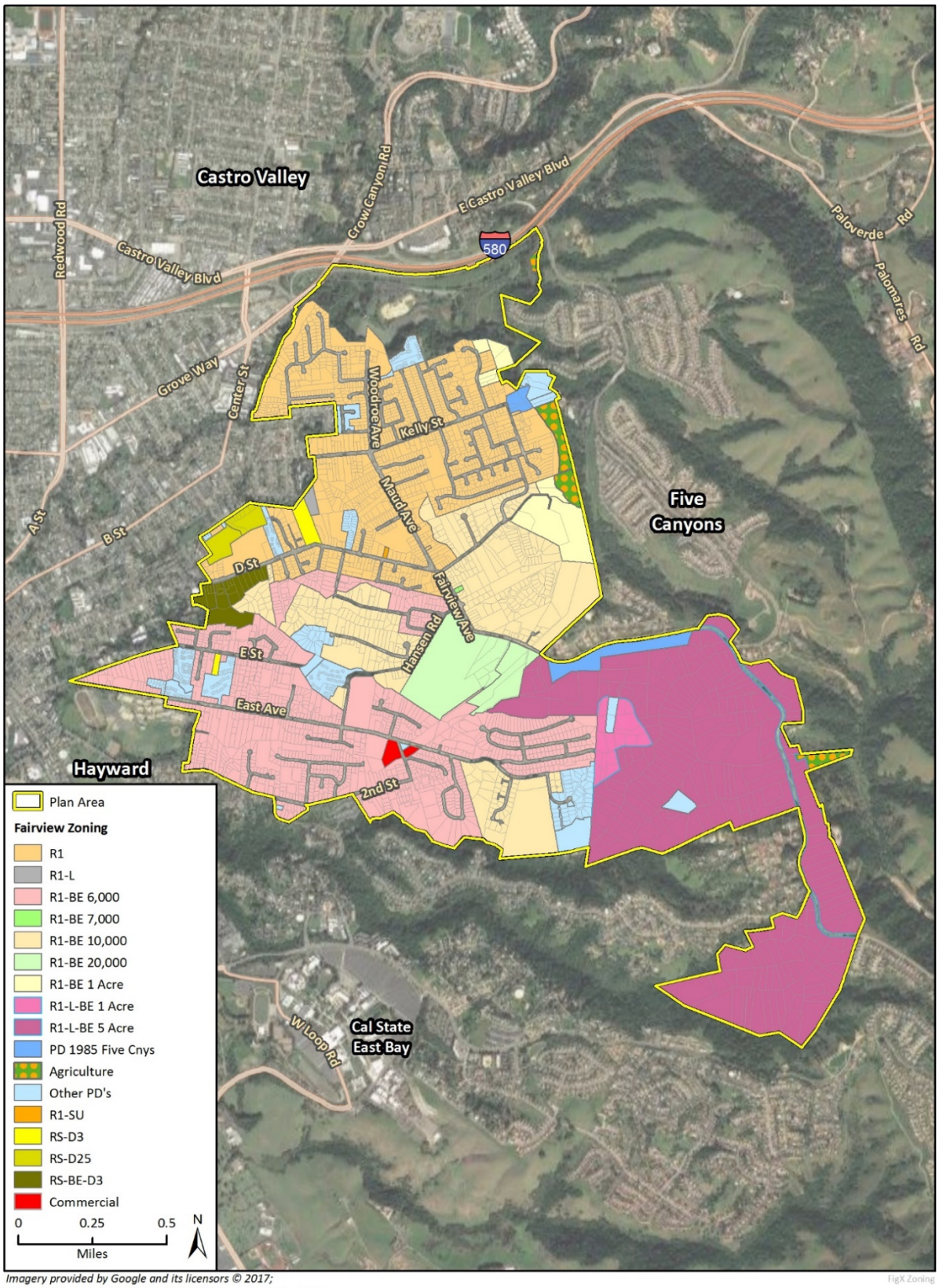


Table 1 Existing Land Use Acreage in Fairview (2017)

Land Use (excludes water)	Acres	Percent of Total
Rural Residential (lots > 1 acre)	483.7	26.9
Low Density Residential	595.6	33.1
Medium Density Residential	79.7	4.4
Vacant/Agricultural	178.3	9.9
Commercial	2.4	0.1
Public/Quasi-Public	49.9	2.8
Local Parks	52.9	2.9
Regional Parks	95.5	5.3
Private Open Space	93.5	5.2
Roads and Public Right-of-Way	167.8	9.3
Total	**1,799.3**	**100.0**

Source: Alameda County Parcel Data Base, 2014. Barry Miller Consulting, 2017.

6. Specific Plan Components

The Fairview Specific Plan Update ("proposed Specific Plan") provides a vision and planning framework for future growth and development in the approximately 1,800-acre Plan Area and introduces new standards and procedures that were not included in the 1997 Fairview Specific Plan. The Specific Plan includes the following chapters:

- The **Introduction** chapter (Chapter 1) describes the Plan Area's conditions and context, the purpose of the document, and the Specific Plan's relationship to other existing plans and ordinances.
- The **Planning Context** chapter (Chapter 2) provides background information on the Plan Area, including its history, demographics, and physical characteristics.
- The **Land Use and Community Design** chapter (Chapter 3) provides policies and standards for development in the Plan Area and includes a Land Use Map and definitions of land use categories. This chapter also addresses the preservation of rural character, and design and aesthetic issues related to new development.
- The **Agriculture** chapter (Chapter 4) includes policies and standards to sustain agriculture in the Plan Area and avoid conflicts with residential uses. This chapter is linked to several appendices in the Specific Plan providing standards for the keeping of animals in the community.
- The **Transportation** chapter (Chapter 5) includes policies and standards for roads, bike and pedestrian paths, traffic safety, parking, and other issues relating to getting around the Plan Area.
- The **Conservation** chapter (Chapter 6) provides policies and standards for protecting Fairview's hillsides, woodlands, creeks, air, water, and other natural resources. It also references County Plans covering sustainability and climate-related issues.
- The **Environmental Hazards** chapter (Chapter 7) addresses protection of life and property from the principal hazards in the community, which include earthquakes, landslides, wildfires, and flooding. It applies principles of the County's Local Hazard Mitigation Plan to Fairview.

- The **Community Services and Infrastructure** chapter (Chapter 8) includes policies and standards for local services, including water, sewer, drainage, police and fire protection, schools, and waste management.
- The **Implementation** chapter (Chapter 9) provides guidance on "what happens next" after the Specific Plan is adopted.

Land Use and Community Design (Plan Chapter 3)

The Land Use and Community Design chapter of the Specific Plan includes the land use and zoning maps guiding Fairview's future development, as well as standards for construction. These standards address:

- Residential density (the number of units permitted per acre of land)
- Lot size (the required area, width, and depth of parcels)
- Setbacks (the minimum distance required between structures and property lines)
- Lot coverage (the maximum percentage of a property that can be covered with buildings)
- Floor Area Ratio (the maximum ratio of habitable floor area to lot area on a given parcel)
- Height
- Accessory dwelling units

The framework and broad policies included in this chapter are intended to guide land use and community design decisions in Fairview. The policies have been developed based on existing General Plan policies governing other parts of Eden Township, including Ashland-Cherryland-San Lorenzo and Castro Valley.

Table 2 compares key land use and community design topics between the 1997 Fairview Specific Plan and the updated Specific Plan.

Table 2 Updates to Land Use and Community Design Standards

Topic	Existing Specific Plan	Updated Specific Plan
Land Use Policies	None. The area is theoretically governed by the Eden Area General Plan.	A comprehensive set of land use policies is included from the Eden and Castro Valley General Plans. The policies have been adapted as needed to reflect conditions in Fairview.
Zoning Map	There is an illegible zoning map in the Specific Plan.	A legible color zoning map is included in the Specific Plan. The only changes are as follows: 1) Two developed parcels are rezoned from R-1-BE 7000 to R-1-BE 6000. The parcels are: APN 417-250-35 (6,278 SF)-24260 Fairview Avenue and APN 417-250-36 (7,088 SF)-24270 Fairview Avenue. They are rezoned because they are the only parcels zoned R-1-BE-7000 zone and R-1-BE-6000 is the prevailing zone for comparable lots elsewhere. The change does not impact development potential and is intended for consistency. 2) The "SU" overlay is removed from APN 416-190-49 (2798 D Street). It had been applied to allow an ADU on the property but is no longer required.
Extent of Plan Area	Plan Area includes Five Canyons.	Plan Area excludes Five Canyons, which is now part of the Castro Valley General Plan Area.

Topic	Existing Specific Plan	Updated Specific Plan
General Plan Land Use Map	Not included (none existed).	A General Plan Map has been developed, using the land use categories from the Eden and Castro Valley Plans. The Map reinforces existing zoning designations and makes no substantive changes.
Setbacks (minimum yards)	Specified in Plan, vary based on lot size.	Specified in Plan, vary based on lot size. Existing standards generally carried forward for lots larger than 10,000 SF. Sliding scale for setbacks introduced for smaller lots, with side yard setbacks based on lot width.
Lot coverage	Standards included. Coverage varies by zoning district: 40% in R-1, R-1-6000; 30% in R-1-10,000 and 20,000; 20% in the one- and five-acre zones.	Standards included. Coverage varies by lot size. 40% for 10,000 SF or less; 30% for 10-15,000 SF; 27.5% for 15,000-19,999 SF; 25% for 20,000-43,559 SF; 20% for one acre or more. Added a 5-10% bonus for one-story homes (to encourage age-friendly design).
Floor area ratio	No standards.	FAR standards introduced, using a formula based on lot size. 0.55 on lots less than 5,0000 SF; .15 plus 2000 SF on lots 5,000-10,000 SF; .10 plus 2500 SF on lots larger than 10,000 SF.
Limits on total floor area	No standards.	No home may exceed 5,000 SF in floor area on lots in the single-family zoning districts. No home may exceed 12,000 SF in floor area in the rural residential zoning districts (one- acre and five-acre).
Design Guidelines	Not addressed.	Existing Countywide Residential Standards and Guidelines (adopted in 2014 for unincorporated Alameda County) are referenced and apply unless they would conflict with provisions of the Specific Plan.

SF = square feet

Agriculture (Plan Chapter 4)

Fairview originated as an agricultural community—poultry farms, orchards, pasture, and grazing land were once its primary land uses. Although much of Fairview has been subdivided, the community has numerous properties with horses, livestock, and orchard crops.

The purpose of the Agriculture chapter is to support the continued presence of agriculture and animal-keeping in Fairview, while minimizing the potential for conflicts between these activities and adjacent uses. While the 1997 Specific Plan did not address specific standards for agriculture, the updated Specific Plan adopts the County's Animal Keeping Standards and Animal Fancier Permit requirements by reference as part of the Plan.

Transportation (Plan Chapter 5)

The Transportation chapter addresses transportation and circulation issues in Fairview. The chapter's focus is on ensuring the safe, efficient operation of the roadway system and coordinating transportation improvements with land use and development decisions. The chapter also addresses the needs of bicycles, pedestrians, and transit users. Consistent with Alameda County's "complete streets" policy, Fairview's streets must be designed and operated to serve all modes of travel and meet the needs of multiple users.

This chapter provides guiding transportation policies that have been adapted from the Eden Area and Castro Valley General Plans or developed in response to public input during the Specific Plan Update. It also includes more specific standards and guidelines for transportation that apply to

Fairview. Table 3 compares key transportation topics between the 1997 Fairview Specific Plan and the updated Specific Plan.

Table 3 Updates to Transportation Standards

Topic	Existing Specific Plan	Updated Specific Plan
Transportation Use Policies	None, although the area is theoretically governed by the Eden Area General Plan.	A comprehensive set of transportation policies is included, drawing on policies from the Eden and Castro Valley General Plans. However, policies are more Fairview-focused that those in the Eden and Castro Valley General Plans.
Level of Service	LOS "C" established except at Kelly/ B/ Center, where LOS "D" applies.	No change.
Monitoring of Traffic Conditions	Five intersections in Fairview are identified for regular monitoring.	The same five intersections are listed, plus the Fairview/ Five Canyons roundabout is added.
Private streets	Allowed.	Discourages private streets and requires public streets in new subdivisions.
Limits to development along existing private streets	Only permitted upon demonstration to County that the street meets county standards and has satisfactory maintenance agreements.	No change.
Bicycle and Pedestrian improvements	Not addressed.	Incorporates adopted recommendations from the Countywide Bike and Pedestrian Plan.
Traffic calming	Not addressed.	Incudes countywide traffic calming policies and programs. The Plan identifies "potential" traffic calming measures for various streets.

Conservation (Plan Chapter 6)

The purpose of the Conservation chapter is to provide policies and standards to protect Fairview's natural resources and environment. These resources include air, water, soil, minerals, and plants and animals, as well as natural features such as hillsides, lakes, and creeks.

The Conservation chapter fills a gap between the Eden Area General Plan, which does not address natural resources, and the Alameda County Conservation Element, which focuses on wilderness and agricultural areas. Fairview's natural resources exist in a different context, defined by the interface of residential uses and open space. This chapter includes policies that have been adapted from the Castro Valley General Plan, where conditions similar to Fairview exist, and specific standards and directives for conservation. Table 4 compares key conservation topics between the 1997 Fairview Specific Plan and the updated Specific Plan.

Table 4 Updates to Conservation Standards

Topic	Existing Specific Plan	Updated Specific Plan
Conservation policies	Five policies are included, related to protection of riparian areas, oak woodlands, special status species, and wildlife protection. A general statement of 14 "principles" is included to ensure that new development is sensitive to the environment.	Three goals and 17 policies are included, adapted from the Eden and Castro Valley plans and incorporating language from the 1997 Fairview Plan where appropriate. The new language tightens up existing requirements and includes more mandatory measures.
Development on steep slopes	"Natural and man-made slopes of 30% or greater should not be developed or altered." Exceptions are stated.	"Slopes of 30% or greater shall not be developed or altered." Exceptions are stated.
Ridgelines	"Development near or on a prominent ridgeline should be subordinate to the surrounding environment"	"Structures on ridgelines shall be prohibited."
Grading	Only individual lot grading should occur in areas exceeding 20% slope. Buildings should stairstep on sloped sites to reduce mass.	Carried forward.
Tree protection	Specific requirements are stated, including replacement trees when removal occurs.	Requirements carried forward.
Exceptions to tree protection	Trees may be removed if alternative designs that would preserve the trees are found by the County to be infeasible or undesirable	This clause has been removed. Trees may be removed only if they are dead, dying, hazardous, or render the site undevelopable
Native oak removal	Not addressed.	Any native oaks removed should be replaced with native oaks, with a seven-year maintenance period provided for the replacement trees. Policy language strongly advocates for preservation of oak woodlands.
Watercourse protection	Generally encouraged. No specific standards.	References the Countywide ordinance but expands the requirements for Fairview to require a 50-foot setback from top of bank instead of a 20-foot setback if a parcel is being subdivided.
Landscape plans	Required for all development projects	Carried forward. Consistency with Water Efficient Landscape Ordinance added.

Environmental Hazards (Plan Chapter 7)

The Environmental Hazards chapter addresses the protection of life and property from environmental hazards in Fairview. It includes policies and standards intended to reduce casualties and property damage related to earthquakes, landslides, floods, wildfires, and hazardous material incidents. It also addresses hazards related to noise.

The need for clear, enforceable standards to mitigate environmental hazards has been made more evident and urgent by recent catastrophic wildfires in the California Wine Country (2017) and Butte County (2018). Fairview's development pattern is similar to these areas, with urban-wildland interface conditions in much of the community, low density residential development, abundant tree cover, and narrow dead-end streets providing access to many residences. Fairview also sits alongside the Hayward Fault, considered the greatest seismic hazard in the Bay Area at this time. It

is also traversed by creeks with the potential for damaging flooding. Effective hazard mitigation can reduce losses of life and property for both new and existing development.

This chapter presents guiding policies to inform future planning decisions and includes development standards and guidelines aimed at improving community safety. The policies, standards, and guidelines in this chapter are consistent with and help implement the Safety Element of the Alameda County General Plan, the Alameda County Community Wildfire Protection Plan, and the 2016 Countywide Local Hazard Mitigation Plan (LHMP). Table 5 compares key environmental hazard topics between the 1997 Fairview Specific Plan and the updated Specific Plan.

Table 5 Updates to Environmental Hazard Standards

Topic	Existing Specific Plan	Updated Specific Plan
Hazards Policies	None addressed.	Policies from the Eden and Castro Valley General Plans have been adapted to Fairview and included.
Geotechnical/ Geologic Hazard Reports	Required for all tentative maps and proposals in Alquist Priolo Special Studies Zones.	Required for all development in areas with landslide or liquefaction hazards (there are no SSZs in Fairview).
Erosion Prevention	General Principles cited.	Carried forward.
Flood Control	General Principles cited.	Carried forward.
Air Quality	"Land uses producing air pollution that result in unacceptable health conditions are prohibited".	Carried forward.
Wildfire Prevention and Hazard	Minimally addressed—vegetation management and fire breaks encouraged.	A more robust set of policies and standards is included. New development must demonstrate adequacy of water pressure, emergency access roads, and needed improvements such as roadway widening or additional off-street parking.
Wildfire Prevention Plan Requirements	New development in urban/wildland interface areas shall implement a wildfire protection plan to be approved by the County.	Carried forward.
Development on narrow streets	Not addressed.	In hillside areas where streets are less than 20' wide, new homes must be sprinklered, and are subject to parking restrictions and road improvement requirements.
Hazardous Materials	Not addressed.	Addressed through standard protocol.
Emergency Preparedness	Not addressed.	An evacuation plan for Fairview is recommended for preparation in consultation with the Municipal Advisory Council and other entities responsible for emergency preparedness, public safety, fire prevention and response, and service delivery.
Noise	45 dB established as interior standard.	Carried forward. Also, a 60-dB standard for exterior residential private use areas is added. Requirements for acoustical studies are spelled out. Typical mitigation measures for noise impacts are listed.

Community Services and Infrastructure (Plan Chapter 8)

The Community Services and Infrastructure chapter addresses parks, schools, libraries, law enforcement, fire protection and related public facilities serving Fairview. It also covers

infrastructure including water, sewer, storm drainage, solid waste, energy, and telecommunication facilities.

Community services and facilities are an important part of Fairview's identity and quality of life. Local services such as fire protection and public education create a common bond among residents and build a sense of community. Facilities such as parks and schools are public gathering places and provide shared space for residents. Because Fairview is unincorporated, residents must travel to other communities for some services and rely on other agencies for facilities like libraries and senior centers. The Specific Plan documents local priorities for future service delivery. The following table (Table 6) compares key community services topics between the 1997 Fairview Specific Plan and the updated Specific Plan.

Table 6 Updates to Community Services and Infrastructure Standards

Topic	Existing Specific Plan	Updated Specific Plan
Community Services and Infrastructure Policies	None, although the Eden Area General Plan theoretically applies.	A comprehensive set of community service and infrastructure policies is included, drawing on policies from the Eden and Castro Valley General Plans.
Parks	Acknowledged, but no specific recommendations.	Establishes a standard of 5 acres/1,000 residents (currently met). Establishes priorities for acquisition for new parks and park types (though no specific projects are identified). Recommends upgrading San Felipe Community Center and considering new facilities in East Avenue park.
Schools	Not addressed.	Emphasizes coordination with HUSD, mitigation of development impacts, joint use agreements for public use, safe routes to school, etc.
Law Enforcement	Documents existing conditions only.	Carried forward.
Fire/EMS	Documents existing conditions only.	Adopts the existing FFPD standard (five minutes and 50 seconds for first engine and Effective Response Force in under eight mins). Supports coordination with Hayward, East Bay Municipal Utility District (EBMUD), County Office of Emergency Services, and Fairview Fire Protection District.
Water	Documents existing conditions.	Carried forward, standards added to require water conservation, achieve consistent water pressure, and implement planned EBMUD improvements.
Sewer	Documents existing conditions.	Supports replacement of aging lines. Prohibits new septic systems on substandard lots.
Drainage	Acknowledges existing problems	Calls for Hydrology Analysis and Storm Drainage Systems Capacity Evaluation to be completed.
Electric/gas/ cable	Establishes priorities for undergrounding utilities.	Carried forward.
Restoration of road surfaces	Not addressed.	Requires restoration of pavement conditions after utility work is completed.

Implementation (Plan Chapter 9)

Chapter 9 of the Specific Plan describes the ways in which the Specific Plan will be implemented following its adoption. Because this is an update of the existing 1997 Fairview Specific Plan, many of the implementation measures are ongoing activities that would be continued in the future. The policies and standards in the updated Specific Plan would be applied to guide future development,

subdivision applications, capital improvements, service delivery, transportation projects, and environmental management decisions in Fairview. Implementation would also occur through the continued application of County policies and procedures, including the Residential Design Guidelines and Standards and the Engineering Design Guidelines.

7. Guiding Principles

The following principles serve as the framework for the policies, strategies and actions that are presented in the Specific Plan to guide decisions affecting the Plan Area:

- Fairview's defining quality is its balance of agriculture, open space, and low-density residential neighborhoods. This quality is vital to the community's identity and quality of life, and it must be protected.
- Development standards should be rational, sensitive to local context, consistently enforced, and avoid "cookie cutter" architecture. The County will strive to fully engage the community when new development projects are proposed.
- Reinvestment in the existing housing stock shall be strongly encouraged.
- Fairview's creeks, hillsides, woodlands, and other important natural resources shall be conserved. Development must respect the natural landscape and visual character of the community.
- Community resilience should be improved, particularly with respect to wildfire and earthquake hazards. Roads and infrastructure should provide for adequate emergency vehicle access and water supply. Fire hazards should be reduced through vegetation management, enforcement, and continued investment in fire protection services. Residents should be better prepared for natural disasters.
- Agriculture is an essential part of Fairview's identity and shall be sustained. But steps must also be taken to enforce existing standards so that agriculture comfortably co-exists with nearby residential uses and the natural environment.
- Local streets shall be maintained, improved, and made safer for motorists, bicyclists, pedestrians, and transit users. Strategic improvements to the transportation system shall be made to address bottlenecks and improve safety. However, road expansion which would facilitate through-traffic across Fairview is strongly discouraged.
- Adequate parking must be required for new development, and for improvements to existing residences that increase parking needs.
- Parks, multi-use trails, and other community services shall be expanded and improved as population grows.
- Commercial uses in Fairview should continue to be limited to existing locations.
- Community institutions, including schools, must be acknowledged as important gathering places and centers of community life. Investment in these institutions shall be encouraged.
- There should be greater awareness and recognition of Fairview's heritage and history.

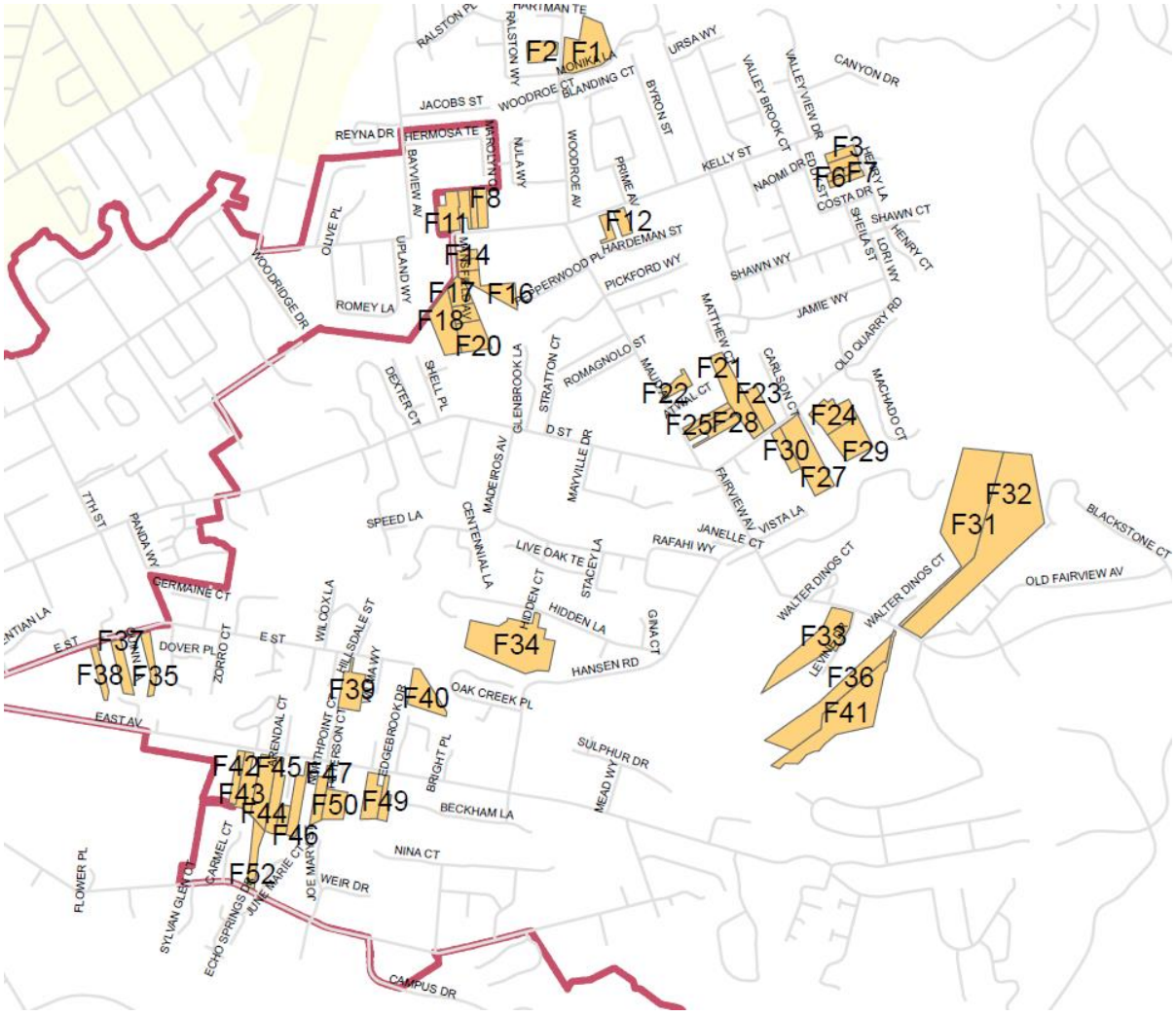
8. Future Growth Forecasts and Assumptions

Fairview's has an estimated 10,568 residents and 3,567 households based on 2016 data. Almost 83 percent of the housing units in Fairview are single-family detached residences. About nine percent

are townhomes and the remaining eight percent are multi-family units. The Specific Plan forecasts that Fairview will continue to experience strong demand for new single-family residences in the coming decades. Given road, infrastructure, and environmental constraints, additional residential development will require land use controls that carefully guide the subdivision of land, and the character and scale of new construction. Nonetheless, Fairview will continue to remain a residential community since the Specific Plan does not increase the land area zoned for commercial uses.

The Plan Area currently has approximately 200 vacant lots. An estimate of Fairview's residential development potential was made in 2014 as part of the Alameda County Housing Element Update. Figure 5 shows identified Housing Opportunity Sites, labeled from F1 to F52, which are locations where the County has determined that an opportunity exists to meet the regional need for new residences to serve the Bay Area's growing population.

Figure 5 Alameda County Housing Opportunity Sites in Fairview



The appearance of a site on Figure 5 means that the zoning is in place to enable future development. Many sites are constrained and are unlikely to be developed in the next 20 years. Others have the potential to be subdivided. There are also several properties that are developed with a single residence but have the capacity for additional dwelling units based on current zoning.

Based on past trends, residential developers may aggregate multiple parcels into single ownership, enabling larger projects to be proposed. Such projects present opportunities to cluster development on less sensitive land and set aside larger areas as open space.

Based on historic trends, regional forecasts, existing conditions, and zoning, it is anticipated that Fairview will add roughly 10 to 15 residences a year on average during the lifetime of the Specific Plan. This will yield roughly 200 to 300 new residences by 2040, excluding accessory dwelling units. Development will occur on scattered sites, rather than in one area. The expected rate of residential growth is reflective of the growth rate experienced since 1990.

Jobs in Fairview are principally associated with public and private schools, faith institutions, nursing facilities, and home-based services and businesses. There are no major office or retail uses other than Bay Hill Market, a small grocery store located at East Avenue and Windfeldt Road. Based on the countywide data used for transportation planning, there are approximately 800 jobs in the community. This number is not expected to increase in the future.

The Specific Plan growth forecast represents the *foreseeable maximum* development that the County has projected can reasonably be expected to occur in the Plan Area through the plan horizon year (2040) and is thus the level of development analyzed in this IS-MND. To ensure a conservative approach in analyzing the Specific Plan's environmental effects under CEQA, this document focuses on what could be considered a maximum reasonable impact scenario in order to capture as many significant environmental impacts as could be reasonably expected as a result of adoption of the Specific Plan.

For the purposes of environmental analysis, a reasonably foreseeable estimate of growth associated with the proposed Specific Plan through the horizon year of 2040 is up to 300 additional residential units[1] compared to existing conditions. There would be no change square footage of commercial space with implementation of the Specific Plan as it does not increase the land area zoned for commercial uses.

Although this IS-MND evaluates impacts of up to 300 additional housing units in the Plan Area through 2040, adoption of the proposed Specific Plan would not increase buildout capacity in Fairview—in other words, it does not "upzone" or increase the allowable number of units on parcels in the Plan Area. For the most part the Plan maintains existing zoning but adds new parameters so that future development is compatible with its surroundings, mitigates its impacts, and reduces impacts on the environment. Nonetheless, this IS-MND is a conservative analysis of the change in existing baseline conditions to the horizon year of 2040 with implementation of the proposed Specific Plan.

Relationship to Existing Plans and Ordinances

The proposed Specific Plan is intended to be adopted without required amendments to the County's General Plan and Zoning Ordinance, since the Specific Plan does not include a substantial change to existing land uses and zoning in the Plan Area. The Specific Plan would serve as an extension of the County General Plan, providing both policy and regulatory direction specific to the Plan Area. It replaces and supersedes the previous 1997 plan for the area and other studies and plans, including the Eden Area General Plan, Castro Valley General Plan, and Hayward General Plan.

[1] The 300-unit figure includes units in recently approved subdivisions such as Fairview Meadows/Orchards.

Upon adoption, the goals and policies in this the Plan would also supersede goals and policies in the County General Plan with respect to the Plan Area. In situations where policies or design guidelines standards relating to a subject are not provided in the Specific Plan, the existing County policies and design guidelines would continue to apply. When future development proposals are brought before the County, staff and decision-makers will use the Specific Plan to guide project review. Projects will be evaluated for consistency with the intent of the Plan policies for conformance with development regulations and design guidelines.

9. Required Approvals

For the proposed Specific Plan to be implemented, it would require adoption by the Alameda County Board of Supervisors. The County of Alameda would be responsible for its administration. Various County agencies, including Community Development, Public Works, Environmental Health, and Fire, would consult the Plan when making development-related decisions and capital improvement recommendations. Amendments to the Specific Plan would be subject to the procedures indicated in the Alameda County Code, including hearings before the Planning Commission and Board of Supervisors.

This IS-MND is intended to provide the information and environmental analysis necessary to assist the County in considering all the approvals and actions necessary to adopt and implement the Fairview Specific Plan Update. To summarize previous discussions in this chapter, such actions/approvals include:

- **Adoption of the IS-MND.** Certify the Fairview Specific Plan Update IS-MND and make environmental findings pursuant to CEQA.
- **Adoption of the Updated Fairview Specific Plan.**
- **Amendments to General Plan.** Amend General Plan text and maps to incorporate the updated Specific Plan.
- **Amendments to the Alameda County Municipal Code.** Amend Municipal Code text and zoning map to incorporate the Specific Plan.

10. Other Public Agencies Whose Approval is Required

Because Fairview is an unincorporated community, implementation of this Specific Plan would require collaboration and communication with multiple agencies. In addition to County agencies, agencies potentially impacted by the Specific Plan include the Fairview Fire Protection District, the City of Hayward, the Hayward Unified School District, the East Bay Regional Park District, East Bay Municipal Utilities District, Oro Loma Sanitary District, Caltrans, Hayward Area Recreation District, AC Transit, the Alameda County Library System, and the Alameda County Transportation Commission, among others.

Environmental Factors Potentially Affected

This project would potentially affect the environmental factors checked below, involving at least one impact that is "Potentially Significant" or "Less than Significant with Mitigation Incorporated" as indicated by the checklist on the following pages.

☐ Aesthetics	☐ Agriculture and Forestry Resources	■ Air Quality
■ Biological Resources	■ Cultural Resources	☐ Energy
■ Geology/Soils	■ Greenhouse Gas Emissions	☐ Hazards and Hazardous Materials
☐ Hydrology/Water Quality	☐ Land Use/Planning	☐ Mineral Resources
■ Noise	☐ Population/Housing	☐ Public Services
☐ Recreation	☐ Transportation	■ Tribal Cultural Resources
☐ Utilities/Service Systems	☐ Wildfire	■ Mandatory Findings of Significance

Determination

Based on this initial evaluation:

☐ I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.

■ I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions to the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.

☐ I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.

☐ I find that the proposed project MAY have a "potentially significant impact" or "less than significant with mitigation incorporated" impact on the environment, but at least one effect (1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and (2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.

■ I find that although the proposed project could have a significant effect on the environment, because all potential significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.

Signature	Date
Printed Name	Title

Environmental Checklist

1 Aesthetics

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Except as provided in Public Resources Code Section 21099, would the project:				
a. Have a substantial adverse effect on a scenic vista?	☐	☐	■	☐
b. Substantially damage scenic resources, including but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	☐	☐	■	☐
c. In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from a publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?	☐	☐	■	☐
d. Create a new source of substantial light or glare that would adversely affect daytime or nighttime views in the area?	☐	☐	■	☐

Aesthetics Setting

Fairview consists of an expansive area of hilly terrain that extends from the Sacramento River on the north to the Diablo Range in Santa Clara County on the south. A gently rising bowl-shaped area extends east into the hills between Hayward and San Leandro, encompassing most of Castro Valley and parts of Cherryland and the Upper B Street area of unincorporated Hayward. Fairview is situated on the south side of this bowl, with gently rolling to steep terrain, including several prominent canyons and ridgelines.

Visual features define Fairview's edges, particularly on the north, south, and east. On the north, I-580 and Don Castro Regional Park provide a clear community edge. On the east, Five Canyons and the Five Canyons Open Space along Walpert Ridge likewise define a clear edge. Ward Creek clearly defines the southern edge of Fairview, although a small part of the community (Arbutus Court) extends to the other side of the canyon. The western edge of Fairview is more diffuse, and it is not always clear when one passes from Hayward (or other parts of the unincorporated area) into Fairview. The streets themselves form the boundary in some cases, creating ambiguity about where

Fairview starts and ends. In some cases, the road design standards change at the Hayward city limits, providing a subtle cue of Fairview's boundary.

Fairview does not have a unifying architectural style. Tax assessor records indicate that 82 percent of the community's single-family residences are one story and 18 percent are two-story (less than 0.2 percent are three story). The form and scale of development varies from neighborhood to neighborhood. Most of the community was built between 1950 and 1990, an era that favored simple architectural designs and single-story ranch style residences. A smaller number of residences are traditional California cottages, bungalows, and farmhouses that pre-date World War II. Residences in southeastern Fairview tend to be newer and substantially larger.

Visually, Fairview is more akin to parts of Castro Valley and the older residential districts of the Hayward Hills than it is to the adjacent Hayward flatlands. Views and vistas are important throughout the community, but particularly in the upper elevations along canyons and ridgelines (Barry Miller Consulting 2017).

Visual and aesthetic conditions are not only shaped by private development, they are also shaped by public space, including roads, medians, parks, and schools. Features such as street trees, utilities, signage, and landscaping also are important contributors to visual quality. Similarly, protecting visual quality also includes the protection (or enhancement) of views, along with factors such as privacy, light and glare, and shadows.

Impact Analysis

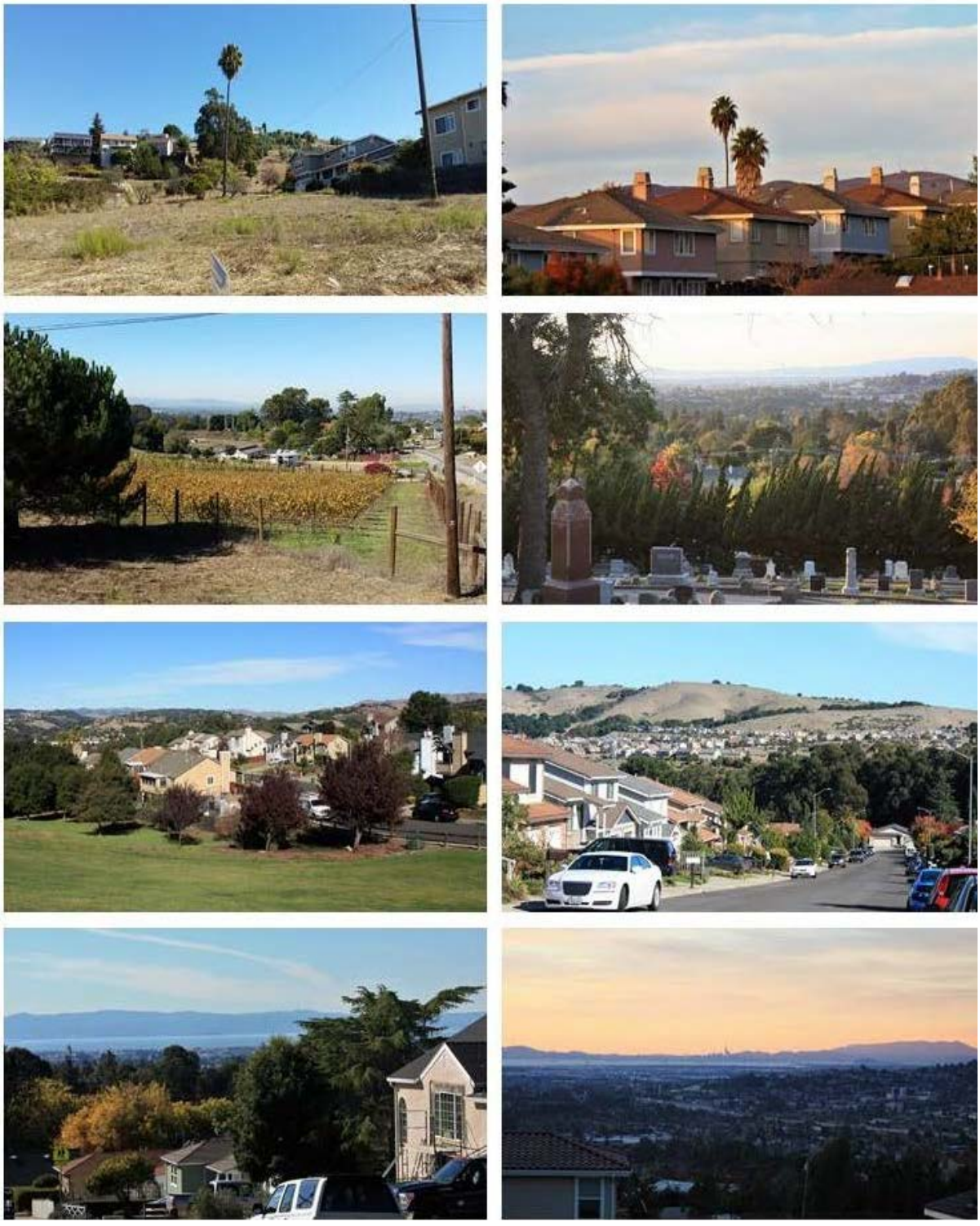
a. Would the project have a substantial adverse effect on a scenic vista?

Elevation in Fairview ranges from 200 feet to just over 1,000 feet. Canyons and arroyos follow local streams and creeks, creating topographic relief and many views and vistas. Views are generally to the west, taking in San Francisco Bay and distant landmarks such as the Oakland and San Francisco skylines, the San Mateo Bridge, and the Santa Cruz Mountains. At the higher elevations, there are also panoramic views across the East Bay and to the open hills on the east. There are sweeping views across Hayward and Castro Valley on many streets, as well as views of adjacent canyons and ridgelines, as shown in Figure 6. Views and vistas are important throughout the community, but particularly in the upper elevations along these canyons and ridgelines.

The proposed Specific Plan would not increase the allowed number of units on parcels in the Plan Area. The Plan maintains existing zoning but adds new development standards and policies for future projects in the Plan Area. Nonetheless, this analysis conservatively assumes an increase in 300 residential units in the Plan Area through 2040 compared to existing conditions. The increase in development may affect scenic vistas from existing viewpoints. However, the proposed Specific Plan includes goals and policies to protect Fairview's natural features, e.g., canyons and ridgelines. To maintain the Plan Area's natural features, the updated Specific Plan includes the following guiding goal, which is supported by specific policies and development standards in Chapter 3 (Land Use and Community Design) of the Plan:

Goal LU-3: Protect and enhance the hillsides, canyons, and creeks that are the foundation of Fairview's natural setting and character.

Figure 6 Characteristic Views in Fairview



To support this goal, Policy LU-3.2 is to "Ensure that development projects do not diminish views of natural features along public rights-of-way, including San Francisco Bay and the East Bay Hills. Visual impact analyses should be required when necessary to ensure protection of views." In addition, Development Standard 3.4.15 (Views) protects views from human impacts by limiting development

on steep slopes, discouraging large-scale grading, restricting building heights, and regulating floor area and lot coverage based on the amount of developable area on each parcel. Further, as described in Table 4, the updated Specific Plan would similarly prohibit construction of structures on slopes of 30 percent or greater and would regulate the location of permitted structures, such that panoramic views are not interrupted or blocked. Unlike the 1997 Specific Plan, construction of structures on ridgelines would be prohibited altogether under the updated Specific Plan. Therefore, implementation of the updated Specific Plan would not adversely affect existing canyons and ridgelines and would result in a less than significant impact existing views and vistas in the Plan Area.

LESS THAN SIGNIFICANT IMPACT

b. Would the project substantially damage scenic resources, including but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?

There are no officially designated State Scenic Highways in or adjacent to Fairview. However, a few area roadways have been designated as scenic highways by Alameda County and the City of Hayward. These include Interstate 580 (I-580) on the north edge of Fairview (designated as a scenic route by Alameda County) and Fairview Avenue in Fairview (designated as a scenic route by Alameda County and Hayward). I-580 is part of the California Scenic Highway system but has not been officially designated in the Fairview vicinity.

Regardless of "scenic" designation, a road's contribution to community character should be recognized since residents utilize local roads for daily commutes. The visual quality of these roads can be improved through landscaping, sensitive vegetation management, litter removal, sign regulations, and regular maintenance. The State of California recommends that local jurisdictions preserve scenic roadways by retaining natural slopes and landforms and preserving and enhancing creeks and native vegetation along the roadsides. This may include designing new development—including subdivisions and individual residences—to minimize hillside grading and limit development on top of ridgelines. Where hillside residences are developed, their visual impacts can be reduced by stepping down building heights to follow natural contours.

In addition to Goal LU-3 described in impact discussion (a), to maintain the Plan Area's natural features the updated Specific Plan includes the following guiding goal, which is supported by specific policies and development standards in Chapter 6 (Conservation) of the Plan:

Goal CO-1: Protect and conserve Fairview's natural features, including hillsides, woodlands, and creeks.

As discussed under impact discussion (a) of this section, implementation of the updated Specific Plan would include development standard 3.4.15 (Views) that would regulate development on steep slopes and prohibit construction on ridgelines, which would preserve views of the Plan Area from local roads. As discussed under Section 5, *Cultural Resources*, Fairview does not have a historic district or designated historic landmarks. Although there are no officially-designated State Scenic Highways in Fairview, implementation of the updated Specific Plan would also help maintain the visual quality of local roads. Impacts to scenic resources would be less than significant.

LESS THAN SIGNIFICANT IMPACT

c. *Would the project, in non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from a publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?*

Fairview is developed with a mix of suburban and rural residential neighborhoods; therefore, for the purposes of this analysis, the Plan Area is considered "non-urbanized." Impacts associated with scenic views are discussed under impact discussion (a). Fairview's overall visual character is fundamentally shaped by its natural landscape. This landscape includes grassy hillsides, wooded canyons, creeks, and large trees. Trees such as Monterey pines, cottonwood, eucalyptus, oaks, and palms occur along roadsides throughout the area. Historically, the hillsides northeast of Hayward were used for cattle, horse grazing, and chicken farms, while the lower lands closer to Castro Valley were used for row crops and orchards. Pastures, fruit trees, and outbuildings such as barns and horse stalls remain today. The patchwork of older agricultural uses, single-family residences on larger parcels, and open space are the core of Fairview's identity and together create a semi-rural character. Fairview is also defined by the absence of commercial land uses, including shopping centers, offices, and a central business district. The lack of curbs, gutters, and sidewalks on some roads add to a semi-rural character.

The construction of an additional 300 housing units in the Plan Area through 2040 could change the visual character or quality of the area and conflict with the Plan Area's semi-rural character. However, these units would fill in undeveloped or underdeveloped sites with a similar development pattern as form as is currently present, preserving the overall visual character.

Further, as discussed under impact discussion (a), the updated Specific Plan would include development standards to protect Fairview's natural features in support of Goal CO-1. In addition to Goal CO-1, the updated Specific Plan includes the following guiding goals in Chapter 3 (Land Use and Community Design), which are supported by an updated Land use Map and standards that characterize a permitted density and intensity of identified land uses.

GOAL LU-1: Maintain Fairview's low-density character and mix of open space, agriculture, and residential uses.

GOAL LU-2: Conserve, enhance, and maintain Fairview's existing residential neighborhoods.

GOAL LU-3: Protect and enhance the hillsides, canyons, and creeks that are the foundation of Fairview's natural setting and character.

Combined goals, policies, and development standards included in Chapters 3 and 6 of the updated Specific Plan (summarized in Table 2 and Table 4) would prioritize the Plan Area's natural features and low-density character throughout future development.

Furthermore, not all features associated with a rural character are visually pleasant. As an unincorporated community, there are several properties in Fairview with deteriorating outbuildings, old cars and recreational vehicles, makeshift structures, and other visuals that detract from the natural landscape and affect overall cohesion from property to property. Implementation of the Specific Plan would include standards that would enhance the Plan Area's existing neighborhoods and facilitate compatible residential development that would add cohesion to the Plan Area. Therefore, the proposed Specific Plan would not substantially degrade the existing visual character or quality of public views of the site and its surroundings, and impacts would be less than significant.

LESS THAN SIGNIFICANT IMPACT

d. Would the project create a new source of substantial light or glare that would adversely affect daytime or nighttime views in the area?

The Plan Area contains limited sources of existing lighting and glare. Existing lighting in the project area consists of streetlights and exterior lighting associated with a semi-rural and low-density character, consisting of a mix of open space, agriculture, and residential uses with limited commercial uses.

The proposed Specific Plan would not increase the allowed number of units on parcels in the Plan Area. The Plan maintains existing zoning but adds new development standards and policies for future projects in the Plan Area. Nonetheless, this analysis conservatively assumes an increase of 300 residential units in the Plan Area through 2040 compared to existing conditions. This would result in an increase in daytime and nighttime lighting in the Plan Area relative to existing lighting. However, the light sources would not substantially increase the overall levels of day or nighttime lighting as they would be comparable to existing light levels from the surrounding residential development. Furthermore, development would occur on scattered sites, as shown in Figure 5, rather than in one area. For these reasons, the proposed project would not result in a substantial new source of light such that daytime or nighttime views in the area would be adversely affected. Rather, the proposed exterior lighting and building materials would be consistent with those of the existing residential development. The proposed lighting would not be substantial but would aid public safety in a semi-rural setting.

In addition, residential development in the Plan Area would not involve highly reflective materials that could potentially cause significant glare during the day, such as stainless-steel panels or expansive glass windows typically associated with commercial and industrial development. Individual future residential developments in the Plan Area, including finishes, colors, and materials, would be reviewed for approval through the County's development review process. This regulatory procedure provides the County with an additional layer of review for aesthetics including light and glare, and an opportunity to incorporate additional conditions to improve an individual project's building materials and lighting plans. Therefore, impacts related to light and glare would be less than significant.

LESS THAN SIGNIFICANT IMPACT

2 Agriculture and Forestry Resources

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
a. Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	☐	☐	■	☐
b. Conflict with existing zoning for agricultural use or a Williamson Act contract?	☐	☐	■	☐
c. Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code Section 12220(g)); timberland (as defined by Public Resources Code Section 4526); or timberland zoned Timberland Production (as defined by Government Code Section 51104(g))?	☐	☐	■	☐
d. Result in the loss of forest land or conversion of forest land to non-forest use?	☐	☐	■	☐
e. Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland to non-agricultural use or conversion of forest land to non-forest use?	☐	☐	■	☐

Agriculture and Forestry Resources Setting

The California Department of Conservation administers the Farmland Mapping and Monitoring Program (FMMP), California's statewide agricultural land inventory. The FMMP is updated every two years and utilizes an automated map and database system to record changes in the use of agricultural lands. The FMMP is an information service only and does not constitute state regulation of local land use decisions.

Farmland is classified according to its ability to support crops or livestock. The FMMP uses four categories of farmland: Prime Farmland, Farmland of Statewide Importance, Unique Farmland, and Farmland of Local Importance. Conversion of Prime Farmland, Unique Farmland, and Farmland of Statewide Importance is typically considered an adverse impact. Conversion of Farmland of Local

Importance is not considered a significant impact pursuant to FMMP or California Environmental Quality Act (CEQA) standards.

The FMMP sets standards and relies on information from the U.S. Department of Agriculture's (USDA) Natural Resources Conservation Service (NRCS) soil surveys, NRCS land inventory and monitoring criteria, and land use and water availability. Topography, climate, soil quality, and available irrigation water all factor into the FMMP farmland classifications.

Historically, the Plan Area and surrounding areas were used for agriculture, including cattle and horse grazing, and orchards. Within the last 60 years, many of the larger agricultural parcels have been converted to residential uses, including suburban-style subdivisions and large ranchettes. Areas surrounding the Plan Area to the north, east, and south still contain rural and agricultural or undeveloped properties. In the Plan Area, several properties continue to support small farms and non-commercial livestock operations, including barns, stables, and facilities for horses. There are also a number of active agricultural operations, including a vineyard, in the Plan Area.

Farmland Classifications in the Plan Area

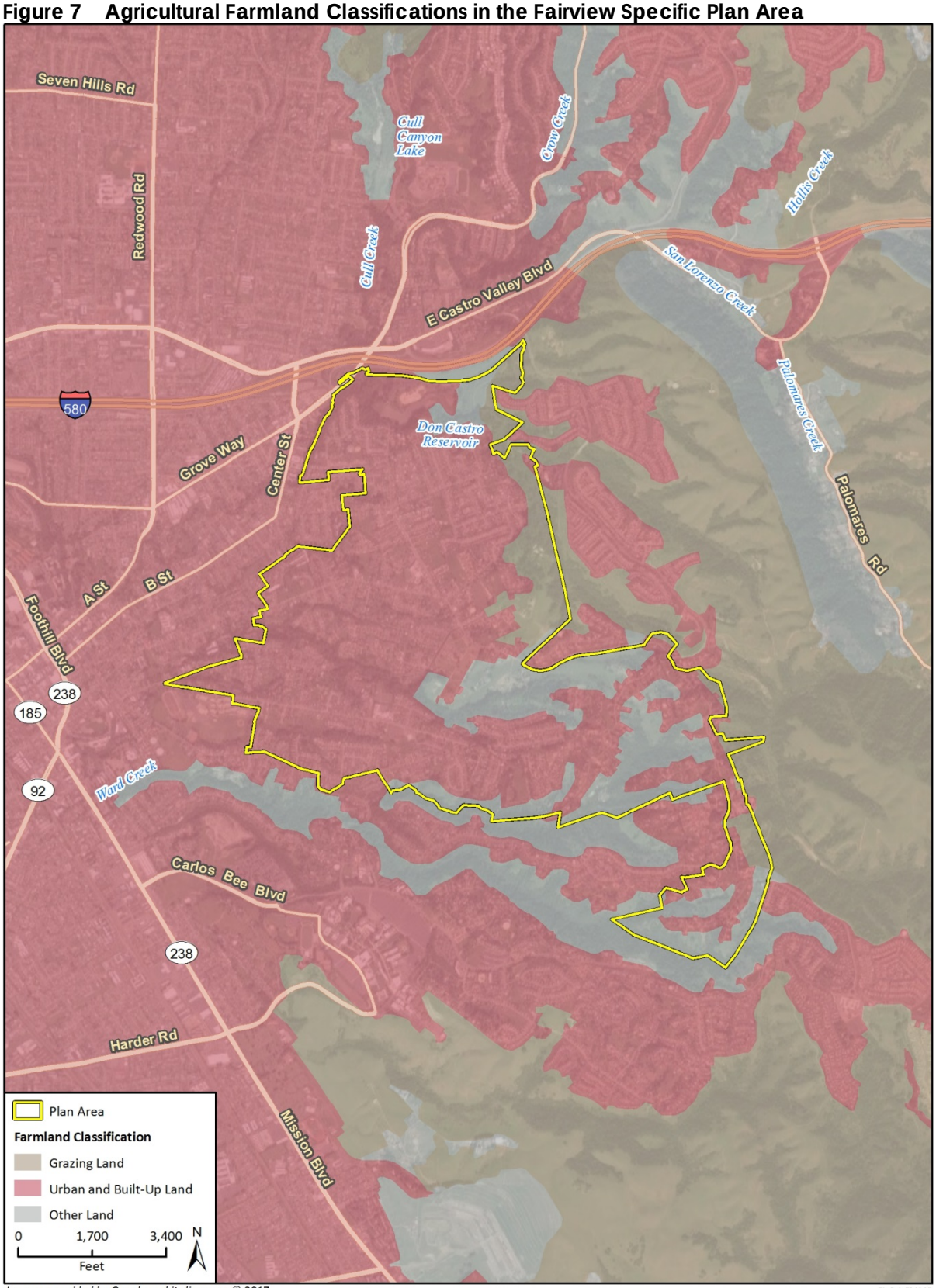
As shown on Figure 7, the Plan Area does not contain Prime Farmland, Unique Farmland, or Farmland of Local Importance. The Plan Area does contain soils that are potentially rated as Farmland of Statewide Importance and Prime Farmland (if properly irrigated), as shown in Table 7. However, no land in the Plan Area is officially designated as such. Some areas in the hillsides on the eastern portion of the Plan Area are designated as grazing land. As shown on Figure 8, there is no land under Williamson Act contract in the Plan Area (see regulatory setting section for a discussion of the Williamson Act).

