

DRAFT

PROGRAM
ENVIRONMENTAL IMPACT REPORT

CITY OF GRAND TERRACE
GENERAL PLAN UPDATE

and

**AMENDMENT NO. 6 TO THE REDEVELOPMENT PLAN FOR
THE REVISED GRAND TERRACE COMMUNITY
REDEVELOPMENT PROJECT**

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January 2010

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EXECUTIVE SUMMARY

PROJECT LOCATION

The City of Grand Terrace (City) is located in the San Bernardino Valley within San Bernardino County approximately 58 miles east of Los Angeles (Exhibit 2-1). The City occupies approximately 3.6 square miles and is bounded by the Santa Ana River to the northwest, Blue Mountain to the east, and the City of Colton to the north, east, and west. Main Street within the City marks the southern limit of the City and coincides with the boundary between San Bernardino and Riverside counties. Interstate-215 (I-215) traverses the northwest portion of the City. The City's Sphere of Influence encompasses current City limits.

PROJECT SUMMARY

GENERAL PLAN UPDATE

The City recently conducted a comprehensive update of their 1988 City of Grand Terrace General Plan. Updates were made throughout the General Plan and to the following General Plan Elements: Land Use, Circulation, Open Space and Conservation, Public Health and Safety, Noise, Public Services and Facilities, Housing, and Sustainable Development.

The Updated General Plan was updated in several ways. It has been reorganized to be more consistent with the format articulated in the *2003 General Plan Guidelines* prepared by the State of California Governor's Office of Planning and Research (OPR); existing environmental conditions have been updated to reflect current conditions; the goals of the General Plan have been modified to better reflect the relationship between the General Plan and its relevance to the citizens of Grand Terrace; its Land Use Element and attendant Land Use Plan has been modified to facilitate greater diversity in future development options for the relatively few vacant and/or underutilized parcels remaining in the City; and, several other elements were modified to reflect changes to the Land Use Element.

AMENDMENT NO. 6 TO THE GRAND TERRACE COMMUNITY REDEVELOPMENT PROJECT REDEVELOPMENT PLAN

The Redevelopment Plan for the Grand Terrace Community Redevelopment Project was originally adopted by the City Council in 1979 via Ordinance No.25. In accordance with California Community Redevelopment Law (CCRL; California Health and Safety Code Section 33000, et seq.), it provides the Redevelopment Agency of the City of Grand Terrace with powers, duties and obligations to implement a program for the redevelopment, rehabilitation, and revitalization of areas within the Plan boundaries. The Redevelopment Plan has since undergone five amendments, in 1980, 1981, 1999, 2002 and 2004, respectively. In 1980, the City Council adopted Ordinance No. 31, the first amendment to the Redevelopment Plan, which provided for allocations to certain taxing agencies. In 1981, the City Council's approval of the second amendment to the Redevelopment Plan expanded the Project Area to include all lands within the City limits. City Council approval of a third Redevelopment Plan amendment in 1999 authorized the use of eminent domain to acquire non-residentially zoned property, or with the owner's consent. The fourth amendment adopted via Ordinance No.202 in 2002 clarified the

description of the Redevelopment Plan's dollar limit on tax increment revenue. Redevelopment Plan Amendment No.5, approved by the City Council in 2004, extended the duration of the Redevelopment Plan and the time limit on paying indebtedness or receiving property taxes.

- The currently proposed sixth amendment to the Redevelopment Plan comprises certain modifications primarily aimed at maximizing the Redevelopment Agency's financial ability to implement the Redevelopment Plan. Specifically, the proposed modifications are to:
- Increase the Plan's limit on the amount of bonded debt that may be outstanding at one time, from \$15 million to approximately \$75 million;
- Increase the Plan's cumulative tax increment revenue limit from \$70 million (net of taxing agency payments) to approximately \$225 million (net of taxing agency payments);
- Extend the duration of the Plan and time limit to collect tax increment revenue by seven years (pursuant to Health and Safety Code Sections 33333.6(a), 33333.6(b), and 33333.6(e)(2)(C);
- Rescind Agency's authority to commence eminent domain within the Project Area, effective immediately following effectiveness of the Redevelopment Plan Amendment;
- Replace descriptions of land uses of the Plan (as contained in Section IV. Uses Permitted in Project Area, pp. 33-42) with language that directly refers to adopted General Plan, zoning and other local land use policies, as they may be amended from time to time; and,
- Amend and restate the Redevelopment Plan to incorporate prior amendments into a single document.

PROJECT OBJECTIVES

GENERAL PLAN UPDATE

- Update the General Plan to be more consistent with the format articulated in the Office of Planning and Research 2003 General Plan Guidelines.
- Update existing environmental conditions.
- Update General Plan goals to better reflect the relationship between the General Plan and the citizens of Grand Terrace.
- Provide a basis for informative policy decisions when considering development associated with implementation of the General Plan.
- Guide future physical development in the City and provide for a high-quality visual image of the City.
- Update City environmental baseline (i.e., existing) conditions to the year 2007/2008.

- Update the General Plan Land Use Element and attendant Land Use Plan to facilitate greater diversity in future development options for vacant and/or underutilized parcels remaining in the City.
- Update City General Plan elements to establish consistency with the updated Land Use Element.
- Accommodate growth on undeveloped and underdeveloped properties within the City.
- Accommodate future demand to the City street system and infrastructure.
- Promote new commercial development that will capitalize on City proximity to major transportation corridors.
- Maintain and continue to develop Grand Terrace's established commercial areas.
- Continue to promote development of quality housing for all segments of the population and households with special needs.
- Ensure residents are provided with a safe and healthful environment in which to live and work.
- Preserve those amenities that make Grand Terrace an attractive place to live and work.
- Mitigate and eventually eliminate, where economically feasible, natural and manmade hazards to life and public safety within the City of Grand Terrace.
- Conserve energy and other critical natural resources through a comprehensive program for sustainable development practices.
- Provide for balanced growth which seeks to provide opportunities for a wide range of employment, housing, and maintenance of a healthy diversified economy.

AMENDMENT TO THE REDEVELOPMENT PLAN

- Enact modifications to the City Redevelopment Plan to maximize the Redevelopment Agency's financial ability to implement the Redevelopment Plan.
- Update Redevelopment Plan land use descriptions to make the descriptions consistent with language that directly refers to adopted General Plan, zoning, and other local land use policies.

PROJECT IMPACT

The City determined that a Program EIR should be prepared pursuant to the California Environmental Quality Act (CEQA) and the *CEQA Guidelines*. The environmental issues identified by the City for assessment in the Program EIR include:

- Aesthetics

- Air Quality
- Biological Resources
- Cultural Resources
- Geology and Soils
- Hazards/Hazardous Materials
- Hydrology/Water Quality
- Land Use and Planning
- Noise
- Population and Housing
- Public Services
- Recreation
- Transportation/Circulation
- Utilities and Service Systems

Chapter 4 of this Program EIR provides a description of potential environmental impacts of the proposed General Plan Update and Amendment to the Redevelopment Plan and recommends mitigation measures to reduce impacts to a less than significant level, where feasible. After implementation of the recommended mitigation measures most of the significant or potentially significant impacts associated with the proposed General Plan would be reduced to a less than significant level. However, the impacts listed below could not be feasibly mitigated and would result in a significant and unavoidable impact with implementation of the proposed General Plan Update and Amendment to the Redevelopment Plan.

Air Quality The Proposed Project is expected to generate emissions levels that exceed daily South Coast Air Quality Management District thresholds. This impact would remain significant even with the implementation of proposed General Plan Policies and recommended mitigation measures.

Noise The Proposed Project would result in permanent noise increases that would remain significant and unavoidable even with the implementation of proposed General Plan Policies and recommended mitigation measures.

The following summary table (Table ES-1) presents environmental impacts associated with the proposed project, the level of significance before mitigation for each impact, relevant policies proposed in the General Plan Update, recommended mitigation measures, and the level of significance of each impact after mitigation has been implemented.

**Table ES-1
Summary of Environmental Impacts and Mitigation Measures**

Potential Impacts	Mitigation Measures	Level of Significance After Mitigation
4A – Aesthetics		
Impact 4A-1: Have a significant impact if it would have a substantial adverse effect on a scenic vista.		
While future development pursuant to the General Plan Update may be visible to some observers, it would not substantially degrade views of Blue Mountain or the background ridgelines.	No mitigation required	Less than significant.
Impact 4A-2: Have a significant impact if it would substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a State scenic highway.		
There are also no designated scenic routes in the City. No impacts on scenic resources, within a State scenic highway would occur.	No mitigation required	Less than significant.
Impact 4A-3: Have a significant impact if it would substantially degrade the existing visual character or quality of the City and its surroundings.		
With application of the goals and policies in the General Plan Update and the City's Zoning Code, development pursuant to the General Plan Update would not substantially degrade the existing visual character or quality of the City and its surroundings.	No mitigation required	Less than significant.
Impact 4A-4: Have a significant impact if it would create a new source of substantial light or glare that would adversely affect day or nighttime views in the area.		
Future development pursuant to the General Plan Update would be generally adjacent to existing sources of light. Compliance with current City Zoning Code and City's design review process would reduce any effects on day or nighttime views to a less than significant level.	No mitigation required	Less than significant.
4B - Air Quality		
Impact 4B-1: Have a significant impact if it would conflict with or obstruct implementation of the applicable air quality plan.		
The proposed project is consistent with the Goals and Policies of San Bernardino Association of Government's (SANBAG's) Regional Comprehensive Plan and the 2007 AQMP.	No mitigation required	Less than significant.
Impact 4B-2: Have a significant impact if it would violate any air quality standard or contribute substantially to an existing or projected air quality violation.		
No new violations of the CO standards are projected. Additionally, subsequent CEQA documentation prepared for individual projects would have project-specific data and will be required to address, and if necessary, mitigate any potential CO impacts to a less than significant level.	No mitigation required	Less than significant.
Impact 4B-3: Have a significant impact if it would expose sensitive receptors to substantial pollutant concentrations.		
No long-term significant CO impacts are anticipated. Subsequent CEQA documentation prepared for individual projects would be required to address, and if necessary, mitigate any potential near term CO impacts to a level of less than significant.	No mitigation required	Less than significant.
Impact 4B-4: Have a significant impact if it would create objectionable odors affecting a substantial number of people.		
Future residential and commercial development are not anticipated to generate significant odors.	No mitigation required	Less than significant

Potential Impacts	Mitigation Measures	Level of Significance After Mitigation
Impact 4B-5: Would 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 (including releasing emissions that exceed quantitative thresholds for ozone precursors).		
The proposed project is expected to generate emissions levels that will exceed the daily SCAQMD thresholds for ROG, NO _x , CO, PM ₁₀ , and PM _{2.5} in the Basin, which is classified as a non-attainment area. Goals and Policies that are included in the General Plan will facilitate continued City cooperation with the SCAQMD and SANBAG to achieve regional air quality improvement goals, promotion of energy conservation design and development techniques, encouragement of alternative transportation modes, and implementation of transportation demand management strategies.	<p>MM4B-1 The City shall reduce vehicle emissions caused by traffic congestion by implementing transportation systems management techniques, such as synchronized traffic signals and limiting on-street parking. (This mitigation measure shall be included as Action 4.7.1.b of the Open Space and Conservation Element.)</p> <p>MM4B-2 The City shall consider the feasibility of diverting commercial truck traffic to off-peak periods to alleviate non-recurrent congestion as a means to improve roadway efficiency. (This mitigation measure shall be included as Action 4.7.1.c of the Open Space and Conservation Element.)</p>	Impacts would be significant and unavoidable.
Impact 4B-6: Would result in an increase in GHG emissions that would significantly hinder or delay the State's ability to meet the reduction targets contained in AB 32.		
The General Plan Update proposes several Goal, Policies, and Actions that serve to minimize GHG emissions. However, due to the size of the General Plan project area, there is still the potential for significant for GHG emissions.	MM4B-3 The City shall encourage new construction incorporate irrigation designs to assist in conserving potable water, such as computerized irrigation systems, drought-tolerant and smog-tolerant trees, shrubs, and groundcover, and the use of recycled water. (This mitigation measure shall be included as Action 9.7.2.b of the Sustainable Development Element.)	Impacts would be less than significant with mitigation.
4C – Biological Resources		
Impact 4C-1: Have a significant impact if it would 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 game or U.S. Fish and Wildlife Service.		
Several General Plan Policies in the Open Space and Conservation Element serve to reduce potential impacts to sensitive species that may occur with the development of land consistent with the proposed General Plan Update and Redevelopment Plan Update. Impacts from development within the City will be mitigated through compliance with USFWS and CDFG requirements and the NCCP/HCP for the Central/Coastal Subregion.	No mitigation required	Less than significant.
Impact 4C-2: Have a significant impact if it would have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Service.		
Potential impacts to riparian or other habitat related to development in accordance with the General Plan Update will be mitigated through compliance with USACE regulations under Section 404 and CDFG regulations under Section 1601-1603. In addition, mitigation measures will be required at the project level pursuant to CEQA and the above mentioned regulations to minimize the impacts of development.	No mitigation required	Less than significant.

Potential Impacts	Mitigation Measures	Level of Significance After Mitigation
Impact 4C-3: Have a significant impact if it would have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means.		
Potential impacts to riparian or other habitat related to development in accordance with the General Plan Update will be mitigated through compliance with USACE regulations under Section 404 and CDFG regulations under Section 1601-1603. In addition, mitigation measures will be required at the project level pursuant to CEQA and the above mentioned regulations to minimize the impacts of development.	No mitigation required	Less than significant.
Impact 4C-4: Have a significant impact if it would conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.		
Future projects initiated in accordance with the General Plan would comply with all relevant policies and ordinances relating to tree preservation.	No mitigation required	Less than significant
4D – Cultural Resources		
Impact 4D-1: Have a significant impact if it would cause a substantial adverse change in the significance of a historical resource as defined in Section 15064.5 of the CEQA Guidelines.		
Impacts regarding future development would be conducted on a project by project basis and be required to comply with all applicable State and federal regulations concerning preservation of historic resources. Implementation of General Plan Goal 4.9, and its related Policy and Actions would also minimize any impacts to historical resources.	No mitigation required	Less than significant.
Impact 4D-2: Have a significant impact if it would cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5 of the CEQA Guidelines or directly or indirectly destroy a unique paleontological resource or site or unique geologic feature.		
Cultural resources within the City include prehistoric or protohistoric sites. There are no known paleontological resources or sites within the City. Implementation of General Plan Goal 4.9 and Policy 4.9.1 with its related Actions would minimize any impacts to archaeological resources that may occur with buildout of the proposed General Plan. All archaeological and paleontological resources are also subject to the provisions of CEQA (Public Resources Code) Section 21083.2.	No mitigation required	Less than significant.
Impact 4D-3: Have a significant impact if it would disturb any human remains, including those interred outside of formal cemeteries.		
No human remains or burial sites are known to exist on the potential future development properties. In the unlikely event human remains are discovered during grading or construction activities, adherence to provisions of Health and Safety Code §7050.5 and State law sufficiently mitigates for potential impacts to human remains	No mitigation required	Less than significant.
4E – Geology and Soils		
Impact 4E-1: Have a significant impact if it would expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving strong seismic ground shaking.		
The effects of seismically induced ground shaking are probably the most critical potential seismic hazards to the City. Policies found in the Open Space and Conservation Element (4.3.1 and 4.3.2) and the Public Health and Safety Element (5.1.1 through 5.1.4), and associated Actions that encourage the avoidance of geotechnically hazardous	No mitigation required	Less than significant

Potential Impacts	Mitigation Measures	Level of Significance After Mitigation
areas, and compliance with existing seismic design standards will minimize potential seismic hazards in the City to less than significant levels.		
Impact 4E-2: Have a significant impact if it would expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving landslides.		
The steep slope areas of Blue Mountain, should they be underlain by weak soils, may present a significant hazard in terms of potential landslides. Goal 5.2 within the Proposed General Plan Update Public Health and Safety Element and Policies 5.2.1 and 5.2.2, including associated Actions would ensure that the hazards associated with landslides would be reduced to a less than significant level.	No mitigation required	Less than significant
Impact 4E-3: Have a significant impact if it would result in substantial soil erosion or the loss of topsoil.		
The Blue Mountain area has potential for soil erosion during rain. Because the NPDES permit requirements of the RWQCB and the City's Building Code must be satisfied prior to project construction, the potential hazards posed by substantial soil erosion or the loss of topsoil would be regulated and reduced to a less than significant level.	No mitigation required	Less than significant
Impact 4E-4: Have a significant impact if it would 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.		
Landslide hazards are present on the slopes of Blue Mountain. Policies proposed in the General Plan Update Public Health and Safety Element (Policies 5.2.1 and 5.2.2 and associated Actions) would ensure that the hazards would be reduced to a less than significant level.	No mitigation required	Less than significant
4F – Hazards/Hazardous Materials		
Impact 4F-1: Have a significant impact if it would 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 total decrease of dedicated industrial and commercial uses and the increase in mixed-use designations would result in a decrease in the amount of hazardous materials used, generated, or transported. Implementation of General Plan Policies and Actions regarding land use buffering (Policies 2.3.5 and 2.4.1 through 2.4.4), extension of business routes (Policy 3.1.2), and truck route designation (Policies 3.3.4, 5.4.1 and 5.4.2) and Policies 5.4.3 and 5.4.4 regarding public information on hazardous waste use and collection will all serve to minimize potential impacts associated with potential releases of hazardous materials into the environment.	No mitigation required	Less than significant
Impact 4F-2: Have a significant impact if it would emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school.		
Implementation of General Plan Policies and Actions regarding land use buffering (Policies 2.3.5 and 2.4.1 through 2.4.4), extension of business routes (Policy 3.1.2), truck route designation (Policies 3.3.4, 5.4.1 5.4.2), and dissemination of public information on hazardous waste use and collection (Policies 5.4.3 and 5.4.4) will all serve to minimize potential impacts associated with potential releases of hazardous materials near schools.	No mitigation required	Less than significant

Potential Impacts	Mitigation Measures	Level of Significance After Mitigation
Impact 4F-3: Have a significant impact if it would impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.		
The City maintains an emergency operations center, participates in the Statewide Master Mutual Aid Agreement, and maintains a Community Emergency Response Team (CERT) program. Implementation of General Plan Goal 5.5, Policies 5.5.1 through 5.5.3 and related Actions will ensure that the City prepares for emergency responses throughout the City.	No mitigation required	Less than significant
Impact 4F-4: Have a significant impact if it would expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands.		
Wildland fires would continue to pose a significant threat to the people and structures of the City. The Blue Mountain area is more susceptible to wildland fires as a result of its larger proportion of vegetation and open space. Implementation of General Plan Policies and Actions that encourage the application of an open space land use designation to high fire hazard areas (Policy 4.3.7 and 4.5.5), policies that ensure adequate fire fighting capacity and adequate water supply and pressure (7.6.1 and 7.6.2) and policies that encourage public fire education (7.6.3) will all help minimize potential impacts associated with potential releases of hazardous materials. Policies 5.6.1 through 5.6.3 and their implementing Actions will also ensure that impacts to wildland and urban interface fires are minimized.	No mitigation required	Less than significant
4G – Hydrology/Water Quality		
Impact 4G-1: Have a significant impact if it would violate water quality standards and waste discharge requirements, or otherwise substantially degrade water quality.		
Future development projects resulting from implementation of the proposed General Plan Update and Amendment to the Redevelopment Plan may contribute to water quality degradation in the City. General Plan Policies (Policies 4.8.1, 4.8.2, 5.3.4, 7.2.1, 7.2.2, and 7.3.1, including their implementing Action) that reinforce compliance with the National Pollutant Discharge Elimination System (NPDES), encourage teamwork with the local water supplier to achieve water quality and wastewater discharge standards, and promote public education about water conservation and pollution, will minimize potential impacts related to water quality.	No mitigation required	Less than significant
Impact 4G-2: Have a significant impact if it would substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level.		
Implementation of the proposed General Plan Update would increase demand for water supplies. Implementation of General Plan Policies 7.2.1, 7.2.3, 9.7.1, 9.7.2 and associated implementing Actions will conserve and enhance the City's water supply and will minimize potential impacts related to groundwater supplies.	No mitigation required	Less than significant
Impact 4G-3: Have a significant impact if it would result in impacts to drainage patterns in the City of Grand Terrace and contribute runoff water to the stormwater drainage systems in the City. In addition, implementation of the proposed General Plan Update and Amendment to the Redevelopment Plan may create or contribute runoff water to the stormwater drainage systems in the City.		

Potential Impacts	Mitigation Measures	Level of Significance After Mitigation
Subsequent development associated with implementation of the proposed General Plan Update may contribute to runoff, which may exceed the capacity of the existing drainage system. New development projects associated with implementation of the proposed General Plan Update would be required to ensure adequate capacity to accommodate new development. Compliance with the policies and implementation measures included in the proposed General Plan Update (Goals 4.8, 5.3, Policies 4.8.1, 4.8.2, 5.3.3, 5.3.4 and their implementing Action) will minimize potential impacts related to drainage system capacity.	No mitigation required	Less than significant
Impact 4G-4: Have a significant impact if it would result in potential flooding impacts within the City of Grand Terrace.		
The primary flood hazard in Grand Terrace is the Santa Ana River located along the northwest corner of the City. The General Plan Update Policies (4.3.3 through 4.3.6 and 5.3.1 through 5.3.3) and related implementing Actions will minimize potential impacts related to flooding.	No mitigation required	Less than significant
Impact 4G-5: Have a significant impact if it would expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam.		
Development resulting from implementation of the proposed General Plan Update would not increase the hazards of dam inundation. However, urban uses would be located in dam inundation areas. Implementation of the General Plan Goal 5.3 and Policies (5.3.1 through 5.3.3) with related Actions will protect the City from flood hazards resulting from dam failure and inundation and decrease these hazards to a less than significant level.	No mitigation required	Less than significant
4H - Land Use and Planning		
Impact 4H-1: Have a significant impact if it would physically divide an established community.		
Specific changes to land use designations would not physically divide an existing community.	No mitigation required	Less than significant
Impact 4H-2: Have a significant impact if it would conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the Project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect.		
The General Plan proposes a new Mixed Use designation. The Mixed Use designation may include residential, commercial, business park, open space, and recreational uses. This change in land use policy could result in approximately 1.2 million square feet of non-residential uses, 175 dwelling units, and the incorporation of recreation and open space uses. Projects within the City, including the land uses identified above will be subject to proposed General Plan Goals, Policies and Actions and will not conflict with any applicable land use plan, policy or regulations, and will serve to assure avoidance or mitigation of significant environmental impacts.	No mitigation required	Less than significant
Impact 4H-3: Have a significant impact if it would conflict with any applicable habitat conservation plan or natural community conservation plan.		
The Proposed Project was found not to conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or State habitat conservation plan.	No mitigation required	Less than significant

Potential Impacts	Mitigation Measures	Level of Significance After Mitigation
4I – Noise		
Impact 4I-1: Result in significant impacts if people are exposed to noise levels in excess of standards established in the General Plan, Noise Ordinance and applicable standards of other agencies		
Future train activity along the BNSF railroad is anticipated to increase the year 2025, to 120 freight trains and 100 passenger trains per day. Buildout of the Proposed General Plan will result in conversion of existing land uses into a mixed use designation which will allow residential and commercial land uses in close proximity of each other. Compliance with existing regulations and the proposed General Plan Policies, Noise/Land Use Compatibility Matrix, and Noise Standards identified above would reduce potential conflicts with established standards set forth in the General Plan, Municipal Code as well as standards set forth by State and Federal agencies. Implementation of mitigation measure MM4I-1, listed below will further reduce the potential for noise impacts related rail operations.	MM4I-1 The City shall enforce the General Plan Noise Element Interior Noise Standards presented in Table 4I-2 by requiring submittal of evidence / documentation showing that interior noise levels will not exceed 45 dBA.	Less than significant
Impact 4I-2: Result in a significant impact if it creates a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project.		
General Plan buildout will result in traffic volumes that result in noise level of increases of 5 dBA or greater along most Circulation Element roadways.	MM4I-1	Remains Significant
Future train activity along the BNSF railroad is anticipated to increase and future rail noise will increase significantly. With implementation of MM4I-1 and Proposed General Plan Policies 6.3.6 through 6.3.8, impacts related to rail activity would be reduced to a level below significance.	MM4I-1	Less than significant
The conversion of existing land uses to a mixed use designation is the most likely to result in a noise/land use compatibility impact. Implementation of General Plan Policies 6.1.1, 6.2.2, 6.2.2b, 6.2.3, 6.2.4, 6.2.5, and 6.2.5b will reduce potential impacts related to stationary noise sources to a level below significance.	No mitigation required	Less than significant
IMPACT 4I-3: Result in a significant impact if it creates a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project.		
Implementation of the Proposed General Plan will result in construction activities. Construction noise may result in temporary substantial increases in noise levels. Adherence to Municipal Code Section 8.108.040 which prohibits construction activities between the hours of eight p.m. and seven a.m. on weekdays, including Saturday, or at any time on Sunday or a national holiday will reduce impacts to a level below significance.	No mitigation required	Less than significant
The Proposed Project would accommodate the development of additional residential and mixed-use development, which may result in an increased number of residents registering noise complaints from neighboring uses. Continuing enforcement of the Municipal Code would reduce potential nuisance noise impacts to the extent feasible.	No mitigation required	Less than significant
IMPACT 4I-4: Result in a significant impact if it exposes people to excessive groundborne vibration or groundborne noise levels.		
The currently undeveloped land located in the west and	No mitigation required	Less than significant

Potential Impacts	Mitigation Measures	Level of Significance After Mitigation
southwestern portion of the City would most likely to be subjected to temporary construction related vibration impacts. Adherence to Municipal Code Section 8.108.040 which prohibits vibration created by construction activities between the hours of eight p.m. and seven a.m. on weekdays, including Saturday, or at any time on Sunday or a national holiday will reduce impacts to a level below significance.		
New development that may occur adjacent to either the BNSF or the UPRR rail line may be exposed to vibration impacts.	MM4I-2: For Land Use Categories defined in Table 4I-6, a ground-borne vibration technical study shall be required for proposed land uses within the following distances from the either the UPRR or BNSF rail line rights-of-way and the property line: 600 feet of a Category 1 Land Use, 200 feet of a Category 2 Land Use, and 120 feet of a Category 3 Land Use. If necessary, mitigation shall be required for land uses in compliance with the standards listed in Table 4I-6.	Less than significant
4J – Population and Housing		
Impact 3J-1: Induce substantial population growth in an area, either directly (for example, proposing new homes and business) or indirectly (for example, through extension roads or other infrastructure).		
Potential residential growth is not considered significant.	No mitigation required	Less than significant
Impact 3J-2: Displace substantial numbers of people and/or housing units necessitating the construction of replacement housing elsewhere.		
The Amended Redevelopment Plan contains several requirements that will reduce the potential significant impacts related to displacement of existing housing and people to a less than significant level.	No mitigation required	Less than significant
4K - Public Services		
Impact 4K-1: Have a significant impact if it would result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, 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 or the public services: fire protection, police protection, schools, parks, or other public facilities.		
Fire Protection - Build out of the proposed General Plan Update would result in additional demands on existing fire services. The remodel of the Grand Terrace Fire Station reduced potential service and facility related impacts to a less than significant level. In addition, General Plan Goals 5.5, 7.1, 7.6 Policies 4.3.9, 5.5.1, 7.1.1, 7.1.2, 7.6.1 through 7.6.3 and their related Actions will support the activities of the San Bernardino County Fire Department. As a result of these Goals, Policies and Action the impact of population growth under the General Plan Update would be a less than significant impact to fire services.	No mitigation required	Less than significant
Police Protection - No service shortfall requiring additional personnel or equipment is anticipated as a result of the implementation of the proposed Grand Terrace General Plan Update. The goals and policies in the proposed General Plan Update (Goal 7.1 and 7.5, and Policies 7.5.1 and 7.5.2) and their implementing Actions would reduce impacts resulting from the proposed General Plan Update to a less than significant level.	No mitigation required	Less than significant

Potential Impacts	Mitigation Measures	Level of Significance After Mitigation
Schools - as school facilities within Grand Terrace are either near or in excess of capacity, significant impacts to school facilities would result from implementation of the proposed General Plan Update. The General Plan Update Goal (7.7) and Policies (7.7.1 and 7.7.2), including their implementing Actions would ensure that school services maintain acceptable service levels.	No mitigation required	Less than significant
Parks - The City of Grand Terrace General Plan Update assumes at build-out, the total park and recreational acreage required is approximately 63 acres. Currently, the City of Grand Terrace has 100.2 acres of developed, undeveloped, and recreational areas (including schools) available for use.	No mitigation required	Less than significant
Libraries - Implementation of goals and policies in the General Plan Update (Goals 7.1 and Policies 7.1.6) would ensure that library services maintain acceptable service levels and reduce impacts to a less than significant level.	No mitigation required	Less than significant
4L - Recreation		
Impact 4L-1: Have a significant impact if it would increase us of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated or require construction or expansion of recreational facilities, which might have an adverse effect on the environment.		
The City of Grand Terrace General Plan Update assumes at build-out, the total park and recreational acreage required is approximately 63 acres. Currently, the City of Grand Terrace has 100.2 acres of developed, undeveloped, and recreational areas (including schools) available for use.	No mitigation required	Less than significant
4M – Traffic/Circulation		
Impact 4M-1: Cause an increase in traffic that is substantial in relation to the existing traffic load and capacity of the street system (i.e., result in a substantial increase in either the number of vehicle trips, the volume to capacity ratio on roads, or congestion at intersections).		
With the incorporation of the recommendations of the Traffic Study as discussed above, all roadway segments under City of Grand Terrace jurisdiction would operate at an acceptable LOS for the proposed General Plan Update. The recommendations constitute the proposed Circulation Plan for the City of Grand Terrace.	No mitigation required	Less than significant
Impact 4M-2: Would exceed, either individually or cumulatively, a level of service standard established by the county congestion management agency for designated roads or highways.		
The Proposed Project is consistent with the CMP.	No mitigation required	Less than significant
Impact 4M-3: Would substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections” or incompatible uses (e.g., farm equipment).		
The alignment of Commerce Way across the UPRR rail line would potentially result in an incompatible design feature. The incorporation of MM 4M would require consultation and coordination with the UPRR Company in the design and construction of Commerce Way across the rail line to ensure a safe intersection.	MM4M-1 The City shall ensure that the design of Commerce Way at the UPRR line is coordinated with the UPRR Company. MM4M-2 The City shall evaluate proposed railroad crossing design options with UPRR Company and the California Public Utility Commission to ensure compliance with all state design criteria.	Less than significant
Impact 4M-4: Result in inadequate emergency access.		
Proposed development projects would be required to comply with the City’s development review process including review for compliance with the City’s Zoning Code. Individual projects would be reviewed by the San	No mitigation required	Less than significant

Potential Impacts	Mitigation Measures	Level of Significance After Mitigation
Bernardino County Fire Protection District to determine the specific fire requirements applicable to the specific development and to ensure compliance with these requirements. Implementation of Goals, Policies and Actions of the General Plan Update (Goal 3.3, Policies 3.3.1 through 3.3.5, 5.5.1 and associated Actions), result in less than significant impacts.		
Impact 4M-5: The project would conflict with adopted policies, plans, or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks).		
Implementation of the proposed General Plan Update would not conflict with adopted policies, plans, or programs supporting alternative transportation (i.e., bus routes). In addition, implementation of goals and policies of the General Plan Update (Goals 3.5, 9.5, Policies 3.5.1 through 3.5.7, 9.5.1 through 9.5.3 and associated Actions) would minimize impacts and a less than significant impact would occur in this regard.	No mitigation required	Less than significant
4N – Utilities and Service Systems		
Impact 4N-1: The Proposed Project would have a significant impact if it would exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board.		
Implementation of the General Plan Update would facilitate future land development in the City and therefore generate increased demands for wastewater treatment services. In addition, the implementation of goals and policies of the General Plan (Goal 7.3 and Policies 7.3.1 and 7.3.2) would ensure that applicable wastewater treatment requirements are met. Compliance with these policies and requirements would ensure that the impacts related to wastewater treatment requirements would be less than significant.	No mitigation required	Less than significant

AREAS OF CONTROVERSY AND ISSUES TO BE RESOLVED

In addition to a summary of each significant effect and the proposed mitigation measures to reduce or avoid that effect, *CEQA Guidelines* Section 15123(b)(2) requires that areas of controversy known to the Lead Agency be stated in the EIR summary. This discussion includes issues raised by other agencies and the public, and issues to be resolved including the choice among alternatives that would mitigate the significant effects identified in the EIR.

A Notice of Preparation (NOP) for the Draft EIR was distributed to State, regional, and local agencies, as well as the State Clearinghouse on January 22, 2008, for a 30-day review period ending on February 22, 2008. The purpose of the NOP is to solicit public comment in order to determine the full range and scope of issues of concern so that these issues might be fully examined in the EIR. An Initial Study (IS) was distributed with the NOP. Ten written comments were received in response to the NOP.

On February 11, 2008, the City conducted a scoping meeting to solicit oral comments on the NOP. Eight speakers provided oral comments during the scoping meeting. Specific EIR-related comments included circulation/traffic, aesthetics, land use, noise, recreational resources, agricultural resources, hazardous materials, and cumulative impacts.

The Initial Study, Notice of Preparation, NOP response letters, and summary of oral Scoping comments are included in Appendix A of the Draft EIR. A summary of the ten written NOP response letters is provided in Table ES-2.

Table ES-2
Summary of Written and Oral Comments Provided During Scoping Meeting

Commenting Agency/Person	Date	Summary of Comment	Where addressed in the EIR
State of California Governor's Office of Planning and Research	1/28/08	This letter acknowledges receipt and distribution of the NOP, and provided a State Clearinghouse Number	N/A
Omnitrans	1/31/08	Omnitrans request that the General Plan include goals and policies related to transit services.	Chapter 4M.
Southern California Association of Governments (SCAG)	2/7/08	This letter suggests that the EIR discuss consistencies and/or inconsistencies with applicable general plans and regional plans.	Chapter 5
San Bernardino County Department of Public Works	2/12/08	This letter suggests that several actions be taken to assess impacts related to solid waste, including handling recycling, construction, and demolition debris, hazardous waste generation, availability of commercial waste haulers and expected increases in traffic due to hauler routes.	Chapters 4F, 4M and 4N.
Burrtec Waste Industries, Inc.	2/12/08	This letter acknowledges receipt of the NOP letter and states that there are not concerns.	N/A
Native American Heritage Commission (NAHC)	2/13/08	This letter suggests that several actions be taken to assess the proposed project's impacts on cultural resources, including contacting the California Historic Resources Information Center for a records search, the preparation of a professional report if an archaeological inventory survey is required, and early consultation with tribes in the area. This letter also indicates that the Lead Agency should include provisions for the identification and evaluation of accidentally discovered archaeological resources and provisions for the discovery of Native American human remains.	Chapter 4D.
Southern California Air Quality Management District (SCAQMD)	2/15/08	The District requests the evaluation air quality impacts, and suggests the use of regional, Local Significance Thresholds and Health Risk Assessment to identify potential impacts. The District also recommends the incorporation of all feasible mitigation measures.	Chapter 4B.
State of California Public Utilities Commission	2/20/08	This letter acknowledges receipt of the NOP and expresses concern regarding the increased traffic volumes in relation to railroad safety.	Chapter 4M.
Morongo Band of Mission Indians	2/21/08	The Tribe requests that potential impacts to Native American cultural resources be considered.	Chapter 4D.
City of Colton	2/25/08	The City of Colton requests an evaluation of land use compatibility specifically for land uses in the Mixed-Use area, an evaluation of cumulative projects, an evaluation of potential traffic impacts to City streets, and potential impacts related to hydrology and water quality.	Chapters 3, 4G, 4H, and 4M.

Commenting Agency/Person	Date	Summary of Comment	Where addressed in the EIR
Union Pacific Railroad Company (UPRR)	2/25/08	This letter requests evaluation of potential impacts relating to land use compatibility and existing UPRR rail lines, land use buffering, noise buffering and potential impacts from road crossings.	Chapters 4H, 4I, and 4M.

SUMMARY OF PROJECT ALTERNATIVES

Chapter 5, Alternatives Analysis, analyzes three reasonable alternatives to the proposed project, and evaluates the comparative merits of each alternative. Potential environmental impacts associated with the alternatives are compared to the impacts from the proposed project. The alternatives include: No Project/Existing General Plan, Reduced Development Intensity Alternative and the Expanded Mixed Use Alternative.

The No Project/Existing General Plan Alternative describes build out of the City of Grand Terrace in accordance with existing zoning and General Plan land use designations and policies of the current General Plan, which was last comprehensively updated in 1988. This Alternative assumes that the Existing General Plan would continue to provide outdated information regarding several issues, such as land uses, traffic conditions, community noise levels, air quality data, public services and utilities levels of service, and population, employment and housing. This Alternative assumes that ultimate build out of the existing General Plan would occur. The No Project/Existing General Plan Alternative encompasses the same geographic area as that in the proposed General Plan Update.

The Reduced Development Intensity Alternative assumes growth would occur but an overall reduced intensity. The Expanded Mixed Use Alternative would be similar to the Proposed Project but would result in a larger percentage of land in the City designated as Mixed Use. A more detailed description of Alternatives and their impacts is found in Section 6 of this document.

CHAPTER 1 - INTRODUCTION

1.1 DOCUMENT PURPOSE AND SCOPE

The California Environmental Quality Act (CEQA) requires all State and local agencies to consider environmental consequences of projects over which they have discretionary authority. An Environmental Impact Report (EIR) is intended to provide decision makers and the public with information concerning environmental effects of a proposed project, ways to reduce or avoid potential environmental damage, and alternatives to the project. An EIR must also disclose significant environmental impacts that cannot be avoided, growth inducing impacts, effects not found to be significant, and significant cumulative impacts of all past, present, and reasonably anticipated future projects.

This EIR has is intended to serve as a Program EIR or a “first tier EIR.” *CEQA Guidelines* Section 15168 States that a Program EIR can be prepared in connection with the “issuance of rules, regulations, plans, or other general criteria to govern the conduct of a continuing program.” A Program EIR is also appropriate for evaluating “. . . a series of actions that can be characterized as one large project and are related either: (1) Geographically; (2) As logical parts in the chain of contemplated actions; (3) In connection with the issuance of rules, regulations, plans, or other general criteria to govern the conduct of a continuing program; or (4) As individual activities carried out under the same authorizing statutory or regulatory authority and having generally similar environmental effects which can be mitigated in similar ways.”

1.2 STATUTORY AUTHORITY AND RELATIONSHIP TO OTHER DOCUMENTS

The City of Grand Terrace (City) is the Lead Agency under CEQA and is responsible for analyzing environmental impacts of the Grand Terrace General Plan Update (State Clearinghouse No. 2008011109). This Program EIR has been prepared in conformance with CEQA (California Public Resources Code [PRC] Section 21000 *et seq.*); *CEQA Guidelines* (California Code of Regulations [CCR], Title 14, Section 15000 *et seq.*); and rules, regulations and procedures for implementation of CEQA, as adopted by the City. Principal *CEQA Guidelines* sections governing content of this document are Sections 15120 through 15132 (Contents of Environmental Impact Reports), and Section 15168 (Program EIR).

1.3 DOCUMENT ORGANIZATION AND CONTENT

Executive Summary – provides a brief project description and summary of the environmental impacts, mitigation measures and alternatives.