Soils in the Plan Area

According to the USDA Soil Conservation Service, the Fairview Plan Area contains 11 soil types, as listed below (U.S. Department of Agriculture, 2016). Plan Area soils and farmland classification ratings are listed in Table 7 and mapped in Figure 7.

The majority of the soils identified in the Plan Area have low capability for agricultural production (i.e., not potentially Prime Farmland), with the exception of Altamont clay, Botella loam, and Tierra loam. Altamont clay and Botella loam soils make up small portions in the northeast region of the Plan Area, and Tierra loam is centrally located in the Fairview Plan Area. Altamont clay and Tierra loam are classified as Farmlands of Statewide Importance, and Botella loam has the potential for Prime Farmland classification if properly irrigated (USDA Web Soil Survey 2016).

Figure 7 Agricultural Farmland Classifications in the Fairview Specific Plan Area



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Additional data provided by California Department of Conservation, 2014.

Fig2.1 FMMP

Figure 8 Williamson Act Lands in Vicinity of the Fairview Specific Plan Area

Imagery provided by Google and its licensors © 2017;
Additional data provided by California Department of Conservation, 2014.

Fig2.2 Williamson Act

Table 7 Plan Area Soils and Farmland Classifications

Map Number	Name	Rating
LpF2	Los Gatos-Los Osos complex – *30 to 75 percent slopes, eroded*	Not Prime Farmland
LuD	Los Osos and Millsholm soils – *7 to 30 percent slopes*	Not Prime Farmland
LuE2	Los Osos and Millsholm soils – *30 to 45 percent slopes, eroded*	Not Prime Farmland
MhE2	Millsholm silt loam – *30 to 45 percent slopes, eroded*	Not Prime Farmland
100	Altamont clay – *5 to 15 percent slopes*	Farmland of statewide importance
103	Azule clay loam – *9 to 30 percent slopes*	Not Prime Farmland
106	Botella loam – *0 to 2 percent slopes, MLRA 14*	Prime Farmland if irrigated
116	Gaviota-Rock outcrop complex – *15 to 50 percent slopes*	Not Prime Farmland
119	Los Gatos-Los Osos complex – *50 to 75 percent slopes*	Not Prime Farmland
122	Los Osos-Millsholm complex – *9 to 30 percent slopes*	Not Prime Farmland
123	Los Osos-Millsholm complex – *30 to 50 percent slopes*	Not Prime Farmland
123aw	Los Osos-Millsholm complex – *30 to 50 percent slopes*	Not Prime Farmland
128	Millsholm silt loam – *30 to 50 percent slopes*	Not Prime Farmland
145	Tierra Loam – *0 to 5 percent slopes*	Farmland of statewide importance
158	Xerorthents-Los Osos complex – *30 to 50 percent slopes*	Not Prime Farmland
162	Water	Not Prime Farmland

Sources: U.S. Department of Agriculture (USDA), Natural Resources Conservation Service (NRCS). Web Soil Survey Alameda Area, California (CA609). Version 9, September 28, 2016; U.S. Department of Agriculture (USDA), Natural Resources Conservation Service (NRCS). Web Soil Survey Alameda Area, California, Western Part (CA610). Version 11, September 12, 2016

Regulatory Setting

State Regulations

WILLIAMSON ACT

The California Land Conservation Act of 1965—commonly referred to as the Williamson Act—enables local governments to enter into contracts with private landowners for the purpose of preserving land for agricultural use. In return, landowners receive reduced property tax assessments because the assessments are based on agricultural and open space uses instead of the full market value.

FOREST RESOURCES

In accordance with the definition provided in California Public Resources Code Section 12220(g), "forest land" is land that can support, under natural conditions, 10 percent native tree cover of any species, including hardwoods, and that allows for the preservation or management of forest-related resources such as timber, aesthetic value, fish and wildlife, biodiversity, water quality, recreational facilities, and other public benefits (California Public Resources Code). None of the lands in the County at large are used for timber harvesting (Laaksonen-Craig, et al. 2003). The Fairview Plan Area does not contain forest land that meets these criteria.

Local Regulations

ALAMEDA COUNTY GENERAL PLAN

The Alameda County General Plan details the importance of agriculture in Alameda County, although this has greatly diminished as a result of increased urbanization throughout the county, especially in western Alameda County where the Fairview Plan Area is located.

In 2015, Alameda County released its annual report for the General Plan, which included new strategies and measures addressing community gardens and urban agriculture. The annual report reveals that the County is considering enacting ordinances to implement AB 551 – the Urban Ag Incentive Zone Act (Alameda County General Plan Annual Report 2015).

ALAMEDA COUNTY RIGHT TO FARM ORDINANCE

The Right to Farm Ordinance, adopted in 2005, alerts prospective property owners within 2,000 feet of agricultural operations that nearby agriculture and agriculture-related activities are permitted. The ordinance encourages and promotes agriculture, and protects agricultural uses from nuisance laws, as long as the agricultural operation fits the following criteria:

- Is conducted in zoning that allows such uses
- Is conducted or maintained in a manner consistent with proper and accepted customs and standards as established and followed by similar agricultural operations in the same locality, and in a lawful manner
- Predates the affected use(s) on the neighbor's property

ANIMAL FANCIER PERMIT REGULATIONS

Alameda County has adopted special regulations for the keeping of animals in Fairview. These regulations supersede those that apply in the County as a whole and were drafted to reflect Fairview's unique combination of suburban residential and small-scale agricultural uses. The regulations are discussed in the Land Use section of this report.

Impact Analysis

a. *Would the project convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?*

b. *Would the project conflict with existing zoning for agricultural use or a Williamson Act contract?*

c. *Would the project conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code Section 12220(g)); timberland (as defined by Public Resources Code Section 4526); or timberland zoned Timberland Production (as defined by Government Code Section 51104(g))?*

d. *Would the project result in the loss of forest land or conversion of forest land to non-forest use?*

e. *Would the project involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland to non-agricultural use or conversion of forest land to non-forest use?*

Historically, the Plan Area and surrounding areas were used for agriculture, including cattle and horse grazing, and orchards. Within the last 60 years, many of the larger agricultural parcels have been converted to residential uses, including suburban-style subdivisions and large ranchettes. Areas surrounding the Plan Area to the north, east, and south still contain rural and agricultural or undeveloped properties. In the Plan Area, several properties continue to support hobby farms and non-commercial livestock operations, including barns, stables, and facilities for horses. There are also several active agricultural operations, including a vineyard, in the Plan Area. Some areas in the hillsides on the eastern portion of the Plan Area are designated as grazing land. However, the Plan Area does not contain forest land and as shown on Figure 7, the Plan Area does not contain Prime Farmland, Unique Farmland, or Farmland of Local Importance. In addition, as shown on Figure 8, there is also no land under Williamson Act contract in the Plan Area. Lastly, there is no forest land in the Plan Area.

The updated Specific Plan would not involve changes to the existing zoning in the Plan Area that would conflict with agricultural use. Rather, the updated Specific Plan contains the following guiding goal which aims to support the continued presence of agriculture and animal-keeping in Fairview while minimizing the potential for conflicts between these activities and adjacent uses.

Goal AG-1: Sustain agriculture in Fairview and strive for greater compatibility between agricultural and residential uses.

In addition, while agricultural standards are not addressed in the 1997 Fairview Specific Plan, the Animal Keeping Standards and Animal Fancier Permit requirements are adopted by reference as part of the development standard 4.4.1 (Animal Keeping) under the agriculture component of the updated Specific Plan. Impacts to agricultural and forest resources would be less than significant.

LESS THAN SIGNIFICANT IMPACT

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3 Air Quality

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
a. Conflict with or obstruct implementation of the applicable air quality plan?	☐	☐	■	☐
b. Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?	☐	■	☐	☐
c. Expose sensitive receptors to substantial pollutant concentrations?	☐	■	☐	☐
d. Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?	☐	☐	■	☐

Air Quality Setting: Standards and Attainment

The Plan Area is in the San Francisco Bay Area Air Basin (SFBAAB) and is under the jurisdiction of Bay Area Air Quality Management District (BAAQMD). Air quality in the SFBAAB is affected by the emission sources located in the region, as well as by natural factors. Atmospheric conditions such as wind speed and direction, air temperature gradients, and local and regional topography influence air quality.

Local air districts and CARB monitor ambient air quality to assure that air quality standards are met, and if they are not met, to also develop strategies to meet the standards. In the Bay Area, air quality monitoring stations operated by the BAAQMD measure pollutant ground-level concentrations. Depending on whether the standards are met or exceeded, the SFBAAB is classified as being in "attainment" or "nonattainment." Under state law, air districts are required to prepare a plan for air quality improvement for pollutants for which the district is in non-compliance. As of 2017, the SFBAAB is in nonattainment for federal standards for ozone and particulate matter ($PM_{2.5}$) (BAAQMD 2017a). The SFBAAB is in nonattainment for state standard for ozone and particulate matter (PM_{10} and $PM_{2.5}$). The health effects associated with criteria pollutants for which the SFBAAB is in nonattainment are described in Table 8.

Table 8 Health Effects Associated with Nonattainment Criteria Pollutants

Pollutant	Adverse Effects
Ozone	(1) Short-term exposures: (a) pulmonary function decrements and localized lung edema in humans and animals and (b) risk to public health implied by alterations in pulmonary morphology and host defense in animals; (2) long-term exposures: risk to public health implied by altered connective tissue metabolism and altered pulmonary morphology in animals after long-term exposures and pulmonary function decrements in chronically exposed humans; (3) vegetation damage; and (4) property damage.
Suspended particulate matter (PM_{10})	(1) Excess deaths from short-term and long-term exposures; (2) excess seasonal declines in pulmonary function, especially in children; (3) asthma exacerbation and possibly induction; (4) adverse birth outcomes including low birth weight; (5) increased infant mortality; (6) increased respiratory symptoms in children such as cough and bronchitis; and (7) increased hospitalization for both cardiovascular and respiratory disease (including asthma)[1].
Suspended particulate matter ($PM_{2.5}$)	(1) Excess deaths from short- and long-term exposures; (2) excess seasonal declines in pulmonary function, especially in children; (3) asthma exacerbation and possibly induction; (4) adverse birth outcomes, including low birth weight; (5) increased infant mortality; (6) increased respiratory symptoms in children, such as cough and bronchitis; and (7) increased hospitalization for both cardiovascular and respiratory disease, including asthma[1].

[1] More detailed discussions on the health effects associated with exposure to suspended particulate matter can be found in the following document: United States Environmental Protection Agency (U.S. EPA), Air Quality Criteria for Particulate Matter, October 2004.

Sources: U.S. EPA 2018a; Centers for Disease Control and Prevention (CDC) 2018

Ambient air quality is monitored at six BAAQMD-operated stations located in Alameda County. Table 9 summarizes the representative annual air quality data for the Plan Area over the years 2016 to 2018. The nearest monitoring stations to the Plan Area are the Hayward–La Mesa monitoring station (approximately two miles south of the Plan Area), and the Oakland – 9925 International Boulevard monitoring station (approximately 10 miles west of the Plan Area).

As indicated in Table 9, eight-hour average ozone levels exceed federal and state standards three times in 2017 but did not exceed federal or state standards in 2016 or 2018. The federal standards for $PM_{2.5}$ were exceeded on seven days in 2017 and 13 days in 2018. SFBAAB monitoring stations in Alameda County did not have carbon monoxide, sulfur dioxide, or PM_{10} data available during this period.

Table 9 Ambient Air Quality Data

Pollutant	2016	2017	2018
Ozone, ppm - Worst Hour[1]	0.064	0.110	0.066
Number of days of State exceedances – 8 hour average (>0.07 ppm)	0	3	0
Number of days of Federal exceedances – 8 hour average (>0.07 ppm)	0	3	0
Carbon Monoxide, ppm - Worst 8 Hours	*	*	*
Number of days of State/federal exceedances (>9.0 ppm)	*	*	*
Nitrogen Dioxide, ppm - Worst Hour[2]	0.059	0.065	0.073
Number of days of State exceedances (>0.18 ppm)	0	0	0

Pollutant	2016	2017	2018
Sulfur Dioxide, ppm - Worst Hour	*	*	*
Number of days of State exceedances (>0.04 ppm)	*	*	*
Particulate Matter <10 microns, μg/m^3 Worst 24 Hours	*	*	*
Number of samples of State exceedances (>50 μg/m^3)	*	*	*
Number of samples of Federal exceedances (>150 μg/m^3)	*	*	*
Particulate Matter <2.5 microns, μg/m^3 Worst 24 Hours[2]	15.5	70.2	172.1
Number of samples of Federal exceedances (>35 μg/m^3)	0	7	13

[1] Ozone data obtained at Hayward-La Mesa monitoring station.

[2] NO and $PM_{2.5}$ data obtained at Oakland-9925 International Boulevard monitoring station.

* Insufficient data available to determine the value

Source: CARB, Annual Air Quality Data Summaries available at https://www.arb.ca.gov/adam/topfour/topfour1.php. Accessed January 28, 2020.

Sensitive Receptors

Sensitive receptors that are in proximity to localized sources of particulate matter, toxics, and carbon monoxide (CO) are of particular concern. Locations that may contain a high concentration of these sensitive population groups include residential areas, hospitals, daycare facilities, elder care facilities, elementary schools, and parks. Sensitive receptors in the Plan Area are residences, nursing and senior care facilities (Hilltop Care Center and Bassard Convalescent Hospital), and several schools, including Fairview Elementary, Fairview Hills Pre-School, Northstar School, Creative Kids Children's Center, East Avenue Elementary School. Don Castro Regional Recreation Area, East Avenue Park, Fairview Park, Five Canyons Park, Lakeridge Park, San Felipe Park, and Sulphur Creek Nature Center would also be considered sensitive land uses, as they provide outdoor recreational opportunities for residents in and surrounding the Plan Area.

Impact Analysis

a. Would the project conflict with or obstruct implementation of the applicable air quality plan?

Specific Plan Consistency with Current Air Quality Plan

The most recently adopted air quality plan in the SFBAAB is the 2017 Plan. The 2017 Plan is a roadmap showing how the San Francisco Bay Area will achieve compliance with the State one-hour ozone standard as expeditiously as practicable, and how the region will reduce transport of ozone and ozone precursors to neighboring air basins (BAAQMD 2017b). The 2017 Plan does not include control measures that apply directly to individual development projects; instead, the control strategy includes stationary-source control measures to be implemented through the BAAQMD regulations; mobile-source control measures to be implemented through incentive programs and other activities; and transportation control measures to be implemented through transportation programs in cooperation with the Metropolitan Transportation Commission, local governments, transit agencies, and others. The 2017 Plan also represents the Bay Area's most recent triennial assessment of the region's strategy to attain the state one-hour ozone standard. Under BAAQMD's methodology, a determination of consistency with *CEQA Guidelines* thresholds should demonstrate that a project:

- Supports the primary goals of the Clean Air Plan
- Includes applicable control measures from the Clean Air Plan
- Does not disrupt or hinder implementation of any Clean Air Plan control measures

The following includes a discussion of consistency with these three criteria.

Support the Primary Goals of the Clean Air Plan

The primary goals of the 2017 Plan are to:

- Protect air quality and health at the regional and local scale
- Protect the climate

Projects that would not support these goals would not be considered consistent with the 2017 Plan. On an individual project basis, consistency with BAAQMD quantitative thresholds is interpreted as demonstrating support for the Plan goals. As described under impact discussion (b) below, approval of the proposed Specific Plan would not result in significant and unavoidable criteria pollutant emissions The Specific Plan generally maintains existing zoning in Fairview, which would minimize increases in emissions from additional vehicle trips.

In addition, the Specific Plan includes policies that would reduce vehicle trips and emissions by facilitating walking, bicycling, and transit use. As acknowledged in the Specific Plan, strategies to reduce vehicle miles traveled and associated mobile emissions are not easily accomplished in Fairview because of the community's rural character, topography, and limited services and employment base. However, the Transportation chapter of the Specific Plan includes policies to improve bicycle and pedestrian networks and lists specific street segments for proposed improvements. For example, Policy T-2.4 which identifies several priority areas for installing or improving sidewalks. Policy T-2.9 also would have the County "work with AC Transit to increase service frequency and extend hours of operation on its routes in Fairview," providing access to both the Hayward and Castro Valley BART stations with minimal transfers and waiting times. These policies and listed improvements would lead to better bicycle, pedestrian, and transit access, facilitating a reduction in vehicle miles traveled and mobile emissions associated with the Specific Plan. Therefore, the proposed Specific Plan would support the primary goals of the 2017 Plan, and this impact related to conflicts with air quality plans would be less than significant.

LESS THAN SIGNIFICANT IMPACT

b. Would the project result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?

Future development in the Plan Area would involve activities that result in air pollutant emissions. Construction activities such as demolition, grading, construction worker travel to and from project sites, delivery and hauling of construction supplies and debris to and from project sites, and fuel combustion by on-site construction equipment would generate pollutant emissions. These construction activities would temporarily create emissions of dust, fumes, equipment exhaust, and other air contaminants, particularly during site preparation and grading. The extent of daily emissions, particularly reactive organic gases (ROGs) and nitrogen oxide (NO_X) emissions, generated by construction equipment, would depend on the quantity of equipment used and the hours of operation for each project. The extent of $PM_{2.5}$ and PM_{10} emissions would depend upon the

following factors: 1) the amount of disturbed soils; 2) the length of disturbance time; 3) whether existing structures are demolished; 4) whether excavation is involved; and 5) whether transporting excavated materials offsite is necessary. Dust emissions can lead to both nuisance and health impacts. According to the 2017 BAAQMD *CEQA Air Quality Guidelines* PM_{10} is the greatest pollutant of concern during construction (BAAQMD 2017c).

As discussed above, BAAQMD's 2017 *CEQA Air Quality Guidelines* have no plan-level significance thresholds for construction air pollutant emissions. The proposed Specific Plan would not increase the allowed number of units on parcels in the Plan Area. The Plan maintains existing zoning but adds new development standards and policies for future projects in the Plan Area. Nonetheless, this analysis conservatively assumes an increase in 300 residential units in the Plan Area through 2040 compared to existing conditions. For informational purposes, however, Table 10 estimates air pollutant emissions from the construction of an additional 300 housing units through 2040, or an average of 15 residential units per year.

Table 10 Construction Emissions Associated with Plan Area Growth (pounds/day)

Pollutant	Maximum Daily Emissions
ROG	24.0
NO_x	40.5
CO	22.2
SO_x	<0.1
PM_{10}	10.3
$PM_{2.5}$	6.4

See Appendix A for CalEEMod worksheets.

BAAQMD's 2017 *CEQA Air Quality Guidelines* do include project-level thresholds for construction emissions, which would apply to future development projects in the Plan Area. If a project's construction emissions fall below the project-level thresholds, the project's impacts to regional air quality are considered individually and cumulatively less than significant. The BAAQMD has also identified feasible fugitive dust control measures for construction activities, including watering exposed ground areas twice a day and maintaining a 15 mile per hour speed limit on the construction sites. These Basic Construction Mitigation measures are recommended for all projects (BAAQMD 2017b). In addition, the BAAQMD and CARB have regulations that address the handling of hazardous air pollutants such as lead and asbestos. Lead and asbestos emissions could occur from demolition activities and asbestos emissions. BAAQMD rules and regulations address both the handling and transport of these contaminants. Construction associated with future development in the Plan Area would temporarily increase particulate emissions, for which the SFBAAB is currently in nonattainment, potentially resulting in localized areas of unhealthy air pollution levels. Therefore, the Specific Plan would have a potentially significant impact from a cumulatively considerable net increase of a criteria pollutant.

Mitigation Measures

The following mitigation measure is required.

Mitigation Measure AQ-1 Construction Emissions Measures

The following development standard shall be added to the proposed Specific Plan:

> *Construction Emissions.* New development involving grading or excavation or development on sites over one acre shall comply with the current Bay Area Air Quality Management District's basic control measures for reducing construction emissions of PM_{10} (Table 8-2, Basic Construction Mitigation Measures Recommended for All Proposed Projects, of the May 2017 BAAQMD CEQA Guidelines).

Significance after Mitigation

This impact would be less than significant with implementation of Mitigation Measure AQ-1 to require the BAAQMD Basic Construction Measures, which would reduce PM_{10} emissions from construction activity to the extent feasible.

LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED

c. Would the project expose sensitive receptors to substantial pollutant concentrations?

The Plan Area is primarily residential and lacks industrial uses that could be major air pollutant sources. Under the proposed Specific Plan, development standard 7.4.4 (Air Quality) also would prohibit land uses that produce toxic air contaminants (TACs) or air pollution levels resulting in unacceptable health conditions.

Pursuant to the ruling in the *California Building Industry Association (CBIA) v BAAQMD* (2015), impacts of the environment on the project are not an impact under CEQA. Nonetheless, BAAQMD's CEQA Guidelines include methodology for jurisdictions wanting to evaluate the potential impacts from placing sensitive receptors proximate to major air pollutant sources. For assessing community risk and hazards for siting a new receptor, sources within a 1,000-foot radius of a project site are typically considered. Sources are defined as freeways, high volume roadways (with volume of 10,000 vehicles or more per day or 1,000 trucks per day) and permitted sources (BAAQMD 2017b).

Fairview would be subject to air pollutants from sources based outside the Plan Area, especially high-volume traffic on I-580. Recent studies have shown high air pollutant concentrations near high-volume roadways and adverse health effects linked to this pollution (CARB 2017a). People living within 1,000 feet from freeways may experience adverse health effects from poor air quality at night and in the early morning. Residential uses in the northern portion of Fairview occur as close as approximately 850 feet from I-580. New residential development in this area, near Don Castro Regional Recreation Area, could potentially be located within 1,000 feet of I-580 and could expose sensitive receptors to sources of TACs. Therefore, mitigation would be required to ensure sensitive receptors would not be exposed to substantial pollutant concentrations.

Mitigation Measure AQ-2 Health Risk Assessments

The following development standard shall be added to the proposed Specific Plan:

> *Toxic Air Contaminant Exposure.* New development located within 1,000 feet of the edge of the pavement of I-580 shall comply with Bay Area Air Quality Management District Guidelines and State Office of Environmental Health Hazard Assessment policies and procedures requiring health risk assessments (HRA) for residential development and other sensitive receptors near sources of toxic air contaminants. Based on the results of the HRA, the County shall require applicants to identify and implement measures (such as air filtration systems, waterproofed

caulking on windows and doors, and/or requirements for closed windows) as appropriate to reduce potential exposure to particulate matter, diesel fumes, and other potential health hazards. Measures identified in HRAs shall be included into the site development plan as a component of the proposed project.

Significance after Mitigation

Implementation of Mitigation Measure AQ-2 would reduce residential exposure to TACs to acceptable levels, resulting in a less than significant impact from substantial pollutant concentrations.

LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED

d. Would the project result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?

Land uses typically producing objectionable odors include agricultural uses, wastewater treatment plants, food processing plants, chemical plants, compost facilities, refineries, landfills, dairies, and fiberglass molding. The proposed Specific Plan does not support industrial uses and would not facilitate an increase in agricultural uses beyond existing conditions. Odor emissions from the proposed Specific Plan would be limited to those associated with vehicle and engine exhaust and idling and odors associated with animal-keeping. Odors associated with animal-keeping are generally localized. Further, the updated Specific Plan contains a goal to support the continued presence of agriculture and animal-keeping in Fairview while minimizing the potential for conflicts between these activities and adjacent uses. Therefore, uses under the proposed Specific Plan would not include known sources of objectionable odors for long-term operations. During construction activities, only temporary odors from vehicle exhaust and construction equipment engines would occur. Construction-related odors would cease upon completion. The Specific Plan also would not result in the generation of other emissions that could adversely affect air quality. Therefore, the proposed Specific Plan would not result in significant impacts related to objectionable odors or other emissions during construction or operation, and this impact would be less than significant.

LESS THAN SIGNIFICANT IMPACT

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4 Biological Resources

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
a. Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	☐	■	☐	☐
b. Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	☐	☐	■	☐
c. Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	☐	☐	■	☐
d. Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	☐	☐	■	☐
e. Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☐	■	☐
f. Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	☐	☐	☐	■

Biological Resources Setting

The majority of the Plan Area is developed or disturbed, although there are several parks and open space areas throughout the Plan Area and surroundings, which may provide habitat and connectivity for special-status species. Don Castro Regional Recreational Area is the largest of these parks, providing about 100 acres of open space, and is located in the northern portion of the Plan Area, just south of I-580. Additionally, the Plan Area is surrounded by open space areas including the East Bay Hills, located to the west and Green Belt Park to the south.

Ruderal areas are also located throughout the Plan Area on vacant lots scattered amongst the residential development. Ruderal areas are also typically associated with urban areas where substantial ground disturbance activities occur. They are often found along roadsides, fence lines, and in areas undergoing urban development. Ruderal plant communities are not described by Holland (1986), Sawyer et al. (2009), or Mayer and Laudenslayer (1988). Ruderal plant communities are typically dominated by herbaceous plants (i.e., forbs) such as mustard (*Hirschfeldia incana*), fiddleneck (*Amsinckia menziesii*), and great valley phacelia (*Phacelia ciliata*), and include many non-native annual grasses such as ripgut brome (*Bromus diandrus*), wild oats (*Avena spp*.), and foxtail barley (*Hordeum murinum*).

Impact Analysis

a. *Would the project have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?*

Special-status species are those plants and animals listed, proposed for listing, or candidates for listing as threatened or endangered by the U.S. Fish and Wildlife Service (USFWS) or the California Department of Fish and Wildlife (CDFW). Queries of the USFWS Environmental Conservation Online System (ECOS): Information for Planning and Conservation System (IPaC) (USFWS 2015), USFWS Critical Habitat Portal (USFWS 2015), CNDDB (CDFW 2015), and California Native Plant Society (CNPS) *Online Inventory of Rare, Threatened and Endangered Plants of California* (CNPS 2015) were conducted. The queries were conducted to obtain comprehensive information regarding State and federally listed species known to or considered to have potential to occur in the Plan Area.

Alameda County is home to several species protected by federal and State agencies because they are either rare, threatened, endangered, or on various watch lists. Special-status animal species can be found in a variety of habitat types present in the County, including those in and surrounding the Plan Area. The CNDDB (CDFW 2015a), CNPS (2015), and USFWS IPaC (2015a) together list special-status animal (27 species) and plant (14 species) species that are known to or have potential to occur within a five-mile radius of the Plan Area. The status and habitat requirements for these special-status animal and plant species are included in Appendix B. In addition, two special-status animal species are known to occur in the Plan Area or the immediate vicinity. These include:

- **Crotch's Bumble Bee.** *Bombus crotchii,* commonly known as the Crotch's bumble bee, is in the family Apidae. The Crotch's bumble bee occurs in grassland and scrub habitats, and typically nests underground in abandoned rodent nests or above ground in tufts of grass (IUCN, 2015). Globally, this species is ranked as endangered by the IUCN, and in California, it is a candidate for listing (Endangered). The Xerces Society (2019) reports a relative abundance decline of 98% over the last decade; the group has also estimated an 80% decline in the relative persistence of the bumblebee in its range during this time. Regions within the Crotch's bumblebee range have

experienced habitat loss through exposure to pathogens, urbanization and intensive agriculture, diseases spread and amplified by commercial pollinators, and pesticide use, events that are thought to have contributed to the decline of the species. This species has a wide variety of plant associations, including but not limited to, species in the genera: *Asclepias*, *Chaenactis*, *Lupinus*, *Medicago*, *Phacelia*, and *Salvia* (Hatfield et al., 2015). The Crotch's bumble bee historic range covers the majority of the Plan Area; however, it requires limited ground disturbance and an abundance of floral resources, as well as suitable overwintering sites for queens. Given the precipitous decline in bumblebees over the last decade, absence of recent confirmed sightings in the project vicinity, and the fragmented and disturbed nature of vegetation communities within the Plan Area, there is a very low likelihood that the project provides suitable habitat for this species. Impacts to Crotch's bumble bee are not expected.

- **Western Mastiff Bat.** Eumops perotis, also known as western mastiff bat (generally called the greater bonneted bat), is in the family Molossidae. The western mastiff bat occurs in a wide variety of habitats, including chaparral, coastal and desert scrub, coniferous and deciduous forest and woodland, but in areas associated with roosting sites. This species is listed as a CDFW species of special concern. The western mastiff bat potentially occurs in the northwestern portion of the Plan Area.
- **Alameda Whipsnake.** *Masticophis lateralis euryxanthus*, also known as Alameda whipsnake or Alameda striped racer, is in the family 'Colubridae'. The Alameda whipsnake is typically found in chaparral habitats and favors northern coastal sage scrub and coastal sage. They are most commonly found on east, south, southeast, and southwest facing slopes. They may seek protection or aestivate in rock outcrops, crevices, and burrows. According to the USFWS, this species is listed as threatened and is likely to become endangered in the near future. Critical habitat for the Alameda whipsnake occurs adjacent to the east and south of the Plan Area within the East Bay Hills. Potentially suitable habitat for Alameda whipsnake is limited within the Plan Area; however, portions of the Plan Area and surrounding biological communities include a mosaic of grass, chaparral, and oak woodlands which may provide suitable foraging and dispersal habitat for whipsnake. As such, the Plan Area has potential to support this species.

Because the updated Specific Plan does not include specific development projects, a project-level analysis of the specific impacts of individual residential projects on special-status species is not included in the Initial Study. Nonetheless, as shown in Appendix B, special status bee and bat species have some potential to occur within the Plan Area as described above and may be affected by proposed projects where they occur in buildings or similar structures or in native habitat adjacent to construction areas. In addition, trees and other vegetation in the Plan Area may support species of nesting migratory birds protected under CDFW and special-status bird species. Impacts to nesting special status birds are potentially significant and impacts to non-special status migratory birds would be a violation of the CDFW (although not necessarily a significant impact under CEQA). However, to conserve the Plan Area's biological resources, the updated Specific Plan includes the following guiding goal, which is supported by specific policies and development standards in Chapter 6 (Conservation) of the Plan:

Goal CO-2: Protect Fairview's plant and animal life.

According to Policy CO-2.3 under Goal CO-2, areas known to support special status plant and animal species shall be preserved under the updated Specific Plan and mitigation measures shall be required to reduce impacts to such species. Furthermore, implementation of the updated Specific Plan would include development standards in Chapter 6 (Conservation) as explained in Table 4 that would regulate development on natural features, preserve mature trees, protect creeks and riparian

areas, and require biological resource assessments by trained biologists to evaluate species that may be present on individual project sites. Nonetheless, mitigation is required to protect special-status species including special-status bats, nesting birds, and the Alameda whipsnake.

Mitigation Measures

BIO-1 Special-status Bat Species Avoidance

The following development standard shall be added to the proposed Specific Plan:

> Special-status bats. New development that includes demolition of vacant buildings and/or removal of mature trees large enough to contain crevices and hollows that could support bat roosting shall conduct focused surveys to determine the presence/absence of roosting bats. If active maternity roosts are identified, a qualified biologist shall establish avoidance buffers applicable to the species, the roost location and exposure, and the proposed construction activity in the area. If active non-maternity day or night roosts are found on the project site, measures shall be implemented to passively relocate bats from the roosts prior to the onset of construction activities. Such measures may include removal of roosting site during the time of day the roost is unoccupied or the installation of one-way doors, allowing the bats to leave the roost but not to re-enter. These measures shall be presented in a Bat Passive Relocation Plan that shall be submitted to, and approved by, the California Department of Fish and Wildlife.

BIO-2 Nesting Birds Avoidance

The following development standard shall be added to the proposed Specific Plan:

> New development in the Plan Area requiring site disturbance activities such as vegetation and concrete removal, shall comply with all requirements of the Migratory Bird Treaty Act (MBTA) and California Fish and Game Code (CFGC). This includes retaining a qualified biologist to conduct nesting bird surveys in the event site disturbance is proposed during the general avian nesting season (February 1 to August 30), as well as implementing measures to develop buffers around the nests as appropriate and avoid the destruction of active nests.

BIO-3 Alameda Whipsnake Protection

The following development standard shall be added to the proposed Specific Plan:

> For future development on undisturbed parcels where potentially suitable habitat is present (i.e., open areas in canyons, rocky hillsides, chaparral scrublands, open woodlands, pond edges, and stream courses), a qualified biologist shall conduct a habitat assessment for Alameda whipsnake. The project proponent will submit the habitat assessment to Alameda County for review prior to project approval. The report will include the location and description of all proposed work areas, the location and description of all suitable habitat for Alameda whipsnake, and the location and description of other sensitive habitats (e.g., vernal pools, wetlands, and riparian areas), if present. Additionally, the report will outline where additional species- and/or habitat-specific mitigation measures are required. This report may provide the basis for any applicable permit applications where incidental take may occur.

Significance after Mitigation

Implementation of Mitigation measures BIO-1 through BIO-3 would ensure protection of special-status bats, nesting birds, and Alameda whipsnakes that may be affected by implementation of the

Specific Plan. These measures would reduce the potentially significant impact to special-status species to a less than significant level.

LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED

b. Would the project have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?

No natural communities considered sensitive by the California Department of Fish and Wildlife (CDFW) occur in the Plan Area. However, the California Natural Diversity Database (CNDDB) lists two sensitive natural communities, consisting of Northern Coastal Salt Marsh and Valley Needlegrass Grassland, that occur within a five-mile radius of the Plan Area. Furthermore, there is no designated critical habitat in the Plan Area. However, designated critical habitat for the Alameda whipsnake, California red-legged frog, western snowy plover, and prairie falcon is located within a five-mile radius of the Plan Area. Of these critical habitats, two habitat areas are located just outside the Plan Area. These include:

- **Alameda Whipsnake Critical Habitat.** *Masticophis lateralis euryxanthus,* commonly known as Alameda whipsnake, is in the family 'Colubridae'. A description of whipsnake habitat is provided in Impact Discussion 4(a) above. Critical habitat for the Alameda whipsnake occurs adjacent to the east and south of the Plan Area within the East Bay Hills.
- **California Red-Legged Frog Critical Habitat.** *Rana draytonii,* also known as the California red-legged frog, is in the family Ranidae. California red-legged frog habitat includes deep ponds and slow-moving streams in humid forests, woodlands, grasslands, coastal scrub, ephemeral wetlands, and riparian areas. They are most common in lowlands and foothills (National Wildlife Federation). Critical habitat for the California red-legged frog occurs adjacent to the east and south of the Plan Area and extends into the foothills of the East Bay Hills.

As discussed above under question (a), Alameda whipsnake habitat may be present and Mitigation Measure BIO-3 is required. However, the sensitive natural communities and designated critical habitats for the Alameda whipsnake and California red-legged frog are not expected to be affected by growth in the Plan Area due to their respective distances from the Plan Area.

The Plan Area also includes sensitive riparian habitat along creeks. According to Policy CO-2.1 under Goal CO-2, the updated Specific Plan shall require no net loss of riparian and seasonal wetlands and compliance with all State and federal wetlands protection regulations. Furthermore, implementation of the updated Specific Plan would include development standards that would protect creeks and riparian areas under all circumstances except where life or property is endangered due to potential flood hazards (see impact discussion (c) below). Although trees and vegetation may provide other habitat for some nesting bird species, impacts to nesting birds would be mitigated through Mitigation Measure BIO-2, as listed under impact discussion (a) of this section. Therefore, impacts to natural communities and sensitive habitats would be less than significant under the updated Specific Plan.

LESS THAN SIGNIFICANT IMPACT

c. Would the project have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?

There are no mapped or designated federally protected wetlands in the Plan Area. Nonetheless, the State Water Resources Control Board (SWRCB) has identified wetlands, streams, and riparian corridors as being "sensitive habitat", all of which are present in Fairview. As discussed under impact discussion (b) of this section, Policy CO-2.1 under Goal CO-2 of the updated Specific Plan shall require no net loss of riparian and seasonal wetlands and compliance with all State and federal wetlands protection regulations. Furthermore, implementation of the updated Specific Plan would include the following development standard:

6.4.5. Protection of Creeks and Riparian Areas

(a) *Riparian Conservation*. Natural riparian areas shall be preserved except where life or property is endangered due to potential flood hazards. In such areas, flood control improvements shall preserve the natural riparian character of the channel and minimize alteration of streambanks.

(b) *Watercourse Protection*. Natural riparian corridors are to be designated and protected through the development review and permitting process, and through the Alameda County Watercourse Protection Ordinance. The Ordinance shall be consistently applied and enforced.

(c) *Expanded Creek Setbacks for New Development in Fairview*. When the subdivision of a parcel is proposed, the provisions of the Watercourse Protection Ordinance shall be expanded to require a 50-foot setback from the top of bank, rather than a 20-foot setback.

(d) *Ordinance Revisions*. Opportunities to strengthen other provisions of the Watercourse Protection Ordinance should be considered in the future.

These standards would protect creeks and riparian areas under all circumstances except where life or property is endangered due to potential flood hazards. Therefore, impacts to wetlands would be less than significant under the updated Specific Plan.

LESS THAN SIGNIFICANT IMPACT

d. Would the project interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?

Wildlife movement corridors, or habitat linkages, are generally defined as connections between habitat patches that allow for physical and genetic exchange between otherwise isolated animal populations. The habitats in the link do not necessarily need to be the same as the habitats that are being linked. Rather, the link merely needs to contain sufficient cover and forage to allow temporary inhabitation by ground-dwelling species. Wildlife movement corridors can be both large- and small-scale. Parks, riparian corridors, waterways, and flood control channels, including San Lorenzo Creek, Pacheco Creek, Ward Creek, Sulphur Creek, Don Castro Regional Recreation Area, Lakeridge Park, San Felipe Park, Sulphur Creek Nature Center, Five Canyons Park, East Avenue Park, and Green Belt Park may provide local scale opportunities for wildlife movement throughout the Plan Area. San Lorenzo Creek is an important riparian corridor, which provides passage for spawning steelhead, although CDFWF reports several partial and total barriers along San Lorenzo Creek and its tributaries. The CDFW BIOS (2017) also mapped essential connectivity areas through the Plan Area

and has identified the East Bay Hills – Diablo Range as part of the California Bay Area Linkage Network. The corridor extends from the foothills southeast of San Pablo Bay southeast paralleling the San Francisco Bay and connecting with the Diablo Range east of Fremont.

According to Policy CO-2.4 under Goal CO-2, the major wildlife corridors that run through or are adjacent to Fairview, including creeks and canyons, the Palomares Hills, and the Don Castro Reservoir area south of I-580, shall be protected under the updated Specific Plan. Furthermore, implementation of the updated Specific Plan would include development standards that would protect creeks and riparian areas under all circumstances except where life or property is endangered due to potential flood hazards (see impact discussion (c) above). Therefore, impacts to wildlife movement corridors would be less than significant under the updated Specific Plan.

LESS THAN SIGNIFICANT IMPACT

e. Would the project conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?

Like other unincorporated communities in Alameda County, Fairview is subject to tree preservation requirements. Alameda County Tree Ordinance 0-2004-23 and Chapter 12.11 of the County Code provides protection to any tree in the public right-of-way (ROW) meeting specific height and diameter criteria. Under the Ordinance, no tree meeting these criteria may be removed from the County ROW without first obtaining a permit from the Director of Public Works. Tree removal must also be mitigated through tree replacement or payment of an in-lieu fee. A Tree Advisory Board has been created for appeals.

Changes to the Ordinance in 2016 clarified that property owners are responsible for maintaining trees in the public ROW adjacent to their properties, even if they did not plant the tree. Although the Tree Ordinance does not cover trees on private property, the County encourages the retention of trees unless they pose a hazard, interfere with utilities, or have a negative effect on neighborhood aesthetics. Furthermore, implementation of the updated Specific Plan would include Development Standard 6.4.4 (Tree Preservation) in Chapter 6 (Conservation) that would regulate tree preservation through compliance with the Alameda County Tree Ordinance. Therefore, the updated Specific Plan would not conflict with an existing tree preservation ordinance and impacts would be less than significant.

LESS THAN SIGNIFICANT IMPACT

f. Would the project conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?

There are no habitat conservation plans or natural community conservation plans adopted in the Plan Area. Therefore, development associated with the updated Specific Plan would not conflict with such plans and no impact would occur.

NO IMPACT

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5 Cultural Resources

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
a. Cause a substantial adverse change in the significance of a historical resource pursuant to §15064.5?	☐	☐	■	☐
b. Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	☐	■	☐	☐
c. Disturb any human remains, including those interred outside of formal cemeteries?	☐	☐	■	☐

Cultural Resources Setting

Although Fairview does not have a historic district or designated historic landmarks, there are visible reminders of the past throughout the community. For Fairview, these include older residences, agricultural activities, landscape features, and Lone Tree Cemetery. Significant cultural resources not only include sites and structures that are formally listed on national, State, and local historic registers, they also include places that eligible for listing, as well as potential for archaeological remains associated with Native American settlement (discussed further under Section 18, *Tribal Cultural Resources*).

Impact Analysis

a. *Would the project cause a substantial adverse change in the significance of a historical resource pursuant to §15064.5?*

There are no locations in Fairview listed on the National Register of Historic Places (NRHP), California Historical Landmarks, California Points of Historical Interest, or California Register of Historical Resources (CRHR) or Alameda County Register of Historic Resources. Although Lone Tree Cemetery dates to 1868, and its iconic oak tree is estimated to be 300 years old, neither are formally recognized as historic landmarks.

Some of the streets emanating from Hayward, such as D Street and E Street, have Craftsman style dwellings and California bungalows dating from the early 1900s. There are also Period Revival cottages from the 1920s and 30s incorporating features such as stucco walls and tile roofs. However, many of the original residences built in Fairview at the time of its initial settlement were demolished during the mid- and late-20th Century as land was subdivided.

County Assessor records indicate there is only one property in Fairview that pre-dates 1900 and four residences built between 1900 and 1910. Based on Assessor's data, there are 21 still-existing

residences built in the 1910s, 56 residences built during the 1920s, and 57 residences built during the 1930s. The older residences are concentrated along major thoroughfares.

Although the proposed Specific Plan maintains existing zoning, this analysis conservatively assumes an increase in 300 residential units in the Plan Area through 2040 compared to existing conditions. Policy LU-3.5 under Goal LU-3 of the updated Specific Plan aims to preserve important cultural resources and features that reflect Fairview's history and traditions, such as residences, public buildings, open spaces, barns, stables, and fence lines.

While specific individual development projects are not part of the proposed Specific Plan analyzed in this Initial Study, the potential for impacts to historic resources is currently evaluated on a case-by-case basis for individual development sites as part of the County's review process. The County's Historic Preservation Ordinance (adopted 2012) includes a defined process for the County to use in making determinations of historical significance. A project that could adversely affect a historic would be subject to project-specific CEQA review at such time as such a project is proposed and reviewed through the County's land use permitting process.

Nonetheless, there are no locations in Fairview listed on the NRHP, California Historical Landmarks, California Points of Historical Interest, or CRHR that would be affected by residential development under the updated Specific Plan. Furthermore, because the updated Specific Plan and County emphasize preservation of historic resources, implementation of the updated Specific Plan would result in a less than significant impact to historic resources.

LESS THAN SIGNIFICANT IMPACT

b. Would the project cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?

Actual effects to archaeological resources are known only when an individual project is proposed because those effects depend highly on both the individual project site conditions and the characteristics of the proposed ground-disturbing activity. Because approximately 20 percent of Fairview consists of undeveloped vacant land or formally designated open space, ground-disturbing activities associated with new development in the Plan Area could affect previously undiscovered archaeological resources that may be present on or below the ground surface. However, implementation of Mitigation Measure CR-1 would reduce impacts to undiscovered archaeological resources during such ground-disturbing activities to a less than significant level.

Mitigation Measure

CR-1 Unanticipated Discovery of Cultural Resources

The following development standard shall be added to the proposed Specific Plan:

> *Cultural Resources*. For new development that involves grading or excavation below the previous level of disturbance, if cultural resources are encountered during ground-disturbing activities, work in the immediate area shall be halted and an archaeologist meeting the Secretary of the Interior's Professional Qualification Standards for archaeology (NPS 1983) shall be contacted immediately to evaluate the find. If necessary, the evaluation may require preparation of a treatment plan and archaeological testing for CRHR eligibility. If the discovery proves to be significant under CEQA and cannot be avoided by the project, additional work such as data recovery excavation may be warranted to mitigate any significant impacts to cultural resources. In the event that archaeological resources of Native American origin are identified

during project construction, a qualified archaeologist will consult with the City to begin Native American consultation procedures.

Significance after Mitigation

Mitigation Measures CR-1 would ensure that cultural resources are identified properly and preserved in the event they are uncovered during construction. Their implementation would reduce impacts regarding disrupting cultural resources to a less than significant level.

LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED

c. *Would the project disturb any human remains, including those interred outside of formal cemeteries?*

Human burials outside of formal cemeteries often occur in prehistoric archeological contexts. Although the Plan Area consists of mostly disturbed land, the potential still exists for these resources to be present. Excavation during construction activities in the Plan Area would have the potential to disturb these resources, which could include Native American burial sites.

Human burials, in addition to being potential archaeological resources, have specific provisions for treatment in Section 5097 of the California PRC. The California Health and Safety Code (§§7050.5, 7051, and 7054) has specific provisions for the protection of human burial remains. Existing regulations address the illegality of interfering with human burial remains, and protect them from disturbance, vandalism, or destruction. They also include established procedures to be implemented if Native American skeletal remains are discovered. PRC §5097.98 also addresses the disposition of Native American burials, protects such remains. If the remains are determined to be of Native American descent, the coroner has 24 hours to notify the Native American Heritage Commission, which will determine and notify a most likely descendant. The most likely descendant must complete the inspection of the site and make recommendations to the landowner within 48 hours of being granted access. While individual residential development is not proposed at this time, ground-disturbing activities associated with future development in the Plan Area could affect previously undiscovered human remains that may be present on or below the ground surface. Nonetheless, with adherence to existing regulations, impacts to human remains would be less than significant.

LESS THAN SIGNIFICANT IMPACT

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6 Energy

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
a. Result in a potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?	☐	☐	■	☐
b. Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?	☐	☐	■	☐

Energy Setting

Gas and electric services are provided by Pacific Gas and Electric (PG&E). PG&E is a publicly traded utility company which generates, purchases, and transmits energy under contract with the California Public Utilities Commission. Electricity is generated by coal-fired and nuclear power plants, as well as clean energy sources such as hydro-electric plants, solar facilities, wind turbines, and geothermal facilities. The utility is actively working to increase the share of electricity generated by renewable sources from 30 percent in 2015 to 50 percent by 2030.

Electricity is delivered to customers via a regional grid of high voltage transmission lines. Power is converted to lower voltages at substations and transformers and is delivered to customers via a distribution network comprised of overhead and underground utility lines. Most of Fairview's collector streets and subdivisions have overhead lines. The newer subdivisions, as well as adjacent communities such as Five Canyons, have underground lines. A major transmission line also crosses Fairview, extending west to San Francisco Bay and east to the Tri-Valley area.

PG&E also delivers natural gas via pipelines from gas fields throughout the Western United States and Canada. Large high-pressure pipelines transport gas long distances, while smaller pipelines distribute gas to individual businesses and residences.

Impact Analysis

a. *Would the project result in a potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?*

Future development in the Plan Area would involve the use of energy during associated construction and operation phases. Energy use during construction would primarily be in the form of fuel consumption to operate heavy equipment, light-duty vehicles, machinery, and generators for lighting. Temporary grid power may also be provided to construction trailers or electric construction equipment. In addition, construction activities would also result in short-term fuel consumption

from worker trips, operation of diesel-powered equipment, and hauling trips. Energy use during construction would be temporary and would be standard for similar construction projects in the region.

Long-term operation of development projects would require permanent grid connections for electricity and natural gas service to power internal and exterior building lighting, as well as heating and cooling systems. In addition, the increase in vehicle trips associated with potential development would increase fuel consumption.

Table 11 shows the estimated electricity and natural gas demand for growth in the Plan Area compared to statewide demand. Electricity and natural gas consumption were estimated using the CalEEMod version 2016.3.2. As shown, future development in the Plan Area would utilize approximately 2.4 Gigawatt hours (GWh) of electricity and approximately 12.7 million Btu of natural gas per year during operation in 2040. As shown in Table 11, energy consumption for an estimated 300 additional housing units in the Plan Area would represent less than 0.01 percent of statewide annual demand for electricity and less than 0.01 percent of statewide annual demand for natural gas.

Table 11 Plan Energy Use Relative to Statewide Energy Use

Form of Energy	Units	Annual Plan Related Energy Use	Annual Statewide Energy Use	Project Percent of Statewide Energy Use
Electricity	Gigawatt hours	2.4[1]	292,039 [2]	<0.01%
Natural Gas	Million British thermal units	12.7[1]	1,273,910,000[3]	<0.01%

[1] CalEEMod output (provided in Appendix A)

[2] California Energy Commission (CEC). 2017. *Total System Electric Generation*. Available at: http://www.energy.ca.gov/almanac/electricity_data/total_system_power.html.

[3] CEC. 2016. *California Energy Consumption Database*. http://www.ecdms.energy.ca.gov/

A large portion of the energy use associated with future development in the Plan Area would result from fuel consumption from new vehicle trips. Table 12 shows the estimated annual operational fuel consumption due to vehicle travel from future residential growth in the Plan Area. Fuel consumption was estimated using the default fleet vehicle mix and the total annual mitigated VMT from the CalEEMod trip generation estimates, and average fuel efficiencies for each vehicle category (refer to Table 4.4 included in Appendix A, which shows the default fleet vehicle mix used by CalEEMod). Based on these assumptions, the proposed Specific Plan would result in the consumption of approximately 362,784 gallons of vehicle fuel per year during full operation, which represents less than 0.01 percent of annual statewide transportation fuel consumption.

Table 12 Project Operational Vehicle Fuel Consumption

Vehicle Type	Percent of Vehicle Trips[1]	Annual Vehicle Miles Traveled[2]	Average Fuel Efficiency (miles/gallon)[3]	Total Annual Fuel Consumption (gallons)
Passenger Cars	56.4%	3,691,807	23.9	154,469
Light/Medium Trucks	34.9%	2,284,469	17.3	132,050
Heavy Trucks/Other	8.6%	562,935	7.3	77,114
Motorcycles	0.1%	6,546	43.5	150
Total	100%	6,545,757	–	363,784
State Motor Vehicle Fuels				19,250,000,0004
Plan Percent of Statewide Energy Use				<0.01%

[1] Percent of vehicle trips found in Table 4.4 "Fleet Mix" in CalEEMod outputs (see Appendix A)

[2] Mitigated annual VMT found in Table 4.2 "Trip Summary Information" in CalEEMod outputs (see Appendix A). Annual VMT per vehicle type = Mitigated annual VMT * Percent of vehicle trips per vehicle type.

[3] Source: US DOT, Bureau of Transportation Statistics. 2013. National Transportation Statistics 2013, Tables 4-11, 4-134 and -23. Washington DC. Vehicle classes provided in CalEEMod do not correspond exactly to vehicle classes in USDOT fuel consumption data, except for motorcycles. Therefore, it was assumed that passenger cars correspond to the light-duty, short-base vehicle class, light/medium trucks correspond to the light-duty long-base vehicle class, and heavy trucks/ other correspond to the single unit, 2-axle 6-tire or more class.

[4] California Energy Commission 2018

Note: Total may not add up due to rounding.