Chapter 1: Introduction – provides an overview of the proposed Grand Terrace General Plan Update and Amendment No. 6 to the Redevelopment Plan, and the scope, use, and approach of the Program EIR, including CEQA compliance information.

Chapter 2: Project Description – includes a detailed description of the proposed General Plan Update and Amendment to the Redevelopment Plan. This chapter describes the environmental setting and defines the project.

Chapter 3: Basis for Cumulative Impact Analysis – describes the approach and methodology for the cumulative analysis.

Chapter 4: Environmental Analysis – evaluates the impacts associated with the proposed General Plan Update goals and policies and the Amendment to the Redevelopment Plan. This Chapter is organized by topic (i.e., land use, traffic, public services). Each area includes a description of the environmental setting relative to that issue; the environmental effects of the proposed project; mitigation measures; and determination of significance after mitigation. Mitigation measures that are incorporated into the General Plan Update in the form of goals and policies are described in the Environmental Impacts and Mitigation Measures subsection and additional mitigation measures, which may be required to mitigate project impacts, are recommended.

Impacts and mitigation measures are generally organized under the issue topics. However, an impact or mitigation measure's location within the document does not restrict it from being considered under another issue topic, even though omitted from that Chapter. Many of the impacts relating to a General Plan, such as Grand Terrace's, are multi-faceted. Similarly, the goals and policies and actions that serve to minimize impacts and additional mitigation measures recommended, may accomplish several objectives and mitigate more than one impact. It is important that decision-makers be cognizant of this fact in their consideration and use of this document. If mitigation measures are altered, the effect that would have on other issues should be evaluated.

Chapter 5: Regional Policies – discusses the consistency of the Proposed General Plan Update with Regional Policies.

Chapter 6: Alternatives Analysis – describes a reasonable range of alternatives to the project that could avoid or substantially lessen the significant impact of the project and still feasibly attain the basic project objectives; and compares the impacts associated with each alternative with the impacts associated with the proposed project.

Chapter 7: Growth Inducing Impacts – discusses the potential growth associated with the proposed action.

Chapter 8: Effects Found Not To Be Significant – provides an explanation of potential impacts that have been determined not to be significant during the Notice of Preparation (NOP) process.

Chapter 9: Significant Environmental Effects Which Cannot Be Avoided – describes those impacts that remain significant following mitigation.

Chapter 10: Significant Irreversible Environmental Changes – describes significant environmental changes that may occur with implementation of the proposed project.

Chapter 11: Acronyms and Abbreviations – provides a list of acronyms and abbreviations discussed in the Program EIR.

Chapter 12: References – lists the organizations and individuals contacted during the preparation of the General Plan Update/Redevelopment Plan Amendment #5 Program EIR, report preparation personnel, and a list of reference materials.

1.4 FUTURE DISPOSITION OF THIS DOCUMENT

The Grand Terrace General Plan Update and Amendment to the Redevelopment Plan Program EIR is intended to serve as a Program EIR or “first tier EIR.” *CEQA Guidelines* Section 15168 states that a Program EIR can be prepared in connection with the “issuance of rules, regulations, plans, or other general criteria to govern the conduct of a continuing program.”

Subsequent individual development projects proposed within the City will be reviewed in the context of this Program EIR to determine if additional environmental documentation is required. If the subsequent project would have site specific environmental effects not addressed in the Program EIR, additional environmental review will be required. Where no new effects and no new mitigation measures are involved, the subsequent project can be approved without additional environmental documentation. Where an EIR or Mitigated Negative Declaration (MND) is required for a subsequent project, the EIR or MND should implement the applicable mitigation measures developed in the Program EIR, and focus its analysis on site-specific issues not previously addressed.

PUBLIC REVIEW OF THE DRAFT PROGRAM EIR

This Draft Program EIR is subject to a 45-day review period by responsible and trustee agencies and interested parties. In accordance with the provisions of Sections 15085(a) and 15087(a)(1) of the *CEQA Guidelines*, the City, serving as Lead Agency, has (1) published a Notice of Availability (NOA) to the public of a Draft Program EIR; and (2) prepared and transmitted a Notice of Completion (NOC) to the California State Clearinghouse. Proof of publication is available at the City. Any public agency or members of the public desiring to comment on the Draft Program EIR must submit their comments in writing to the City via email, fax or mail to the address presented below, prior to the end of the public review period (March 7, 2010). The City will evaluate and prepare responses to all written comments received from both citizens and public agencies during the public review period.

Ms. Joyce Powers
Director of Community and Economic Development
22795 Barton Road
Grand Terrace, CA 92313
Fax number: 909-783-2600
Email: smolina@cityofgrandterrace.org

FINAL PROGRAM EIR

The Final Program EIR will consist of any necessary revisions to the Draft Program EIR, comments received in the review process, a list of persons commenting, and responses to each comment. After the Final Program EIR is completed, and at least 10 days prior to the certification hearing, a copy of the response to comments made by public agencies on the Draft Program EIR will be provided to commenting agencies.

The City, as the Lead Agency for this project, will use this Program EIR in consideration of the proposed General Plan Update and Redevelopment Plan Amendment No. 6. This document will provide environmental information to several other agencies affected by the project or that are likely to have an interest in the project. Various State and federal agencies exercise control over certain aspects of the study area. Public, private, and political agencies and jurisdictions with particular interest in the proposed project may include, but are not limited to, the following:

- Airport Land Use Commission
- California Air Resources Board (CARB)
- California Department of Conservation
- California Department of Transportation (Caltrans)
- California Environmental Protection Agency (Cal EPA)
- California Office of Emergency Services
- California Regional Water Quality Control Board (CRWQB)
- City of Colton
- County of Riverside
- County of San Bernardino
- Grand Terrace Unified School District
- Metropolitan Water District
- San Bernardino County Fire Authority
- San Bernardino County Flood Control District
- San Bernardino County Public Library
- San Bernardino County Sanitation District
- San Bernardino County Sheriff's Department
- San Bernardino County Transit Authority
- San Bernardino County Vector Control
- San Bernardino County Water District
- South Coast Air Quality Management District (SCAQMD)
- Southern California Association of Governments (SCAG)
- Union Pacific Railroad
- Burlington Northern Santa Fe Railroad
- United States Environmental Protection Agency

CHAPTER 2 - PROJECT DESCRIPTION

2.1 ENVIRONMENTAL LOCATION AND SETTING

The City, incorporated on November 30, 1978, is located in the San Bernardino Valley within San Bernardino County approximately 58 miles east of Los Angeles (Exhibit 2-1). The City occupies approximately 3.6 square miles within a wide alluvial plain overlooking the Santa Ana River. The City is located in the San Bernardino Valley in the southwestern part of San Bernardino County and lies within two mountain ridges: Blue Mountain to the east and the La Loma Hills to the west. The City's terrain is diverse, ranging in elevation from a low of 920 feet above sea level to a high of 2,428 feet (Blue Mountain). Major land uses in the City include residential, commercial, industrial, governmental, agricultural, open space, and undeveloped. Although much of the City is urbanized, some areas of natural terrain remain. The City's Sphere of Influence encompasses current City limits.

Shortly after incorporation, on September 27, 1979 the City Council adopted the Redevelopment Plan for the Grand Terrace Community Redevelopment Project via Ordinance No.25. In accordance with California Community Redevelopment Law (CCRL; California Health and Safety Code Section 33000, *et seq.*), it provides the Redevelopment Agency of the City of Grand Terrace with powers, duties and obligations to implement a program for the redevelopment, rehabilitation, and revitalization of areas within the Plan boundaries. The Redevelopment Plan initially consisted of 640 acres, and in 1981 the Redevelopment Plan was amended to add the remainder of the City limits within the Project Area. As such, the entire City is within the Redevelopment Project Area. In total, the Redevelopment Plan has undergone five amendments in the years of 1980, 1981, 1999, 2002 and 2004, respectively, and which are described in the Project Summary of this DEIR.

2.2 BACKGROUND

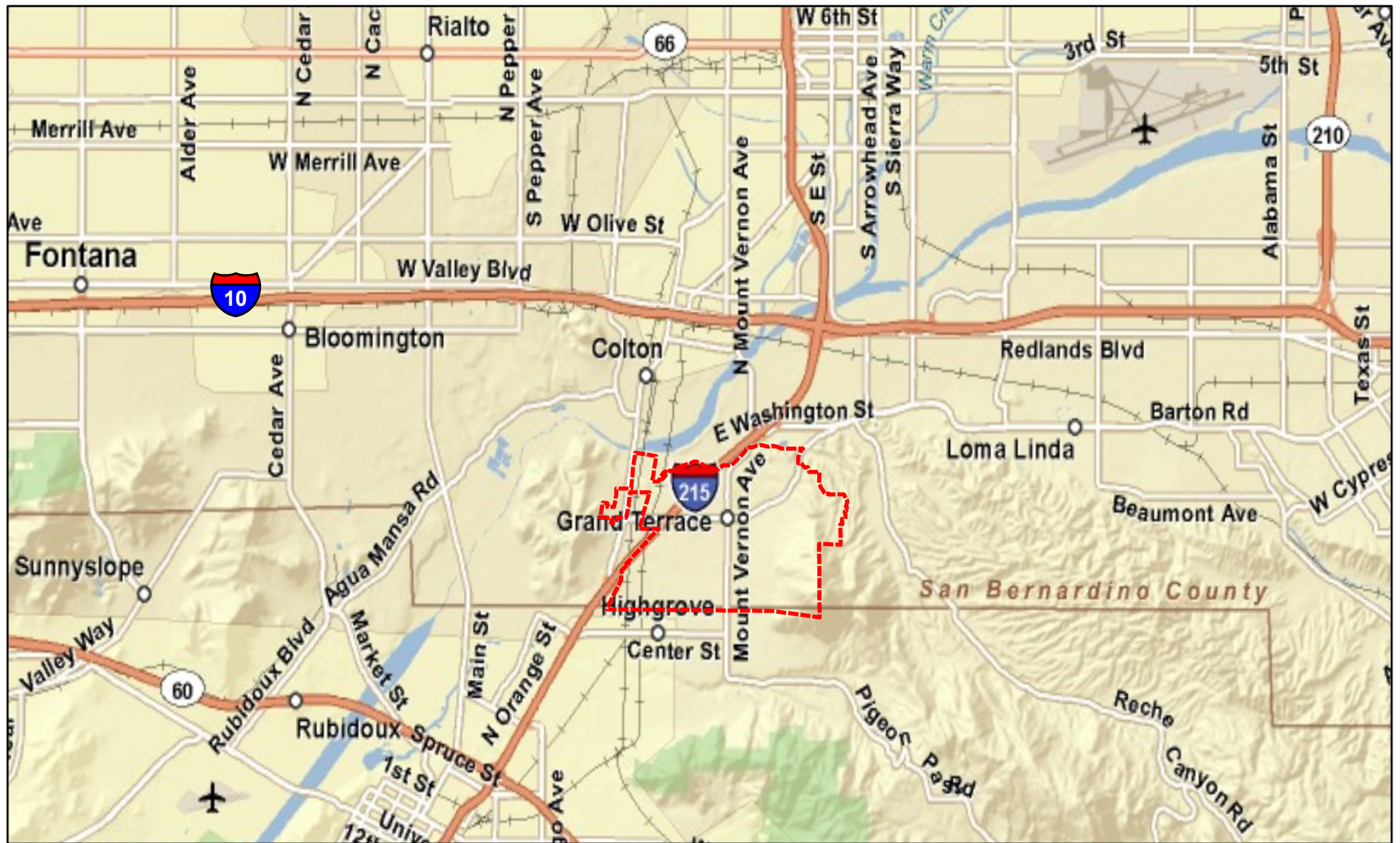
The City of Grand Terrace General Plan serves as the City vision and blueprint for future land development and planning within City limits. The General Plan is used by public and private decision makers as a guide in decisions, including redevelopment projects, regarding land use and development throughout the City.

Scope and content of the General Plan must comply with all provisions of State planning law. The General Plan Update has been prepared pursuant to California Government Code Section 65302, *et seq.* State planning law requires that all local general plans address seven basic elements: land use, circulation, housing, noise, safety, conservation, and open space. Additional elements may be added at the desire of an individual jurisdiction.

The Grand Terrace General Plan has been organized into the following chapters designed to respond comprehensively to State planning law requirements:

Chapter 1: Introduction – provides a general introduction to the document, a general description of the City of Grand Terrace, and a summary of City demographics.

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Chapter 2: Land Use Element – describes land use goals, policies, and implementation for land uses within the City. It also provides a land use map and land use designations that guide physical development of the City.

Chapter 3: Circulation Element – describes the transportation system within the City and provides guidance for achieving mobility within and through the City. This chapter includes all forms of transportation within the City including streets, railroads, and bikeways.

Chapter 4: Open Space and Conservation Element – although considered two individual elements, Open Space and Conservation are interconnected and are often addressed together. Chapter 4 provides guidance for permanent preservation of open space and habitat within the City and provides both passive and active recreation opportunities, including parks and trails, for City residents.

Chapter 5: Public Health and Safety Element – identifies natural and manmade hazards, including hazards resulting from flooding, fires, and geologic events and meets requirements of the mandated Safety Element. The chapter also identifies mitigation of potential hazards through policy implementation.

Chapter 6: Noise Element – provides policy direction for protection of people and sensitive land uses from excessive noise generated by both mobile and stationary sources including streets, railroads, and industrial uses.

Chapter 7: Public Services and Facilities Element – summarizes public services and facilities including general city services, police and fire protection, utilities, and educational services necessary to serve community residents and businesses. It addresses current levels of service and establishes policies and implementation plans to meet future needs.

Chapter 8: Housing Element – addresses current housing inventory and future housing needs of the community. It includes an evaluation of the success rate of the previous Housing Element and addresses the most recent State guidelines and legislation affecting preparation of Housing Elements.

Chapter 9: Sustainable Development Element – is an optional element that addresses methods to be employed throughout the General Plan to conserve and efficiently use non-renewable resources including energy, water, and other natural resources.

2.3 STATEMENT OF OBJECTIVES

The following list represents the project objectives, for both the General Plan Update and the Redevelopment Plan Amendment No. 6.

GENERAL PLAN UPDATE

- Update the General Plan to comport more closely with the format articulated in the Office of Planning and Research 2003 General Plan Guidelines.
- Update General Plan goals to better reflect the relationship between the General Plan and the citizens of Grand Terrace.

- Provide a basis for informative policy decisions when considering development associated with implementation of the General Plan.
- Guide future physical development in the City and provide for a high-quality visual image of the City.
- Update City environmental baseline (i.e., existing) conditions to the year 2007/2008.
- Update the General Plan Land Use Element and attendant Land Use Plan to facilitate greater diversity in future development options for vacant and/or underutilized parcels remaining in the City.
- Establish new Hillside Low Density Residential and Mixed-Use districts.
- Update City General Plan elements to establish consistency with the updated Land Use Element.
- Accommodate growth on undeveloped and underdeveloped properties within the City.
- Accommodate future demand to the City street system and infrastructure.
- Promote new commercial development that will capitalize on City proximity to major transportation corridors.
- Maintain and continue to develop Grand Terrace's established commercial areas.
- Continue to promote development of quality housing for all segments of the population and households with special needs.
- Ensure residents are provided with a safe and healthful environment in which to live and work.
- Preserve those amenities that make Grand Terrace an attractive place to live and work.
- Mitigate and eventually eliminate, where economically feasible, natural and manmade hazards to life and public safety within the City of Grand Terrace.
- Conserve energy and other critical natural resources through a comprehensive program for sustainable development practices.
- Provide for balanced growth which seeks to provide opportunities for a wide range of employment, housing, and maintenance of a healthy diversified economy.

AMENDMENT TO THE REDEVELOPMENT PLAN

- Enact modifications to the City Redevelopment Plan to maximize the Redevelopment Agency's financial ability to implement the Redevelopment Plan.
- Update Redevelopment Plan land use descriptions to make the descriptions consistent with language that directly refers to adopted General Plan, zoning, and other local land use policies.

2.4 PROJECT COMPONENTS

CITY OF GRAND TERRACE GENERAL PLAN UPDATE

The State of California requires every city to adopt a comprehensive General Plan to guide the long-term physical development of all lands subject to its jurisdiction. California Government Code Section 65302 *et seq.* mandates that all local General Plans address seven basic elements: land use, open space, circulation, housing, safety, noise, and conservation. Other “permissive” elements may also be included. Once adopted, the General Plan constitutes a jurisdiction’s formal Statement of the type, form, quantity, quality, and spatial distribution of land use that most closely reflects the views held by, and long-term best interests of, its citizenry. The current General Plan for the City of Grand Terrace was last comprehensively updated in 1988. While fully compliant with applicable State General Plan law, it was organized pursuant to the then new *General Plan Guidelines* published by the State of California Governor’s Office of Planning and Research (OPR). As a consequence, the current Grand Terrace General Plan comprises the following elements: Hazards, Natural Resources, Aesthetics, Cultural Resources, Recreational Resources, Community Development, Infrastructure, and Housing and Sustainable Development.

The City is located in a part of San Bernardino County that with neighboring Riverside County to its south has been and is projected to continue to experience substantial socioeconomic growth. While not entirely unforeseen at the time the City adopted the current General Plan, it has had dramatic effects on the region generally as well as within the City specifically. In response to these and other factors, the City has updated its General Plan.

The current Grand Terrace General Plan is proposed to be updated in several ways: 1) it has been reorganized to comport more closely with the format articulated in the *2003 General Plan Guidelines* prepared by OPR; 2) the goals of the General Plan have been modified to better reflect the relationship between the General Plan and its relevance to the citizens of Grand Terrace; 3) its Land Use Element and attendant Land Use Plan has been modified to facilitate greater diversity in future development options for the relatively few vacant and/or underutilized parcels remaining in the City; and, 4) its other elements have been modified to reflect changes to the Land Use Element.

Current General Plan Elements and the sequence in which they are presented were described above. The General Plan Update comprises the following elements: Land Use, Circulation, Open Space and Conservation, Public Health and Safety, Noise, Public Services and Facilities, Housing, and Sustainable Development. Although reorganized, the content of the proposed General Plan Update is in full compliance with California Government Code Section 65302 *et seq.* Following is a brief overview of what each element discusses.

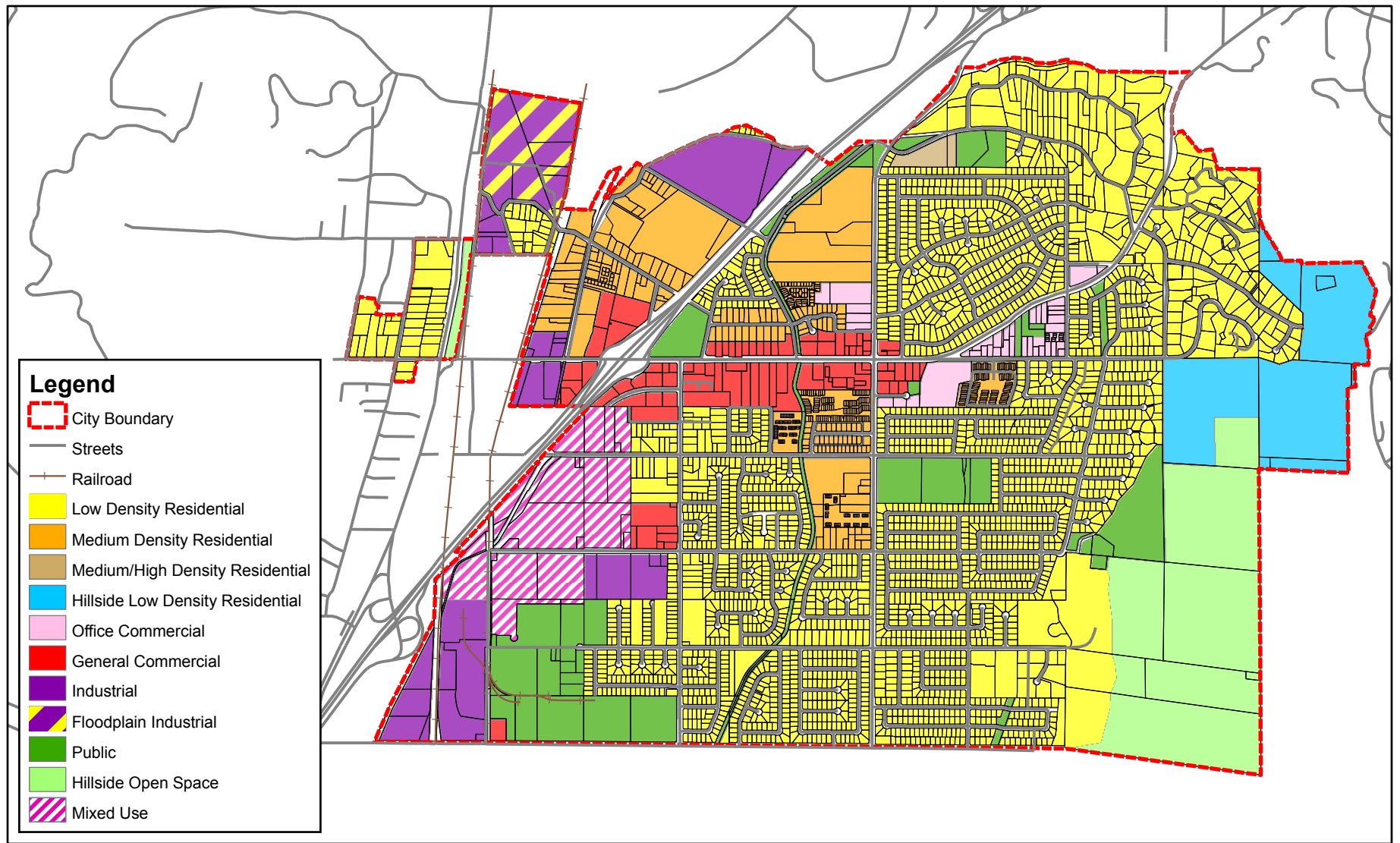
- **Land Use Element** - Describes the land use policies and designations that guide the physical development of the City.
- **Circulation Element** - Describes the transportation system within the City and provides guidance for achieving mobility within and through the City. Includes all forms of transportation within the City including streets, railroads, and bikeways.
- **Open Space and Conservation Element** - Provides guidance for permanent reservation of open space and habitat within the City and provides passive and active recreation opportunities for City residents.
- **Public Health and Safety Element** - Addresses natural and manmade hazards including hazards resulting from flooding, fires, and geologic events.

- **Noise Element** - Provides policy direction for the protection of people and sensitive land uses from excessive noise from both mobile and stationary sources.
- **Public Services and Facilities Element** - Summarizes public services and facilities including general city services, police and fire protection, utilities, and educational services necessary to serve residents and businesses of the community. Addresses current levels of service, and establishes policies and plans for future needs.
- **Housing Element** - Although previously adopted by the City through a separate action, it is included by reference to ensure internal consistency of the General Plan.
- **Sustainable Development Element** – Addresses methods to be employed throughout the General Plan to conserve and efficiently use non-renewable resources including energy, water, and other natural resources.

To better implement the General Plan Update, its goals have been modified from the 1988 General Plan to read as follows:

- Accommodate growth on undeveloped and underdeveloped properties within the City.
- Accommodate future demand to the City's street system and infrastructure system due to growth within the City and growth from surrounding jurisdictions.
- Promote new commercial development that will capitalize on the City's proximity to major transportation corridors.
- Maintain and continue development of Grand Terrace's established commercial areas.
- Continue to promote the development of quality housing for all segments of the population and those households with special needs.
- Ensure that residents are provided with a safe and healthful environment in which to live and work.
- Preserve those amenities that make Grand Terrace an attractive place to live and work.
- Mitigate and eventually eliminate, where economically feasible, natural and manmade hazards to life and public safety within the City of Grand Terrace.
- Conserve energy and other critical natural resources through a comprehensive program to protect and enhance the natural environment.
- Balance growth that seeks to provide opportunities for a wide range of employment and housing and maintenance of a healthy diversified economy.

As part of the overall strategy to facilitate accomplishment of the aforementioned General Plan goals, the proposed revised Land Use Plan continues to reinforce the predominantly residential character of the City while providing adequate open space and public land and facilitating commercial and industrial growth. Exhibit 2-2 presents the proposed Land Use Plan. Table 2-1 details the acreages associated with each Land Use Designation depicted on the proposed Land Use Plan.



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Table 2-1
General Plan Update Acreage By Land Use Designation

Land Use Designation	Acres	Percent of Total
Hillside Low Density Residential	125.22	5.6
Low Density Residential	885.24	39.2
Medium Density Residential	185.89	8.2
Medium High Density Residential	5.95	0.3
General Commercial	88.37	3.9
Office Commercial	32.94	1.5
Light Industrial	106.98	4.74
Floodplain Industrial	40.07	1.8
Hillside Open Space	179.19	8.0
Mixed Use	93.94	4.2
Public	158.87	7.0
Streets	353.0	15.5
TOTAL	2,255.66	100

Sources: City of Grand Terrace, Preliminary Draft General Plan Update, 11/6/07

Specific modifications to the Land Use Designations of the proposed Land Use Plan include:

1. A new Land Use Designation, Mixed-Use, is proposed east of I-215. This area may include residential, commercial, business park, open space, and recreational uses. All mixed use projects will be required to submit a Specific Plan.
2. Conversion of an approximate 4-acre parcel located in the northwest portion of the City located in-between La Cadena Drive and the rail line located immediately to the east, from Low Density Residential to Public.
3. Conversion of one 0.21-acre parcel located at the northeast corner of the intersection of Vivienda Avenue and Vivienda Court, from Medium Density Residential to Low Density Residential.
4. Conversion of 2.56 acres of land located just north of Canal Street in the north end of town from Low Density Residential to Public.
5. Conversion of 1.16 acres of land located in the north end of town, near the intersection of Grand Terrace Road and Mount Vernon Avenue from Medium Density Residential to Public.
6. Conversion of 3.29 acres of land located south of Barton Road, north of Palm Avenue and west of Preston Street from Office Commercial to Public.
7. Conversion of 1.63 acres of land located north and south of Merle Court from Barton Road to Palm Avenue from Low Density Residential to Public.

8. Conversion of 2.52 acres of land located east of the intersection of Van Buren Street and Observation Drive from Low Density Residential to Public
9. Conversion of 1.39 acres of land located north and south of Raven Way and Robin Way, west of Mike Todd Lane and east of Oriole Avenue, in the southeast portion of the City from Low Density Residential to Public.
10. Conversion of 9.15 acres of land located at the northwest corner of Main Street and Michigan Street, in the southwest portion of the City from General Commercial to Public.
11. Conversion of 53.74 acres of land located east of Taylor Street, north of Main Street, north and south of Pico Street and west of Michigan Street, in the southwest portion of the City from Industrial to Public.
12. Conversion of 32.86 acres of land located north of Pico Street, east of I-215, south of Van Buren Street and west of Michigan Street, in the southwest portion of the City from Industrial to Mixed Use.
13. Conversion of 61.08 acres of land located north of Van Buren Street, south of DeBerry Street, east of I-215 and west of Michigan Street from General Commercial to Mixed Use.
14. Conversion of approximately 14 acres of land north of Vivienda Avenue, between Terrace Street and West of the UPRR rail lines from Industrial to Floodplain Industrial.

AMENDMENT NO. 6 TO THE GRAND TERRACE COMMUNITY REDEVELOPMENT PROJECT REDEVELOPMENT PLAN

The Redevelopment Plan for the Grand Terrace Community Redevelopment Project was originally adopted by the City Council in 1979 via Ordinance No. 25. In accordance with California Community Redevelopment Law (CCRL; California Health and Safety Code Section 33000, *et seq.*), the Redevelopment Plan provides the Redevelopment Agency of the City of Grand Terrace with powers, duties, and obligations to implement a program for the redevelopment, rehabilitation, and revitalization of areas within the Plan boundaries. The Redevelopment Plan has since undergone amendments, in 1980, 1981, 1999, 2002 and 2004, respectively. In 1980 the City Council adopted Ordinance No. 31, the first amendment to the Redevelopment Plan, which provided for allocations to certain taxing agencies. In 1981, the City Council's approval of the second amendment to the Redevelopment Plan expanded the project area to include all lands within the City limits. City Council approval of a third Redevelopment Plan amendment in 1999 authorized the use of eminent domain to acquire non-residentially zoned property, or with the owner's consent. Redevelopment Plan Amendment No. 4, approved by the City Council in 2002, clarified the description of the Redevelopment Plan's dollar limit on tax revenue. Amendment No. 5 approved by the City Council in 2004, extended the duration of the Redevelopment Plan and the time limit on paying indebtedness or receiving property taxes.

The currently proposed Amendment to the Redevelopment Plan comprises certain modifications primarily aimed at maximizing the Redevelopment Agency's financial ability to implement the Redevelopment Plan. Specifically, the proposed modifications are to:

- Increase the Plan's limit on the amount of bonded debt that may be outstanding at one time, from \$15 million to approximately \$75 million;

- Increase the Plan's cumulative tax increment revenue limit from \$70 million (net of taxing agency payments) to approximately \$225 million (net of taxing agency payments);
- Extend the duration of the Plan and time limit to collect tax increment revenue by seven years (pursuant to Health and Safety Code Sections 33333.6(a), 33333.6(b), and 33333.6(e)(2)(C);
- Rescind Agency's authority to commence eminent domain within the Project Area, effective immediately following effectiveness of the Redevelopment Plan Amendment;
- Replace land use descriptions in the Plan (as contained in Section IV. Uses Permitted in Project Area, pp. 33-42) with language that directly refers to adopted General Plan, zoning, and other local land use policies, as they may be amended from time to time; and
- Amend and restate the Redevelopment Plan to incorporate prior amendments into a single document.

The Amendment is being proposed because the current limits on tax increment revenues will not allow the Agency to implement the projects and programs necessary to alleviate remaining blight within the project area. The increase in the bond indebtedness limit and extension of the time limits are necessary to enable the Agency to issue bonds secured by future revenues to fund projects and programs when they are needed, rather than waiting to collect sufficient revenue to fund them. The Amendment to replace the description of land uses in the Redevelopment Plan so that they refer to the adopted General Plan, zoning and local land use policies, as they may be amended over time, will allow the Redevelopment Plan to stay current without the need for further amendments, in this regard.

Redevelopment in the Project Area has assisted in the development of much of the City's public infrastructure, preservation of the community's supply of affordable housing and development of new affordable residential properties, and expansion of recreational and community facilities. Amongst other Agency projects, the Agency provided funding for the renovations of Rollins Park, realignment and a traffic signal for the intersection of Iowa Avenue and Main Street, acquisition of land for construction of a high school and commercial retail development, and 120 affordable income senior housing units. Despite the Agency's efforts that have successfully eliminated blight in many areas of the Project Area, the Project Area continues to suffer from physical and economic blighting conditions relating to inadequate public improvements, obsolete design or construction, laying out of lots in disregard to physical characteristics, deteriorated and dilapidated buildings, and crime rates.

The proposed Amendment will allow the Agency to have greater flexibility with respect to long term project financing and will permit the Agency to continue to implement redevelopment projects and programs necessary for the elimination blight, and to give the Agency the financial and administrative resources necessary to alleviate blight and carry out the goals of the Redevelopment Plan.

This Amendment is fiscal and administrative in character, does not contemplate any physical implementation activities, and will, in and of itself, affect no physical impacts in the Project Area. Further, because any future programs or projects proposed to be undertaken by the Agency must be consistent with the City's General Plan, the environmental analysis contained in this DEIR for the General Plan Update adequately considers potential impacts related to the Redevelopment Plan Amendment component of this Project.

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CHAPTER 3 - BASIS FOR CUMULATIVE IMPACT ANALYSES

CEQA Guidelines Section 15355 defines cumulative impacts as “two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts” The following elements are necessary in an adequate discussion of cumulative impacts, as noted in Sections 15130(b) through 15130(e) of the *CEQA Guidelines*.

Cumulative impacts may be discussed in terms of the proposed General Plan Update and Redevelopment Plan Amendment impacts and impacts associated with growth within the region. The geographic area for each impact varies, depending on the nature of the impact and whether it is regional such as air quality, or local, such as noise.

This Program EIR assesses overall environmental effects of the proposed General Plan Update and Amendment to the Redevelopment Plan at a program level of detail. This Program EIR evaluates overall (cumulative) effects of development in accordance with land use designations, land use assumptions and goals, policies, and implementing measures contained in the proposed General Plan Update and Amendment to the Redevelopment Plan. Therefore, the environmental analysis in Chapter 4 of this Program EIR considers project impacts in combination with cumulative, where applicable.

Cumulative Impacts were not considered where no significant impacts were identified or where mitigation measures were identified that could reduce impacts to levels that would not be cumulatively considerable. Cumulative Impacts are discussed in more detail in Section 8.1.

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CHAPTER 4 - ENVIRONMENTAL ANALYSIS

The next subsections of the Program EIR contain a detailed environmental analysis of the existing conditions, project impacts, and recommended mitigation measures. This Program EIR analyzes those environmental issue areas as Stated in the Notice of Preparation and Initial Study Checklist (Appendix A, Initial Study Checklist/Notice of Preparation) where potentially significant impacts have the potential to occur.

The Program EIR will examine the following environmental factors outlined in the *CEQA Guidelines* Appendix G, Environmental Checklist:

- 4A Aesthetics
- 4B Air Quality
- 4C Biological Resources
- 4D Cultural Resources
- 4E Geology and Soils
- 4F Hazards/Hazardous Materials
- 4G Hydrology/Water Quality
- 4H Land Use and Planning
- 4I Noise
- 4J Population and Housing
- 4K Public Services
- 4L Recreation
- 4M Transportation/Circulation
- 4N Utilities and Service Systems

Each environmental issue is addressed in a separate Chapter of the Program EIR, and is organized into three sections, as follows: “Environmental Setting” describes the physical conditions that exist at this time and that may influence or affect the issue under investigation.

“Significance Threshold Criteria” provides the thresholds that are the basis of conclusions of significance, which are primarily the criteria in the *CEQA Guidelines* Appendix G, Environmental Checklist.

Major sources used in crafting criteria include the *CEQA Guidelines*; local, State, federal, or other standards applicable to an impact category; and officially established significance thresholds. “. . . An ironclad definition of significant effect is not possible because the significance of any activity may vary with the setting.” (*CEQA Guidelines* Section 15064[b]). Principally, “. . . a substantial, or potentially substantial adverse change in any of the physical conditions within an area affected by the project, including land, air, water, flora, fauna, ambient noise, and objects of historic and aesthetic significance” constitutes a significant impact (*CEQA Guidelines* Section 15382).

“Impacts and Mitigation Measures” evaluates the project’s environmental impacts in consideration of all phases, including planning, acquisition, development, and operation. This subsection also discusses the potential changes to the existing physical environmental conditions, which may occur if the proposed project is implemented. Evidence, based on factual and scientific data, is presented to show the cause and affect relationship between the proposed project and the potential changes in the environment. All of the potential direct and reasonably foreseeable indirect effects are considered. The exact magnitude, duration, extent,

frequency, range, or other parameters are ascertained, to the extent possible, to determine their significance.

The Project's environmental effects are categorized as either "effects found not to be significant" or "potentially significant impact". The effects found not to be significant category provides a brief discussion of the reasons that various possible significant effects of the Project were found not to be significant. The potentially significant category identifies and focuses on the significant environmental effects of the proposed project. Direct and indirect significant effects of the project on the environment are clearly identified and described, giving due consideration to both the short-term and long-term effects.

"Mitigation Measures" are project-specific measures that would be required of the project to avoid a significant adverse impact; to minimize a significant adverse impact; to rectify a significant adverse impact by restoration; to reduce or eliminate a significant adverse impact over time by preservation and maintenance operations; or to compensate for the impact by replacing or providing substitute resources or environment.

The "Level of Significance" presents the significance determination. This Statement identifies which impacts would remain after the application of mitigation measures and whether the remaining impacts are or are not considered significant. When impacts, even with the inclusion of mitigation measures, cannot be mitigated to a level considered less than significant, they are identified as "unavoidable significant impacts."

CHAPTER 4A - AESTHETICS

4A.1 ENVIRONMENTAL SETTING

The City is located in southern San Bernardino County, immediately adjacent to Riverside County. The boundary between San Bernardino and Riverside counties also forms the City's southern boundary. Grand Terrace lies north of the City of Highgrove, which is located in Riverside County. The City of Colton surrounds the City of Grand Terrace on the west, north, and east. Beyond the City of Colton, the City of San Bernardino lies to the north, the City of Rialto lies to the northwest and the City of Loma Linda lies to the east.

The City is characterized by a mixture of natural and urban landforms. The natural environment is made up of diverse landforms, rock outcrops, plants and animal resources, natural colors and hues and panoramic public views of the horizon, and of the surrounding foothills and mountain ranges. Scenic views of nearby hills and of the valley to the north of the City are prominent from a number of locations within the City. Several residential communities have been constructed and oriented to take advantage of the views provided by these natural landforms.

The major scenic resource in the planning area is Blue Mountain on the eastern boundary of the City. Blue Mountain has become the symbol of the City providing a scenic backdrop for much of the City. Scenic views are offered to residences nestled on the side of Blue Mountain including views of the San Bernardino Mountains to the north.

REGULATORY SETTING

Municipal Code

The Grand Terrace Municipal Code contains design guidelines that regulate the aesthetic quality of new development with respect to structures, signs, walls, and landscaping and other improvements. Existing regulations also require night light for non-residential developments to be shielded where appropriate to reduce the intensity of light that spills on neighboring properties.

Grand Terrace General Plan

The Grand Terrace General Plan seeks to preserve and enhance its scenic resources through goals and policies that encourage development that is visually attractive and promote and protect the beauty of Blue Mountain.

Land Use Element:

- Policy 2.1.5 Enhancement of the City's image shall be undertaken by the establishment of City entrances and development of unified streetscapes.
- Goal 2.2 Preserve and enhance the quality and character of the City's residential neighborhoods.
 - Policy 2.2.1 Any development occurring within the Hillside residential designation shall be required to prepare a Specific Plan.

Policy 2.3.1 Commercially designated freeway frontage shall be master planned to ensure a comprehensive commercial development pattern that will serve as a scenic entry into the City.

Goal 2.5 Provide for the preservation of natural resources and open space.

Policy 2.5.1 All areas of Blue Mountain above elevation 1,450 feet above sea level shall be maintained as open space. Consideration shall be given to the maintenance of existing communications towers.

Policy 2.5.2 Areas designated as Open Space shall be preserved to provide long term recreation opportunities as well as the preservation of scenic and environmental resources and the protection of public health and safety.

Open Space and Conservation Element:

Policy 4.1.8 The City shall evaluate the feasibility of developing observation points (lookouts) along the northern boundary of the City to take advantage of the spectacular views of the San Bernardino Mountains.

Policy 4.2.4 The City shall evaluate developing a specific plan for the western face of Blue Mountain. The specific plan will contain policies to preserve and maintain the open space resources of Blue Mountain including its biologic properties.

Goal 4.5 Protect and promote the beauty of Blue Mountain.

Policy 4.5.1 The City shall consider developing a specific plan for the western face of Blue Mountain.

Policy 4.5.2 The City shall designate Blue Mountain as a community symbol reflecting its value as a major open space and scenic resource.

Policy 4.5.5 A fire overlay district shall be applied to Blue Mountain to protect both the future development that may be constructed on the lower, more gentle slopes at the foot of the mountain and also its natural beauty.

4A.2 SIGNIFICANCE THRESHOLD CRITERIA

The criteria used to determine the significance of impacts on aesthetics are taken from City-approved Thresholds of Significance based on the City's Initial Study and the model Initial Study checklist in Appendix G of the State *CEQA Guidelines*. A significant impact would occur if implementation of the proposed General Plan Update and Amendment to the Redevelopment Plan would:

- Have a substantial adverse effect on a scenic vista;
- Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a State scenic highway;
- Substantially degrade the existing visual character or quality of the City and its surrounding;
or

- Create a new source of substantial light or glare that would adversely affect day or nighttime views in the area.

4A.3 IMPACTS AND MITIGATION MEASURES

IMPACT 4A-1 The Proposed Project would have a significant impact if it would have a substantial adverse effect on a scenic vista.

The majority of future development within the City pursuant to the Land Use Plan presented in the Updated General Plan Land Use Element will be infill in nature, occur incrementally, and aside from the proposed Mixed Use and 20-acre Town Square Master Development Plan areas, will be relatively minor in scale. Additionally, most future development projects would be in the flat area of the City and would not be visible beyond their immediate surroundings.

Blue Mountain is the City's major scenic resource for views to the east. Other scenic views include those of the nearby hills and the San Bernardino Mountains to the north. The updated Land Use Plan designates certain areas along the northern flank of Blue Mountain for residential development. The development of this area may be visible from existing residential neighborhoods to the north and west. However, the General Plan Update requires that development in this area shall be undertaken pursuant to a Specific Plan that incorporates design features specifically directed to "protect the scenic views and environmental resources of the mountain".

In addition, the General Plan Update contains numerous other goals, policies and policy actions specifically directed to preserve the integrity of Blue Mountain as a community asset. For example, the updated Open Space & Conservation Element of the General Plan acknowledges its importance to the City in this regard via Goal 4.5, "Protect and promote the beauty of Blue Mountain" and then identifies policies aimed at attaining the goal. Implementation of General Plan Policies that regulate hillside development and protect the scenic value of Blue Mountain (Policies 2.2.1, 2.5.1, 2.5.2, 4.1.8, 4.5.1, 4.5.2 and 4.5.5.) and a policy that promotes the establishment of scenic look out points (4.1.8) will also reduce impacts related to scenic vistas.

Based on the foregoing, while development pursuant to the General Plan Update may be visible to some observers, it would not substantially degrade views of Blue Mountain or the background ridgelines.

MITIGATION MEASURES

No mitigation measures are required.

LEVEL OF IMPACT SIGNIFICANCE AFTER MITIGATION

Impacts would be less than significant without mitigation.

IMPACT 4A-2 The Proposed Project would have a significant impact if it would substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a State scenic highway.

The I-215 passes through the northwest portion of the City. This segment of I-215 has not been officially designated as a scenic highway in the California State Highway Program (Caltrans).

There are also no County designated scenic routes in the City (San Bernardino County). As a consequence, no impacts on scenic resources, including trees, rock outcroppings, and historic buildings, within a State scenic highway attributable to implementation of the revised General Plan would occur.

MITIGATION MEASURES

No mitigation measures are required.

LEVEL OF IMPACT SIGNIFICANCE AFTER MITIGATION

Impacts would be less than significant without mitigation.

IMPACT 4A-3 The Proposed Project would have a significant impact if it would substantially degrade the existing visual character or quality of the City and its surroundings.

The City is largely built out. As such, the visual character of the City as a whole has already been established. As discussed previously, Blue Mountain constitutes the major physiographic feature in the City and is undeveloped at this time. However, as also discussed previously, the General Plan Update requires that development in this area shall be undertaken pursuant to a Specific Plan that incorporates design features specifically directed to “protect the scenic views and environmental resources of the mountain”. In addition, the General Plan Update contains numerous other goals, policies, and policy actions specifically directed to preserve the integrity of Blue Mountain as a community asset.

Other goals, policies, and policy actions in the General Plan Update address preserving and enhancing the visual quality of residential neighborhoods and City entrances and streetscapes. General Plan Update Land Use Designations and the City's Zoning Code provide density ranges and development standards which will contribute to consistency in visual quality and character. With application of the goals and policies in the General Plan Update and the City's Zoning Code, development pursuant to the General Plan Update would not substantially degrade the existing visual character or quality of the City and its surroundings.

MITIGATION MEASURES

No mitigation measures are required.

LEVEL OF IMPACT SIGNIFICANCE AFTER MITIGATION

Impacts would be less than significant without mitigation.

IMPACT 4A-4 The Proposed Project would have a significant impact if it would create a new source of substantial light or glare that would adversely affect day or nighttime views in the area.

New development would introduce new sources of light and increase ambient luminosity. As noted previously, the City is substantially built out. Future development pursuant to the General Plan Update will occur incrementally on parcels that would be generally adjacent to existing sources of light. Compliance with current City Zoning Code lighting standards in combination

with subjection to the City's design review process would reduce any effects on day or nighttime views to a less than significant level.

MITIGATION MEASURES

No mitigation measures are required.

LEVEL OF IMPACT SIGNIFICANCE AFTER MITIGATION

Impacts would be less than significant without mitigation.

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CHAPTER 4B - AIR QUALITY

4B.1 ENVIRONMENTAL SETTING

The lies in the South Coast Air Basin (Basin), which includes all of Orange County, as well as the non-desert portions of Los Angeles, Riverside, and San Bernardino Counties. The South Coast Air Quality Management District (SCAQMD) is the agency responsible for attaining State and federal clear air standards in the Basin.

CLIMATE AND METEOROLOGY

The distinctive climate of the Basin is determined by its terrain and geographical location. The Basin is located in a coastal plain with connecting broad valleys and low hills, bounded by the Pacific Ocean in the southwest quadrant with high mountains forming the remainder of the perimeter. The general region lies in the semi-permanent high-pressure zone of the eastern Pacific. As a result, the climate is mild, tempered by cool sea breezes. This usually mild climatological pattern is interrupted infrequently by periods of extremely hot weather, winter storms, or Santa Ana winds.

Meteorology is the study of weather and climate. Weather refers to the State of the atmosphere at a given time and place with regard to temperature, air pressure, humidity, cloudiness, and precipitation. The term “weather” refers to conditions over short periods; conditions over long periods, generally at least 30 to 50 years, are referred to as climate. Climate, in a narrow sense, is usually defined as the “average weather,” or more rigorously as the statistical description in terms of the mean and variability of relevant quantities over a period ranging from months to thousands or millions of years. These quantities are most often surface variables such as temperature, precipitation, and wind.

TEMPERATURE AND PRECIPITATION

The annual average temperature varies little throughout the 6,600 square-mile Basin ranging from the low 60's to the high 80's. However, with a less pronounced oceanic influence, the inland portion shows greater variability in the annual minimum and maximum temperatures. The mean annual high and low temperatures in the project area¹ are 79.0 degrees Fahrenheit (°F) and 50.5 °F, respectively. The overall climate is a mild Mediterranean, with average monthly maximum temperatures reaching to over 94.4 °F in the summer and dipping to 41.3 °F in the winter (WRCC 2009).

In contrast to a fairly steady pattern of temperature, rainfall is seasonally and annually highly variable. The total average annual precipitation is 9.86 inches, with 82 percent of precipitation occurring between November and March.

Humidity

Although the Basin has a semi-arid climate, the air near the surface is typically moist because of the presence of a shallow marine layer. Except for infrequent periods when dry, continental air

¹ As determined from the nearest weather station in Riverside. The Western Regional Climate Center's Period of Record for the Riverside Citrus Station is from July 1, 1948 to June 30, 2009.

is brought into the Basin by offshore winds, the ocean effect is dominant. Periods of heavy fog, especially along the coastline, are frequent; and low stratus clouds, often referred to as “high fog” are a characteristic climatic feature. Annual average humidity ranges from a high of about 72 percent at the coast to about 58 percent in the eastern portion of the Basin.

Wind

Wind patterns across the south coastal region are characterized by westerly and southwesterly on-shore winds during the day and easterly or northeasterly breezes at night. Wind speed is somewhat greater during the dry summer months than during the rainy winter season. Typical summer winds in the project area range from 4 to 7 miles per hour (mph) during the day and 2 to 6 mph during the night.

Between the periods of dominant airflow, periods of air stagnation may occur, both in the morning and evening hours. Whether such a period of stagnation occurs is one of the critical determinants of air quality conditions on any given day. During periods of low inversions and low wind speeds, air pollutants generated in urbanized areas are transported predominantly onshore into Riverside and San Bernardino Counties. In the winter, the greatest pollution problems are carbon monoxide (CO) and nitrogen oxides (NO_x), because of extremely low inversions and air stagnation during the night and early morning hours. In the summer, the longer daylight hours and the brighter sunshine combine to cause a reaction between hydrocarbons and NO_x to form photochemical smog.

During the winter and fall months, surface high-pressure systems over the Basin, combined with other meteorological conditions, can result in very strong, downslope Santa Ana winds. These winds normally have a duration of a few days before predominant meteorological conditions are reestablished. Within the project area, Santa Ana winds have a decidedly distinct pattern. Santa Ana winds from a northerly direction flow through the Cajon Pass and then follow the Santa Ana River in a southwestward motion direction to the coast. The highest wind speeds typically occur during the afternoon due to daytime thermal convection caused by surface heating. This convection brings about a downward transfer of momentum from stronger winds aloft. While the maximum wind speed during Santa Ana conditions is undefined, sustained winds of 60 mph with higher gusts are not uncommon in the project vicinity.

Inversions

In conjunction with the two characteristic wind patterns that affect the rate and orientation of horizontal pollutant transport, there are two similarly distinct types of temperature inversions that control the vertical depth through which pollutants are mixed. These inversions are the marine/subsidence inversion and the radiation inversion. The height of the base of the inversion at any given time is known as the “mixing height.” This mixing height can change under conditions when the top of the inversion does not change. The combination of winds and inversions are critical determinants in leading to the highly degraded air quality in summer, and the generally good air quality in the winter in the project area.

EXISTING AIR QUALITY CONDITIONS

Air quality is determined primarily by the type and amount of contaminants emitted into the atmosphere, the size and topography of the Basin, and its meteorological conditions. Atmospheric conditions such as wind speed, wind direction, and air temperature gradients, along with local topography, provide the link between air pollution emissions and air quality.

Criteria Air Pollutants

As required by the Federal Clean Air Act (FCAA), the Environmental Protection Agency (EPA) has identified criteria pollutants and established National Ambient Air Quality Standards (NAAQS) to protect public health and welfare. NAAQS have been established for ozone, CO, nitrogen dioxide (NO₂), sulfur dioxide (SO₂), suspended particulate matter (PM), and lead. Suspended PM has standards for both PM with an aerodynamic diameter of 10 microns or less (respirable PM, or PM₁₀) and PM with an aerodynamic diameter of 2.5 microns or less (fine PM, or PM_{2.5}). The CARB has established separate standards for the State, i.e. the California Ambient Air Quality Standards (CAAQS). The CARB established CAAQS for all the federal pollutants and sulfates (SO₄), hydrogen sulfide (H₂S), and visibility-reducing particles.

For some of the pollutants, the identified air quality standards are expressed in more than one averaging time in order to address the typical exposures found in the environment. For example, CO is expressed as a one-hour averaging time and an eight-hour averaging time. Regulations have set NAAQS and CAAQS limits in parts per million (ppm) or micrograms per cubic meter (µg/m³). Table 4B-1 summarizes the State and federal ambient air quality standards for all criteria pollutants.

Table 4B-1 – National and State Ambient Air Quality Standards

Air Pollutant	Averaging Time	California Standard	National Standard
Ozone (O ₃)	1 hour	0.09 ppm	—
	8 hour	0.070 ppm	0.075 ppm
Respirable particulate matter (PM ₁₀)	24 hour	50 µg/m ³	150 µg/m ³
	Mean	20 µg/m ³	—
Fine particulate matter (PM _{2.5})	24 hour	—	35 µg/m ³
	Mean*	12 µg/m ³	15.0 µg/m ³
Carbon monoxide (CO)	1 hour	20 ppm	35 ppm
	8 hour	9.0 ppm	9 ppm
Nitrogen dioxide (NO ₂)	1 hour	0.18 ppm	—
	Mean	0.030 ppm	0.053 ppm
Sulfur dioxide (SO ₂)	1 hour	0.25 ppm	—
	24 hour	0.04 ppm	0.14 ppm
	Mean	—	0.030 ppm
Lead	30-day	1.5 µg/m ³	—
	Rolling 3-month	—	0.15 µg/m ³ **
	Quarter	—	1.5 µg/m ³

Air Pollutant	Averaging Time	California Standard	National Standard
Sulfates	24 hour	25 $\mu\text{g}/\text{m}^3$	<p align="center">No Federal Standard</p>
Hydrogen sulfide	1 hour	0.03 ppm	
Vinyl chloride ***	24 hour	0.01 ppm	
Visibility-reducing particles	8 hour	Extinction coefficient of 0.23 per kilometer, visibility of ten miles or more due to particles when relative humidity is less than 70%.	

Abbreviations:
 ppm = parts per million
 30-day = 30-day average
 * Mean = Annual Arithmetic Mean
 ** National lead standard, rolling 3-month average: final rule signed October 15, 2008.
 *** The CARB has identified lead and vinyl chloride as “toxic air contaminants” with no threshold level of exposure for adverse health effects determined. These actions allow for the implementation of control measures at levels below the ambient concentrations specified for these pollutants.

Source: CARB 2009.

Pollutants of Concern

As discussed below, the area surrounding the project is nonattainment or maintenance for ozone, PM, NO₂, and CO. Since reactive hydrocarbons and nitrogen oxides are precursors to ozone, that is, are photochemically combined to create ozone, these are considered pollutants of concern. Following is a brief description of these pollutants of concern, including health effects and the relative level of contributed emissions.

Carbon monoxide (CO) is a colorless, odorless gas produced by incomplete combustion of carbon-containing fuels (e.g., gasoline, diesel fuel, and biomass). CO levels tend to be highest during the winter months and low wind speed when the meteorological conditions favor the accumulation of the pollutants. This occurs when relatively low inversion levels trap pollutants near the ground and concentrate the CO. CO is essentially inert to plants and materials but can have significant effects on human health. CO gas enters the body through the lungs, dissolves in the blood, and creates a solid bond to hemoglobin, not allowing it to form a loose bond with carbon dioxide (CO₂), which is essential to the CO₂/oxygen exchange to occur. This firm binding therefore reduces available oxygen in the blood and oxygen delivery to the body's organs and tissues.

The primary source of CO is from on-road motor vehicles, which contributes almost 50 percent of the total CO in the Basin portion of San Bernardino County (CARB 2009b). Other off-road engines and vehicles (such as construction equipment and recreational boats) contribute another 25 percent. Higher levels of CO generally occur in areas with heavy traffic congestion.

Volatile organic compounds² (VOC) are defined as any compound of carbon, excluding CO, CO₂, carbonic acid, metallic carbides or carbonates, and ammonium carbonate, which participates in atmospheric photochemical reactions. It should be noted that there are no State or national ambient air quality standard for VOC because they are not classified as criteria pollutants. They are regulated, however, because a reduction in VOC emissions reduces certain chemical reactions that contribute to the formulation of ozone. VOC are also transformed into organic aerosols in the atmosphere, which contribute to higher PM₁₀ and lower visibility.

VOC emissions result primarily from incomplete fuel combustion and the evaporation of chemical solvents and fuels. A review of CARB's 2008 Emission Inventory (CARB 2009b) shows that on-road mobile sources are the largest single contributor to VOC emissions in the Basin portion of San Bernardino County with almost 23 percent of the total VOC emissions, with most of that coming from light-duty vehicles. Another 22 percent is contributed by off-road sources like construction equipment and recreational boats and 21 percent is contributed by biogenic emissions from plant life. Solvent evaporation VOC sources in the area contribute another 13 percent and are primarily from the use of consumer products.

Nitrogen oxides (NO_x) serve as integral participants in the process of photochemical smog production. The two major forms of NO_x are nitric oxide (NO) and nitrogen dioxide (NO₂). NO is a colorless, odorless gas formed from atmospheric nitrogen and oxygen when combustion takes place under high temperature and/or high pressure. NO₂ is a reddish-brown irritating gas formed by the combination of NO and oxygen. The Basin is designated a maintenance area for NO₂ but the primary concern is from the combined NO_x and its relationship to ozone. NO_x is an ozone precursor. A precursor is a directly emitted air contaminant that, when released into the atmosphere, forms, causes to be formed, or contributes to the formation of a secondary air contaminant for which an AAQS has been adopted, or whose presence in the atmosphere will contribute to the violation of one or more AAQSSs. When NO_x and VOC are released in the atmosphere, they can chemically react with one another in the presence of sunlight to form ozone.

A review of the 2008 Emission Inventory shows that 86 percent of the total NO_x emissions in the Basin portion of San Bernardino County come from on- and off-road vehicles (55% from on-road and 31% from off-road). The largest portion of on-road NO_x emissions come from heavy-duty diesel trucks (41% of the total for on-road) and light-duty cars and trucks (26%). The largest contributors from off-road sources are construction and demolition equipment (60% of total off-road NO_x).

Particulate matter (PM). Particle pollution is a mixture of microscopic solids and liquid droplets suspended in air. This pollution, also known as particulate matter, is made up of a number of components, including acids (such as nitrates and sulfates), organic chemicals, metals, soil or dust particles, and allergens (such as fragments of pollen or mold spores). The size of particles is directly linked to their potential for causing health problems. Small particles less than 10 micrometers in diameter pose the greatest problems, because they can get deep into lungs and the bloodstream. Being even smaller, PM_{2.5} will travel further into the lungs. Exposure to such particles can affect both lungs and heart.

2 VOCs are sometimes referred to as reactive organic gases (ROG), in this document the two terms are considered synonymous.

A review of the 2008 Emission Inventory shows that over 66 percent of the total PM₁₀ emissions in the Basin portion of San Bernardino County come from the category labeled Miscellaneous Processes. The largest portion of the PM₁₀ emissions from miscellaneous processes come from paved road dust (41% of the total for miscellaneous processes) and construction and demolition (28%). Whereas a significant portion of PM₁₀ emissions come from dislocation processes, PM_{2.5} is smaller and is more often a result of particulates coming from combustion sources. Subsequently, Miscellaneous Processes only represent 44 percent of the total PM_{2.5}, with paved road dust, managed burning and disposal, and residential fuel combustion contributing approximately 20 percent each of the miscellaneous processes total. Wildfires contributed an extra 25 percent.

Other Criteria Pollutants

The standards for other criteria pollutants are either being met, maintained, or are unclassified in the Basin, and the latest pollutant trends suggest that these standards will not be exceeded in the foreseeable future.

Toxic Air Contaminants

In addition to the above-listed criteria pollutants, toxic air contaminants (TACs) are another group of pollutants of concern. Sources of TACs include industrial processes such as petroleum refining and chrome plating operations, commercial operations such as gasoline stations and dry cleaners, and motor vehicle exhaust. Cars and trucks release at least 40 different TACs. The most important, in terms of health risk, are diesel particulates, benzene, formaldehyde, 1,3-butadiene, and acetaldehyde. Public exposure to TACs can result from emissions from normal operations, as well as accidental releases. Health effects of TACs include cancer, birth defects, neurological damage, and death. Toxic air contaminants are less pervasive in the urban atmosphere than the criteria air pollutants, but are linked to short-term (acute) or long-term (chronic or carcinogenic) adverse human health effects.

According to the 2005 California Almanac of Emissions and Air Quality, the majority of the estimated health risk from TACs can be attributed to relatively few compounds, the most important being diesel particulate matter (DPM). The identification of DPM as a TAC in 1998 led the CARB to adopt the Risk Reduction Plan to Reduce Particulate Matter Emissions from Diesel-fueled Engines and Vehicles (Plan) in September 2000. The Plan's goals are a 75 percent reduction in DPM by 2010 and an 85-percent reduction by 2020 from the 2000 baseline. Diesel engines emit a complex mixture of air pollutants, composed of gaseous and solid material. The visible emissions in diesel exhaust are known as particulate matter or PM, which includes carbon particles or "soot". Diesel exhaust also contains a variety of harmful gases and over 40 other cancer-causing substances. California's identification of DPM as a toxic air contaminant was based on its potential to cause cancer, premature deaths, and other health problems. Exposure to DPM is a health hazard, particularly to children whose lungs are still developing and the elderly who may have other serious health problems. Overall, diesel engine emissions are responsible for the majority of California's potential airborne cancer risk from combustion sources (CARB 2000).

Unlike the other TACs, no ambient monitoring data are available for DPM because no routine measurement method currently exists. However, CARB has made preliminary concentration estimates based on a PM exposure method. This method uses the CARB emissions inventory's PM₁₀ database, ambient PM₁₀ monitoring data, and the results from several studies to estimate concentrations of DPM. In addition to DPM, the TACs for which data are available that pose the

greatest existing ambient risk in California are benzene, 1,3-butadiene, acetaldehyde, carbon tetrachloride, hexavalent chromium, para-dichlorobenzene, formaldehyde, methylene chloride, and perchloroethylene. CARB estimates that 78 percent of the known Statewide cancer risk from these 10 TACs is attributable to DPM alone. The other 9 TACs are not expected to be emitted in significant quantities due to implementation of the proposed General Plan. Since these compounds represent a lower fraction of the risk and are not associated with the proposed land uses, a detailed discussion is not provided.

DPM poses the greatest health risk among these 10 TACs. Based on receptor modeling techniques, CARB estimated the DPM health risk in the Basin in 2000 to be 720 excess cancer cases per million people. Although the health risk is higher than the Statewide average, it represents a 33 percent drop between 1990 and 2000 (CARB 2006b).

Existing sources of TAC emissions in the City include a main line of the Burlington Northern Santa Fe Railroad that passes along the west side of the City and an industrial service line of the Union Pacific Railroad that parallels the Burlington Northern line to the immediate east. Both lines cross Main Street at “at-grade” crossings. The only other “at-grade” crossing is at Pico Street on the Union Pacific line. A Metrolink line parallels the Burlington Northern main line.

SENSITIVE RECEPTORS

Some members of the population are especially sensitive to air pollutant emissions and should be given special consideration when evaluating air quality impacts from projects. These people include children, the elderly, and persons with preexisting respiratory or cardiovascular illness, and athletes and others who engage in frequent exercise. Structures that house these persons or places where they gather are defined as sensitive receptors by SCAQMD.

Residential areas are considered sensitive to air pollution because residents (including children and the elderly) tend to be at home for extended periods of time, resulting in sustained exposure to any pollutants present. Recreational land uses are considered moderately sensitive to air pollution. Exercise places a high demand on respiratory functions, which can be impaired by air pollution even though exposure periods during exercise are generally short. In addition, noticeable air pollution can detract from the enjoyment of recreation. Industrial and commercial areas are considered the least sensitive to air pollution. Exposure periods are relatively short and intermittent as the majority of the workers tend to stay indoors most of the time. In addition, the working population is generally the healthiest segment of the public.

There are numerous types of these receptors throughout the City. Please refer to the General Plan’s land use policy map for areas with designations that accommodate residential, public institution, and open space uses (i.e., areas most likely to contain sensitive land uses such as residences, day care centers, senior facilities, hospitals, and parks).

GLOBAL CLIMATE CHANGE

Climate change is a change in the average weather of the earth that may be measured by changes in wind patterns, storms, precipitation, and temperature. According to the California Climate Change Center’s 2006 report “Our Changing Climate, Assessing the Risks to California,” climate change effects in California may result in consequences such as loss of snow-pack, increased risk of large wildfires, and reductions in the quality and quantity of certain agricultural products (CCC 2006).

Climate change is driven by forcings and feedbacks. Radiative forcing is the difference between the incoming energy and outgoing energy in the climate system. Positive forcing tends to warm the surface while negative forcing tends to cool it. A feedback is “an internal climate process that amplifies or dampens the climate response to a specific forcing” (NRC 2005). The global warming potential (GWP) is the potential of a gas or aerosol to trap heat in the atmosphere. The GWP of a gas is essentially a measurement of the radiative forcing of a greenhouse gas (GHG) compared with the reference gas, CO₂.

Individual GHG compounds have varying GWP and atmospheric lifetimes. The reference gas for the GWP is CO₂; CO₂ has a GWP of one. The calculation of the CO₂ equivalent (CO₂e) is a consistent methodology for comparing GHG emissions since it normalizes various GHG emissions to a consistent metric. Methane’s warming potential of 21 indicates that methane has a 21 times greater warming affect than CO₂ on a molecule per molecule basis. A CO₂e is the mass emissions of an individual GHG multiplied by its GWP. GHGs are often presented in units called tonnes (i.e. metric tons) of CO₂ (tCO₂e).

Gases that trap heat in the atmosphere are GHGs, analogous to the way a greenhouse retains heat. The accumulation of GHGs in the atmosphere regulates the earth’s temperature to be suitable for life. The presence of GHGs in the atmosphere affects the earth’s temperature. Without the natural heat-trapping effect of GHGs, the earth’s surface would be about 93 °F cooler. However, human activities have increased the amount of GHGs in the atmosphere. Some GHGs can remain in the atmosphere for hundreds of years.

In 2004, total worldwide GHG emissions were estimated to be 20,135 million (M) tonnes of CO₂ (MtCO₂e), excluding emissions/removals from land use, land use change, and forestry. In 2004, GHG emissions in the U.S. were 7,074 MtCO₂e. In 2004, California emitted 500 MtCO₂e, including imported electricity and excluding combustion of international fuels and carbon sinks or storage. The major source of GHGs in California is transportation, contributing 41 percent of the State’s total GHG emissions. Electricity generation is the second largest source, contributing 22 percent of the State’s GHG emissions.

Worldwide, average temperatures are likely to increase by 3 °F to 7 °F by the end of the 21st century (IPCC 2007). However, a global temperature increase does not directly translate to a uniform increase in temperature in all locations on the earth. Regional climate changes are dependent on multiple variables, such as topography. One region of the Earth may experience increased temperature, increased incidents of drought, and similar warming effects, whereas another region may experience a relative cooling. According to the Intergovernmental Panel on Climate Change’s (IPCC) Working Group II Report, climate change impacts to North America may include diminishing snowpack, increasing evaporation, exacerbated shoreline erosion, exacerbated inundation from sea level rising, increased risk and frequency of wildfire, increased risk of insect outbreaks, increased experiences of heat waves, and rearrangement of ecosystems, as species and ecosystem zones shift northward and to higher elevations (IPCC 2007).

Even though climate change is a global problem and GHGs are global pollutants, the effects of climate change on California have been studied.

Increased ocean temperature could result in increased moisture flux into the State; however, since this would likely increasingly come in the form of rain rather than snow in the high elevations, increased precipitation could lead to increased potential and severity of flood events, placing more pressure on California’s flood control system. As the existing climate throughout

California changes over time, mass migration of species, or worse, failure of species to migrate in time to adapt to the perturbations in climate, could also result.

Potential impacts, such as reduced water supply, more severe droughts, more winter floods, and drier growing seasons will affect California's agriculture. Many farms, especially in the fruit and nut business, require long-term investments, making fast adaptation difficult, and could thus experience serious losses if decisions continue to be made with no regard to expected climate changes.

The California Regional Assessment notes an increase in the number and extent of areas burned by wildfires in recent years, and modeling results under changing climate conditions suggest that fires may be hotter, move faster, and be more difficult to contain under future climate conditions. The factors which contribute to the risk of catastrophic fires (fuel loads, high temperatures, dry conditions, and wind) are typically present already in summer and fall seasons in California, but can exist at other times of the year, especially in drought conditions. Public safety is an issue as more home and tourism developments on coastal hills and mountains, and the foothills and higher elevations in the Sierra Nevada are highly susceptible to catastrophic wildfires.

The current distribution, abundance, and vitality of species and habitats are strongly dependent on climatic (and microclimatic) conditions. Climate change is expected to result in warmer temperatures year-round, accompanied by substantially wetter winters. Changes in temperature and precipitation patterns would also shift California's current climate zones, and thus habitats associated with these zones, northward by approximately 100–400 miles, as well as upwards in elevation by 500–1,500 feet. Global climate change would alter the composition, structure, and arrangement of the vegetation cover of the State (forest and wildland). Species distribution would move geographically as the climate changes, with forest stands, woodlands, and grassland species predicted to move northward and higher in elevation. The entire vegetative community may be affected if non-native invasive species occupy sites and replace native plants. Outbreaks of insects and diseases could compromise forest health and the capability of the forest stands to reproduce and to store carbon on a landscape basis. Forest fires are likely to become more frequent and severe if soils become drier. Changes in pest populations could further increase the stress on forests.

Projected climate changes will impact the quality of California's air, public health, and environment. Higher temperatures increase the formation of ground-level ozone and particulate matter, making it more difficult to meet the health-based air quality standards for these pollutants. Ground-level ozone has been shown to aggravate existing respiratory illnesses such as asthma, reduce lung function, and induce respiratory inflammation. Ambient ozone also reduces agricultural crop yields and impairs ecosystem health.

California's electricity generation is currently relatively efficient when it comes to emissions of GHGs. The national average for the electricity generation share of total GHG emissions is approximately 40 percent, while California electricity accounts for only 16 percent of Statewide emissions. This is in part due to California's significant amount of imported electricity, mild climate, and lack of energy-intensive industry. Over the past two decades, California has developed one of the largest and most diverse renewable electricity generation industries in the world. However, changes in climate of the magnitude predicted by the IPCC would substantially affect electricity generation throughout California and the entire western States grid, particularly for hydroelectric facilities. Less snowpack would result in lower levels of hydro-generation in the summer and fall seasons due to reduced runoff in those seasons. Additional hydropower may

be available during the winter and the spring. However, on balance hydropower is more useful and valuable within the grid mix of generation sources when it is available throughout the peak summer and fall seasons.

While most climate model simulations project relatively moderate changes in precipitation over this century, rising global temperatures are expected to result in reductions in snowpack for the Sierra Nevada Mountains (i.e., precipitation changing in the form of rain from snow). By the 2035 to 2064 period, the Sierra Nevada snowpack could decrease from 12 percent to 40 percent as compared to historic levels (depending on the climate scenario) (CARB 2007a). The Sierra Nevada snowpack currently acts as natural water storage (equal to approximately half of the storage capacity of California's major human-made reservoirs) by holding winter precipitation and releasing it during the spring and early summer months as the snow melts. The reduction of this natural water storage during the winter could mean water shortages in the future and would require the alteration of the management of existing reservoirs (while not losing flood control capacity or hydropower generation capacity) and/or the construction of additional human-made reservoirs to compensate for this storage loss.

Currently, there is no accurate information to accurately assess the impact of climate change for flood frequency or severity, because of the absence of detailed regional precipitation information from climate models and because water-management choices can substantially influence overall flood risk. However, increased amounts of winter runoff could be accompanied by increases in flood event severity and warrant additional dedication of wet season storage space for flood control as opposed to water supply storage. This need to manage water storage facilities to handle increased runoff could in turn lead to water shortages during high water demand. It is recognized that these impacts would result in increased challenges for reservoir management and balancing the competing concerns of flood protection and water supply.

LOCAL AMBIENT AIR QUALITY

Existing levels of ambient air quality and historical trends and projections in the project area are best documented by measurements made by the SCAQMD. The SCAQMD has an extensive air-monitoring network that measures levels of several air pollutants throughout the Basin. The SCAQMD has subdivided the Basin into 38 Source-Receptor Areas (SRA), each containing one or more monitoring stations. These SRAs provide a general representation of the local meteorological and air quality conditions within the particular area.

The project is located within the northern portion of SRA 35 East San Bernardino Valley. Since the City rests in the extreme southwest portion of SRA 35, other SRAs had ambient monitoring stations that were closer to the project area. In fact, monitoring stations in San Bernardino and Riverside are both 6 miles from the City. Therefore, ambient data from both monitoring stations — San Bernardino on 4th Street in SRA 34 - Central San Bernardino Valley and Riverside — Rubidoux on Mission Street in SRA 23 – Metropolitan Riverside — were analyzed. Table 4B-2 and Table 4B-3 summarize 2006 through 2008 published monitoring data from the CARB's Aerometric Data Analysis and Management System for the Costa Mesa and Anaheim Stations.

The monitoring data shows that there were no violations of CO or NO₂ in the most recent three years, however both stations demonstrated the general air quality problems of the Basin in that they exceeded both federal and State 8-hour ozone standards, the State 1-hour ozone standard, the federal PM_{2.5} standard, and the State PM₁₀ standard. In 2007, the two stations had one day where PM₁₀ was measured at 559 µg/m³ at Riverside and 219 µg/m³ at San Bernardino. However, since the one day reading (October 21st) is much more than the second

highest readings of 118 $\mu\text{g}/\text{m}^3$ and 136 $\mu\text{g}/\text{m}^3$ for each site respectively and the entire Basin had similar extreme PM_{10} concentrations, that the October 21, 2007, reading may be determined to be an Extreme Concentration Event, an Exceptional Event, or an Unusual Concentration Event.

Table 4B-2 – Air Quality Monitoring Summary - San Bernardino - 4th Street Station

Air Pollutant	2006	2007	2008
Ozone (O_3)			
Max 1 Hour (ppm)	0.151	0.131	0.146
Days > CAAQS (0.09 ppm)	45	31	54
Max 8 Hour (ppm)	0.117	0.111	0.116
Days > NAAQS (0.08 ppm ¹)	57	48	64
Days > CAAQS (0.070 ppm)	75	69	89
Carbon Monoxide (CO)			
Max 8 Hour (ppm)	2.29	2.93	1.86
Days > NAAQS (9 ppm)	0	0	0
Days > CAAQS (9.0 ppm)	0	0	0
Nitrogen Dioxide (NO_2)			
Max 1 Hour (ppm)	0.088	0.083	0.091
Days > CAAQS (0.18 ppm)	0	0	0
Particulate Matter (PM_{10})			
Max Daily California Measurement	106.0	540.0	108.0
Days > NAAQS (150 $\mu\text{g}/\text{m}^3$)	0	1	0
Days > CAAQS (50 $\mu\text{g}/\text{m}^3$)	69	65	46
Particulate Matter ($\text{PM}_{2.5}$)			
Max Daily National Measurement	68.4	75.6	53.3
Days > NAAQS (35 $\mu\text{g}/\text{m}^3$)	32	33	7
Abbreviations:			
> = exceed ppm = parts per million $\mu\text{g}/\text{m}^3$ = micrograms per cubic meter			
CAAQS = California Ambient Air Quality Standard NAAQS = National Ambient Air			
Quality Standard Mean = Annual Arithmetic Mean Bold = exceedance			
* No Data / Insufficient Data			
1. Days above the 1997 Standard			
Source: CARB 2009c			

Table 4B-3 – Air Quality Monitoring Summary – Riverside - Rubidoux Station

Air Pollutant	2006	2007	2008
Ozone (O₃)			
Max 1 Hour (ppm)	0.154	0.153	0.157
Days > CAAQS (0.09 ppm)	57	48	62
Max 8 Hour (ppm)	0.126	0.121	0.122
Days > NAAQS (0.08 ppm ¹)	56	51	62
Days > CAAQS (0.070 ppm)	72	72	87
Carbon Monoxide (CO)			
Max 8 Hour (ppm)	2.19	2.27	1.65
Days > NAAQS (9 ppm)	0	0	0
Days > CAAQS (9.0 ppm)	0	0	0
Nitrogen Dioxide (NO₂)			
Max 1 Hour (ppm)	0.076	0.072	0.092
Days > CAAQS (0.18 ppm)	0	0	0
Particulate Matter (PM₁₀)			
Max Daily California Measurement	89.0	211.0	73.0
Days > NAAQS (150 µg/m ³)	0	1	0
Days > CAAQS (50 µg/m ³)	22	26	17
Particulate Matter (PM_{2.5})			
Max Daily National Measurement	55.0	72.1	43.5
Days > NAAQS (35 µg/m ³)	9	11	1
Abbreviations:			
> = exceed ppm = parts per million µg/m ³ = micrograms per cubic meter CAAQS = California Ambient Air Quality Standard NAAQS = National Ambient Air Quality Standard Mean = Annual Arithmetic Mean Bold = exceedance * No Data / Insufficient Data 1. Days above the 1997 Standard			
Source: CARB 2009c			

REGULATORY SETTING

Air pollutants are regulated at the national, State, and air basin level; each agency has a different degree of control. The EPA regulates at the national level; the CARB regulates at the State level; and the SCAQMD regulates at the air basin level in the project area.

Regulatory Agencies

Environmental Protection Agency (EPA)

The EPA is the federal agency responsible for overseeing State air programs as they relate to the FCAA, approving State Implementation Plans (SIP), establishing NAAQS and setting emission standards for mobile sources under federal jurisdiction. The EPA has delegated the authority to implement many of the federal programs to the States while retaining an oversight role to ensure that the programs continue to be implemented.

California Air Resources Board (CARB)

The CARB is the State agency responsible for establishing CAAQS, adopting and enforcing emission standards for various sources including mobile sources (except where federal law preempts their authority), fuels, consumer products, and toxic air contaminants. The CARB is also responsible for providing technical support to California's 35 local air districts, which are organized at the county or regional level, overseeing local air district compliance with State and federal law, approving local air plans and submitting the SIP to the EPA. The CARB also regulates mobile emission sources in California, such as construction equipment, trucks, and automobiles.

For the purposes of managing air quality in California, the California Health & Safety Codes Section 39606(a)(2) gave the CARB the responsibility to "based upon similar meteorological and geographic conditions and consideration for political boundary lines whenever practicable, divide the State into air basins to fulfill the purposes of this division". San Bernardino County is located within both the Mojave Desert Air Basin and the Basin. The project area is in the Basin portion of San Bernardino County.

South Coast Air Quality Management District (SCAQMD)

The air pollution control agency for the Basin is the SCAQMD. SCAQMD is responsible for controlling emissions primarily from stationary sources. SCAQMD maintains air quality monitoring stations throughout the Basin. The SCAQMD is the air pollution control agency for all of Orange County and the urban portions of Los Angeles, Riverside, and San Bernardino counties. This area of 10,743 square miles is home to over 16.7 million people - about half the population of the whole State of California. It is the second most populated urban area in the United States and one of the smoggiest.

ATTAINMENT STATUS

Federal

EPA has identified nonattainment and attainment areas for each criteria air pollutant. Under amendments to the FCAA, the EPA has classified air basins or portions thereof as "attainment," "nonattainment," or "unclassifiable," based on whether or not the national standards have been achieved. The EPA uses two categories to designate areas with respect to PM_{2.5} and NO₂, which include (1) does not meet the standard (nonattainment) and (2) cannot be classified or better than national standards (unclassifiable/attainment). The EPA uses four categories to designate for SO₂ but the only two that are applicable in California are nonattainment or unclassifiable. The EPA uses three categories to designate for PM₁₀: attainment, nonattainment, and unclassifiable.

The FCAA uses the classification system to design clean-up requirements appropriate for the severity of the pollution and set realistic deadlines for reaching clean-up goals. If an air basin is not in federal attainment (that is, it does not meet federal standards) for a particular pollutant, the basin is classified as a marginal, moderate, serious, severe, or extreme nonattainment area, based on the estimated time it would take to reach attainment. Nonattainment areas must take steps towards attainment by a specific timeline. Table 4B-4 shows the federal attainment designations and classifications for the Basin.

State

The last published Area Designations and Maps from the CARB was in 2006 (CARB 2006). The area designations are made on a pollutant-by-pollutant basis, for all pollutants listed above. In April 2005, the CARB reaffirmed the existing 1-hour State ozone standard and adopted a new State 8-hour ozone standard. The 8-hour standard of 0.070 ppm became effective on May 17, 2006. This year's review of the State area designations was the first to consider the State 8-hour ozone standard and, because the 8-hour standard is more health-protective than the 1-hour standard, there was a change in area designation for a number of areas.