Future development in the Plan Area would be subject to energy conservation requirements in the California Energy Code (Title 24, Part 6, of the California Code of Regulations [CCR], California's Energy Efficiency Standards for Residential and Nonresidential Buildings) and the California Green Building Standards Code (CalGreen) (Title 24, Part 11, of the CCR). In addition, mitigation measures GHG-1 and GHG-2 in Section 8, *Greenhouse Gas Emissions,* include provisions to reduce renewable energy use. With the renewable electricity requirements imposed by SB100, California's electric grid over time will rely on fewer non-renewable energy sources. Therefore, compliance with these energy efficiency and energy reduction measures would reduce the use of nonrenewable energy sources for development in the Plan Area. Adherence to Title 24 requirements and required mitigation measures would ensure that future development in the Plan Area would not result in wasteful and inefficient use of non-renewable resources due to building operation.

LESS THAN SIGNIFICANT IMPACT

b. Would the project conflict with or obstruct a state or local plan for renewable energy or energy efficiency?

As described above and in Section 8, *Greenhouse Gas Emissions*, local plans which have renewable energy and/or energy efficiency components include the County's Community Climate Action Plan and the County Green Building Ordinance. Further, there are several state initiatives related to renewable energy and energy efficiency also described in that section. As discussed under question (b), the proposed Specific Plan would be consistent with and would not obstruct these local plans. Impacts would be less than significant.

LESS THAN SIGNIFICANT IMPACT

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7 Geology and Soils

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
a. Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:				
1. Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault?	☐	☐	■	☐
2. Strong seismic ground shaking?	☐	☐	■	☐
3. Seismic-related ground failure, including liquefaction?	☐	☐	■	☐
4. Landslides?	☐	☐	■	☐
b. Result in substantial soil erosion or the loss of topsoil?	☐	☐	■	☐
c. Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse?	☐	☐	■	☐
d. Be located on expansive soil, as defined in Table 1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?	☐	☐	■	☐
e. Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?	☐	☐	■	☐
f. Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	■	☐	☐

Geology and Soils Setting

Fairview lies in the Coast Ranges geomorphic province. This area includes the northwest trending belt of mountain ranges, valleys, and basins that parallel the California coastline from Point Conception north to the Oregon border. The majority of the Plan Area is underlain by Undivided Cretaceous sandstone, shale, and conglomerate (California Geological Survey [CGS] 2010). The westernmost portion of the Plan Area is underlain by Quaternary Older alluvium. The Quaternary deposits consist primarily of alluvial and estuarine sediments. The alluvium ranges from stream deposited sands, gravel, silts, clays and intermixtures to fine windblown sand.

Regulatory Setting

State Regulations

State geotechnical regulations applicable to the plan area include the Alquist-Priolo Earthquake Fault Zoning Act, the Seismic Hazards Mapping Act, and the California Building Code (CBC).

ALQUIST-PRIOLO EARTHQUAKE FAULT ZONING ACT

The Alquist-Priolo Act provides for special seismic design considerations if developments are planned in areas adjacent to active or potentially active faults. Under the Act, development of a building for human occupancy is generally restricted within 50 feet of an identified fault.

SEISMIC HAZARDS MAPPING ACT

The Seismic Hazards Mapping Act addresses geo-seismic hazards, other than surface faulting, and applies to public buildings and most private buildings intended for human occupancy. The Seismic Hazards Mapping Act identifies and maps seismic hazard zones to assist cities and counties in preparing the safety elements of their general plans and encourages land use management policies and regulations that reduce seismic hazards. The Act mandated the preparation of maps delineating "Liquefaction and Earthquake-Induced Landslide Zones of Required Investigation."

CALIFORNIA BUILDING CODE

The CBC requires, among other things, seismically resistant construction and foundation and soil investigations prior to construction. The CBC also establishes grading requirements that apply to excavation and fill activities and requires the implementation of erosion control measures. The County is responsible for enforcing the 2013 CBC.

Local Regulations

ALAMEDA COUNTY GENERAL PLAN (1994)

The County's Safety Element Goal 1, Policy 2 states that "structures should be located at an adequate distance away from active fault traces, such that surface faulting is not an unreasonable hazard."

ALAMEDA COUNTY GENERAL ORDINANCE CODE, SECTION 15.08.240

Section 15.08.240 of the Alameda County Building Ordinance requires applicants for new construction to submit soils or geologic reports for sites affected by a number of seismic and geologic hazards. In addition, new structures are required to incorporate design elements to reduce

building failures. The Grading, Erosion and Sediment Control Ordinance (Alameda County General Ordinance Code, Chapter 15.36) establishes standards for grading, construction and the control of erosion and sediments. In addition, Section 15.36.110 of the County Grading Ordinance gives the Director of Public Works the authority to require a soils and geologic investigation in support of proposed development on private property. Chapter 16, the Subdivision Ordinance, contains various provisions relating to the investigation of seismic and geologic hazards, and the design and construction of improvements relating to the subdivision of property.

Impact Analysis

a.1. Would the project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault?

The U.S. Geological Survey (USGS) defines active faults as those that have had surface displacement within Holocene time (about the last 11,700 years). Surface displacement can be recognized by the existence of cliffs in alluvium, terraces, offset stream courses, fault troughs and saddles, the alignment of depressions, sag ponds, and the existence of steep mountain fronts. Potentially active faults are faults that have had surface displacement during the last 1.6 million years. Inactive faults have not had surface displacement within the last 1.6 million years. As shown in Figure 9, several faults are in the vicinity of the Plan Area.

Faults generally produce damage in two ways: ground shaking and surface rupture. Surface rupture is limited to an area very near the fault trace. The Alquist-Priolo Act was developed by the State of California to regulate development occurring near active faults and to mitigate the risks associated with surface rupture. As discussed above, no Alquist-Priolo Earthquake Fault Zones cross the Plan Area. Although the potentially active Chabot Fault crosses the southwestern corner of the Plan Area, that fault is not associated with an Alquist-Priolo Earthquake Fault Zone and the potential for surface rupture along that fault is low. The nearest delineated Alquist-Priolo Earthquake Fault Zone is associated with the Hayward Fault, which runs southeast to northwest and is located approximately 0.5 mile southwest of the Plan Area at the nearest point, as shown in Figure 10. Therefore, future development in the Plan Area would not be subject to fault rupture from the Hayward Fault and impacts would be less than significant.

LESS THAN SIGNIFICANT IMPACT

Figure 9 Faults in and Around the Fairview Specific Plan Area

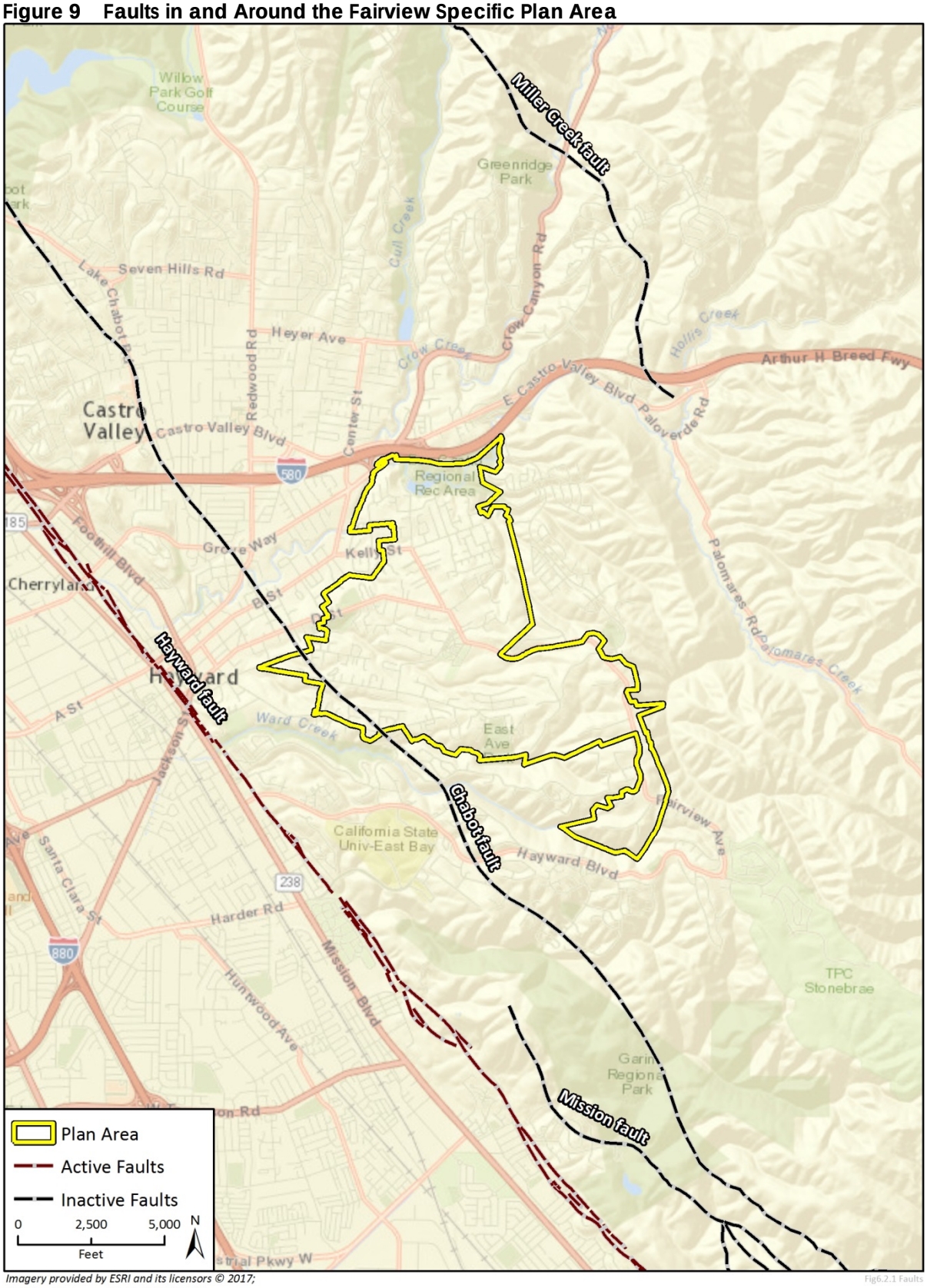
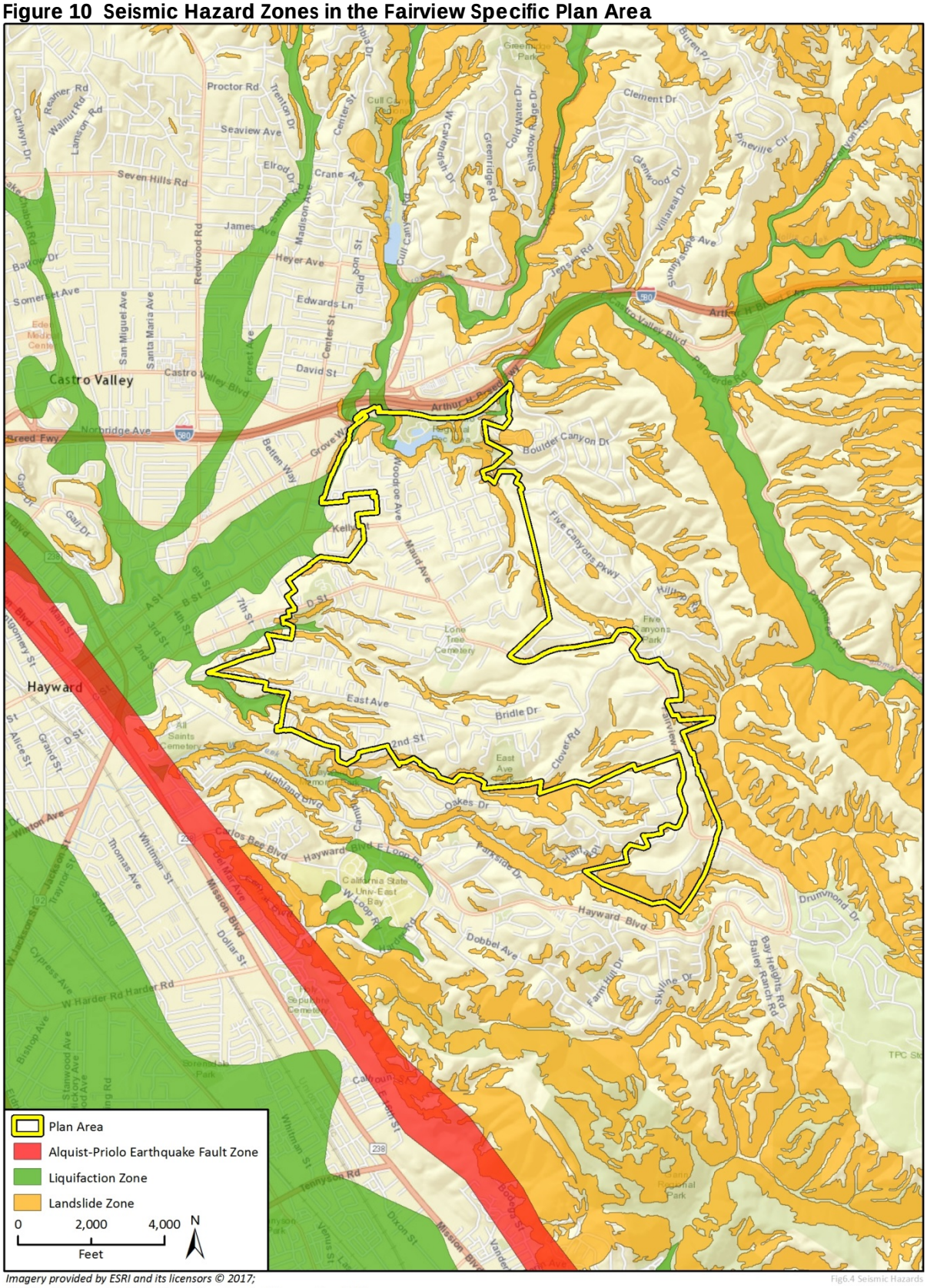


Figure 10 Seismic Hazard Zones in the Fairview Specific Plan Area



Imagery provided by ESRI and its licensors © 2017;
Additional data provided by California Department of Conservation, 2017.

a.2. Would the project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving strong seismic ground shaking?

Although no Alquist-Priolo fault zones cross the Fairview Plan Area, as with any site in the Bay Area region, the Plan Area is susceptible to strong seismic ground shaking in the event of a major earthquake. Figure 9 shows earthquake faults in and around Fairview. Nearby active faults include the Calaveras and Pleasanton Faults, located approximately 5.3 and 7.4 miles to the east, respectively; the Hayward fault, located approximately 0.5 mile to the west at the nearest point; and the San Andreas Fault, located across the San Francisco Bay, approximately 19 miles to the southwest at the nearest point (CGS 2010). The Chabot Fault, a potentially active Quaternary fault, runs southeast to northwest through the westernmost portion of the Plan Area (CGS 2010).

Due to the Plan Area's proximity to several significant fault zones and the historically high level of seismic activity in the Bay Area, the Plan Area would be subject to strong to violent ground shaking during a major earthquake along nearby active faults (CGS 2008). The updated Specific Plan includes the following guiding goal, which is supported by specific policies and development standards in Chapter 7 (Environmental Hazards) of the Plan:

Goal EH-1: Minimize risks to life, property, and the environment from natural hazards, including earthquakes, landslides, wildfires, and floods.

According to policies EH-1.2 and EH-1.3 under Goal EH-1, all buildings and major infrastructure shall be designed and constructed to withstand the ground-shaking forces of a major earthquake. Nonetheless, new development that would occur within the Plan Area would be required to conform to the California Building Code (CBC) as required by State law and emphasized in Development Standard 7.4.1 (Seismic and Geologic Hazards) included in Chapter 7 (Environmental Hazards) of the updated Specific Plan. Chapter 38 of the CBC contains specific requirements for structural design, including seismic loads. Proper engineering, including compliance with the CBC, would minimize the risk to life and property associated with potential seismic activity in the area. Impacts related to seismic shaking would be less than significant.

LESS THAN SIGNIFICANT IMPACT

a.3. Would the project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving seismic-related ground failure, including liquefaction?

Liquefaction is defined as the sudden loss of soil strength due to a rapid increase in soil pore water pressure resulting from seismic ground shaking. Liquefaction potential is dependent on such factors as soil type, depth to ground water, degree of seismic shaking, and the relative density of the soil. When liquefaction of the soil occurs, buildings and other objects on the ground surface may tilt or sink, and lightweight buried structures (such as pipelines) may float toward the ground surface. Liquefied soil may be unable to support its own weight or that of structures, which could result in loss of foundation bearing or differential settlement. Liquefaction may also result in cracks in the ground surface followed by the emergence of a sand-water mixture.

Seismically induced settlement occurs in loose to medium dense unconsolidated soil above groundwater. These soils compress (settle) when subject to seismic shaking. The settlement can be exacerbated by increased loading, such as from the construction of buildings. Settlement can also result solely from human activities, including improperly placed artificial fill, and structures built on soils or bedrock materials with differential settlement rates.

The State Geologist designates Zones of Required Investigation, including liquefaction hazard zones, in accordance with the Seismic Hazards Mapping Act. According to the Seismic Hazard Zone map for the Hayward Quadrangle, liquefaction zones in the Plan Area are limited to very small areas associated with San Lorenzo Creek in the northernmost portion of the Plan Area and an unnamed stream in the southwestern portion of the Plan Area. Areas of the Plan Area that are subject to earthquake-induced liquefaction are shown in Figure 10. As shown in Figure 10, the Plan Area is in an area with minimal potential for liquefaction. Nonetheless, new development that would occur within the Plan Area would be required to conform to the CBC, which requires that structures be designed and constructed to resist seismic hazards, including through foundation design and the completion of soil investigations prior to construction. The County would review future development occurring under the proposed Specific Plan for consistency with the CBC and confirm whether appropriate investigations and design measures have been employed to effectively minimize or avoid potential hazards associated with redevelopment and/or new building construction. Proper engineering, including compliance with the CBC, would minimize the risk to life and property associated with potential seismic activity in the area. Impacts related to liquefaction would be less than significant.

LESS THAN SIGNIFICANT IMPACT

a.4. Would the project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving landslides?

Landslides result when the driving forces that act on a slope (i.e., the weight of the slope material, and the weight of objects placed on it) are greater than the slope's natural resisting forces (i.e., the shear strength of the slope material). Slope instability may result from natural processes, such as the erosion of the toe of a slope by a stream, or by ground shaking caused by an earthquake. Slopes can also be modified artificially by grading, or by the addition of water or structures to a slope. Development that occurs on a slope can substantially increase the frequency and extent of potential slope stability hazards.

Areas susceptible to landslides are typically characterized by steep, unstable slopes in weak soil/bedrock units that have a record of previous slope failure. There are numerous factors that affect the stability of the slope, including slope height and steepness, type of materials, material strength, structural geologic relationships, ground water level, and level of seismic shaking.

According to the Safety Element of the Alameda County General Plan (2013), landslide risk is low throughout the majority of the Fairview Area. However, localized areas of instability exist along San Lorenzo Creek. Landslide hazard zones, defined by the State Geologist and shown on the Seismic Hazard Zone Map for the Hayward Quadrangle, border the creek where it emerges from the unground culvert immediately north and south of Mission Boulevard. Additional identified landslide hazard zones in the Plan Area are limited to slopes adjacent to streams, mostly in the western and southern portions of the Plan Area. As shown Figure 10, these landslide hazard zones occupy a small percentage of the Plan Area.

As discussed under impact discussion (a.2), the updated Specific Plan includes Goal EH-1, which aims to minimize risks from natural hazards, including landslides. According to policy EH-1.1 under Goal EH-1, all California and County Building Code, Fire Code, and Subdivision Code requirements related to seismic hazards, including landslides, shall be enforced. Furthermore, according to policy EH-1.5, construction on landslide-prone or potentially unstable slopes shall include drainage and erosion control provisions to avoid slope failure. New development that would occur within the Plan Area

would be required to conform to the CBC, which requires that structures be designed and constructed to resist seismic hazards. Impacts related to landslides would be less than significant.

LESS THAN SIGNIFICANT IMPACT

b. Would the project result in substantial soil erosion or the loss of topsoil?

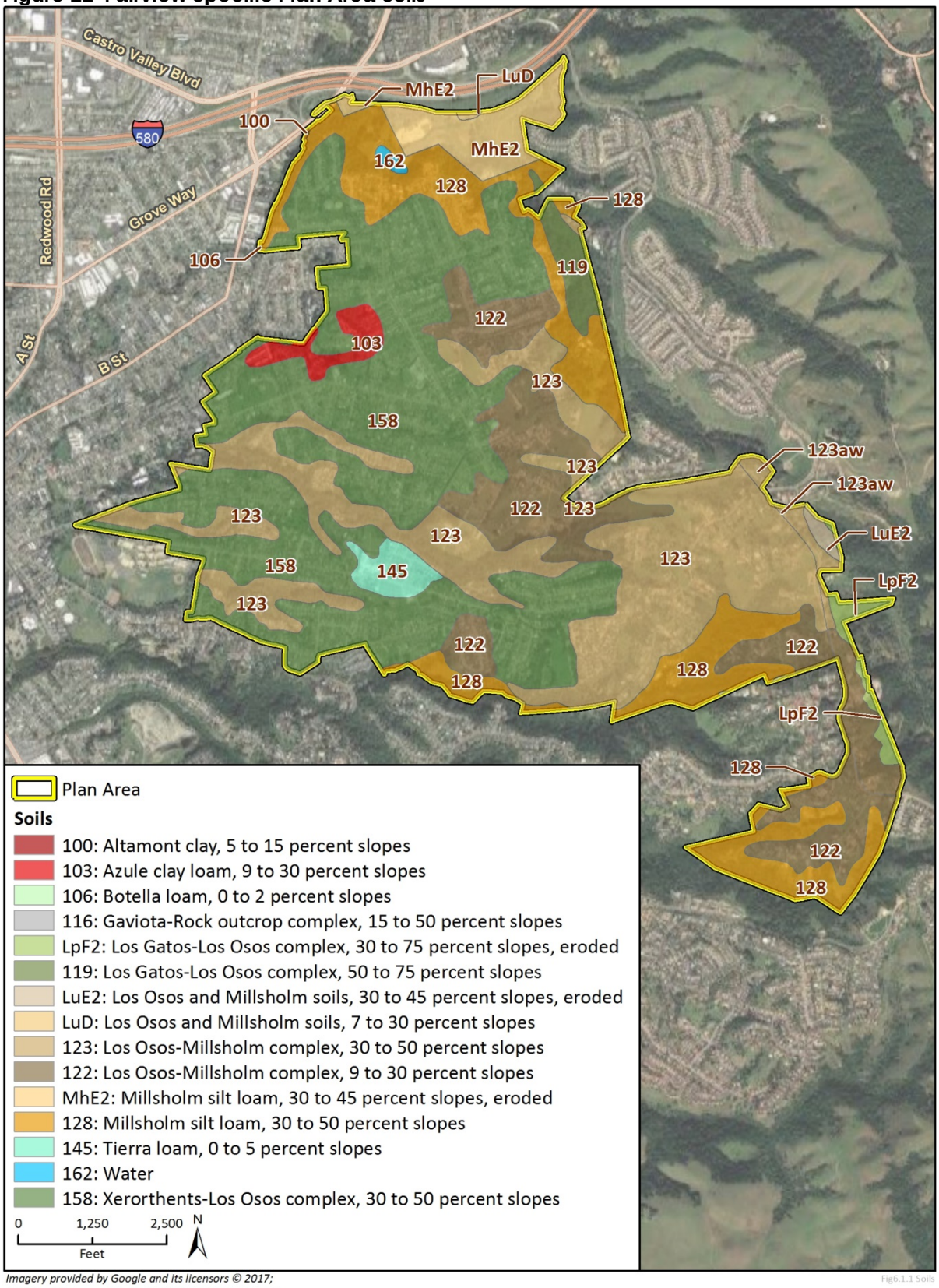
According to the USDA Soil Conservation Service, the Plan Area contains 11 soil types (USDA 2016). The Plan Area primarily comprises Xerorthents-Los Osos complex 30 to 50 percent slopes (approximately 373 acres, 43 percent of plan area). After this soil type, three Millsholm-based soils and complexes make up most of the remaining plan area: Millsholm silt loam 0 to 30 percent slopes (approximately 150 acres, 16 percent of plan area), Los Osos-Millsholm complex 9 to 30 percent slopes (approximately 140 acres, 15 percent of plan area), and Los Osos-Millsholm complex 30 to 50 percent slopes (approximately 125 acres, 14 percent of plan area). Plan Area soils are shown in Figure 11.

Most soils in the Plan Area have “none” or a “slight” potential for erosion-related hazards. There is, however, a small portion of the Plan Area where soils may be susceptible to “moderate to high” erosion hazards. This area occupies less than 0.06 percent of the total area (approximately 0.2 acre) and is located just north of Mattox Road.

Implementation of the updated Specific Plan would include Development Standard 7.4.2 (Erosion and Sedimentation) that would regulate erosion and sedimentation through compliance with best management practices (BMPs) for drainage, grading, planting, and vegetation maintenance such that new development does not affect the long-term preservation of creeks, ponds, and other water bodies in the Plan Area. Furthermore, construction activities that disturb one or more acres of land surface are subject to the National Pollutant Discharge Elimination System (NPDES) General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities (Order No. 2012-0006-DWQ) adopted by the SWRCB. Permit conditions require the development of a stormwater pollution prevention plan, which must describe the site, the facility, erosion and sediment controls, runoff water quality monitoring, means of waste disposal, implementation of approved local plans, control of construction sediment and erosion control measures, maintenance responsibilities, and non-stormwater management controls. Inspection of construction sites before and after storms is also required to identify stormwater discharge from the construction activity and to identify and implement erosion controls, where necessary. Through compliance with updated Specific Plan standards and NPDES permit and regulations, impacts associated with soil erosion or loss of topsoil would be less than significant.

LESS THAN SIGNIFICANT IMPACT

Figure 11 Fairview Specific Plan Area Soils



c. Would the project be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse?

As discussed under impact discussions (a.1) through (b) of this section, the updated Specific Plan would not expose forecast residential development to significant impacts associated with seismic hazards, including seismic shaking, surface rupture, liquefaction, or landslides and slope failure. Future development in the Plan Area would be required to conform to the CBC as required by State law and emphasized in Development Standard 7.4.1 (Seismic and Geologic Hazards) included in Chapter 7 (Environmental Hazards) of the updated Specific Plan. Chapter 38 of the CBC contains specific requirements for structural design, including seismic loads. Proper engineering, including compliance with the CBC, would minimize the risk to life and property associated with geologic hazards. Impacts would be less than significant.

LESS THAN SIGNIFICANT IMPACT

d. Would the project be located on expansive soil, as defined in Table 1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?

The Plan Area contains 11 soil types that are characterized with moderate, moderate to high, or high potential for shrink swell (USDA 2016). During periods of water saturation, these soils tend to expand, and during dry periods, the soils tend to shrink. These volume changes with moisture content can cause cracking of structures built on expansive soils. Areas characterized by moderate to high shrink-swell potential are a geologic hazard in the Plan Area. However, new development that would occur within the Plan Area would be required to conform to the CBC, which requires that structures be designed and constructed to resist seismic hazards, including through foundation design and the completion of soil investigations prior to construction. The County would review future development occurring under the proposed Specific Plan for consistency with the CBC and confirm whether appropriate investigations and design measures have been employed to effectively minimize or avoid potential hazards associated with redevelopment and/or new building construction. Proper engineering, including compliance with the CBC, would minimize the risk to life and property associated with potential seismic activity in the area. Impacts related to expansive soils would be less than significant.

LESS THAN SIGNIFICANT IMPACT

e. Would the project have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?

The Oro Loma Sanitary District (OLSD) provides wastewater collection and treatment services to over 90 percent of Fairview households. The remaining 10 percent—encompassing the southeastern part of the Planning Area—are served by private septic systems. Implementation of the updated Specific Plan would include Development Standard 8.4.6 (Sanitary and Storm Sewer) under Chapter 8 (Community and Infrastructure) that would prohibit the development of new septic systems on substandard lots that are not served by public sewer systems and provide public sewer services to residences currently relying on septic systems for wastewater disposal. Future new septic tanks permitted would be subject to County health and safety standards, and septic tanks would not be permitted where soil conditions did not accommodate their use. Thus, impacts would be less than significant.

LESS THAN SIGNIFICANT IMPACT

f. Would the project directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

Rincon Consultants paleontologists evaluated the paleontological sensitivity of the geologic units that underlie the Plan Area using existing paleontological locality data and review of information in the scientific literature concerning known fossils within those geologic units. Fossil collections records from the Paleobiology Database and the University of California Museum of Paleontology (UCMP) online database were reviewed, which contain known fossil localities in Alameda County (2020). Following the literature review, a paleontological sensitivity classification was assigned to the geologic units within the Plan Area. The potential for impacts to significant paleontological resources is based on the potential for ground disturbance to directly impact paleontologically sensitive geologic units. The Society of Vertebrate Paleontology (SVP) has developed a system for assessing paleontological sensitivity and describes sedimentary rock units as having high, low, undetermined, or no potential for containing scientifically significant nonrenewable paleontological resources (SVP 2010). This system is based on rock units within which vertebrate or significant invertebrate fossils have been determined by previous studies to be present or likely to be present.

According to the published geologic mapping by Dibblee and Minch (2005), the Plan Area is immediately underlain by Holocene (Qa) to late Pleistocene (Qoa) alluvial sediments consisting of various compositions of gravel, sand, and silt; and the late Cretaceous Panoche Formation (Kp, Kps). The Panoche Formation consists of bedded, dark gray claystone, and light gray to tan, fine to medium grained sandstone (Dibblee and Minch 2005). Based on a literature review and in accordance with SVP guidelines (2010), the geologic units underlying the Plan Area were determined to have both low and high paleontological sensitivity, depending on the location. Intact Holocene deposits (i.e., Qa) underlying the Plan Area, particularly those younger than 5,000 years old, are considered too young to preserve paleontological resources and are assigned a low paleontological sensitivity (SVP 2010). However, Holocene sediments may grade downward into older deposits of late Pleistocene age (i.e., Qoa) that could preserve fossil remains at shallow or unknown depths. Pleistocene alluvial sediments have a well-documented record of abundant and diverse vertebrate fauna throughout California. Localities have produced fossil specimens of mammoth (*Mammuthus columbi*), horse (*Equus*), camel (*Camelops*), and bison (*Bison*), as well as various birds, rodents, and reptiles (Agenbroad 2003; Bell et al. 2004; Jefferson 1991; Merriam 1911; Springer et al. 2009; UCMP 2020). Accurately assessing the boundaries between younger and

older alluvial units is generally not possible without site-specific stratigraphic data or some form of radiometric dating or fossil analysis; however, conservative estimates of the depth at which paleontologically sensitive units may occur can ensure impact avoidance. A search of the paleontological locality records maintained in the online Paleobiology Database indicates that the late Cretaceous Panoche Formation (i.e., Kp, Kps) has rendered various significant fossil specimens of extinct cephalopod (Ammonoidea), sea urchin (Echinoidea), and cartilaginous fish (Elasmobranchii) within neighboring counties (Paleobiology Database 2020).

Therefore, Pleistocene alluvial deposits (i.e., Qoa) and the late Cretaceous Panoche Formation are assigned a high paleontological sensitivity. The addition of 300 residential units in the Plan Area through 2040 may involve ground disturbance or excavation on undeveloped lots or below levels of previous excavation such that buried paleontological resources are affected. Approximately 20 percent of Fairview consists of undeveloped vacant land or formally designated open space. Future development projects with excavation and/or ground disturbances exceeding 10 feet in depth occurring on geologic units of high paleontological sensitivity could impact paleontological resources. Therefore, ground-disturbing activities associated with development in the Plan Area could affect previously undiscovered paleontological resources that may be present on or below the ground surface. Impacts are potentially significant and mitigation is required.

Mitigation Measure

GEO-1 Unanticipated Discovery of Paleontological Resources

The following development standard shall be added to the proposed Specific Plan:

> *Paleontological Resources*. For new development that involves grading over one acre or excavation below 10 feet in depth, if evidence of subsurface paleontological resources is found during construction, excavation and other construction activity in shall cease and the construction contractor shall contract a paleontologist certified by the County of Alameda to evaluate the find and make appropriate recommendations. If warranted, the paleontologist shall prepare and implement a standard Paleontological Resources Mitigation Program for the salvage and curation of the identified resources.

Significance after Mitigation

Implementation of Mitigation Measure GEO-1 would reduce impacts to previously undiscovered paleontological resources during such ground-disturbing activities to a less than significant level.

LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED

8 Greenhouse Gas Emissions

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
a. Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	☐	■	☐	☐
b. Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	☐	■	☐	☐

Climate Change and Greenhouse Gas Emissions Setting

Climate change is the observed increase in the average temperature of the earth's atmosphere and oceans along with other substantial changes in climate (such as wind patterns, precipitation, and storms) over an extended period of time. The term "climate change" is often used interchangeably with the term "global warming," but "climate change" is preferred to "global warming" because it helps convey that there are other changes in addition to rising temperatures. The baseline against which these changes are measured originates in historical records identifying temperature changes that have occurred in the past, such as during previous ice ages. The global climate is continuously changing, as evidenced by repeated episodes of substantial warming and cooling documented in the geologic record. The rate of change has typically been incremental, with warming or cooling trends occurring over the course of thousands of years. The past 10,000 years have been marked by a period of incremental warming, as glaciers have steadily retreated across the globe. However, scientists have observed acceleration in the rate of warming during the past 150 years. Per the United Nations Intergovernmental Panel on Climate Change (IPCC 2013), the understanding of anthropogenic warming and cooling influences on climate has led to a high confidence (95 percent or greater chance) that the global average net effect of human activities has been the dominant cause of warming since the mid-20th century (IPCC 2013).

Gases that absorb and re-emit infrared radiation in the atmosphere are called greenhouse gases (GHGs). The gases that are widely seen as the principal contributors to human-induced climate change include carbon dioxide (CO_2), methane (CH_4), nitrous oxides (N_2O), fluorinated gases such as hydrofluorocarbons (HFCs) and perfluorocarbons (PFCs), and sulfur hexafluoride (SF_6). Water vapor is excluded from the list of GHGs because it is short-lived in the atmosphere and its atmospheric concentrations are largely determined by natural processes, such as oceanic evaporation.

GHGs are emitted by both natural processes and human activities. Of these gases, CO_2 and CH_4 are emitted in the greatest quantities from human activities. Emissions of CO_2 are largely by-products of fossil fuel combustion, whereas CH_4 results from off-gassing associated with agricultural practices and landfills. Observations of CO_2 concentrations, globally-averaged temperature, and sea level rise are generally well within the range of the extent of the earlier IPCC projections. The recently

observed increases in CH_4 and N_2O concentrations are smaller than those assumed in the scenarios in the previous assessments. Each IPCC assessment has used new projections of future climate change that have become more detailed as the models have become more advanced.

Man-made GHGs, many of which have greater heat-absorption potential than CO_2, include fluorinated gases and SF_6 (CalEPA 2006). Different types of GHGs have varying global warming potentials (GWPs). The GWP of a GHG is the potential of a gas or aerosol to trap heat in the atmosphere over a specified timescale (generally, 100 years). Because GHGs absorb different amounts of heat, a common reference gas (CO_2) is used to relate the amount of heat absorbed to the amount of the gas emissions, referred to as "carbon dioxide equivalent" (CO2e), and is the amount of a GHG emitted multiplied by its GWP. CO_2 has a 100-year GWP of one. By contrast, CH_4 has a GWP of 25, meaning its global warming effect is 25 times greater than CO_2 on a molecule per molecule basis over a 100-year period (IPCC 2007).

The accumulation of GHGs in the atmosphere regulates the earth's temperature. Without the natural heat trapping effect of GHGs, Earth's surface would be about 34° C cooler (CalEPA 2006). However, it is believed that emissions from human activities, particularly the consumption of fossil fuels for electricity production and transportation, have elevated the concentration of these gases in the atmosphere beyond the level of naturally occurring concentrations.

Based on the California Air Resources Board (CARB) California Greenhouse Gas Inventory for 2000-2016, California produced 429 MMT CO_2e in 2016 (CARB 2018). The largest single source of GHG in California is transportation, contributing 41 percent of the State's total GHG emissions. Industrial sources are the second largest source of the state's GHG emissions, contributing 23 percent of the state's GHG emissions. California emissions are due in part to its large size and large population compared to other states. However, the state's mild climate reduces California's per capita fuel use and GHG emissions as compared to other states. CARB has projected statewide unregulated GHG emissions for the year 2020 will be 509.4 MMT CO_2e. These projections represent the emissions that would be expected to occur in the absence of any GHG reduction actions.

State Regulations

California Advanced Clean Cars Program

Assembly Bill (AB) 1493 (2002), California's Advanced Clean Cars program (referred to as "Pavley"), requires CARB to develop and adopt regulations to achieve "the maximum feasible and cost-effective reduction of GHG emissions from motor vehicles." On June 30, 2009, USEPA granted the waiver of Clean Air Act preemption to California for its GHG emission standards for motor vehicles beginning with the 2009 model year. Pavley I regulates model years from 2009 to 2016 and Pavley II, which is now referred to as "LEV (Low Emission Vehicle) III GHG" regulates model years from 2017 to 2025. The Advanced Clean Cars program establishes emission requirements for passenger vehicles, model years 2015 through 2025, and manufacturer requirements to provide Zero Emissions Vehicles (ZEV).

Assembly Bill 32

California's major initiative for reducing GHG emissions is outlined in Assembly Bill (AB) 32, the "California Global Warming Solutions Act of 2006," which was signed into law in 2006. AB 32 codifies the statewide goal of reducing GHG emissions to 1990 levels by 2020 and requires CARB to prepare a Scoping Plan that outlines the main State strategies for reducing GHGs to meet the 2020 deadline. In addition, AB 32 requires CARB to adopt regulations to require reporting and verification

of statewide GHG emissions. Based on this guidance, CARB approved a 1990 statewide GHG level and 2020 limit of 427 MMT CO_2e. The Scoping Plan was approved by CARB on December 11, 2008 and included measures to address GHG emission reduction strategies related to energy efficiency, water use, and recycling and solid waste, among other measures. Many of the GHG reduction measures included in the Scoping Plan (e.g., Low Carbon Fuel Standard, Advanced Clean Car standards, and Cap-and-Trade) have been adopted since approval of the Scoping Plan.

Senate Bill 32

On September 8, 2016, the governor signed Senate Bill 32 (SB 32) into law, extending AB 32 by requiring the State to further reduce GHGs to 40 percent below 1990 levels by 2030 (the other provisions of AB 32 remain unchanged). On December 14, 2017, CARB adopted the 2017 Scoping Plan, which provides a framework for achieving the 2030 target. The 2017 Scoping Plan relies on the continuation and expansion of existing policies and regulations, such as the Cap-and-Trade Program, as well as implementation of recently adopted policies and policies, such as SB 350 and SB 1383 (see below). The 2017 Scoping Plan also puts an increased emphasis on innovation, adoption of existing technology, and strategic investment to support its strategies. It does not provide project-level thresholds for land use development. Instead, it recommends that local governments adopt policies and locally-appropriate quantitative thresholds consistent with statewide per capita goals of six metric tons (MT) CO_2e by 2030 and two MT CO_2e by 2050 (CARB 2017b). As stated in the 2017 Scoping Plan, these goals may be appropriate for plan-level analyses (city, county, subregional, or regional level), but not for specific individual projects because they include all emissions sectors in the state (CARB 2017b).

Senate Bill 100

Adopted on September 10, 2018, SB 100 supports the reduction of GHG emissions from the electricity sector by accelerating the state's Renewables Portfolio Standard (RPS) Program, which was last updated by SB 350 in 2015. SB 100 requires electricity providers to increase procurement from eligible renewable energy resources to 33 percent of total retail sales by 2020, 44 percent by 2024, 60 percent by 2030, and 100 percent by 2045.

Executive Order B-55-18

On September 10, 2018, the governor issued Executive Order B-55-18, which established a new statewide goal of achieving carbon neutrality by 2045 and maintaining net negative emissions thereafter. This goal is in addition to the existing statewide GHG reduction targets established by SB 375, SB 32, SB 1383, and SB 100. EO B-55-18 also tasks CARB with including a pathway toward the EO B-55-18 carbon neutrality goal in the next Scoping Plan update.

Local Regulations

Cool Counties Initiative

In July 2007 Alameda County adopted a resolution to sign the U.S. Cool Counties Climate Stabilization Declaration. This resolution expresses the County's support for the Cool Counties initiative, which includes a pledge to partner with community leaders to reduce countywide greenhouse gas emissions 80 percent below baseline levels by the year 2050.

Green Building Ordinance

In 2009 the County adopted a Green Building Ordinance for residential and commercial properties in unincorporated communities (Alameda County Sustainability, website http://www.acgov.org/sustain/what/greenbuilding/gbouc.htm). Anyone applying for a building permit is required to submit documentation of how the project meets specific green building standards ("GreenPoint Rated," "LEED®," or certification from a qualified third party), which is reviewed by the County's Building and/or Planning Departments. All new or rebuilt residential construction greater than 1,000 square feet and all new or rebuilt non-residential construction greater than 3,000 square feet located in the unincorporated areas of Alameda County are required to comply with the Green Building Ordinance. Certain industrial or agricultural uses along with qualified historical building are exempt.

Community Climate Action Plan

On February 4, 2014, the Alameda County Board of Supervisors adopted the Alameda County (unincorporated areas) Community Climate Action Plan (CCAP) as an element of the Alameda County General Plan. With implementation of the measures contained in the CCAP, the unincorporated areas of the county would achieve a 15.6 percent reduction in GHG emissions below 2005 levels by 2020 and would reduce the GHG emission to service population ratio to approximately 4.4 MT CO_2e. The CCAP includes GHG reduction strategies, measures, and actions in the areas of transportation, land use, building energy, water, waste, and green infrastructure. Together, these enable the County to achieve its climate protection goals.

According to the criteria described in the BAAQMD's 2017 CEQA Guidelines, the CCAP qualifies as a GHG reduction strategy for implementing AB 32. However, the CCAP predates adoption of SB 32 and its GHG reduction target for the year 2030, as well as Executive Order B-55-18 to achieve statewide carbon neutrality by 2045. Because the CCAP does not explicitly plan for consistency with SB 32 and Executive Order B-55-18, it does not currently serve as a qualified GHG reduction strategy with respect to these regulations.

Climate Action Reaffirmation and Support for Paris Agreement Resolution

In June 2017, the Alameda County Board of Supervisors voted to support the goals of the Paris Climate Agreement and uphold the County's Community Climate Action Plan, despite the federal government's decision to withdraw from that historic accord (Alameda County 2017).

Methods for Analyzing GHG Emissions

The majority of individual projects do not generate sufficient GHG emissions to directly influence climate change. However, physical changes caused by a project can contribute incrementally to cumulative effects that are significant, even if individual changes resulting from a project are limited. The issue of climate change typically involves an analysis of whether a project's contribution towards an impact would be cumulatively considerable. "Cumulatively considerable" means that the incremental effects of an individual project are significant when viewed in connection with the effects of past projects, other current projects, and probable future projects (CEQA Guidelines, Section 15064[h][1]).

Efficiency Thresholds

According to the CEQA Guidelines, CEQA analyses of GHG impacts for projects can tier from a "qualified" GHG reduction plan. This allows for project-level evaluation of GHG emissions through the comparison of the project's consistency with the GHG reduction policies included in a qualified GHG reduction plan. This approach is considered by the Association of Environmental Professionals (AEP) in its white paper, "Beyond 2020 and Newhall," to be the most defensible approach presently available under CEQA to determine the significance of a project's GHG emissions impact on the environment (2016). The CEQA Guidelines define the requirements necessary to qualify as a comprehensive plan for the reduction of GHG emissions (CEQA Guidelines, Section 15183.5):

- Quantify existing and projected GHG emissions within the plan area
- Establish a reduction target based on substantial evidence, where GHG emission are not cumulatively considerable
- Identify and analyze sector specific GHG emissions from Plan activities
- Specify policies and actions (measures) that local jurisdictions will enact and implement over time to achieve the specified reduction target
- Establish a tool to monitor progress and amend if necessary
- Adopt in a public process following environmental review

A key aspect of a "qualified" GHG reduction plan's ability to provide "substantial evidence" is that the identified reduction target establishes a threshold at which GHG emissions would not be cumulatively considerable. The AEP Beyond Newhall white paper identifies this criterion as being a local target that aligns with statewide legislative targets. As discussed above, this analysis does not consider the Community Climate Action Plan to be a qualified GHG reduction strategy for projects with horizon years beyond 2020, and consistency with the CAP cannot be used as the basis of the CEQA analysis for the proposed Specific Plan.

Since the County does not have a "qualified" GHG reduction plan for the purpose of achieving the long-term GHG reduction targets of SB 32, this Initial Study evaluates GHG emissions for consistency with the goals of the 2017 Scoping Plan, which is designed to meet SB 32 targets.

Further, because the Specific Plan's horizon year of 2040 is later than the SB 32 target year of 2030, this EIR also evaluates the Specific Plan's consistency with Executive Order B-55-18, which established a long-term goal of zero net carbon by 2045. Therefore, to determine if the Specific Plan may generate GHG emissions that would contribute to a significant impact on the environment (threshold 1) or conflict with adopted GHG reduction plan (threshold 2), the Specific Plan will be evaluated for its ability to demonstrate progress towards achieving the long-term goals set forth in Executive Order B-55-18.

Impact Analysis

a. Would the project generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment?

b. Would the project conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases?

Emissions Associated with Plan Area Growth

For informational purposes, GHG emissions from new development in the Plan Area through 2040 were calculated using the California Emissions Estimator Model (CalEEMod) version 2016.3.2 (see Appendix A for CalEEMod worksheets). CalEEMod calculates operational emissions of CO_2, CH_4, and N_2O associated with energy use, area sources, waste generation, water use and conveyance. Because CalEEMod does not calculate N_2O emissions from mobile sources, these GHG emissions were quantified separately using guidance from CARB (CARB 2013; see Appendix A for calculations).

Table 13 summarizes the operational GHG emissions generated by new residential development in the Plan Area from area sources, energy use, solid waste, water use, and mobile sources in the year 2030. By this year, it is assumed that half of the anticipated up to 300 new residential units in the Plan Area would be operational. By 2030, the Specific Plan would facilitate development that generates GHG emissions estimated at 1,830 MT of CO_2e, or 4.31 MT of CO_2e per service person per year.

Table 14 shows the operational GHG emissions in the Specific Plan's horizon year of 2040, at which time it is anticipated that the Plan Area would accommodate up to 300 new residences. New residential development would generate an estimated 3,328 MT of CO_2e in 2040, or 3.92 MT of CO_2e per service person per year.

Table 13 Annual Emissions of Greenhouse Gases in Year 2030

Emission Source	Annual Emissions (CO_2e in metric tons)[1]
Operational	
Area	2
Energy	487
Solid Waste	68
Water	21
Mobile	
CO_2 and CH_4	1,224
N_2O	28
Total Project Emissions	1,830
Service Population	425[2]
Emissions per Service Population	**4.31**

[1] Some numbers may not add up due to rounding.

[2] The service population associated with growth after 2020 is projected to be 425 for the year 2030, assuming growth of 15 residential units per year starting in 2020 and Fairview's average of 2.83 persons per household.

See Appendix A for CalEEMod and N_2O worksheets.

Table 14 Annual Emissions of Greenhouse Gases in Year 2040

Emission Source	Annual Emissions (CO_2e in metric tons)[1]
Operational	
Area	4
Energy	779
Solid Waste	136
Water	28
Mobile	
CO_2 and CH_4	2,335
N_2O	46
Total Project Emissions	3,328
Service Population	850
Emissions per Service Population	**3.92**

[1] Some numbers may not add up due to rounding.
[2] The service population is projected to be 850 for the year 2040, assuming 300 additional units in 2040 and Fairview's average of 2.83 persons per household.
See Appendix A for CalEEMod and N_2O worksheets.

For illustrative comparison purposes, according to the CCAP, baseline 1990 emissions in the unincorporated portions of the County were 790,500 MT CO_2e. Assuming a target of 40% below 1990 levels to achieve SB 32 targets, the targeted emissions for the County would be 474,300 MT CO_2e per year in 2040. As shown in Table 13, emissions in 2040 under the conservative growth assumptions for the Plan Area would be 1,830 MT CO_2e, or approximately 0.3% of targeted emissions.

As noted in the Project Description, this IS-MND includes an assumption of reasonably foreseeable maximum development associated with the proposed Specific Plan compared to existing baseline conditions. However, the proposed Specific Plan does not increase development density compared to what is currently allowed. Therefore, the GHG emissions associated with the addition of 300 additional units could occur with or without adoption of the proposed Specific Plan and would not be considered "new" emissions directly resulting from adoption of the proposed Specific Plan. Further, the proposed Specific Plan includes goals, policies, and development standards to promote sustainable growth in Fairview and reduce GHG emissions, including:

GOAL CO-3: Encourage more sustainable development, reduced consumption of non-renewable resources, and land use and transportation decisions that are consistent with the County's Climate Action Plan.

Policy CO-3.4: Encourage energy conservation, renewable energy systems, recycled material use, and other green building methods in new development and major construction projects.

Policy CO-3.5: Support public education and outreach programs that increase awareness of Fairview's environmental resources and ways that residents can reduce greenhouse gas emissions.

2017 Scoping Plan and EO B-55-18

California's 2017 Scoping Plan outlines a pathway to achieving the reduction targets set under SB 32, which is considered an interim target toward meeting the State's long-term 2045 goal established by Executive Order B-55-18.

Based on existing emissions trends, the intensity of emissions generated by the Specific Plan is expected to decline from 2030 through at least 2045 due to continued regulatory and technological advancements. The extent to which future GHG emissions from mobile sources indirectly attributed to the Specific Plan would change depends on the quantity (e.g., number of vehicles and average daily VMT) and quality (i.e., carbon content) of fuel that will be available and required to meet both regulatory standards and residents' and workers' needs. In addition, renewable power requirements, low carbon fuel standards, and vehicle emissions standards will all decrease GHG emissions per unit of energy delivered or per vehicle mile traveled. Due to the technological shifts required and the unknown parameters of the regulatory framework in 2045, a quantitative analysis of a project's impacts relative to a 2045 target would be speculative for purposes of CEQA. Studies have shown that to meet the 2045 target, aggressive technology changes in the transportation and energy sectors, such as electrification and maturation of technologies still in development (e.g., advanced batteries and more efficient biofuels and technologies that are not yet imagined), will be required (Lawrence Berkeley National Laboratory 2011).

Statewide efforts are underway to facilitate the State's achievement of Executive Order B-55-18, and it is reasonable to expect emissions generated by the Specific Plan to decline as the regulatory initiatives identified by CARB in the 2017 Scoping Plan are implemented and other technological innovations occur. Many of these initiatives include reducing the carbon content of motor fuels and fuels for electricity generation which would reduce CO_2e emissions from the Proposed Project over time (CEC 2007).

Given the reasonably anticipated decline in Specific Plan emissions once fully constructed and operational, the Specific Plan would be consistent with the 2017 Scoping Plan's 2030 goals and Executive Order B-55-18's 2045 goal. Nonetheless, according to the 2017 Scoping Plan, "absent conformity with an adequate geographically-specific GHG reduction plan…CARB recommends that projects incorporate design features and GHG reduction measures, to the degree feasible, to minimize GHG emissions." Furthermore, the 2017 Scoping Plan states that "achieving no net additional increase in GHG emissions, resulting in no contribution to GHG impacts, is an appropriate overall objective for new development" but continues "Achieving net zero increases in GHG emissions, resulting in no contribution to GHG impacts, may not be feasible or appropriate for every project, however, and the inability of a project to mitigate its GHG emissions to net zero does not imply the project results in a substantial contribution to the cumulatively significant environmental impact of climate change under CEQA." Therefore, mitigation is required to reduce GHG emissions from new development to the degree feasible.

Community Climate Action Plan

Section 9.6 of the Specific Plan states that "Fairview also will participate in Countywide initiatives to address climate change and sustainability, including energy and water conservation and measures, green building, and solid waste diversion and reduction." Participation in Alameda County's initiatives would be inclusive of implementing the Community Climate Action Plan. As discussed in Table 15, the Specific Plan's policies and planned infrastructure improvements would be consistent

with applicable measures in the Community Climate Action Plan to reduce GHG emissions associated with transportation, residential uses, water use, and solid waste.