The State designation criteria specify four categories: nonattainment, nonattainment-transitional, attainment, and unclassified. A nonattainment designation indicates one or more violations of the State standard have occurred. A nonattainment-transitional designation is a subcategory of nonattainment that indicates improving air quality, with only occasional violations or exceedances of the State standard. In contrast, an attainment designation indicates no violations of the State standard are available to evaluate attainment status. Finally, an unclassified designation indicates either no air quality data or an incomplete set of air quality data. State attainment designations in the affected area are listed in Table 4B-4.

Table 4B-4 – Designations/Classifications for the Basin

Pollutant	State Designation	Federal Designation (Classification)
Ozone	Nonattainment	Nonattainment (Severe-17) ^{1*}
PM ₁₀	Nonattainment	Nonattainment (Serious)
PM _{2.5}	Nonattainment	Nonattainment
CO	Attainment	Maintenance ²
NO ₂	Attainment	Maintenance ³
¹ SCAQMD may petition for an Extreme classification ² On April 24, 2007, EPA's Regional Administrator signed a final rule to approve the South Coast Maintenance Plan and Redesignation Request for Carbon Monoxide. ³ On January 15, 2009, EPA's Regional Administrator signed a final rule to approve in part and disapprove in part the South Coast 2003 1-hour ozone plan and the NO ₂ maintenance plan. The parts of the plan, prepared by the SCAQMD and the CARB, which we approved, strengthen the SIP. * The Federal 1-hour ozone standard was vacated in 2006. However, prior to 2006 the Project area was designated Severe-17 Non-attainment. Source: CARB 2006.		

FEDERAL CLEAN AIR ACT REQUIREMENTS

The FCAA requires plans to provide for the implementation of all reasonably available control measures including the adoption of reasonably available control technology for reducing emissions from existing sources. The FCAA encourages market-based approaches to emission control innovations. Other federal requirements addressed include mechanisms to track plan implementation and milestone compliance for ozone and CO.

The EPA has recently phased out the federal 1-hour ozone standard and replaced it with a new 8-hour standard to protect against longer exposure periods. However, the Basin still

experiences ozone levels over the prior federal 1-hour standard on more than 20 days per year. The Draft 2007 Air Quality Attainment Plan (AQMP) shows that by 2010, the Basin will still exceed the federal 1-hour ozone standard by 20 percent despite the implementation of existing air quality programs. The District and a number of environmental organizations have litigated against EPA's revocation of the 1-hour standard with the case still pending.

The new 8-hour ozone standard is set at a concentration of 0.08 parts per million (ppm) and represents a tightening of the existing 1-hour ozone standard that was set at 0.12 ppm. Under the form of the standard adopted by the EPA, areas are allowed to disregard their three worst measurements every year and average their fourth highest measurements over 3 years to determine if they meet the standard.

For particulate matter, the EPA established new annual and 24-hour standards for PM_{2.5} to complement the existing PM₁₀ standards. The new annual PM_{2.5} standard is set at 15 micrograms per cubic meter (µg/m³) and the new 24-hour PM_{2.5} standard is set at 65 µg/m³. The annual component of the standard was set to provide protection against typical day-to-day exposures as well as longer-term exposures, while the daily component protects against more extreme short-term events. For the new 24-hour PM_{2.5} standard, the form of the standard is based on the 98th percentile of 24-hour PM_{2.5} concentrations measured in a year (averaged over 3 years) at the monitoring site with the highest measured values in an area. This form of the standard will reduce the impact of a single high exposure event that may be due to unusual meteorological conditions and thus provide a more stable basis for effective control programs.

While EPA has retained the current annual PM₁₀ standard of 50 µg/m³, it has modified the form of the 24-hour PM₁₀ standard set at 150 µg/m³. More specifically, EPA revised the one-expected exceedance form of the current standard with a 99th percentile form, averaged over 3 years.

The current regulatory control strategies will continue to focus on attaining the 1-hour ozone standard with the recognition that these controls will have benefits toward attaining the 8-hour ozone and PM_{2.5} standards. The EPA is considering several options in transitioning from the 1-hour to the 8-hour standard, while ensuring that no backsliding will occur. Based on the recent consent decree guidance, it is most likely that the Basin will have to meet the federal PM_{2.5} standards by 2015 and the 8-hour ozone standard by 2021 or 2024 if the area is re-designated as "Extreme."

The EPA currently does not regulate GHG emissions from motor vehicles. *Massachusetts v. EPA* (Supreme Court Case 05-1120) was argued before the United States Supreme Court on November 29, 2006, in which it was petitioned that EPA regulate four GHGs, including CO₂, under Section 202(a)(1) of the Clean Air Act. A decision was made on April 2, 2007, in which the Supreme Court held that petitioners have a standing to challenge the EPA and that the EPA has statutory authority to regulate emissions of GHGs from new motor vehicles.

On December 7, 2009, the Administrator or the EPA signed two distinct findings regarding greenhouse gases under section 202(a) of the Clean Air Act. The Findings assert:

- Current and projected concentrations of the mix of six key GHGs — CO₂, methane (CH₄), nitrous oxide (N₂O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF₆) — in the atmosphere threaten the public health and welfare of current and future generations. This is referred to as the Endangerment Finding and

- The combined emissions of CO₂, CH₄, N₂O, and HFCs from new motor vehicles and motor vehicle engines contribute to the atmospheric concentrations of these key GHGs and hence to the threat of climate change. This is referred to as the Cause or Contribute Finding.

These findings do not themselves impose any requirements on industry or other entities. However, this action is a prerequisite to finalizing the EPA's proposed greenhouse gas emission standards for light-duty vehicles, which were jointly proposed by EPA and the Department of Transportation's National Highway Safety Administration on September 15, 2009.

2007 AIR QUALITY MANAGEMENT PLAN (AQMP)

To ensure continued progress toward clean air and comply with State and federal requirements, the SCAQMD, in conjunction with the CARB and Southern California Association of Governments (SCAG), prepared the 2007 revision to its AQMP. The 2007 AQMP employs up-to-date science and analytical tools and incorporates a comprehensive strategy aimed at controlling pollution from all sources, including stationary sources, on-road and off-road mobile sources, and area sources. While many technical tasks are still underway to complete the Plan revision, there is sufficient information to begin framing policy discussions on clean air strategies. Hence, the Draft Plan has been prepared and is being released for early public review and participation.

The 2007 AQMP demonstrates attainment with the federal 8-hour ozone standard and for PM_{2.5}, replaces the 2003 attainment demonstration for the federal CO standard, and maintenance plan for CO for the future; and updates the maintenance plan for the federal NO₂ standard that the Basin has met since 1992.

The 2007 AQMP also addresses several State and federal planning requirements and incorporates significant new scientific data, primarily in the form of updated emissions inventories, ambient measurements, new meteorological episodes, and new air quality modeling tools. The 2007 AQMP is consistent with and builds upon the approaches taken in the 2003 and 1997 AQMP and the 1999 Amendments to the SIP for the Basin for the attainment of the federal ozone air quality standard. However, this revision points to the urgent need for additional emission reductions (beyond those incorporated in the 1997/99 Plan) to offset increased emission estimates from mobile sources and meet all federal criteria pollutant standards within the time frames allowed under the federal Clean Air Act.

Each revision of the AQMP represents a snapshot in time, based on the best available information. The 2007 AQMP generally is very similar to the structure of the 2003 AQMP, 1997 AQMP, and the 1999 Amendments to the ozone SIP, but like all new editions includes significant enhancements. The key updates incorporated in the 2007 AQMP are summarized as follows:

- Revised emissions inventory projections using 2002 as the base year, the CARB on-road motor vehicle emissions model EMFAC2007, and SCAG 2004 Regional Transportation Plan (RTP) forecast assumptions;
- Revised control strategy that updates remaining control measures from the 2003 AQMP, 1997/1999 SIP, and incorporation of new control measures toward attainment of the federal 8-hour ozone and PM_{2.5} standards based on current technology assessments;

- Reliance on updated modeling tools for attainment demonstration relative to ozone, PM₁₀, and PM_{2.5}; and
- Attainment demonstration of the federal 8-hour ozone and PM_{2.5} standards.

The 2007 AQMP proposes attainment demonstration of the federal PM_{2.5} standards through a more focused control of SOX, directly emitted PM_{2.5}, and NO_x supplemented with VOC by 2014. The 8-hour ozone control strategy builds upon the PM_{2.5} strategy, augmented with additional VOC reductions to meet the standard by 2020. An extended attainment date (i.e., additional 3 years) is allowed under the Clean Air Act if a “bump-up” request is made by the State showing the need for such extension.

The 2007 AQMP proposes policies and measures currently contemplated by responsible agencies to achieve federal standards for healthful air quality in the Basin. The 2007 AQMP also addresses several federal planning requirements and incorporates significant new scientific data, primarily in the form of updated emissions inventories, ambient measurements, new meteorological episodes, and new air quality modeling tools.

SCAQMD RULES AND REGULATIONS

All projects are subject to SCAQMD rules and regulations in effect at the time of construction. Specific rules applicable to the construction of the proposed project may include, but are not limited to, the following:

Rule 401 – Visible Emissions

A person shall not discharge into the atmosphere from any single source of emission whatsoever any air contaminant for a period or periods aggregating more than three minutes in any one hour which is as dark or darker in shade as that designated No. 1 on the Ringelmann Chart, as published by the United States Bureau of Mines.

Rule 402 – Nuisance

This Rule prohibits discharge from any source whatsoever such quantities of air contaminants or other material which cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public, or which endanger the comfort, repose, health or safety of any such persons or the public, or which cause, or have a natural tendency to cause injury or damage to business or property. The provisions of this rule do not apply to odors emanating from agricultural operations necessary for the growing of crops or the raising of fowl or animals.

Rule 403 – Fugitive Dust

This rule is intended to reduce the amount of particulate matter entrained in the ambient air as a result of anthropogenic (man-made) fugitive dust sources by requiring actions to prevent, reduce, or mitigate fugitive dust emissions. Rule 403 applies to any activity or man-made condition capable of generating fugitive dust.

Rule 431.1 and 431.2 – Sulfur Content of Gaseous Fuels and Sulfur Content of Liquid Fuels

This Rule requires the use of low sulfur fuel for stationary construction equipment.

Rule 1108 – Emulsified Asphalt

This Rule sets limitations on VOC content in asphalt.

Rule 1113 – Architectural Coatings

No person shall apply or solicit the application of any architectural coating within SCAQMD, with VOC content in excess of the values specified in a table incorporated in the Rule.

TOXIC AIR CONTAMINANTS (TAC)

Air quality regulations also focus on TACs. In general, for those TACs that may cause cancer, there is no concentration that does not present some risk. In other words, there is no threshold level below which adverse health impacts may not be expected to occur. This contrasts with the criteria air pollutants for which acceptable levels of exposure can be determined and for which the ambient standards have been established. Instead, EPA and CARB regulate hazardous air pollutants (HAPs) and TACs, respectively, through statutes and regulations that generally require the use of the maximum or best available control technology (MACT or BACT) for toxics to limit emissions at the source. These, in conjunction with additional rules set forth by SCAQMD, establish the regulatory framework for TACs.

Federal Hazardous Air Pollutant Programs

EPA has programs for identifying and regulating HAPs. Title III of the FCAA directed EPA to promulgate National Emissions Standards for HAPs (NESHAP). The NESHAP may be different for major sources than for area sources of HAPs. Major sources are defined as stationary sources with potential to emit more than 10 tons per year (tpy) of any HAP or more than 25 tpy of any combination of HAPs; all other sources are considered area sources. The FCAA called on EPA to promulgate emissions standards in two phases. In the first phase (1992 through 2000), EPA developed technology-based emission standards designed to produce the maximum emission reduction achievable. These standards are generally referred to as requiring MACT. For area sources, the standards may be different, based on generally available control technology. In the second phase (2001–2008), EPA is required to promulgate health risk-based emissions standards where deemed necessary to address risks remaining after implementation of the technology-based NESHAP standards.

The FCAA also required EPA to promulgate vehicle or fuel standards containing reasonable requirements that control toxic emissions, at a minimum for benzene and formaldehyde. Performance criteria were established to limit mobile-source emissions of toxics, including benzene, formaldehyde, and 1,3-butadiene. In addition, Section 219 of the FCAA required the use of reformulated gasoline in selected areas with the most severe ozone nonattainment conditions to further reduce mobile-source emissions.

State and Local Toxic Air Contaminant Programs

TACs in California are primarily regulated through the Tanner Air Toxics Act (Assembly Bill [AB] 1807) and the Air Toxics Hot Spots Information and Assessment Act of 1987 (Hot Spots Act) (AB 2588). AB 1807 sets forth a formal procedure for CARB to designate substances as TACs. Research, public participation, and scientific peer review must occur before CARB can designate a substance as a TAC. To date, CARB has identified more than 21 TACs and adopted EPA's list of HAPs as TACs. DPM was added to the CARB list of TACs in 1998.

Once a TAC is identified, CARB then adopts an airborne toxics control measure (ATCM) for sources that emit that particular TAC. If there is a safe threshold for a substance at which there is no toxic effect, the control measure must reduce exposure below that threshold. If there is no safe threshold, the measure must incorporate BACT to minimize emissions (e.g., an ATCM limits truck idling to 5 minutes [13 CCR Chapter 10 Section 2485]).

The Hot Spots Act requires that existing facilities that emit toxic substances above a specified level prepare a toxic-emission inventory, prepare a risk assessment if emissions are significant, notify the public of significant risk levels, and prepare and implement risk reduction measures.

CARB has adopted diesel-exhaust control measures and more stringent emission standards for various on-road mobile sources of emissions, including transit buses and off-road diesel equipment (e.g., tractors, generators). In February 2000, CARB adopted a new public-transit bus fleet rule and emission standards for new urban buses. These new rules and standards provide (1) more stringent emission standards for some new urban bus engines, beginning with 2002 model year engines; (2) zero-emission bus demonstration and purchase requirements applicable to transit agencies; and (3) reporting requirements, under which transit agencies must demonstrate compliance with the public-transit bus fleet rule. Current and future milestones include the low-sulfur diesel fuel requirement and tighter emission standards for heavy-duty diesel trucks (by 2007) and off-road diesel equipment (by 2011) nationwide. Over time, the replacement of older vehicles will result in a vehicle fleet that produces substantially lower levels of TACs than under current conditions. Mobile-source emissions of TACs (e.g., benzene, 1,3-butadiene, DPM) have been reduced significantly over the last decade and will be reduced further in California through a progression of regulatory measures and control technologies. With implementation of CARB's Risk Reduction Plan, it is expected that DPM concentrations will be reduced by 75 percent in 2010 and 85 percent in 2020 from the estimated year-2000 level. Adopted regulations are also expected to continue to reduce formaldehyde emissions from cars and light-duty trucks. As emissions are reduced, it is expected that risks associated with exposure to the emissions will also be reduced.

CARB published the Air Quality and Land Use Handbook: A Community Health Perspective (Handbook) (CARB 2005), which provides guidance concerning land use compatibility with TAC sources. While not a law or adopted policy, the Handbook offers advisory recommendations for the siting of sensitive receptors near uses associated with TACs, such as freeways and high-traffic roads, commercial distribution centers, rail yards, ports, refineries, dry cleaners, gasoline stations, and industrial facilities, to help protect children and other sensitive populations.

At the local level, air pollution control or management districts may adopt and enforce CARB control measures. Under SCAQMD Regulation XIV (Toxics and Other Non-Criteria Pollutants), and in particular Rule 1401 (New Source Review), all sources that possess the potential to emit TACs are required to obtain permits from the district. Permits may be granted to these operations if they are constructed and operated in accordance with applicable regulations, including new source review standards and air toxics control measures. SCAQMD limits emissions and public exposure to TACs through a number of programs. SCAQMD prioritizes TAC-emitting stationary sources based on the quantity and toxicity of the TAC emissions and the proximity of the facilities to sensitive receptors.

CLIMATE CHANGE/GREENHOUSE GAS

Federal Climate Change Legislation

The federal government has taken a number of steps toward addressing global climate change over the past 30 years, but thus far, such actions have been mostly policy oriented, with very little substance. In 1978, Congress enacted the National Climate Program Act, which required an investigation into climate change. In 1987, Congress enacted the Global Climate Protection Act for the purpose of “establish[ing] a national climate program that will assist the Nation and the world to understand and respond to natural and man-induced climate processes and their implications” (15 USC §2902). The act required the establishment of various programs to further climate change research (15 USC §2904[d]).

The EPA currently does not regulate GHG emissions from motor vehicles. *Massachusetts v. EPA* (Supreme Court Case 05-1120) was argued before the United States Supreme Court on November 29, 2006, in which it was petitioned that EPA regulate four GHGs, including CO₂, under Section 202(a)(1) of the Clean Air Act. A decision was made on April 2, 2007, in which the Supreme Court held that petitioners have a standing to challenge the EPA and that the EPA has statutory authority to regulate emissions of GHGs from new motor vehicles.

Endangerment and Cause or Contribute Findings

On December 7, 2009, the Administrator of the EPA signed two distinct findings regarding greenhouse gases under section 202(a) of the Clean Air Act. The Findings assert:

Current and projected concentrations of the mix of six key GHGs — CO₂, methane (CH₄), nitrous oxide (N₂O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF₆) — in the atmosphere threaten the public health and welfare of current and future generations. This is referred to as the endangerment finding.

The combined emissions of CO₂, CH₄, N₂O, and HFCs from new motor vehicles and motor vehicle engines contribute to the atmospheric concentrations of these key GHGs and hence to the threat of climate change. This is referred to as the cause or contribute finding.

These findings do not themselves impose any requirements on industry or other entities. However, this action is a prerequisite to finalizing the EPA’s proposed greenhouse gas emission standards for light-duty vehicles, which were jointly proposed by EPA and the Department of Transportation’s National Highway Safety Administration on September 15, 2009.

Energy Policy and Conservation Act

The Energy Policy and Conservation Act of 1975 sought to ensure that all vehicles sold in the U.S. would meet certain fuel economy goals. Through this Act, Congress established the first fuel economy standards for on-road motor vehicles in the U.S. Pursuant to the Act, the National Highway Traffic and Safety Administration, which is part of the U.S. Department of Transportation (DOT) is responsible for establishing additional vehicle standards and for revising existing standards. Since 1990, the fuel economy standard for new passenger cars has been 27.5 miles per gallon (mpg). Since 1996, the fuel economy standard for new light trucks (gross vehicle weight of 8,500 pounds or less) has been 20.7 mpg. The Corporate Average Fuel Economy (CAFE) program, administered by the EPA, was created to determine vehicle manufacturers’ compliance with the fuel economy standards. The EPA calculates a CAFE

value for each manufacturer based on city and highway fuel economy test results and vehicle sales. Based on the information generated under the CAFE program, the DOT is authorized to assess penalties for noncompliance.

Federal Energy Policy Act of 1992

The Energy Policy Act (EPA) of 1992 was passed to reduce the country's dependence on foreign petroleum and improve air quality. EPA includes several parts intended to build an inventory of alternative fuel vehicles (AFVs) in large, centrally fueled fleets in metropolitan areas. EPA requires certain Federal, State, and local governments and private fleets to purchase a percentage of light-duty AFVs capable of running on alternative fuels each year. In addition, financial incentives are also included in EPA. Federal tax deductions will be allowed for businesses and individuals to cover the incremental cost of AFVs. States are also required by the act to consider a variety of incentive programs to help promote AFVs.

Energy Policy Act of 2005

The Energy Policy Act of 2005 includes provisions for renewed and expanded tax credits for electricity generated by qualified energy sources, such as landfill gas; provides bond financing, tax incentives, grants, and loan guarantees for clean renewable energy and rural community electrification; and establishes a Federal purchase requirement for renewable energy.

State Climate Change Legislation

Assembly Bill 4420 (AB 4420)

The State of California has been studying the impacts of climate change since 1988, when AB 4420 was approved. This legislation directed the CEC, in consultation with the CARB and other agencies, to study the implications of global warming on California's environment, economy, and water supply. The CEC was also directed to prepare and maintain the State's inventory of GHG emissions.

Assembly Bill (AB 1493)

AB 1493 (Pavley), enacted on July 22, 2002, required the CARB to develop and adopt regulations that reduce GHGs emitted by passenger vehicles and light duty trucks. Regulations adopted by the CARB would apply to 2009 and later model year vehicles. The CARB estimates that the regulation would reduce climate change emissions from the light-duty passenger vehicle fleet by an estimated 18 percent in 2020 and by 27 percent in 2030 (CARB 2005a). CARB requested a waiver of pre-emption for its GHG regulations for certain new motor vehicles beginning with Model Year 2009. Even though the EPA denied the waiver in 2006, EPA was directed to reassess whether the denial was appropriate. EPA held a hearing on March 5, 2009 and has written comments due by April 6, 2009. A decision has not yet been made. Therefore, AB 1493 is not currently in effect. The EPA granted California the authority to implement GHG emission reduction standards for new passenger cars, pickup trucks, and sport utility vehicles on June 30, 2009.

Executive Order S 3-05

On June 1, 2005, the Governor issued Executive Order S 3-05 which set the following GHG emission reduction targets:

- By 2010, reduce GHG emissions to 2000 levels;
- By 2020, reduce GHG emissions to 1990 levels;
- By 2050, reduce GHG emissions to 80 percent below 1990 levels.

To meet these targets, the Climate Action Team prepared a report to the Governor in 2006 that contains recommendations and strategies to help ensure the targets in Executive Order S-3-05 are met.

Assembly Bill 32 (AB 32)

In 2006, the California State Legislature enacted the California Global Warming Solutions Act of 2006, also known as AB 32. AB 32 focuses on reducing GHG emissions in California. GHGs, as defined under AB 32, include CO₂, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride. AB 32 requires that GHGs emitted in California be reduced to 1990 levels by the year 2020. The CARB is the State agency charged with monitoring and regulating sources of emissions of GHGs that cause global warming in order to reduce emissions of GHGs. AB 32 also requires that by January 1, 2008, the CARB must determine what the Statewide GHG emissions level was in 1990, and it must approve a Statewide GHG emissions limit so it may be applied to the 2020 benchmark. The CARB approved a 1990 GHG emissions level of 427 MtCO₂, on December 6, 2007 in its Staff Report. Therefore, in 2020, emissions in California are required to be at or below 427 MtCO₂.

Under the current “business as usual” scenario, Statewide emissions are increasing at a rate of approximately 1 percent per year as noted below. Also shown are the average reductions needed from all Statewide sources (including all existing sources) to reduce GHG emissions back to 1990 levels.

- 1990: 427 MtCO₂
- 2004: 480 MtCO₂ (an average 11-percent reduction needed to achieve 1990 base)
- 2008: 495 MtCO₂ (an average 14-percent reduction needed to achieve 1990 base)
- 2020: 596 MtCO₂ “Business As Usual” (an average 28-percent reduction needed to achieve 1990 base)

Under AB 32, the CARB published its Final Expanded List of Early Action Measures to Reduce GHG Emissions in California in October 2007. Discrete early action measures are currently underway or are enforceable by January 1, 2010. Early action measures are regulatory or non-regulatory and are currently underway or to be initiated by the CARB in the 2007 to 2012 timeframe. The CARB has 44 early action measures that apply to the transportation, commercial, forestry, agriculture, cement, oil and gas, fire suppression, fuels, education, energy efficiency, electricity, and waste sectors (CAT 2007). Action measures include strategies affecting vehicular activity, such as diesel anti-idling, alternative fuels, heavy-duty vehicle emissions reduction measures; measures involving landfill methane capture, hydrogen vehicles, building efficiency improvements; and improvements to cement manufacturing. Of those early action measures, nine are considered discrete early action measures, as they are regulatory and enforceable by January 1, 2010. The CARB estimates that the 44 recommendations are

expected to result in reductions of at least 42 MtCO₂ by 2020, representing approximately 25 percent of the 2020 target.

The CARB approved a Climate Change Scoping Plan in December 2008. The Plan “proposes a comprehensive set of actions designed to reduce overall GHG emissions in California, improve our environment, reduce our dependence on oil, diversify our energy sources, save energy, create new jobs, and enhance public health.” The measures will be developed over the next 2 years and will be in place by 2012.

Senate Bill 1368 (SB 1368)

In 2006, the State Legislature adopted Senate Bill 1368 (SB 1368), which was subsequently signed into law by the Governor. SB 1368 directs the California Public Utilities Commission to adopt a performance standard for GHG emissions for the future power purchases of California utilities. SB 1368 seeks to limit carbon emissions associated with electrical energy consumed in California by forbidding procurement arrangements longer than 5 years for energy from resources that exceed the emissions of a relatively clean, combined cycle natural gas power plant. Because of the carbon content of its fuel source, a coal-fired plant cannot meet this standard, since such plants emit roughly twice as much carbon as natural gas, combined cycle plants. Accordingly, the new law will effectively prevent California’s utilities from investing in, otherwise financially supporting, or purchasing power from new coal plants located in or out of the State. Thus, SB 1368 will lead to dramatically lower GHG emissions associated with California’s energy demand, since it will effectively prohibit California utilities from purchasing power from out-of-State producers that cannot satisfy the above-referenced performance standard for GHG emissions.

Senate Bill 97 (SB 97)

SB 97 was passed in August 2007 and added Section 21083.05 to the Public Resources Code. The code States that “(a) On or before July 1, 2009, the Office of Planning and Research shall prepare, develop, and transmit to the Resources Agency guidelines for the mitigation of GHG emissions or the effects of GHG emissions as required by this division, including, but not limited to, effects associated with transportation or energy consumption. (b) On or before January 1, 2010, the Resources Agency shall certify and adopt guidelines prepared and developed by the Office of Planning and Research pursuant to subdivision (a).”

Senate Bill 375 (SB 375)

SB 375 passed the Senate on August 30, 2008 and was signed by the Governor on September 30, 2008. According to SB 375, the transportation sector is the largest contributor of GHG emissions and contributes over 40 percent of the GHG emissions in California, with automobiles and light trucks alone contributing almost 30 percent. SB 375 indicates that GHGs from automobiles and light trucks can be reduced by new vehicle technology. However, significant reductions from changed land use patterns and improved transportation also are necessary. SB 375 States that “Without improved land use and transportation policy, California will not be able to achieve the goals of AB 32.” SB 375 does the following: (1) requires metropolitan planning organizations to include sustainable community strategies in their regional transportation plans for reducing GHG emissions, (2) aligns planning for transportation and housing, and (3) creates specified incentives for the implementation of the strategies.

California Code of Regulations Title 24, Part 6

Enacted in 1978, this part of the California Code established energy efficiency standards for residential and nonresidential buildings in response to a legislative mandate to reduce California's energy consumption. The standards are updated periodically to allow consideration and incorporation of new energy efficiency technologies and methods. The latest amendments were enacted in 2008 and took effect August 1, 2009.

In 2005, the California Energy Commission (CEC) adopted new energy efficiency standards. All projects that apply for a building permit on or after October 2005 must adhere to the new 2005 standards (CEC 2005). According to the CEC, reducing energy use has been a benefit to all. Building owners save money, Californians have a more secure and healthy economy, the environment is less negatively affected, and our electrical system can operate in a more stable State. The 2005 Standards (for residential and nonresidential buildings) are expected to reduce the growth in electricity use by 478 gigawatt-hours per year (GWh/y) and reduce the growth in natural gas use by 8.8 million therms per year (therms/y). The savings attributable to new nonresidential buildings are 163.2 GWh/y of electricity savings and 0.5 million therms. Additional savings result from the application of the standards on building alterations. In particular, requirements for cool roofs, lighting, and air distribution ducts are expected to save about 175 GWh/y of electricity. These savings are cumulative, doubling in two years, tripling in three, etc. These energy-efficiency measures reduce the amount of electricity and heating supplies needed to service the project. Continual updates to Title 24 along with the State's implementation of AB 1493 and SB 1368 will have a major impact on the State's attainment of the AB 32 goals.

MUNICIPAL CODE

City of Grand Terrace Municipal Code 16.04.040 provides general provisions for trip reductions in an effort to reduce vehicle trips thereby reducing air pollution and improving air quality, to comply with state law, and to promote an improved quality of life. These actions are to be incorporated into new development so as to meet congestion management goals at a minimum cost and disruption to citizens, business and industry. In addition, Municipal Code 16.04.050 outlines other City programs that are to be considered to offset any lack of future development including education programs, park and ride facilities, bike trails, telecommuting, shuttle bus service and bus route expansion.

GRAND TERRACE GENERAL PLAN

The Grand Terrace General Plan seeks to preserve and enhance local and regional air quality through goals and policies that encourage a reduction of pollutant emissions.

Circulation Element

Goal 3.1 Provide a comprehensive transportation system that provides for the current and long-term efficient movement of people and goods within and through the City.

Policy 3.1.1: Provide a transportation system which supports planned land uses and improves the quality of life.

- Policy 3.1.2: An arterial street system shall be established that provides for the collection of local traffic and provide for the efficient movement of people and goods through the City.
- Policy 3.1.3: Commerce Way shall serve provide for the movement of traffic associated with freeway commercial and business traffic.
- Policy 3.1.4: The City shall cooperate with the San Bernardino Association of Governments (SANBAG) and Caltrans for the implementation of the improvement and ultimate expansion of I-215 between SR-91/I-215/SR-60 and I-10.
- Policy 3.1.5: New development projects shall be analyzed in accordance with SANBAG Congestion Management Program (CMP) Traffic Impact Analysis (TIA) Guidelines.
- Policy 3.1.6: The City shall work with adjacent jurisdictions to assess future land development projects and their impact to the City circulation system and provide appropriate mitigation for identified impacts.
- Policy 3.1.7: The maximum acceptable Level of Service for streets identified in the City Master Plan of Streets and Highways during peak hours shall be LOS "D".
- Policy 3.1.8: The City shall use the Caltrans Design and traffic manuals as guidelines for street lighting, traffic signage, street markings and intersection signalization.

Goal 3.2: Provide for a well-maintained roadway system.

- Policy 3.2.1 The City shall continue to require the dedication of street right-of-way, as identifies in the Master Plan of Streets and Highways, from all proposed land development projects.

Goal 3.4: Provide for an efficient and safe bikeway system within the City.

- Policy 3.4.1: Develop a system of continuous and convenient bicycle routes designed to connect schools, residential areas, shopping centers, parks, and employment areas.
- Policy 3.4.2: The City shall promote and facilitate the use of bicycles as an alternative mode of transportation through the development of a City-wide network of bikeways.
- Policy 3.4.3 The City shall seeks grants and other available funding sources to construct additional segments of the Master Plan of Bikeways.
- Policy 3.4.4: The City shall develop a public relations program, in concert with other local and regional agencies, to promote bicycle usages.
- Policy 3.4.5: The City shall work with the San Bernardino County Parks Department to provide connections within the City to the Santa Ana River Trail.

Policy 3.4.6: The City shall require the provision of bike racks at all new commercial and industrial developments.

Goal 3.5: Provide for efficient alternative methods of travel.

Policy 3.5.1: Promote measures which reduce reliance on single occupant vehicle usage by enforcement of the Traffic Control Measures (TCM) ordinance which addresses development standards, land use patterns, employer based ride share programs and bicycle/pedestrian facilities.

Policy 3.5.2: The City shall participate in local and regional public transit programs.

Policy 3.5.3: The City shall encourage and facilitate pedestrian movement by creating environments that are conducive to walking and maintaining a "human scale" of development.

Policy 3.5.4: The City shall work closely with the regional transit agencies to ensure convenient and the affordable bus service continues to be available to local residents.

Policy 3.5.5: The City shall work with OmniTrans and SANBAG to implement a public transit system that meets the City's need for internal circulation s well as connections to regional activity centers and inter-urban transit routes.

Policy 3.5.6: The City shall encourage Transit Oriented development (TOD) to provide housing that is in close proximity to designated public transit facilities and routes.

Policy 3.5.7: The City shall provide amenities along the Barton Road corridor that promote pedestrian and bicyclist use, such as a continued system of pedestrian paths and bikelanes to connect the City Center with schools, parks, and residential areas.

Open Space and Conservation Element

Goal 4.7 Support air quality planning through land use policies, outreach efforts, and participation in regional air quality planning.

Policy 4.7.1: The City shall evaluate and implement traffic flow improvements and construction management practices that reduce locally generated vehicle emissions.

Policy 4.7.2: The City shall encourage the use of public transportation through coordination with local and regional transit providers.

Policy 4.7.3: The City shall encourage land use planning and urban design that reduces vehicle trips through mixed use development, consolidation of commercial uses along arterial highways, and pedestrian connection between residential and commercial uses.

- Policy 4.7.4: The City shall promote public education programs regarding air quality programs and practices.
- Policy 4.7.5: The City shall encourage employers to develop and implement trip reduction plans including alternate work schedules, rideshare programs, telecommuting, and employee education programs.
- Policy 4.7.6: The City shall implement policies and procedures designed to reduce emissions generated by construction activities including enforcement of SCAQMD Rule 403.
- Policy 4.7.7: The City shall promote energy conservation efforts in new and existing residences and businesses.

4B.2 SIGNIFICANCE THRESHOLD CRITERIA

The criteria used to determine the significance of impacts on air quality are taken from City-approved Thresholds of Significance based on the City's Initial Study and the model Initial Study checklist in Appendix G of the State CEQA Guidelines. A significant impact would occur if implementation of the proposed General Plan Update and Amendment to the Redevelopment Plan would:

- Conflict with or obstruct implementation of the applicable air quality plan;
- Violate any air quality standard or contribute substantially to an existing or projected air quality violation;
- Expose sensitive receptors to substantial pollutant concentrations; or
- Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is in non-attainment under an applicable federal or State ambient air quality standard (including releasing emissions that exceed quantitative thresholds for ozone precursors).
- Create objectionable odors affecting a substantial number of people.

REGIONAL THRESHOLDS OF SIGNIFICANCE

The following significance thresholds (Table 4B-5) for air quality have been established by the SCAQMD on a daily basis for construction and operations emissions.

During construction or operation, if any of the identified daily air pollutant thresholds are exceeded by the proposed Project, then the project's air quality impacts may be considered significant. The SCAQMD indicates in Chapter 6 of its CEQA Handbook that it considers a project to be mitigated to a level of insignificance if its primary effects are mitigated below the thresholds provided above.

Table 4B-5 – Regional Thresholds of Significance

Pollutant	Emissions in lbs/day	
	Construction	Operations
ROG	75	55
NO _x	100	55
CO	550	550
PM ₁₀	150	150
PM _{2.5}	55	55
SO _x	150	150
Source: SCAQMD 2006		

LOCALIZED THRESHOLDS OF SIGNIFICANCE (LSTS)

In addition to the mass daily threshold values presented above, the SCAQMD has established the following threshold criteria to determine if a project has the potential to contribute to an exceedance of the State Ambient Air Quality Standards as included in Table 4B-1.

- California State 1-hour CO standard of 20.0 ppm
- California State 8-hour CO standard of 9.0 ppm
- California State 1-hour NO₂ standard of 0.25 ppm
- SCAQMD 24-hour construction PM₁₀ LST of 10.4 µg/m³
- SCAQMD 24-hour construction PM_{2.5} LST of 10.4 µg/m³
- SCAQMD 24-hour operational PM₁₀ LST of 2.5 µg/m³
- SCAQMD 24-hour operational PM_{2.5} LST of 2.5 µg/m³

The significance of localized emissions impacts depends on whether ambient levels in the vicinity of the project are above or below State standards. In the case of CO and NO₂, if ambient levels are below the standards, a project is considered to have a significant impact if project emissions result in an exceedance of one or more of these standards. If ambient levels already exceed a State or federal standard, then project emissions are considered significant if they increase ambient concentrations by a measurable amount. This would apply to both PM₁₀ and PM_{2.5}; both of which are non-attainment pollutants. In these cases, local emissions are considered as significant if they exceed 10.4 µg/m³ during construction or 2.5 µg/m³ during the subsequent operation of the site, both as measured at the proximate sensitive receptor locations.

ADDITIONAL INDICATORS

The SCAQMD recommends that “additional indicators” should be used as screening criteria with respect to air quality. Additional factors relevant to the project at hand identified in the Handbook include the following significance criteria:

- Interference with the attainment of the federal or State ambient air quality standards by either violating or contributing to an existing or projected air quality violation.

- Emit carcinogenic or toxic contaminants that exceed the maximum individual cancer risk of 10 in one million.

Again, the SCAQMD indicates in Chapter 6 of its Handbook that it considers a project to be mitigated to a level of insignificance if its effects are mitigated below the thresholds provided above.

GREENHOUSE GAS EMISSIONS THRESHOLDS

CEQA requires lead agencies to evaluate potential environmental effects based to the fullest extent possible on scientific and factual data. Significance conclusions must be based on substantial evidence, which includes facts, reasonable assumptions predicated upon facts, and expert opinion supported by facts. In fact, SB 97 in 2007 set up a requirement for the Office of Planning and Research (OPR) to prepare, develop, and transmit guidelines to help establish thresholds for GHGs. This has not yet been accomplished. In a recent Technical Advisory (OPR 2008), the OPR provides their perspective on the emerging role of addressing climate change in CEQA documents but fails to include a suggested threshold of significance. In lieu of OPR guidance, CEQA Guidelines Section 15064.7 indicates, “each public agency is encouraged to develop and publish thresholds of significance that the agency uses in the determination of the significance of environmental effects.”

Therefore, for the analyses used in this EIR to determine whether climate change impacts are significant environmental effects, the following threshold is used:

- Does the Project comply with the provisions of an adopted Greenhouse Gas Reduction Plan or Strategy?
- If no such Plan or Strategy is applicable, would the Project significantly hinder or delay the State’s ability to meet the reduction targets contained in AB 32?

4B.3 IMPACTS AND MITIGATION MEASURES

IMPACT 4B-1 The Proposed Project would have a significant impact if it would conflict with or obstruct implementation of the applicable air quality plan.

CEQA requires that projects be consistent with the AQMP. A consistency determination plays an important role in local agency project review by linking local planning and individual projects to the AQMP. It fulfills the CEQA goal of informing decision-makers of the environmental efforts of the project under consideration at a stage early enough to ensure that air quality concerns are fully addressed. It also provides the local agency with ongoing information as to whether they are contributing to clean air goals contained in the AQMP. Only new or amended General Plan elements, Specific Plans, and major projects need to undergo a consistency review. This is because the AQMP strategy is based on projections from local General Plans. Projects that are consistent with the local General Plan are considered consistent with the air quality-related Regional Plan.

SCAQMD’s CEQA Handbook guidance calls for consistency with the forecast used in the federally- approved AQMP. A key principle in the CEQA Air Quality Handbook is that a project is accommodated by and consistent with the AQMP to the extent that it fits within the regional socioeconomic and transportation forecasts assumed in the AQMP. The 2007 AQMP used the

existing City General Plan for their growth estimates. Therefore comparing the estimates of the General Plan Update to the existing General Plan would establish the presence or degree of conflict or obstruction. Table 4B-6 shows socioeconomic data, as presented in the Traffic Study (Urban Crossroads 2008), that compares the population, residential, and employment estimates for the currently adopted General Plan to the Proposed General Plan. Table 4B-6 shows that the overall growth expected from population, employment, and dwelling units are less than that which was expected in the currently adopted General Plan. As such, growth projected under the General Plan Update is less than that forecast under the AQMP and the project is therefore consistent.