Table 15 Community Climate Action Plan Consistency for GHG Emissions

Measure	Consistency
T-1. Improve bicycle infrastructure near community activity areas.	**Consistent.** Existing bicycle facilities in Fairview are uninviting because most streets lack bicycle lanes, wide shoulders, or other provisions. To address these deficiencies, the Specific Plan proposes improvements to bicycle and pedestrian facilities. Proposed bicycle lanes listed in the Specific Plan would be located on the following road segments: ▪ D Street on both sides of the street from the Hayward city limits to Maud Avenue. ▪ Fairview Avenue from Maud Avenue to Hayward border. ▪ Kelly Street from the Hayward city limits to the Woodroe/Maud intersection.
T-4. Enhance pedestrian infrastructure within easy walking distance from community activity centers.	**Consistent**. Policy T-2.4 in the Specific Plan identifies several priority areas for installing or improving sidewalks consistent with the Countywide Bike and Pedestrian Plan, including but not limited to areas near schools and parks, and those with a high level of pedestrian collisions. The Specific Plan also proposes pedestrian improvements at East Avenue Elementary School and crosswalks and pedestrian safety improvements in the vicinity of Sulfur Creek Nature Center and San Felipe Park.
T-6. Improve pedestrian connectivity and route choice in neighborhoods.	**Consistent.** Fairview's sidewalk network currently has large gaps near sites that naturally attract pedestrians. To address these deficiencies, the Specific Plan proposes specific improvements to the pedestrian network, as noted above.
T-9. Work with AC transit to increase service frequency on select bus routes	**Consistent**. Policy T-2.9 in the Specific Plan would have the County "work with AC Transit to increase service frequency and extend hours of operation on its routes in Fairview," providing access to both the Hayward and Castro Valley BART stations with minimal transfers and waiting times. Implementation of this policy, with the support of AC Transit, would improve existing transit conditions for people in Fairview.
E-3. Develop a comprehensive outreach program to facilitate voluntary home energy efficiency improvements.	**Consistent.** Policy CO-3.5 in the Specific Plan states that the County would support public education and outreach programs that increase awareness of Fairview's environmental resources and ways that residents can reduce greenhouse gas emissions. Public outreach to reduce residential GHG emissions would be consistent with Measure E-3 to facilitate voluntary energy efficiency improvements at existing residences.
E-9. Provide incentives, such as priority permitting for buildings that exceed the current California Title-24 standards for energy efficiency by 30 percent (Tier 2). E-10. Require or provide incentives for new construction to use building materials containing recycled content	**Consistent.** Policy CO-3.4 in the Specific Plan would encourage energy conservation, renewable energy systems, recycled material use, and other green building methods in new development and major construction projects.
WT-2. Require new landscape projects to reduce outdoor potable water use by 40 percent.	**Consistent.** Policy CO-3.2 in the Specific Plan would require that landscaping minimize the use of potable water and emphasize drought-tolerant and low-water use plants. This would contribute to reducing outdoor potable water use by 40 percent in the unincorporated County.
WS-1. Increase solid waste reduction and diversion to 90 percent by 2030.	**Consistent.** Policy CO-3.3 in the Specific Plan would support programs to divert waste from landfills, such as composting, green waste recycling, e-waste recycling, and improved recycling facilities at existing multi-family development.

Source: Alameda County 2014

Mitigation Measures

Mitigation Measures GHG-1 and GHG-2 are required.

GHG-1 Residential EV Chargers

The following development standard shall be added to the proposed Specific Plan:

> *Residential EV Chargers*. New development projects of five units or more shall be equipped with a minimum of one single-port electric vehicle (EV) charging station. The EV charging stations shall achieve a similar or better functionality as a Level 2 charging station. In the event that the installed charging stations use functionality/technology other than Level 2 charging stations, the parameters of the mitigation obligation (i.e., the number of parking spaces served by EV charging stations) shall reflect the comparative equivalency of Level 2 charging stations to the installed charging stations on the basis of average charge rate per hour. For purposes of this equivalency demonstration, Level 2 charging stations shall be assumed to provide charging capabilities of 25 range miles per hour.

GHG-2 Greenhouse Gas Reduction Plan for Operational Emissions

The following development standard shall be added to the proposed Specific Plan:

> *Greenhouse Gas Emissions*. New development in the Plan Area shall be screened for potential to exceed applicable project-specific GHG thresholds based on BAAQMD screening criteria. If projects are determined to exceed thresholds, the development shall include GHG reduction measures including but not limited to: installation of solar photovoltaic energy systems, installation of energy-efficient lighting and appliances, tree planting, or purchase of carbon offsets.

Significance after Mitigation

Implementation of the above mitigation measures would reduce GHG emissions from additional residential development in Fairview to the extent feasible. Mitigation Measure GHG-1 would require the installation of EV infrastructure in new residential units, facilitating the use of electric vehicles by new residents. Mitigation Measure GHG-2 would require future development to implement a menu of strategies to reach project-specific GHG thresholds that ensure consistency with SB 32 and Executive Order B-55-18, Therefore, the impact from GHG emissions would be less than significant with mitigation incorporated.

LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED

9 Hazards and Hazardous Materials

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
a. Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	☐	■	☐
b. Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	☐	☐	■	☐
c. Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within 0.25 mile of an existing or proposed school?	☐	☐	■	☐
d. Be located on a site that is included on a list of hazardous material sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	☐	☐	■	☐
e. For a project located in an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?	☐	☐	☐	■
f. Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	■	☐
g. Expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires?	☐	☐	■	☐

Hazards and Hazardous Materials Setting

Fairview consists primarily of residential land uses with very limited commercial and medical care uses and no industrial uses. According to the California Department of Toxic Substance Control's (DTSC's) EnviroStor database (conducted on January 6, 2020), which contains information on properties in California where hazardous substances have been released or where the potential for a release exists, identified two "closed" Leaking Underground Fuel Tank (LUFT) sites and one voluntary cleanup site. Table 16 shows all DTSC listed cleanup sites in the Plan Area.

Table 16 DTSC Cleanup Sites located in the Plan Area

Project Type	Name	Number	Address	Status
LUFT Cleanup Site	City of Hayward Fire Department #8	T0600102295	24200 Fairview Avenue Hayward, CA 94541	Completed – case closed
LUFT Cleanup Site	UNOCAL	T0600101461	2701 East Avenue Hayward, CA 94541	Completed – case closed
Voluntary Cleanup	Highland Trails	60000612	25329 Second Street Hayward, CA 94541	No further action

Sources: DTSC, EnviroStor Database, 2020

Impact Analysis

a. *Would the project create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?*

b. *Would the project create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?*

The proposed Specific Plan would not increase the allowed number of units or change the allowed uses for parcels in the Plan Area. Potentially hazardous materials such as fuels, lubricants, and solvents would be used by heavy machinery during construction of individual future projects in the Plan Area. However, construction of forecast residences would be conducted in accordance with all applicable State and federal laws, such as the Hazardous Materials Transportation Act, Resource Conservation and Recovery Act, the California Hazardous Material Management Act, and the California Code of Regulations (CCR), Title 22, for the transport, use, and storage of hazardous materials during the construction. Furthermore, the operation of residential uses do not typically generate hazardous waste, other than small amounts associated with maintenance and household cleaning.

The updated Specific Plan includes Goal EH-2 in Chapter 7 (Environmental Hazards), which aims to minimize risks from the production, use, storage, and transportation of hazardous materials. The following policies specify actions in support Goal EH-2 to reduce potential impacts from hazardous materials.

Policy EH-2.1: Risks of exposure or contamination by hazardous materials shall be minimized through public education, performance standards for uses that involve hazardous materials, development review, and monitoring and enforcement programs.

Policy EH-2.2: Developers shall be required to conduct the necessary level of environmental investigation to ensure that soil and groundwater affected by hazardous material

releases from prior land uses and lead or asbestos from prior building materials will not have a negative impact on the natural environment or safety of future property owners or users.

Policy EH-2.3: Transport of hazardous materials on Fairview streets shall be limited. Because Fairview does not have arterial streets, direct freeway access, or land uses associated with hazardous materials, its streets should not be used for the transport of such materials. Applicable County regulations for commercial trucks should be fully enforced.

The updated Specific Plan would also include the following development standard in support of Goal EH-2:

7.4.6 Hazardous Materials

(a) *Environmental Investigation.* Developers shall be required to conduct the necessary level of environmental investigation to ensure that soil, groundwater and buildings affected by hazardous material releases from prior land uses and lead or asbestos in building materials will not have a negative impact on the natural environment or health and safety of future property owners or users.

(b) *Soil and Groundwater Assessments*. Where there is evidence of contamination due to prior activities, including agriculture, soil and groundwater assessments shall be conducted in accordance with regulatory agency testing standards.

(c) *Remediation.* If contamination exceeds regulatory action levels, the project applicant shall be required to undertake remediation procedures prior to grading and development under the supervision of appropriate agencies, such as the Alameda County Department of Environmental Health, the Department of Toxic Substances Control, and the Regional Water Quality Control Board.

These standards would be applicable to future development in the Plan Area on a project-by-project basis and would address potential impacts associated with hazardous materials. Therefore, impacts associated with the release of hazardous materials in the Plan Area would be less than significant.

LESS THAN SIGNIFICANT IMPACT

c. Would the project emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within 0.25 mile of an existing or proposed school?

Fairview is located within the Hayward Unified School District (HUSD). There are two K-6 elementary school campuses in the Plan Area: Fairview Elementary is located at 23515 Maud Avenue (near D Street) and East Avenue Elementary is located at 2424 East Avenue (near Hansen). However, as discussed under impact discussions (a) and (b) of this section, the storage, transportation, use, and disposal of project-specific hazardous materials during construction and operation of future development in the Plan Area would comply with applicable standards administered by federal, state, and local agencies, such that hazardous emissions or handling of hazardous materials, substances, or waste are minimized and controlled. In addition, the operation of residential uses do not typically generate hazardous waste, other than small amounts associated with maintenance and household cleaning. Furthermore, the updated Specific Plan includes Goal EH-2, and supporting policies and Development Standard 7.4.6 (Hazardous Materials), in Chapter 7 (Environmental Hazards) which aims to minimize risks from the production, use, storage, and transportation of

hazardous materials. Upon compliance with applicable safety regulations, the use and handling of the materials involved with project construction and operation would not pose a significant risk to nearby schools, and impacts would be less than significant.

LESS THAN SIGNIFICANT IMPACT

d. Would the project be located on a site that is included on a list of hazardous material sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?

As shown in Table 16, two LUFT sites are located in the Plan Area: the City of Hayward Fire Department #8 site and the Union Oil Company of California and (UNOCAL) site. A release of diesel potentially impacting groundwater was reported at the City of Hayward Fire Department #8 site. However, the site was remediated and obtained a case closer letter from DTSC on March 9, 2000. In addition, a gasoline release potentially impacting groundwater occurred at the UNOCAL site was remediated and issued a case closure letter on August 18, 1994. LUFT sites are regulated by the SWRCB. Furthermore, DTSC identified the 7.1-acre Highland Trails voluntary cleanup site, which was caused by soil contamination from past agricultural uses. However, the site was cleaned up as of July 12, 2007. The EnviroStor Database did not identify Superfund (NPL) or State Response sites in the Plan Area.

Sites immediately outside of the Plan Area not identified above could also have releases that may affect the Plan Area, including four LUFT sites located just outside of the Plan Area boundaries to the northwest: UNOCAL #3770, Upper Grove Way Auto Repair, Arco #2152, and Chevron #9-3283. However, all sites have also been remediated and their cases have been closed.

As discussed under impact discussion (b) of this section, the updated Specific Plan includes Goal EH-2 in Chapter 7 (Environmental Hazards), which aims to minimize risks from the production, use, storage, and transportation of hazardous materials, and supporting polices and development standards. Policies EH-2.1 through EH-2.3 specify action in support of Goal EH-2 to reduce potential impacts while development standards for the investigation, assessment, and remediation of potential hazardous materials in the Plan Area. These standards would be applicable to future development in the Plan Area on a case-by-case basis and would address potential impacts associated with hazardous materials. Therefore, impacts associated with hazardous materials sites in the Plan Area would be less than significant.

LESS THAN SIGNIFICANT IMPACT

e. For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?

There are no public airport or public use airports within two miles of the Plan Area. The nearest airport is Hayward Executive Airport (HWD), which is a reliever airport located approximately 2.5 miles west of the Plan Area. Therefore, the Plan Area is not located within the HWD Airport Influence Area (Alameda County 2012), within an airport hazard zone or near a private airstrip. Implementation of the updated Specific Plan would not result in a safety hazard or exposure to excessive noise for future residents that would reside in the Plan Area. No impact would occur.

NO IMPACT

f. Would the project impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?

As required by State law, Alameda County has established emergency preparedness procedures to be prepared for and respond to a variety of natural and manmade disasters that could confront the community. Emergency and disaster planning are primarily conducted through the Public Health Department, in collaboration with other County departments.

The updated Specific Plan also includes Goal EH-3 in Chapter 7 (Environmental Hazards), which aims to improve emergency preparedness to reduce casualties and improve recovery in the event of a natural or manmade disaster. The following policies under Goal EH-3 include actions to improve emergency responsiveness and existing evacuation plans.

Policy EH-3.1: Work with Alameda County, the Fairview Fire Protection District, and emergency response agencies in adjacent jurisdictions to prepare for disasters.

Policy EH-3.2: The County shall consult with local water providers and fire departments to ensure the adequacy of emergency water flow, emergency vehicle access, and evacuation routes prior to approving any new development.

Policy EH-3.3: Ensure that proposed road improvements, including traffic calming, bicycle trails, and pedestrian amenities, do not impede evacuation capacity or the ability of law enforcement and fire personnel to quickly respond to an emergency. Barriers to emergency response should be removed and new routes to enhance evacuation and response capability should be developed.

Policy EH-3.4: Continue public education and outreach to improve disaster readiness and post-disaster recovery.

The updated Specific Plan would also include the following development standard associated emergency preparedness in support of Goal EH-3 and related policies.

7.4.7 Emergency Preparedness

(a) *Emergency Management Plans.* The Alameda County Office of Emergency Services, Hayward Fire Department, and Fairview Fire Protection District should work collaboratively to regularly update emergency management plans for Fairview, and to engage and educate Fairview residents in emergency preparedness and response.

(b) *Evacuation Plan*. An evacuation plan for Fairview should be prepared in consultation with the Municipal Advisory Council and other entities responsible for emergency preparedness, public safety, fire prevention and response, and service delivery. The Plan shall include the designation of evacuation routes and procedures in the event of a fire, earthquake, or other disaster.

Therefore, construction and operation future development in the Plan Area would not directly impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan or involve the development of structures that could potentially impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation. Impacts to an adopted emergency response plan or evacuation plan would be less than significant.

LESS THAN SIGNIFICANT IMPACT

g. Would the project expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires?

The combination of vegetation, topography, and low-density residential development make most of Fairview vulnerable to wildfire. These hazards have always been present in coastal California, but have been heightened by prolonged fire suppression activities, the introduction of invasive species such as eucalyptus, and semi-rural and exurban development in fire-prone landscapes. The possibility of warmer weather and more prolonged future drought, both effects of climate change, may exacerbate this hazard in the future.

As discussed under impact discussion (a.2) of Section 7, *Geology and Soils*, the updated Specific Plan includes Goal EH-1 under Chapter 7 (Environmental Hazards) of the updated Specific Plan, which aims to minimize risks from natural hazards, including wildfires. According to Policy EH-1.1 under Goal EH-1, all California and County Building Code, Fire Code, and Subdivision Code requirements related to wildfires shall be enforced. The following additional policies under Goal EH-1 would further reduce wildfire risks.

Policy EH-1.7: The potential for damage, injury, or loss of life due to wildfire shall be minimized. This should be accomplished through a strategy that includes vegetation management and fuel reduction, maintenance of defensible space around structures, strictly enforcing the prohibition on fireworks in Fairview, ensuring adequate water supply and pressure in developed areas, and enforcing building and design standards that reduce fire risks.

Policy EH-1.8: Maintain the Fire Department's authority to deny or modify proposed development projects, particularly projects in urban-wildland interface areas. Proposed projects in such areas shall be designed to reduce the risk of bodily harm, loss of life, property damage, and environmental degradation.

Policy EH-1.9: Create and maintain effective fire breaks that provide protection from wildfire hazards.

Policy EH-1.10: Implement the Alameda County Community Wildfire Protection Plan, which mitigates fire hazards in Fairview and other parts of unincorporated Alameda County.

The updated Specific Plan would also include development standard 7.4.5 (Wildfire Prevention and Response) associated with wildfire prevention and response to protect against wildfire risks in support of Goal EH-1 and related policies. These standards would be applicable to future development on a case-by-case basis and address fire protection plan requirements, fire department reviews, interdepartmental coordination between various County departments, adequacy of fire-fighting capacity, private street standards, and emergency access requirements for hillside areas. Therefore, impacts associated with wildfire risks would be less than significant.

LESS THAN SIGNIFICANT IMPACT

10 Hydrology and Water Quality

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
a. Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?	☐	☐	■	☐
b. Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?	☐	☐	■	☐
c. Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:				
(i) Result in substantial erosion or siltation on- or off-site;	☐	☐	■	☐
(ii) Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site;	☐	☐	■	☐
(iii) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or	☐	☐	■	☐
(iv) Impede or redirect flood flows?	☐	☐	■	☐
d. In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?	☐	☐	☐	■
e. Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	☐	☐	■	☐

Hydrology and Water Resources Setting

Regional Hydrology

Fairview is located in the San Francisco Bay Hydrologic Region, which covers approximately 4,500 square miles and includes all of San Francisco and portions of Marin, Sonoma, Napa, Solano, San Mateo, Santa Clara, Contra Costa, Santa Cruz, and Alameda counties. Streams in the region flow into the bay estuary or the Pacific Ocean. Water agencies in the Bay Region have relied for nearly a century on imported water supplies from the Sierra Nevada to supply their customers with reliable water. Groundwater accounts for approximately 15 percent of the region's average annual total water supply. Water from the Mokelumne and Tuolumne rivers accounts for an estimated 38 percent of the region's average annual total water supply. Population growth and concerns over diminishing water quality have led to the development and re-development of local surface water supplies, recharge of existing groundwater basins, and incorporation of conservation guidelines in a continuing effort to sustain reliable, quality water for future generations (California Department of Water Resources [DWR], 2009).

Plan Area Hydrology

The Fairview Plan Area is generally hilly with substantial elevation changes, ranging from about 1,000 feet above mean sea level in the eastern portion of the Plan Area to about 150 feet above mean sea level in the western portion. Streams in the Plan Area flow eventually to San Francisco Bay. Two named streams flow through the Plan Area, San Lorenzo Creek and Ward Creek (Figure 12). San Lorenzo Creek flows through the northern portion of the Plan Area and Ward Creek runs just inside the southern boundary of the Plan Area. Several unnamed tributaries flow east to west across the Plan Area.

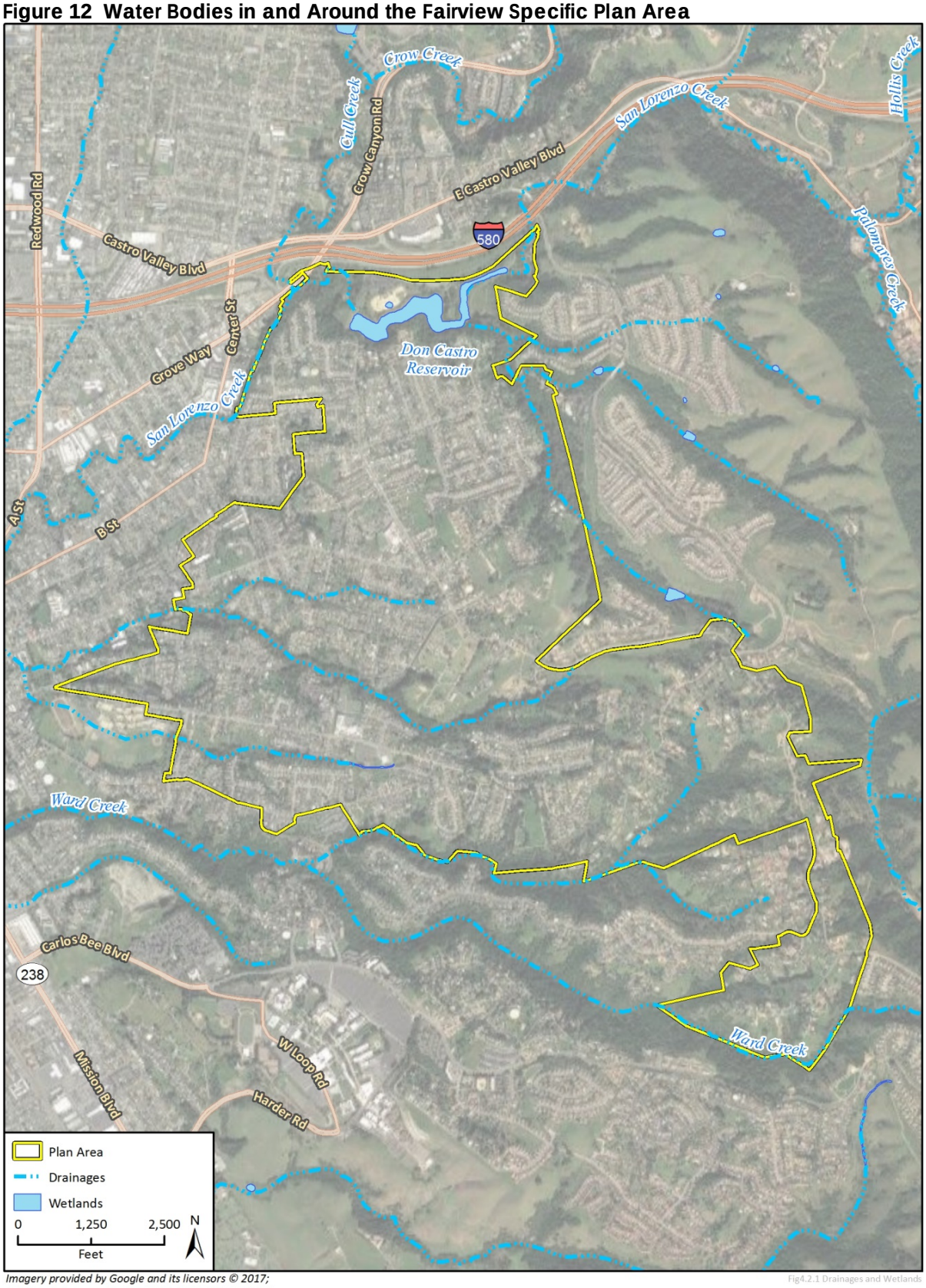
San Lorenzo Creek, the major water course in the basin, originates in the upper watershed near I-580 and traverses the alluvial bay plain through the Fairview Plan Area, Hayward and San Lorenzo before emptying into the San Francisco Bay. Important tributaries to San Lorenzo Creek are Palomares Creek, which drains the canyon bounded by Sunol and Walpert Ridges, Hollis Creek, Eden Creek, Crow Creek, Cull Creek, Castro Valley Creek, Sulphur Creek, and Chabot Creek (County of Alameda 2015a). Maximum elevation in the hill area of the San Lorenzo Creek watershed, which makes up the largest section of the basin, is approximately 1,950 feet above mean sea level. Land development in the upper watershed of the basin is limited to ranches with some residences located adjacent to roads that parallel the major tributaries.

WATERSHEDS

The Bay Region includes numerous watersheds that drain directly into the San Francisco Bay downstream of the Sacramento-San Joaquin Delta and coastal creek watersheds in Marin and San Mateo counties that drain directly to the Pacific Ocean. The Plan Area is divided into three watersheds Crow Creek, Palomares Creek, and San Lorenzo Creek. Each watershed is named after the major creek that drains that watershed.

The majority of the Plan Area lies in the San Lorenzo Creek watershed, which drains generally to the west and eventually to the San Francisco Bay. The northeastern portion of the Plan Area lies in the Crow Creek watershed, which also drains to the west before joining San Lorenzo Creek. The southeastern portion of the Plan Area lies in the Palomares Creek watershed, which drains towards the north into Palomares Creek before eventually flowing west to join San Lorenzo Creek.

Figure 12 Water Bodies in and Around the Fairview Specific Plan Area



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Additional data provided by USGS, 2017; USFWS, 2017.

Fig4.2.1 Drainages and Wetlands

The San Lorenzo Creek Watershed, located south of I-580, encompasses 48 square miles and eight tributary creeks (listed above: Palomares Creek, Hollis Creek, Eden Creek, Crow Creek, Cull Creek, Castro Valley Creek, Sulphur Creek, and Chabot Creek). This watershed, the second-largest watershed in the East Bay, begins in Castro Valley at the headwaters of Chabot, Cull, Palomares, Crow, and Sulphur Creeks and all of their unnamed tributaries, and covers parts of north Hayward and San Lorenzo. Don Castro Reservoir is located 1.5 miles downstream from the start of San Lorenzo Creek in the northern area of the Fairview Plan Area, approximately in the middle of the watershed. South of I-580 near Crow Canyon Road, the watershed enters a highly urbanized area. East of I-880 it flows freely before being tunneled into a channel directly under the freeway. From this point to the San Francisco Bay, the creek runs in a concrete-lined, trapezoidal channel. When it reaches the San Francisco Bay, the channel has a sandy bottom (County of Alameda 2015a).

SURFACE WATER

As shown on Figure 12, two creeks represent the major surface water resources in the Plan Area: San Lorenzo Creek and Ward Creek. Both drain westward and ultimately discharge into the San Francisco Bay. San Lorenzo Creek is an impaired water body and is subject to a USEPA approved total maximum daily loads (TMDL) (refer to *Water Quality* discussion below).

In the Plan Area, San Lorenzo Creek flows into Don Castro Reservoir. The Alameda County Flood Control and Water Conservation District (ACFCWCD) owns and operates Don Castro Reservoir, primarily for flood control purposes and recreational use. Siltation has been a major issue at Don Castro Reservoir and has significantly reduced its surface storage capacity. In 2013, the Alameda County Flood Control and Water Conservation District proposed a flood control project to address siltation issues by raising the dam height and removing sediment to improve flood control capacity.

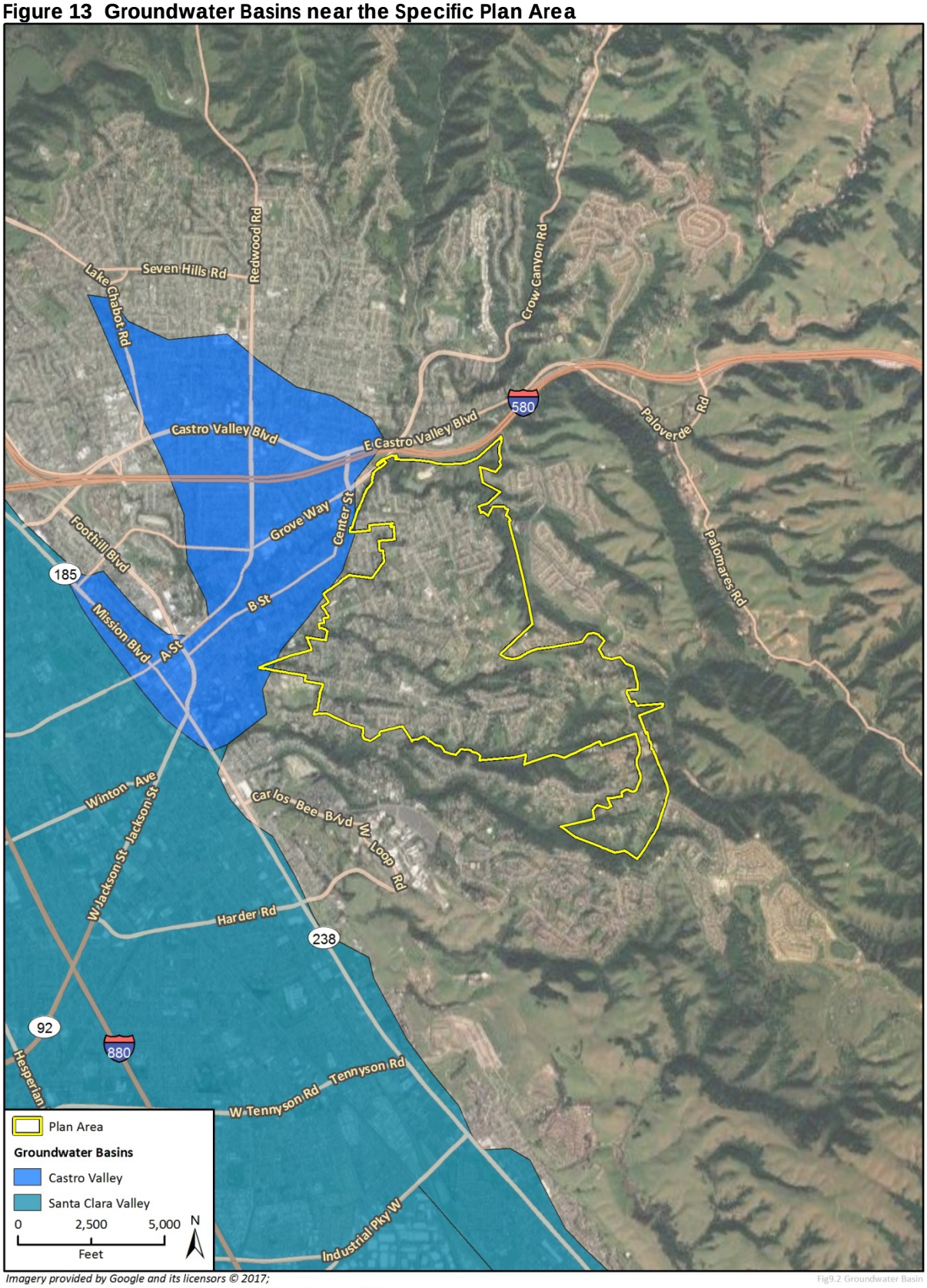
GROUNDWATER

Local groundwater accounts for about 15 percent of the Bay region's average water year supply. Groundwater is a critically important component to water supply because it reduces the demand on imported water. Conjunctive use programs are used to optimize the use of groundwater and surface water resources. Water quality programs are also in place to monitor and protect groundwater quality. Throughout the region, additional groundwater resources continue to be investigated and developed to expand the role of conjunctive use programs.

On July 17, 1973, Alameda County enacted a groundwater protection ordinance, No. 73-68, to regulate the construction of water wells and protect the quality of the groundwater from contamination either from surface pollutants or from groundwater sources of lesser quality. The ordinance is administered and enforced by ACFCWCD in the unincorporated areas of the county, including the Fairview Plan Area and in the cities of Alameda, Albany, Hayward, Oakland, Piedmont, Emeryville, and San Leandro (East Bay Plain Groundwater Basin Beneficial Use Evaluation Report 2017).

The Castro Valley Groundwater Basin (basin number 2-8) is the primary aquifer for Castro Valley, which is located generally west of the Fairview Plan Area. As shown in Figure 13, only the westernmost parcels in the Plan Area overlay the Castro Valley Basin. The Castro Valley basin is located east of the Hayward Fault, north of Hayward, west of San Lorenzo Creek, and south of Lake Chabot. The Castro Valley basin is an unconfined aquifer primarily composed of Pleistocene alluvium, which lies beneath a thin surface deposit of Holocene-age alluvium and atop a consolidated, impervious layer of Jurassic-age rock. The porous Pleistocene alluvium is composed of

Figure 13 Groundwater Basins near the Specific Plan Area



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Additional data provided by California Department of Water Resources, 2016.

a heterogeneous mixture of clay, silt, sand, and gravel. This layer can be up to 80 feet thick (California Department of Water Resources, Castro Valley Groundwater Basin 2004).

WATER QUALITY

The San Francisco Bay Region's immediate watershed is highly urbanized, resulting in contaminant loads from both point and nonpoint sources, as well as pollutants from the Delta and the Central Valley. The San Francisco Regional Water Quality Control Board (RWQCB) is the primary agency charged with protecting and enhancing surface and ground water quality in the region.

The primary carriers of pollutants are surface creeks and lakes, which replenish groundwater basins and subsequently discharge to the bay. Major sources of pollutants include wastewater treatment plants, direct sewage discharges, urban runoff, irrigation water, industrial effluent, and accidental oil and chemical spills. Water quality problems resulting from these sources include dissolved oxygen depletion, health hazards from high bacteriological concentrations, biostimulation, toxicity, pesticide accumulation, and excess floatable hydrocarbons (Alameda County General Plan Conservation Element 1994).

As previously discussed, primary water bodies in the Plan Area include San Lorenzo Creek and Ward Creek. Major water quality issues in these watersheds include siltation at Don Castro Reservoir, pollution from urban runoff pollution, and contamination from illegal dumping. Additionally, poor water quality in San Lorenzo Creek is attributed to high water temperatures, in-stream contamination, and fast, channelized flows in San Lorenzo Creek, which impact native fish populations identified in this area: Steelhead, Coho Salmon, and Chinook Salmon (San Lorenzo Creek Watershed Archive 2015). Water quality also may be impacted by runoff from horse pastures, livestock grazing, and other agricultural activities that occur in semi-rural areas such as Fairview.

The current Clean Water Act Section 303(d) List of Water Quality Limited Segments identifies 11 miles of San Lorenzo Creek as impaired for Diazinon, which is a pesticide pollutant that primarily comes from urban runoff and sewer systems (USEPA 2007). This reach is identified as category 4a: water segment where all 303(d) listings are being assessed and at least one of those listings is being addressed by a USEPA approved TMDL. Tributaries of San Lorenzo Creek are not identified on the current 303(d) List. However, due to the non-point-source nature of Diazinon contamination, and the similar nature of land uses surrounding the tributaries of San Lorenzo Creek as the main channel, it is reasonably assumed that San Lorenzo Creek tributaries and the encompassing watershed may also be affected by non-point-source urban runoff contaminants such as Diazinon. The 303(d) list does not identify Ward Creek as having water quality limited segments.

FLOOD HAZARDS

FEMA FLOOD HAZARD ZONES

The Federal Emergency Management Agency (FEMA) establishes base flood elevations (BFE) for Special Flood Hazard Areas (SFHA), which indicate 100-year flood zones, or areas that could be inundated by the flood that has a one percent probability of occurring in a given year. In addition, the Alameda County Public Works Agency, Flood Control Division, works with FEMA to map floodplains for the cities and unincorporated county areas, establishing BFEs on a case-by-case basis, where a BFE is equivalent to the SFHA or 100-year flood inundation area.

As shown in Figure 14, there are a few locations with the Plan Area that are subject to inundation under 100-year flood events. These at-risk areas are located immediately adjacent to San Lorenzo

Creek, which was originally designed by the USACE for a Standard Project Flood of approximately 9,700 cubic feet per second (cfs). Previous studies have indicated 100-year discharge rates on the order of 15,000 cfs. The 2009 FEMA Flood Insurance Study, which provides the basis for the currently defined SFHAs, indicates a 100-year floodplain (1 percent annual chance flood hazard) along San Lorenzo Creek just north of the Fairview Plan Area and surrounding Don Castro Reservoir.

The Alameda County Public Works Agency, acting in its capacity as the Flood Control and Water Conservation District, is responsible for most major flood control operations in the Fairview Area. The ACFCWCD owns and manages most storm drains in the Fairview Area, and ensures that they are designed and constructed to meet existing and projected needs for the area to avoid flooding. The Plan Area is located in the ACFCWCD's Zone 3A, which serves the communities of Fairview (project area), City of Hayward (partial), Union City (partial), Alvarado, Baumberg, Highland Hillview, Mt. Eden, Tennyson, and Valle Vista. Zone 3A encompasses 19,700 acres of land in Alameda County, 17 miles of natural creeks, 19 miles of earth channels, five miles of concrete channels, 32 miles of underground pipes, less than one mile of improved creeks, nine pump stations, and one surface reservoir, Don Castro Reservoir. Don Castro Dam is responsible for controlling flows and flood hazards in San Lorenzo Creek. Several flood control projects have been completed in Zone 3A.

The Alameda County Building Inspection Division (BID) of the Public Works Agency (PWA), which reviews permits for compliance with its flood hazard abatement codes and regulations, addresses the potential for flooding from a 100-year flood at individual sites when specific development is proposed. Actual flood hazard determinations for a particular project site are made by the PWA Land Development, which also enforces the California Building Code (CBC) through permitting requirements. This includes CBC Section 1612A, *Flood Loads*, which specifies that buildings and structures located in designated flood hazard areas shall be designed and constructed to resist the effects of flood hazards and flood loads.

Some areas in the Fairview Plan Area have the potential to be affected by dam failure inundation at Don Castro Dam, in the Fairview Plan Area. The Plan Area may also be affected by dam failures at Cull Canyon Dam, upstream from the Plan Area. The Fairview Plan Area is not at risk of inundation from floods, with the exception of the two 100-year floodplain areas detailed above—along San Lorenzo Creek and Don Castro Reservoir.

TSUNAMI AND SEICHE

A tsunami is a series of waves generated by an impulsive disturbance in the ocean or in a small, connected body of water. Tsunamis are produced when movement occurs on faults in the ocean floor, usually during very large earthquakes. Sudden vertical movement of the ocean floor by fault movement displaces the overlying water column, creating a wave that travels outward from the earthquake source. An earthquake anywhere in the Pacific can cause tsunamis around the entire Pacific basin. The USGS has estimated that the San Francisco Bay will experience a 20-foot high tsunami at a frequency of every 200 years. The wave height would be reduced by half the height by the time it reaches the Albany/Berkeley shoreline and would decrease further as it travels south. According to the California Department of Conservation, Fairview would not be affected by a tsunami.

Figure 14 Flood Hazard Areas in the Plan Area

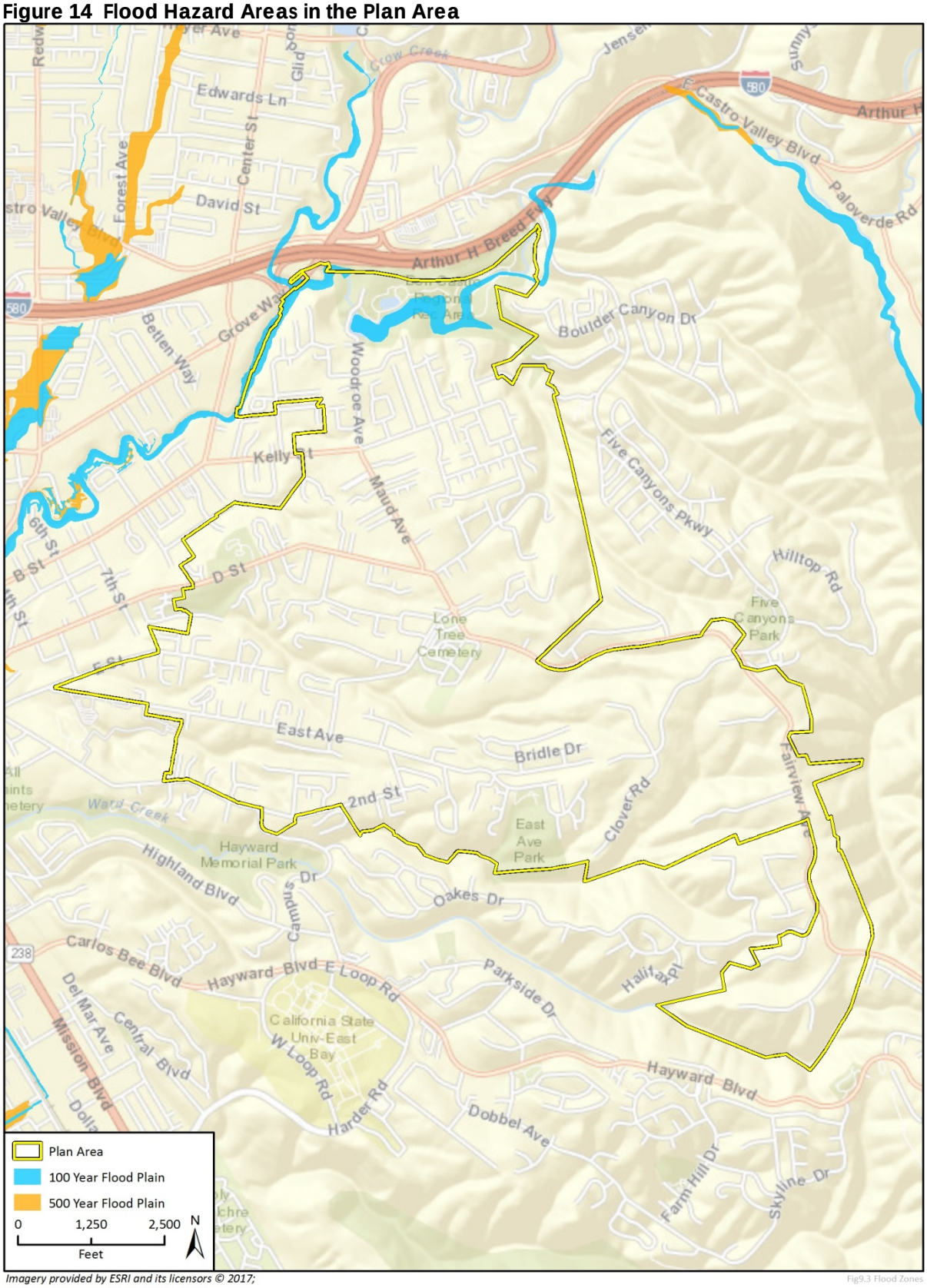

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Fig9.3 Flood Zones

Seiches are waves generated in an enclosed body of water, such as the San Francisco Bay, from seismic activity. Seiches are related to tsunamis for enclosed bays, inlets, and lakes. These tsunami-like waves can be generated by earthquakes, subsidence or uplift of large blocks of land, submarine and onshore landslides, sediment failures, and volcanic eruptions. The strong currents associated with these events may be more damaging than inundation by waves. The largest seiche wave ever measured in the San Francisco Bay, following the 1906 earthquake, was four inches high. The Bay Area has not been adversely affected by seiches during its history in this seismically active region of California (Alameda County General Plan).

DRAINAGE

Most of the Fairview Plan Area drains into San Lorenzo Creek, Ward Creek, or one of several unnamed tributaries. Runoff is generally carried towards the west and eventually drains to the San Francisco Bay. In the Plan Area, stormwater runoff that does not infiltrate into the subsurface is directed into a constructed stormwater drainage system consisting of crowned streets, curbside gutters, drainage inlets, subsurface pipes, and engineered canals and creeks. Standing water and ponding may occur during heavy rains, particularly where storm drains become blocked by debris or where culverts are blocked or have inadequate capacity to convey peak flows.

Regulatory Setting

Federal Regulations

FEDERAL CLEAN WATER ACT

In 1972, Congress passed the Federal Water Pollution Control Act, commonly known as the Clean Water Act (CWA), with the goal of "restor[ing] and maintain[ing] the chemical, physical, and biological integrity of the Nation's waters." 33 U.S.C. § 1251(a). The CWA directs states to establish water quality standards for all "waters of the United States" and to review and update such standards on a triennial basis. Section 319 mandates specific actions for the control of pollution from non-point sources. The EPA has delegated responsibility for implementation of portions of the CWA, including water quality control planning and control programs, such as the National Pollutant Discharge Elimination System (NPDES) Program, to the SWRCB and the RWQCBs.

Section 303(c)(2)(b) of the CWA requires states to adopt water quality standards for all surface waters of the United States based on the water body's designated beneficial use. Water quality standards are typically numeric, although narrative criteria based upon biomonitoring methods may be employed where numerical standards cannot be established or where they are needed to supplement numerical standards. Water quality standards applicable to the plan area are contained in the *Water Quality Control Plan for the San Francisco Bay Basin* (Basin Plan).

Section 303(d) of the CWA bridges the technology based and water quality-based approaches for managing water quality. Section 303(d) requires that states make a list of waters that are not attaining standards after the technology-based limits are put into place. For waters on this list (and where the USEPA administrator deems they are appropriate), states are to develop "total maximum daily loads" (TMDL). TMDLs are established at the level necessary to implement the applicable water quality standards. A TMDL must account for all sources of the pollutants that caused the water to be listed. San Lorenzo Creek, which runs through the Plan Area, is an impaired water body and is subject to a USEPA approved TMDL. The waters of San Lorenzo Creek are impaired due to

exceedance of the pesticide pollutant Diazinon. The primary source of this pollution is urban runoff/storm sewers (USEPA 2007).

Section 404 of the CWA prohibits the discharge of pollutants into "waters of the United States," except as allowed by permit. 33 C.F.R. § 328.3(a)(3). Section 404 of the CWA authorizes the USACE to issue permits for and regulate the discharge of dredged or fill materials into wetlands or other waters of the United States. Under the CWA and its implementing regulations, "waters of the United States" are broadly defined to consist of rivers, creeks, streams, and lakes extending to their headwaters, including adjacent wetlands.

NATIONAL POLLUTION DISCHARGE ELIMINATION SYSTEMS (NPDES)

The goal of the NPDES nonpoint source regulations is to improve the quality of stormwater discharged to receiving waters to the "maximum extent practicable" through the use of BMPs. The NPDES permit system was established in the CWA to regulate point source discharges (a municipal or industrial discharge at a specific location or pipe) and certain types of diffuse discharges, including urban stormwater and construction site runoff. Future development in the Plan Area would be subject to the San Francisco Bay Region Municipal Regional Stormwater NPDES Permit (Order R2-2009-0074, NPDES Permit No. CAS612008), issued by the San Francisco Bay RWQCB. This permit covers the entire jurisdiction of the San Francisco Bay RWQCB, including Alameda County.

The NPDES permit requires that permanent post-construction stormwater quality control measures and treatment facilities be implemented on the site. Compliance with four main control measures (Treatment Control, Source Control, Site Design and Hydromodification Management) outlined by Alameda County involves construction best management practices (BMP), erosion control standards, stormwater treatment, detainment and infiltration measures, as well as quantity controls. The Alameda Countywide Clean Water Program (ACCWP) administers the County's NPDES permit, which covers each of the 14 cities, the unincorporated area and the two flood control districts. This is done through a consortium of 17 member agencies in Alameda County.

State Regulations

Porter-Cologne Water Quality Act

The Porter-Cologne Water Quality Control Act establishes the SWRCB and each RWQCB as the principal State agencies for coordinating and controlling water quality in California. Specifically, the Porter-Cologne Act authorizes the SWRCB to adopt, review, and revise policies for all waters of the State (including both surface and groundwater) and directs the RWQCBs to develop regional Basin Plans.

The San Francisco Bay RWQCB has the authority to implement water quality protection standards through the issuance of permits for discharges to waters in its jurisdiction. Water quality objectives for receiving waters in Alameda County are specified in the Water Quality Control Plan for the San Francisco Bay Basin (Basin Plan) prepared by the RWQCB in compliance with the federal CWA and the State Porter Cologne Act. The principal elements of the Basin Plan are a statement of beneficial water uses protected under the plan, water quality objectives necessary to protect the designated beneficial water uses, and strategies and time schedules for achieving the water quality objectives. Together, narrative and numerical objectives define the level of water quality that shall be maintained in the region. The water quality objectives are achieved primarily through the establishment and enforcement of waste discharge requirements (WDRs).

The RWQCBs have primary responsibility for issuing WDRs. The RWQCBs may issue individual WDRs to cover individual discharges or general WDRs to cover a category of discharges. WDRs may include effluent limitations or other requirements that are designed to implement applicable water quality control plans, including designated beneficial uses and the water quality objectives established to protect those uses and prevent the creation of nuisance conditions. Violations of WDRs may be addressed by issuing Cleanup and Abatement Orders (CAOs) or Cease and Desist Orders (CDOs), assessing administrative civil liability, or seeking imposition of judicial civil liability or judicial injunctive relief.

Local Regulations

Alameda County General Plan

The Safety Element of the Alameda General Plan requires flood control measures that advance the goals of resource conservation (including water quality and soil conservation) and groundwater recharge, and includes the following:

Policy P11: The County shall promote flood control measures that advance the goals of recreation, resource conservation (including water quality and soil conservation), groundwater recharge, preservation of natural riparian vegetation and habitat, and the preservation of scenic values of the county's arroyos and creeks.

Additional pertinent flooding and water quality policies are included in the Eden General Plan and Castro Valley General Plan, which apply the countywide policies at the local level.

Stormwater Quality Management Plan

Alameda County, along with the other agencies participating in the ACCWP, has adopted a Stormwater Quality Management Plan in compliance with the Alameda Countywide NPDES Municipal Stormwater Permit. The Stormwater Quality Management Plan describes the ACCWP's approach to reducing stormwater pollution in the county. The current Plan is the ACCWP's third stormwater quality management plan and is intended to serve as the basis of the ACCWP's third stormwater discharge permit from the Regional Water Quality Control Board (Eden Area General Plan EIR 2006).

The Stormwater Quality Management Plan includes performance standards that define a large part of what member agencies must do to implement the Plan and comply with the NPDES permit. Performance standards exist for the following areas of the Plan:

- Public Information and Participation
- Municipal Maintenance Activities
- New Development and Construction Controls
- Illicit Discharge Controls
- Industrial and Commercial Discharge Controls (Eden Area General Plan EIR 2006)

Impact Analysis

a. Would the project violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?

Future development projects in the Plan Area would be subject to the San Francisco Bay Region Municipal Regional Stormwater NPDES Permit (Order R2-2009-0074, NPDES Permit No. CAS612008), issued by the RWQCB. This permit covers the entire jurisdiction of the San Francisco RWQCB, including Alameda County. The NPDES permit requires that permanent post-construction stormwater quality control measures and treatment facilities be implemented as development takes place. Compliance involves a series of BMPs related to erosion control, stormwater treatment, detainment and infiltration measures, as well as quantity controls. The Alameda Countywide Clean Water Program (ACCWP) administers the County's NPDES permit, which covers each of the 14 cities, the unincorporated area and the two flood control districts. The Alameda County Unincorporated Area Clean Water Protection Fee provides funding that enables the County of Alameda to fulfill its requirements of the municipal regional stormwater permit for the unincorporated area of Alameda County. Future development in the Plan Area would be required to pay applicable fees to comply with permit requirements. The fee per parcel is based on the amount of stormwater that runs off each parcel, and on the assumption that the pollution each property contributes to the storm drainage system is directly related to human activity (as represented by land use) and the size of the property generating the stormwater runoff (County of Alameda 2018).

Further, as discussed under Section 7, *Geology and Soils*, implementation of the updated Specific Plan would include development standards that would regulate erosion and sedimentation through compliance with BMPs for drainage, grading, planting, and vegetation maintenance such that new development does not affect the long-term preservation of creeks, ponds, and other water bodies in the Plan Area. Through compliance with updated Specific Plan standards and NPDES permit and regulations, impacts associated with the degradation of surface or ground water quality would be less than significant.

LESS THAN SIGNIFICANT IMPACT

b. Would the project substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?

Local groundwater accounts for about 15 percent of the Bay region's average water year supply. On July 17, 1973, Alameda County enacted a groundwater protection ordinance, No. 73-68, to regulate the construction of water wells and protect the quality of the groundwater from contamination either from surface pollutants or from groundwater sources of lesser quality. The ordinance is administered and enforced by the Alameda County Flood Control and Water Conservation District (ACFCWCD) in the unincorporated areas of the County, including the Fairview Plan Area and in the cities of Alameda, Albany, Hayward, Oakland, Piedmont, Emeryville, and San Leandro.

As shown in Figure 13, the closest groundwater basin to the Plan Area is in Castro Valley; however, only the westernmost parcels in the Plan Area overlay the Castro Valley Basin. Implementation of the updated Specific Plan would not involve construction of wells, pumping, or extraction of groundwater. Potable water for the future residences would be provided by the East Bay Municipal Utilities District (EBMUD), which does not rely on groundwater for provision of potable water (see Table 23 in Section 19, *Utilities and Service Systems*).

Future residential development in the Plan Area would increase the amount of impervious surface on-site. However, according to Policy CD-4.8 of Chapter 8, Community Services and Infrastructure, of the updated Specific Plan, new development shall be designed to reduce impervious surfaces and take other measures that reduce runoff, which would generally maintain existing groundwater recharge at the site. Therefore, implementation of the updated Specific Plan would not substantially affect local groundwater or groundwater recharge, and impacts would be less than significant.

LESS THAN SIGNIFICANT IMPACT

c.(i) Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would result in substantial erosion or siltation on- or off-site?

Most of the Plan Area drains into San Lorenzo Creek, Ward Creek, or one of several unnamed tributaries. As discussed under impact discussion (b) of this section, residential development in the Plan Area would increase the amount of impervious surface on-site. However, according to Policy CD-4.8 of Chapter 8, Community Services and Infrastructure, of the updated Specific Plan, new development shall be designed to reduce impervious surfaces and take other measures that reduce runoff. As discussed under Section 7, *Geology and Soils*, implementation of the updated Specific Plan would include development standards that would regulate erosion and sedimentation through compliance with BMPs for drainage, grading, planting, and vegetation maintenance such that new development does not affect the long-term preservation of creeks, ponds, and other water bodies in the Plan Area. Through compliance with updated Specific Plan standards and NPDES permit and regulations, impacts associated with erosion or sedimentation would be less than significant.

LESS THAN SIGNIFICANT IMPACT

c.(ii) Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?

c.(iv) Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would impede or redirect flood flows?

As discussed under impact discussion (c.i) of this section, most of the Plan Area drains into San Lorenzo Creek, Ward Creek, or one of several unnamed tributaries, and runoff is generally carried towards the west and eventually drains to the San Francisco Bay. In the Plan Area, stormwater runoff that does not infiltrate into the subsurface is directed into a constructed stormwater drainage system consisting of curbside gutters, crowned streets (to direct runoff on streets to the gutters), drainage inlets, subsurface pipes, and engineered canals and creeks. Standing water and ponding may occur during heavy rains, particularly where storm drains become blocked by debris or where culverts are blocked or have inadequate capacity to convey peak flows.

While future residential development in the Plan Area would increase the amount of impervious surface within the Plan Area, implementation of the updated Specific Plan would also include Development Standard 8.4.7 (Drainage and Flood Control) that would confirm the adequacy of downstream drainage facilities prior to development approval, improve existing drainage in a manner that respects and preserves Fairview's natural features (i.e., creeks and drainageways), and

comply with runoff reduction measures provided by the Alameda County Watercourse Protection Ordinance to decrease on- or off-site flood hazards. Therefore, implementation of the updated Specific Plan would not substantially alter drainage in a manner that would result in flooding or impede/redirect flood flows. Impacts would be less than significant.

LESS THAN SIGNIFICANT IMPACT

c.(iii) Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner that would create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?

Future residential development in the Plan Area could increase the amount of impervious surfaces in the Plan Area. However, future development projects would be subject to the NPDES Permit issued by the RWQCB. The NPDES permit requires that permanent post-construction stormwater quality control measures and treatment facilities be implemented as development takes place. Compliance involves a series of BMPs related to erosion control, stormwater treatment, detainment and infiltration measures, as well as quantity controls and/or payment of impact fees as described in impact discussion (a). Furthermore, implementation of the updated Specific Plan would include development standards that would protect the quality of groundwater and surface water through grading/construction and agricultural runoff controls, maintenance of storm drains and culverts, reduce use of pesticides and herbicides, enforcement of regulations for illicit discharges, public education, and site design features that prevent runoff from developed areas. In addition, Development Standard 4.7(a) requires the County to seek funding for a Hydrology Analysis and Storm Drainage Systems Capacity Evaluation Study for Fairview. This study would evaluate existing hydrology conditions, identify problem areas and constraints, and identify solutions, including capital projects and drainage requirements for future development. Through compliance with updated Specific Plan standards and NPDES permit and regulations, impacts associated with stormwater drainage or polluted runoff would be less than significant.

LESS THAN SIGNIFICANT IMPACT

d. In flood hazard, tsunami, or seiche zones, would the project risk release of pollutants due to project inundation?

The Federal Emergency Management Agency (FEMA) establishes base flood elevations (BFE) for Special Flood Hazard Areas (SFHA), which indicate 100-year flood zones, or areas that could be inundated by the flood that has a one percent probability of occurring in any given year. As shown in Figure 14, there are a few locations with the Plan Area that are subject to inundation under 100-year flood events. These at-risk areas are located immediately adjacent to San Lorenzo Creek. The 2009 FEMA Flood Insurance Study, which provides the basis for the currently defined SFHAs, indicates that areas along the perimeter of Don Castro Reservoir and adjacent sections of the creek could flood in a 100-year storm.

The Alameda County Building Inspection Division (BID) of the Public Works Agency (PWA) Land Development Division, which reviews permits for compliance with its flood hazard abatement codes and regulations, addresses the potential for flooding from a 100-year flood at individual sites when specific development is proposed. While individual residential development is not proposed at this time, actual flood hazard determinations for a specific development would be evaluated by the PWA Land Development Division on a case-by-case basis. Nonetheless, as discussed in Section 7, *Geology*

and Soils, the updated Specific Plan would include guiding goal EH-1, which aims to minizine risks to life, property, and the environment from natural hazards, including floods. According to development standards for flooding in Chapter 7 (Environmental Hazards) of the updated Specific Plan, the Plan would also prohibit the construction of new structures that would be endangered by a 100-year storm.

Furthermore, the Plan Area is not at risk for other flood hazards, including tsunamis and seiches. Tsunami hazards are typically associated with waterfront communities and occur during very large earthquakes. Due to the Plan Area's inland location, there is no risk from tsunamis. The Plan Area is also not at risk from seiches. Seiches are waves generated in an enclosed body of water from seismic activity. Don Castro Reservoir is the only enclosed surface water body in the Plan Area, and the potential for wave damage is limited given the reservoirs small size and open space setting. Therefore, implementation of the updated Specific Plan would not involve risk of pollutant release due to inundation and no impact would occur.

NO IMPACT

e. Would the project conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?

Alameda County, along with the other agencies participating in the ACCWP, has adopted a Stormwater Quality Management Plan in compliance with the Alameda Countywide NPDES Municipal Stormwater Permit. The Stormwater Quality Management Plan describes the ACCWP's approach to reducing stormwater pollution in the county. The current Plan is the ACCWP's third stormwater quality management plan and is intended to serve as the basis of the ACCWP's third stormwater discharge permit from the RWQCB (Eden Area General Plan EIR 2006). The Stormwater Quality Management Plan includes performance standards that define a large part of what member agencies must do to implement the Plan and comply with the NPDES permit.

As discussed under impact (c.iii) of this section, implementation of the updated Specific Plan would include development standards that would protect the quality of groundwater and surface water through grading/construction and agricultural runoff controls, maintenance of storm drains and culverts, reduce use of pesticides and herbicides, enforcement of regulations for illicit discharges, public education, and site design features that prevent runoff from developed areas. Furthermore, future development projects in the Plan Area would be subject to the NPDES Permit issued by the RWQCB. The NPDES permit requires that permanent post-construction stormwater quality control measures and treatment facilities be implemented as development takes place and the County requires payment of fees to fund County programs to ensure compliance with the NPDES permit. Compliance involves a series of BMPs related to erosion control, stormwater treatment, detainment and infiltration measures, as well as quantity controls. Through compliance with updated Specific Plan standards and NPDES permit and regulations, the Plan would not conflict with or obstruct implementation of applicable water quality or management plans and impacts would be less than significant.

LESS THAN SIGNIFICANT IMPACT

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11 Land Use and Planning

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
a. Physically divide an established community?	☐	☐	■	☐
b. Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?	☐	☐	■	☐

a. Would the project physically divide an established community?

The Plan Area covers the unincorporated community of Fairview in western Alameda and is semi-rural in character, with a patchwork of agricultural uses, single-family residences on larger parcels, suburban residences and apartments, and open space. Fairview is also defined by the absence of large commercial land uses, including shopping centers, offices, and a central business district. The lack of curbs, gutters, and sidewalks on some roads add to a semi-rural character.

As part of the updated Specific Plan's polices listed under Goal LU-2 (see Section 1, *Aesthetics*), the Plan would allow for future capital improvement projects such as street redesign, community landscaping, and beautification projects that improve Fairview's appearance and foster a sense of community identity. The proposed Specific Plan does not increase density or include elements that would physically divide established communities within the Plan Area. Although the updated Specific Plan could encourage street redesign, no new major roads or other large or linear facilities would be constructed that would physically divide existing neighborhoods. Therefore, no significant land use impacts related to the physical division of an established community would occur as a result of adoption and implementation of the updated Specific Plan. This impact would be less than significant.

LESS THAN SIGNIFICANT IMPACT

b. Would the project cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?

Under Government Code Section 65450 et seq., a specific plan implements and must be consistent with the governing general plan. The governing general plan is the Alameda County General Plan, which is a comprehensive, and long-range policy document of countywide priorities and values developed to guide public decision-making in future years. The General Plan's goals are implemented through decisions and actions consistent with the objectives, policies, and actions of each of its seven elements: Land Use, Circulation, Housing, Open Space, Conservation, Safety, and Noise. The objectives, policies, and actions of these elements apply to all unincorporated communities within County limits and aim to guide physical, economic, and environmental growth.

The updated Specific Plan consists of several components between Chapters 1 through 9 of the Plan and includes goals, policies, and development standards associated with six topics: Land Use and Community Design, Agriculture, Transportation, Conservation, Environmental Hazards, and Community Services and Infrastructure. If adopted, the updated Specific Plan would replace and supersede the previous 1997 Specific Plan for the area and other studies and plans. The updated Specific Plan is also intended to be adopted with only minor amendments to the County's Zoning Map, since it does not propose a substantial change to existing land uses in the Plan Area. Rather, the updated Specific Plan would serve as an extension of the Alameda County General Plan, providing both policy and regulatory direction specific to the Plan Area. As evaluated throughout the Sections 1 and 20 of this analysis, the updated Specific Plan would not conflict with existing County programs or development standards and impacts would be less than significant.

LESS THAN SIGNIFICANT IMPACT

12 Mineral Resources

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
a. Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	☐	☐	☐	■
b. Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?	☐	☐	☐	■

Mineral Resources Setting

Alameda County is located in the Coast Ranges, which were formed by the faulting and folding of Mesozoic and Cenozoic rocks. Alameda County is known to contain many metallic and non-metallic minerals, including sand and gravel, salt, stone, petroleum, and clays. Other minerals known to occur in the county, which have been extracted at times in the county's history, include asbestos, bromine, chromite, coal, copper, gold, lead, lime, magnesite, magnesium compounds, manganese, potash (potassium salts), pyrite, silica, silver, soapstone, and travertine.

The Fairview Plan Area is located in the SMARA Study Area, South San Francisco Bay Production-Consumption Region, as reported by the California Department of Conservation, Division of Mines and Geology (Update of Mineral Land Classification: Aggregate Materials in the South San Francisco Bay Production-Consumption Region, 1996). There are no mines or quarries currently located in the Fairview Plan Area; however, a rock quarry historically operated at the end of Old Quarry Road at the east end of D Street.

Regulatory Setting

Federal Regulations

SURFACE MINING CONTROL AND RECLAMATION ACT

In 1977, the Surface Mining Control and Reclamation Act was passed to regulate environmental effects of coal mining in the United States. There are no coal mines located in the Fairview Plan Area.

State Regulations

SURFACE MINING AND RECLAMATION ACT

In 1975, the State of California passed the Surface Mining and Reclamation Act to regulate surface mining operations, address the environmental impacts associated with these extractive industries, and ensure that mined lands are reclaimed to usable condition. It also encourages production, conservation, and protection of statewide mineral resources.

Local Regulations

ALAMEDA COUNTY SURFACE MINING ORDINANCE

Pursuant to state requirements under the Surface Mining and Reclamation Act, Alameda County adopted its Surface Mining Ordinance in 1983. Alameda County authorizes mining activities on unincorporated lands if the County issues a surface mining permit (SMP) and reclamation activities on unincorporated lands with County-approved reclamation plans (Alameda County General Ordinance Code, Chapter 6.80).

Impact Analysis

a. *Would the project result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?*

b. *Would the project result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?*

Although there are no mines or quarries in the Plan Area, a rock quarry historically operated at the east end of D Street. Alameda County adopted a Surface Mining Ordinance in 1983, requiring a county surface mining permit and reclamation plan for quarries and similar resource extraction activities. No mining permits have been issued for Fairview since the program began and no mining permits would be issued as part of the updated Specific Plan. Therefore, implementation of the updated Specific Plan would not result in the loss of a mineral resource or recovery site with value to the region and no impacts would occur.

NO IMPACT

13 Noise

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project result in:				
a. Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	☐	■	☐	☐
b. Generation of excessive groundborne vibration or groundborne noise levels?	☐	■	☐	☐
c. For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	■	☐

Noise Setting

Sound is a vibratory disturbance created by a moving or vibrating source, which is capable of being detected by the hearing organs (e.g., the human ear). Noise is defined as sound that is loud, unpleasant, unexpected, or undesired and may therefore be classified as a more specific group of sounds. The effects of noise on people can include general annoyance, interference with speech communication, sleep disturbance, and, in the extreme, hearing impairment (Caltrans 2013a).

Noise levels are commonly measured in decibels (dB) using the A-weighted sound pressure level (dBA). The A-weighting scale is an adjustment to the actual sound pressure levels so that they are consistent with the human hearing response, which is most sensitive to frequencies around 4,000 Hertz (Hz) and less sensitive to frequencies around and below 100 Hz (Kinsler, et. al. 1999). Decibels are measured on a logarithmic scale that quantifies sound intensity in a manner similar to the Richter scale used to measure earthquake magnitudes. A doubling of the energy of a noise source, such as a doubling of traffic volume, would increase the noise level by 3 dB; similarly, dividing the energy in half would result in a decrease of 3 dB (Crocker 2007).

Human perception of noise has no simple correlation with sound energy: the perception of sound is not linear in terms of dBA or in terms of sound energy. Two sources do not “sound twice as loud” as one source. It is widely accepted that the average healthy ear can barely perceive an increase (or decrease) of up to 3 dBA in noise levels (i.e., twice [or half] the sound energy); that a change of 5

dBA is readily perceptible (8 times the sound energy); and that an increase (or decrease) of 10 dBA sounds twice (or half) as loud (10.5 times the sound energy) (Crocker 2007).

Sound changes in both level and frequency spectrum as it travels from the source to the receiver. The most obvious change is the decrease in sound level as the distance from the source increases. The manner by which noise reduces with distance depends on factors such as the type of sources (e.g., point or line), the path the sound will travel, site conditions, and obstructions. Noise levels from a point source (e.g., construction, industrial machinery, ventilation units) typically attenuate, or drop off, at a rate of 6 dBA per doubling of distance. Noise from a line source (e.g., roadway, pipeline, railroad) typically attenuates at about 3 dBA per doubling of distance (Caltrans 2013a). The propagation of noise is also affected by the intervening ground, known as ground absorption. A hard site, such as a parking lot or smooth body of water, receives no additional ground attenuation and the changes in noise levels with distance (drop-off rate) result simply from the geometric spreading of the source. An additional ground attenuation value of 1.5 dBA per doubling of distance applies to a soft site (e.g., soft dirt, grass, or scattered bushes and trees) (Caltrans 2013a). Noise levels may also be reduced by intervening structures. The amount of attenuation provided by this "shielding" depends on the size of the object and the frequencies of the noise levels. Natural terrain features, such as hills and dense woods, and man-made features, such as buildings and walls, can significantly alter noise levels. Generally, a large structure blocking the line of sight will provide at least a 5-dBA reduction in source noise levels at the receiver (Federal Highway Administration [FHWA] 2011). Structures can substantially reduce occupants' exposure to noise as well. The FHWA's guidelines indicate that modern building construction generally provides an exterior-to-interior noise level reduction of 20 to 35 dBA with closed windows.

Descriptors

The impact of noise is not a function of loudness alone. The time of day when noise occurs, its frequency, and the duration of the noise are also important. In addition, most noise that lasts for more than a few seconds is variable in its intensity. Consequently, a variety of noise descriptors have been developed.

One of the most frequently used noise metrics that considers both duration and intensity is the equivalent noise level (L_{eq}). The L_{eq} is defined as the single steady A-weighted level that is equivalent to the same amount of energy as that contained in the actual fluctuating levels over a period of time. Typically, L_{eq} is equivalent to a one-hour period, even when measured for shorter durations as the noise level of a 10- to 30-minute period would be the same as the hour if the noise source is relatively steady. L_{max} is the highest Root Mean Squared (RMS) sound pressure level within the sampling period, and L_{min} is the lowest RMS sound pressure level within the measuring period (Crocker 2007). Normal conversational levels at three feet are in the 60 to 65-dBA L_{eq} range, and ambient noise levels greater than 65 dBA L_{eq} can interrupt conversations (Federal Transit Administration [FTA] 2018).

Noise that occurs at night tends to be more disturbing than that which occurs during the day. Thus, community noise is usually measured using Day-Night Average Level (L_{dn} or DNL), which is a 24-hour average noise level with a +10 dBA penalty for noise occurring during nighttime (10:00 p.m. to 7:00 a.m.) hours, or Community Noise Equivalent Level (CNEL), which is the 24-hour average noise level with a +5 dBA penalty for noise occurring from 7:00 p.m. to 10:00 p.m. and a +10 dBA penalty for noise occurring from 10:00 p.m. to 7:00 a.m. (Caltrans 2013a). Noise levels described by DNL and CNEL usually differ by about 0.5 dBA. Quiet suburban areas typically have a CNEL in the range of 40 to 50 dBA, while areas near arterial streets are in the 50 to 70+ CNEL range.

There is no precise way to convert a peak hour L_{eq} to DNL or CNEL - the relationship between the peak hour L_{eq} value and the DNL/CNEL value depends on the distribution of traffic volumes during the day, evening, and night. However, in urban areas near heavy traffic, the peak hour L_{eq} is typically 2 to 4 dBA lower than the daily DNL/CNEL. In less heavily developed areas, such as suburban areas, the peak hour L_{eq} is often roughly equal to the daily DNL/CNEL. For rural areas with little nighttime traffic, the peak hour L_{eq} will often be 3 to 4 dBA greater than the daily DNL/CNEL value (California State Water Resources Control Board [SWRCB] 1999).

Propagation

Sound from a small, localized source (approximating a "point" source) radiates uniformly outward as it travels away from the source in a spherical pattern, known as geometric spreading. The sound level decreases or drops off at a rate of 6 dBA for each doubling of distance.

Traffic noise is not a single, stationary point source of sound. Rather, the movement of vehicles makes the source of the sound appear to emanate from a line (line source) rather than a point. The drop-off rate for a line source is 3 dBA for each doubling of distance.

Vibration Setting

Groundborne vibration of concern in environmental analysis consists of the oscillatory waves that move from a source through the ground to adjacent structures. The number of cycles per second of oscillation makes up the vibration frequency, described in terms of hertz (Hz). The frequency of a vibrating object describes how rapidly it oscillates. The normal frequency range of most groundborne vibration that can be felt by the human body is from a low of less than 1 Hz up to a high of about 200 Hz (Crocker 2007).

While people have varying sensitivities to vibrations at different frequencies, in general they are most sensitive to low-frequency vibration. Vibration in buildings, such as from nearby construction activities, may cause windows, items on shelves, and pictures on walls to rattle. Vibration of building components can also take the form of an audible low-frequency rumbling noise, referred to as groundborne noise. Groundborne noise may result in adverse effects, such as building damage, when the originating vibration spectrum is dominated by frequencies in the upper end of the range (60 to 200 Hz). Vibration may also damage infrastructure when foundations or utilities, such as sewer and water pipes, physically connect the structure and the vibration source (FTA 2018). Although groundborne vibration is sometimes noticeable in outdoor environments, it is almost never annoying to people who are outdoors. The primary concern from vibration is that it can be intrusive and annoying to building occupants and vibration-sensitive land uses.

Descriptors

Vibration amplitudes are usually expressed in peak particle velocity (PPV) or RMS vibration velocity. Particle velocity is the velocity at which the ground moves. The PPV and RMS velocity are normally described in inches per second (in/sec). PPV is defined as the greatest magnitude of particle velocity associated with a vibration event. PPV is often used in monitoring of blasting vibration because it is related to the stresses that are experienced by buildings (Caltrans 2013b).

Although PPV is appropriate for evaluating the potential for building damage, it is not always suitable for evaluating human response. It takes some time for the human body to respond to vibration signals. In a sense, the human body responds to average vibration amplitude. The RMS of a signal is the average of the squared amplitude of the signal, typically calculated over a 1-second

period. As with airborne sound, the RMS velocity is often expressed in decibel notation as vibration decibels (VdB), which serves to compress the range of numbers required to describe vibration (FTA 2018).

Response to Vibration

Damage to structures occurs when vibration levels range from two to six in/sec PPV. One half this minimum threshold, or one in/sec PPV, is considered a safe criterion that would protect modern structures (i.e., post 1975 construction in California) against structural damage (Caltrans 2013b).

The general human response to different levels of groundborne vibration velocity levels is described in Table 17.

Table 17 Human Response to Different Levels of Groundborne Vibration

Vibration Velocity Level	Human Reaction
65 VdB	Approximate threshold of perception for many people
75 VdB	Approximate dividing line between barely perceptible and distinctly perceptible. Many people find that transportation-related vibration at this level is unacceptable
85 VdB	Vibration acceptable only if there are an infrequent number of events per day

Source: FTA 2018

Propagation

Vibration energy spreads out as it travels through the ground, causing the vibration level to diminish with distance away from the source. Variability in the soil strata can also cause diffractions or channeling effects that affect the propagation of vibration over long distances (Caltrans 2013b). When a building is exposed to vibration, a ground-to-foundation coupling loss (the loss that occurs when energy is transferred from one medium to another) will usually reduce the overall vibration level. However, under rare circumstances, the ground-to-foundation coupling may amplify the vibration level due to structural resonances of the floors and walls.

Plan Area Noise Environment

As a low-density residential community without major freeways or arterial roadways, the ambient noise environment in Fairview is relatively quiet (Barry Miller 2017). The primary sources of noise are transportation-related, including noise from Interstate 580 near the northern boundary of the community, vehicles on local roads, and passing aircraft. The community is also subject to noise from domestic sources such as leaf blowers, sirens, and construction equipment.

Noise measurements have been taken in Fairview as part of the environmental review process for several pending developments. Twenty-four-hour measurements were taken for the Fairview Meadows project near the geographic center of Fairview on D Street just east of Maud Avenue. These measurements indicated noise levels of 54 to 70 dBA during the day and 40 to 65 dBA at night. Passing traffic was the primary noise source, although spikes occurred during airplane flyovers.

In addition, measurements were taken in the Upper B Street neighborhood of Hayward and in the Hayward Hills in 2013 during the City of Hayward's General Plan Update. The Upper B Street measurements indicate an L_{eq} of 59 dBA, based on a short-term afternoon sample. The Hayward

Hills measurement, which spanned 24 hours, indicated an L_{eq} of 57.2 dBA during the daytime hours and 48.6 dBA in the evenings.

All measurements are indicative of a relatively quiet environment suitable for residential uses. Louder ambient noise levels are associated with Don Castro Park, given its proximity to I-580. The 70 CNEL dBA contour line associated with I-580 at Crow Canyon Road extends roughly 1,500 feet back from the centerline of the freeway. This would include the northernmost neighborhoods of Fairview, including subdivisions along Ralston Way.

Sensitive Receptors

Land uses deemed noise-sensitive by the State of California Office of Noise Control (ONC) include schools, hospitals, rest homes, long-term care, and mental facilities. Many jurisdictions also consider residential uses particularly noise sensitive. Noise standards often vary with different residential densities, and single-family residences are frequently considered most sensitive. Additionally, jurisdictions may identify other uses such as churches, libraries, day care centers, and parks as noise-sensitive land uses. The Alameda County General Plan Noise Element considers residences, schools, hospitals, libraries, and rest homes to be noise-sensitive.

Based on these classifications for sensitive receptors, several land use types in the Plan Area would be classified as sensitive receptors. Most of the Plan Area consists of low-density suburban residential developments and rural ranchettes, which are sensitive to noise. There are also five noise-sensitive schools and childcare centers located in the Plan Area: Fairview Elementary, Fairview Hills Pre-School, Northstar School, Creative Kids Children's Center, and East Avenue Elementary School. In addition, there are two nursing homes (Hilltop Care Center and Bassard Convalescent Hospital) that would be considered noise-sensitive.

Regulatory Setting

Alameda County General Plan Noise Element

Community noise in the unincorporated Fairview Area of Alameda County is currently covered by the guidelines established in the Alameda County Noise Regulations. The Alameda County Noise Element contains goals, objectives, and implementation programs for the entire county to provide its residents with an environment that is free of excessive noise and promote compatibility of land uses with respect to noise. The County-wide Noise Element does not explicitly specify an acceptable outdoor noise level for the backyards of residences or common outdoor spaces of multi-family housing projects. However, the Noise Element does recognize the noise level standards for residential land uses of an exterior Ldn of 55 dBA and an interior Ldn of 45 dBA identified by the USEPA as those requisite for the protection of public health and welfare with an adequate margin of safety. The Noise Element also references noise and land use compatibility standards developed by an ABAG-sponsored study. The ABAG study establishes a CNEL (similar to Ldn) of 65 dBA or less to result in little noise impact on residential land uses, levels between 65 and 70 to produce moderate impacts and a CNEL above 70 dBA to cause significant impacts

Alameda County Noise Ordinance

Section 6.60.040 of the Alameda County Noise Ordinance establishes regulations and standards regarding the generation of noise from onsite sources like mechanical equipment. The regulations identify exterior noise levels impacting residential or commercial land uses. Noise level standards are set forth in Table 18 and Table 19.

Table 18 Non-Commercial Noise Ordinance Limits

Category	Cumulative minutes in a 1-hour period	Daytime, dBA (7 a.m. – 10 p.m.)	Nighttime, dBA (10 p.m. – 7 a.m.)
1	30	50	45
2	15	55	50
3	5	60	55
4	1	65	60
5	0	70	65

Note: Non-commercial uses include Single- or Multiple-Family Residential, School, Hospital, Church, or Public Library properties
Source: Alameda County Code of Ordinances 2017

Table 19 Commercial Noise Ordinance Limits

Category	Cumulative minutes in one hour period	Daytime, dBA (7 a.m. – 10 p.m.)	Nighttime, dBA (10 p.m. – 7 a.m.)
1	30	65	60
2	15	70	65
3	5	75	70
4	1	80	75
5	0	85	80

Source: Alameda County Code of Ordinances 2017

Alameda County Building Code

Section 3502 of the Alameda County Building Code includes specifications for noise levels inside and outside of new apartment unit or attached dwellings. The ordinance standard is to achieve an annual CNEL of 45 dBA inside all new residential construction and to require an acoustical analysis showing that the structure has been designed to limit intruding noise to the prescribed 45 dBA CNEL. This is consistent with the noise insulation standards in Title 24 of the California Health and Safety Code.

a. *Would the project result in generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?*

Temporary Construction Noise

It is projected that the proposed Specific Plan could allow for construction of up to 300 new residential units, construction of which would generate temporary noise audible at nearby residences. Construction could occur in areas immediately adjacent to existing noise-sensitive receptors or to future receptors built in the Plan Area. Construction noise impacts primarily result when construction activities occur during noise-sensitive times of the day (early morning, evening, or nighttime hours), when construction occurs in areas immediately adjacent to noise-sensitive land uses, or when construction durations last over extended periods of time. Major noise-generating

construction activities could include demolition, site grading and excavation, building erection, and paving.

The grading and excavation phases of construction would typically generate the highest noise levels, with lower noise levels occurring during building construction. Large pieces of earth-moving equipment, such as graders and bulldozers, generate average noise levels of 85 dBA at a reference distance of 50 feet, as shown in Table 20. These noise levels drop off at a rate of about 6 dBA per doubling of distance between the source equipment and receptor. Table 20 also shows typical noise levels at distances of 100, 200, and 400 feet. Intervening structures or terrain would also attenuate noise and would reduce noise levels. However, the simultaneous use of multiple pieces of construction equipment would result in higher noise levels than from individual operating equipment. Therefore, temporary noise levels from construction activity may exceed 85 dBA L_{eq} at adjacent sensitive receptors.

Table 20 Typical Noise Levels Generated by Construction Equipment

Equipment	Type	Typical Average Noise Level at 50 Feet from Source (L_{eq})	Typical Average Noise Level at 100 Feet from Source (L_{eq})	Typical Average Noise Level at 200 Feet from Source (L_{eq})	Typical Average Noise Level at 400 Feet from Source (L_{eq})
Air Compressor	Stationary	80	74	68	62
Backhoe	Mobile	80	74	68	62
Compactor	Mobile	82	76	70	64
Concrete Mixer	Stationary	85	79	73	67
Dozer	Mobile	85	76	73	67
Generator	Stationary	82	76	70	64
Grader	Mobile	85	79	73	67
Jack Hammer	Mobile	88	82	76	70
Loader	Mobile	80	74	68	62
Paver	Mobile	85	79	73	67
Pneumatic Tool	Stationary	85	79	73	67
Roller	Mobile	85	79	73	67
Saw	Stationary	76	70	64	58
Truck	Mobile	84	78	72	66

Source: FTA 2018

Assumes a 6 dBA reduction per doubling of distance

In the Alameda County Code of Ordinances, Section 6.60.070.E exempts construction activity from the noise ordinance's standards provided that "said activities do not take place before seven a.m. or after seven p.m. on any day except Saturday or Sunday, or before eight a.m. or after five p.m. on Saturday or Sunday." Development standard 7.4.8(e) of the proposed Specific Plan would restrict construction activity in the Plan Area to the above daytime hours listed in the County's noise ordinance. Therefore, future construction activity in the Plan Area would be exempt from numeric standards in the noise ordinance.

During allowed daytime hours, however, construction activity would cause a substantial temporary increase in ambient noise levels. Table 20 estimates that temporary construction noise would reach at least 85 dBA L_{eq} at a distance of 50 feet from the source equipment. Noise measurements indicate existing ambient noise levels of 54 to 70 dBA during the day on D Street east of Maud Avenue, and 57.2 dBA L_{eq} during daytime hours in the Hayward Hills. Construction noise at noise-sensitive receptors could exceed these noise levels by at least 15 dBA L_{eq}.

Policy EH-4.5 in the Specific Plan states that "measures to reduce construction noise shall be required when approving development projects and/or issuing building permits." Implementation of this policy would reduce the exposure of sensitive receptors to construction noise. Nonetheless, because Policy EH-4.5 does not specify actions to reduce construction noise or provide performance standards for implementation, it is uncertain how effective it would be in practice. Therefore, the Specific Plan would have a potentially significant impact from a temporary increase in noise levels during construction activity.

Permanent Operational Noise

Future development in the Plan Area would result in long-term increases in noise from higher traffic volumes on roadways, additional noise-generating equipment operating in new developments, and delivery and hauling trucks serving new developments.

Traffic Noise

The proposed Specific Plan would not increase the allowed number of units on parcels in the Plan Area. The Plan maintains existing zoning but adds new development standards and policies for future projects in the Plan Area. Nonetheless, this analysis conservatively assumes an increase in 300 residential units in the Plan Area through 2040 compared to existing conditions. This growth would generate additional vehicle trips and resulting traffic noise. However, as discussed in Section 17, *Transportation*, additional trips would represent an incremental increase relative to existing traffic conditions. It would take approximately a doubling of traffic volume on a given roadway to cause a 3 dBA increase in traffic noise levels, which the Eden Area General Plan EIR identifies as a threshold for a significant impact where ambient noise exceeds a "normally acceptable" level of 60 dBA for residential uses. The expected increase in traffic volumes would not approach a doubling of existing volumes. Furthermore, the Specific Plan would not change existing zoning in a manner that would increase the existing development potential of the Plan Area and its associated vehicle trips. In fact, it is designed to maintain the existing low-density residential character of the community. Therefore, additional traffic would not result in a substantial long-term increase in ambient noise, and this impact would be less than significant.

Operational Noise

New residential development in the Plan Area would generate periodic operational noise from idling trucks and maintenance equipment. Idling trucks generate noise levels around 70 dBA Leq at 25 feet from the source for short durations of time (Salter 2014). Based on an attenuation rate of 6 dBA per doubling of distance, anticipated noise levels from delivery and hauling trucks at a distance of 50 feet would reach 64 dBA L_{eq}. New residential uses also would involve the operation of noise-generating maintenance equipment such as lawn mowers and edgers. However, noise from idling trucks and on-site maintenance equipment serving new residential development would be similar in nature and volume to existing noise in residential portions of the Plan Area. It would also be subject to existing standards in the County's noise ordinance to limit noise generated on non-commercial

properties, as shown in Table 18. Therefore, on-site operational noise would have a less than significant impact.

Mitigation Measures

The following mitigation measure is required.

N-1 Construction Noise Reduction Measures

The following development standard shall be added to the proposed Specific Plan:

> All construction within 200 feet of noise-sensitive land uses such as residences, schools, or convalescent homes, shall implement noise reduction measures including, but not limited to: mufflers on equipment, locating noise generating equipment away from sensitive receptors, using quieter air compressors, installing noise control blanket barriers around pile drivers to shield adjacent uses, and similar measures to reduce noise impacts.

Significance after Mitigation

Implementation of Mitigation Measure N-1 would require installation of appropriate intake and exhaust mufflers in good condition, locating stationary noise generating construction equipment as far from sensitive receptors as possible, utilizing noise control blankets and barriers where necessary, and pre-drilling of foundation pile holes. These measures would substantially reduce the exposure of sensitive receptors to construction noise. Further, construction-related noise would be temporary and intermittent in nature and would not result in long-term noise impacts. As discussed above, permanent operational noise would be less than significant. Therefore, the Specific Plan would have a less than significant impact from temporary or permanent increases in noise with mitigation incorporated.

LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED

b. Would the project result in generation of excessive groundborne vibration or groundborne noise levels?

Construction activity during future development in the Plan Area could generate groundborne vibration that would affect nearby noise-sensitive land uses, especially during grading, pavement breaking, and demolition activities. Table 21 estimates vibration velocity levels for the types of construction equipment that could operate within the Plan Area during construction, at a reference distance of 25 feet and at 50 feet from the source.

Table 21 Vibration Source Levels for Construction Equipment

Equipment	Approximate Vibration Level (VdB)	
	25 Feet from Source	50 Feet from Source
Large bulldozer	87	81
Loaded truck	86	80
Jack Hammer	79	73
Small bulldozer	58	52

Vibration levels assume an attenuation rate of 6 VdB per doubling of distance.

Source: FTA 2018

The primary vibratory source during construction within the Plan Area would likely be large bulldozers to demolish existing structures and loaded trucks. As shown in Table 21, typical bulldozer or loaded truck activities generate estimated vibration levels ranging from 58 to 87 Vdb at a distance of 25 feet. Vibration levels in excess of 75 VdB may result in annoyance and disturbance of human activities. As such, if existing and future residences are located 25 feet from potential future construction within the Plan Area, they may intermittently be disturbed by vibration. However, implementation of Mitigation Measure N-1 would restrict the timing of construction activities to daylight hours. Therefore, groundborne vibration generated by construction in the Plan Area would not exceed the Federal Transit Administration's criterion of 72 VdB during normal sleeping hours (i.e., evening and nighttime hours) and would not result in substantial disturbance of residents.

During allowed construction hours, however, institutional land uses with daytime activities that are sensitive to vibration may be exposed to vibration generated by new development in the Plan Area. These sensitive land uses include houses of worship and schools. It is conservatively assumed that construction could potentially occur on adjacent sites, generating vibration as close as 25 feet from these land uses. As shown in Table 21, vibration levels could reach an estimated 87 VdB at this distance, with the use of large bulldozers. These vibration levels would exceed the FTA guideline of 75 VdB at sensitive institutional land uses.

Estimated vibration levels approaching 87 VdB would not exceed the Federal Transit Administration's threshold of 94 VdB for potential damage of non-engineered timber and masonry buildings (FTA 2018), which are characteristic of single-family residential development in the Plan Area. Therefore, it is expected that vibration would not result in structural damage to buildings. Nonetheless, the possible exposure of sensitive institutional land uses to vibration during daytime hours would result in a potentially significant impact.

Mitigation Measures

The following mitigation measure is required.

N-2 Vibration Reduction Measures

The following development standard shall be added to the proposed Specific Plan:

> Vibration Reduction. New development that would involve construction activity in the Plan Area within 100 feet of institutional land uses that are sensitive to vibration, such as houses of

worship and schools, shall use the best available technology to reduce construction-related vibration on construction sites. Vibration levels shall not exceed the guidelines established by the Federal Transit Administration's *Transit Noise and Vibration Impact Assessment Manual* for annoyance. Applicants shall also coordinate with adjacent institutional land uses that are sensitive to vibration and schedule vibration-generating construction activities during less sensitive times of day.

Significance after Mitigation

Implementation of Mitigation Measure N-2 would reduce the exposure of institutional land uses to vibration to the extent feasible, avoiding vibratory activity during sensitive times of day and reducing vibration levels produced by heavy equipment. Therefore, this impact would be less than significant with mitigation incorporated.

LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED

c. For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?

There are no public airports or public use airports within two miles of the Plan Area. The nearest airport is Hayward Executive Airport (HWD), which is a reliever airport located approximately 2.5 miles west of the Plan Area. Therefore, the Plan Area is not located within the HWD Airport noise contours (Alameda County 2012), within an airport hazard zone or near a private airstrip. Implementation of the Specific Plan would not result in exposure to excessive noise for residents in the Plan Area. This impact would be less than significant.

LESS THAN SIGNIFICANT IMPACT

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14 Population and Housing

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
a. Induce substantial unplanned population growth in an area, either directly (e.g., by proposing new homes and businesses) or indirectly (e.g., through extension of roads or other infrastructure)?	☐	☐	■	☐
b. Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?	☐	☐	■	☐

Population and Housing Setting

Fairview has an estimated 10,568 residents and 3,567 households based on 2016 data. Almost 83 percent of the housing units in Fairview are single-family detached residences. About nine percent are townhomes and the remaining eight percent are multi-family units. The Specific Plan forecasts that Fairview will continue to experience strong demand for new single-family residences in the coming decades.

Based on the Housing Element of the Alameda County General Plan, the population of unincorporated Alameda County is forecasted to increase from an estimated population of 148,100 in 2020 to 155,900 by 2040, which is an increase of 7,800 persons (Alameda County 2015). According to the County's Housing Element, Fairview has an average of 2.83 persons per household (Alameda County 2015).

a. Would the project induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?

The proposed Specific Plan would not increase the allowed number of units on parcels in the Plan Area. The Plan maintains existing zoning but adds new development standards and policies for future projects in the Plan Area. Nonetheless, this analysis conservatively assumes an increase in 300 residential units in the Plan Area through 2040 compared to existing conditions. Based on the average of 2.83 persons per household, the addition of 300 residential units would generate an increase of approximately 850 residents between 2020 and 2040. Therefore, the population increase in the Plan Area through 2040 would account for approximately 10 percent of the forecasted increase of 7,800 persons and would be within the forecasted population for unincorporated Alameda County between 2020 and 2040. Furthermore, Fairview would continue to remain a residential community since the Specific Plan does not increase the land area zoned for commercial uses. Therefore, the updated Specific Plan would not generate population in excess of forecasts and impacts would be less than significant.

LESS THAN SIGNIFICANT IMPACT

b. Would the project displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?

While the proposed Specific Plan is a regulatory program with no direct physical effects, subsequent development in the Plan Area could include the demolition of existing housing units. An estimate of Fairview's residential development potential was made in 2014 as part of the Alameda County Housing Element Update. Figure 1-5 shows identified Housing Opportunity Sites, labeled from F1 to F52, which are locations where the County has determined that an opportunity exists to meet the regional need for new residences to serve the Bay Area's growing population. The updated Specific Plan could facilitate residential development on these vacant opportunity sites that would help meet regional needs. Therefore, the potential loss of housing units would be offset by up to 300 new housing units within the Plan Area and would not require the construction of additional housing elsewhere. Impacts related to displacement would be less than significant.

LESS THAN SIGNIFICANT IMPACT

15 Public Services

		Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a.	Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, or the need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:				
	1 Fire protection?	☐	☐	■	☐
	2 Police protection?	☐	☐	■	☐
	3 Schools?	☐	☐	■	☐
	4 Parks?	☐	☐	■	☐
	5 Other public facilities?	☐	☐	■	☐

Public Services Setting

Fire Protection

Fire and emergency medical services are provided by the Fairview Fire Protection District (FFPD), which presently contracts with the City of Hayward to deliver these services. The community's original fire station at 24200 Fairview Avenue is now used for equipment storage and training only. In 2001, a new Fairview Fire Protection District (FFPD) fire station (known as Station 8 and as the Fairview/ Five Canyons Fire Station) was constructed at 25862 Five Canyons Parkway. A City of Hayward fire station (Station 9) is also located within Fairview's boundaries, at 24912 Second Street. Both Stations 8 and 9 serve FFPD but may also respond to calls outside the District. Each station always has a minimum of three firefighters, with at least one also being an accredited paramedic. Stations 8 and 9 each have two fire engines, including one engine each with the capacity for fighting wildland fires. Back-up is provided by multiple stations in Hayward.

Police Protection

Law enforcement services are provided to Fairview by the Alameda County Sheriff's Office. The Sheriff's Office also operates County jails, the Coroner's Bureau, Animal Control, and other services that are provided to all Alameda County residents, including those in the incorporated cities.

Residents in unincorporated Alameda County pay a supplemental property tax to cover the service costs associated with day to day law enforcement activities. Services to Fairview residents are delivered from the Eden Township Substation located at 15001 Foothill Boulevard just east of San Leandro. Motor vehicle laws, including those relating to speeding and moving violations, are enforced by the California Highway Patrol (CHP).

Schools

Fairview is located within the Hayward Unified School District (HUSD). There are two K-6 elementary school campuses in the community: Fairview Elementary School and East Avenue Elementary School. Beyond 6th grade, Fairview public school students attend middle and high schools in the City of Hayward. In 2017-18, there were 597 students at Fairview Elementary and 576 students at East Avenue Elementary.

Parks and Recreation

The Plan Area contains 53 acres of local parkland and 95 acres of regional parkland. The local parks are managed by the Hayward Area Recreation District (HARD). HARD facilities include East Avenue Park and San Felipe Park, both of which include picnic areas, basketball courts, play equipment, and large lawns. San Felipe Park also includes a community center with meeting space, restrooms, and classrooms for recreation programs. The regional park acreage is associated with Don Castro Regional Park, which is managed by East Bay Regional Park District (EBRPD). Don Castro Regional Park is Fairview's largest park and includes a fishing lake, swimming lagoon, picnic areas, and hiking trails. Parks represent about eight percent of Fairview's land area.

Impact Analysis

a.1. Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered fire protection facilities, or the need for new or physically altered fire protection facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives?

Future growth in the Plan Area could result in an incremental and gradual increase in the demand for fire protection services in the Plan Area relative to existing conditions. To maintain the Plan Area's public services, the updated Specific Plan includes the following guiding goal, which is supported by specific policies and development standards in Chapter 8 (Community Services and Infrastructure) of the Plan:

Goal CS-3: Provide professional, responsive, and effective law enforcement, fire, and emergency medical services to Fairview residents.

According to Policy CS-3.4 under Goal CS-3, Fairview's fire and emergency response staffing levels and facilities shall be adequate to meet existing and projected needs. Furthermore, as discussed under impact discussions (a.2) of Section 7, *Geology and Soils*, and (g) of Section 9, *Hazards and Hazardous Materials*, the updated Specific Plan includes Goal EH-1, which aims to minimize risks from natural hazards, including wildfires. According to Policy EH-1.1 under Goal EH-1, all California and County Building Code, Fire Code, and Subdivision Code requirements related to wildfires shall be enforced. Furthermore, policies EH-1.7 through EH-1.10 of the updated Specific Plan specify actions to further reduce wildfire risks. The updated Specific Plan would also include development

standards associated with wildfire prevention and response to protect against wildfire risks in support of Goal EH-1 and related policies. These standards would be applicable to future development on a case-by-case basis and address fire protection plan requirements, fire department reviews, interdepartmental coordination between various County departments, adequacy of fire-fighting capacity, private street standards, and emergency access requirements for hillside areas. Overall, implementation of the proposed Specific Plan would not result in unacceptable response times or other performance objectives such that new or expanded fire protection facilities, the construction of which could cause significant environmental impacts. Therefore, impacts associated with fire protection services would be less than significant.

LESS THAN SIGNIFICANT IMPACT

a.2. Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered police protection facilities, or the need for new or physically altered police protection facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives?

Future growth in the Plan Area could result in the need for additional police protections services. As discussed under impact discussion (a.1) of this section, the updated Specific Plan includes Goal CS-3 in Chapter 8 (Community Services and Infrastructure), which aims to provide responsive and effective law enforcement. The following policies specify actions to support Goal CS-3 and maintain adequate police protection services:

Policy CS-3.1: Strive to continuously improve performance and efficiency in the Alameda County Sheriff's Office.

Policy CS-3.2: Maintain law enforcement staffing, performance levels, and County Sheriff's Department facilities that adequately serve Fairview's existing and projected future population. Standards for Fairview should meet or exceed the standards adopted by incorporated cities in Alameda County.

Policy CS-3.3: Provide neighborhood security and crime prevention information and training to citizens, neighborhood groups, and homeowners associations, and work with the community in establishing Neighborhood Watch and other crime prevention programs.

The updated Specific Plan would also include development standards support of Goal CS-3 related to facility improvements, staffing, and development review. These standards would be applicable to future development in the Plan Area on a case-by-case basis and would address potential impacts to police protection services. Overall, implementation of the proposed Specific Plan would not result in unacceptable service ratios or other performance objectives such that new or expanded police protection facilities, the construction of which could cause significant environmental impacts. Therefore, impacts associated with police protection services in the Plan Area would be less than significant.

LESS THAN SIGNIFICANT IMPACT

a.3. Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered schools, or the need for new or physically altered schools, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios or other performance objectives?

According to the student generation rates in Table 6-2 of the Fairview Background Report, assuming 300 additional single-family residences are built in the Plan Area, approximately an additional 43 elementary, ten middle, and 15 high-school aged children could reside in the Plan Area.

According to HUSD forecasts, enrollment at Fairview Elementary is projected to increase by 23 percent over the next seven years while enrollment at East Avenue Elementary is projected to decline by 12.9 percent. Nonetheless, overall, HUSD schools have seen a slight decline in enrollment and are anticipated to have capacity to serve additional students (Barry Miller Consulting 2017).

To maintain the Plan Area's public services, the updated Specific Plan includes the following guiding goal, which is supported by specific policies and development standards in Chapter 8 (Community Services and Infrastructure) of the Plan:

Goal CS-2: Provide safe, modern, well-maintained schools and community facilities that meet the educational, civic, social needs of Fairview residents.

Supportive policies under Goal CS-2 address interdepartmental coordination with HUSD to provide quality and safe school campuses and educational services that are available to all students in the Plan Area.

In addition, Alameda County collects an impact fee on new development that is used to support school facility improvements. The fee is $2.97 per square foot for residential development. Pursuant to Senate Bill 50 (Section 65995(h)), payment of mandatory fees to the affected school district would reduce potential school impacts to a less than significant level under CEQA. Therefore, the proposed project would have a less than significant impact with respect to schools. The project would not result in the need for new or physically altered schools, the construction of which could cause significant environmental impacts. Impacts associated with school facilities in the Plan Area would be less than significant.

LESS THAN SIGNIFICANT IMPACT

a.4. Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered parks, or the need for new or physically altered parks, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios or other performance objectives?

The proposed Specific Plan does not include projects, goals, policies, or programs that would directly impact park or recreational facilities in the Plan Area. The addition of 300 residential units in the Plan Area could have indirect effects by increasing the demand for park and recreational facilities.

Based on Fairview's estimated population of 10,568 residents (see Section 14, *Population and Housing*), there are approximately 14 acres of parkland per 1,000 residents. When the regional parkland is excluded, the ratio drops to approximately five acres per 1,000 residents. HARD has adopted benchmarks for determining the adequacy of park acreage in its service area. The service standard indicates that the cumulative total of local parks, school parks, and district parks should be at least five acres per 1,000 residents and ideally nine acres per 1,000 residents.

As discussed under Section 14, *Population and Housing*, the addition of 300 residential units in the Plan Area would generate an increase of approximately 850 residents between 2020 and 2040. This increase in population would decrease the parkland ratio to approximately 4.6 acres of parkland per 1,000 residents with regional parkland excluded, or to 13.0 acres of parkland per 1,000 residents with regional parkland included.

To maintain the Plan Area's public services, the updated Specific Plan includes the following guiding goal in Chapter 8 (Community Services and Infrastructure) of the Plan:

Goal CS-1: Provide a full range of park and recreational facilities that benefit Fairview residents of all ages and abilities.

Supportive policies and development standards specify actions to support Goal CS-1 and maintain adequate parkland and service ratios, identify expansion opportunities for parks and recreational resources, improve access to school facilities, provide new parks in development areas, and develop more trails that connect Fairview to the regional trail network. Overall, because residents in the Plan Area would continue to have access to the adequate park facilities, the proposed Specific Plan would not result in the need for new or physically altered parks, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios or other performance objectives. Impacts would be less than significant.

LESS THAN SIGNIFICANT IMPACT

a.5. Would the project result in substantial adverse physical impacts associated with the provision of other new or physically altered public facilities, or the need for other new or physically altered public facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives?

The proposed Specific Plan would not increase the allowed number of units on any parcel. The Plan maintains existing zoning but adds new development standards and policies for future projects in the Plan Area. This analysis conservatively assumes an increase in 300 residential units in the Plan Area through 2040 compared to existing conditions, but overall the proposed Specific Plan would not induce population growth to the extent that new or altered public facilities would be required, as discussed in this section. While minor, incremental increases in additional maintenance of public facilities may result, no new or expanded facilities would be required. Furthermore, the updated Specific Plan would include goals, policies, and development standards that would help address minor, incremental maintenance needs that may be attributable to the updated Specific Plan. Overall, the proposed Specific Plan would not result in the need for new or physically altered public facilities, the construction of which would cause significant environmental impacts. Impacts would be less than significant.

LESS THAN SIGNIFICANT IMPACT

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16 Recreation

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a. Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	☐	☐	■	☐
b. Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	☐	☐	■	☐

Recreation Setting

Please see the setting information for parks and recreation in Section 15, *Public Services,* above.

Impact Analysis

a. *Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?*

b. *Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?*

The proposed Specific Plan does not include the development of specific recreational facilities. Chapter 8 (Community Services and Infrastructure) of the updated Specific Plan would include development standards to protect Fairview's natural features in support of Goal CS-1, which aims to provide a full range of park and recreational facilities for Fairview residents. These supportive policies and development standards specify actions to maintain adequate parkland and service ratios, identify expansion opportunities for parks and recreational resources, and develop more trails that connect Fairview to the regional trail network. These policies and standards would be applicable throughout the span of the updated Specific Plan. Overall, the proposed Specific Plan would not increase the use of parks or require the construction or expansion of new parks such that a significant environmental impact would occur. Therefore, impacts would be less than significant.

LESS THAN SIGNIFICANT IMPACT

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17 Transportation

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
a. Conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?	☐	☐	■	☐
b. Conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?	☐	☐	■	☐
c. Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible use (e.g., farm equipment)?	☐	☐	■	☐
d. Result in inadequate emergency access?	☐	☐	■	☐

Transportation Setting

The County's Fairview Specific Plan Background Report for Planning and Environmental Review, prepared in December 2017, provides a comprehensive discussion of the transportation and circ`ulation conditions in the Plan Area for motor vehicles, transit, bicyclists, and pedestrians (Barry Miller 2017). As discussed in the Background Report, the Plan Area includes the following major streets that connect to adjacent jurisdictions:

- *D Street* is a two-lane east-west local street, with a posted 30 mph speed limit that provides access to the City of Hayward to the west and dead ends within Fairview.
- *Fairview Avenue* is a two-lane east-west local street with a posted 30 mph speed limit that extends from D Street within the community and provides connections to Five Canyons Parkway and to the City of Hayward at the southeast boundary of Fairview. Both connections are via roundabouts.
- *Kelly Street* is a two-lane east-west local street with a posted 25 mph speed limit (and 30 mph speed limit on its eastern end) that provides access to the City of Hayward to the west and dead ends within Fairview.
- *East Avenue* is a two-lane east-west local street with a posted 25 mph speed limit that provides access to the City of Hayward to the west at the East Avenue/E Street intersection.

In addition, the following major streets in Fairview do not provide connections to adjacent communities (Barry Miller 2017):

- *Maud Avenue* is a two-lane local street within Fairview with a posted 30 mph speed limit that runs from Kelly Street to D Street and provides access to Fairview Elementary School.

- *Hansen Road* is a two-lane north-south local street with a posted 30 mph speed limit that runs between East Avenue and Fairview Avenue and providing access to East Avenue Elementary School.

Table 22 shows the existing and projected future level of service (LOS) at key intersections in and near the boundary of Fairview. Level of service is a measurement of automobile delay at intersections or roadways, and essentially rates how well traffic moves during peak traffic hours.

Table 22 Intersection Level of Service Summary

Intersection	Control	Existing A.M. LOS	Future Year A.M. LOS	Existing P.M. LOS	Future Year P.M. LOS
B Street/Center Street/Kelly Street[1]	Signalized	C (28.5)	D (40.0)	C (23.3)	C (28.3)
Kelly Street/Maud Avenue[1]	Signalized	C (22.4)	C (31.2)	B (10.5)	B (11.4)
Hansen Road/Fairview Avenue[1]	Roundabout	A (6.0)	A (6.5)	A (5.8)	A (6.5)
D Street/Maud Avenue[1]	All-way Stop Control	B (13.9)	B (22.6)	B (12.6)	B (18.0)
Center Street/Grove Way[2]	Signalized	D (48.0)	D (49.3)	D (51.7)	E (58.8)

[1] Future year is 2027.

[2] Future year is 2025.

Source: Barry Miller 2017

Key findings from the Background Report on existing deficiencies in Fairview's transportation network include (Barry Miller Consulting 2017):

- **Few direct connections:** Fairview's street network consists largely of circuitous, low-speed streets. As a result, most trips in Fairview can be expected to begin or end within the community.
- **Sidewalk gaps:** Fairview does not feature a complete network of sidewalks. The 2012 Alameda County Bicycle and Pedestrian Master Plan for Unincorporated Areas identified several gaps in sidewalks near sites that naturally attract pedestrians, such as schools. While some gaps have been filled, access could be improved by completing the network of sidewalks along main streets.
- **Uninviting bicycling conditions:** Most streets in Fairview lack bicycle lanes, wide shoulders, or other provisions, creating conditions uninviting to the general population of possible riders. Traffic calming management could reduce the speed difference between drivers and bicyclists, or other bicycle-friendly design may encourage more bicycling activity.
- **Excessive vehicle speeds:** Excessive speeds are a concern in Fairview, and data collection from 2012 confirms high 85th percentile speeds along roads with low posted speed limits (25 or 30 miles per hour). The Alameda County Traffic Calming program could help the community to identify priority streets to calm traffic and engage in the County with techniques to manage speeds.