Although implementation of development consistent with the proposed General Plan Update will result in significant regional air quality impacts, the proposed project is consistent with AQMP and other regional plan strategies to reduce the number of trips and the length of trips in the region, and to improve the balance between jobs and housing at the subregional level. The 2007 AQMP recognizes that emissions due to trips and mode choices are not only a function of the transportation system, but also relate to the proximity of housing and job-generating land uses, and proximity of jobs to transportation infrastructure and transit. The proposed General Plan Update facilitates the development of housing opportunities in close proximity with regional employment and transportation centers. Therefore, the proposed project is considered consistent with the Goals and Policies of SANBAG's Regional Comprehensive Plan and the 2007 AQMP.

Table 4B-6 – Proposed General Plan Socioeconomic Data Summary

Variable	Currently Adopted General Plan	Proposed General Plan	Difference	% Difference
Single Family DU	3,565	3,347	-218	-6%
Multi Family DU	2,263	2,178	-85	-4%
Total DU	5,828	5,525	-303	-5%
Population	16,493	15,596	-897	-5%
Retail Employment	1,563	1,686	123	8%
Total Employment	5,961	5,696	-265	-4%
Source: Urban Crossroads 2008				

Relevant Goals and Policies

Circulation Element Objectives 3.1-3.5 and associated policies serve to control vehicular emissions by limiting the number of vehicle miles traveled, enhancing circulation, and relieving traffic congestion. Circulation policies encourage walking, cycling, use of public transportation, transportation demand management, transit-oriented development to provide housing in close proximity of public transit, ride share programs, and other alternative methods of travel.

Open Space Element Objective 4.6 and associated policies support and promote energy conservation measures that would reduce air pollution emissions. Specifically, Policy 4.6.1 calls for the establishment of an energy conservation policy and implementation program for all City facilities; Policy 4.6.2 calls for the City to implement a public outreach program to provide the public with information regarding energy conservation practices and programs; and Policy 4.6.3 encourages energy and environmentally sustainable design in new land development projects using the standards of the Leadership in Energy and Environmental Design (LEED).

Land Use Element policies support and promote conservation measures that would serve to reduce air pollution emissions. Specifically Policy 2.1.6 promotes mixed use development which demonstrates superior use of land, more efficient utilization of public facilities and more effective conservation of natural resources, and Policy 2.5.3, which calls for the encouragement of energy conservation in all future development.

Circulation Element Goals 3.1-3.5 and associated policies serve to control vehicular emissions by limiting the number of vehicle miles traveled, enhancing circulation, and relieving traffic congestion. Circulation policies encourage walking, cycling, use of public transportation, transportation demand management, transit-oriented development to provide housing in close proximity of public transit, ride share programs, and other alternative methods of travel.

Open Space Element Goal 4.6 and associated policies support and promote energy conservation measures that would reduce air pollution emissions. Specifically, Policy 4.6.1 calls for the establishment of an energy conservation policy and implementation program for all City facilities; Policy 4.6.2 calls for the City to implement a public outreach program to provide the public with information regarding energy conservation practices and programs; and Policy 4.6.3 encourages energy and environmentally sustainable design in new land development projects using the standards of the LEED.

Sustainable Development Element Goal 9.5 calls for the provision of alternative transportation modes designed to reduce vehicle miles traveled, with supporting policies to encourage mass transit, ride sharing, bicycle and pedestrian transportation, and policies to encourage local job creation designed to reduce commuter mileage and fuel consumption. This following goal and implementing policies promote measures that serve to reduce motor vehicle usage, and thereby reduce air emissions.

MITIGATION MEASURES

No mitigation measures are necessary.

LEVEL OF IMPACT SIGNIFICANCE AFTER MITIGATION

No significant adverse impacts were identified and no mitigation measures are necessary.

IMPACT 4B-2 The Proposed Project would have a significant impact if it would violate any air quality standard or contribute substantially to an existing or projected air quality violation.

An impact is potentially significant if emissions levels exceed the State or federal Ambient Air Quality Standards. Because CO is produced in greatest quantities from vehicle combustion and does not readily disperse into the atmosphere, adherence to the Ambient Air Quality Standards is typically demonstrated through an analysis of localized CO concentrations. Areas of vehicle congestion have the potential to create “pockets” of CO called “hot spots.” Hot spots are usually created in locations where vehicles are subject to congestion, reduced speeds, and queuing. These are most typically at intersections, but can also be along congested major arterials and freeways. Typically, for vehicles to produce a hot spot, the roadway/intersection LOS must be degraded to “D” or worse. The Traffic Study (Urban Crossroads 2008) only provided volume to capacity ratios and LOS values for roadway segments, and no intersection analysis was presented.

A reasonable worst-case assumes buildout under the proposed General Plan Update, but retaining the existing General Plan's lane and intersection configurations. If both the a.m. and p.m. peak periods are considered, the roadway segment analysis prepared by Urban Crossroads (2008) notes that under buildout of the proposed General Plan Update, (but retaining the existing General Plan's roadway network), three occurrences of LOS D, one occurrences at LOS E, and three occurrences at LOS F would be projected within City jurisdiction. Implementation of the lane improvements under the proposed General Plan Update would eliminate all occurrences of LOS D, E, or F within the City's jurisdiction.

Additionally, in accordance with the CARB air quality models, vehicle emissions are being reduced faster than new vehicles are being added to the roadways. As these concentrations are reduced, concentrations at existing receptor locations would be reduced in a similar fashion. As such, no significant impacts would be expected at existing receptor locations. Because the most proximate SCAQMD monitoring station has not experienced any CO violations of the standards in the last five years, and CO emissions are projected to decrease from current levels, no new violations of the CO standards would be projected.

These facts do not preclude the possibility of near-term CO impacts. Development within the City and its Sphere-of-Influence could place sensitive land uses proximate to intersections that could exceed these standards in the near-term. Furthermore, sensitive land uses could be sited near major freeways, and CO associated with freeway operations could add to that produced at intersections. The near-term impact is then considered as potentially significant.

Subsequent CEQA documentation prepared for individual projects would have project-specific data and will be required to address, and if necessary, mitigate any potential CO impacts to a less than significant level. Mitigation can be achieved with intersection/roadway capacity improvements and the use of required setbacks. Implementation of these measures would reduce impacts to less than significant levels.

MITIGATION MEASURES

No mitigation measures are necessary.

LEVEL OF IMPACT SIGNIFICANCE AFTER MITIGATION

No significant adverse impacts were identified and no mitigation measures are necessary.

IMPACT 4B-3 The Proposed Project would have a significant impact if it would expose sensitive receptors to substantial pollutant concentrations.

An impact is potentially significant if emission levels exceed the State or federal Ambient Air Quality Standards thereby exposing receptors to substantial pollutant concentrations. Because CO is produced in the greatest quantities from vehicle combustion and does not readily disperse into the atmosphere, adherence to ambient air quality standards is typically demonstrated through an analysis of localized CO concentrations. As discussed above, lane improvements implemented as part of the Proposed General Plan Update would eliminate all potentially congested roadway segments. As such, no long-term significant CO impacts are anticipated.

This does not however preclude the possibility of near term CO impacts. While future emissions are not expected to exceed the applicable threshold values, development within the City could place sensitive land uses proximate to intersections that could exceed these standards in the

near-term. Furthermore, sensitive land uses could be sited near major freeways, and CO associated with freeway operations could add to that produced at intersections. The near-term impact is then considered as potentially significant.

Subsequent CEQA documentation prepared for individual projects would have better data at their time of preparation and will be required to address, and if necessary, mitigate any potential CO impacts to a level of less than significant. Mitigation can be achieved through intersection/roadway capacity improvements and required setbacks. Residual impacts would be reduced to less than significant levels.

MITIGATION MEASURES

No mitigation measures are necessary.

LEVEL OF IMPACT SIGNIFICANCE AFTER MITIGATION

No significant adverse impacts were identified and no mitigation measures are necessary.

IMPACT 4B-4 The Proposed Project would have a significant impact if it would create objectionable odors affecting a substantial number of people.

Construction activity will require the operation of equipment which may generate exhaust from either gasoline or diesel fuel. Construction and development will also require the application of paints and the paving of roads which could generate odors from materials such as paints and asphalt. As these odors are short-term in nature and quickly disperse into the atmosphere, this is not considered significant.

Future residential and commercial development would involve minor, odor-generating activities, such as backyard barbecue smoke, lawn mower exhaust, application of exterior paints from home improvement, etc. These types and concentrations of odors are typical of residential communities and are not considered significant air quality impacts.

Proposed residential uses within mixed-use commercial zone have the potential to be exposed to odors from commercial uses depending upon the nature of the commercial operations proposed. These residential uses will be subject to regulation and/or discretionary review under the Grand Terrace Zoning Code and would likely be subject to further site-specific analysis at the time they are submitted for City review. It is not anticipated that the majority of mixed-use commercial uses would, however, generate significant odors.

MITIGATION MEASURES

No mitigation measures are necessary.

LEVEL OF IMPACT SIGNIFICANCE AFTER MITIGATION

No significant adverse impacts were identified and no mitigation measures are necessary.

IMPACT 4B-5 The Proposed Project would 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 (including releasing emissions that exceed quantitative thresholds for ozone precursors).

The Proposed Project includes the planned development within developed and undeveloped portions of the City. While buildout will ultimately be market driven, for modeling purposes this analysis is based on the assumption that all uses will be implemented by the year 2025 and emissions are based on this horizon.

Construction Impacts

Construction activity that would occur over the next 21 years in accordance with the proposed General Plan Update would cause temporary, short-term emissions of various air pollutants. NO_x and CO would be emitted by the operation of construction equipment, while PM₁₀ would be emitted by activities that disturb the soil, such as grading and excavation, road construction and building demolition and construction. Information regarding specific development projects, soil types, and the locations of receptors would be needed in order to quantify the level of impact associated with construction activity. However, given the amount of development that the proposed General Plan Update could accommodate over the next 20 to 25 years, it is reasonable to conclude that some major construction activity could be occurring at any given time over the life of the General Plan, which could exceed SCAQMD's adopted thresholds. Actual significance would be determined on a project by project basis as future development applications are submitted.

Operational Impacts

Vehicle Emissions

Operational impacts could result from local and regional vehicle emissions generated by future traffic growth, as well as direct emissions due to the use of on-site utilities and consumer goods associated with the proposed land uses. The daily number of vehicle trips associated with buildout of the proposed General Plan Update was based on data provided in the 2008 Traffic Study prepared for the General Plan Update by Urban Crossroads (Appendix B). The total emissions generated by the proposed land uses were calculated using the URBEMIS2007 Version 9.2.4 computer model are included in Appendix C. At buildout, the addition of land uses permitted under the proposed General Plan Update would add to the existing vehicle trips already generated throughout the City. However, because of more stringent emissions standards and improved technology, newer vehicles emit fewer pollutants than older vehicles. As these emissions continue to be reduced, and older vehicles are removed from the road, future emissions generated within the City would be less than current levels.

Stationary Source Emissions

In addition to vehicle emissions, emissions will be created from stationary sources including the use of natural gas, the use of landscape maintenance equipment, the use of consumer products, such as aerosol sprays, and the annual application of architectural coatings. These emissions are also predicted by the URBEMIS model and included in Table 4B-7. Various industrial and commercial processes (e.g., dry cleaning) allowed under the proposed General Plan Update would also be expected to release emissions; some of which could be of a hazardous nature. These emissions are controlled at the local and regional level through permitting and would be subject to further study and health risk assessment prior to the issuance of any necessary air quality permits. Because the nature of these emissions cannot

be determined at this time, and are subject to further regulation and permitting, they will not be addressed further in this analysis.

As noted in Table 4B-7, future growth in accordance with the proposed General Plan Update would exceed the daily SCAQMD thresholds for ROG, NO_x, CO, PM₁₀, and PM_{2.5}. This is considered a significant unavoidable adverse impact.

Table 4B-7 – Projected Emissions Associated With General Plan Buildout

Source	Emissions at Buildout (lb/day)				
	ROG	NO _x	CO	PM ₁₀	PM _{2.5}
Mobile Sources					
Low Density/Hillside	3.55	4.10	35.83	11.19	2.20
Low Density	90.10	101.29	885.68	276.61	54.27
Medium Density	48.43	52.29	457.26	142.81	28.02
Medium High Density	2.57	2.69	23.56	7.36	1.44
Mixed-Use/Residential	4.09	4.40	38.44	12.00	2.36
General Commercial	211.17	283.98	2,371.05	772.24	151.21
Office Commercial	24.58	30.51	261.49	83.59	16.38
Mixed-Use/Commercial	63.52	79.27	685.14	217.67	42.67
Public	258.70	342.05	2,875.85	931.96	182.52
Light Industrial/Floodplain	10.26	11.46	99.20	31.49	6.17
Light Industrial	63.27	74.68	649.29	205.14	40.22
Total Mobile Sources	780.2	986.7	8,382.8	2,692.1	527.5
Area Sources					
Natural Gas	7.38	98.10	59.21	0.18	0.18
Landscape Maintenance	2.11	0.26	20.32	0.07	0.07
Consumer Products	---	---	289.02	---	---
Architectural Coatings	---	---	54.99	---	---
Total Area Source	9.5	98.4	423.5	0.3	0.3
Total Daily Emissions	790	1,085	8,806	2,692	528
SCAQMD Threshold	55	55	550	150	55
Exceed Threshold	Yes	Yes	Yes	Yes	Yes
Note: Based on the URBEMIS2007 default conditions and assumes year 2020 summer conditions for mobile source and area source emissions.					
Source: CGI 2009					

MITIGATION MEASURES

As described above, the proposed project is expected to generate emissions levels that will exceed the daily SCAQMD thresholds for ROG, NO_x, CO, PM₁₀, and PM_{2.5} in the Basin, which is classified as a non-attainment area. Goals and Policies that are included in the General Plan will facilitate continued City cooperation with the SCAQMD and SANBAG to achieve regional air quality improvement goals, promotion of energy conservation design and development techniques, encouragement of alternative transportation modes, and implementation of transportation demand management strategies. In addition to these policies, the following mitigation measures will be required to reduce air quality impacts:

- MM4B-1** The City shall reduce vehicle emissions caused by traffic congestion by implementing transportation systems management techniques, such as synchronized traffic signals and limiting on-street parking. (This mitigation measure shall be included as **Action 4.7.1.b** of the Open Space and Conservation Element.)
- MM4B-2** The City shall consider the feasibility of diverting commercial truck traffic to off-peak periods to alleviate non-recurrent congestion as a means to improve roadway efficiency. (This mitigation measure shall be included as **Action 4.7.1.c** of the Open Space and Conservation Element)

LEVEL OF IMPACT SIGNIFICANCE AFTER MITIGATION

Although the mitigation measures listed above will reduce air quality impacts to the extent feasible, associated air quality impacts remain a significant unavoidable adverse impact.

IMPACT 4B-6 Would the Project result in an increase in GHG emissions that would significantly hinder or delay the State's ability to meet the reduction targets contained in AB 32.

The Project's main contribution to GHGs is CO₂. The Project will generate emissions of CO₂ primarily in the form of vehicle exhaust and in the consumption of natural gas for heating as well as some CH₄ and N₂O. The Project will not generate emissions of Chlorofluorocarbons (CFCs) because of the ban on their use. The threshold proposed above is qualitative in nature, and will be addressed as such in this document. The following approach is used to address the threshold and assess the significance of the project's cumulative contribution to global climate change:

1. **Inventory:** An inventory of GHG emissions generated by the project will be presented for informational purposes. The inventory will be compared to the inventory for California and the United States and a local inventory, if available.
2. **Compliance with Strategies:** Project compliance with the current California emission reduction strategies to reduce GHGs will be assessed.
3. **Climate Change Impacts on Project:** The potential impacts of climate change on the proposed project will be assessed.

Project Inventory of GHGs

GHGs are typically reported in CO₂. CO₂ is the method of standardizing emissions that have significantly different GWP. A CO₂ is the mass emissions of an individual GHG multiplied by its GWP. The GWP is the potential of a gas or aerosol to trap heat in the atmosphere; it is the cumulative radiative forcing effect of a gas over a specified time horizon resulting from the emission of a unit mass of gas relative to a reference gas. One CO₂ is essentially the emission of the gas multiplied by the GWP. The reference gas for the GWP is CO₂ with a GWP of 1. The calculation of the CO₂ is a consistent methodology for comparing GHG emissions since it normalizes various GHG emissions to a consistent metric. For example methane's GWP of 21 indicates that methane has a 21 times greater global warming effect than CO₂ on a molecule per molecule basis. Table 4B-8 shows GWPs for GHGs.

A comprehensive City-wide GHG Emissions Inventory has not been produced for the City but in order to produce a reasonable estimate of GHG emissions from the City, calculations have been

performed that estimate the CO₂, N₂O, and CH₄ emissions from motor vehicles, natural gas combustion, electricity used for water transport, and landscaping. Table 4B-9 (and Appendix C) shows the estimated GHG emissions for the buildout year 2020, however, it must be noted that this does not represent a comprehensive inventory and is only provided for the purpose of information. Table 4B-9 shows that the total of GHG emissions from the General Plan Update is 1,632,429 tonnes per year of CO₂ or 1.632 MtCO₂ per year. In lieu of a specific city-wide GHG Baseline Inventory, impact will be determined qualitatively.

Table 4B-8 – Global Warming Potentials

Greenhouse Gas	Global Warming Potential (100 year time horizon)
Carbon dioxide (CO ₂)	1
Methane (CH ₄)	21
Nitrous oxide (N ₂ O)	310
HFC-23	11,700
HFC-134a	1300
HFC-152a	140
PFC: Tetrafluoromethane (CF ₄)	6,500
PFC: Hexafluoroethane (C ₂ F ₆)	9,200
Sulfur hexafluoride (SF ₆)	23,900
Source: CCAR 2008	

Table 4B-9 – Summary of Operational GHG Emissions GPU Buildout

Source	<i>Emissions in Metric Tons per Year</i>		
	Carbon Dioxide	Nitrous Oxide	Methane
Motor vehicles	1,505,757	45.8	32.4
Natural gas	110,678	0.1	2.6
Water transport	1,012	—	—
Landscape	36	—	—
Total	1,617,483	45.9	35.0
GWP	1	310	21
Total CO₂	1,617,483	14,214	735

Compliance with Strategies

The California Environmental Protection Agency prepared a Climate Action Team (CAT) Report to Governor Schwarzenegger and the Legislature that “proposes a path to achieve the Governor’s targets that will build on voluntary actions of California businesses, local government and community actions, and State incentive and regulatory programs” (CAT 2007). The report

introduces strategies to reduce California's emissions to the levels proposed in Executive Order S-3-05. Table 4B-10 contains the CAT strategies that apply to the Project.

Table 4B-10 – Project Compliance with GHG Emission Reduction Strategies

Strategy and Description	Project Compliance
California Air Resources Board	
Vehicle Climate Change Standards AB 1493 (Pavley) required the State to develop and adopt regulations that achieve the maximum feasible and cost-effective reduction of climate change emissions emitted by passenger vehicles and light duty trucks. Regulations were adopted by the ARB in September 2004.	These are CARB enforced standards; vehicles that access the project that are required to comply with the standards would comply with these strategies.
Other Light Duty Vehicle Technology New standards would be adopted to phase in beginning in the 2017 model year	
Diesel Anti-Idling In July 2004, the CARB adopted a measure to limit diesel-fueled commercial motor vehicle idling.	
Hydrofluorocarbon Reduction Ban retail sale of HFC in small cans; 2) Require that only low GWP refrigerants be used in new vehicular systems; 3) Adopt specifications for new commercial refrigeration; 4) Add refrigerant leak-tightness to the pass criteria for vehicular Inspection and Maintenance programs; 5) Enforce federal ban on releasing HFCs.	This measure applies to consumer products. When the CARB adopts regulations for these reduction measures, any products that the regulations apply to would comply with the measures.
Transportation Refrigeration Units (TRUs), Off-Road Electrification, Port Electrification Strategies to reduce emissions from TRUs, increase off-road electrification, and increase use of shore-side/port electrification.	These are CARB enforced standards; vehicles that access the project that are required to comply with the standards would comply with these strategies.
Alternative Fuels: Biodiesel Blends CARB would develop regulations to require the use of 1 to 4 percent biodiesel displacement of California diesel fuel.	
Heavy-Duty Vehicle Emission Reduction Measures Increased efficiency in the design of heavy-duty vehicles and an education program for the heavy duty vehicle sector.	
Hydrogen Highway The California Hydrogen Highway Network is a State initiative to promote the use of hydrogen as a means of diversifying the sources of transportation energy.	

Strategy and Description	Project Compliance
<p>Achieve 50 Percent Statewide Recycling Goal Achieving the State's 50 percent waste diversion mandate as established by the Integrated Waste Management Act of 1989, (AB 939, Sher, Chapter 1095, Statutes of 1989), will reduce climate change emissions associated with energy intensive material extraction and production as well as methane emission from landfills. A diversion rate of 48 percent has been achieved on a Statewide basis. Therefore, a 2 percent additional reduction is needed.</p>	<p>Consistent. GP Goals, Policies, and Actions 4.6.4; 4.6.4.a; 9.2; 9.2.1; 9.2.1.; 9.2.1.b; 9.2.2; 9.2.2.a; 9.2.2.b; 9.2.3; and 9.2.3.a through 9.2.3.d.</p>
Department of Forestry	
<p>Urban Forestry A new Statewide goal of planting five million trees in urban areas by 2020 would be achieved through the expansion of local urban forestry programs.</p>	<p>Consistent. GP Policies, and Actions 9.3.1.c; 9.3.2; 9.3.2; 9.3.2.a; 9.4.2; and 9.4.2.a.</p>
<p>Afforestation/Reforestation Projects Reforestation projects focus on restoring native tree cover on lands that were previously forested and are now covered with other vegetative types.</p>	<p>Consistent. GP Goals, Policies, and Actions 4.2; 4.2.1; 4.2.2; 4.2.3; 4.2.4; 4.2.5; 4.2.5.a; and 4.2.5.b.</p>
Department of Water Resources	
<p>Water Use Efficiency Approximately 19 percent of all electricity, 30 percent of all natural gas, and 88 million gallons of diesel are used to convey, treat, distribute, and use water and wastewater. Increasing the efficiency of water transport and reducing water use would reduce GHG emissions.</p>	<p>Consistent. GP Goals, Policies, and Actions 4.6.2; 4.6.2.a; 7.2; 7.2.1; 7.2.2; and 7.2.3</p>
California Energy Commission (CEC)	
<p>Building Energy Efficiency Standards in Place and in Progress Public Resources Code 25402 authorizes the CEC to adopt and periodically update its building energy efficiency standards (that apply to newly constructed buildings and additions to and alterations to existing buildings).</p>	<p>Consistent. GP Goals, Policies, and Actions 4.6; 9.1; 9.1.1; 9.1.2; 9.1.2a through 9.1.2.c; 9.3; 9.3.1.a; 9.3.2; and 9.3.2.a.</p>
<p>Appliance Energy Efficiency Standards in Place and in Progress Public Resources Code 25402 authorizes the Energy Commission to adopt and periodically update its appliance energy efficiency standards (that apply to devices and equipment using energy that are sold or offered for sale in California).</p>	<p>These will be manufacturers' standards; appliances placed in project area are required to comply with the standards would comply with this strategy.</p>
<p>Municipal Utility Strategies Includes energy efficiency programs, renewable portfolio standard, combined heat and power, and transitioning away from carbon-intensive generation.</p>	<p>Consistent. GP Goals, Policies, and Actions 4.6; 4.6.1; 4.6.2; 4.6.3; and 4.6.4; 9.1; 9.1.1; 9.1.2; 9.1.2.a through 9.1.2.c; 9.3; 9.3.1; 9.3.1.a; 9.3.2; 9.8.1; 9.8.1.a through 9.8.1.c; 9.8.2; 9.8.2.a and 9.8.2.b.</p>

Strategy and Description	Project Compliance
<p>Alternative Fuels: Non-Petroleum Fuels Increasing the use of non-petroleum fuels in California's transportation sector, as recommended in the CEC's 2003 and 2005 Integrated Energy Policy Reports.</p>	<p>These will be fuel producer's standards; fuels used in project area are required to comply with the standards would comply with this strategy.</p>
State and Consumer Services Agency	
<p>Green Buildings Initiative Green Building Executive Order, S-20-04, sets a goal of reducing energy use in public and private buildings by 20 percent by the year 2015, as compared with 2003 levels. The Executive Order and related action plan spell out specific actions State agencies are to take with State-owned and -leased buildings. The order and plan also discuss various strategies and incentives to encourage private building owners and operators to achieve the 20 percent target.</p>	<p>Consistent. GP Goals, Policies, and Actions 4.6; 4.6.1; 4.6.3; 9.1; 9.1.2; 9.1.2.a through 9.1.2.c; 9.3; 9.3.1; 9.3.1.a; 9.3.2; and 9.3.2.a.</p>
Business Transportation and Housing	
<p>Smart Land Use and Intelligent Transportation Systems (ITS) Smart land use strategies encourage jobs/housing proximity, promote transit-oriented development, and encourage high-density residential/commercial development along transit corridors.</p> <p>ITS is the application of advanced technology systems and management strategies to improve operational efficiency of transportation systems and movement of people, goods and services.</p> <p>Governor Schwarzenegger is finalizing a comprehensive 10-year strategic growth plan with the intent of developing ways to promote, through State investments, incentives, and technical assistance, land use, and technology strategies that provide for a prosperous economy, social equity, and a quality environment.</p> <p>Smart land use, demand management, ITS, and value pricing are critical elements in this plan for improving mobility and transportation efficiency. Specific strategies include: promoting jobs/housing proximity and transit-oriented development; encouraging high density residential/commercial development along transit/rail corridors; valuing and congestion pricing; implementing intelligent transportation systems, traveler information/traffic control, incident management; accelerating the development of broadband infrastructure; and comprehensive, integrated, multimodal/intermodal transportation planning.</p>	<p>Consistent. GP Goals, Policies, and Actions 2.1.6; 3.3.1; 3.3.1.a; 3.3.2; 3.3.3; 3.3.4; 3.3.5; 3.3.5.a; 3.4; 3.4.1; 3.4.2; 3.4.3; 3.5; 3.5.1; 3.5.1.a; 3.5.4; 3.5.5; 3.5.6; 3.5.6.a; 3.5.7; 9.3; 9.3.1.b; 9.3.1.c; 9.3.2; 9.3.2.a; 9.5; 9.5.1; 9.5.2; 9.5.3; 9.5.3.a through 9.5.3.c; 9.8.1.a through 9.8.1.c; 9.8.2; 9.8.2.a and 9.8.2.b.</p>
<p>Measures to Improve Transportation Energy Efficiency Builds on current efforts to provide a framework for expanded and new initiatives, including incentives, tools, and information that advance cleaner transportation and reduce climate change emissions.</p>	

Strategy and Description	Project Compliance
Public Utilities Commission (PUC)	
Accelerated Renewable Portfolio Standard The Governor has set a goal of achieving 33 percent renewables in the State's resource mix by 2020. The joint PUC/Energy Commission September 2005 Energy Action Plan II (EAP II) adopts the 33 percent goal.	These will be energy producer's standards; energy used in project area are required to comply with the standards would comply with this strategy.
Investor-Owned Utility This strategy includes energy efficiency programs, combined heat and power initiative, and electricity sector carbon policy for investor owned utility.	
Source: CAT 2007.	

Climate Change Impacts on the Project

As identified above, there are many technical studies available regarding the environmental effects of climate change on the Earth as a whole as well as in California specifically. Several adverse environmental effects have been identified that are projected to impact California over the next century. However, the extents of these environmental effects are still being defined as climate modeling tools become more refined. Potential environmental effects of climate change that could impact the City could include the following (which were previously noted above):

- Adverse impacts on water supply availability;
- Increased severity of flooding events;
- Increased wildland fire hazards;
- Alteration of natural habitats for special-status plant and animal species; and
- Air quality impacts.

The City has been proactive in addressing the potential impacts of climate change on the community. In addition to water conservation and energy conservations goals, policies, and actions listed above, the following goals, policies, and actions from the General Plan Update address climate change consistent with the City's understanding of the potential challenges climate change poses to the community in the future.

Goal 4.2: Natural resources in the City of Grand Terrace shall be protected and preserved by utilizing open space designations or related regulations.

Policy 4.2.5: The City shall act to reasonably conserve and protect significant biological resources.

Action 4.2.5.a: For projects located in areas with potential for moderate or high plant and wildlife sensitivity, require biological surveys as part of the development review process, distribute this analysis to the appropriate responsible agencies, and require compliance with any recommended mitigation measures.

Action 4.2.5.b: Coordinate with State and federal agencies to preserve rare and endangered species and areas of special habitat value through the environmental review process.

Goal 4.3: Public health and safety in the City of Grand Terrace be protected, in part, through open space areas.

Policy 4.3.3: Open space shall be used to protect public health and safety resulting from flood hazard conditions in the City of Grand Terrace.

Action 4.3.3.b: Review all proposed development projects located within designated flood hazard areas for compliance to State and federal flood hazard regulations.

Policy 4.3.4: The City shall periodically review the flood hazard maps to identify potential flood hazards.

Policy 4.3.5: Those areas subject to flood hazard shall be placed in a flood hazard overlay zone.

Action 4.3.5.a: Modify the General Plan Land Use Map to designate a "Flood Hazard Overlay" for all properties located within identified flood hazard areas.

Policy 4.3.6: Areas of the City subject to flood hazard shall be evaluated to determine whether they should be designated as open space.

Action 4.3.6.a: Using the most recent flood hazard mapping available from the San Bernardino County Flood Control District, State of California, and Corps of Engineers identify properties subject to flood hazard. Determine whether these properties are suitable for development and identify appropriate land use designations for each parcel.

Policy 4.3.7: Where appropriate, open space shall be used to protect public health and safety resulting from wild land fires in the City of Grand Terrace.

Policy 4.3.8: The City shall work with the San Bernardino County Fire Protection District to identify areas of the City that are subject to wild land fires.

Policy 4.3.9: The City shall apply a high fire overlay district to those areas in the City subject to wild land fires such as portions of Blue Mountain.

Policy 4.3.10: Areas of the City subject to wild land fires shall be evaluated to determine whether they should be designated as open space.

Goal 5.3: Reduce the risk to life and property in areas designated as flood hazard areas.

Policy 5.3.1 All development proposed within a designated 100-year floodplain shall be reviewed to assure that all structures designated for human habitation are adequately protected from flood hazards.

Action 5.3.1.a: As part of the development review process, all projects located within a designated 100- year floodplain are required to provide a flood hazard mitigation program.

- Policy 5.3.2 The City shall work with the San Bernardino County Flood Control District and Army Corps of Engineers to provide adequate flood protection along the Santa Ana River.
- Policy 5.3.3 The City shall evaluate the flood control system of the City and improve it as required and as funds become available.
- Policy 5.3.4 The City shall require all development projects to comply with the National Pollutant Discharge Elimination System and implement appropriate Best Management Practices.

Goal 7.6: Provide for adequate fire protection services and facilities.

- Policy 7.6.1 Work with the San Bernardino County Fire Protection District to ensure that adequate fire protection personnel, response times, and equipment are available to meet current and future demands of the City's residents and businesses.
- Policy 7.6.2 Work with Riverside Highland Water Company to ensure adequate water pressure for fire fighting throughout the City.
 - Action 7.6.2.a: The City shall assist the Water Company in identifying areas of low water pressure and work with water company staff to install additional water transmission and storage facilities as necessary.
- Policy 7.6.3 Maintain and expand existing fire prevention and public education programs.

Because considerable uncertainty remains with respect to the overall impact of global climate change on California and the City, it is unknown whether these impacts would be significant. This also includes the uncertainty surrounding to what degree global climate change may adversely impact future water supply and availability in the City. However, based on consideration of the recent regional and local climate change studies, and since the City's water sources are anticipated to largely remain intact (though the form of precipitation is expected to come from rain rather than snow), in combination with the City's existing and proposed policies regarding climate change adaptation and resiliency, it is expected that the impacts of global climate change on the City would be less than cumulatively considerable.

MITIGATION MEASURES

The General Plan Update proposes several Goal, Policies, and Actions that serve to minimize GHG emissions. However, due to the size of the General Plan project area, there is still the potential for significant GHG emissions. The following programmatic mitigation is suggested for all new and redevelopment projects to supplement the General Plan Goals, Policies, and Actions.

- MM4B-3** The City shall encourage new construction incorporate irrigation designs to assist in conserving potable water, such as computerized irrigation systems, drought-tolerant and smog-tolerant trees, shrubs, and groundcover, and the use of recycled water. (This mitigation measure shall be included as **Action 9.7.2.b** of the Sustainable Development Element.)

LEVEL OF IMPACT SIGNIFICANCE AFTER MITIGATION

Less Than Significant Impact.

CHAPTER 4C - BIOLOGICAL RESOURCES

This chapter provides an evaluation of the potential impacts that the proposed General Plan Update and Amendment to the Redevelopment Plan may have on biological resources within the General Plan and Redevelopment Plan area. A summary of the regulatory framework, which provides for the protection and conservation of important biological resources, is also discussed. The following discussion and conclusions are based on a Biological Resources Background Study prepared for the Proposed Project by Chambers Group (Appendix D).

4C.1 ENVIRONMENTAL SETTING

The City is approximately 85 percent built out. There remain approximately 600 acres of undeveloped area within the City. The majority of this acreage is located along the west slopes of Blue Mountain. This area supports a wide range of plants and animal life. There are also various other locations within the City that comprise an assortment of biological resources. Examples include isolated wetlands along natural drainages and the like. A preliminary search through the California Natural Diversity Data Base revealed the potential presence of 12 animals and one plant species that are either considered Sensitive or have already been afforded protection under either the Federal Endangered Species Act or California Endangered Species Act.

SENSITIVE RESOURCES

Sensitive Vegetation Communities

The following vegetation communities are California Natural Diversity Database (CNDDB) listed as sensitive vegetation communities that may occur within the City.

Riversidian Alluvial Fan Sage Scrub

Riversidian alluvial fan scrub vegetation communities occur on alluvial outwash fans along the base of the San Gabriel, San Bernardino, and San Jacinto mountains. Alluvial scrub communities are generally associated with infrequently scoured areas on floodplains and outwash fans in the Transverse and Peninsular ranges. It is considered to be a rare or threatened plant community that is highly fragmented due to urbanization and the extensive alteration of natural stream hydrology in southern California. The plant communities are composed of a variety of evergreen woody and drought-deciduous shrubs with a significant component of larger, evergreen shrubs typically found in chaparral (Kirkpatrick and Hutchinson 1977, Smith 1980) adapted to survival in the presence of intense periodic flooding. Scalebroom (*Lepidospartum squamatum*) is considered to be an indicator species of alluvial scrubs, and is usually described as a dominant or subdominant shrub in alluvial community descriptions, including the Scalebroom Series of Sawyer and Keeler-Wolf (1995) and the *Lepidospartum-Eriodictyon-Yucca* association described by Kirkpatrick and Hutchinson (1977).

Common plants in this community include western bindweed (*Calystegia macrostegia*), horseweed (*Conyza canadensis*), California croton (*Croton californicus*), jimson weed (*Datura wrightii*), dove weed (*Eremocarpus setigerus*), interior goldenbush (*Ericameria linearifolia*), hairy yerba santa (*Eriodictyon trichocalyx*), common sunflower, telegraph weed (*Heterotheca grandiflora*), scalebroom, laurel sumac (*Malosma laurina*), branching phacelia (*Phacelia*

ramosissima), chaparral nightshade (*Solanum xanti*), and Our Lord's candle, yucca (*Yucca Whipplei*).

The major threat to this type of community is upstream flood control, which allows for development.

Southern Coast Live Oak Riparian Forest

Southern Coast Live Oak Riparian Forest is characterized as open to locally dense evergreen sclerophyllous riparian woodlands dominated by coast live oak (*Quercus agrifolia*). This type of community appears to be richer in herbs and poorer in understory shrubs than other riparian communities. This community is similar to and questionably distinct from Central Coast Live Oak Riparian Forest. Typical ecology consists of bottomlands and outer floodplains along larger streams, on fine grained, rich alluvium in canyons and valleys (Holland 1985).

Typical species that occur in this community include: big leaf maple (*Acer macrophyllum*), mugwort (*Artemisia douglasiana*), milkmaids (*Cardamine californica*), common eucrypta (*Eucrypta chrysanthemifolia*), toyon (*Heteromeles arbutifolia*), climbing penstemon (*Keckiella cordifolia*), Pink Honeysuckle (*Lonicera hispidula*), wild cucumber (*Marah macrocarpus*), fiesta flower (*Pholistoma auritum*), coast live oak, basketbush (*Rhus trilobata*), California wild rose (*Rosa californica*), California blackberry (*Rubus ursinus*), Mexican elderberry (*Sambucus mexicana*), creeping snowberry (*Symphoricarpos mollis*), poison oak (*Toxicodendron diversilobum*), and California bay (*Umbellularia californica*) (Holland 1985).

The most common threat to this community is urban development.

Southern Cottonwood Willow Riparian Forest

Southern Cottonwood-Willow Riparian Forests are characterized as tall, open, broadleafed winter-deciduous riparian forests dominated by Fremont cottonwoods (*Populus fremontii*), black cottonwoods (*Populus trichocarpa*), and several tree willows. This community is considered similar to Central Coast Cottonwood-Sycamore Riparian Forest, although apparently with less coast live oaks or white alders. Understories usually consist of shrubby willows. Typical ecology consists of sub-irrigated and frequently overflowed lands along rivers and streams. The dominant species require moist, bare mineral soil for germination and establishment. This is provided after floodwaters recede, leading to uniform-aged stands in this seral type. This community can be found along perennially wet stream reaches of the Transverse and Peninsular ranges (Holland 1985).

Common species found in this community include: muwort, mulefat (*Baccharis salicifolia*), wild cucumber, California sycamore, Fremont cottonwood, black cottonwood, black willow (*Salix gooddingii*), sandbar willow (*Salix exigua*), shining willow (*Salix lucida* ssp. *lasiandra*), arroyo willow (*Salix lasiolepis*), and stinging nettle (Holland 1985).

The most common threat to this community is urban development.

Southern Riparian Scrub

Riparian habitats are always found along drainages or standing water. Riparian Scrub communities are dense, broadleafed, winter-deciduous riparian thickets dominated by several willow (*Salix*) species, with scattered emergent Fremont cottonwood (*Populus fremontii*) and

western sycamore (*Platanus racemosa*). Typical ecology of this community consists of loose, sandy or fine gravelly alluvium deposited near stream channels during flood flows (Holland 1985). Riparian Scrub most closely matches the Mixed Willow Series described by Sawyer and Keeler-Wolf (1995) and Southern Willow Scrub described by Holland.

Common species that occur in this community include: arrow weed (*Pluchea sericea*), Freemont cottonwoods, black willow, sandbar willow, red willow (*Salix laevigata*), shining willow, and arroyo willow.

Riparian areas are relatively rare in San Bernardino County and provide favorable conditions for a variety of trees, shrubs, and herbs. Riparian plant communities occur in areas that experience at least seasonal moisture. The major threat to this community is damage by off-road vehicles.

Southern Sycamore-Alder Riparian Woodland

Southern Sycamore-Alder Riparian Woodlands are characterized as tall, open, broadleaved, winter-deciduous streamside woodlands dominated by California sycamores (*Platanus racemosa*) and often also white alder (*Alnus rhombifolia*). These stands seldom form closed canopy forests, and even may appear as trees scattered in a shrubby thicket of sclerophyllous and deciduous species. Lianas include California blackberry and poison oak. Typical ecology consists of very rocky streambeds subject to seasonally high-intensity flooding in the Transverse and Peninsular ranges. Alders increase in abundance on more perennial streams, while sycamores favor more intermittent hydrographs (Holland 1985).