Impact Analysis

a. Would the project conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?

b. Would the project conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?

Transit Facilities

Current options for transit users are limited in Fairview (Barry Miller 2017). Four AC Transit bus lines provide service through or along the boundary of Fairview to the Hayward BART Station. New residential units in the Plan Area would incrementally increase demand for transit service in the Plan Area. However, Policy T-2.9 in the Specific Plan would have the County "work with AC Transit to increase service frequency and extend hours of operation on its routes in Fairview," providing access to both the Hayward and Castro Valley BART stations with minimal transfers and waiting times. Implementation of this policy, with the support of AC Transit, would improve existing transit conditions for people in Fairview. Therefore, the Specific Plan would not conflict with a program, plan, or policies for transit facilities.

Roadway Facilities

CEQA Guidelines Section 15064.3(b) identifies criteria for evaluating impacts related to roadway facilities, using the metric of vehicle miles traveled (VMT). Section 15064.3(c) states that the requirement to use these criteria only applies on and after July 1, 2020. Although a lead agency may elect to apply the criteria in Section 15064.3(b) sooner, the County of Alameda has not adopted these criteria as of the date of this Initial Study. Therefore, this section does not apply to the proposed Specific Plan or the analysis in this Initial Study.

Current policy in the 1997 Fairview Specific Plan is to maintain LOS C in the Plan Area, except for a standard of LOS D at the intersection of Kelly, B, and Center streets. This signalized intersection is located just outside the Fairview boundary. The proposed Specific Plan continues to maintain LOS C as the standard for monitoring road performance. As shown in Table 22, existing conditions at key intersections in and near the boundary of Fairview meet these standards for traffic flow, except that the Center Street / Grove Way intersection is operating at LOS D during A.M. and P.M. peak hours, which exceeds the applicable standard of LOS C. By the year 2025, it is projected that this exceedance will worsen, with traffic conditions at the intersection degrading to LOS E during P.M. peak hours.

The proposed Specific Plan would not increase the allowed number of units on any parcel. The Plan maintains existing zoning but adds new development standards and policies for future projects in the Plan Area. Nonetheless, this analysis conservatively assumes an increase in 300 residential units in the Plan Area through 2040 compared to existing conditions. The addition of 300 units to the Plan Area would generate more vehicle trips on roadways. Based on the trip generation rates for single-family residences (ITE code 210) published by the Institute of Transportation Engineers, 9th edition, 300 new residential units would generate an estimated 225 A.M. peak hour trips and 300 P.M. peak hour trips. Without improvements to traffic flow in the circulation system, these trips would contribute to existing exceedances of LOS standards in Fairview. However, the Specific Plan proposes that the County "monitor traffic volumes and congestion levels and will pursue improvements as needed so that service levels do not deteriorate substantially below Level of Service 'C.'" This policy is designed to monitor traffic conditions such that significant traffic

congestion in the Plan Area does not occur over time, such that the proposed Specific Plan would not conflict with a program, plan, or policies for roadway facilities. Further, as mentioned previously, the addition of 300 units to the Plan Area could occur with or without implementation of the proposed Specific Plan.

Bicycle and Pedestrian Facilities

As discussed above, existing bicycle facilities in Fairview are uninviting because most streets lack bicycle lanes, wide shoulders, or other provisions. In addition, there are gaps in Fairview's sidewalk network near sites that naturally attract pedestrians. To address these deficiencies, the Specific Plan incorporates specific improvements previously included and analyzed in the Alameda County Bicycle and Pedestrian Master Plan (BPMP). Proposed bicycle lanes listed in the Specific Plan would be located on the following road segments, as outlined in the BPMP:

- D Street on both sides of the street from the Hayward city limits to Maud Avenue.
- Fairview Avenue from Maud Avenue to Hayward border.
- Kelly Street from the Hayward city limits to the Woodroe/Maud intersection.

Policy T-2.4 in the Specific Plan identifies several priority areas for installing or improving sidewalks, consistent with the Alameda County BPMP. These include, but are not limited to, areas near schools and parks, and areas with a high level of pedestrian collisions. The Specific Plan proposes the following specific pedestrian improvements:

- Completion of Safe Routes to School improvements at East Avenue Elementary School.
- Crosswalks and pedestrian safety improvements in the vicinity of Sulfur Creek Nature Center and San Felipe Park.
- Pedestrian pathway improvements (sidewalk or gravel path) along Fairview Avenue adjacent to Lone Tree Cemetery and between the Cemetery and the Five Canyons roundabout.
- Sidewalk construction along East Avenue from the Hayward city limits to East Avenue Park, to close gaps and create a continuous sidewalk.
- Sidewalk construction along D Street from the Hayward city limits to Fairview Avenue, to close gaps and create a continuous sidewalk.

By implementing the bicycle and pedestrian facilities listed above, the Specific Plan would improve existing conditions in Fairview and would not conflict with a program, plan, or policies for such facilities. This impact would be less than significant.

LESS THAN SIGNIFICANT IMPACT

c. Would the project substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible use (e.g., farm equipment)?

Under Policy T-3.2, the proposed Specific Plan would introduce "a variety of traffic calming methods, consistent with Alameda County engineering standards and Neighborhood Traffic Calming Program procedures, …to reduce speeding and other traffic violations on neighborhood streets." Traffic calming features would be intended to resolve existing safety hazards associated with documented speeding behavior by motorists in Fairview. Because these features would be designed in accordance with appropriate engineering standards and procedures, they would not increase hazards due to a geometric design feature. The Specific Plan also would not introduce incompatible uses such as farm equipment. Agricultural uses and equipment already occur in the Plan Area and

would not be introduced under the Specific Plan. Therefore, this impact on transportation hazards would be less than significant.

LESS THAN SIGNIFICANT IMPACT

d. Would the project result in inadequate emergency access?

Policies in the proposed Specific Plan would preserve emergency access on existing roadway facilities and would require that new subdivisions be designed for adequate access. Policy T-3.4 would require that the Alameda County Sherriff's Office and the Fairview/Alameda County Fire Protection District Department review and approve traffic calming or road modification proposals to provide for adequate emergency vehicle access. Additionally, Policy T-4.2 requires that streets in new subdivisions be designed for adequate emergency vehicle access and turning radius requirements. Furthermore, Policy T-2.8 requires that the County consider road diets where supported by emergency services personnel. These policies are designed so that implementation of the Specific Plan would not result in inadequate emergency access in Fairview. This impact would be less than significant.

LESS THAN SIGNIFICANT IMPACT

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18 Tribal Cultural Resources

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in a Public Resources Code Section 21074 as either a site, feature, place, or cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:				
a. Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code Section 5020.1(k), or	☐	■	☐	☐
b. A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.	☐	■	☐	☐

Tribal Cultural Resources Setting

As of July 1, 2015, California Assembly Bill 52 of 2014 (AB 52) was enacted and expands CEQA by defining a new resource category, "tribal cultural resources." AB 52 establishes that "A project with an effect that may cause a substantial adverse change in the significance of a tribal cultural resource is a project that may have a significant effect on the environment" (Public Resource Code [PRC] Section 21084.2). It further states that the lead agency shall establish measures to avoid impacts that would alter the significant characteristics of a tribal cultural resource, when feasible (PRC Section 21084.3).

PRC Section 21074 (a)(1)(A) and (B) defines tribal cultural resources as "sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American tribe" and is:

1. Listed or eligible for listing in the California Register of Historical Resources (CRHR) or in a local register of historical resources as defined in PRC section 5020.1(k), or
2. A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of PRC Section

5024.1. In applying these criteria, the lead agency shall consider the significance of the resource to a California Native American tribe.

AB 52 also establishes a formal consultation process for California tribes regarding those resources. The consultation process must be completed before a CEQA document can be certified or adopted. Under AB 52, lead agencies are required to "begin consultation with a California Native American tribe that is traditionally and culturally affiliated with the geographic area of the proposed project." Native American tribes to be included in the process are those that have requested notice of projects proposed within the jurisdiction of the lead agency.

The consultation process for the Fairview Specific Plan was initiated in November 2017. A list of six tribal contacts was provided by the Native American Heritage Commission (NAHC) in December 2018. Letters describing the project were sent to each contact were sent on December 6, 2017. One response was received. A second set of letters was sent following publication of the Public Review Draft Initial Study/ Mitigated Negative Declaration.

Impact Analysis

a. *Would the project cause a substantial adverse change in the significance of a tribal cultural resource as defined in Public Resources Code Section 21074 that is listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code Section 5020.1(k)?*

b. Would the project cause a substantial adverse change in the significance of a tribal cultural resource as defined in Public Resources Code 21074 that is a resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1?

Fairview is situated within the historic territory of the Costanoan Indians (also known as the Ohlone). Upland areas near creeks were favored for habitation, as were areas along the shoreline of San Francisco Bay. The nearest known settlement to Fairview was near the mouth of San Lorenzo Creek, several miles to the west of the Plan Area. While there are no known Native American sites in Fairview, resources have been discovered in the vicinity on ridges, terraces, and near water courses such as San Lorenzo, Cull, and Crow Creeks.

Actual effects to tribal cultural resources are known only when an individual project is proposed because those effects depend highly on both the individual project site conditions and the characteristics of the proposed ground-disturbing activity. Because approximately 20 percent of Fairview consists of undeveloped vacant land or formally designated open space, ground-disturbing activities associated with development in the Plan Area could affect previously undiscovered tribal cultural resources that may be present on or below the ground surface. Mitigation Measure TCR-1 identified below would reduce impacts on unidentified tribal cultural resources to a less than significant level.

Mitigation Measure

TCR-1 Unanticipated Discovery of Tribal Cultural Resources

The following development standard shall be added to the proposed Specific Plan:

Tribal Cultural Resources Protection. For new development that involves grading or excavation below the previous level of disturbance, in the event that cultural resources of Native American

origin are identified during construction, all earth-disturbing work in the vicinity of the find must be temporarily suspended or redirected until an archaeologist has evaluated the nature and significance of the find as a cultural resource in accordance with Mitigation Measure CR-2 and an appropriate Native American representative, based on the nature of the find, is consulted. If, in consultation with local Native Americans, it is determined that the resource is a tribal cultural resource and thus significant under CEQA, a mitigation plan shall be prepared and implemented in accordance with state guidelines and in consultation with Native American groups. The plan would include avoidance of the resource or, if avoidance of the resource is infeasible, the plan would outline the appropriate treatment of the resource in coordination with the archeologist, if applicable, and the appropriate Native American tribal representative.

Significance after Mitigation

Implementation of Mitigation Measure TCR-1 would ensure that tribal cultural resources are identified properly and preserved in the event they are uncovered during construction associated with implementation of the proposed Specific Plan and would reduce impacts regarding disrupting tribal cultural resources to a less than significant level.

LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED

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19 Utilities and Service Systems

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
a. Require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?	☐	☐	■	☐
b. Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?	☐	☐	■	☐
c. Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	☐	☐	■	☐
d. Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?	☐	☐	■	☐
e. Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?	☐	☐	■	☐

Utilities Setting

Water Supply Setting

Most of the Plan Area is located within EBMUD's water service area. About 10 percent of the parcels in the Plan Area receive water from the City of Hayward. This area is comprised primarily of rural residences on large lots and has very limited development potential. For the EBMUD customers, water supply would be provided by EBMUD using existing sources as well as existing storage and distribution facilities. EBMUD operates under a Water Supply Management Program (WSMP) and an Urban Water Management Plan, which project water supply requirements within their service area through the year 2040, as well as water supply availability and the reliability of existing and

potential water sources through the year 2040 (EBMUD 2016). The WSMP also assesses potential supplemental water supplies available to the area, and how development of supplemental sources could affect overall supply reliability. The Plan Area is located within the area assessed in EBMUD's WSMP and UWMP, and therefore the WSMP and UWMP are used for the purposes of this analysis, to characterize potential water supply effects associated with future development in the Plan Area.

Table 23 provides water demand and supply projections included in EBMUD's 2015 UWMP, including projections made over a period of 25 years and with consideration to varying climatic (drought) scenarios.

Table 23 Preliminary EBMUD Baseline Supply and Demand Analysis

	2015	2020	2025	2030	2035	2040
Normal Year						
Mokelumne System	>190	>217	>218	>222	>229	>230
Demand Totals	190	217	218	222	229	230
Difference	0	0	0	0	0	0
Single Dry Year or First Year of Multi-Year Drought						
Mokelumne System	145	169	170	173	179	179
CVP Supplies[2]	36	35	35	35	35	35
Bayside[3]	0	0	0	0	0	0
Supply Totals	181	204	205	209	214	215
Planning Level Demand[1]	190	217	218	222	229	230
Rationing[4]	5%	6%	6%	6%	7%	7%
Demand Totals	180	203	204	208	213	214
Need for Water (TAF) [5]	0	0	0	0	0	0
Second Year of Multi-Year Drought						
Mokelumne System	81	103	103	107	112	113
CVP Supplies[2]	71	71	71	71	71	71
Bayside[3]	0	0	0	0	0	0
Supply Totals	152	174	174	178	183	184
Planning Level Demand[1]	190	217	218	222	229	230
Rationing[4]	20%	20%	20%	20%	20%	20%
Demand Totals	152	174	175	178	184	185
Need for Water (TAF) [5]	0	0	0	0	0	0
Third Year of Multi-Year Drought						
Mokelumne System	111	132	132	125	120	104
CVP Supplies[2]	40	40	40	40	40	40
Bayside[3]	1	1	1	1	1	1
Supply Totals	152	174	173	166	162	145
Planning Level Demand[1]	190	217	218	222	229	230
Rationing[4]	20%	20%	20%	20%	20%	20%
Demand Totals	152	174	174	178	183	184
Need for Water (TAF) [5]	0	0	2	13	24	48

[1] Planning Level Demand accounts for projected savings from water recycling and conservation programs as discussed in the 2015 UWMP, Chapters 6 and 7, respectively. Customer demand values are based on the Mid Cycle Demand Assessment, October 2014.

[2] Projected available CVP supplies are taken according to the Drought Management Program Guidelines discussed in Chapter 3.

[3] For the purposes of this modeling effort, it is assumed that the Bayside Groundwater Project would be brought online in the third year of a drought.

[4] Rationing reduction goals are determined according to projected system storage levels in the Drought Management Program Guidelines discussed in the 2015 UWMP, Chapter 3.

[5] Need for Water includes unmet customer demand as well as shortages on the Lower Mokelumne River.

Source: EBMUD 2016

Wastewater Setting

The Oro Loma Sanitary District (OLSD) provides wastewater collection and treatment services to over 90 percent of Fairview households. The remaining 10 percent, encompassing the southeastern part of the Planning Area, are served by private septic systems. The Oro Loma wastewater collection system serves multiple communities, including Fairview, San Lorenzo, Ashland, Cherryland, Castro Valley, and parts of San Leandro and Hayward. The Sanitary District was formed in 1911 and today serves 114,000 residents and 1,200 commercial and industrial users in an area of roughly 13 square miles. The system includes approximately 273 miles of sanitary sewer lines, 6,015 manholes, more than 60 special structures, 13 lift stations, and several inverted siphons. Ten of the district's lift stations are located in Fairview.

Most of the sewer lines in Fairview are six-inch vitrified clay pipes. These lines are prone to infiltration and outflow during heavy rains, increasing water flow to the treatment plant as well as the risk of pollution to local creeks. Oro Loma is systematically upgrading its sanitary sewer lines to address this issue. Sewer-line replacement projects in the Fairview area are ongoing and will continue into the future.

Wastewater is transported to a Water Pollution Control Plant located at the west end of Grant Road in San Lorenzo. The plant is jointly owned by Oro Loma and the Castro Valley Sanitary District (CVSan). CVSan reimburses Oro Loma for operations and maintenance costs based on its contributory flows (about 27 percent), and 25 percent for capital costs, based on its ownership interest. Wastewater collected by the OLSD system is directed through the OLSD Wastewater Treatment Plant, for treatment prior to discharge. In 2007, OLSD completed the Wastewater Treatment Plant Capacity Restoration Project, which upgraded the plant permitted capacity of 20 million gallons per day and treats an average dry weather flow of 12.4 million gallons per day (OLSD 2020). The District projects that population growth will increase average flows to 15.4 mgd by 2020. The OLSD Wastewater Treatment Plan is maintained and operated per guidance provided in the Sewer System Management Plan (SSMP), which provides direction for maintenance, repairs, rehabilitation, and funding, as well as for hydraulic modeling to use in system design planning, capacity studies to anticipate where and how system improvements are needed, and contingency plans for emergency response (OLSD 2019).

Impact Analysis

a. *Would the project require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?*

While the Specific Plan may require the extension of water and sewer infrastructure, these impacts would be dealt with on a project by project basis as the Specific Plan is built out. New development would be required to comply with relevant Oro Loma Sanitary District ordinances, by eliminating wet-weather infiltration and inflow to private sewer laterals, which would reduce wastewater flow in the sanitary sewer system. However, the construction of new or expanded sewer mains may be necessary to accommodate additional wastewater flow in the Plan Area. The precise sizing of new wastewater conveyance pipes would be determined at the time of installation and would be subject to the approval of the County to ensure that the system would be adequate. Construction of wastewater conveyance pipes would generally occur within developed areas, such as street corridors, that already contain underground infrastructure for utilities. General impacts associated with construction of future development in the Plan Area are discussed throughout this EIR.

The updated Specific Plan contains Goal CS-4, which aims to ensure that water, sanitary sewer, storm drainage, and solid waste services are provided to Fairview residents in an efficient, environmentally responsible, financially sound manner, as well as Policy CS-4.2 and Policy CS-4.3, which include coordination with water and sewer service providers to ensure they continue to have available capacity to serve present and future residents, and limits development approval to only projects for which it is determined that water supply and distribution facilities, as well as wastewater collection and treatment facilities, are sufficient to serve the project, as determined by the service provider. Additionally, infrastructure projects would be required to comply with Policy CS-4.5, which would coordinate infrastructure projects among service providers to minimize costs, disruption of traffic, and disturbance to neighbors. With implementation of Specific Plan goals and policies, new development associated with the Specific Plan would have adequate infrastructure systems to serve future planned development in the Plan Area.

As discussed in Section 10, *Hydrology and Water Quality*, residential development in the Plan Area would increase the amount of impervious surface on-site. However, according to Policy CD-4.8 of Chapter 8, Community Services and Infrastructure, of the updated Specific Plan, new development shall be designed to reduce impervious surfaces and take other measures that reduce runoff, which would generally maintain existing groundwater recharge at the site. Impacts would be less than significant.

While the Specific Plan may require the extension of electric power, natural gas, and telecommunications facilities, these impacts would be dealt with on a project by project basis as the Specific Plan is built out. Impacts would be less than significant.

LESS THAN SIGNIFICANT IMPACT

b. Would the project have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?

As described above in the *Water Supply* setting, most of the Plan Area is served by EBMUD. Although the proposed Specific Plan does not change existing zoning, as described in the Project Description, Table 24 shows the estimated water demand associated with future growth in the Plan Area.

Table 24 Estimated Water Demand

Use	Plan Area Growth		Average Water Demand Factor	Average Daily Water Demand (gallons per day)
	Quantity	Unit		
Apartment: Low-Rise[1]	850	persons	70 gallons per person	59,500
Total				**59,500**

[1] Flowrate factors are based on reference material provided by EBMUD. No single-family residential water demand factors provided; therefore, this assumes low-rise apartment. Water use factors are 70 gallons per day per person for low-rise apartments; assuming 850 new residents (see Section 14, *Population and Housing*)

As shown in Table 23, EBMUD anticipates having an adequate water supply to meet demand in its service area, except during the third year of a multi-year drought starting around 2025 or later. During multi-year drought, EBMUD may require substantial reductions in water use by customers and, as discussed below, may also need to acquire supplemental supplies to meet demand.

EBMUD's system storage generally allows EBMUD to continue serving its customers during dry-year events. EBMUD typically imposes water use restrictions based on the projected storage available at the end of September and, based on recent changes to its Demand Management Plan (DMP) Guidelines, may also implement water restrictions in response to a State of California mandate. By imposing water restrictions in the first dry year of potential drought periods, EBMUD attempts to minimize water use restrictions in subsequent years if a drought persists. Throughout dry periods, EBMUD must continue to meet its current and subsequent-year fishery flow release requirements and obligations to downstream agencies.

The UMWP 2015 includes DMP Guidelines that establish the level of water use restrictions EBMUD may implement under varying conditions. Under DMP Guidelines, water use restrictions may be determined based upon either projected end-of-September Total System Storage (TSS) or water use restriction mandates from the SWRCB. When State-mandated water use restrictions exceed the reductions that would otherwise be called for based upon end-of-September TSS, EBMUD's water use reduction requirements may be guided by the applicable State mandates. Under either scenario, while EBMUD strives to keep water use reductions at or below 15 percent, if the drought is severe, mandatory water use reductions could exceed 15 percent. New development in the Plan Area would be subject to the same drought restrictions that apply to all EBMUD customers.

EBMUD also is developing the Bayside Groundwater Project to provide a source of supplemental supply in dry years. Other potential supplemental water projects include northern California water transfers and the expansion of Contra Costa Water District's Los Vaqueros Reservoir to meet the projected long-term water supplemental need during multi-year drought periods. The Los Vaqueros Reservoir, located in Contra Costa County to the northwest of Altamont Pass, is surrounded by natural open space in the Los Vaqueros watershed (Contra Costa Water District 2018). In addition to supplemental water projects, EBMUD maximizes resources through continuous improvements in

the delivery and transmission of available water supplies and investments in ensuring the safety of its existing water supply facilities to ensure a reliable water supply to meet projected demands for current and future EBMUD customers within the service area.

New development would be subject to the California Code of Regulations concerning water-efficient landscapes (Division 2, Title 23, CCR, Chapter 2.7, Sections 490 through 495) and to the Water Conservation Act of 2009, as well as the Landscape Water Conservation Guidelines adopted by the Alameda County Board of Supervisors. The Water Conservation Act of 2009 sets an overall goal of reducing per capita urban water use by 20 percent by December 31, 2020. The updated Specific Plan also includes Policy CS-4.4 to support the efficient use of water through conservation, drought-resistant landscaping, rain gardens, and rainwater retention facilities, as well as the use of graywater or reclaimed water for irrigation, as well as development standards in Section 8.4.5 Water Services, which includes water conservation practices to reduce potable water consumption.

Implementation of goals and policies in the proposed Specific Plan would encourage water conservation for new development and in proposed open space areas. Furthermore, new development would be subject to other green building and water conservation requirements. Therefore, there are sufficient water supplies available to serve the proposed Specific Plan; impacts related to water supply would be less than significant.

LESS THAN SIGNIFICANT IMPACT

c. Would the project result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?

Although the proposed Specific Plan does not change existing zoning, as described in the Project Description, Table 25 estimates the additional wastewater flow from an estimated 300 additional housing units in the Plan Area through 2040.

Table 25 Estimated Wastewater Generation

Use	Plan Area Growth	Average Wastewater Demand[1]	Expected Wastewater Generation Gallons/Day
Apartment: Low-Rise	300 dwelling unit	158.7 gpd/unit	47,600
Total			**47,600**

[1] Assumes wastewater is 80 percent of water use shown in Table 24.

Note: numbers may not add up due to rounding.
gpd = gallons per day

As shown in Table 25, the addition of 300 residential units in the Plan Area would generate up to an additional 39,360 gpd, which accounts for less than 0.04 percent of the OLSD's remaining wastewater treatment capacity. The plant's existing wastewater treatment capacity would be sufficient to accommodate the anticipated future residential development in the Plan Area. Therefore, future growth in the Plan Area would not result in the need to expand the capacity of the treatment plant.

LESS THAN SIGNIFICANT IMPACT

d. Would the project generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?

e. Would the project comply with federal, state, and local management and reduction statutes and regulations related to solid waste?

CalRecycle estimates that multi-family residential uses generate an average of four pounds of solid waste per unit per day (Cal Recycle 2018a). As shown in Table 26, prior to implementation of recycling programs or State-mandated diversion requirements, the addition of 300 residential units in the Plan Area would generate an estimated 1,200 net pounds per day of solid waste, or 0.6 tons per day. In accordance with California's Integrated Waste Management Act of 1989, cities and counties are required to divert 50 percent of all solid wastes from landfills. Assuming that this diversion rate continues to apply to new development in the Plan Area, an additional 300 residential units would generate an additional 0.3 tons per day of solid waste for disposal at landfills.

Table 26 Estimated Solid Waste Generation

Use	Plan Area Growth		Generation Rate	Solid Waste (pounds per day)	Solid Waste (tons per day)	Solid Waste (cubic yards per day)1
	Quantity	Units				
Multi-family Apartment	300	dwelling units	4.0 pounds/unit/day	1,200	0.6	1.2
Total Before Diversion				**1,200**	**0.6**	**1.2**
Total Assuming 76% Diversion Rate				**600**	**0.3**	**0.6**

[1] Based on the conversion factor described under Table 4.13-1, County-Service Landfill Capacity for "landfill density" Municipal Solid Waste, of approximately 750 to 1,250 pounds per cubic yard, or an average of 1,000 pounds per cubic yard.

Source: CalRecycle 2018a

The Altamont Landfill and the Vasco Road Sanitary Landfill are active landfills in Alameda County that can accommodate solid waste from the Plan Area. These landfills have a combined remaining capacity of approximately 72.8 million cubic yards, as shown in Table 27.

Table 27 Landfill Capacity

Site	Maximum Permitted Throughput per Day		Maximum Permitted Capacity		Remaining Capacity	
	CY[1]	Tons	CY	Tons	CY	Tons
Alameda Landfill Resource Recovery Facility (estimated closure date January 1, 2025)	13,938	11,150	124,400,000	99,520,000	65,400,000	52,320,000
Vasco Road Sanitary Landfill (estimated closure date December 31, 2022)	3,148	2,518	32,970,000	26,376,000	7,379,000	5,903,200
Total	**17,086**	**13,668**	**157,370,000**	**125,896,000**	**72,779,000**	**58,223,200**

[1] CalRecycle identifies Maximum Permitted Throughput only in Tons/Day, while Maximum Permitted Capacity and Remaining Capacity are only provided in Cubic Yards; therefore, standard conversion factors provided by the EPA (EPA 2016) are used to provide all figures in both Tons and Cubic Yards. EPA identifies a standard conversion factor for Municipal Solid Waste (MSW) compacted to "Landfill Density" of 1,700 pounds per cubic yard, equating to approximately 0.8 ton per cubic yard of compacted MSW. Source: U.S. EPA 2016.

Sources: CalRecycle 2018b

It is estimated that future development in the Plan Area would generate an additional 0.6 cubic yards per day of solid waste for disposal at landfills. This amount would equate to approximately 219 cubic yards per year, or 4,380 cubic yards over the 20-year implementation period to the Specific Plan's horizon year of 2040. The total need for waste disposal would represent approximately 0.02 percent of the current total remaining landfill capacity for the two landfills.

Continued compliance with applicable regulations and implementation of the updated Specific Plan Policy CD-4.11, which encourages salvage and reuse of demolition materials and debris at construction sites, consistent with County ordinances, would ensure that the Specific Plan complies with federal, state, and local statutes and regulations related to solid waste. Therefore, anticipated rates of solid waste disposal from the proposed Specific Plan would have a less than significant impact related to solid waste disposal facilities.

LESS THAN SIGNIFICANT IMPACT

20 Wildfire

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project:				
a. Substantially impair an adopted emergency response plan or emergency evacuation plan?	☐	☐	■	☐
b. Due to slope, prevailing winds, and other factors, exacerbate wildfire risks and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?	☐	☐	■	☐
c. Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?	☐	☐	■	☐
d. Expose people or structures to significant risks, including downslopes or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?	☐	☐	■	☐

Wildfire Setting

Various state and regional agencies have prepared maps illustrating the vulnerability of California communities to wildfire. CalFire has prepared Fire Hazard Severity maps, indicating hazard levels in "Local Responsibility Areas" (LRAs) and "State Responsibility Areas" (SRAs). The LRAs include areas where fire protection is provided by local agencies and include Fairview. CalFire does not currently consider Fairview to be a high hazard area. According to the Alameda County Local Hazard Mitigation Plan, nearly 80 percent of Fairview residents live in a "High Fire Hazard" risk area. In addition, maps prepared by the Association of Bay Area Governments (ABAG) indicate that almost all of Fairview has been designated an Urban-Wildland interface fire threat area.

Impact Analysis

a. *If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project substantially impair an adopted emergency response plan or emergency evacuation plan?*

b. *If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project, due to slope, prevailing winds, and other factors, exacerbate wildfire risks and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?*

c. *If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?*

Nearly 80 percent of Fairview residents live in a "High Fire Hazard" risk area. However, as discussed under impact discussions (a.2) of Section 7, *Geology and Soils*, and (g) of Section 9, *Hazards and Hazardous Materials*, the updated Specific Plan includes Goal EH-1, which aims to minimize risks from natural hazards, including wildfires. According to Policy EH-1.1 under Goal EH-1, all California and County Building Code, Fire Code, and Subdivision Code requirements related to wildfires shall be enforced. Furthermore, policies EH-1.7 through EH-1.10 of the updated Specific Plan specify actions to further reduce wildfire risks. The updated Specific Plan would also include development standards associated with wildfire prevention and response to protect against wildfire risks in support of Goal EH-1 and related policies. These standards would be applicable to future development on a case-by-case basis and address fire protection plan requirements, fire department reviews, interdepartmental coordination between various County departments, adequacy of fire-fighting capacity, private street standards, and emergency access requirements for hillside areas. Therefore, impacts associated with wildfire risks would be less than significant.

LESS THAN SIGNIFICANT IMPACT

d. *If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project expose people or structures to significant risks, including downslopes or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?*

As mentioned under impact discussions (a) through (c) of this section, nearly 80 percent of Fairview residents live in a "High Fire Hazard" risk area. The proposed Specific Plan would not increase the allowed number of units on any parcel. The Plan maintains existing zoning but adds new development standards and policies for future projects in the Plan Area, including standards and policies specifically aimed at reducing fire hazards and ensuring adequate emergency vehicle access to new homes, such as Development Standard 7.4.5, Wildfire Prevention and Response. Nonetheless, this analysis conservatively assumes an increase in 300 residential units in the Plan Area through 2040 compared to existing conditions. Approximately 20 percent of Fairview consists of undeveloped vacant land or formally designated open space. Therefore, the addition of 300 residential units would increase in impervious surface compared to existing uses which would potentially increase runoff and post-fire slope instability. However, in addition to Goal EH-1 and associated Specific Plan policies aimed to reduce wildfire risks (see impact discussions (a) through

(c) of this section), new development in the Plan Area would be required to comply with NPDES permit requirements (see Section 10, Hydrology and Water Quality).

As discussed under Section 10, *Hydrology and Water Quality*, the goal of the NPDES nonpoint source regulations is to improve the quality of water discharged to receiving waters to the "maximum extent practicable." The NPDES permit requires that permanent post-construction water quality control measures and treatment facilities be implemented on the site. Compliance with four main control measures outlined by Alameda County involves BMPs, erosion control standards, stormwater treatment, detainment and infiltration measures, as well as quantity controls. Through compliance with updated Specific Plan standards and NPDES permit and regulations, impacts associated with from runoff, post-fire slope instability, or drainage changes would be less than significant.

LESS THAN SIGNIFICANT IMPACT

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21 Mandatory Findings of Significance

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Does the project:				
a. Have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	☐	■	☐	☐
b. Have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?	☐	■	☐	☐
c. Have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	☐	■	☐	☐

a. *Does the project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?*

As discussed in Section 4, *Biological Resources*, the Plan Area contains mature trees which may provide nesting habitat for birds and may contain special-status bat species. However, with mitigation measures BIO-1 and BIO-2, impacts to sensitive species would be less than significant. With mitigation, the project would not degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal. Furthermore, as discussed in

Section 5, *Cultural Resources*, Section 7, *Geology and Soils*, and Section 17, *Tribal Cultural Resources*, the proposed project would have a less than significant impact on unanticipated cultural resources, paleontological resources, and tribal cultural resources with implementation of Mitigation Measures CR-1, GEO-1, and TR-1, which would require adherence to existing local, State and federal regulations and specific monitoring procedures related to the discovery of unanticipated cultural resources, paleontological resources, or tribal cultural resources during construction activity associated with implementation of the Specific Plan.

LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED

b. Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?

As concluded in Sections 1 through 20, the updated Specific Plan would have no impact, a less than significant impact, or a less than significant impact with mitigation incorporated, with respect to all environmental issues considered in this document. Cumulative impacts of several resource areas have been addressed in the individual resource sections, including Section 3, *Air Quality*, Section 8, *Greenhouse Gas Emissions*, Section 13, *Noise*, and Section 17, *Transportation* (See CEQA Guidelines Section 15064(h)(3)). As discussed in Sections 3, *Air Quality*, and Section 8, *Greenhouse Gas Emissions*, implementation of the updated Specific Plan would result in less than significant impacts associated with air quality and greenhouse gas emissions. Noise and traffic analyses both considered increases in traffic and traffic noise under Existing plus Updated Specific Plan conditions and concluded that impacts would be less than significant. The updated Specific Plan would also have no impacts to mineral resources. Therefore, the Plan would not contribute to cumulative impacts related to these issues. Other issues (e.g., geology, hazards, and hazardous materials) are by their nature project specific and impacts at one location do not add to impacts at other locations or create additive impacts. As such, cumulative impacts would be less than significant (not cumulatively considerable) with implementation of mitigation described in this study.

LESS THAN SIGNIFICANT IMPACT

c. Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?

In general, impacts to human beings are associated with air quality, hazards and hazardous materials, and noise impacts. As detailed in analyses for air quality, hazards and hazardous materials, and noise, implementation of the updated Specific Plan would not result, either directly or indirectly, in adverse hazards related to air quality, hazardous materials or noise. Compliance with applicable rules, regulations, and required mitigation measures would reduce potential impacts on human beings to a less than significant level.

LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED

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List of Preparers

Rincon Consultants, Inc. prepared this IS-MND under contract to Barry Miller Consulting. Persons involved in data gathering analysis, project management, and quality control are listed below.

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Appendix A

Air Quality and Greenhouse Gas Emissions Modeling Results

Table of Contents

Fairview Specific Plan

Alameda County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Single Family Housing	15.00	Dwelling Unit	4.87	27,000.00	43

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	63
Climate Zone	5			**Operational Year**	2022
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	641.35	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Estimated 300 new housing units by 2040 = average of 15 units/year

Construction Phase - Default construction schedule scaled to one calendar year.

Demolition - Assumed 1,500 sf to be demolished per housing site = 22,500 sf for 15 sites

Woodstoves - No fireplaces.

Construction Off-road Equipment Mitigation - BAAQMD basic construction measures

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstructionPhase	NumDays	18.00	16.00
tblConstructionPhase	NumDays	230.00	199.00
tblConstructionPhase	NumDays	20.00	17.00
tblConstructionPhase	NumDays	8.00	7.00
tblConstructionPhase	NumDays	18.00	16.00
tblConstructionPhase	NumDays	5.00	4.00
tblConstructionPhase	PhaseEndDate	3/19/2021	12/30/2021
tblConstructionPhase	PhaseEndDate	1/28/2021	11/16/2021
tblConstructionPhase	PhaseEndDate	2/24/2020	1/26/2021
tblConstructionPhase	PhaseEndDate	3/12/2020	2/10/2021
tblConstructionPhase	PhaseEndDate	2/23/2021	12/8/2021
tblConstructionPhase	PhaseEndDate	3/2/2020	2/1/2021
tblConstructionPhase	PhaseStartDate	2/24/2021	12/9/2021
tblConstructionPhase	PhaseStartDate	3/13/2020	2/11/2021
tblConstructionPhase	PhaseStartDate	1/28/2020	1/4/2021
tblConstructionPhase	PhaseStartDate	3/3/2020	2/2/2021
tblConstructionPhase	PhaseStartDate	1/29/2021	11/17/2021
tblConstructionPhase	PhaseStartDate	2/25/2020	1/27/2021
tblFireplaces	NumberGas	3.75	0.00
tblFireplaces	NumberWood	6.45	0.00
tblGrading	AcresOfGrading	3.50	4.00
tblWoodstoves	NumberCatalytic	0.60	0.00
tblWoodstoves	NumberNoncatalytic	0.60	0.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2021	23.9804	40.5421	22.2474	0.0446	18.2141	2.0454	20.2595	9.9699	1.8818	11.8517	0.0000	4,353.8734	4,353.8734	1.1952	0.0000	4,380.9577
Maximum	**23.9804**	**40.5421**	**22.2474**	**0.0446**	**18.2141**	**2.0454**	**20.2595**	**9.9699**	**1.8818**	**11.8517**	**0.0000**	**4,353.8734**	**4,353.8734**	**1.1952**	**0.0000**	**4,380.9577**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2021	23.9804	40.5420	22.2474	0.0446	8.2777	2.0454	10.3231	4.5080	1.8818	6.3898	0.0000	4,353.8734	4,353.8734	1.1952	0.0000	4,380.9577
Maximum	**23.9804**	**40.5420**	**22.2474**	**0.0446**	**8.2777**	**2.0454**	**10.3231**	**4.5080**	**1.8818**	**6.3898**	**0.0000**	**4,353.8734**	**4,353.8734**	**1.1952**	**0.0000**	**4,380.9577**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**54.55**	**0.00**	**49.05**	**54.78**	**0.00**	**46.09**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	0.7194	0.0143	1.2389	7.0000e-005		6.8400e-003	6.8400e-003		6.8400e-003	6.8400e-003	0.0000	2.2283	2.2283	2.1500e-003	0.0000	2.2820
Energy	0.0188	0.1603	0.0682	1.0200e-003		0.0130	0.0130		0.0130	0.0130		204.6274	204.6274	3.9200e-003	3.7500e-003	205.8434
Mobile	0.2176	1.5021	2.5104	9.0400e-003	0.7325	8.7400e-003	0.7412	0.1963	8.2100e-003	0.2045		919.0674	919.0674	0.0416		920.1063
Total	**0.9557**	**1.6767**	**3.8175**	**0.0101**	**0.7325**	**0.0285**	**0.7610**	**0.1963**	**0.0280**	**0.2243**	**0.0000**	**1,125.9230**	**1,125.9230**	**0.0476**	**3.7500e-003**	**1,128.2317**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	0.7194	0.0143	1.2389	7.0000e-005		6.8400e-003	6.8400e-003		6.8400e-003	6.8400e-003	0.0000	2.2283	2.2283	2.1500e-003	0.0000	2.2820
Energy	0.0188	0.1603	0.0682	1.0200e-003		0.0130	0.0130		0.0130	0.0130		204.6274	204.6274	3.9200e-003	3.7500e-003	205.8434
Mobile	0.2176	1.5021	2.5104	9.0400e-003	0.7325	8.7400e-003	0.7412	0.1963	8.2100e-003	0.2045		919.0674	919.0674	0.0416		920.1063
Total	**0.9557**	**1.6767**	**3.8175**	**0.0101**	**0.7325**	**0.0285**	**0.7610**	**0.1963**	**0.0280**	**0.2243**	**0.0000**	**1,125.9230**	**1,125.9230**	**0.0476**	**3.7500e-003**	**1,128.2317**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	1/4/2021	1/26/2021	5	17	
2	Site Preparation	Site Preparation	1/27/2021	2/1/2021	5	4	
3	Grading	Grading	2/2/2021	2/10/2021	5	7	
4	Building Construction	Building Construction	2/11/2021	11/16/2021	5	199	
5	Paving	Paving	11/17/2021	12/8/2021	5	16	
6	Architectural Coating	Architectural Coating	12/9/2021	12/30/2021	5	16	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 4

Acres of Paving: 0

Residential Indoor: 54,675; Residential Outdoor: 18,225; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Fairview Specific Plan - Alameda County, Winter

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	1	6.00	78	0.48
Paving	Cement and Mortar Mixers	2	6.00	9	0.56
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Excavators	3	8.00	158	0.38
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Grading	Excavators	1	8.00	158	0.38
Paving	Pavers	1	8.00	130	0.42
Paving	Rollers	2	6.00	80	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Generator Sets	1	8.00	84	0.74
Grading	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Graders	1	8.00	187	0.41
Paving	Paving Equipment	2	6.00	132	0.36
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Building Construction	Welders	1	8.00	46	0.45

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	6	15.00	0.00	102.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	5.00	2.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	8	20.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	1.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

3.2 Demolition - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					1.3028	0.0000	1.3028	0.1973	0.0000	0.1973			0.0000			0.0000
Off-Road	3.1651	31.4407	21.5650	0.0388		1.5513	1.5513		1.4411	1.4411		3,747.9449	3,747.9449	1.0549		3,774.3174
Total	**3.1651**	**31.4407**	**21.5650**	**0.0388**	**1.3028**	**1.5513**	**2.8542**	**0.1973**	**1.4411**	**1.6384**		**3,747.9449**	**3,747.9449**	**1.0549**		**3,774.3174**

3.2 Demolition - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0488	1.6228	0.3148	4.6500e-003	0.1050	4.9900e-003	0.1100	0.0288	4.7700e-003	0.0336		494.6222	494.6222	0.0258		495.2670
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0529	0.0375	0.3676	1.1200e-003	0.1232	8.0000e-004	0.1240	0.0327	7.3000e-004	0.0334		111.3063	111.3063	2.6900e-003		111.3734
Total	**0.1017**	**1.6603**	**0.6824**	**5.7700e-003**	**0.2283**	**5.7900e-003**	**0.2341**	**0.0615**	**5.5000e-003**	**0.0670**		**605.9285**	**605.9285**	**0.0285**		**606.6404**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.5863	0.0000	0.5863	0.0888	0.0000	0.0888			0.0000			0.0000
Off-Road	3.1651	31.4407	21.5650	0.0388		1.5513	1.5513		1.4411	1.4411	0.0000	3,747.9449	3,747.9449	1.0549		3,774.3174
Total	**3.1651**	**31.4407**	**21.5650**	**0.0388**	**0.5863**	**1.5513**	**2.1376**	**0.0888**	**1.4411**	**1.5299**	**0.0000**	**3,747.9449**	**3,747.9449**	**1.0549**		**3,774.3174**

3.2 Demolition - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0488	1.6228	0.3148	4.6500e-003	0.1050	4.9900e-003	0.1100	0.0288	4.7700e-003	0.0336		494.6222	494.6222	0.0258		495.2670
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0529	0.0375	0.3676	1.1200e-003	0.1232	8.0000e-004	0.1240	0.0327	7.3000e-004	0.0334		111.3063	111.3063	2.6900e-003		111.3734
Total	**0.1017**	**1.6603**	**0.6824**	**5.7700e-003**	**0.2283**	**5.7900e-003**	**0.2341**	**0.0615**	**5.5000e-003**	**0.0670**		**605.9285**	**605.9285**	**0.0285**		**606.6404**

3.3 Site Preparation - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	3.8882	40.4971	21.1543	0.0380		2.0445	2.0445		1.8809	1.8809		3,685.6569	3,685.6569	1.1920		3,715.4573
Total	**3.8882**	**40.4971**	**21.1543**	**0.0380**	**18.0663**	**2.0445**	**20.1107**	**9.9307**	**1.8809**	**11.8116**		**3,685.6569**	**3,685.6569**	**1.1920**		**3,715.4573**

3.3 Site Preparation - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0634	0.0450	0.4412	1.3400e-003	0.1479	9.6000e-004	0.1488	0.0392	8.8000e-004	0.0401		133.5675	133.5675	3.2200e-003		133.6481
Total	**0.0634**	**0.0450**	**0.4412**	**1.3400e-003**	**0.1479**	**9.6000e-004**	**0.1488**	**0.0392**	**8.8000e-004**	**0.0401**		**133.5675**	**133.5675**	**3.2200e-003**		**133.6481**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					8.1298	0.0000	8.1298	4.4688	0.0000	4.4688			0.0000			0.0000
Off-Road	3.8882	40.4971	21.1543	0.0380		2.0445	2.0445		1.8809	1.8809	0.0000	3,685.6569	3,685.6569	1.1920		3,715.4573
Total	**3.8882**	**40.4971**	**21.1543**	**0.0380**	**8.1298**	**2.0445**	**10.1743**	**4.4688**	**1.8809**	**6.3497**	**0.0000**	**3,685.6569**	**3,685.6569**	**1.1920**		**3,715.4573**

3.3 Site Preparation - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0634	0.0450	0.4412	1.3400e-003	0.1479	9.6000e-004	0.1488	0.0392	8.8000e-004	0.0401		133.5675	133.5675	3.2200e-003		133.6481
Total	**0.0634**	**0.0450**	**0.4412**	**1.3400e-003**	**0.1479**	**9.6000e-004**	**0.1488**	**0.0392**	**8.8000e-004**	**0.0401**		**133.5675**	**133.5675**	**3.2200e-003**		**133.6481**

3.4 Grading - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					6.6281	0.0000	6.6281	3.3757	0.0000	3.3757			0.0000			0.0000
Off-Road	2.2903	24.7367	15.8575	0.0296		1.1599	1.1599		1.0671	1.0671		2,871.9285	2,871.9285	0.9288		2,895.1495
Total	**2.2903**	**24.7367**	**15.8575**	**0.0296**	**6.6281**	**1.1599**	**7.7880**	**3.3757**	**1.0671**	**4.4428**		**2,871.9285**	**2,871.9285**	**0.9288**		**2,895.1495**

3.4 Grading - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0529	0.0375	0.3676	1.1200e-003	0.1232	8.0000e-004	0.1240	0.0327	7.3000e-004	0.0334		111.3063	111.3063	2.6900e-003		111.3734
Total	**0.0529**	**0.0375**	**0.3676**	**1.1200e-003**	**0.1232**	**8.0000e-004**	**0.1240**	**0.0327**	**7.3000e-004**	**0.0334**		**111.3063**	**111.3063**	**2.6900e-003**		**111.3734**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					2.9826	0.0000	2.9826	1.5191	0.0000	1.5191			0.0000			0.0000
Off-Road	2.2903	24.7367	15.8575	0.0296		1.1599	1.1599		1.0671	1.0671	0.0000	2,871.9285	2,871.9285	0.9288		2,895.1495
Total	**2.2903**	**24.7367**	**15.8575**	**0.0296**	**2.9826**	**1.1599**	**4.1426**	**1.5191**	**1.0671**	**2.5862**	**0.0000**	**2,871.9285**	**2,871.9285**	**0.9288**		**2,895.1495**

3.4 Grading - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0529	0.0375	0.3676	1.1200e-003	0.1232	8.0000e-004	0.1240	0.0327	7.3000e-004	0.0334		111.3063	111.3063	2.6900e-003		111.3734
Total	**0.0529**	**0.0375**	**0.3676**	**1.1200e-003**	**0.1232**	**8.0000e-004**	**0.1240**	**0.0327**	**7.3000e-004**	**0.0334**		**111.3063**	**111.3063**	**2.6900e-003**		**111.3734**

3.5 Building Construction - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.9009	17.4321	16.5752	0.0269		0.9586	0.9586		0.9013	0.9013		2,553.3639	2,553.3639	0.6160		2,568.7643
Total	**1.9009**	**17.4321**	**16.5752**	**0.0269**		**0.9586**	**0.9586**		**0.9013**	**0.9013**		**2,553.3639**	**2,553.3639**	**0.6160**		**2,568.7643**

3.5 Building Construction - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	6.4000e-003	0.2134	0.0490	5.4000e-004	0.0136	4.5000e-004	0.0140	3.9000e-003	4.3000e-004	4.3400e-003		56.8225	56.8225	3.3500e-003		56.9062
Worker	0.0176	0.0125	0.1226	3.7000e-004	0.0411	2.7000e-004	0.0413	0.0109	2.4000e-004	0.0111		37.1021	37.1021	9.0000e-004		37.1245
Total	**0.0240**	**0.2259**	**0.1716**	**9.1000e-004**	**0.0546**	**7.2000e-004**	**0.0554**	**0.0148**	**6.7000e-004**	**0.0155**		**93.9246**	**93.9246**	**4.2500e-003**		**94.0307**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.9009	17.4321	16.5752	0.0269		0.9586	0.9586		0.9013	0.9013	0.0000	2,553.3639	2,553.3639	0.6160		2,568.7643
Total	**1.9009**	**17.4321**	**16.5752**	**0.0269**		**0.9586**	**0.9586**		**0.9013**	**0.9013**	**0.0000**	**2,553.3639**	**2,553.3639**	**0.6160**		**2,568.7643**

3.5 Building Construction - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	6.4000e-003	0.2134	0.0490	5.4000e-004	0.0136	4.5000e-004	0.0140	3.9000e-003	4.3000e-004	4.3400e-003		56.8225	56.8225	3.3500e-003		56.9062
Worker	0.0176	0.0125	0.1226	3.7000e-004	0.0411	2.7000e-004	0.0413	0.0109	2.4000e-004	0.0111		37.1021	37.1021	9.0000e-004		37.1245
Total	**0.0240**	**0.2259**	**0.1716**	**9.1000e-004**	**0.0546**	**7.2000e-004**	**0.0554**	**0.0148**	**6.7000e-004**	**0.0155**		**93.9246**	**93.9246**	**4.2500e-003**		**94.0307**

3.6 Paving - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.0940	10.8399	12.2603	0.0189		0.5788	0.5788		0.5342	0.5342		1,804.5523	1,804.5523	0.5670		1,818.7270
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.0940**	**10.8399**	**12.2603**	**0.0189**		**0.5788**	**0.5788**		**0.5342**	**0.5342**		**1,804.5523**	**1,804.5523**	**0.5670**		**1,818.7270**

3.6 Paving - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0705	0.0499	0.4902	1.4900e-003	0.1643	1.0600e-003	0.1654	0.0436	9.8000e-004	0.0446		148.4084	148.4084	3.5800e-003		148.4979
Total	**0.0705**	**0.0499**	**0.4902**	**1.4900e-003**	**0.1643**	**1.0600e-003**	**0.1654**	**0.0436**	**9.8000e-004**	**0.0446**		**148.4084**	**148.4084**	**3.5800e-003**		**148.4979**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.0940	10.8399	12.2603	0.0189		0.5788	0.5788		0.5342	0.5342	0.0000	1,804.5523	1,804.5523	0.5670		1,818.7270
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.0940**	**10.8399**	**12.2603**	**0.0189**		**0.5788**	**0.5788**		**0.5342**	**0.5342**	**0.0000**	**1,804.5523**	**1,804.5523**	**0.5670**		**1,818.7270**

3.6 Paving - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0705	0.0499	0.4902	1.4900e-003	0.1643	1.0600e-003	0.1654	0.0436	9.8000e-004	0.0446		148.4084	148.4084	3.5800e-003		148.4979
Total	**0.0705**	**0.0499**	**0.4902**	**1.4900e-003**	**0.1643**	**1.0600e-003**	**0.1654**	**0.0436**	**9.8000e-004**	**0.0446**		**148.4084**	**148.4084**	**3.5800e-003**		**148.4979**

3.7 Architectural Coating - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	23.7580					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2189	1.5268	1.8176	2.9700e-003		0.0941	0.0941		0.0941	0.0941		281.4481	281.4481	0.0193		281.9309
Total	**23.9769**	**1.5268**	**1.8176**	**2.9700e-003**		**0.0941**	**0.0941**		**0.0941**	**0.0941**		**281.4481**	**281.4481**	**0.0193**		**281.9309**

3.7 Architectural Coating - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	3.5200e-003	2.5000e-003	0.0245	7.0000e-005	8.2100e-003	5.0000e-005	8.2700e-003	2.1800e-003	5.0000e-005	2.2300e-003		7.4204	7.4204	1.8000e-004		7.4249
Total	**3.5200e-003**	**2.5000e-003**	**0.0245**	**7.0000e-005**	**8.2100e-003**	**5.0000e-005**	**8.2700e-003**	**2.1800e-003**	**5.0000e-005**	**2.2300e-003**		**7.4204**	**7.4204**	**1.8000e-004**		**7.4249**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	23.7580					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2189	1.5268	1.8176	2.9700e-003		0.0941	0.0941		0.0941	0.0941	0.0000	281.4481	281.4481	0.0193		281.9309
Total	**23.9769**	**1.5268**	**1.8176**	**2.9700e-003**		**0.0941**	**0.0941**		**0.0941**	**0.0941**	**0.0000**	**281.4481**	**281.4481**	**0.0193**		**281.9309**

3.7 Architectural Coating - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	3.5200e-003	2.5000e-003	0.0245	7.0000e-005	8.2100e-003	5.0000e-005	8.2700e-003	2.1800e-003	5.0000e-005	2.2300e-003		7.4204	7.4204	1.8000e-004		7.4249
Total	**3.5200e-003**	**2.5000e-003**	**0.0245**	**7.0000e-005**	**8.2100e-003**	**5.0000e-005**	**8.2700e-003**	**2.1800e-003**	**5.0000e-005**	**2.2300e-003**		**7.4204**	**7.4204**	**1.8000e-004**		**7.4249**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.2176	1.5021	2.5104	9.0400e-003	0.7325	8.7400e-003	0.7412	0.1963	8.2100e-003	0.2045		919.0674	919.0674	0.0416		920.1063
Unmitigated	0.2176	1.5021	2.5104	9.0400e-003	0.7325	8.7400e-003	0.7412	0.1963	8.2100e-003	0.2045		919.0674	919.0674	0.0416		920.1063

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Single Family Housing	142.80	148.65	129.30	327,288	327,288
Total	142.80	148.65	129.30	327,288	327,288

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Single Family Housing	10.80	4.80	5.70	31.00	15.00	54.00	86	11	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Single Family Housing	0.560371	0.039285	0.190378	0.108244	0.016023	0.005202	0.023981	0.045200	0.002184	0.002561	0.005524	0.000326	0.000721

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.0188	0.1603	0.0682	1.0200e-003		0.0130	0.0130		0.0130	0.0130		204.6274	204.6274	3.9200e-003	3.7500e-003	205.8434
NaturalGas Unmitigated	0.0188	0.1603	0.0682	1.0200e-003		0.0130	0.0130		0.0130	0.0130		204.6274	204.6274	3.9200e-003	3.7500e-003	205.8434

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Single Family Housing	1739.33	0.0188	0.1603	0.0682	1.0200e-003		0.0130	0.0130		0.0130	0.0130		204.6274	204.6274	3.9200e-003	3.7500e-003	205.8434
Total		**0.0188**	**0.1603**	**0.0682**	**1.0200e-003**		**0.0130**	**0.0130**		**0.0130**	**0.0130**		**204.6274**	**204.6274**	**3.9200e-003**	**3.7500e-003**	**205.8434**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Single Family Housing	1.73933	0.0188	0.1603	0.0682	1.0200e-003		0.0130	0.0130		0.0130	0.0130		204.6274	204.6274	3.9200e-003	3.7500e-003	205.8434
Total		**0.0188**	**0.1603**	**0.0682**	**1.0200e-003**		**0.0130**	**0.0130**		**0.0130**	**0.0130**		**204.6274**	**204.6274**	**3.9200e-003**	**3.7500e-003**	**205.8434**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.7194	0.0143	1.2389	7.0000e-005		6.8400e-003	6.8400e-003		6.8400e-003	6.8400e-003	0.0000	2.2283	2.2283	2.1500e-003	0.0000	2.2820
Unmitigated	0.7194	0.0143	1.2389	7.0000e-005		6.8400e-003	6.8400e-003		6.8400e-003	6.8400e-003	0.0000	2.2283	2.2283	2.1500e-003	0.0000	2.2820

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.1041					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.5778					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0374	0.0143	1.2389	7.0000e-005		6.8400e-003	6.8400e-003		6.8400e-003	6.8400e-003		2.2283	2.2283	2.1500e-003		2.2820
Total	**0.7194**	**0.0143**	**1.2389**	**7.0000e-005**		**6.8400e-003**	**6.8400e-003**		**6.8400e-003**	**6.8400e-003**	**0.0000**	**2.2283**	**2.2283**	**2.1500e-003**	**0.0000**	**2.2820**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.1041					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.5778					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0374	0.0143	1.2389	7.0000e-005		6.8400e-003	6.8400e-003		6.8400e-003	6.8400e-003		2.2283	2.2283	2.1500e-003		2.2820
Total	**0.7194**	**0.0143**	**1.2389**	**7.0000e-005**		**6.8400e-003**	**6.8400e-003**		**6.8400e-003**	**6.8400e-003**	**0.0000**	**2.2283**	**2.2283**	**2.1500e-003**	**0.0000**	**2.2820**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Fairview Specific Plan

Alameda County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Single Family Housing	150.00	Dwelling Unit	48.70	270,000.00	429

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	63
Climate Zone	5			**Operational Year**	2030
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	353.65	**CH4 Intensity (lb/MWhr)**	0.015	**N2O Intensity (lb/MWhr)**	0.003

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Intensity factors adjusted to levels for 2030 timeline.

Land Use - Estimated 150 new housing units by 2030.

Construction Phase - Construction emissions N/A.

Demolition -

Woodstoves - No woodstoves or fireplaces.

Construction Off-road Equipment Mitigation -

Energy Use - Title-24 electricity intensity reduced by 7 percent per 2019 Title 24 standards.

Water And Wastewater - Indoor water use reduced by 20 percent to account for reductions achieved by 2016 CALGreen (Part 11 of Title 24).

Solid Waste - Solid waste generation rate was reduced by 25% because unincorporated Alameda County had a solid waste diversion rate of 74% in 2017 and is close to meeting AB 341 goal of 75%.

Energy Mitigation - On-site renewable energy generated by required solar panels on new residences per State's 2019 Building Energy Efficiency Standards.

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblEnergyUse	T24E	217.68	202.44
tblFireplaces	NumberGas	37.50	0.00
tblFireplaces	NumberNoFireplace	12.00	0.00
tblFireplaces	NumberWood	64.50	0.00
tblProjectCharacteristics	CH4IntensityFactor	0.029	0.015
tblProjectCharacteristics	CO2IntensityFactor	641.35	353.65
tblProjectCharacteristics	N2OIntensityFactor	0.006	0.003
tblSolidWaste	SolidWasteGenerationRate	180.18	135.00
tblWater	IndoorWaterUseRate	9,773,103.84	7,818,483.00
tblWoodstoves	NumberCatalytic	6.00	0.00
tblWoodstoves	NumberNoncatalytic	6.00	0.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2020	0.4198	4.2853	2.9228	5.5400e-003	0.6307	0.2057	0.8364	0.2931	0.1906	0.4837	0.0000	486.4932	486.4932	0.1329	0.0000	489.8160
2021	0.2770	2.5143	2.3783	4.6100e-003	0.0694	0.1259	0.1954	0.0188	0.1184	0.1372	0.0000	404.7981	404.7981	0.0771	0.0000	406.7250
2022	0.2486	2.2557	2.3246	4.5700e-003	0.0692	0.1059	0.1751	0.0187	0.0997	0.1184	0.0000	401.0929	401.0929	0.0761	0.0000	402.9941
2023	2.0513	1.3485	1.6193	3.0400e-003	0.0405	0.0621	0.1026	0.0109	0.0583	0.0692	0.0000	267.0743	267.0743	0.0561	0.0000	268.4756
Maximum	**2.0513**	**4.2853**	**2.9228**	**5.5400e-003**	**0.6307**	**0.2057**	**0.8364**	**0.2931**	**0.1906**	**0.4837**	**0.0000**	**486.4932**	**486.4932**	**0.1329**	**0.0000**	**489.8160**

2.1 Overall Construction

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2020	0.4198	4.2853	2.9228	5.5400e-003	0.6307	0.2057	0.8364	0.2931	0.1906	0.4837	0.0000	486.4927	486.4927	0.1329	0.0000	489.8154
2021	0.2770	2.5143	2.3783	4.6100e-003	0.0694	0.1259	0.1954	0.0188	0.1184	0.1372	0.0000	404.7977	404.7977	0.0771	0.0000	406.7246
2022	0.2486	2.2557	2.3246	4.5700e-003	0.0692	0.1059	0.1751	0.0187	0.0997	0.1184	0.0000	401.0925	401.0925	0.0761	0.0000	402.9938
2023	2.0513	1.3485	1.6192	3.0400e-003	0.0405	0.0621	0.1026	0.0109	0.0583	0.0692	0.0000	267.0740	267.0740	0.0561	0.0000	268.4753
Maximum	**2.0513**	**4.2853**	**2.9228**	**5.5400e-003**	**0.6307**	**0.2057**	**0.8364**	**0.2931**	**0.1906**	**0.4837**	**0.0000**	**486.4927**	**486.4927**	**0.1329**	**0.0000**	**489.8154**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	**1-28-2020**	**4-27-2020**	1.2648	1.2648
2	**4-28-2020**	**7-27-2020**	1.7186	1.7186
3	**7-28-2020**	**10-27-2020**	1.1644	1.1644
4	**10-28-2020**	**1-27-2021**	0.7544	0.7544
5	**1-28-2021**	**4-27-2021**	0.6879	0.6879
6	**4-28-2021**	**7-27-2021**	0.6944	0.6944
7	**7-28-2021**	**10-27-2021**	0.7025	0.7025
8	**10-28-2021**	**1-27-2022**	0.6832	0.6832

9	**1-28-2022**	**4-27-2022**	0.6196	0.6196
10	**4-28-2022**	**7-27-2022**	0.6254	0.6254
11	**7-28-2022**	**10-27-2022**	0.6327	0.6327
12	**10-28-2022**	**1-27-2023**	0.6167	0.6167
13	**1-28-2023**	**4-27-2023**	0.5628	0.5628
14	**4-28-2023**	**7-27-2023**	0.5152	0.5152
15	**7-28-2023**	**9-30-2023**	0.5166	0.5166
		Highest	1.7186	1.7186

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	1.2778	0.0128	1.1108	6.0000e-005		6.1800e-003	6.1800e-003		6.1800e-003	6.1800e-003	0.0000	1.8193	1.8193	1.7300e-003	0.0000	1.8627
Energy	0.0342	0.2925	0.1245	1.8700e-003		0.0237	0.0237		0.0237	0.0237	0.0000	530.4911	530.4911	0.0146	7.8400e-003	533.1922
Mobile	0.2404	1.8488	2.5830	0.0132	1.2232	8.2200e-003	1.2314	0.3285	7.6700e-003	0.3362	0.0000	1,224.0902	1,224.0902	0.0451	0.0000	1,225.2180
Waste						0.0000	0.0000		0.0000	0.0000	27.4038	0.0000	27.4038	1.6195	0.0000	67.8917
Water						0.0000	0.0000		0.0000	0.0000	2.4804	10.2456	12.7261	0.2552	6.1000e-003	20.9246
Total	**1.5524**	**2.1542**	**3.8183**	**0.0151**	**1.2232**	**0.0381**	**1.2612**	**0.3285**	**0.0375**	**0.3660**	**29.8842**	**1,766.6462**	**1,796.5304**	**1.9362**	**0.0139**	**1,849.0892**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	1.2778	0.0128	1.1108	6.0000e-005		6.1800e-003	6.1800e-003		6.1800e-003	6.1800e-003	0.0000	1.8193	1.8193	1.7300e-003	0.0000	1.8627
Energy	0.0342	0.2925	0.1245	1.8700e-003		0.0237	0.0237		0.0237	0.0237	0.0000	484.1585	484.1585	0.0127	7.4400e-003	486.6934
Mobile	0.2404	1.8488	2.5830	0.0132	1.2232	8.2200e-003	1.2314	0.3285	7.6700e-003	0.3362	0.0000	1,224.0902	1,224.0902	0.0451	0.0000	1,225.2180
Waste						0.0000	0.0000		0.0000	0.0000	27.4038	0.0000	27.4038	1.6195	0.0000	67.8917
Water						0.0000	0.0000		0.0000	0.0000	2.4804	10.2456	12.7261	0.2552	6.1000e-003	20.9246
Total	**1.5524**	**2.1542**	**3.8183**	**0.0151**	**1.2232**	**0.0381**	**1.2612**	**0.3285**	**0.0375**	**0.3660**	**29.8842**	**1,720.3136**	**1,750.1979**	**1.9342**	**0.0135**	**1,802.5904**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**2.62**	**2.58**	**0.10**	**2.87**	**2.51**

3.0 Construction Detail

Construction Phase

Fairview Specific Plan - Alameda County, Annual

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	1/28/2020	4/6/2020	5	50	
2	Site Preparation	Site Preparation	4/7/2020	5/18/2020	5	30	
3	Grading	Grading	5/19/2020	8/31/2020	5	75	
4	Building Construction	Building Construction	9/1/2020	7/3/2023	5	740	
5	Paving	Paving	7/4/2023	9/18/2023	5	55	
6	Architectural Coating	Architectural Coating	9/19/2023	12/4/2023	5	55	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 187.5

Acres of Paving: 0

Residential Indoor: 546,750; Residential Outdoor: 182,250; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Excavators	3	8.00	158	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	2	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Grading	Scrapers	2	8.00	367	0.48
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	54.00	16.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	11.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Demolition - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0828	0.8300	0.5438	9.7000e-004		0.0415	0.0415		0.0386	0.0386	0.0000	84.9965	84.9965	0.0240	0.0000	85.5964
Total	**0.0828**	**0.8300**	**0.5438**	**9.7000e-004**	**0.0000**	**0.0415**	**0.0415**	**0.0000**	**0.0386**	**0.0386**	**0.0000**	**84.9965**	**84.9965**	**0.0240**	**0.0000**	**85.5964**

3.2 Demolition - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.3000e-003	9.6000e-004	9.8100e-003	3.0000e-005	2.9700e-003	2.0000e-005	2.9900e-003	7.9000e-004	2.0000e-005	8.1000e-004	0.0000	2.6357	2.6357	7.0000e-005	0.0000	2.6374
Total	**1.3000e-003**	**9.6000e-004**	**9.8100e-003**	**3.0000e-005**	**2.9700e-003**	**2.0000e-005**	**2.9900e-003**	**7.9000e-004**	**2.0000e-005**	**8.1000e-004**	**0.0000**	**2.6357**	**2.6357**	**7.0000e-005**	**0.0000**	**2.6374**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0828	0.8300	0.5438	9.7000e-004		0.0415	0.0415		0.0386	0.0386	0.0000	84.9964	84.9964	0.0240	0.0000	85.5963
Total	**0.0828**	**0.8300**	**0.5438**	**9.7000e-004**	**0.0000**	**0.0415**	**0.0415**	**0.0000**	**0.0386**	**0.0386**	**0.0000**	**84.9964**	**84.9964**	**0.0240**	**0.0000**	**85.5963**

3.2 Demolition - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.3000e-003	9.6000e-004	9.8100e-003	3.0000e-005	2.9700e-003	2.0000e-005	2.9900e-003	7.9000e-004	2.0000e-005	8.1000e-004	0.0000	2.6357	2.6357	7.0000e-005	0.0000	2.6374
Total	**1.3000e-003**	**9.6000e-004**	**9.8100e-003**	**3.0000e-005**	**2.9700e-003**	**2.0000e-005**	**2.9900e-003**	**7.9000e-004**	**2.0000e-005**	**8.1000e-004**	**0.0000**	**2.6357**	**2.6357**	**7.0000e-005**	**0.0000**	**2.6374**

3.3 Site Preparation - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.2710	0.0000	0.2710	0.1490	0.0000	0.1490	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0612	0.6363	0.3227	5.7000e-004		0.0330	0.0330		0.0303	0.0303	0.0000	50.1460	50.1460	0.0162	0.0000	50.5515
Total	**0.0612**	**0.6363**	**0.3227**	**5.7000e-004**	**0.2710**	**0.0330**	**0.3040**	**0.1490**	**0.0303**	**0.1793**	**0.0000**	**50.1460**	**50.1460**	**0.0162**	**0.0000**	**50.5515**

3.3 Site Preparation - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	9.3000e-004	6.9000e-004	7.0600e-003	2.0000e-005	2.1300e-003	1.0000e-005	2.1500e-003	5.7000e-004	1.0000e-005	5.8000e-004	0.0000	1.8977	1.8977	5.0000e-005	0.0000	1.8989
Total	**9.3000e-004**	**6.9000e-004**	**7.0600e-003**	**2.0000e-005**	**2.1300e-003**	**1.0000e-005**	**2.1500e-003**	**5.7000e-004**	**1.0000e-005**	**5.8000e-004**	**0.0000**	**1.8977**	**1.8977**	**5.0000e-005**	**0.0000**	**1.8989**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.2710	0.0000	0.2710	0.1490	0.0000	0.1490	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0612	0.6363	0.3227	5.7000e-004		0.0330	0.0330		0.0303	0.0303	0.0000	50.1460	50.1460	0.0162	0.0000	50.5514
Total	**0.0612**	**0.6363**	**0.3227**	**5.7000e-004**	**0.2710**	**0.0330**	**0.3040**	**0.1490**	**0.0303**	**0.1793**	**0.0000**	**50.1460**	**50.1460**	**0.0162**	**0.0000**	**50.5514**

3.3 Site Preparation - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	9.3000e-004	6.9000e-004	7.0600e-003	2.0000e-005	2.1300e-003	1.0000e-005	2.1500e-003	5.7000e-004	1.0000e-005	5.8000e-004	0.0000	1.8977	1.8977	5.0000e-005	0.0000	1.8989
Total	**9.3000e-004**	**6.9000e-004**	**7.0600e-003**	**2.0000e-005**	**2.1300e-003**	**1.0000e-005**	**2.1500e-003**	**5.7000e-004**	**1.0000e-005**	**5.8000e-004**	**0.0000**	**1.8977**	**1.8977**	**5.0000e-005**	**0.0000**	**1.8989**

3.4 Grading - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.3253	0.0000	0.3253	0.1349	0.0000	0.1349	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.1669	1.8824	1.1984	2.3300e-003		0.0815	0.0815		0.0750	0.0750	0.0000	204.3161	204.3161	0.0661	0.0000	205.9681
Total	**0.1669**	**1.8824**	**1.1984**	**2.3300e-003**	**0.3253**	**0.0815**	**0.4068**	**0.1349**	**0.0750**	**0.2099**	**0.0000**	**204.3161**	**204.3161**	**0.0661**	**0.0000**	**205.9681**

3.4 Grading - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.5900e-003	1.9100e-003	0.0196	6.0000e-005	5.9300e-003	4.0000e-005	5.9700e-003	1.5800e-003	4.0000e-005	1.6200e-003	0.0000	5.2714	5.2714	1.4000e-004	0.0000	5.2748
Total	**2.5900e-003**	**1.9100e-003**	**0.0196**	**6.0000e-005**	**5.9300e-003**	**4.0000e-005**	**5.9700e-003**	**1.5800e-003**	**4.0000e-005**	**1.6200e-003**	**0.0000**	**5.2714**	**5.2714**	**1.4000e-004**	**0.0000**	**5.2748**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.3253	0.0000	0.3253	0.1349	0.0000	0.1349	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.1669	1.8824	1.1984	2.3300e-003		0.0815	0.0815		0.0750	0.0750	0.0000	204.3159	204.3159	0.0661	0.0000	205.9679
Total	**0.1669**	**1.8824**	**1.1984**	**2.3300e-003**	**0.3253**	**0.0815**	**0.4068**	**0.1349**	**0.0750**	**0.2099**	**0.0000**	**204.3159**	**204.3159**	**0.0661**	**0.0000**	**205.9679**

3.4 Grading - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.5900e-003	1.9100e-003	0.0196	6.0000e-005	5.9300e-003	4.0000e-005	5.9700e-003	1.5800e-003	4.0000e-005	1.6200e-003	0.0000	5.2714	5.2714	1.4000e-004	0.0000	5.2748
Total	**2.5900e-003**	**1.9100e-003**	**0.0196**	**6.0000e-005**	**5.9300e-003**	**4.0000e-005**	**5.9700e-003**	**1.5800e-003**	**4.0000e-005**	**1.6200e-003**	**0.0000**	**5.2714**	**5.2714**	**1.4000e-004**	**0.0000**	**5.2748**

3.5 Building Construction - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0933	0.8442	0.7413	1.1800e-003		0.0492	0.0492		0.0462	0.0462	0.0000	101.9084	101.9084	0.0249	0.0000	102.5299
Total	**0.0933**	**0.8442**	**0.7413**	**1.1800e-003**		**0.0492**	**0.0492**		**0.0462**	**0.0462**	**0.0000**	**101.9084**	**101.9084**	**0.0249**	**0.0000**	**102.5299**

3.5 Building Construction - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.6400e-003	0.0828	0.0178	1.9000e-004	4.6200e-003	3.8000e-004	5.0100e-003	1.3400e-003	3.7000e-004	1.7000e-003	0.0000	18.6215	18.6215	1.0700e-003	0.0000	18.6483
Worker	8.2200e-003	6.0600e-003	0.0622	1.8000e-004	0.0188	1.3000e-004	0.0189	5.0000e-003	1.2000e-004	5.1200e-003	0.0000	16.6998	16.6998	4.3000e-004	0.0000	16.7106
Total	**0.0109**	**0.0888**	**0.0800**	**3.7000e-004**	**0.0234**	**5.1000e-004**	**0.0239**	**6.3400e-003**	**4.9000e-004**	**6.8200e-003**	**0.0000**	**35.3214**	**35.3214**	**1.5000e-003**	**0.0000**	**35.3589**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0933	0.8442	0.7413	1.1800e-003		0.0492	0.0492		0.0462	0.0462	0.0000	101.9083	101.9083	0.0249	0.0000	102.5298
Total	**0.0933**	**0.8442**	**0.7413**	**1.1800e-003**		**0.0492**	**0.0492**		**0.0462**	**0.0462**	**0.0000**	**101.9083**	**101.9083**	**0.0249**	**0.0000**	**102.5298**

3.5 Building Construction - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.6400e-003	0.0828	0.0178	1.9000e-004	4.6200e-003	3.8000e-004	5.0100e-003	1.3400e-003	3.7000e-004	1.7000e-003	0.0000	18.6215	18.6215	1.0700e-003	0.0000	18.6483
Worker	8.2200e-003	6.0600e-003	0.0622	1.8000e-004	0.0188	1.3000e-004	0.0189	5.0000e-003	1.2000e-004	5.1200e-003	0.0000	16.6998	16.6998	4.3000e-004	0.0000	16.7106
Total	**0.0109**	**0.0888**	**0.0800**	**3.7000e-004**	**0.0234**	**5.1000e-004**	**0.0239**	**6.3400e-003**	**4.9000e-004**	**6.8200e-003**	**0.0000**	**35.3214**	**35.3214**	**1.5000e-003**	**0.0000**	**35.3589**

3.5 Building Construction - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.2481	2.2749	2.1631	3.5100e-003		0.1251	0.1251		0.1176	0.1176	0.0000	302.2867	302.2867	0.0729	0.0000	304.1099
Total	**0.2481**	**2.2749**	**2.1631**	**3.5100e-003**		**0.1251**	**0.1251**		**0.1176**	**0.1176**	**0.0000**	**302.2867**	**302.2867**	**0.0729**	**0.0000**	**304.1099**

3.5 Building Construction - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	6.4600e-003	0.2233	0.0473	5.7000e-004	0.0137	4.7000e-004	0.0142	3.9700e-003	4.5000e-004	4.4100e-003	0.0000	54.6995	54.6995	3.0000e-003	0.0000	54.7746
Worker	0.0225	0.0160	0.1680	5.3000e-004	0.0557	3.7000e-004	0.0561	0.0148	3.5000e-004	0.0152	0.0000	47.8120	47.8120	1.1400e-003	0.0000	47.8405
Total	**0.0290**	**0.2394**	**0.2153**	**1.1000e-003**	**0.0694**	**8.4000e-004**	**0.0703**	**0.0188**	**8.0000e-004**	**0.0196**	**0.0000**	**102.5114**	**102.5114**	**4.1400e-003**	**0.0000**	**102.6151**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.2481	2.2749	2.1631	3.5100e-003		0.1251	0.1251		0.1176	0.1176	0.0000	302.2863	302.2863	0.0729	0.0000	304.1095
Total	**0.2481**	**2.2749**	**2.1631**	**3.5100e-003**		**0.1251**	**0.1251**		**0.1176**	**0.1176**	**0.0000**	**302.2863**	**302.2863**	**0.0729**	**0.0000**	**304.1095**

3.5 Building Construction - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	6.4600e-003	0.2233	0.0473	5.7000e-004	0.0137	4.7000e-004	0.0142	3.9700e-003	4.5000e-004	4.4100e-003	0.0000	54.6995	54.6995	3.0000e-003	0.0000	54.7746
Worker	0.0225	0.0160	0.1680	5.3000e-004	0.0557	3.7000e-004	0.0561	0.0148	3.5000e-004	0.0152	0.0000	47.8120	47.8120	1.1400e-003	0.0000	47.8405
Total	**0.0290**	**0.2394**	**0.2153**	**1.1000e-003**	**0.0694**	**8.4000e-004**	**0.0703**	**0.0188**	**8.0000e-004**	**0.0196**	**0.0000**	**102.5114**	**102.5114**	**4.1400e-003**	**0.0000**	**102.6151**

3.5 Building Construction - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.2218	2.0300	2.1272	3.5000e-003		0.1052	0.1052		0.0990	0.0990	0.0000	301.2428	301.2428	0.0722	0.0000	303.0471
Total	**0.2218**	**2.0300**	**2.1272**	**3.5000e-003**		**0.1052**	**0.1052**		**0.0990**	**0.0990**	**0.0000**	**301.2428**	**301.2428**	**0.0722**	**0.0000**	**303.0471**

3.5 Building Construction - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	6.0200e-003	0.2113	0.0441	5.6000e-004	0.0137	4.0000e-004	0.0141	3.9500e-003	3.8000e-004	4.3400e-003	0.0000	53.9571	53.9571	2.8600e-003	0.0000	54.0286
Worker	0.0208	0.0143	0.1532	5.1000e-004	0.0555	3.6000e-004	0.0559	0.0148	3.3000e-004	0.0151	0.0000	45.8930	45.8930	1.0200e-003	0.0000	45.9185
Total	**0.0268**	**0.2256**	**0.1973**	**1.0700e-003**	**0.0692**	**7.6000e-004**	**0.0699**	**0.0187**	**7.1000e-004**	**0.0194**	**0.0000**	**99.8501**	**99.8501**	**3.8800e-003**	**0.0000**	**99.9471**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.2218	2.0300	2.1272	3.5000e-003		0.1052	0.1052		0.0990	0.0990	0.0000	301.2425	301.2425	0.0722	0.0000	303.0467
Total	**0.2218**	**2.0300**	**2.1272**	**3.5000e-003**		**0.1052**	**0.1052**		**0.0990**	**0.0990**	**0.0000**	**301.2425**	**301.2425**	**0.0722**	**0.0000**	**303.0467**

3.5 Building Construction - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	6.0200e-003	0.2113	0.0441	5.6000e-004	0.0137	4.0000e-004	0.0141	3.9500e-003	3.8000e-004	4.3400e-003	0.0000	53.9571	53.9571	2.8600e-003	0.0000	54.0286
Worker	0.0208	0.0143	0.1532	5.1000e-004	0.0555	3.6000e-004	0.0559	0.0148	3.3000e-004	0.0151	0.0000	45.8930	45.8930	1.0200e-003	0.0000	45.9185
Total	**0.0268**	**0.2256**	**0.1973**	**1.0700e-003**	**0.0692**	**7.6000e-004**	**0.0699**	**0.0187**	**7.1000e-004**	**0.0194**	**0.0000**	**99.8501**	**99.8501**	**3.8800e-003**	**0.0000**	**99.9471**

3.5 Building Construction - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1030	0.9422	1.0640	1.7600e-003		0.0458	0.0458		0.0431	0.0431	0.0000	151.8321	151.8321	0.0361	0.0000	152.7351
Total	**0.1030**	**0.9422**	**1.0640**	**1.7600e-003**		**0.0458**	**0.0458**		**0.0431**	**0.0431**	**0.0000**	**151.8321**	**151.8321**	**0.0361**	**0.0000**	**152.7351**

3.5 Building Construction - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.2200e-003	0.0824	0.0194	2.8000e-004	6.8800e-003	9.0000e-005	6.9700e-003	1.9900e-003	8.0000e-005	2.0700e-003	0.0000	26.4126	26.4126	1.1500e-003	0.0000	26.4414
Worker	9.7600e-003	6.4600e-003	0.0707	2.5000e-004	0.0280	1.8000e-004	0.0281	7.4400e-003	1.6000e-004	7.6000e-003	0.0000	22.2387	22.2387	4.6000e-004	0.0000	22.2502
Total	**0.0120**	**0.0889**	**0.0901**	**5.3000e-004**	**0.0349**	**2.7000e-004**	**0.0351**	**9.4300e-003**	**2.4000e-004**	**9.6700e-003**	**0.0000**	**48.6513**	**48.6513**	**1.6100e-003**	**0.0000**	**48.6916**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1030	0.9422	1.0640	1.7600e-003		0.0458	0.0458		0.0431	0.0431	0.0000	151.8319	151.8319	0.0361	0.0000	152.7349
Total	**0.1030**	**0.9422**	**1.0640**	**1.7600e-003**		**0.0458**	**0.0458**		**0.0431**	**0.0431**	**0.0000**	**151.8319**	**151.8319**	**0.0361**	**0.0000**	**152.7349**

3.5 Building Construction - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.2200e-003	0.0824	0.0194	2.8000e-004	6.8800e-003	9.0000e-005	6.9700e-003	1.9900e-003	8.0000e-005	2.0700e-003	0.0000	26.4126	26.4126	1.1500e-003	0.0000	26.4414
Worker	9.7600e-003	6.4600e-003	0.0707	2.5000e-004	0.0280	1.8000e-004	0.0281	7.4400e-003	1.6000e-004	7.6000e-003	0.0000	22.2387	22.2387	4.6000e-004	0.0000	22.2502
Total	**0.0120**	**0.0889**	**0.0901**	**5.3000e-004**	**0.0349**	**2.7000e-004**	**0.0351**	**9.4300e-003**	**2.4000e-004**	**9.6700e-003**	**0.0000**	**48.6513**	**48.6513**	**1.6100e-003**	**0.0000**	**48.6916**

3.6 Paving - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0284	0.2803	0.4011	6.3000e-004		0.0140	0.0140		0.0129	0.0129	0.0000	55.0739	55.0739	0.0178	0.0000	55.5192
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0284**	**0.2803**	**0.4011**	**6.3000e-004**		**0.0140**	**0.0140**		**0.0129**	**0.0129**	**0.0000**	**55.0739**	**55.0739**	**0.0178**	**0.0000**	**55.5192**

3.6 Paving - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.1400e-003	7.5000e-004	8.2400e-003	3.0000e-005	3.2600e-003	2.0000e-005	3.2800e-003	8.7000e-004	2.0000e-005	8.9000e-004	0.0000	2.5936	2.5936	5.0000e-005	0.0000	2.5949
Total	**1.1400e-003**	**7.5000e-004**	**8.2400e-003**	**3.0000e-005**	**3.2600e-003**	**2.0000e-005**	**3.2800e-003**	**8.7000e-004**	**2.0000e-005**	**8.9000e-004**	**0.0000**	**2.5936**	**2.5936**	**5.0000e-005**	**0.0000**	**2.5949**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0284	0.2803	0.4011	6.3000e-004		0.0140	0.0140		0.0129	0.0129	0.0000	55.0738	55.0738	0.0178	0.0000	55.5191
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0284**	**0.2803**	**0.4011**	**6.3000e-004**		**0.0140**	**0.0140**		**0.0129**	**0.0129**	**0.0000**	**55.0738**	**55.0738**	**0.0178**	**0.0000**	**55.5191**

3.6 Paving - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.1400e-003	7.5000e-004	8.2400e-003	3.0000e-005	3.2600e-003	2.0000e-005	3.2800e-003	8.7000e-004	2.0000e-005	8.9000e-004	0.0000	2.5936	2.5936	5.0000e-005	0.0000	2.5949
Total	**1.1400e-003**	**7.5000e-004**	**8.2400e-003**	**3.0000e-005**	**3.2600e-003**	**2.0000e-005**	**3.2800e-003**	**8.7000e-004**	**2.0000e-005**	**8.9000e-004**	**0.0000**	**2.5936**	**2.5936**	**5.0000e-005**	**0.0000**	**2.5949**

3.7 Architectural Coating - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	1.9006					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	5.2700e-003	0.0358	0.0498	8.0000e-005		1.9500e-003	1.9500e-003		1.9500e-003	1.9500e-003	0.0000	7.0215	7.0215	4.2000e-004	0.0000	7.0320
Total	**1.9059**	**0.0358**	**0.0498**	**8.0000e-005**		**1.9500e-003**	**1.9500e-003**		**1.9500e-003**	**1.9500e-003**	**0.0000**	**7.0215**	**7.0215**	**4.2000e-004**	**0.0000**	**7.0320**

3.7 Architectural Coating - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	8.3000e-004	5.5000e-004	6.0400e-003	2.0000e-005	2.3900e-003	2.0000e-005	2.4100e-003	6.4000e-004	1.0000e-005	6.5000e-004	0.0000	1.9020	1.9020	4.0000e-005	0.0000	1.9029
Total	**8.3000e-004**	**5.5000e-004**	**6.0400e-003**	**2.0000e-005**	**2.3900e-003**	**2.0000e-005**	**2.4100e-003**	**6.4000e-004**	**1.0000e-005**	**6.5000e-004**	**0.0000**	**1.9020**	**1.9020**	**4.0000e-005**	**0.0000**	**1.9029**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	1.9006					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	5.2700e-003	0.0358	0.0498	8.0000e-005		1.9500e-003	1.9500e-003		1.9500e-003	1.9500e-003	0.0000	7.0214	7.0214	4.2000e-004	0.0000	7.0319
Total	**1.9059**	**0.0358**	**0.0498**	**8.0000e-005**		**1.9500e-003**	**1.9500e-003**		**1.9500e-003**	**1.9500e-003**	**0.0000**	**7.0214**	**7.0214**	**4.2000e-004**	**0.0000**	**7.0319**

3.7 Architectural Coating - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	8.3000e-004	5.5000e-004	6.0400e-003	2.0000e-005	2.3900e-003	2.0000e-005	2.4100e-003	6.4000e-004	1.0000e-005	6.5000e-004	0.0000	1.9020	1.9020	4.0000e-005	0.0000	1.9029
Total	**8.3000e-004**	**5.5000e-004**	**6.0400e-003**	**2.0000e-005**	**2.3900e-003**	**2.0000e-005**	**2.4100e-003**	**6.4000e-004**	**1.0000e-005**	**6.5000e-004**	**0.0000**	**1.9020**	**1.9020**	**4.0000e-005**	**0.0000**	**1.9029**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.2404	1.8488	2.5830	0.0132	1.2232	8.2200e-003	1.2314	0.3285	7.6700e-003	0.3362	0.0000	1,224.0902	1,224.0902	0.0451	0.0000	1,225.2180
Unmitigated	0.2404	1.8488	2.5830	0.0132	1.2232	8.2200e-003	1.2314	0.3285	7.6700e-003	0.3362	0.0000	1,224.0902	1,224.0902	0.0451	0.0000	1,225.2180

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Single Family Housing	1,428.00	1,486.50	1293.00	3,272,879	3,272,879
Total	1,428.00	1,486.50	1,293.00	3,272,879	3,272,879

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Single Family Housing	10.80	4.80	5.70	31.00	15.00	54.00	86	11	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Single Family Housing	0.566339	0.035990	0.189848	0.102849	0.012430	0.005068	0.026569	0.050520	0.002280	0.001770	0.005305	0.000389	0.000644

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Kilowatt Hours of Renewable Electricity Generated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	145.3750	145.3750	6.1700e-003	1.2300e-003	145.8966
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	191.7075	191.7075	8.1300e-003	1.6300e-003	192.3954
NaturalGas Mitigated	0.0342	0.2925	0.1245	1.8700e-003		0.0237	0.0237		0.0237	0.0237	0.0000	338.7836	338.7836	6.4900e-003	6.2100e-003	340.7968
NaturalGas Unmitigated	0.0342	0.2925	0.1245	1.8700e-003		0.0237	0.0237		0.0237	0.0237	0.0000	338.7836	338.7836	6.4900e-003	6.2100e-003	340.7968

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Single Family Housing	6.34856e+006	0.0342	0.2925	0.1245	1.8700e-003		0.0237	0.0237		0.0237	0.0237	0.0000	338.7836	338.7836	6.4900e-003	6.2100e-003	340.7968
Total		**0.0342**	**0.2925**	**0.1245**	**1.8700e-003**		**0.0237**	**0.0237**		**0.0237**	**0.0237**	**0.0000**	**338.7836**	**338.7836**	**6.4900e-003**	**6.2100e-003**	**340.7968**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Single Family Housing	6.34856e+006	0.0342	0.2925	0.1245	1.8700e-003		0.0237	0.0237		0.0237	0.0237	0.0000	338.7836	338.7836	6.4900e-003	6.2100e-003	340.7968
Total		**0.0342**	**0.2925**	**0.1245**	**1.8700e-003**		**0.0237**	**0.0237**		**0.0237**	**0.0237**	**0.0000**	**338.7836**	**338.7836**	**6.4900e-003**	**6.2100e-003**	**340.7968**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Single Family Housing	1.19509e+006	191.7075	8.1300e-003	1.6300e-003	192.3954
Total		**191.7075**	**8.1300e-003**	**1.6300e-003**	**192.3954**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Single Family Housing	906255	145.3750	6.1700e-003	1.2300e-003	145.8966
Total		**145.3750**	**6.1700e-003**	**1.2300e-003**	**145.8966**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	1.2778	0.0128	1.1108	6.0000e-005		6.1800e-003	6.1800e-003		6.1800e-003	6.1800e-003	0.0000	1.8193	1.8193	1.7300e-003	0.0000	1.8627
Unmitigated	1.2778	0.0128	1.1108	6.0000e-005		6.1800e-003	6.1800e-003		6.1800e-003	6.1800e-003	0.0000	1.8193	1.8193	1.7300e-003	0.0000	1.8627

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.1901					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	1.0545					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0332	0.0128	1.1108	6.0000e-005		6.1800e-003	6.1800e-003		6.1800e-003	6.1800e-003	0.0000	1.8193	1.8193	1.7300e-003	0.0000	1.8627
Total	**1.2778**	**0.0128**	**1.1108**	**6.0000e-005**		**6.1800e-003**	**6.1800e-003**		**6.1800e-003**	**6.1800e-003**	**0.0000**	**1.8193**	**1.8193**	**1.7300e-003**	**0.0000**	**1.8627**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.1901					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	1.0545					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0332	0.0128	1.1108	6.0000e-005		6.1800e-003	6.1800e-003		6.1800e-003	6.1800e-003	0.0000	1.8193	1.8193	1.7300e-003	0.0000	1.8627
Total	**1.2778**	**0.0128**	**1.1108**	**6.0000e-005**		**6.1800e-003**	**6.1800e-003**		**6.1800e-003**	**6.1800e-003**	**0.0000**	**1.8193**	**1.8193**	**1.7300e-003**	**0.0000**	**1.8627**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	12.7261	0.2552	6.1000e-003	20.9246
Unmitigated	12.7261	0.2552	6.1000e-003	20.9246

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Single Family Housing	7.81848 / 6.1613	12.7261	0.2552	6.1000e-003	20.9246
Total		**12.7261**	**0.2552**	**6.1000e-003**	**20.9246**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Single Family Housing	7.81848 / 6.1613	12.7261	0.2552	6.1000e-003	20.9246
Total		**12.7261**	**0.2552**	**6.1000e-003**	**20.9246**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	27.4038	1.6195	0.0000	67.8917
Unmitigated	27.4038	1.6195	0.0000	67.8917

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Single Family Housing	135	27.4038	1.6195	0.0000	67.8917
Total		**27.4038**	**1.6195**	**0.0000**	**67.8917**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Single Family Housing	135	27.4038	1.6195	0.0000	67.8917
Total		**27.4038**	**1.6195**	**0.0000**	**67.8917**

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

N2O Operational GHG Emission Mobile Calculations

Project Code & Title: Fairview Specific Plan

Vehicle Population Breakdown*	
5460005	Gasoline vehicles
271191	Diesel vehicles
95.3%	Gasoline vehicle %
4.7%	Diesel vehicle %

VMT per Vehicle Type	
3272879	Project VMT (CalEEMod output)
3118012	Gasoline vehicle VMT
154867	Diesel vehicle VMT

Gasoline Vehicles	
95.3%	Gasoline vehicle %
1.8488	Tons per year mobile NOX emissions (annual output in CalEEMod)
1.76	Gasoline vehicle tons per year NOX emissions
0.0908	Tons per year N2O emissions for gasoline vehicles**
0.0824	Metric tons per year N2O emissions for gasoline vehicles

Diesel Vehicles	
1.60	grams N2O per gallon of fuel for diesel vehicles**
22.99	Diesel average miles per gallon*
0.06961	grams per mile N2O for diesel vehicles
10780.2	grams per year N2O for diesel vehicles
0.0107802	Metric tons per year N2O emissions for diesel vehicles

CO2e Emissions from N2O	
0.0932	Metric tons per year from gasoline + diesel vehicles
298	GWP of N2O***
27.8	**CO2e emissions per year from N2O emissions from gasoline + diesel vehicles**

Sources
***Vehicle population source:** EMFAC2017 (v1.0.2) Emissions Inventory Region Type: Air District Region: BAAQMD Calendar Year: 2030 Season: Annual Vehicle Classification: EMFAC2011 Categories ****Methodology source:** EMFAC2017 Volume III - Technical Documentation https://www.arb.ca.gov/msei/emfac2011-faq.htm *****GWP source:** Intergovernmental Panel on Climate Change (IPCC). 2007. AR4 Climate Change 2007: The Physical Science Basis. Contrbution of Working Group I to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change.

Fairview Specific Plan

Alameda County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Single Family Housing	300.00	Dwelling Unit	97.40	540,000.00	858

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	63
Climate Zone	5			**Operational Year**	2040
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	117.88	**CH4 Intensity (lb/MWhr)**	0.005	**N2O Intensity (lb/MWhr)**	0.001

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Intensity factors adjusted to levels for 2040 operational year.

Land Use - Estimated 300 new housing units by 2040.

Construction Phase - Construction emissions N/A.

Demolition -

Woodstoves - No woodstoves or fireplaces.

Construction Off-road Equipment Mitigation -

Energy Use - Title-24 electricity intensity reduced by 7 percent per 2019 Title 24 standards.

Water And Wastewater - Indoor water use reduced by 20 percent to account for reductions achieved by 2016 CALGreen (Part 11 of Title 24).

Solid Waste - Solid waste generation rate was reduced by 25% because unincorporated Alameda County had a solid waste diversion rate of 74% in 2017 and is close to meeting AB 341 goal of 75%.

Energy Mitigation - On-site renewable energy generated by required solar panels on new residences per State's 2019 Building Energy Efficiency Standards.

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblEnergyUse	T24E	217.68	202.44
tblFireplaces	NumberGas	75.00	0.00
tblFireplaces	NumberNoFireplace	24.00	0.00
tblFireplaces	NumberWood	129.00	0.00
tblProjectCharacteristics	CH4IntensityFactor	0.029	0.005
tblProjectCharacteristics	CO2IntensityFactor	641.35	117.88
tblProjectCharacteristics	N2OIntensityFactor	0.006	0.001
tblSolidWaste	SolidWasteGenerationRate	360.36	270.00
tblWater	IndoorWaterUseRate	19,546,207.69	15,636,966.00
tblWoodstoves	NumberCatalytic	12.00	0.00
tblWoodstoves	NumberNoncatalytic	12.00	0.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2020	0.4799	5.0212	3.1148	5.8200e-003	1.0141	0.2392	1.2533	0.4619	0.2209	0.6828	0.0000	511.2954	511.2954	0.1539	0.0000	515.1439
2021	0.3748	3.6661	3.0069	6.4200e-003	0.5285	0.1633	0.6918	0.1701	0.1521	0.3222	0.0000	568.4290	568.4290	0.1224	0.0000	571.4886
2022	0.2755	2.4813	2.5219	5.6400e-003	0.1383	0.1067	0.2450	0.0374	0.1004	0.1378	0.0000	500.9430	500.9430	0.0799	0.0000	502.9412
2023	0.2520	2.2229	2.4694	5.5700e-003	0.1383	0.0920	0.2304	0.0374	0.0866	0.1240	0.0000	494.4658	494.4658	0.0781	0.0000	496.4178
2024	0.2380	2.1117	2.4533	5.5700e-003	0.1394	0.0814	0.2208	0.0377	0.0766	0.1143	0.0000	494.0700	494.0700	0.0780	0.0000	496.0205
2025	0.2211	1.9718	2.4108	5.5000e-003	0.1389	0.0699	0.2087	0.0376	0.0657	0.1033	0.0000	488.1158	488.1158	0.0771	0.0000	490.0432
2026	0.2191	1.9674	2.3920	5.4600e-003	0.1389	0.0699	0.2087	0.0376	0.0657	0.1033	0.0000	484.4660	484.4660	0.0769	0.0000	486.3887
2027	3.3582	0.9569	1.4331	2.6900e-003	0.0450	0.0408	0.0858	0.0121	0.0380	0.0501	0.0000	237.2077	237.2077	0.0532	0.0000	238.5373
2028	0.5546	9.3700e-003	0.0169	3.0000e-005	1.3900e-003	4.2000e-004	1.8100e-003	3.7000e-004	4.2000e-004	7.9000e-004	0.0000	2.9605	2.9605	1.3000e-004	0.0000	2.9636
Maximum	**3.3582**	**5.0212**	**3.1148**	**6.4200e-003**	**1.0141**	**0.2392**	**1.2533**	**0.4619**	**0.2209**	**0.6828**	**0.0000**	**568.4290**	**568.4290**	**0.1539**	**0.0000**	**571.4886**

2.1 Overall Construction

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2020	0.4799	5.0212	3.1148	5.8200e-003	1.0141	0.2392	1.2533	0.4619	0.2209	0.6828	0.0000	511.2948	511.2948	0.1539	0.0000	515.1433
2021	0.3748	3.6661	3.0069	6.4200e-003	0.5285	0.1633	0.6918	0.1701	0.1521	0.3222	0.0000	568.4285	568.4285	0.1224	0.0000	571.4881
2022	0.2755	2.4813	2.5219	5.6400e-003	0.1383	0.1067	0.2450	0.0374	0.1004	0.1378	0.0000	500.9426	500.9426	0.0799	0.0000	502.9408
2023	0.2520	2.2229	2.4694	5.5700e-003	0.1383	0.0920	0.2304	0.0374	0.0866	0.1240	0.0000	494.4655	494.4655	0.0781	0.0000	496.4174
2024	0.2379	2.1117	2.4533	5.5700e-003	0.1394	0.0814	0.2208	0.0377	0.0766	0.1143	0.0000	494.0697	494.0697	0.0780	0.0000	496.0202
2025	0.2211	1.9718	2.4108	5.5000e-003	0.1389	0.0699	0.2087	0.0376	0.0657	0.1033	0.0000	488.1154	488.1154	0.0771	0.0000	490.0429
2026	0.2191	1.9674	2.3919	5.4600e-003	0.1389	0.0699	0.2087	0.0376	0.0657	0.1033	0.0000	484.4657	484.4657	0.0769	0.0000	486.3883
2027	3.3582	0.9569	1.4331	2.6900e-003	0.0450	0.0408	0.0858	0.0121	0.0380	0.0501	0.0000	237.2074	237.2074	0.0532	0.0000	238.5371
2028	0.5546	9.3700e-003	0.0169	3.0000e-005	1.3900e-003	4.2000e-004	1.8100e-003	3.7000e-004	4.2000e-004	7.9000e-004	0.0000	2.9605	2.9605	1.3000e-004	0.0000	2.9636
Maximum	**3.3582**	**5.0212**	**3.1148**	**6.4200e-003**	**1.0141**	**0.2392**	**1.2533**	**0.4619**	**0.2209**	**0.6828**	**0.0000**	**568.4285**	**568.4285**	**0.1539**	**0.0000**	**571.4881**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	1-28-2020	4-27-2020	1.1898	1.1898

2	**4-28-2020**	**7-27-2020**	1.3395	1.3395
3	**7-28-2020**	**10-27-2020**	1.6771	1.6771
4	**10-28-2020**	**1-27-2021**	1.7607	1.7607
5	**1-28-2021**	**4-27-2021**	1.4836	1.4836
6	**4-28-2021**	**7-27-2021**	0.7605	0.7605
7	**7-28-2021**	**10-27-2021**	0.7698	0.7698
8	**10-28-2021**	**1-27-2022**	0.7505	0.7505
9	**1-28-2022**	**4-27-2022**	0.6823	0.6823
10	**4-28-2022**	**7-27-2022**	0.6879	0.6879
11	**7-28-2022**	**10-27-2022**	0.6963	0.6963
12	**10-28-2022**	**1-27-2023**	0.6774	0.6774
13	**1-28-2023**	**4-27-2023**	0.6127	0.6127
14	**4-28-2023**	**7-27-2023**	0.6179	0.6179
15	**7-28-2023**	**10-27-2023**	0.6254	0.6254
16	**10-28-2023**	**1-27-2024**	0.6164	0.6164
17	**1-28-2024**	**4-27-2024**	0.5837	0.5837
18	**4-28-2024**	**7-27-2024**	0.5821	0.5821
19	**7-28-2024**	**10-27-2024**	0.5892	0.5892
20	**10-28-2024**	**1-27-2025**	0.5798	0.5798
21	**1-28-2025**	**4-27-2025**	0.5408	0.5408
22	**4-28-2025**	**7-27-2025**	0.5454	0.5454
23	**7-28-2025**	**10-27-2025**	0.5520	0.5520
24	**10-28-2025**	**1-27-2026**	0.5529	0.5529
25	**1-28-2026**	**4-27-2026**	0.5392	0.5392
26	**4-28-2026**	**7-27-2026**	0.5438	0.5438
27	**7-28-2026**	**10-27-2026**	0.5504	0.5504
28	**10-28-2026**	**1-27-2027**	0.5512	0.5512

29	**1-28-2027**	**4-27-2027**	0.4456	0.4456
30	**4-28-2027**	**7-27-2027**	0.3103	0.3103
31	**7-28-2027**	**10-27-2027**	1.7289	1.7289
32	**10-28-2027**	**1-27-2028**	2.2413	2.2413
		Highest	2.2413	2.2413

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	2.5554	0.0256	2.2178	1.2000e-004		0.0124	0.0124		0.0124	0.0124	0.0000	3.6386	3.6386	3.4600e-003	0.0000	3.7252
Energy	0.0685	0.5851	0.2490	3.7300e-003		0.0473	0.0473		0.0473	0.0473	0.0000	805.3685	805.3685	0.0184	0.0135	809.8535
Mobile	0.3497	3.6987	3.8773	0.0250	2.4484	0.0103	2.4587	0.6577	9.6300e-003	0.6674	0.0000	2,332.9737	2,332.9737	0.0846	0.0000	2,335.0875
Waste						0.0000	0.0000		0.0000	0.0000	54.8076	0.0000	54.8076	3.2390	0.0000	135.7834
Water						0.0000	0.0000		0.0000	0.0000	4.9609	6.8302	11.7911	0.5098	0.0121	28.1392
Total	**2.9736**	**4.3093**	**6.3440**	**0.0289**	**2.4484**	**0.0699**	**2.5183**	**0.6577**	**0.0693**	**0.7270**	**59.7685**	**3,148.8110**	**3,208.5795**	**3.8553**	**0.0256**	**3,312.5888**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	2.5554	0.0256	2.2178	1.2000e-004		0.0124	0.0124		0.0124	0.0124	0.0000	3.6386	3.6386	3.4600e-003	0.0000	3.7252
Energy	0.0685	0.5851	0.2490	3.7300e-003		0.0473	0.0473		0.0473	0.0473	0.0000	774.6218	774.6218	0.0171	0.0133	778.9965
Mobile	0.3497	3.6987	3.8773	0.0250	2.4484	0.0103	2.4587	0.6577	9.6300e-003	0.6674	0.0000	2,332.9737	2,332.9737	0.0846	0.0000	2,335.0875
Waste						0.0000	0.0000		0.0000	0.0000	54.8076	0.0000	54.8076	3.2390	0.0000	135.7834
Water						0.0000	0.0000		0.0000	0.0000	4.9609	6.8302	11.7911	0.5098	0.0121	28.1392
Total	**2.9736**	**4.3093**	**6.3440**	**0.0289**	**2.4484**	**0.0699**	**2.5183**	**0.6577**	**0.0693**	**0.7270**	**59.7685**	**3,118.0643**	**3,177.8328**	**3.8540**	**0.0253**	**3,281.7318**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.98**	**0.96**	**0.03**	**1.02**	**0.93**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	1/28/2020	6/15/2020	5	100	
2	Site Preparation	Site Preparation	6/16/2020	9/7/2020	5	60	
3	Grading	Grading	9/8/2020	4/12/2021	5	155	
4	Building Construction	Building Construction	4/13/2021	3/22/2027	5	1550	
5	Paving	Paving	3/23/2027	8/23/2027	5	110	
6	Architectural Coating	Architectural Coating	8/24/2027	1/24/2028	5	110	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 387.5