Common species typically found in this community are big leaf maple, white alder, mugwort, California spikenard (*Aralia californica*), tall scouring-rush (*Equisetum hyemale*), smilo grass (*Oryzopsis miliacea*), coast live oak, California blackberry, Mexican elderberry, poison oak, California bay, and stinging nettle (*Urtica dioica* ssp. *holsoericea*) (Holland 1985).

The most common threat to this community is urban development.

SENSITIVE PLANTS

A total of twenty-eight sensitive plant species are known to occur within the vicinity of the project site (CNDDDB 2007, CNPSEI 2007). Seven of the twenty-eight sensitive species are federally- or State-listed species. All sensitive species are listed in Table 4C–1. All federal and State listed species are described in detail below.

Table 4C–1
Sensitive Plant Species Potentially Occurring
on the City of Grand Terrace Project Site

Scientific Name	Common Name	Listing Status	CNPS Lists	CNDDDB Ranks
ASTERACEAE	SUNFLOWER FAMILY			
<i>Centromadia pungens</i> ssp. <i>laevis</i>	smooth tarplant	FED: None CAL: None	1B.1	S-Rank: S2.1 G-Rank: G3G4T2
<i>Helianthus nuttallii</i> ssp. <i>parishii</i>	Los Angeles sunflower	FED: None CAL: None	1A	S-Rank: S1.1 G-Rank:

Scientific Name	Common Name	Listing Status	CNPS Lists	CNDDB Ranks
				G5TH
<i>Senecio aphanactis</i>	rayless ragwort	FED: None CAL: None	2.2	S-Rank: S1.2 G-Rank: G3?
<i>Symphyotrichum defoliatum</i>	San Bernardino aster	FED: None CAL: None	1B.2	S-Rank: S3.2 G-Rank: G3
BERBERIDACEAE	BARBERRY FAMILY			
<i>Berberis nevinii</i>	Nevin's Barberry	FED: END CAL: END	1B.1	S-Rank: S2.2 G-Rank: G2
BRASSICACEAE	MUSTARD FAMILY			
<i>Lepidium virginicum</i> var. <i>robinsonii</i>	Robinson's peppergrass	FED: None CAL: None	1B.2	S-Rank: S2.2 G-Rank: G5T2?
<i>Rorippa gambelii</i>	Gambel's yellowcress	FED: END CAL: THR	1B.1	S-Rank: S1.1 G-Rank: G1
CARYOPHYLLACEAE	PINK FAMILY			
<i>Arenaria paludicola</i>	marsh sandwort	FED: END CAL: END	1B.1	S-Rank: S1.1 G-Rank: G1
GROSSULARIACEAE	GOOSEBERRY FAMILY			
<i>Ribes divaricatum</i> var. <i>parishii</i>	Parish's gooseberry	FED: None CAL: None	1A	S-Rank: SH G-Rank: G4TH
LAMIACEAE	MINT FAMILY			
<i>Mondardella pringlei</i>	Pringle's manardella	FED: None CAL: None	1A	S-Rank: SX G-Rank: GX
MALVACEAE	MALLOW FAMILY			
<i>Malacothamnus parishii</i>	Parish's bush mallow	FED: None CAL: None	1A	S-Rank: SH G-Rank: GHQ
<i>Sidalcea neomexicana</i>	New Mexican checker	FED: None CAL: None	2.2	S-Rank: S2S3 G-Rank: G4?
NYCTAGINACEAE	FOUR O'CLOCK FAMILY			
<i>Abronia villosa</i> var. <i>aurita</i>	Chaparral sand verbena	FED: None CAL: None	1B.1	S-Rank: S2.1 G-Rank: G5T3T4
POLEMONIACEAE	PHLOX FAMILY			
<i>Eriastrum densifolium</i> ssp. <i>sanctorum</i>	Santa Ana River woollystar	FED: END CAL: END	1B.1	S-Rank: S1.1 G-Rank: G4T1
POLYGONACEAE	BUCKWHEAT FAMILY			
<i>Chorizanthe parryi</i> var. <i>parryi</i>	Parry's spineflower	FED: None CAL: None	3.2	S-Rank: S2.1 G-Rank: G2T2
<i>Dodecahema leptoceras</i>	slender-horned spineflower	FED: END CAL: END	1B.1	S-Rank: S1.1 G-Rank: G1

Scientific Name	Common Name	Listing Status	CNPS Lists	CNDDB Ranks
RANUNCULACEAE	BUTTERCUP FAMILY			
<i>Myosurus minimus</i> ssp. <i>apus</i>	little mousetail	FED: None CAL: None	3.1	S-Rank: S2.2 G-Rank: G5T2Q
ROSACEAE	ROSE FAMILY			
<i>Horkelia cuneata</i> ssp. <i>puberula</i>	mesa horkelia	FED: None CAL: None	1B.1	S-Rank: S2.1 G-Rank: G4T2
RUBIACEAE	MADDER FAMILY			
<i>Galium californicum</i> ssp. <i>primum</i>	California bedstraw	FED: None CAL: None	1B.2	S-Rank: S1.1 G-Rank: G5T1
SCROPHULARIACEAE	FIGWORT FAMILY			
<i>Cordylanthus maritimus</i> ssp. <i>maritimus</i>	salt marsh bird's beak	FED: END CAL: END	1B.2	S-Rank: S2.1 G-Rank: G4? T2
SOLANACEAE	NIGHTSHADE FAMILY			
<i>Lycium parishii</i>	Parish's desert-thorn	FED: None CAL: None	2.3	S-Rank: S2S3 G-Rank: G3?
CYPERACEAE	SEDGE FAMILY			
<i>Carex comosa</i>	bristly sedge	FED: None CAL: None	2.1	S-Rank: S2? G-Rank: G5
LILIACEAE	LILY FAMILY			
<i>Brodiaea filifolia</i>	thread-leaved brodiaea	FED: THR CAL: END	1B.1	S-Rank: S2.1 G-Rank: G2
<i>Calochortus plummerae</i>	Plummer's mariposa lily	FED: None CAL: None	1B.2	S-Rank: S3.2 G-Rank: G3
POACEAE	GRASS FAMILY			
<i>Imperata brevifolia</i>	California satintail	FED: None CAL: None	2.1	S-Rank: S2.1 G-Rank: G2
<i>Sphenopholis obtusata</i>	prairie wedge grass	FED: None CAL: None	2.2	S-Rank: S2.2 G-Rank: G5
Sensitive Habitats				
<i>Riversidian Alluvial Fan Sage Scrub</i>		FED: None CAL: None		S-Rank: S1.1 G-Rank: G1
<i>Southern Coast Live Oak Riparian Forest</i>		FED: None CAL: None		S-Rank: S4 G-Rank: G4
<i>Southern Cottonwood Willow Riparian Forest</i>		FED: None CAL: None		S-Rank: S3.2 G-Rank: G3
<i>Southern Riparian Scrub</i>		FED: None CAL: None		S-Rank: S3.2 G-Rank: G3
<i>Southern Sycamore Alder</i>		FED: None		S-Rank: S4

Scientific Name	Common Name	Listing Status	CNPS Lists	CNDDDB Ranks
<i>Riparian Woodland</i>		CAL: None		G-Rank: G4
Federal designations: (Federal Endangered Species Act, USFWS):				
Federal-listed, endangered. Federal-listed, threatened. Federal-listed, proposed-threatened Candidate species.				
State designations: (California Endangered Species Act, CDFG)				
State-listed, endangered. State-listed, threatened. State-listed as rare (Listed "Rare" animals have been re-designated as Threatened, but Rare plants have retained the Rare designation.)				
California Native Plant Society (CNPS) designations: (Note: According to CNPS [Skinner and Pavlik 1994], plants on Lists 1B and 2 meet definitions for listing as threatened or endangered under Section 1901, Chapter 10 of the California Fish and Game Code. This interpretation is inconsistent with other definitions.				
Plants presumed extinct in California. Plants rare and endangered in California and throughout their range. Plants rare, threatened or endangered in California but more commons elsewhere in their range. Plants about which we need more information; a review list. Plants of limited distribution; a watch list. Seriously endangered in California (over 80% of occurrences threatened/high degree and immediacy of threat) Fairly endangered in California (20-80% occurrences threatened) Not very endangered in California (<20% of occurrences threatened)				
California Natural Diversity Database (CNDDDB) Global (G) and State (S) ranking designations:				

Marsh sandwort (*Arenaria paludicola*)

Marsh sandwort is a federal- and State- listed endangered species. This perennial is part of the Caryophyllaceae or Pink Family growing at times erect and often supported by surrounding vegetation. This species flowers between May and August and can be found in boggy meadows and marshes at elevations between 10 and 560 feet. The exact location of marsh sandwort is unknown and CNDDDB has mapped this species in the vicinity of San Bernardino near the Santa Ana River. The most common threat to marsh sandwort is development, erosion, and non-native plants.

Nevin's barberry (*Berberis nevinii*)

Nevin's barberry is both a federal- and State- listed endangered species. This perennial evergreen shrub is part of the Bereridaceae or Barberry Family and flowers between the months of March and June. This species grows in chaparral, cismontane woodlands, coastal scrubs, and riparian scrubs on steep north facing slopes or in low-grade sandy washes at elevations between approximately 950 feet and 5200 feet. This species has been associated with California buckwheat (*Eriogonum fasciculatum*), spiny redberry (*Rhamnus crocea*), holly-leaved cherry (*Prunus ilicifolia*), scale broom (*Lepidospartum squamatum*) and California sagebrush (*Artemisia californica*) growing in isolated shrubs in the Badlands, near San Timoteo Creek. The most common threat is development. Other threats include off-road vehicles, predominance of annual grasses, and horseback riding.

Thread-leaved brodiaea (*Brodiaea filifolia*)

Thread-leaved brodiaea is a federal- and State- listed endangered species. This perennial bulbiferous herb is part of the Liliaceae or Lily Family and flowers between March and June. This species grows in chaparral, cismontane woodlands, coastal scrub, playas, valley and foothill grasslands, and vernal pools. This species prefers clay soils and is usually associated with annual grasslands and vernal pools often surrounded by shrubland habitats at elevations of approximately 80 to 2800 feet. This species has been known to hybridize with Orcutt's brodiaea (*Brodiaea. Orcuttii*) and kern brodiaea (*Brodiaea. terrestris* ssp. *kernensis*). CNDDDB has mapped thread-leaved brodiaea near the vicinity of Moreno Valley. Residential development, agriculture, grazing, and vehicles are serious threats to this species.

Salt-marsh bird's beak (*Cordylanthus maritimus* ssp. *maritimus*)

Salt-marsh bird's beak is a federal- and State- listed endangered species. This annual herb is part of the Scrophulariaceae or Figwort Family and is part of a genus that are green, root-parasitic annuals partially dependent on host plants (hemiparasitic). This species flowers between May and October and usually grows in salt marshes, swamps (coastal salt), and coastal dunes but are limited to the higher zones of the salt marsh habitats at elevations between 0 and 100 feet. CNDDDB has mapped salt marsh bird's beak in the general vicinity of San Bernardino Valley located in alkali meadows. Vehicles, road construction, foot traffic, non-native plants, and loss of salt marsh habitat threaten this species.

Slender-horned spineflower (*Dodecahema leptoceras*)

Slender-horned spineflower is a federal- and State-listed endangered species. This annual herb is part of the Polygonaceae or Milkwort Family and flowers between April and June. This species grows in chaparral, coastal scrub (alluvial fan sage scrub), and is most commonly found growing in flood deposited terraces and washes at elevations of approximately 650 feet to 2500 feet. This species has been associated with brittlebush (*Encelia sp.*), dalea (*Dalea sp.*), scale-broom (*Lepidospartum sp.*), etc. CNDDDB has mapped slender-horned spineflower in the washes of the Santa Ana River, in east Highlands, and in alluvial fan scrub in other vicinities within the San Bernardino Valley. This species was found in the wash growing along with California juniper (*Juniperus californica*), yerba santa (*Eriodictyon trichocalyx*), and several accounts place it growing in along with the federal- and State- listed endangered Santa Ana River woollystar (*Eriastrum densifolium* ssp. *sanctorum*). Unfortunately, many historical occurrences have been lost to urbanization and stream channelization; and at present. The species is threatened by development, sand and gravel mining, flood control, proposed reservoir construction, vehicles, and non-native plants.

Santa Ana River woollystar (*Eriastrum densifolium* ssp. *sanctorum*)

Santa Ana River woollystar is a federal- and State- listed endangered species. This perennial herb is a member of the Polemoniaceae or Phlox Family and flowers between May and September. The typical habitat for this species is chaparral, coastal scrub, and is commonly found growing in sandy soils on river floodplains or in terraced fluvial deposits at elevations approximately between 300 feet and 2,000 feet. CNDDDB has mapped this species in the Santa Ana River wash north of Redlands, west of Riverside Avenue Bridge, 0.9 miles south of Norton Air Force Base, and about 0.5 miles west of Mount Vernon Avenue. Other locations include: west of Lytle Creek Wash, and the southeast edge of the town of Highland in the City Creek Floodplain. Historically it has been recorded to be found growing in alluvial fans alongside

California buckwheat, sycamores (*Platanus racemosa*) California juniper, broom scale, yerba santa, hairy golden aster (*Heterotheca sessiliflora*), California croton (*Croton californica*) and the federal- and State- listed endangered slender-horned spinyflower. This species is threatened by development, vehicles, sand and gravel mining, flood control projects, and non-native plants.

Gambel's water cress (*Rorippa gambelii*) syn. (*Nasturtium gambelii*)

Gambel's water cress is a federal-listed endangered and State-listed threatened species. This perennial rhizomatous herb is a member of the Brassicaceae or Mustard Family and flowers between April and September. This species typical habitat is marshes and swamps commonly found in freshwater and brackish marshes at the margins of lakes and along streams, in or just above water level at elevations between 17 feet and 1,100 feet. This species is nearly extinct in the U.S. and is known from only four occurrences. CNDDDB has recorded the location to be in the San Bernardino Valley at Urbita Hot Springs; however, the swamp was drained in 1945 and it became sand and cottonwood dominated. Erosion and habitat loss are the most serious threats to this species.

SENSITIVE WILDLIFE

A total of thirty-four sensitive wildlife species are known to occur within the vicinity of the project site (CNDDDB 2007). Nine of the thirty-four sensitive species are federally- or State-listed species. The remaining twenty-eight species are California species of concern. All sensitive species are listed in Table 4C–2. All federal and State listed species are described in detail below.

**Table 4C–2
Sensitive Wildlife Species Potentially
Occurring on the City of Grand Terrace Project Site**

Scientific Name	Common Name	Status
CLASS INSECTA	INSECTS	
<i>Rhaphiomidas terminatus abdominalis</i>	Delhi Sands flower-loving fly	Fed: END/ Cal: None
CLASS OSTEICHTHYES	BONY FISH	
CATOSTOMIDAE	SUCKERS	
<i>Catostomus santaanae</i>	Santa Ana sucker	Fed: THR/ Cal: CSC
CYPRINIDAE	MINNOWS AND CARP	
<i>Gila orcutti</i>	arroyo chub	Fed: None/ Cal: CSC
<i>Rhinichthys osculus ssp. 3</i>	Santa Ana speckled dace	Fed: None/ Cal: CSC
CLASS AMPHIBIA	AMPHIBIANS	
SCAPHIOPODIDAE	SPADEFOOT TOADS	
<i>Scaphiopus hammondi</i>	western spadefoot	Fed: None/ Cal: CSC
RANIDAE	TRUE FROGS	
<i>Rana muscosa</i>	mountain yellow-legged frog	Fed: END/ Cal: CSC
CLASS REPTILIA	REPTILES	

Scientific Name	Common Name	Status
PHRYNOSOMATIDAE <i>Phrynosoma coronatum blainvillei</i>	spiny lizards San Diego horned lizard	Fed: None/ Cal: CSC
ANNIELLIDAE <i>Anniella pulchra pulchra</i>	LEGLESS LIZARDS silvery legless lizard	Fed: None/ Cal: CSC
TEIIDAE <i>Aspidoscelis hyperythra beldingi</i>	WHIPTAIL LIZARDS Belding's orange-throated whiptail	Fed: None/ Cal: CSC
CLASS VIPERIDAE	VIPERS	
<i>Crotalus ruber ruber</i>	northern red-diamond rattlesnake	Fed: None/ Cal: CSC
CLASS AVES	BIRDS	
ACCIPITRIDAE <i>Buteo regalis</i> <i>Accipiter cooperii</i>	HAWKS, KITES, HARRIERS, AND EAGLES ferruginous hawk Cooper's hawk	Fed: None/ Cal: CSC Fed: None/ Cal: CSC
STRIGIDAE <i>Athene cunicularia hypugea</i>	OWLS burrowing owl	Fed: None/ Cal: CSC
SYLVIIDAE <i>Poliophtila californica californica</i>	GNATCATCHERS coastal California gnatcatcher	Fed: THR/ Cal: CSC
LANIIDAE <i>Lanius ludovicianus</i>	SHRIKES loggerhead shrike	Fed: None/ Cal: CSC
CUCULIDAE <i>Coccyzus occidentalis americanus</i>	CUCKOOS AND RELATIVES western yellow-billed cuckoo	Fed: None/ Cal: END
VIREONIDAE <i>Vireo bellii pusillus</i>	VIREOS Least Bell's vireo	Fed: END/ Cal: END
PARULIDAE <i>Dendroica petechia brewsteri</i> <i>Icteria virens</i>	WOOD-WARBLEDERS yellow warbler yellow-breasted chat	Fed: None/ Cal: CSC Fed: None/ Cal: CSC
EMBERIZIDAE <i>Aimophila ruficeps canescens</i> <i>Amphispiza belli belli</i>	SPARROWS, WARBLERS, BUNTINGS, AND RELATIVES southern California rufous-crowned sparrow Bell's sage sparrow	Fed: None/ Cal: CSC Fed: None/ Cal: CSC
ICTERIDAE <i>Agelaius tricolor</i>	BLACKBIRDS Tricolored blackbird	Fed: None/ Cal: CSC
ALAUDIDAE <i>Eremophila alpestris actia</i>	LARKS California horned lark	Fed: None/ Cal: CSC

Scientific Name	Common Name	Status
TYRANNIDAE <i>Empidonax traillii extimus</i>	TYRANT FLYCATCHERS southwestern willow flycatcher	Fed: END/ Cal: None
CLASS MAMMALIA	MAMMALS	
LEPORIDAE <i>Lepus californicus bennettii</i>	RABBITS AND HARES San Diego black-tailed jackrabbit	Fed: None/ Cal: CSC
HETEROMYIDAE <i>Chaetodipus fallax fallax</i> <i>Perognathus longimembris brevinasus</i> <i>Onychomys torridus ramona</i> <i>Dipodomys merriami parvus</i> <i>Dipodomys stephensi</i>	POCKET MICE, KANGAROO RATS, AND KANGAROO MICE northwestern San Diego pocket mouse Los Angeles pocket mouse southern grasshopper mouse San Bernardino kangaroo rat Stephen's kangaroo rat	 Fed: None/ Cal: CSC Fed: None/ Cal: CSC Fed: None/ Cal: CSC Fed: END/ Cal: CSC Fed: END/ Cal: THR
CRICETIDAE	MICE, RATS, AND VOLES	
VESPERTILIONIDAE <i>Antrozous pallidus</i>	MOUSE-EARED BATS pallid bat	Fed: None/ Cal: CSC
MOLOSSIDAE <i>Eumops perotis</i> <i>Nyctinomops femorasaccus</i>	FREE-TAILED BATS California mastiff bat pocketed free-tailed bat	 Fed: None/ Cal: CSC Fed: None/ Cal: CSC
MUSTELIDAE <i>Taxidea taxus</i>	badgers, otters, weasels, and relatives American badger	Fed: None/ Cal: CSC
<u>Status Codes</u> <u>Federal</u> FE = Federally listed; Endangered FT = Federally listed; Threatened FC = Federal Candidate for listing (FSC) = Federal Species of Concern; not an active term, and is provided for informational purposes only. <u>State</u> ST = State listed; Threatened SE = State listed; Endangered CSC = California Special Concern Species FS = Forest Service Sensitive BLM = Bureau of Land Management Sensitive * = Fully Protected Species <u>Source:</u> California Natural Diversity Data Base (CNDDB): Redlands, Sunnymead, Riverside East, and San Bernardino South USGS 7.5-minute quadrangles		

Insect Species

The Delhi Sands flower-loving fly (*Rhaphiomidas terminatus abdominalis*) is a federal-listed endangered species. This species habitat is limited to Delhi fine sand, which is wind deposited. Only twelve populations of this species remain today in northwestern Riverside and southwestern San Bernardino counties. Loss of habitat due to agricultural, residential, and industrial land use are the main reasons for the populations decline.

Fish Species

The Santa Ana sucker (*Catostomas santaanae*) is a federal-listed threatened species. This species is known to occur in three stream systems in southern California: lower Big Tujunga Creek in Los Angeles County; the east, west, and north forks in the San Gabriel River in Los Angeles County; and the lower and middle Santa Ana River in San Bernardino, Riverside, and Orange Counties. The Santa Ana sucker requires clear, clean water at various depths with substrate such as sand, gravel, or cobble. The decline of this species is a result of introduced species, flow alterations, and alteration of stream habitats.

Amphibian Species

The mountain yellow-legged frog (*Rana muscosa*) is a federal-listed endangered species and a CSC. They are usually found near water. This species currently inhabits the San Gabriel, San Bernardino, and San Jacinto Mountains in small isolated populations. Known populations are also known in Northern California and Lake Tahoe. The decline of this species needs more investigation, but may be due to introduced species and/or the presence of pathogens.

Bird Species

The coastal California gnatcatcher (*Polioptila californica californica*) is a federal-listed threatened and a CSC species. The gnatcatcher is a non-migratory songbird that nests and forages in moderately dense stands of coastal sage scrub occurring on arid hillsides, mesas, and washes. Loss of suitable habitat and fragmentation of habitat from expanding development and agriculture have been a major factor in the decline of this species.

The western yellow-billed cuckoo (*Coccyzus americanus occidentalis*) is a State-listed endangered species. Currently this species is known to occur in the Sacramento, Kern, Santa Ana, and the Lower Colorado Rivers. This species is threatened by loss and degradation of its habitat, cottonwood-tree willow riparian forest.

The least Bell's vireo (*Vireo bellii pusillus*) is a federal- and State-listed endangered species. This species typically occurs in moist thickets and riparian areas comprised of willow, mulefat, and mesquite. Currently the breeding range for this species is in Southern California. Large populations occur in Riverside and San Diego counties, and smaller populations in Santa Barbara, Ventura, and San Diego counties and in northern Baja California. The vireo is threatened by loss and degradation of its habitat and by nest parasitism of the brown-headed cowbird.

The southwestern willow flycatcher (*Empidonax traillii extimus*) is a federal- and State-listed endangered species. This species breeds in dense riparian tree and scrub habitats. Destruction and loss of riparian habitats as well as nest parasitism of the brown-headed cowbird are the reason for the decrease in their population. The southwestern willow flycatcher is known to

occur in Temecula Creek, San Dieguito, Sweetwater, Santa Ynez, Santa Clara, San Timoteo Creek, San Mateo Creek, San Luis Rey, San Diego, Pilgrim Creek, Santa Ana, Mojave, Kern, Owens, and Colorado Rivers. The species decline is due to loss of habitat and nest parasitism of the brown-headed cowbird and other human induced and natural causes.

Mammal Species

The San Bernardino kangaroo rat (*Dipodomys merriami parvus*) is a federal-listed endangered and CSC species. This species prefers scattered, isolated patches of alluvial sage scrub/coastal sage scrub habitat throughout San Bernardino and Riverside counties in Southern California. Habitat exists in gravelly and sandy soils near river and stream terraces, on alluvial fans, and occasionally rocky washes. There are only seven known isolated populations for this species. They exist in; Etiwanda Reche Canyon, South Bloomington, Santa Ana River, Lytle wash, Cajon wash, and the San Jacinto River. This species decline is due to loss of habitat and alterations to the river systems.

The Stephen's kangaroo rat (*Dipodomys stephensi*) is a federal-listed endangered and State listed-threatened species. This species generally occurs in non-native grasslands and areas with sparse coastal sage scrub. They require areas with well-drained, gravelly or sandy soil for digging their burrows. Current populations exist in the San Jacinto Valley and adjacent areas of western Riverside and northwestern San Diego County. The species is threatened by destruction, fragmentation, and degradation of its habitat.

WILDLIFE CORRIDORS

The concept of habitat corridors addresses the linkage between large blocks of habitat that allow the safe movement of mammals and other wildlife species from one habitat area to another. The definition of a corridor is varied, but corridors may include such areas as greenbelts, refuge systems, underpasses, and biogeographic landbridges, for example. In general, a corridor is described as a linear habitat, embedded in a dissimilar matrix that connects two or more large blocks of habitat. Wildlife movement corridors are critical for the survivorship of ecological systems for several reasons. Corridors can connect water, food, and cover sources, spatially linking these three resources with wildlife in different areas. In addition, wildlife movement between habitat areas provides for the potential of genetic exchange between wildlife species populations, thereby maintaining genetic variability and adaptability to maximize the success of wildlife responses to changing environmental conditions. This is especially critical for small populations subject to loss of variability from genetic drift and effects of inbreeding. Naturally, the nature of corridor use and wildlife movement patterns varies greatly among species.

Drainages generally serve as movement corridors because wildlife can move easily through these areas, and fresh water is available. Corridors also offer wildlife unobstructed terrain to forage in and for the dispersal of young individuals. Movement corridors are particularly important to larger terrestrial species, such as mountain lions (*Felis concolor*), coyotes (*Canis latrans*), bobcats (*Lynx rufus*), and mule deer (*Odocoileus hemionus*) due to the protective cover afforded by dense vegetation.

The only substantial area of open space in the City exists in the southeast corner. Blue Mountain connects to Sugarloaf Mountain in the southwest, Cassina Springs is south of Grand Terrace, and to Reche Canyons and San Timoteo Canyons in a southeast direction. The San Timoteo Canyons do connect to the San Bernardino Mountains through the City of Yucaipa.

Therefore, this open space does exist as a wildlife corridor. A few small patches of old agricultural fields exist in the City as well, but they exist as isolated patches without connectivity to any large areas of open space.

Any potential impacts to blue line streams, wetlands, and/or drainages in the City will require an assessment in order to determine Army Corps of Engineers (USACE) and/or California Department of Fish and Game (CDFG) jurisdiction.

REGULATORY SETTING

Federal Regulations

Federal Endangered Species Act

The United States Fish and Wildlife Service (USFWS) in the Department of the Interior, and the National Oceanic and Atmospheric Administration (NOAA) in the Department of Commerce, share responsibility for administration of the Endangered Species Act (ESA). The ESA provides broad protection for species of fish, wildlife, and plants that are listed as threatened or endangered in the United States or elsewhere. The ESA has four major components: provisions are made for listing species, requirements for consultation with USFWS, prohibitions against “taking” of listed species, and the provisions for permits that allow incidental “take.” The ESA also discusses recovery plans and the designation of critical habitat for listed species.

The Migratory Bird Treaty Act of 1918

The Migratory Bird Treaty Act of 1918 (16 U.S.C. 703-711) makes it unlawful to possess, buy, sell, purchase, barter, or “take” any migratory bird listed in Title 50 of the Code of Federal Regulations Part 10. “Take” is defined as possession or destruction of migratory birds, their nests or eggs. Disturbances that cause nest abandonment and/or loss of reproductive effort or the loss of habitats upon which these birds depend would be in violation of the Migratory Bird Treaty Act.

Clean Water Act Section 404

Although definitions vary to some degree, wetlands are generally considered to be areas that are periodically or permanently inundated by surface or ground water, and support vegetation adapted to life in saturated soil. Wetlands are recognized as important features on a regional and national level due to their high inherent value to fish and wildlife, use as storage areas for storm and floodwaters, and water recharge, filtration, and purification functions. Technical standards for delineating wetlands have been developed by the USACE and the USFWS, which generally define wetlands through consideration of three criteria: hydrology, soils, and vegetation. Under Section 404 of the Clean Water Act (CWA), the USACE is responsible for regulating the discharge of fill material into waters of the United States. The term “waters” includes wetlands and non-wetland bodies of water that meet specific criteria as defined in the Code of Federal Regulations. All three of the identified technical criteria must be met for an area to be identified as a wetland under USACE jurisdiction, unless the area has been modified by human activity. In general, a permit must be obtained before fill can be placed in wetlands or other waters of the United States. The type of permit depends on the amount of acreage and the purpose of the proposed fill, subject to discretion of the USACE.

State Regulations

State California Endangered Species Act

The California Endangered Species Act (CESA) is similar to the main provisions of the federal ESA and is administered by the California Department of Fish and Game (CDFG). Unlike its federal counterpart, CESA applies the take prohibitions to species petition for listing (State candidates). Section 86 of the Fish and Game Code defines "take" as "hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill." The CDFG maintains lists for Candidate-Endangered Species and Candidate-Threatened Species, which have the same protection as listed species. Under CESA the term "endangered species" is defined as a species of plant, fish, or wildlife, which is "in serious danger of becoming extinct throughout all, or a significant portion of its range" and is limited to species or subspecies native to California. CESA prohibits the "taking" of listed species except as otherwise provided in State law.

Section 1602 Lake and Streambed Alteration Agreement Jurisdictional authority of the CDFG over wetland areas is established under Section 1600 of the Fish and Game Code, which pertains to activities that would disrupt the natural flow or alter the channel, bed, or bank of any lake, river, or stream. The Fish and Game Code stipulates that it is unlawful to substantially divert or obstruct the natural flow or substantially change the bed, channel or bank of any river, stream, or lake without notifying the CDFG, incorporating necessary mitigation, and obtaining a Streambed Alteration agreement.

Municipal Code

Chapter 12.28 Street and Parkway Trees regulates the installation, maintenance, removal and pruning of trees within the City's rights of way. There are no other provisions relating to biological resources in the City's Municipal Code.

Grand Terrace General Plan

The City of Grand Terrace seeks to preserve and enhance existing sensitive habitat, plant species and wildlife species with the implementation of the following General Plan Goals, Policies and Actions.

Open Space and Conservation Element

Goal 4.2 Natural resources in the City of Grand Terrace shall be protected and preserved by utilizing open space designations or related regulations.

Policy 4.2.1 The City shall use existing information regarding biological resources including data on natural vegetation and wildlife habitats for both rare and endangered species in identifying potential natural resource open space areas.

Policy 4.2.2 The City shall establish land use regulations to preserve and protect any identified natural resources.

Policy 4.2.3 The City shall cooperate with the County of San Bernardino and other participating cities in identifying regional natural resource areas and developing appropriate mitigation measures to protect these resources.

- Policy 4.2.4 The City shall evaluate developing a specific plan for the western face of Blue Mountain. The specific plan will contain policies to preserve and maintain the open space resources of Blue Mountain including its biologic properties.
- Policy 4.2.5 The City shall act to reasonably conserve and protect significant biological resources.
- Action 4.2.5 a. For projects located in areas with potential for moderate or high plant and wildlife sensitivity, require biological surveys as part of the development review process, distribute this analysis to the appropriate responsible agencies, and require compliance with any recommended mitigation measures.
- Action 4.2.5 b. Coordinate with State and federal agencies to preserve rare and endangered species and areas of special habitat value through the environmental review process.

4C.2 SIGNIFICANCE THRESHOLD CRITERIA

The criteria used to determine the significance of impacts on biological resources are taken from City-approved Thresholds of Significance based on the City's Initial Study and the model Initial Study checklist in Appendix G of the State *CEQA Guidelines*. A significant impact would occur if implementation of the proposed General Plan Update and Amendment to the Redevelopment Plan would:

- 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 game or U.S. Fish and Wildlife Service;
- Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Service;
- Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means; or
- Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.
- The following impacts were not identified as being potentially significant in the Initial Study (Appendix A) and will not be discussed further in this Program EIR:
- 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; and
- Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or State habitat conservation plan.

4C.3 IMPACTS AND MITIGATION MEASURES

IMPACT 4C-1 **The Proposed Project would have a significant impact if it would 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 game or U.S. Fish and Wildlife Service.**

Vegetation Communities

Sensitive vegetation communities in the City include Riversidian Alluvial Fan Sage Scrub, Southern Coast Live Oak Riparian Forest, Southern Cottonwood Willow Riparian Forest, Southern Riparian Scrub, and Southern Sycamore-Alder Riparian Woodland. In addition, a number of sensitive plant species are known to occur or have the potential to occur in the City. Implementation of the proposed General Plan Update and Amendment to the Redevelopment Plan will not result in the direct removal of these sensitive vegetation communities because the General Plan does not infer direct development rights. The General Plan will however, allow for the development of largely undisturbed areas. Such construction has the potential to have a significant impact on sensitive vegetation communities and individual plant species. The major impact will be the removal of sensitive vegetation communities and individual plant species for building pad development and building and roadway construction. Other potential impacts include continued increased incidence of fire due to human activity, trampling and increased erosion from roadways, the introduction of non-native weedy and insect species, and increased competition from non-native species. The collection of sensitive species may also increase as greater access is afforded to previously inaccessible areas through roadway development. Development within the City will be reviewed for compliance with USFES, CDFG, and Natural Community Conservation Planning/Habitat Conservation Plan (NCCP/HCP) requirements. Potential impacts related to development are mitigated through compliance with USFWS and CDFG requirements and the NCCP/HCP for the Central/Coastal Subregion.

General Plan Open Space and Conservation Goal 4.2 and Policies 4.2.1 through 4.2.5 and respective Actions encourage the protection of open space and natural resources and is considering the development of a specific plan for the western face of Blue Mountain to preserve and maintain its open spaces and biological resources.

Sensitive Species

As described previously, a number of sensitive animal species are known to occur or have the potential to occur within the City. The San Timoteo Canyons as well as green belts throughout the City provide important foraging, dispersal, migratory, and wildlife corridors for many sensitive species. Implementation of development consistent with the General Plan Update will result in both direct and indirect significant adverse impacts to wildlife.

Development of large undisturbed areas will result in the elimination of habitat and food resources through the removal of vegetation communities. Species that are more mobile (e.g., birds, small mammals, etc.) will seek adjacent habitat for cover and food resources. However, competition amongst individual species for these adjacent resources will increase the dispersal of weaker or more juvenile individuals; increased mortality due to predation and lack of resources will result. These effects may be particularly pronounced for species with low tolerance for habitat modification or disturbances, especially some riparian bird species. Soil

disturbance may significantly increase the presence on non-native species and may affect some species ability to forage or establish territories. Modifications to on-site topography may increase the ability of some species to identify prey (e.g., raptor perches, etc.) or abnormally increase levels of predation. To minimize the impacts to sensitive wildlife species and plant communities, the General Plan Update maintains existing goals and policies related to the protection of open space and wildlife habitat as discussed below.

Several General Plan Policies in the Open Space and Conservation Element (Policies 4.2.1 through 4.2.5 and respective Policy Actions) encourage data collection, protective land use regulations, coordination with other agencies and the establishment of additional policies to preserve open space. All of these policies serve to reduce potential impacts to sensitive species that may occur with the development of land consistent with the proposed General Plan Update and Redevelopment Plan Update. The majority of impacts to sensitive vegetation communities and wildlife species may occur as a result of project-specific activities developed pursuant to the General Plan Update. At the time individual development applications are submitted, the City will assess development proposals for potential impacts to significant natural resources pursuant to CEQA and associated State and federal regulations. Development within the City will be reviewed for compliance with USFES, CDFG, and NCCP/HCP requirements. Potential impacts related to development will be mitigated through compliance with USFWS and CDFG requirements and the NCCP/HCP for the Central/Coastal Subregion.

MITIGATION MEASURES

No mitigation is necessary.

LEVEL OF IMPACT SIGNIFICANCE AFTER MITIGATION

Impacts would be less than significant.

IMPACT 4C-2 The Proposed Project would have a significant impact if it would have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Service.

General Plan Goal 4.2 and Policies 4.2.1 through 4.2.5, and respective Actions, in the Open Space and Conservation Element encourage data collection, protective land use regulations, coordination with other agencies and the establishment of additional policies to preserve open space. All of these policies serve to reduce potential impacts related to riparian habitat or other sensitive community that may occur with the development of land consistent with the proposed General Plan Update and Redevelopment Plan Update.

Riparian communities support species along watercourses or water bodies adaptable to seasonal flooding. Riparian communities that may exist within the City include: Riversidian Alluvial Fan Sage Scrub, Southern Coast Live Oak Riparian Forest, Southern Cottonwood Willow Riparian Forest, Southern Riparian Scrub, and Southern Sycamore-Alder Riparian Woodland. Implementation of the proposed General Plan Update could impact existing riparian areas through development and potential recreational uses. However, potential impacts to riparian or other habitat related to development in accordance with the General Plan Update will be mitigated through compliance with USACE regulations under Section 404 and CDFG regulations under Section 1601-1603. In addition, mitigation measures will be required at the

project level pursuant to CEQA and the above mentioned regulations to minimize the impacts of development.

MITIGATION MEASURES

Project compliance with CEQA and the USACE regulations listed above will adequately mitigate potential impacts associated with riparian habitat and other sensitive natural communities. No mitigation measures are necessary.

LEVEL OF IMPACT SIGNIFICANCE AFTER MITIGATION

Impacts would be less than significant.

IMPACT 4C-3 The Proposed Project would have a significant impact if it would have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means.

As described above, potential impacts to riparian or other habitat related to development in accordance with the General Plan Update will be mitigated through compliance with USACE regulations under Section 404 and CDFG regulations under Section 1601-1603. In addition, mitigation measures will be required per CEQA at the project level to minimize the impacts of development.

MITIGATION MEASURES

No mitigation measures are necessary.

LEVEL OF IMPACT SIGNIFICANCE AFTER MITIGATION

Impacts would be less than significant.

IMPACT 4C-4 The Proposed Project would have a significant impact if it would conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.

Future projects initiated in accordance with the General Plan would comply with all relevant policies and ordinances relating to tree preservation, including Chapter 12.28 (Street and Parkway Trees) of the Municipal Code which regulates the installation, maintenance, removal and pruning of trees within the City's rights of way

MITIGATION MEASURES

No mitigation measures are necessary.

LEVEL OF IMPACT SIGNIFICANCE AFTER MITIGATION

No significant impacts have been identified and no mitigation measures are required.

CHAPTER 4D - CULTURAL RESOURCES

4D.1 ENVIRONMENTAL SETTING

The City is located along the border of the territories known to have been occupied by the Serrano, Gabrielino (Tongva), and Cahuilla Indians, with the Serrano to the north, Gabrielino to the west, and Cahuilla to the south and east. It is likely that all these groups passed through or exploited resources within the City limits at different times in prehistory.

The City's roots extend back to Mexican land grants dating from the period between 1830 and 1840. In 1876, there were nine buildings in the Terrace-Colton area. The development of Grand Terrace, or East Riverside as the Grand Terrace-Highgrove area was then called, was facilitated by the construction of the Gage Canal, a 22.5-mile canal that brought water to the area from the Santa Ana River marshlands below. With plenty of water, Grand Terrace rapidly became an agricultural community with a heavy emphasis on citrus production. However, the severe freeze of 1913 destroyed many groves. Walnuts, a hardier tree, were planted as replacements along with peaches as a quick-profit crop.

The City of Grand Terrace was originally called "the Terrace" because it was situated on higher ground than the surrounding developed areas. By the time the Riverside-Highgrove Water Company was formed in 1898, the community was known as Grand Terrace because of its scenic views.

In 1962, the City of Grand Terrace Chamber of Commerce was organized. The Municipal Advisory Council was formed in 1976. After nearly two years of meetings and negotiations with the County, the residents went to the polls and voted for incorporation. On November 30, 1978 Grand Terrace officially became the 16th city in San Bernardino County.

Geologic mapping of the Grand Terrace area indicates that the City is situated upon Quaternary fan deposits laid down during the early to middle Pleistocene Epoch overlying sediments of the fossiliferous San Timoteo Formation. Pleistocene older alluvium throughout San Bernardino and Riverside counties, and particularly in the Inland Empire, has been repeatedly demonstrated to have high paleontological sensitivity. Fossils recovered from these Pleistocene sediments represent extinct taxa including mammoths, mastodons, ground sloths, dire wolves, short-faced bears, saber-toothed cats, large and small horses, large and small camels, and bison.

RECORDS SEARCH

Cultural resources records searches were conducted at the San Bernardino County Archaeological Information Center, located at the San Bernardino County Museum in Redlands, California (Appendix E). The purpose of the records search was to determine the extent of previous cultural resources investigations within the City, and whether any archaeological sites or architectural resources exist within the project area. Materials reviewed included archaeological site records, historic maps, and listing of resources on the National Register of Historic Places, the California Register of Historical Resources, California Points of Historical Interest, California Landmarks, and National Historic Landmarks.

The records search was conducted for the City of Grand Terrace at the California Historical Resources Information System (CHRIS) located at the San Bernardino County Museum. The purpose of the records search was to determine if any previously recorded cultural resources

are known to exist within the City.

There are 19 previously recorded sites within the City (see Table 4D-1). One site within the City has been evaluated as National Register of Historical Place (NRHP) Significant. That site, the Gage Canal (CA-RIV-7168H) constructed in the 1880s, was essential to the development of the City and surrounding areas as it allowed a largely arid region to grow into an agricultural center.

The records searches also revealed the nature and extent of other cultural resources work previously conducted within the City (see Table 4D-2). These reports filed with the CHRIS located at the San Bernardino County Museum.

The records search shows that cultural resources within the City include prehistoric or protohistoric sites including rock art sites and sites containing lithic artifacts, and historic-era sites including residential structures, railroads, bridges and canals associated with water irrigation. All sites recorded and reports filed within the City are within the San Bernardino South USGS 7.5' Topographic Quadrangle (1980).

Table 4D-1
Previously Recorded Archaeological Sites Within the City of Grand Terrace
San Bernardino South Quad

Site Number (CA-SBR-_____)	Site Legal Description	Resource Description
144	T. 1S, R. 4W, SW 1/4 of NW 1/4 of Section 31	Red pictographs on boulders scattered on NW side of La Loma Hills.
2244 (P-36-792)	T. 1S, R. 4W, NE 1/4 of NW 1/4 of SW 1/4 pr SE 1/4 of Section 31	Grinding slabs, 1 metate fragment, possibly mano fragment & other similar broken material and copper painted schist rock.
1577	T. 1S, R. 4W, Se 1/4 of NE 1/4 of Section 31	Large campsite on terrace overlooking riverbed containing artifacts including manos, metates, cogstones, hammerstones, and scrapers.
11624	T. 1S, R. 4W, NE 1/4 of NE 1/4 of Section 33 & NW 1/4 of Section 34	Historic homestead or farm including a drip irrigation system, a small rectangular cistern, as well as a home site, barn and stable.
12875	T. 1S, R. 4W, NW 1/4 of SW 1/4 of NW 1/4 of Section 32	Residential/ Architectural
12876	T. 1S, R. 4W, NW 1/4 of SW 1/4 of NW 1/4 of Section 32	Residential/ Architectural
20240	T. 1S, R. 4W, NW 1/4 of NE 1/4 of Section 33	Mid-20th century residential site that may have been reconstructed on an earlier home site related to the early San Bernardino era.
20414	T. 1S, R. 4W, NE 1/4 of SW 1/4 of SW 1/4 of Section 3	Residential/ Architectural
1074-114H	T. 1S, R. 4W, W1/2 of NW 1/4 of NE 1/4 and SE 1/4 of NW 1/4 and NE 1/4 & SW 1/4 of SW 1/4 of Section 27	The Belarde and Salazar ditch dating to ca. 1875.

Site Number (CA-SBR-)	Site Legal Description	Resource Description
1074-120H	T. 1S, R. 4W, NE 1/4 of SE 1/4 of Section 26	The Vivienda Avenue Bridge, a Pratt Truss bridge dating to 1903.
1074-82	T. 1S, R. 4W, NE 1/4 of NW 1/4 of SW 1/4 of Section 32	Adobe House at Juan Dojil.
1074-85H	T. 1S, R. 4W, NE 1/4 if SE 1/4; SE 1/4 of SE 1/4 of Section 28; NW 1/4 of NE 1/4 and NE 1/4 of NW 1/4 of Section 33	The Camp Carlton ditch, a ditch associated with the Gage Canal.
1074-87H	T. 1S., R. 4W, E 1/2 of SW 1/4 and E 1/2 of NW 1/4 of Section 4; W 1/2 of SE 1/4; E 1/2 of SE 1/4; E 1/2 of SW 1/4 if NE 1/4 of Section 33	Several ditches associated with the Riverside Highland Water Company including the Ward and Warren ditch, the Ward ditch and the Vivienda Water Co.
1074-88H	T. 1S, R. 4W, E 1/2 of SE 1/4 and E 1/2 of NE 1/4 of Section 2 & E1/2 of SE 1/4 and E 1/2 of NE 1/4 of Section 26	The Rancheria Ditch associated with the Vivienda Water Co.
6101H	T. 1S, R. 4W, from the W 1/2 of NE 1/4 of NW 1/4 of Section 32 to NW 1/4 of NW 1/4 of NE 1/4 of NW 1/4 of Section 32	Southern Pacific Railroad bridge. The bridge is a simple trestle style constructed of wood. There is, in addition, steel 'I' beam reinforcing on the southern end.
6102H	T. 1S, R. 4W, from the W 1/2 of NE 1/4 of NW 1/4 of Section 32 to NW 1/4 of NW 1/4 of SE 1/4 of NW 1/4 of Section 32	The Atchison Topeka and Santa Fe Railroad bridge originally constructed 1916 with subsequent additions in 1975.
6847H	Multiple Portions	The raised earthen railroad bed and assorted remains including railroad spikes, milled lumber footings and supports, and rusted metal nuts, bolts, and washers. It is associated with the Old Kite Route, a popular late 19th and early 20th century railroad excursion route.
7168H	T. 1S, R. 4W, NE 1/4 of NE 1/4 of Section 33	Portion of the Gage Canal refurbished in 1950.
7169H	T. 1S, R. 4W, Unsectioned portion of Rancho San Bernardino and Section 32; and T. 2S, R. 4W, Sections 5, 6 & 7	Cement-lined canal with headgates, levees, suction pipes, transformers, receiving chambers, division walls, float wells, canal intakes, overflow gates, gate controls, intake flumes, siphons, and artesian wells associated with the Riverside-Warm Creek canal dating to 1886 with upgrades in 1943.

**Table 4D-2
Previously Completed Reports**

Report Number	Description	Report Author	Date
1060145	La Loma - Mira Loma Transmission Line	Archaeological Research Unit, UCR	1973
1060249	Proposed Additions to the Grand Terrace Sanitary Sewer System	Archaeological Research Unit, UCR	1975
106371	Historical Resources Assessment, approximately 30 acres, Grand Terrace area	San Bernardino County Museum Association	1976
1060488	Historical Resources Assessment of 14.6 Acres M/L Rialto Bench	San Bernardino County Museum Association	1977
1060503	Archaeological-Historical Assessment of Tentative Tract No. 9858	San Bernardino County Museum Association	1977
1060541	Archaeological-Historical Assessment of Tentative Tract 10026, Colton/Grand Terrace Area	San Bernardino County Museum Association	1977
1060610	Archaeological Resources Assessment of the Clark Property	San Bernardino County Museum Association	1978
1060814	A Cultural Resource Inventory, Proposed Redevelopment, Grand Terrace, California	Christopher E. Drover	1979
1062232	Cultural Resources Assessment of the San Bernardino County and Riverside County Sections of AT7T's Proposed San Bernardino to San Diego Fiber Optic Cable	Peak & Associates	1990
1062784	The Gage Canal	K. Hallaran	1991
1062889	An Archaeological Survey Report Documenting the Effects of the RCTC I-15 Improvement Project in Moreno Valley, Riverside County to Orange Show Road in the City of San Bernardino, San Bernardino County	Robert Wlodarski	1993

NATIVE AMERICAN COORDINATION

A notice of preparation along with a brief project description was sent to the Native American Heritage Commission, the San Manuel Band of Mission Indians, the Morongo Band of Mission Indians, San Gabriel Band of Mission Indians, the Gabrielino/Tongva Band of Mission Indians on March 10, 2009. The purpose of the letter was to notify the Bands that a cultural resource inventory and assessment was performed and no direct impacts to cultural resources are anticipated and to solicit any comments they may have regarding this finding and the preparation of the General Plan Update EIR in general. Comments were received from the Native American Heritage Commission and the Morongo Band of Mission Indians. The Native American Heritage Commission letter was a reminder for the City to comply with SB Bill 18 and the Morongo Band of Mission Indian letter provided comments for the City to consider to reduce impacts that may occur to not yet identified cultural resources.

REGULATORY SETTING

The treatment of cultural resources is governed by federal, State, and local laws and guidelines. There are specific criteria for determining whether prehistoric and historical sites or objects are significant and/or protected by law. Federal and State significance criteria generally focus on the resource's integrity and uniqueness, its relationship to similar resources, and its potential to contribute important information to scholarly research. Some resources that do not meet federal significance criteria may be considered significant by State criteria. The laws and regulation seek to mitigate impacts on significant prehistoric or historical resources. The federal, State, and local laws and guidelines for protecting historical resources are summarized below.

Federal

The Native American Graves Protection and Repatriation Act

The Native American Graves Protection and Repatriation Act (NAGPRA) established that human remains, associated grave goods, and items of cultural patrimony (items owned by the tribe, which individuals had no right to sell) held by federally-funded and assisted institutions are to be returned to affiliated federally recognized American Indian tribes. This law also established protection of Native American burials and associated grave goods.

The National Historic Preservation Act of 1966

The National Historic Preservation Act of 1966 established the National Register of Historic Places (or National Register) as the official federal list of cultural resources that have been nominated by State offices for listing in the National Register. Properties listed in the NRHP, or “determined eligible” for listing, must meet certain criteria for historic significance and possess integrity of form, location, and setting. Significance is determined by four aspects of American history or prehistory recognized by the NRHP Criteria. The *CEQA Guidelines* Section 15064.5 criteria mirror the NRHP criteria. Eligible properties must meet at least one of the criteria and exhibit integrity, measured by the degree to which the resource retains its historic properties and conveys its historic character, the degree to which the original fabric has been retained, and the reversibility of changes to the property.

State

The California Register of Historical Resources (Public Resources Code Sections 5020 et seq.)

State law also protects cultural resources by requiring evaluations of impacts to historical resources in CEQA documents. A cultural resource is an important historical resource if it meets any of the criteria found in Section 15064.5(a) of the *CEQA Guidelines*. The State Historic Preservation Office (SHPO) maintains the California Register of Historical Resources (CRHR). Properties listed, or formally designated eligible for listing, on the NRHP are automatically listed on the CRHR, as are State Landmarks and Points of Interest.

Public Resources Code Section 5097.98

This law addresses the disposition of Native American burials in archaeological sites and protects such remains from disturbance, vandalism, or inadvertent destruction; establishes procedures to be implemented if Native American skeletal remains are discovered during

construction of a project; and establishes the Native American Heritage Commission to resolve disputes regarding the disposition of such remains. It has been incorporated into Section 15064.5(e) of the State *CEQA Guidelines*.

California Senate Bill 18 (2004)

Senate Bill 18 was developed to assist cities and counties in their consultations with Native American Tribes. Starting on March 1, 2005, cities and counties must send their general plan and specific plan proposals to those Native American Tribes that are on the Native American Heritage Commission's (NAHC) contact list and have traditional lands located within the city or county's jurisdiction. After March 1, 2005, cities and counties must also conduct consultations with these tribes prior to adopting or amending their general plans or specific plans.

To help local officials meet these new obligations, SB 18 requires the Governor's Office of Planning and Research (OPR) to amend its General Plan Guidelines to include advice to local government on how to consult with California Native American Tribes. Developed in cooperation with the NAHC, the OPR guidelines include advice for consulting with California Native American Tribes for the following:

1. The preservation of, or the mitigation of impacts to, cultural places
2. Procedures for identifying through the NAHC the appropriate California Native American Tribes
3. Procedures for continuing to protect the confidentiality of information concerning the specific identity, location, character, and use of cultural places
4. Procedures to facilitate voluntary landowner participation to preserve and protect the specific identity, location, character, and use of cultural places (GC SS 65040.2(g)).

CEQA and CEQA Guidelines

CEQA Section 21083.2 and *CEQA Guidelines* Section 15064.5 govern determination of significance of historical resources and the assessment of impacts to potential resources and are followed in the analysis presented below.

Municipal Code

There are no provisions in the City's Municipal Code relating to cultural resources.

Grand Terrace General Plan

The City of Grand Terrace has included the following General Plan Goals, Policy and Actions in General Plan Update in an effort to protect and preserve known and yet unidentified cultural and paleontological resources.

Open Space and Conservation Element

- | | |
|----------|--|
| Goal 4.9 | Comply with State and federal regulations to ensure the protection of historical, archaeological, and paleontological resources. |
|----------|--|

- Policy 4.9.1 The City shall take reasonable steps to ensure that cultural resources are located, identified and evaluated to assure that appropriate action is taken as to the disposition of these resources.
- Action 4.9.1 a. Applicants with development proposals on sites that occur within areas which are determined through initial evaluation to be potentially significant shall submit results of a records search conducted by the San Bernardino Archaeological Information Center at the San Bernardino County Museum or other appropriate agency, for comment during initial environmental review in accordance with the notice and comment provisions applicable to responsible agencies under CEQA.
- Action 4.9.1 b. For areas with documented or inferred resource presence, applicants shall provide studies to document the presence or absences of cultural resources. Such studies shall provide a detailed mitigation plan, including and monitoring program and recovery or preservation plan, based on the recommendations of a qualified archaeologist and/or paleontologist.
- Action 4.9.1 c. In the event that a paleontological or archaeological resource is uncovered during the course of construction, ground-disturbing activities in the vicinity of the suspected resource shall be redirected until the nature and extent of the find can be evaluated by a qualified archaeologist and/or paleontologist (as determined by the City). As deemed appropriate by the City, any such resource uncovered during the course of project-related grading or construction shall be recorded and/or removed per applicable City and/or State regulations.

4D.2 SIGNIFICANCE THRESHOLD CRITERIA

The criteria used to determine the significance of impacts on cultural resources are taken from City-approved Thresholds of Significance based on the City's Initial Study and the model Initial Study checklist in Appendix G of the State *CEQA Guidelines*. A significant impact would occur if implementation of the proposed General Plan Update and Amendment to the Redevelopment Plan would:

- Cause a substantial adverse change in the significance of a historical resource as defined in Section 15064.5 of *CEQA Guidelines*;
- Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5 of the *CEQA Guidelines*;
- Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature; or
- Disturb any human remains, including those interred outside of formal cemeteries.

4D.3 IMPACTS AND MITIGATION MEASURES

IMPACT 4D-1 **The Proposed Project would have a significant impact if it would cause a substantial adverse change in the significance of a historical resource as defined in Section 15064.5 of the *CEQA Guidelines*.**

The City is predominately developed with a majority of land dedicated to residential uses. One site within the City has been evaluated as National Register of Historical Place (NRHP) Significant. Implementation of the proposed General Plan Update and Redevelopment Plan would result in the development of approximately 600 acres of vacant land. An evaluation of potential impacts regarding development of this land would be conducted on a project by project basis. Each incremental development is required to comply with all applicable State and federal regulations including the National Historic Preservation Act of 1966 and Public Resources Code Sections 5020 *et seq.* (the California Register of Historical Resources) concerning preservation of historic resources. Implementation of General Plan Goal 4.9, and its related Policy and Actions would also minimize any impacts to historical resources that may occur with buildout of the proposed General Plan. Therefore, potential impacts on historical structures or resources would be less than significant.

MITIGATION MEASURES

No mitigation measures are necessary.

LEVEL OF IMPACT SIGNIFICANCE AFTER MITIGATION

No significant impacts have been identified and no mitigation measures are required.

IMPACT 4D-2 **The Proposed Project would have a significant impact if it would cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5 of the *CEQA Guidelines* or directly or indirectly destroy a unique paleontological resource or site or unique geologic feature.**

The records search shows that cultural resources within the City include prehistoric or protohistoric sites including rock art sites and sites containing lithic artifacts, and historic-era sites including residential structures, railroads, bridges and canals associated with water irrigation. There are no known paleontological resources or sites within the City.

Implementation of General Plan Goal 4.9 and Policy 4.9.1 with its related Actions would minimize any impacts to archaeological resources that may occur with buildout of the proposed General Plan. All archaeological and paleontological resources are also subject to the provisions of CEQA (Public Resources Code) Section 21083.2. Therefore, potential impacts on archaeological or paleontological resources or unique geologic features would be less than significant.

MITIGATION MEASURES

No mitigation measures are necessary.

LEVEL OF IMPACT SIGNIFICANCE AFTER MITIGATION

Implementation of General Plan Goal 4.9 and its related Policy and Actions would minimize any impacts to historical resources that may occur with buildout of the proposed General Plan.

IMPACT 4D-3 The Proposed Project would have a significant impact if it would disturb any human remains, including those interred outside of formal cemeteries.

The City is predominately developed. Implementation of the proposed General Plan Update and Redevelopment Plan Amendment # 5 would result in the development of approximately 600 acres of vacant land. No human remains or burial sites are known to exist on these properties. At a minimum, development of these properties would be subject to General Plan Goals, Policies and Actions which require that a records search be conducted to determine if further investigation and analysis is appropriate. Projects requiring discretionary approvals are required to comply with all applicable State and federal regulations including the Native American Graves Protection and Repatriation Act, Public Resources Code Section 5097.98, and California Senate Bill 18 (2004). In the unlikely event human remains are discovered during grading or construction activities, State law (Health and Safety Code §7050.5) requires:

“...that no further disturbance shall occur until the County Coroner has made determination of the origin and disposition pursuant to Public Resources Code 5097.98. The County Coroner must be notified immediately of the find. If the remains are determined to be prehistoric, the coroner is required to notify the Native American Heritage Commission (NAHC), which will determine and notify a Most Likely Descendant (MLD). With the permission of the owner of the land or his/her authorized representative, the descendant may inspect the site of the discovery. The descendant shall complete the inspection within 24 hours of notification of the NAHC. The MLD may recommend scientific removal and nondestructive analysis of human remains and items associated with Native American burials.”

Because adherence to provisions of Health and Safety Code §7050.5 is required of all development projects, and because adherence to the requirements in State law sufficiently mitigates for potential impacts to human remains, no significant impact related to this issue will occur. Because potential impacts associated with this issue are less than significant, no mitigation is required.

MITIGATION MEASURES

No mitigation measures are required.

LEVEL OF IMPACT SIGNIFICANCE AFTER MITIGATION

Impacts would be less than significant.

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CHAPTER 4E - GEOLOGY AND SOILS

This chapter describes the existing conditions related to the geologic and seismic characteristics within the City of Grand Terrace. Geologic and seismic impacts that could result from implementation of the proposed General Plan Update and Amendment to the Redevelopment Plan are identified and appropriate mitigation measures are provided.

4E.1 ENVIRONMENTAL SETTING

GEOLOGY

The City is located in the northern Peninsular Ranges Geomorphic Province of southern California within the central portion of the San Bernardino Valley. This is a geologically complex area where the northwest moving Peninsular Range Province meets the south moving Transverse Ranges Province. The San Bernardino Valley in the vicinity of the City is underlain by a thick accumulation of alluvial sediments eroded from the granitic and metamorphic rocks in the San Gabriel and San Bernardino mountains to the northwest and north.

The City consists of three distinct topographic regions. The majority of the City is located on a broad alluvial plateau extending from Blue Mountain. The second area is the steep slope of Blue Mountain. The third area is the northwest portion of the City that is located within the Santa Ana River floodplain.

SOILS

Soils within the City correspond to the three topographic regions. The majority of the City is located on the alluvial plateau of Blue Mountain. The plateau is composed of older undifferentiated alluvial fan deposits and decomposed clay-rich alluvium of Pleistocene age (greater than 11,000 years old). Alluvial fans are apron-like deposits of granular debris that extend from the base of a mountain front and extend into a lowland area. Slopes on alluvial fans rarely exceed an eleven percent gradient and profiles of fans built of sand, silt, and clay are broad and flattened. Fans are formed by erosional deposition of decomposing rock and debris from higher elevations to the low-lying areas at the base of mountain channels. Alluvial fans are best developed in semi-arid deserts in areas that are tectonically active. The steep slopes of Blue Mountain are characterized by gray, medium to coarse-grained quartz diorite of the Cretaceous Period. The floodplain of the Santa Ana River is characterized by alluvium consisting of unconsolidated sand.

FAULT RUPTURE

The southern California region is characterized by many fault systems. The City is located in the vicinity of two major fault systems: the San Jacinto and San Andreas Fault zones. The San Jacinto fault zone, considered one of the most active fault zones in southern California, is located approximately two miles southwest of the City and crosses through highly eroded terrestrial deposits in the San Timoteo Badlands south of the City. Historic seismicity on the San Jacinto fault zone is considerably greater than that of the San Andreas Fault (Outdoor Adventure EIR, 2004).

The trace of the active San Andreas Fault, approximately 11 miles to the northeast of the City, separates the valley from the rugged San Bernardino Mountains. With a length of approximately

750 miles, the San Andreas traverses nearly the entire State of California. The interval between major ruptures on the San Andreas is believed to be about 140 years and the last major earthquake on the southern section of the fault as was in 1857 in the Mojave Desert.

Several other fault zones located near the City of Grand Terrace include:

- Cucamonga Fault – 13.5 miles north
- Chino-Elsinore Fault – 20 miles southwest
- San Andreas Fault – 9 miles north
- Loma Linda Fault – 2.4 miles north
- San Jacinto Fault – 0.75 mile north
- Rialto-Colton Fault – 0.65 mile northeast
- An unnamed fault – 0.47 mile northeast

Existing State law and City regulations and practices require most development applications within the Alquist-Priolo Zone to include geological reports addressing potential surface rupture to due to faulting. No structure for human occupancy is permitted to be built across the active trace of an active fault, nor generally within 50 feet of any active fault trace.

SEISMICITY AND GROUNDSHAKING

Earthquake generated groundshaking is the most critical and potentially damaging earthquake effect in the planning area. A major earthquake associated with any of the above faults could result in moderate to severe groundshaking within the City. Damage to buildings and infrastructure could be expected as a result of groundshaking during the seismic event.

REGULATORY SETTING

Uniform Building Code

All buildings in the region are required to resist seismic groundshaking in accordance with the Uniform Building Code (UBC); however, the UBC does not provide complete protection against seismic damage. The level of risk in seismic events will vary depending upon the specific land use. The State of California uses a classification system to determine areas at risk of seismic hazards. The City is located within Classifications IV, V, and VI. Table 4E-1 summarizes acceptable risks by various land use types for each of these classifications.

**Table 4E-1
Seismic Risk By Land Use²**

	Building/Land Use Types ¹	Risk Zone ³		
		IV	V	VI
I	Electrical Power Systems	GU	GU	GU
II	Schools, hospitals, fire stations, police stations, Emergency communication facilities, critical transportation facilities including bridges and overpasses, small dams, major utility facilities	PS	PS	PS
III	Churches, large or high rise buildings, places with large concentrations of people including civic centers, large commercial and office building, and major roads	PS	PS	PS
IV	Residential (single and multi-family), most commercial and minor public services and facilities	PS	PS	PS
V	Most industrial, warehousing, minor commercial	PS	PS	PS
VI	Agriculture, marinas, mineral extraction and processing, parks, open space	GS	GS	GS

¹ Development may be feasible in landslide areas, not directly within potential active fault zone areas, if adequate provisions are made for stabilization.

² This chart is for general land use planning purposes only. The actual suitability of specific uses on a specific site is subject to detailed geotechnical analysis.

³ Symbols GS = Generally Suitable
PS = Provisionally Suitable
GU = Generally Unsuitable

MUNICIPAL CODE

The City has adopted the Uniform Building Code and is required to comply with the State of California Subdivision Map Act. These State laws require developers to submit grading plans, including soils engineering reports, and, if necessary, engineering geology reports. The recommendations contain the reports must be included in the grading plans and specifications. The reports typically include recommendations concerning cuts, fills, compaction, and foundation to ensure stable development.

GRAND TERRACE GENERAL PLAN

The Grand Terrace General Plan seeks to protect the public from Geotechnical hazards with the implementation of goals and policies that encourage the avoidance of hazardous areas.

Open Space and Conservation Element:

Goal 4.3 Public health and safety in the City of Grand Terrace be protected, in part, through open space areas.

Policy 4.3.1: The City shall periodically review and keep abreast of geologic and seismic reports and information that may affect the City.

Policy 4.3.2: The City shall identify areas within the City that may be subject to geologic or seismic hazards and evaluate the potential to designate these areas as open space.

Goal 4.8: Achieve regional water quality objectives and protect the beneficial uses of the regions surface and groundwater.

Policy 4.8.2 Comply with the requirements of the National Pollutant Discharge Elimination System (NPDES).

Action 4.8.2 a. Adopt a Stormwater Ordinance per Regional Quality Control Board (RWQCB) Santa Ana Region requirements for stormwater management and discharge control.

Action 4.8.2 b. Review water quality impacts during the project review and approval phases to ensure appropriate BMPs are incorporated into the project design and long-term operations.

Public Health and Safety Element:

The City has identified protection of its residents from potential harm due to a seismic event as one of its goals (Goal 5.1).

Policy 5.1.1 All new development shall comply with current seismic design standards.

Policy 5.1.2 All proposed developments shall be evaluated for impacts associated with geologic and seismic hazards.

Policy 5.1.3 Existing structures which are seismically unsound shall be identified and programmed for mitigation or removal where necessary to protect the public safety. Cultural and historic significance of buildings shall be considered in this program.

Policy 5.1.4 Grading plans for development projects shall include an approved drainage and erosion control plan to minimize the impacts from erosion and sedimentation during grading.

Action 5.1.4 a. Plans shall conform to all standards adopted by the City and meet Pollutant Discharge Elimination System (NPDES) requirements for Storm Water Pollution Prevention Plans (SWPPP) for construction and a Water Quality Management Plan for long-term operation.

Goal 5.2 Protect humans and property from hazards associated with slope instability.

Policy 5.2.1 The City shall continue to enforce hillside development standards for proposed developments in areas on or near areas of potential slope instability.

Policy 5.2.2 All new developments in areas of slope instability shall be required to provide perform adequate geotechnical analysis and provide engineered design to assure that slope instability will not impact the development.

Goal 5.3 Reduce the risk to life and property in areas designated as flood hazard areas.

Policy 5.3.4 The City shall require all development projects to comply with the National Pollutant Discharge Elimination System (NPDES) and implement appropriate Best Management Practices.

4E.2 SIGNIFICANCE THRESHOLD CRITERIA

The criteria used to determine the significance of impacts on geology and soils are taken from City-approved Thresholds of Significance based on the City's Initial Study and the model Initial Study checklist in Appendix G of the State *CEQA Guidelines*. A significant impact would occur if implementation of the proposed General Plan Update and Amendment to the Redevelopment Plan would:

- Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving strong seismic ground shaking;
- Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving landslides;
- Result in substantial soil erosion or the loss of topsoil; or
- 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.
- The following impacts were not identified as being potentially significant in the Initial Study (Appendix A) and will not be discussed further in this Program EIR:
- Expose people of structures to 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;
- Expose people of structures to potential substantial adverse effects, including the risk of loss, injury, or death involving seismic-related ground failure, including liquefaction;
- Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property; and
- 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.

4E.3 IMPACTS AND MITIGATION MEASURES

IMPACT 4E-1 The Proposed Project would have a significant impact if it would expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving strong seismic ground shaking.

Earthquakes are a common occurrence in Southern California. Development under the proposed General Plan Update may result in the addition of up to 1,176 residential units and approximately 148 acres of non-residential uses, thereby exposing more people (residents and employees) to the effects of ground shaking from regionally generated earthquakes.

Strong seismic ground shaking could result in substantial damage to some buildings within the City. Most structures and infrastructure within the City were built after the 1971 San Fernando earthquake, implementing modern building codes and design standards. However, there is the possibility of partial to total collapse of buildings built prior to 1933 and some tilt-up concrete block buildings built prior to March 1972. Additional hazards within the City exist as six-foot high concrete walls that border sidewalks, which could collapse due to ground shaking.

The effects of seismically induced ground shaking are probably the most critical potential seismic hazards to the City. Seismic hazards include secondary effects of seismically induced ground failure including landslides. Property damage, personal injury, and loss of life may result from such events.

Policies found in the Open Space and Conservation Element (4.3.1 and 4.3.2) and the Public Health and Safety Element (5.1.1 through 5.1.4), and associated Actions that encourage the avoidance of geotechnically hazardous areas, and compliance with existing seismic design standards will minimize potential seismic hazards in the City to less than significant levels.

MITIGATION MEASURES

No mitigation measures are required.

LEVEL OF IMPACT SIGNIFICANCE AFTER MITIGATION

Impacts would be less than significant.

IMPACT 4E-2 The Proposed Project would have a significant impact if it would expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving landslides.

The City consists of three distinct topographic regions. The majority of the City is located on a broad alluvial plateau extending from Blue Mountain. The second area is the steep slope of Blue Mountain. The third area is the northwest portion of the City that is located within the Santa Ana River floodplain. The steep slope areas of Blue Mountain, should they be underlain by weak soils, may present a significant hazard in terms of potential landslides. Goal 5.2 within the Proposed General Plan Update Public Health and Safety Element and Policies 5.2.1 and 5.2.2, including associated Actions would ensure that the hazards associated with landslides would be reduced to a less than significant level.

MITIGATION MEASURES

No mitigation measures are required.

LEVEL OF IMPACT SIGNIFICANCE AFTER MITIGATION

Impacts would be less than significant.

IMPACT 4E-3 The Proposed Project would have a significant impact if it would result in substantial soil erosion or the loss of topsoil.

The City is relatively flat resulting in a low potential for soil erosion. However, the Blue Mountain area does provide the opportunity for soil erosion during rain.

Implementation of the proposed General Plan Update would result in development of vacant and underutilized parcels. Proposed development on these parcels would include the moving and recompaction of soils at each site and grading, followed by construction of buildings and the associated parking areas. Trenching, grading, and compacting associated with construction of structures, modification/relocation of underground utility lines, and landscape/hardscape installation could expose areas of soil to erosion by wind or water during these construction processes. The addition of paved and landscaped areas would, over the long term, decrease the potential for erosion because fewer exposed soils would exist at the sites.

Because one of the major effects of loss of topsoil is sedimentation in receiving waters, erosion control standards are set by the Regional Water Quality Control Board (RWQCB) through administration of the National Pollutant Discharge Elimination System (NPDES) permit process for storm drainage discharge. As described in Chapter 3H (Hydrology and Water Quality) of this Program EIR, the NPDES permit requires implementation of nonpoint source control of stormwater runoff through the application of a number of Best Management Practices (BMPs). These BMPs are meant to reduce the amount of constituents, including eroded sediment, that enter streams and other water bodies. A Storm Water Pollution Prevention Plan (SWPPP), as required by the RWQCB, must describe the stormwater BMPs (structural and operational measures) that would control the quality (and quantity) of stormwater runoff. Erosion and sedimentation issues are addressed more fully in Chapter 3H (Hydrology and Water Quality) of this Program EIR, because they are primarily related to turbidity and other depositional effects in local and regional water bodies.

Because the Blue Mountain area contains steep slopes, the potential exists for erosion by water through surface drainage during construction in this area. Earth-disturbing activities associated with demolition and construction would be temporary and would be regulated by the NPDES permitting process. They would result in relatively long-term alteration of the existing disrupted topographic features that would tend to decrease erosion at the project site. Specific erosion impacts would depend largely on the effectiveness of the required erosion control programs for the project site and the length of time soils would be subject to conditions that would be affected by erosion processes.

Project sites that are greater than one acre in size are subject to the provisions of the General Construction Activity Stormwater Permit adopted by the State Water Resources Control Board (SWRCB). Developers must submit a Notice of Intent (NOI) to the SWRCB for coverage under the Statewide General Construction Activity Stormwater Permit and must comply with all applicable requirements, including the preparation of a SWPPP, applicable NPDES

Regulations, and BMPs. The SWPPP must describe the site, the facility, construction period erosion and sediment controls, runoff water quality monitoring, means of waste disposal, implementation of approved local plans, control of post-construction sediment and erosion, maintenance responsibilities, and non-stormwater management controls. Inspection of construction sites before and after storms is required to identify stormwater discharge from the construction activity and to identify and implement controls where necessary.

In addition, all construction activities would be required to comply with Chapter 33 of the California Building Code (CBC), which regulates excavation activities and the construction of foundations and retaining walls, and Chapter 33 of the CBC, which regulates grading activities, including drainage and erosion control. Compliance with the NPDES permit process and the CBC requirements would minimize effects from erosion. The City's monitoring and enforcing the requirements of the NPDES permit and the Building Code, as described previously, would ensure the control of potential erosion.

Because the NPDES permit requirements of the RWQCB and the City's Building Code must be satisfied prior to project construction, the potential hazards posed by substantial soil erosion or the loss of topsoil would be regulated and reduced to a less than significant level.

Policies found in the Open Space and Conservation Element (4.3.1 and 4.3.2, 4.8.2 and related Actions) and the Public Health and Safety Element (5.1.1 through 5.1.3 and related Actions) that encourage the avoidance of geotechnically hazardous areas, require the preparation of grading and erosion control plans, adherence to RWQCB regulations including compliance with NPDES requirements to minimize soil erosion and loss of topsoil, and compliance with existing seismic design standards along with policies that recommend that portions of Blue Mountain be designated as open space, will all serve to minimize potential seismic hazards in the City to less than significant levels.

MITIGATION MEASURES

No mitigation measures are required.

LEVEL OF IMPACT SIGNIFICANCE AFTER MITIGATION

Impacts would be less than significant.

IMPACT 4E-4 The Proposed Project would have a significant impact if it would 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.

The majority of the City has been urbanized. Due to the construction of homes and businesses, slopes throughout the urban area have been stabilized using modern engineering. However, undeveloped slopes continue to exist on the slopes of Blue Mountain. Additional slopes occur along the Santa Ana River floodplain. As illustrated in Exhibit 4E-1, landslide hazards are present on the slopes of Blue Mountain.

Liquefaction is a seismically induced form of ground failure resulting from loose, granular materials at depths of less than 50 feet with a silt and clay content of less than 30 percent that are saturated by relatively shallow groundwater. The shaking of these soils and mixing with

groundwater may result in ground failure that may cause a subsidence and actual sinking of structures. However, all three factors must be present for liquefaction to occur. In the City, groundwater is at approximately 140 feet below surface and soils are generally stable. As indicated in Exhibit 4E-1, areas located along the Santa Ana River may be subject to potential liquefaction hazards. However, these areas are not located with areas considered to be developable within the City. Therefore, liquefaction is not considered a direct hazard to the City.

Policies proposed in the General Plan Update Public Health and Safety Element (Policies 5.2.1 and 5.2.2 and associated Actions) would ensure that the hazards associated with soil that is unstable or that would become unstable would be reduced to a less than significant level.

As a result of these policies, impacts related to landslides would be less than significant.

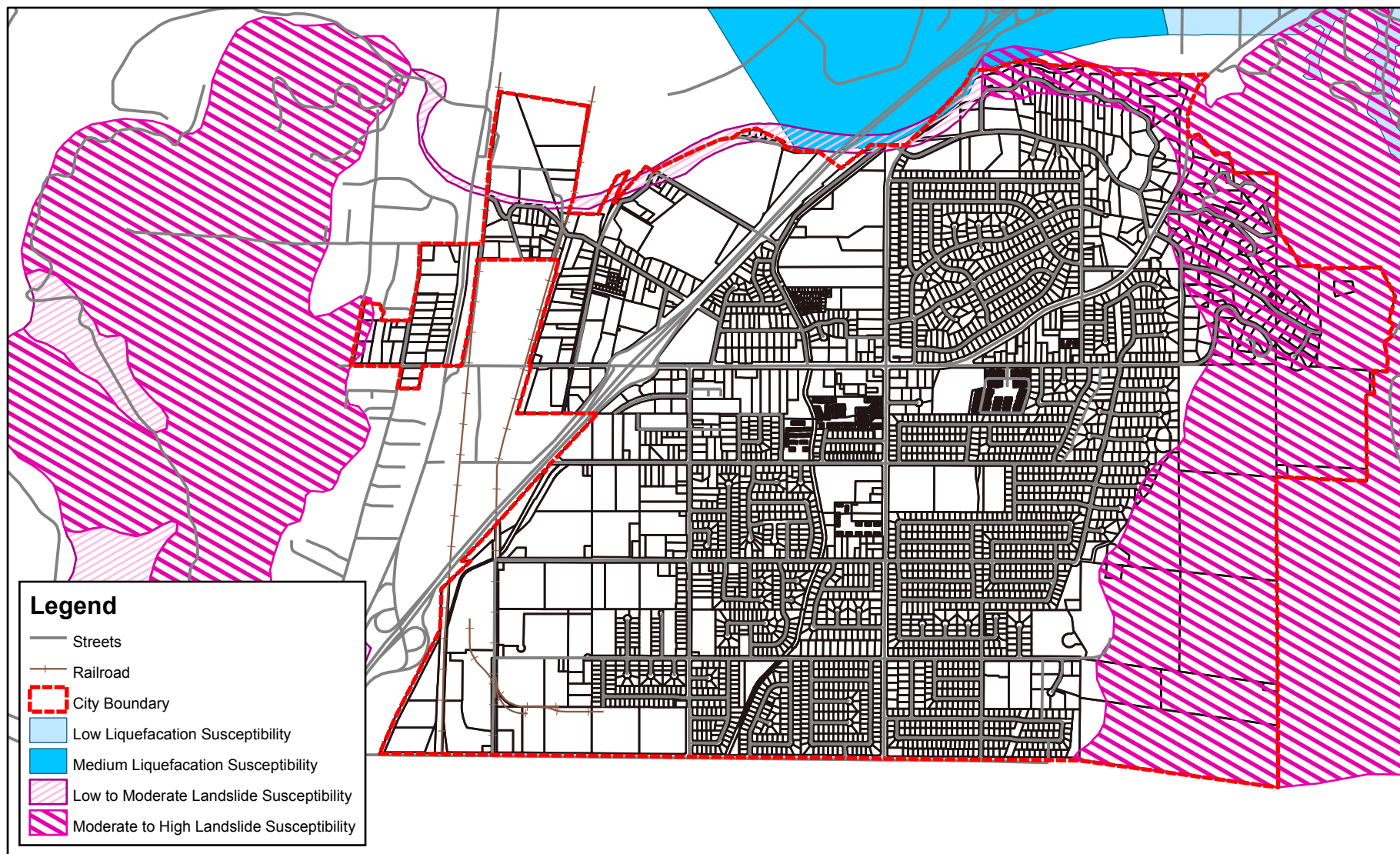
MITIGATION MEASURES

No mitigation measures are required.