Acres of Paving: 0

Residential Indoor: 1,093,500; Residential Outdoor: 364,500; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Excavators	3	8.00	158	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	2	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Grading	Scrapers	2	8.00	367	0.48
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	108.00	32.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	22.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Demolition - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.1656	1.6601	1.0877	1.9400e-003		0.0829	0.0829		0.0771	0.0771	0.0000	169.9930	169.9930	0.0480	0.0000	171.1927
Total	**0.1656**	**1.6601**	**1.0877**	**1.9400e-003**	**0.0000**	**0.0829**	**0.0829**	**0.0000**	**0.0771**	**0.0771**	**0.0000**	**169.9930**	**169.9930**	**0.0480**	**0.0000**	**171.1927**

3.2 Demolition - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.5900e-003	1.9100e-003	0.0196	6.0000e-005	5.9300e-003	4.0000e-005	5.9700e-003	1.5800e-003	4.0000e-005	1.6200e-003	0.0000	5.2714	5.2714	1.4000e-004	0.0000	5.2748
Total	**2.5900e-003**	**1.9100e-003**	**0.0196**	**6.0000e-005**	**5.9300e-003**	**4.0000e-005**	**5.9700e-003**	**1.5800e-003**	**4.0000e-005**	**1.6200e-003**	**0.0000**	**5.2714**	**5.2714**	**1.4000e-004**	**0.0000**	**5.2748**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.1656	1.6601	1.0877	1.9400e-003		0.0829	0.0829		0.0771	0.0771	0.0000	169.9928	169.9928	0.0480	0.0000	171.1925
Total	**0.1656**	**1.6601**	**1.0877**	**1.9400e-003**	**0.0000**	**0.0829**	**0.0829**	**0.0000**	**0.0771**	**0.0771**	**0.0000**	**169.9928**	**169.9928**	**0.0480**	**0.0000**	**171.1925**

3.2 Demolition - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.5900e-003	1.9100e-003	0.0196	6.0000e-005	5.9300e-003	4.0000e-005	5.9700e-003	1.5800e-003	4.0000e-005	1.6200e-003	0.0000	5.2714	5.2714	1.4000e-004	0.0000	5.2748
Total	**2.5900e-003**	**1.9100e-003**	**0.0196**	**6.0000e-005**	**5.9300e-003**	**4.0000e-005**	**5.9700e-003**	**1.5800e-003**	**4.0000e-005**	**1.6200e-003**	**0.0000**	**5.2714**	**5.2714**	**1.4000e-004**	**0.0000**	**5.2748**

3.3 Site Preparation - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.5420	0.0000	0.5420	0.2979	0.0000	0.2979	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.1223	1.2725	0.6454	1.1400e-003		0.0659	0.0659		0.0607	0.0607	0.0000	100.2920	100.2920	0.0324	0.0000	101.1030
Total	**0.1223**	**1.2725**	**0.6454**	**1.1400e-003**	**0.5420**	**0.0659**	**0.6079**	**0.2979**	**0.0607**	**0.3586**	**0.0000**	**100.2920**	**100.2920**	**0.0324**	**0.0000**	**101.1030**

3.3 Site Preparation - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.8700e-003	1.3800e-003	0.0141	4.0000e-005	4.2700e-003	3.0000e-005	4.3000e-003	1.1400e-003	3.0000e-005	1.1600e-003	0.0000	3.7954	3.7954	1.0000e-004	0.0000	3.7979
Total	**1.8700e-003**	**1.3800e-003**	**0.0141**	**4.0000e-005**	**4.2700e-003**	**3.0000e-005**	**4.3000e-003**	**1.1400e-003**	**3.0000e-005**	**1.1600e-003**	**0.0000**	**3.7954**	**3.7954**	**1.0000e-004**	**0.0000**	**3.7979**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.5420	0.0000	0.5420	0.2979	0.0000	0.2979	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.1223	1.2725	0.6454	1.1400e-003		0.0659	0.0659		0.0607	0.0607	0.0000	100.2919	100.2919	0.0324	0.0000	101.1028
Total	**0.1223**	**1.2725**	**0.6454**	**1.1400e-003**	**0.5420**	**0.0659**	**0.6079**	**0.2979**	**0.0607**	**0.3586**	**0.0000**	**100.2919**	**100.2919**	**0.0324**	**0.0000**	**101.1028**

3.3 Site Preparation - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.8700e-003	1.3800e-003	0.0141	4.0000e-005	4.2700e-003	3.0000e-005	4.3000e-003	1.1400e-003	3.0000e-005	1.1600e-003	0.0000	3.7954	3.7954	1.0000e-004	0.0000	3.7979
Total	**1.8700e-003**	**1.3800e-003**	**0.0141**	**4.0000e-005**	**4.2700e-003**	**3.0000e-005**	**4.3000e-003**	**1.1400e-003**	**3.0000e-005**	**1.1600e-003**	**0.0000**	**3.7954**	**3.7954**	**1.0000e-004**	**0.0000**	**3.7979**

3.4 Grading - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.4554	0.0000	0.4554	0.1596	0.0000	0.1596	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.1847	2.0832	1.3263	2.5700e-003		0.0902	0.0902		0.0830	0.0830	0.0000	226.1098	226.1098	0.0731	0.0000	227.9380
Total	**0.1847**	**2.0832**	**1.3263**	**2.5700e-003**	**0.4554**	**0.0902**	**0.5456**	**0.1596**	**0.0830**	**0.2426**	**0.0000**	**226.1098**	**226.1098**	**0.0731**	**0.0000**	**227.9380**

3.4 Grading - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.8700e-003	2.1200e-003	0.0217	6.0000e-005	6.5600e-003	5.0000e-005	6.6100e-003	1.7500e-003	4.0000e-005	1.7900e-003	0.0000	5.8337	5.8337	1.5000e-004	0.0000	5.8375
Total	**2.8700e-003**	**2.1200e-003**	**0.0217**	**6.0000e-005**	**6.5600e-003**	**5.0000e-005**	**6.6100e-003**	**1.7500e-003**	**4.0000e-005**	**1.7900e-003**	**0.0000**	**5.8337**	**5.8337**	**1.5000e-004**	**0.0000**	**5.8375**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.4554	0.0000	0.4554	0.1596	0.0000	0.1596	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.1847	2.0832	1.3263	2.5700e-003		0.0902	0.0902		0.0830	0.0830	0.0000	226.1096	226.1096	0.0731	0.0000	227.9378
Total	**0.1847**	**2.0832**	**1.3263**	**2.5700e-003**	**0.4554**	**0.0902**	**0.5456**	**0.1596**	**0.0830**	**0.2426**	**0.0000**	**226.1096**	**226.1096**	**0.0731**	**0.0000**	**227.9378**

3.4 Grading - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.8700e-003	2.1200e-003	0.0217	6.0000e-005	6.5600e-003	5.0000e-005	6.6100e-003	1.7500e-003	4.0000e-005	1.7900e-003	0.0000	5.8337	5.8337	1.5000e-004	0.0000	5.8375
Total	**2.8700e-003**	**2.1200e-003**	**0.0217**	**6.0000e-005**	**6.5600e-003**	**5.0000e-005**	**6.6100e-003**	**1.7500e-003**	**4.0000e-005**	**1.7900e-003**	**0.0000**	**5.8337**	**5.8337**	**1.5000e-004**	**0.0000**	**5.8375**

3.4 Grading - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.4223	0.0000	0.4223	0.1414	0.0000	0.1414	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.1509	1.6704	1.1116	2.2300e-003		0.0715	0.0715		0.0658	0.0658	0.0000	196.1819	196.1819	0.0635	0.0000	197.7682
Total	**0.1509**	**1.6704**	**1.1116**	**2.2300e-003**	**0.4223**	**0.0715**	**0.4937**	**0.1414**	**0.0658**	**0.2071**	**0.0000**	**196.1819**	**196.1819**	**0.0635**	**0.0000**	**197.7682**

3.4 Grading - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.3000e-003	1.6400e-003	0.0172	5.0000e-005	5.6900e-003	4.0000e-005	5.7300e-003	1.5100e-003	4.0000e-005	1.5500e-003	0.0000	4.8850	4.8850	1.2000e-004	0.0000	4.8879
Total	**2.3000e-003**	**1.6400e-003**	**0.0172**	**5.0000e-005**	**5.6900e-003**	**4.0000e-005**	**5.7300e-003**	**1.5100e-003**	**4.0000e-005**	**1.5500e-003**	**0.0000**	**4.8850**	**4.8850**	**1.2000e-004**	**0.0000**	**4.8879**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.4223	0.0000	0.4223	0.1414	0.0000	0.1414	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.1509	1.6704	1.1116	2.2300e-003		0.0715	0.0715		0.0658	0.0658	0.0000	196.1817	196.1817	0.0635	0.0000	197.7679
Total	**0.1509**	**1.6704**	**1.1116**	**2.2300e-003**	**0.4223**	**0.0715**	**0.4937**	**0.1414**	**0.0658**	**0.2071**	**0.0000**	**196.1817**	**196.1817**	**0.0635**	**0.0000**	**197.7679**

3.4 Grading - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.3000e-003	1.6400e-003	0.0172	5.0000e-005	5.6900e-003	4.0000e-005	5.7300e-003	1.5100e-003	4.0000e-005	1.5500e-003	0.0000	4.8850	4.8850	1.2000e-004	0.0000	4.8879
Total	**2.3000e-003**	**1.6400e-003**	**0.0172**	**5.0000e-005**	**5.6900e-003**	**4.0000e-005**	**5.7300e-003**	**1.5100e-003**	**4.0000e-005**	**1.5500e-003**	**0.0000**	**4.8850**	**4.8850**	**1.2000e-004**	**0.0000**	**4.8879**

3.5 Building Construction - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1796	1.6473	1.5664	2.5400e-003		0.0906	0.0906		0.0852	0.0852	0.0000	218.8972	218.8972	0.0528	0.0000	220.2175
Total	**0.1796**	**1.6473**	**1.5664**	**2.5400e-003**		**0.0906**	**0.0906**		**0.0852**	**0.0852**	**0.0000**	**218.8972**	**218.8972**	**0.0528**	**0.0000**	**220.2175**

3.5 Building Construction - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	9.3600e-003	0.3235	0.0685	8.3000e-004	0.0199	6.7000e-004	0.0205	5.7500e-003	6.5000e-004	6.3900e-003	0.0000	79.2199	79.2199	4.3500e-003	0.0000	79.3287
Worker	0.0326	0.0232	0.2433	7.7000e-004	0.0807	5.4000e-004	0.0812	0.0215	5.0000e-004	0.0220	0.0000	69.2449	69.2449	1.6500e-003	0.0000	69.2863
Total	**0.0420**	**0.3467**	**0.3118**	**1.6000e-003**	**0.1006**	**1.2100e-003**	**0.1018**	**0.0272**	**1.1500e-003**	**0.0284**	**0.0000**	**148.4648**	**148.4648**	**6.0000e-003**	**0.0000**	**148.6150**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1796	1.6473	1.5664	2.5400e-003		0.0906	0.0906		0.0852	0.0852	0.0000	218.8970	218.8970	0.0528	0.0000	220.2172
Total	**0.1796**	**1.6473**	**1.5664**	**2.5400e-003**		**0.0906**	**0.0906**		**0.0852**	**0.0852**	**0.0000**	**218.8970**	**218.8970**	**0.0528**	**0.0000**	**220.2172**

3.5 Building Construction - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	9.3600e-003	0.3235	0.0685	8.3000e-004	0.0199	6.7000e-004	0.0205	5.7500e-003	6.5000e-004	6.3900e-003	0.0000	79.2199	79.2199	4.3500e-003	0.0000	79.3287
Worker	0.0326	0.0232	0.2433	7.7000e-004	0.0807	5.4000e-004	0.0812	0.0215	5.0000e-004	0.0220	0.0000	69.2449	69.2449	1.6500e-003	0.0000	69.2863
Total	**0.0420**	**0.3467**	**0.3118**	**1.6000e-003**	**0.1006**	**1.2100e-003**	**0.1018**	**0.0272**	**1.1500e-003**	**0.0284**	**0.0000**	**148.4648**	**148.4648**	**6.0000e-003**	**0.0000**	**148.6150**

3.5 Building Construction - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.2218	2.0300	2.1272	3.5000e-003		0.1052	0.1052		0.0990	0.0990	0.0000	301.2428	301.2428	0.0722	0.0000	303.0471
Total	**0.2218**	**2.0300**	**2.1272**	**3.5000e-003**		**0.1052**	**0.1052**		**0.0990**	**0.0990**	**0.0000**	**301.2428**	**301.2428**	**0.0722**	**0.0000**	**303.0471**

3.5 Building Construction - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0120	0.4226	0.0883	1.1300e-003	0.0273	8.0000e-004	0.0281	7.9000e-003	7.7000e-004	8.6700e-003	0.0000	107.9141	107.9141	5.7200e-003	0.0000	108.0572
Worker	0.0416	0.0286	0.3064	1.0100e-003	0.1110	7.3000e-004	0.1117	0.0295	6.7000e-004	0.0302	0.0000	91.7860	91.7860	2.0400e-003	0.0000	91.8370
Total	**0.0537**	**0.4512**	**0.3946**	**2.1400e-003**	**0.1383**	**1.5300e-003**	**0.1399**	**0.0374**	**1.4400e-003**	**0.0389**	**0.0000**	**199.7002**	**199.7002**	**7.7600e-003**	**0.0000**	**199.8941**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.2218	2.0300	2.1272	3.5000e-003		0.1052	0.1052		0.0990	0.0990	0.0000	301.2425	301.2425	0.0722	0.0000	303.0467
Total	**0.2218**	**2.0300**	**2.1272**	**3.5000e-003**		**0.1052**	**0.1052**		**0.0990**	**0.0990**	**0.0000**	**301.2425**	**301.2425**	**0.0722**	**0.0000**	**303.0467**

3.5 Building Construction - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0120	0.4226	0.0883	1.1300e-003	0.0273	8.0000e-004	0.0281	7.9000e-003	7.7000e-004	8.6700e-003	0.0000	107.9141	107.9141	5.7200e-003	0.0000	108.0572
Worker	0.0416	0.0286	0.3064	1.0100e-003	0.1110	7.3000e-004	0.1117	0.0295	6.7000e-004	0.0302	0.0000	91.7860	91.7860	2.0400e-003	0.0000	91.8370
Total	**0.0537**	**0.4512**	**0.3946**	**2.1400e-003**	**0.1383**	**1.5300e-003**	**0.1399**	**0.0374**	**1.4400e-003**	**0.0389**	**0.0000**	**199.7002**	**199.7002**	**7.7600e-003**	**0.0000**	**199.8941**

3.5 Building Construction - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.2045	1.8700	2.1117	3.5000e-003		0.0910	0.0910		0.0856	0.0856	0.0000	301.3462	301.3462	0.0717	0.0000	303.1383
Total	**0.2045**	**1.8700**	**2.1117**	**3.5000e-003**		**0.0910**	**0.0910**		**0.0856**	**0.0856**	**0.0000**	**301.3462**	**301.3462**	**0.0717**	**0.0000**	**303.1383**

3.5 Building Construction - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	8.8200e-003	0.3272	0.0772	1.0900e-003	0.0273	3.5000e-004	0.0277	7.9000e-003	3.3000e-004	8.2400e-003	0.0000	104.8440	104.8440	4.5700e-003	0.0000	104.9582
Worker	0.0388	0.0257	0.2805	9.8000e-004	0.1110	7.1000e-004	0.1117	0.0295	6.5000e-004	0.0302	0.0000	88.2756	88.2756	1.8200e-003	0.0000	88.3212
Total	**0.0476**	**0.3528**	**0.3577**	**2.0700e-003**	**0.1383**	**1.0600e-003**	**0.1394**	**0.0374**	**9.8000e-004**	**0.0384**	**0.0000**	**193.1197**	**193.1197**	**6.3900e-003**	**0.0000**	**193.2794**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.2045	1.8700	2.1117	3.5000e-003		0.0910	0.0910		0.0856	0.0856	0.0000	301.3458	301.3458	0.0717	0.0000	303.1380
Total	**0.2045**	**1.8700**	**2.1117**	**3.5000e-003**		**0.0910**	**0.0910**		**0.0856**	**0.0856**	**0.0000**	**301.3458**	**301.3458**	**0.0717**	**0.0000**	**303.1380**

3.5 Building Construction - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	8.8200e-003	0.3272	0.0772	1.0900e-003	0.0273	3.5000e-004	0.0277	7.9000e-003	3.3000e-004	8.2400e-003	0.0000	104.8440	104.8440	4.5700e-003	0.0000	104.9582
Worker	0.0388	0.0257	0.2805	9.8000e-004	0.1110	7.1000e-004	0.1117	0.0295	6.5000e-004	0.0302	0.0000	88.2756	88.2756	1.8200e-003	0.0000	88.3212
Total	**0.0476**	**0.3528**	**0.3577**	**2.0700e-003**	**0.1383**	**1.0600e-003**	**0.1394**	**0.0374**	**9.8000e-004**	**0.0384**	**0.0000**	**193.1197**	**193.1197**	**6.3900e-003**	**0.0000**	**193.2794**

3.5 Building Construction - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1928	1.7611	2.1179	3.5300e-003		0.0803	0.0803		0.0756	0.0756	0.0000	303.7223	303.7223	0.0718	0.0000	305.5179
Total	**0.1928**	**1.7611**	**2.1179**	**3.5300e-003**		**0.0803**	**0.0803**		**0.0756**	**0.0756**	**0.0000**	**303.7223**	**303.7223**	**0.0718**	**0.0000**	**305.5179**

3.5 Building Construction - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	8.6300e-003	0.3273	0.0745	1.0900e-003	0.0275	3.4000e-004	0.0279	7.9600e-003	3.3000e-004	8.2900e-003	0.0000	104.9188	104.9188	4.5500e-003	0.0000	105.0325
Worker	0.0365	0.0233	0.2609	9.4000e-004	0.1119	7.0000e-004	0.1126	0.0298	6.5000e-004	0.0304	0.0000	85.4289	85.4289	1.6500e-003	0.0000	85.4702
Total	**0.0452**	**0.3506**	**0.3354**	**2.0300e-003**	**0.1394**	**1.0400e-003**	**0.1404**	**0.0377**	**9.8000e-004**	**0.0387**	**0.0000**	**190.3477**	**190.3477**	**6.2000e-003**	**0.0000**	**190.5027**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1928	1.7611	2.1179	3.5300e-003		0.0803	0.0803		0.0756	0.0756	0.0000	303.7220	303.7220	0.0718	0.0000	305.5175
Total	**0.1928**	**1.7611**	**2.1179**	**3.5300e-003**		**0.0803**	**0.0803**		**0.0756**	**0.0756**	**0.0000**	**303.7220**	**303.7220**	**0.0718**	**0.0000**	**305.5175**

3.5 Building Construction - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	8.6300e-003	0.3273	0.0745	1.0900e-003	0.0275	3.4000e-004	0.0279	7.9600e-003	3.3000e-004	8.2900e-003	0.0000	104.9188	104.9188	4.5500e-003	0.0000	105.0325
Worker	0.0365	0.0233	0.2609	9.4000e-004	0.1119	7.0000e-004	0.1126	0.0298	6.5000e-004	0.0304	0.0000	85.4289	85.4289	1.6500e-003	0.0000	85.4702
Total	**0.0452**	**0.3506**	**0.3354**	**2.0300e-003**	**0.1394**	**1.0400e-003**	**0.1404**	**0.0377**	**9.8000e-004**	**0.0387**	**0.0000**	**190.3477**	**190.3477**	**6.2000e-003**	**0.0000**	**190.5027**

3.5 Building Construction - 2025

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1785	1.6273	2.0991	3.5200e-003		0.0689	0.0689		0.0648	0.0648	0.0000	302.6549	302.6549	0.0711	0.0000	304.4335
Total	**0.1785**	**1.6273**	**2.0991**	**3.5200e-003**		**0.0689**	**0.0689**		**0.0648**	**0.0648**	**0.0000**	**302.6549**	**302.6549**	**0.0711**	**0.0000**	**304.4335**

3.5 Building Construction - 2025

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	8.3700e-003	0.3234	0.0715	1.0800e-003	0.0274	3.4000e-004	0.0278	7.9300e-003	3.2000e-004	8.2600e-003	0.0000	103.8325	103.8325	4.4600e-003	0.0000	103.9441
Worker	0.0343	0.0211	0.2402	9.0000e-004	0.1114	6.9000e-004	0.1121	0.0296	6.3000e-004	0.0303	0.0000	81.6284	81.6284	1.4900e-003	0.0000	81.6656
Total	**0.0426**	**0.3445**	**0.3117**	**1.9800e-003**	**0.1389**	**1.0300e-003**	**0.1399**	**0.0376**	**9.5000e-004**	**0.0385**	**0.0000**	**185.4609**	**185.4609**	**5.9500e-003**	**0.0000**	**185.6097**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1784	1.6273	2.0991	3.5200e-003		0.0689	0.0689		0.0648	0.0648	0.0000	302.6545	302.6545	0.0711	0.0000	304.4331
Total	**0.1784**	**1.6273**	**2.0991**	**3.5200e-003**		**0.0689**	**0.0689**		**0.0648**	**0.0648**	**0.0000**	**302.6545**	**302.6545**	**0.0711**	**0.0000**	**304.4331**

3.5 Building Construction - 2025

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	8.3700e-003	0.3234	0.0715	1.0800e-003	0.0274	3.4000e-004	0.0278	7.9300e-003	3.2000e-004	8.2600e-003	0.0000	103.8325	103.8325	4.4600e-003	0.0000	103.9441
Worker	0.0343	0.0211	0.2402	9.0000e-004	0.1114	6.9000e-004	0.1121	0.0296	6.3000e-004	0.0303	0.0000	81.6284	81.6284	1.4900e-003	0.0000	81.6656
Total	**0.0426**	**0.3445**	**0.3117**	**1.9800e-003**	**0.1389**	**1.0300e-003**	**0.1399**	**0.0376**	**9.5000e-004**	**0.0385**	**0.0000**	**185.4609**	**185.4609**	**5.9500e-003**	**0.0000**	**185.6097**

3.5 Building Construction - 2026

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1785	1.6273	2.0991	3.5200e-003		0.0689	0.0689		0.0648	0.0648	0.0000	302.6549	302.6549	0.0711	0.0000	304.4335
Total	**0.1785**	**1.6273**	**2.0991**	**3.5200e-003**		**0.0689**	**0.0689**		**0.0648**	**0.0648**	**0.0000**	**302.6549**	**302.6549**	**0.0711**	**0.0000**	**304.4335**

3.5 Building Construction - 2026

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	8.1800e-003	0.3209	0.0695	1.0800e-003	0.0274	3.3000e-004	0.0278	7.9400e-003	3.2000e-004	8.2500e-003	0.0000	103.2203	103.2203	4.4100e-003	0.0000	103.3305
Worker	0.0324	0.0192	0.2234	8.7000e-004	0.1114	6.7000e-004	0.1121	0.0296	6.1000e-004	0.0303	0.0000	78.5908	78.5908	1.3500e-003	0.0000	78.6247
Total	**0.0406**	**0.3401**	**0.2929**	**1.9500e-003**	**0.1389**	**1.0000e-003**	**0.1399**	**0.0376**	**9.3000e-004**	**0.0385**	**0.0000**	**181.8111**	**181.8111**	**5.7600e-003**	**0.0000**	**181.9552**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1784	1.6273	2.0991	3.5200e-003		0.0689	0.0689		0.0648	0.0648	0.0000	302.6545	302.6545	0.0711	0.0000	304.4331
Total	**0.1784**	**1.6273**	**2.0991**	**3.5200e-003**		**0.0689**	**0.0689**		**0.0648**	**0.0648**	**0.0000**	**302.6545**	**302.6545**	**0.0711**	**0.0000**	**304.4331**

3.5 Building Construction - 2026

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	8.1800e-003	0.3209	0.0695	1.0800e-003	0.0274	3.3000e-004	0.0278	7.9400e-003	3.2000e-004	8.2500e-003	0.0000	103.2203	103.2203	4.4100e-003	0.0000	103.3305
Worker	0.0324	0.0192	0.2234	8.7000e-004	0.1114	6.7000e-004	0.1121	0.0296	6.1000e-004	0.0303	0.0000	78.5908	78.5908	1.3500e-003	0.0000	78.6247
Total	**0.0406**	**0.3401**	**0.2929**	**1.9500e-003**	**0.1389**	**1.0000e-003**	**0.1399**	**0.0376**	**9.3000e-004**	**0.0385**	**0.0000**	**181.8111**	**181.8111**	**5.7600e-003**	**0.0000**	**181.9552**

3.5 Building Construction - 2027

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0390	0.3554	0.4584	7.7000e-004		0.0150	0.0150		0.0141	0.0141	0.0000	66.0970	66.0970	0.0155	0.0000	66.4855
Total	**0.0390**	**0.3554**	**0.4584**	**7.7000e-004**		**0.0150**	**0.0150**		**0.0141**	**0.0141**	**0.0000**	**66.0970**	**66.0970**	**0.0155**	**0.0000**	**66.4855**

3.5 Building Construction - 2027

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.7500e-003	0.0695	0.0148	2.3000e-004	5.9900e-003	7.0000e-005	6.0600e-003	1.7300e-003	7.0000e-005	1.8000e-003	0.0000	22.4209	22.4209	9.5000e-004	0.0000	22.4447
Worker	6.7000e-003	3.8500e-003	0.0456	1.8000e-004	0.0243	1.4000e-004	0.0245	6.4700e-003	1.3000e-004	6.6000e-003	0.0000	16.5737	16.5737	2.7000e-004	0.0000	16.5804
Total	**8.4500e-003**	**0.0733**	**0.0604**	**4.1000e-004**	**0.0303**	**2.1000e-004**	**0.0305**	**8.2000e-003**	**2.0000e-004**	**8.4000e-003**	**0.0000**	**38.9945**	**38.9945**	**1.2200e-003**	**0.0000**	**39.0251**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0390	0.3554	0.4584	7.7000e-004		0.0150	0.0150		0.0141	0.0141	0.0000	66.0970	66.0970	0.0155	0.0000	66.4854
Total	**0.0390**	**0.3554**	**0.4584**	**7.7000e-004**		**0.0150**	**0.0150**		**0.0141**	**0.0141**	**0.0000**	**66.0970**	**66.0970**	**0.0155**	**0.0000**	**66.4854**

3.5 Building Construction - 2027

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.7500e-003	0.0695	0.0148	2.3000e-004	5.9900e-003	7.0000e-005	6.0600e-003	1.7300e-003	7.0000e-005	1.8000e-003	0.0000	22.4209	22.4209	9.5000e-004	0.0000	22.4447
Worker	6.7000e-003	3.8500e-003	0.0456	1.8000e-004	0.0243	1.4000e-004	0.0245	6.4700e-003	1.3000e-004	6.6000e-003	0.0000	16.5737	16.5737	2.7000e-004	0.0000	16.5804
Total	**8.4500e-003**	**0.0733**	**0.0604**	**4.1000e-004**	**0.0303**	**2.1000e-004**	**0.0305**	**8.2000e-003**	**2.0000e-004**	**8.4000e-003**	**0.0000**	**38.9945**	**38.9945**	**1.2200e-003**	**0.0000**	**39.0251**

3.6 Paving - 2027

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0503	0.4720	0.8018	1.2500e-003		0.0230	0.0230		0.0212	0.0212	0.0000	110.1059	110.1059	0.0356	0.0000	110.9962
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0503**	**0.4720**	**0.8018**	**1.2500e-003**		**0.0230**	**0.0230**		**0.0212**	**0.0212**	**0.0000**	**110.1059**	**110.1059**	**0.0356**	**0.0000**	**110.9962**

3.6 Paving - 2027

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.8000e-003	1.0300e-003	0.0122	5.0000e-005	6.5200e-003	4.0000e-005	6.5600e-003	1.7400e-003	3.0000e-005	1.7700e-003	0.0000	4.4423	4.4423	7.0000e-005	0.0000	4.4441
Total	**1.8000e-003**	**1.0300e-003**	**0.0122**	**5.0000e-005**	**6.5200e-003**	**4.0000e-005**	**6.5600e-003**	**1.7400e-003**	**3.0000e-005**	**1.7700e-003**	**0.0000**	**4.4423**	**4.4423**	**7.0000e-005**	**0.0000**	**4.4441**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0503	0.4720	0.8018	1.2500e-003		0.0230	0.0230		0.0212	0.0212	0.0000	110.1058	110.1058	0.0356	0.0000	110.9960
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0503**	**0.4720**	**0.8018**	**1.2500e-003**		**0.0230**	**0.0230**		**0.0212**	**0.0212**	**0.0000**	**110.1058**	**110.1058**	**0.0356**	**0.0000**	**110.9960**

3.6 Paving - 2027

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.8000e-003	1.0300e-003	0.0122	5.0000e-005	6.5200e-003	4.0000e-005	6.5600e-003	1.7400e-003	3.0000e-005	1.7700e-003	0.0000	4.4423	4.4423	7.0000e-005	0.0000	4.4441
Total	**1.8000e-003**	**1.0300e-003**	**0.0122**	**5.0000e-005**	**6.5200e-003**	**4.0000e-005**	**6.5600e-003**	**1.7400e-003**	**3.0000e-005**	**1.7700e-003**	**0.0000**	**4.4423**	**4.4423**	**7.0000e-005**	**0.0000**	**4.4441**

3.7 Architectural Coating - 2027

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	3.2484					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	8.0300e-003	0.0538	0.0850	1.4000e-004		2.4200e-003	2.4200e-003		2.4200e-003	2.4200e-003	0.0000	12.0003	12.0003	6.5000e-004	0.0000	12.0167
Total	**3.2564**	**0.0538**	**0.0850**	**1.4000e-004**		**2.4200e-003**	**2.4200e-003**		**2.4200e-003**	**2.4200e-003**	**0.0000**	**12.0003**	**12.0003**	**6.5000e-004**	**0.0000**	**12.0167**

3.7 Architectural Coating - 2027

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.2500e-003	1.2900e-003	0.0153	6.0000e-005	8.1800e-003	5.0000e-005	8.2200e-003	2.1700e-003	4.0000e-005	2.2200e-003	0.0000	5.5676	5.5676	9.0000e-005	0.0000	5.5699
Total	**2.2500e-003**	**1.2900e-003**	**0.0153**	**6.0000e-005**	**8.1800e-003**	**5.0000e-005**	**8.2200e-003**	**2.1700e-003**	**4.0000e-005**	**2.2200e-003**	**0.0000**	**5.5676**	**5.5676**	**9.0000e-005**	**0.0000**	**5.5699**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	3.2484					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	8.0300e-003	0.0538	0.0850	1.4000e-004		2.4200e-003	2.4200e-003		2.4200e-003	2.4200e-003	0.0000	12.0003	12.0003	6.5000e-004	0.0000	12.0166
Total	**3.2564**	**0.0538**	**0.0850**	**1.4000e-004**		**2.4200e-003**	**2.4200e-003**		**2.4200e-003**	**2.4200e-003**	**0.0000**	**12.0003**	**12.0003**	**6.5000e-004**	**0.0000**	**12.0166**

3.7 Architectural Coating - 2027

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.2500e-003	1.2900e-003	0.0153	6.0000e-005	8.1800e-003	5.0000e-005	8.2200e-003	2.1700e-003	4.0000e-005	2.2200e-003	0.0000	5.5676	5.5676	9.0000e-005	0.0000	5.5699
Total	**2.2500e-003**	**1.2900e-003**	**0.0153**	**6.0000e-005**	**8.1800e-003**	**5.0000e-005**	**8.2200e-003**	**2.1700e-003**	**4.0000e-005**	**2.2200e-003**	**0.0000**	**5.5676**	**5.5676**	**9.0000e-005**	**0.0000**	**5.5699**

3.7 Architectural Coating - 2028

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.5529					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.3700e-003	9.1600e-003	0.0145	2.0000e-005		4.1000e-004	4.1000e-004		4.1000e-004	4.1000e-004	0.0000	2.0426	2.0426	1.1000e-004	0.0000	2.0454
Total	**0.5543**	**9.1600e-003**	**0.0145**	**2.0000e-005**		**4.1000e-004**	**4.1000e-004**		**4.1000e-004**	**4.1000e-004**	**0.0000**	**2.0426**	**2.0426**	**1.1000e-004**	**0.0000**	**2.0454**

3.7 Architectural Coating - 2028

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.6000e-004	2.0000e-004	2.4400e-003	1.0000e-005	1.3900e-003	1.0000e-005	1.4000e-003	3.7000e-004	1.0000e-005	3.8000e-004	0.0000	0.9179	0.9179	1.0000e-005	0.0000	0.9182
Total	**3.6000e-004**	**2.0000e-004**	**2.4400e-003**	**1.0000e-005**	**1.3900e-003**	**1.0000e-005**	**1.4000e-003**	**3.7000e-004**	**1.0000e-005**	**3.8000e-004**	**0.0000**	**0.9179**	**0.9179**	**1.0000e-005**	**0.0000**	**0.9182**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.5529					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.3700e-003	9.1600e-003	0.0145	2.0000e-005		4.1000e-004	4.1000e-004		4.1000e-004	4.1000e-004	0.0000	2.0426	2.0426	1.1000e-004	0.0000	2.0454
Total	**0.5543**	**9.1600e-003**	**0.0145**	**2.0000e-005**		**4.1000e-004**	**4.1000e-004**		**4.1000e-004**	**4.1000e-004**	**0.0000**	**2.0426**	**2.0426**	**1.1000e-004**	**0.0000**	**2.0454**

3.7 Architectural Coating - 2028

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.6000e-004	2.0000e-004	2.4400e-003	1.0000e-005	1.3900e-003	1.0000e-005	1.4000e-003	3.7000e-004	1.0000e-005	3.8000e-004	0.0000	0.9179	0.9179	1.0000e-005	0.0000	0.9182
Total	**3.6000e-004**	**2.0000e-004**	**2.4400e-003**	**1.0000e-005**	**1.3900e-003**	**1.0000e-005**	**1.4000e-003**	**3.7000e-004**	**1.0000e-005**	**3.8000e-004**	**0.0000**	**0.9179**	**0.9179**	**1.0000e-005**	**0.0000**	**0.9182**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.3497	3.6987	3.8773	0.0250	2.4484	0.0103	2.4587	0.6577	9.6300e-003	0.6674	0.0000	2,332.9737	2,332.9737	0.0846	0.0000	2,335.0875
Unmitigated	0.3497	3.6987	3.8773	0.0250	2.4484	0.0103	2.4587	0.6577	9.6300e-003	0.6674	0.0000	2,332.9737	2,332.9737	0.0846	0.0000	2,335.0875

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Single Family Housing	2,856.00	2,973.00	2586.00	6,545,757	6,545,757
Total	2,856.00	2,973.00	2,586.00	6,545,757	6,545,757

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Single Family Housing	10.80	4.80	5.70	31.00	15.00	54.00	86	11	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Single Family Housing	0.564354	0.034948	0.188156	0.101714	0.011079	0.005040	0.028641	0.055840	0.002376	0.001564	0.005216	0.000439	0.000633

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Kilowatt Hours of Renewable Electricity Generated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	97.0547	97.0547	4.1200e-003	8.2000e-004	97.4030
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	127.8014	127.8014	5.4200e-003	1.0800e-003	128.2600
NaturalGas Mitigated	0.0685	0.5851	0.2490	3.7300e-003		0.0473	0.0473		0.0473	0.0473	0.0000	677.5671	677.5671	0.0130	0.0124	681.5936
NaturalGas Unmitigated	0.0685	0.5851	0.2490	3.7300e-003		0.0473	0.0473		0.0473	0.0473	0.0000	677.5671	677.5671	0.0130	0.0124	681.5936

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Single Family Housing	1.26971e+007	0.0685	0.5851	0.2490	3.7300e-003		0.0473	0.0473		0.0473	0.0473	0.0000	677.5671	677.5671	0.0130	0.0124	681.5936
Total		**0.0685**	**0.5851**	**0.2490**	**3.7300e-003**		**0.0473**	**0.0473**		**0.0473**	**0.0473**	**0.0000**	**677.5671**	**677.5671**	**0.0130**	**0.0124**	**681.5936**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Single Family Housing	1.26971e+007	0.0685	0.5851	0.2490	3.7300e-003		0.0473	0.0473		0.0473	0.0473	0.0000	677.5671	677.5671	0.0130	0.0124	681.5936
Total		**0.0685**	**0.5851**	**0.2490**	**3.7300e-003**		**0.0473**	**0.0473**		**0.0473**	**0.0473**	**0.0000**	**677.5671**	**677.5671**	**0.0130**	**0.0124**	**681.5936**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Single Family Housing	2.39018e+006	127.8014	5.4200e-003	1.0800e-003	128.2600
Total		**127.8014**	**5.4200e-003**	**1.0800e-003**	**128.2600**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Single Family Housing	1.81514e+006	97.0547	4.1200e-003	8.2000e-004	97.4030
Total		**97.0547**	**4.1200e-003**	**8.2000e-004**	**97.4030**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	2.5554	0.0256	2.2178	1.2000e-004		0.0124	0.0124		0.0124	0.0124	0.0000	3.6386	3.6386	3.4600e-003	0.0000	3.7252
Unmitigated	2.5554	0.0256	2.2178	1.2000e-004		0.0124	0.0124		0.0124	0.0124	0.0000	3.6386	3.6386	3.4600e-003	0.0000	3.7252

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.3801					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	2.1090					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0663	0.0256	2.2178	1.2000e-004		0.0124	0.0124		0.0124	0.0124	0.0000	3.6386	3.6386	3.4600e-003	0.0000	3.7252
Total	**2.5554**	**0.0256**	**2.2178**	**1.2000e-004**		**0.0124**	**0.0124**		**0.0124**	**0.0124**	**0.0000**	**3.6386**	**3.6386**	**3.4600e-003**	**0.0000**	**3.7252**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.3801					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	2.1090					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0663	0.0256	2.2178	1.2000e-004		0.0124	0.0124		0.0124	0.0124	0.0000	3.6386	3.6386	3.4600e-003	0.0000	3.7252
Total	**2.5554**	**0.0256**	**2.2178**	**1.2000e-004**		**0.0124**	**0.0124**		**0.0124**	**0.0124**	**0.0000**	**3.6386**	**3.6386**	**3.4600e-003**	**0.0000**	**3.7252**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	11.7911	0.5098	0.0121	28.1392
Unmitigated	11.7911	0.5098	0.0121	28.1392

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Single Family Housing	15.637 / 12.3226	11.7911	0.5098	0.0121	28.1392
Total		**11.7911**	**0.5098**	**0.0121**	**28.1392**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Single Family Housing	15.637 / 12.3226	11.7911	0.5098	0.0121	28.1392
Total		**11.7911**	**0.5098**	**0.0121**	**28.1392**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	54.8076	3.2390	0.0000	135.7834
Unmitigated	54.8076	3.2390	0.0000	135.7834

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Single Family Housing	270	54.8076	3.2390	0.0000	135.7834
Total		**54.8076**	**3.2390**	**0.0000**	**135.7834**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Single Family Housing	270	54.8076	3.2390	0.0000	135.7834
Total		**54.8076**	**3.2390**	**0.0000**	**135.7834**

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

N2O Operational GHG Emission Mobile Calculations

Project Code & Title: Fairview Specific Plan

Vehicle Population Breakdown*	
6244818	Gasoline vehicles
318131	Diesel vehicles
95.2%	Gasoline vehicle %
4.8%	Diesel vehicle %

VMT per Vehicle Type	
6545757	Project VMT (CalEEMod output)
6228459	Gasoline vehicle VMT
317298	Diesel vehicle VMT

Gasoline Vehicles	
95.2%	Gasoline vehicle %
3.6987	Tons per year mobile NOX emissions (annual output in CalEEMod)
3.52	Gasoline vehicle tons per year NOX emissions
0.1472	Tons per year N2O emissions for gasoline vehicles**
0.1335	Metric tons per year N2O emissions for gasoline vehicles

Diesel Vehicles	
1.60	grams N2O per gallon of fuel for diesel vehicles**
25.76	Diesel average miles per gallon*
0.06211	grams per mile N2O for diesel vehicles
19708.2	grams per year N2O for diesel vehicles
0.0197082	Metric tons per year N2O emissions for diesel vehicles

CO2e Emissions from N2O	
0.1532	Metric tons per year from gasoline + diesel vehicles
298	GWP of N2O***
45.7	**CO2e emissions per year from N2O emissions from gasoline + diesel vehicles**

Sources
***Vehicle population source:**
EMFAC2017 (v1.0.2) Emissions Inventory
Region Type: Air District
Region: BAAQMD
Calendar Year: 2040
Season: Annual
Vehicle Classification: EMFAC2011 Categories
****Methodology source:**
EMFAC2017 Volume III - Technical Documentation
https://www.arb.ca.gov/msei/emfac2011-faq.htm
*****GWP source:**
Intergovernmental Panel on Climate Change (IPCC). 2007.
AR4 Climate Change 2007: The Physical Science Basis.
Contrbution of Working Group I to the Fourth Assessment Report of the
Intergovernmental Panel on Climate Change.

Appendix B

Special-Status Species Tables

Table 1 Special-Status Animal Species Know to Occur or with Potential to Occur within a Five-Mile Radius of the Plan Area

Scientific Name Common Name	Status Federal/State Global/State Rank CDFW	Habitat Requirements
Mammals (6)		
Antrozous pallidus Pallid Bat	FS/— G5/S3 SSC	Deserts, grasslands, shrublands, woodlands, and forest. Most common in open, dry, habitats with rocky area for roosting. Roost must protect bats from high temperatures. Very sensitive to disturbance of roosting sites.
Eumops perotis Western Mastiff Bat	—/— G5/S2 SSC	Many open habitats, including conifer and deciduous woodlands, grassland, and chaparral. Roosts in crevices in cliff faces and high buildings.
Lasiurus cinereus Hoary Bat	—/— G5/S4 —	Thought to prefer trees at the edge of clearings, but have been found in trees in heavy forests, open wooded glades, and shade trees along urban streets and in city parks.
Neotoma fuscipes annectens San Francisco Dusky-Footed Woodrat	—/— G5T2T3/S2S3 SSC	Evergreen or live oaks and other thick-leaved trees and shrubs.
Reithrodontomys raviventris Salt-Marsh Harvest Mouse	FE/SE G1G2/S1S2 FP	Salt marshes, in particular those that support dense stands of pickleweed and are adjacent to upland, salt-tolerant vegetation, for escape during high tides.
Sorex vagrans halicoetes Salt-Marsh Wandering Shrew	—/— G5T1/S1 SSC	Confined to small remnant stands of salt marsh found around the southern arm of the San Francisco Bay in San Mateo, Santa Clara, Alameda, and Contra Costa counties. The known elevational range extends from approximately six to nine feet.
Birds (11)		
Accipiter cooperi Cooper's Hawk	—/— G5/S3 WL	Mature forest, open woodlands, wood edges, river groves. Nests in coniferous, deciduous, and mixed woods, typically those with tall trees and with openings or edge habitat nearby. Also found in trees along rivers through open country, and increasingly in suburbs and cities where some tall trees exist for nest sites. In winter may be in fairly open country, especially in west.
Accipiter striatus Sharp-Shinned Hawk	—/— G5/S4 WL	Found in forests and around forest edges, and not found where trees are scarce or scattered, except when migrating. They require dense forest, ideally with a closed canopy, for breeding. Occupy a wide range of elevations, from sea level to near treeline. In the winter season, may be found around forest edges, in somewhat more open habitats than the dense forests they breed in, as well as in suburban areas with bird feeders.
Aquila chrysaetos Golden Eagle	—/— G5/S3 FP	Live in open and semi-open country featuring native vegetation across most of the Northern Hemisphere. Typically avoid developed areas and uninterrupted stretches of forest. They are found primarily in mountains up to 12,000 feet, canyonlands, rimrock terrain, and riverside cliffs and bluffs. Nesting habitat includes cliffs and steep escarpments in grassland, chaparral, shrubland, forest, and other vegetated areas.

Scientific Name Common Name	Status Federal/State Global/State Rank CDFW	Habitat Requirements
Ardea Herodias Great Blue Heron	—/— G5/S4 S	Marshes, swamps, shores, tide flats. Very adaptable. Forages in any kind of calm fresh waters or slow-moving rivers, also in shallow coastal bays. Nests in trees or shrubs near water, sometimes on ground in areas free of predators.
Athene cunicularia Burrowing Owl	—/— G5/S3 SSC	Open grassland, prairies, farmland, and airfields. Favors areas of flat open ground with very short grass or bare soil. Prairiedog towns once furnished much ideal habitat in west, but these are now scarce, and the owls are found on airports, golf courses, vacant lots, industrial parks, other open areas.
Charadrius nivosus nivosus Western Snowy Plover	FT/— G3T3/S2 SSC	Shores, peninsulas, offshore islands, bays, estuaries, and rivers of the United States' Pacific Coast.
Dendroica petechial Yellow Warbler	—/— G5/S3 SSC	Bushes, swamp edges, streams, gardens. Breeds in a variety of habitats in east, including woods and thickets along edges of streams, lakes, swamps, and marshes, favoring willows, alders, and other moisture-loving plants. Also in dryer second-growth woods, orchards, roadside thickets. In west, restricted to streamside thickets. In winter in the tropics, favors semi-open country, woodland edges, and towns.
Geothlypis trichas sinuosa Saltmarsh Common Yellowthroat	—/— G5T2/S2 SSC	Salt marshes. Breeding: Nests just above ground or over water, in thick herbaceous vegetation, often at base of shrub or sapling, sometimes higher in weeds or shrubs up to about 1 m.
Laterallus jamaicensis coturniculus California Black Rail	—/ST G3G4T1/S1 FP	Nests in high portions of salt marshes, shallow freshwater marshes, wet meadows, and flooded grassy vegetation.
Melospiza melodia pusillula Alameda Song Sparrow	—/— G5T2?/S1 FP	Inhabits tidal salt marshes that have an appropriate configuration of vegetation, water, and exposed ground. Vegetation is required for nesting sites, song perches, and concealment from predators.
Sterna antillarum brownie California Least Tern	FE/SE G4T2T3Q/S2 FP	Seacoasts, beaches, bays, estuaries, lagoons, lakes and rivers, breeding on sandy or gravelly beaches and banks of rivers or lakes, rarely on flat rooftops of buildings.
Reptiles (2)		
Actinemys marmorata Western Pond turtle	—/— G3G4/S3 SSC	Found in ponds, lakes, rivers, streams, creeks, marshes, and irrigation ditches, with abundant vegetation, and either rocky or muddy bottoms. Also found in woodland, forest, and grassland. In streams, prefers pools to shallower areas. Logs, rocks, cattail mats, and exposed banks are required for basking. May enter brackish water and seawater.
Masticophis lateralis euryxanthus Alameda Whipsnake	FT/ST G4T2/S2 —	Open areas in canyons, rocky hillsides, chaparral scrublands, open woodlands, pond edges, and stream courses.
Amphibians (2)		
Ambystoma californiense California Tiger Salamander	FT/ST G2G3/S2S3 SSC	Frequents grassland, oak savanna, and edges of mixed woodland and lower elevation coniferous forest.

Scientific Name Common Name	Status Federal/State Global/State Rank CDFW	Habitat Requirements
Rana draytonii California Red-Legged Frog	FT/— G2G3/S2S3 SSC	Found mainly near ponds in humid forests, woodlands, grasslands, coastal scrub, and streamsides with plant cover. Most common in lowlands or foothills. Frequently found in woods adjacent to streams. Breeding habitat is in permanent or ephemeral water sources such as lakes, ponds, reservoirs, slow streams, marshes, bogs, and swamps. Ephemeral wetland habitats require animal burrows or other moist refuges for estivation when the wetlands are dry.
Fish (2)		
Oncorhynchus mykiss irideus Steelhead – Central California Coast DPS	FT/— G3/S2S3 —	In streams, deep low-velocity pools are important wintering habitats. Spawning habitat consists of gravel substrates free of excessive silt.
Spirinchus thaleichthys Longfin Smelt	FC/ST G5/S1 SSC	Encounter a wide range of water temperatures (up to 22 degrees C) and salinities (fresh to saltwater) during life cycle. Spend adult life in bays, estuaries, and nearshore coastal areas. Migrate into low salinity or freshwater reaches of coastal rivers and tributary streams to spawn.
Invertebrates (3)		
Bombus crotchii Crotch's Bumble Bee	—/— G3G4/S1S2 —	Found in open grassland and scrub habitats. Nests underground.
Bombus occidentalis Western Bumble Bee	—/— G2G3/S1 —	Open grassy areas, urban parks and gardens, chaparral and shrub areas, and mountain meadows.
Danaus plexippus pop. 1 Monarch – California Overwintering Population	—/— G4T2T3/S2S3 —	Open fields and meadows with milkweed.
Arachnids (1)		
Microcina lumi Lum's Micro-Blind Harvestman	—/— G1/S1 —	Serpentine grasslands.

Federal: FE = Federally Endangered, FT = Federally Threatened, FS = Federally Sensitive, FC = Federal Candidate Species, DL = Delisted

State: SE = State Endangered, ST = State Threatened, SR = State Rare, SS = State Sensitive, SC = State Candidate Species, WL = State Watch List

Global/State Rank: Global rank and state rank as per NatureServe and CDFW's CNDDB RareFind 5

CDFW: SSC = CDFW Species of Special Concern, FP = Fully Protected

Sources: CNDDB (CDFW 2017), USFWS (ECOS IPaC 2017)

Table 2 Special-Status Plant Species Know to Occur or with Potential to Occur within a Five-Mile Radius of the Plan Area

Scientific Name Common Name	Status Federal/ State Global/State Rank CRPR	Habitat Requirements
Astragalus tener var. tener Alkali Milk-Vetch	—/— G2T2/S2 1B.2	Bloom period: March-June. Playas, valley and foothill grassland (adobe clay), vernal pools. Alkaline.
Balsamorhiza macrolepis Big-Scale Balsamroot	—/— G2/S2 1B.2	Bloom period: March-June. Chaparral, cismontane woodland, valley and foothill grassland. Sometimes serpentine.
Centromadia parryi ssp. congdonii Congdon's Tarplant	—/— G3T2/S2 1B.1	Bloom period: May-November. Valley and foothill grassland. Alkaline.
Eryngium jepsonii Jepson's Coyote-Thistle	—/— G2?/S2? 1B.2	Bloom period: April-August. Valley and foothill grassland, vernal pools. Clay.
Fritillaria liliacea Fragrant Fritillary	—/— G2/S2 1B.2	Bloom period: February-April. Cismontane woodland, coastal prairie, coastal scrub, valley and foothill grassland.
Helianthella castanea Diablo Helianthella	—/— G2/S2 1B.2	Bloom period: March-June. Broadleafed upland forest, chaparral, cismontane woodland, coastal scrub, riparian woodland, valley and foothill grassland.
Holocarpha macradenia Santa Cruz Tarplant	FT/SE G1/S1 1B.1	Bloom period: June-October. Coastal prairie, coastal scrub, valley and foothill grassland. Often clay, sandy.
Hoita strobilina Loma Prieta Hoita	—/— G2/S2 1B.1	Bloom period: May-July. Chaparral, cismontane woodland, and riparian woodland. Usually serpentine, mesic.
Lasthenia conjugens Contra Costa Goldfields	FE/— G1/S1 1B.1	Bloom period: March-June. Cismontane woodland, playas (alkaline), valley and foothill grassland, vernal pools. Mesic.
Monolopia gracilens Woodland Woolythreads	—/— G2G3/S2S3 1B.2	Bloom period: February-July. Broadleafed upland forest (openings), chaparral (openings), cismontane woodland, North Coast coniferous forest (openings), valley and foothill grassland. Serpentine.
Plagiobothrys glaber Hairless Popcornflower	—/— GH/SH 1A	Bloom period: March-May. Meadows and seeps (alkaline), marshes and swamps (coastal salt).
Polemonium carneum Oregon Polemonium	—/— G3G4/S2 2B.2	Bloom period: April-September. Coastal prairie, coastal scrub, and lower montane coniferous forest.
Streptanthus albidus ssp. Permoenus Most Beautiful Jewelflower	—/— G2T2/S2 1B.2	Bloom period: March-October. Chaparral, cismontane woodland, valley and foothill grassland.

Scientific Name Common Name	Status Federal/ State Global/State Rank CRPR	Habitat Requirements
Suaeda californica California Seablite	FE/— G1/S1 1B.1	Bloom period: July-October. Marshes and swamps (coastal salt).

Federal: FE = Federally Endangered, FT = Federally Threatened, FS = Federally Sensitive, FC = Federal Candidate Species, DL = Delisted

State: SE = State Endangered, ST = State Threatened, SR = State Rare, SS = State Sensitive, SC = State Candidate Species, WL = State Watch List

Global/State Rank: Global rank and state rank as per NatureServe and CDFW's CNDDB RareFind 5

CRPR (California Rare Plant Rank): 1A = Presumed Extinct in California; 1B = Rare, Threatened or Endangered in California and elsewhere; 2 = Rare, Threatened, or Endangered in California, but more common elsewhere; 3 = Need more information (a Review List); 4 = Plants of Limited Distribution (a Watch List)

Sources: CNDDB (CDFW 2017), CNPS (2017), USFWS (ECOS IPaC 2017)