LEVEL OF IMPACT SIGNIFICANCE AFTER MITIGATION

Impacts would be less than significant.

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CHAPTER 4F - HAZARDS/HAZARDOUS MATERIALS

This chapter provides information on safety hazards within the City, including environmental hazards associated with fire, emergency preparedness, and hazardous waste disposal.

4F.1 ENVIRONMENTAL SETTING

HAZARDOUS WASTE

Hazardous waste is generated by a multitude of uses, including manufacturing and service industries, small businesses, agriculture, hospitals, schools, and households. A material is hazardous when it exhibits corrosive, poisonous, flammable, and/or reactive properties and has the potential to harm human health and/or the environment. Hazardous materials are generally used to produce products that enable our society to enjoy a higher standard of living. Hazardous materials are used in products (household cleaners, industrial solvents, paint, etc.) and in the manufacturing of products (e.g., television sets, newspapers, plastic products, and computers).

Hazardous wastes are the chemical remains of hazardous materials that have no further intended use and which need treatment and/or disposal. Storage, transport, and disposal of these materials require careful and sound management practices.

AIRPORT HAZARDS

The City is not located within an airport land use plan or within two miles of a public airport. There are no public or private airports within the City limits. The closest public airports are San Bernardino International Airport located approximately 6.5 miles northeast and Ontario International Airport located 20 miles west of the City.

FIRE HAZARDS

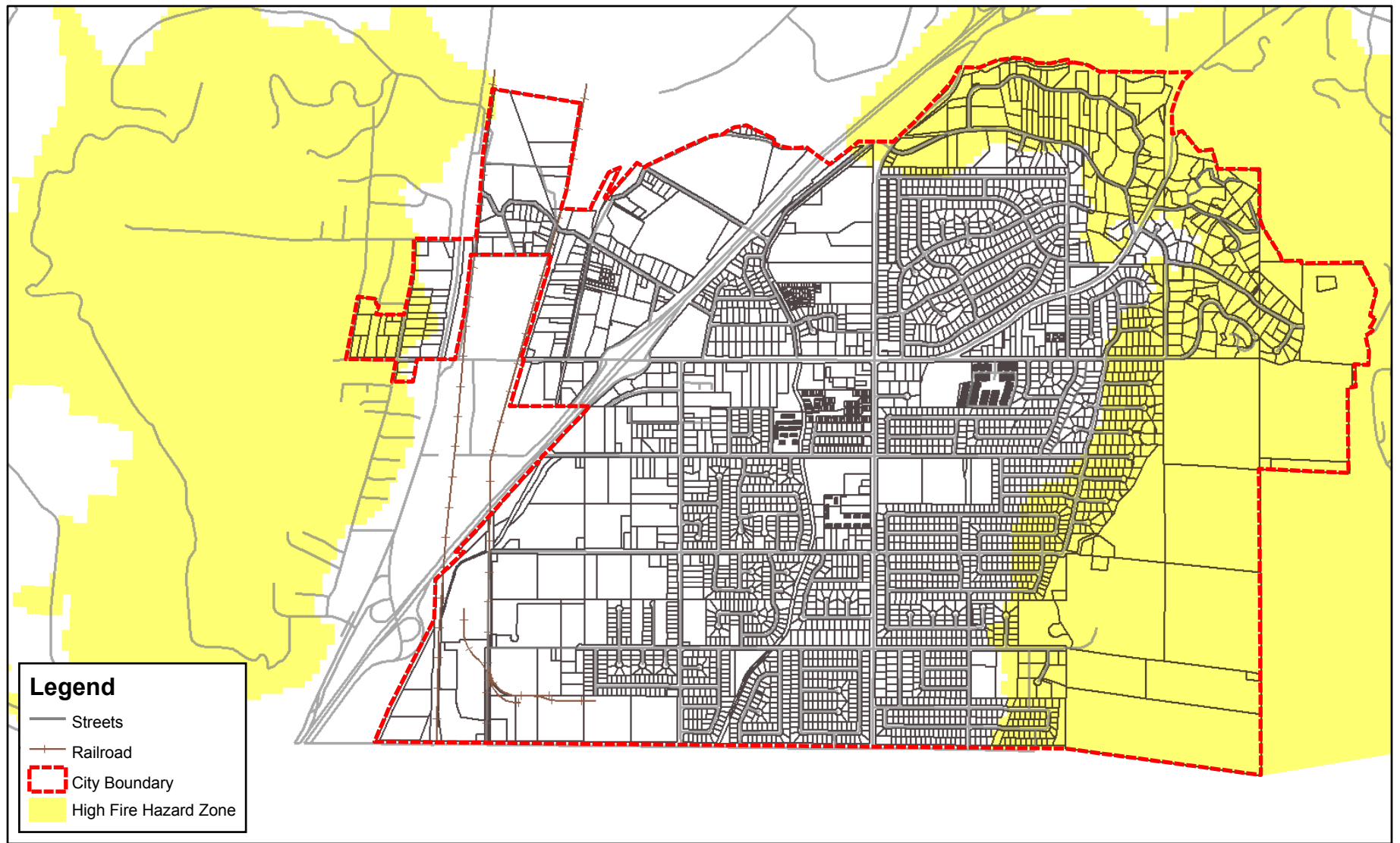
Fires have the potential to threaten human life, property, natural resources, and wildlife. They may occur in urban areas, wildland areas, or in the interface of both areas.

The majority of the City is urbanized. The City is primarily comprised of single-family residential neighborhoods with urban and industrial centers. The City is staffed by the San Bernardino County Fire Protection District, which provides fire protection services for the citizens of the area. The City is serviced by one central fire station, Fire Station Number 23 located at 22582 Center City Court. During major fire emergencies, additional fire protection units may be called in from other surrounding City and County Fire Departments as necessary.

The primary location for wildland fires in the City is the steep hillsides of Blue Mountain. Wildfires may also occur in the native areas along the Santa Ana River.

Wildland-urban fires may occur along the wildland-urban interface along the foot of Blue Mountain. The California Department of Forestry and Fire Protection (CALFIRE) has identified a Very High Fire Hazard Severity Zone within the City. Residential uses have been constructed along these areas that back up to an area of natural vegetation that is highly susceptible to fires. Exhibit 4F-1 illustrates the limits of the Very High Fire Hazard Severity Zone within the City. Construction in Very High Fire Hazard Severity Zone will be required to meet the

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requirements of Chapter 7A of the California Building Code relating to fire resistant rated construction.

REGULATORY SETTING

State and Federal Laws

Hazardous Waste Storage and Leakage Sites

State laws relating to the storage of hazardous materials in underground storage tanks include permitting, monitoring, closure, and cleanup requirements. Regulations set forth construction and monitoring standards, monitoring standards for existing tanks, release reporting requirements, and closure requirements. All new tanks must be double-walled, with an interstitial monitoring device to detect leaks. Soil and groundwater contamination from leaking underground storage tanks must be investigated and corrective action completed to ensure protection of human health, safety and the environment. The County of San Bernardino Fire Department is the local agency designated to permit and inspect underground storage tanks and to implement related regulations.

Hazardous Waste Management

State law requires planning by businesses to ensure that hazardous materials are properly handled, used, stored, and disposed of and to prevent or mitigate injury to human health or the environment in the event that such materials are accidentally released. State law requires that any business that handles hazardous materials prepare a business plan, which must include details, including floor plans of the facility and business conducted at the site; an inventory of hazardous materials that are handled or stored on-site; an emergency response plan; and, a safety and emergency response training program for new employees with annual refresher courses.

Hazardous Materials Transportation

The U.S. Department of Transportation (DOT) regulations govern all means of hazardous materials transportation, except for those packages shipped by mail, which are covered by U.S. Postal Service regulations. Under the Resource Conservation and Recovery Act (RCRA), the EPA sets standards for transporters of hazardous waste and the State of California regulates the transportation of hazardous waste in California, originating in the State, and passing through the State. In addition, the California Highway Patrol and the California Department of Transportation (Caltrans) have primary responsibility for enforcing federal and State regulations and responding to hazardous materials transportation emergencies.

Hazardous Waste Handling

Hazardous waste regulations, such as the RCRA of 1976 and the Hazardous and Solid Waste Act, establish criteria for identifying, packaging, and labeling hazardous wastes; prescribe management of hazardous wastes; establish permit requirements for hazardous waste treatment, storage, disposal, and transportation; and, identify hazardous wastes that cannot be disposed of in California landfills. Hazardous waste manifests list a description of the waste, its intended destination, and regulatory information about the waste.

Hazardous Materials Emergency Response

Pursuant to the Emergency Services Act, California has developed an Emergency Response Plan to coordinate emergency services provided by federal, State, and local governmental agencies and private persons. Response to hazardous materials incidents is one part of the plan. In addition, local agencies are required to develop area plans for response to releases of hazardous materials and wastes. These emergency response plans depend largely on the business plans submitted by persons who handle hazardous materials. An area plan must include pre-emergency planning and procedures for emergency response, notification, and coordination of affected governmental agencies and responsible parties, training and follow-up.

Local

Grand Terrace Hazardous Waste Management Plan/San Bernardino County Fire Protection District

The potential health hazards and environmental damage that may occur from the use of hazardous materials or their accidental release has previously been an issue of concern to the City. In response, the City adopted a City Hazardous Waste Management Plan in accordance to State law that regulates the use and generation of hazardous materials within the City and requires businesses to inventory amounts and types of their hazardous materials. Additionally, the San Bernardino County Fire Protection District requires that all businesses file a Hazardous Materials Business Plan to identify onsite materials in the event of an emergency.

Municipal Code

The Grand Terrace Municipal Code contains provisions in the Health and Safety and Building and Construction Codes that regulate the use, storage, transport and/or abatement of hazardous materials.

Grand Terrace General Plan

The following policies within the Proposed General Plan Update would ensure that the hazards associated with hazardous materials would be reduced to a less than significant level:

Land Use Element

Goal 2.3 Provide a wide range of retail and service commercial opportunities designed to meet the needs of the City's residents, businesses, and visitors while also providing employment opportunities.

Policy 2.3.5 Measures to reduce potential land use incompatibility between commercially designated areas and all other plan areas will be given special consideration. Specific features could include increased setbacks, walls, berms, and landscaping.

Goal 2.4: Provide for a mix of attractive industrial land uses designed to generate employment opportunities.

Policy 2.4.1: The City shall promote the development of employment generating, light, non-polluting industry, within the present land use pattern.

Policy 2.4.2: The City shall promote the development of light, non-polluting industrial uses within the City.

Policy 2.4.3: Whenever feasible, industrially designated areas shall be master planned to provide an “industrial park” character.

Policy 2.4.4: Buffering to prevent potential land use incompatibilities between industrial areas and other areas shall be given special consideration. Specific features could include increased setbacks, walls, berms, and landscaping.

Circulation Element

Goal 3.1 Provide a comprehensive transportation system that provides for the current and long-term efficient movement of people and goods within and through the City.

Policy 3.1.2 An arterial street system shall be established that provides for the collection of local traffic and provide for the efficient movement of people and goods through the City.

Action 3.1.3 a. As part of project review for proposed developments near I-215, require that they provide access to Commerce Way to avoid moving commercial traffic through residential areas of the City.

Goal 3.3: Provide for a safe circulation system.

Policy 3.3.4 The City shall route truck traffic away from residential areas and work with regional agencies in order to mitigate potential impacts from regional traffic.

Action 3.3.4 b. Review commercial and industrial projects to assure that truck traffic will not impact residential neighborhoods.

Open Space and Conservation Element

Goal 4.3 Public health and safety in the City of Grand Terrace shall be protected, in part, through open space areas.

Policy 4.3.7: Open space shall be used to protect public health and safety resulting from wild land fires in the City of Grand Terrace.

Policy 4.3.8: The City shall work with the San Bernardino County Fire Protection District to identify areas of the City that are subject to wild land fires.

Action 4.3.8 a. Work with the San Bernardino County Fire Protection District to identify areas subject to high fire hazard and establish development standards and mitigation measures if development is to occur in these areas.

Policy 4.3.9: The City shall apply a high fire overlay district to those areas in the City subject to wild land fires such as portions of Blue Mountain.

Policy 4.3.10: Areas of the City subject to wild land fires shall be evaluated to determine whether they should be designated as open space.

Goal 4.5 Protect and promote the beauty of Blue Mountain.

Policy 4.5.5 A fire overlay district shall be applied to Blue Mountain to protect both the future development that may be constructed on the lower, more gentle slopes at the foot of the mountain and also its natural beauty.

Public Health and Safety Element

Goal 5.4 Reduce the risk to life and property resulting from the use, transportation, storage, treatment, or disposal of hazardous materials and wastes.

Policy 5.4.1 The City shall require that all new businesses that produce, use, transport, store, treat, or dispose of hazardous materials and wastes are located away from sensitive land uses such as residences, schools, and hospitals.

Policy 5.4.2 The City shall designate roadways within the City limit that may be used for the transportation of hazardous materials within and through the City.

Policy 5.4.3 The City shall assist the San Bernardino County Fire Protection District in providing public information to the general public regarding the proper transportation, storage and disposal of hazardous materials.

Policy 5.4.4 The City shall participate in San Bernardino County Fire Protection District household hazardous waste collection programs.

Goal 5.5 Maintain a high degree of readiness to respond to natural and man-made disasters.

Policy 5.5.1 Maintain effective emergency preparedness and response programs; and coordinate with appropriate public agencies to develop a regional system to respond to natural and man-made emergencies and catastrophes.

Action 5.5.1 a. Regularly review and update as needed the City's Emergency Operations Plan in consultation with San Bernardino County authorities and update it as needed to stay current with State guidelines and local needs.

Action 5.5.1 b. Continue to support area wide mutual aid agreements and communication links with San Bernardino County authorities and other participating jurisdictions.

Action 5.5.1 c. Continue to conduct citywide earthquakes drills, and encourage communication and cooperation between emergency response staff and designated contacts at hospitals, high-occupancy buildings, and dependent care facilities.

- Policy 5.5.2 Establish a working relationship with local amateur radio clubs and secure their voluntary participation in disaster recovery.
- Policy 5.5.3 Ensure adequate provision of public information to residents and businesses on actions to minimize damage and facilitate recovery from a natural disaster.
- Action 5.5.3 a. Cooperate with other agencies in the preparation and dissemination of public information materials to assist residents and business owners in responding to local disasters.
- Goal 5.6 Minimize the exposure of residents, business owners, and visitors to the impacts of urban and wildland fires.
 - Policy 5.6.1: The City shall apply a high fire overlay district to those areas in the City subject to wild land fires such as portions of Blue Mountain.
 - Action 5.6.1 a. As part of the General Plan and Zoning Ordinance updates, designate areas subject to high fire hazards with an overlay zone that establishes special development standards and criteria to mitigate the potential fire hazard
 - Action 5.6.1 b. Review the vulnerability of new development in areas with the potential for wildland-urban interface fires and incorporate appropriate mitigation measures in the conditions of approval.
 - Policy 5.6.2 Continue the weed abatement program to ensure clearing of dry vegetation areas.
 - Policy 5.6.3 Encourage the use of fire-resistive construction materials.
 - Action 5.6.3 a. Encourage property owners with wood roofs and flammable siding to replace them with Class-A, non-wood roof systems, and other fire-resistive materials.

Public Services Element

- Goal 7.6 Provide for adequate fire protection services and facilities.
 - Policy 7.6.1 Work with the San Bernardino County Fire Protection District to ensure that adequate fire protection personnel, response times, and equipment are available to meet current and future demands of the City's residents and businesses.
 - Policy 7.6.2 Work with Riverside Highland Water Company to ensure adequate water pressure for fire fighting throughout the City.
 - Policy 7.6.3 Maintain and expand existing fire prevention and public education programs.

4F.2 SIGNIFICANCE THRESHOLD CRITERIA

The criteria used to determine the significance of impacts on hazards and hazardous materials are taken from City-approved Thresholds of Significance based on the City's Initial Study and the model Initial Study checklist in Appendix G of the State *CEQA Guidelines*. A significant impact would occur if implementation of the proposed General Plan Update and Amendment to the Redevelopment Plan would:

- 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;
- Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school;
- Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan; or
- Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands.
- The following impacts were not identified as being potentially significant in the Initial Study (Appendix A) and will not be discussed further in this Program EIR:
- Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials;
- 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 for people residing or working in the project area; and
- For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area.

4F.3 IMPACTS AND MITIGATION MEASURES

IMPACT 4F-1 The Proposed Project would have a significant impact if it would 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.

Many types of businesses utilize hazardous substances as part of their routine operations. Currently, there are a variety of existing business operations in the City use, store, or transport hazardous substances, as well as generate hazardous waste. New non-residential development within the City may result in an increase in commercial and industrial land uses involving the use of hazardous materials or generation of hazardous waste. The types and quantities of hazardous materials utilized by the various types of businesses that could locate in the City would vary tremendously and, as a result, the nature of potential hazards would also be varied. Such substances can range from common automobile oil and household pesticides to chlorine,

dry-cleaning solutions, ammonia, or substances used in commercial and industrial operations. Since the proposed General Plan does not include any specific development projects, no specific type of hazard associated with these materials can be identified and the likelihood of a hazard presenting a serious health or safety to the public cannot be determined at this time. However, it can be generally concluded that any additional non-residential development within the City would result in an increase in the use and transport of hazardous materials and an increase in generation of hazardous waste. The consequence of this increased presence of hazardous materials in the City is an increase in the potential for human exposure to these substances, with possible public health and safety consequences.

However, with implementation of the proposed General Plan, the amount of land dedicated to industrial uses would be reduced. Former industrial land use designations are proposed to be replaced with public, general commercial, and mixed-use land use designations in the southwestern portion of the City. In addition, general commercial land uses are proposed to be replaced with mixed-use. The total decrease of dedicated industrial and commercial uses and the increase in mixed-use designations would result in a decrease in the amount of hazardous materials used, generated, or transported.

New development that locates near residential areas or within one-fourth ($\frac{1}{4}$) mile from a school could expose these sensitive land uses to greater risk of exposure to hazardous materials, wastes, or emissions. Policy 2.4.4 in the Land Use Element of the proposed General Plan Update ensures that adjacent land uses are compatible with one another so that sensitive receptors are protected from impacts associated with hazardous materials, reducing impacts to a less than significant level. In addition, as described previously, there are several federal, State, and local regulatory agencies that oversee hazardous materials handling and management. Oversight by the appropriate agencies and compliance with applicable regulations are considered adequate to offset the negative effects related to the use and transport of hazardous materials in the City.

Implementation of General Plan Policies and Actions regarding land use buffering (Policies 2.3.5 and 2.4.1 through 2.4.4), extension of business routes (Policy 3.1.2), and truck route designation (Policies 3.3.4, 5.4.1 and 5.4.2) and Policies 5.4.3 and 5.4.4 regarding public information on hazardous waste use and collection will all serve to minimize potential impacts associated with potential releases of hazardous materials into the environment. These policies would ensure that the hazards associated with hazardous materials would be reduced to a less than significant level.

MITIGATION MEASURES

No mitigation measures beyond the policies identified in the proposed General Plan Update are required.

LEVEL OF IMPACT SIGNIFICANCE AFTER MITIGATION

Impacts would be less than significant.

IMPACT 4F-2	The Proposed Project would have a significant impact if it would emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school.
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Schools are one of many sensitive receptors that must be taken into consideration when the City is approving new land uses or transportation routes that may accommodate the production, storage, or transport of hazardous materials and waste. Overall, the General Plan Update decreases the area of land designated for industrial uses and, therefore, reduces the future number of potential emitters or handlers of hazardous materials, substances, or waste City-wide. Build out would result in increased population levels within the City, thus increasing the number of school-age children in the City. A potential increase in levels of residential development could create an increase in student generation (dependent upon future household sizes and household make-up), and could possibly necessitate the need to construct additional school facilities. New school sites should be evaluated for their proximity and potential exposure to hazardous materials as they are proposed for development, and new locations should be chosen to minimize that exposure.

In addition to general CEQA requirements, projects involving school site acquisition to be funded under the State School Facilities Program must also satisfy several specific requirements established in the California Education Code and California Code of Regulations. These regulations require that potential school hazards relating to soils and geology, hazards and hazardous materials, and flooding are addressed at the time of site selection. Compliance with these requirements will prevent any significant hazard impacts related to the siting of new schools within the City.

In addition, implementation of General Plan Policies and Actions regarding land use buffering (Policies 2.3.5 and 2.4.1 through 2.4.4), extension of business routes (Policy 3.1.2), truck route designation (Policies 3.3.4, 5.4.1 5.4.2), and dissemination of public information on hazardous waste use and collection (Policies 5.4.3 and 5.4.4) will all serve to minimize potential impacts associated with potential releases of hazardous materials near schools. The above mentioned policies and regulations would ensure that potential hazard impacts related to schools would be reduced to a less than significant level.

MITIGATION MEASURES

No mitigation measures are required.

LEVEL OF IMPACT SIGNIFICANCE AFTER MITIGATION

Impacts would be less than significant.

IMPACT 4F-3 The Proposed Project would have a significant impact if it would impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.

In the event of an emergency, all cities are required to be adequately prepared to respond in a timely manner. Emergency response directly relates to the protection of human health and safety as well as the welfare of the general public in times of natural or manmade emergency situations. Emergencies that may require a city response include:

- Major floods or dam inundation
- Earthquakes
- High winds

- Wildfires
- Hazardous materials accidents
- Major transportation accidents
- Industrial explosions

The City maintains an emergency operations center that is staffed by the Emergency Operations Committee, a team of volunteers and City staff trained to in emergency response. In addition, the City participates in the Statewide Master Mutual Aid Agreement as well as Mutual Aid Agreements with San Bernardino County and surrounding cities. The Federal Emergency Management Agency (FEMA) also provides emergency response services at a federal level. Emergency response drills are held on a regular basis.

The City also maintains a Community Emergency Response Team (CERT) program. The CERT program provides participants with "hands-on" practical training that will enable them to effectively plan for and respond to an earthquake, or other emergencies in and around their neighborhood. CERT. is about readiness, people helping people, rescuer safety, and doing the greatest good for the greatest number. CERT was first established by the Los Angeles City Fire Department (LAFD) in 1986. In 1993, the Federal Emergency Management Agency (FEMA), using LAFD's model, began promoting nationwide use of the CERT concept. Since then, CERT has been established in all 50 States. The City regularly conducts CERT training for those volunteers that wish to become CERT certified, and monthly meetings are held.

The American Red Cross also provides emergency support services ranging from a single displaced family at a residential fire to community-wide disaster relief. The Red Cross designates area disaster team coordinators who can immediately coordinate with local emergency service agencies and school districts to establish emergency shelters for displaced families. The Red Cross also assists in evacuations, identifying missing persons, and reuniting displaced families.

Evacuation Routes

The San Bernardino County General Plan identifies potential evacuation routes in and around the City. These include I-10, I-215, and I-15. Major evacuation routes within the City include Barton Road, La Cadena Avenue, and Mount Vernon Avenue. Specific evacuation routes depend upon the type of emergency, its location, and any damage caused to the circulation system.

Implementation of General Plan Goal 5.5, Policies 5.5.1 through 5.5.3 and related Actions will ensure that the City prepares for emergency responses throughout the City.

MITIGATION MEASURES

No mitigation measures are necessary.

LEVEL OF IMPACT SIGNIFICANCE AFTER MITIGATION

Impacts would be less than significant.

Impact 4F-4 The Proposed Project would have a significant impact if it would expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands.

Wildland fires would continue to pose a significant threat to the people and structures of Grand Terrace. The majority of the City is highly urbanized and relatively built out; however, the Blue Mountain area is more susceptible to wildland fires as a result of its larger proportion of vegetation and open space.

Other factors contribute to the severity of fires including weather and winds. Specifically, winds commonly referred to as Santa Ana winds, which occur during fire season (typically from June to the first significant rain in November) are significant. Such “fire weather” is characterized by several days of hot dry weather and high winds, resulting in low fuel moisture in vegetation.

Wildland-urban interface fires may occur in areas where urban land uses abut native areas. Under these conditions, wildfires may threaten urban uses. In the City, CALFIRE has identified a Very High Fire Hazard Severity Zone within the City. Residential uses have been constructed along these areas that back up to an area of natural vegetation that is highly susceptible to fires. Exhibit 4F-1 illustrates the limits of the Very High Fire Hazard Severity Zone for the City. Construction in Very High Fire Hazard Severity Zone will be required to meet the requirements of Chapter 7A of the California Building Code relating to fire resistant rated.

The primary source of fire suppression is through the application of water. Most structures and wildland fires are suppressed by the direct application of water. Therefore, an adequate supply of available water at a high pressure is critical in fighting fires. Water to the City is provided by the Riverside Highland Water Company (RHWC). RHWC maintains a series of wells, reservoirs, and transmission mains to provide water for domestic and fire fighting purposes.

The San Bernardino County Fire Protection District has established general fire flow requirements for new development in accordance with the California Fire Code, which takes into consideration, amongst other things, occupancy type and building size.

Implementation of General Plan Policies and Actions that encourage the application of an open space land use designation to high fire hazard areas (Policy 4.3.7 and 4.5.5), policies that ensure adequate fire fighting capacity and adequate water supply and pressure (7.6.1 and 7.6.2) and policies that encourage public fire education (7.6.3) will all help minimize potential impacts associated with potential releases of hazardous materials. Policies 5.6.1 through 5.6.3 and their implementing Actions will also ensure that impacts to wildland and urban interface fires are minimized.

MITIGATION MEASURES

The above mentioned policies and regulations would ensure that the hazards associated with wildland fires would be reduced to a less than significant level.

LEVEL OF IMPACT SIGNIFICANCE AFTER MITIGATION

Impacts would be less than significant.

IMPACT 4F-5 The Proposed Project would have a significant impact if it is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, it would create a significant hazard to the public or environment.

There are two sites in the City limits that are listed on a list of hazardous materials sites according to the Department of Toxic Substances Control (DTSC). One site is located at 21750 Main Street. Riverside Plating operated on this property from approximately 1966 to 1973 and conducted plating operations including hard and regular anodizing, cadmium plating, zinc plating, chrome plating and black oxide processing. K & J Plating continued the decorative chrome process, the cadmium plating process and the black oxide process until 1999 when all operations ceased. Soil sampling and groundwater investigation revealed contamination from metals. Currently K&N Engineering, Inc. is in the process of entering into a Consultative Services Agreement with DTSC to begin cleanup of the property.

The second site is located within the boundaries of High School No.3. The High School No. 3 site consists of several parcels utilized in various agricultural and commercial activities, including several lumber companies, automotive repair facilities, a charter bus company, and a landscaping company. Portions of this site have been used for agricultural activities since 1930. Underground storage tanks have been removed from the site. According to DTSC Project Manager Angela Ortega, small portion of the site contains soil contaminants; however, the property owner and the DTSC are currently entering an agreement to address the remnant site, including possible use restrictions.

The two sites are under clean-up activities as regulated by the DTSC. Additionally, applicable General Plan Policies and implementing Actions, including Goal 5.4 and Policies 5.4.1 and 5.4.2 5.4.3 would also apply to hazardous materials. Therefore, the listing of these two sites does not create a significant hazard to the public or environment.

MITIGATION MEASURES

No mitigation measures beyond the policies identified in the proposed General Plan Update are required.

LEVEL OF IMPACT SIGNIFICANCE AFTER MITIGATION

Impacts would be less than significant.

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CHAPTER 4G - HYDROLOGY/WATER QUALITY

This Chapter describes the existing conditions related to hydrology and drainage within the City. Identification of hydrologic and drainage impacts that could result from implementation of the proposed General Plan Update and appropriate mitigation measures are provided.

4G.1 ENVIRONMENTAL SETTING

The Riverside Highland Water Company (RHWC) provides water service for the City. The company is a private water company owned by its shareholders. The company maintains main water transmission lines, wells, reservoirs, and service laterals through the City and is directly responsible for their ongoing maintenance. RHWC extracts water from four groundwater basins including: San Bernardino Basin, Colton Basin, Riverside North Basin, and Riverside South Basin.

FLOODPLAINS

Hazards associated with flooding may result in personal injury and property damage. The primary flood hazard in Grand Terrace is the Santa Ana River located along the northwest corner of the City. This floodplain has been mapped by FEMA which assesses the flooding potential. As indicated in Exhibit 4G-1, FEMA has designated a strip along the Santa Ana River as a 100-year floodplain. This indicates that the subject area has a potential of a major flood sometime within a span of 100 years. The potential elevation of floodwaters from the 100-year event is also provided. A secondary area with a potential for flooding within a 500 year time span is also indicated. The placement of various land uses within a 100-year floodplain are dependent upon the specific use. Table 4G-1 summarizes the compatibility of specific land uses within a floodplain.

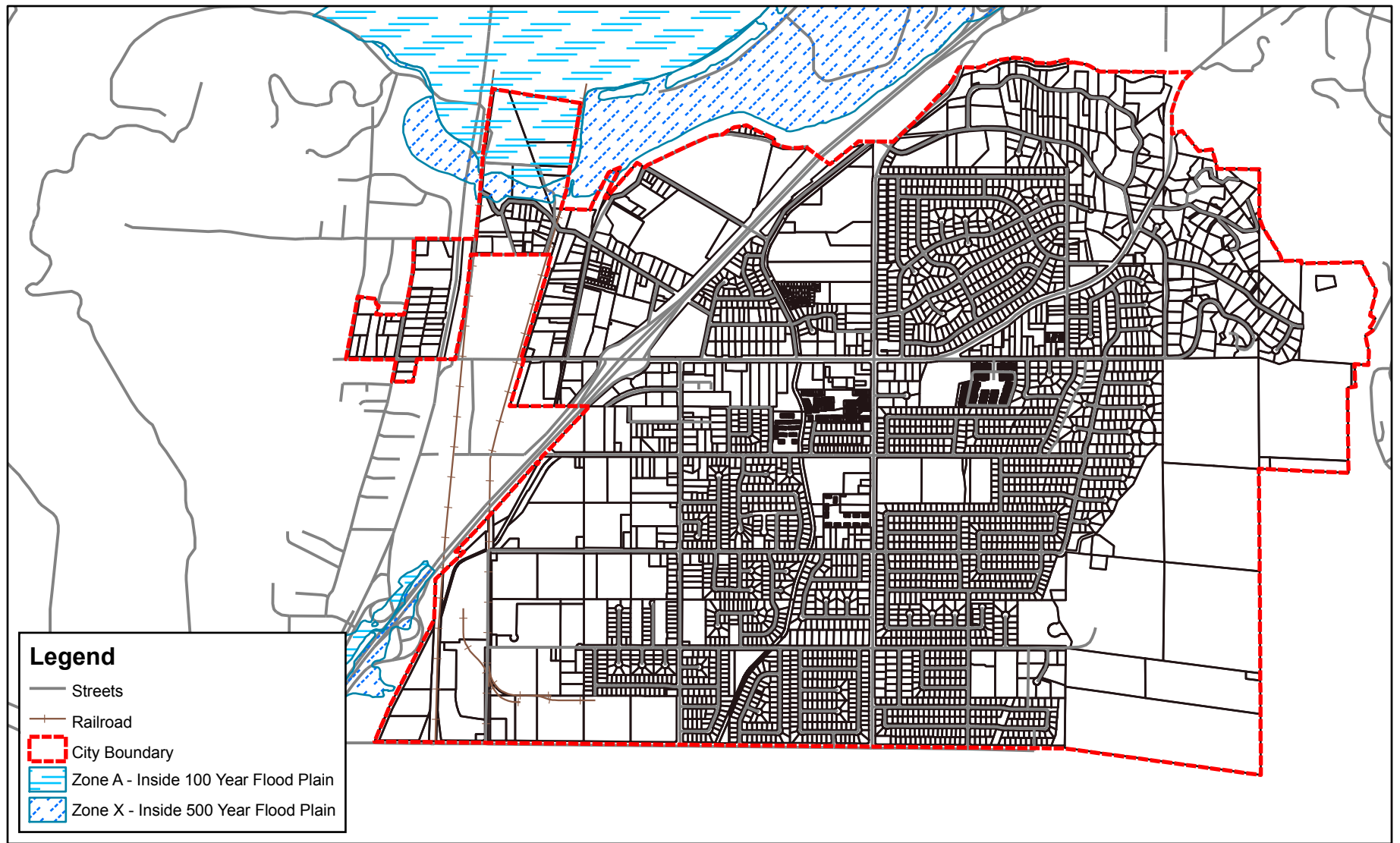
LOCAL FLOOD HAZARDS

In addition to flooding from a river, flood hazards may exist due to intense rainfall on steep slopes. The majority of the City is located on the alluvial fan of Blue Mountain. There is a general grade of 7 percent from the base of Blue Mountain to the southwest corner of the City. During times of heavy rainfall, the potential for runoff from the slopes of Blue Mountain increase. Urban development of the City has also greatly increased the amount of impermeable surface (i.e. roof tops and paved streets) that has greatly increased the amount of runoff from the urban areas of the City. These two major sources of runoff combined with steep slopes may result in a potential for flooding within the City.

DAM INUNDATION

There are no major dams located within the City. The only major dam that could impact the City is the Seven Oaks Dam located northeast of the City of Highland. In the event that this dam failed, it would eventually enter the Santa Ana River floodplain as it passes Grand Terrace. This increased water volume could potentially flood the lower elevations of the northwest corner of the City along the river's course.

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**Table 4G-1
100-Year Floodplain Compatibility**

Use Designation	Land Uses	Compatibility
Critical	Nuclear power facilities, major dams, hazardous materials manufacturing, storage or handling, hospitals	Restricted
Essential	Emergency services (police & fire), emergency operations centers, power facilities, sewage treatment plants, water works, gas and power lines, major highways, public assembly facilities (300+ capacity), schools	Restricted
High Occupancy	Multi-family residential (20+ units) major commercial centers, large hotels, health clinics, heavy industry, gas stations, convalescent homes	Generally Incompatible
Normal Risk	Single family residential, multi-family residential (-20 units), small hotels, light industry, warehousing	Generally Incompatible
Low Risk	Open Space, agriculture	Generally compatible

¹ Restricted refers to uses restricted unless alternative sites are not available or feasible and a site investigation demonstrates that hazards can be adequately mitigated.

² Generally incompatible refers to uses that are restricted unless a site investigation demonstrates that a site is suitable or the flood hazard can be adequately mitigated.

REGULATORY SETTING

State and Federal Requirements

Clean Water Act

Passed in 1972, the Clean Water Act (CWA) established the National Pollutant Discharge Elimination System (NPDES) permit program. The CWA prohibits the discharge of pollutants from point sources to United States (U.S.) waters unless an NPDES permit authorizes the discharge. It requires that municipal NPDES permits include a requirement to prohibit non-stormwater discharges into the storm sewer and controls to reduce the discharge of pollutants in stormwater discharges to the maximum extent practicable, including management practices, control techniques, system design and engineering methods and such other provisions that the U.S. EPA or the California State Water Resources Control Board deem appropriate for the control of such pollutants.

Reduction of conventional forms of pollution, such as sewage treatment plants and industrial facilities has been considerable since implementation of the NPDES program. However, it was shown that pollution from land runoff contributed a larger portion of pollutants than the regulated conventional sources. The 1987 CWA amendments established a framework for regulating urban storm water runoff. Urban runoff includes dry and wet weather flows from urbanized areas through a stormwater conveyance system. Pollutants can be intercepted and deposited into U.S. waters as water flows over streets, parking lots, construction sites and industrial, commercial, residential, and municipal areas. If not properly controlled, urban runoff could be a significant source of pollutants in U.S. waters.

National Pollution Discharge Elimination System (NPDES) Stormwater Program

The NPDES Stormwater Program is a comprehensive two-phased national program for addressing the non-agricultural sources of stormwater discharges adversely affecting the quality of the nation's waters.

The purpose of the NPDES program is to establish a comprehensive stormwater quality program to manage urban stormwater that minimizes pollution of the environment to the maximum extent practicable (MEP). The NPDES program consists of: 1) characterizing receiving water quality, 2) identifying harmful constituents, 3) targeting potential sources of pollution, and 4) implementing a Comprehensive Stormwater Management Program (CSWMP). The reduction of pollutants in urban stormwater discharge to the MEP through the use of structural and nonstructural Best Management Practices (BMPs) is one of the primary objectives of the water quality regulations. Implementation of the NPDES program is delegated to cities, and cities implement the program throughout the development and post development process through the submittal of various plans, such as a Water Quality Management Plan, Hydrology Plan, grading and drainage plans that incorporate BMP's, and documentation that stormwater permits have been obtained, if required.

The Program uses the NPDES permitting mechanism to require control and monitoring measures designed to prevent harmful pollutants from being washed into local bodies by stormwater runoff. The NPDES program requires the owner or operator of any facility, or any person responsible for any activity that discharges waste into the surface waters of the U.S. to obtain a NPDES permit from the Regional Water Quality Control Board, as mandated by the Clean Water Act.

NPDES Phase I (General Construction Activity Stormwater Permit)

Phase I of the NPDES program addresses stormwater runoff from: 1) medium and large municipal separate storm sewer systems (MS4s) generally serving populations of 100,000 or greater; 2) construction activities disturbing five acres of land or greater; and 3) ten categories of industrial activities. With respect to the disturbance of five acres of land or greater, the State Water Resources Control Board (SWRCB) issued one Statewide General Construction Activity Stormwater Permit on August 20, 1992 to apply to all construction activities. The permit requires discharges associated with construction activities to:

- Eliminate or reduce non-stormwater discharges to stormwater systems and other waters of the U.S.;
- Develop and implement a Stormwater Pollution Prevention Plan (SWPPP); and
- Perform inspections of stormwater control structures and pollution prevention measures.

A SWPPP prepared in compliance with the permit describes the site, erosion and sediment controls, runoff water quality monitoring, means of waste disposal, implementation of approved local plans, control of post-construction sediment and erosion control measures and maintenance responsibilities, and non-stormwater management controls. Dischargers are also required to inspect construction sites before and after storms to identify stormwater discharge from construction activity, and to identify and implement controls where necessary. Developers would be required to submit a Notice of Intent (NOI) to the SWRCB for coverage under the permit and would be required to comply with all the requirements.

NPDES Phase II

New NPDES Phase II stormwater regulations were finalized and issued by the EPA in January 2000 in an effort to continue to preserve, protect and improve the Nation's water resources from polluted stormwater runoff. These new regulations are designed to implement programs to control urban stormwater runoff from additional MS4s in urbanized areas and operations of small construction sites that were not already covered by the Phase I NPDES permits. The main objectives of the Phase II regulations are to: 1) reduce, to the maximum extent possible, the amount of pollutants being discharged, and 2) protect the quality of the receiving waters.

To meet this goal, the permittee must implement a stormwater management program that addresses six minimum control measures including: 1) public education and outreach, 2) public participation/involvement, 3) illicit discharge detection and elimination, 4) construction site stormwater runoff control for sites greater than one acre, 5) post-construction stormwater management in new development and redevelopment, and 6) pollution prevention/good housekeeping for municipal operations. These controls will typically be addressed by developing BMPs.

Regional

Riverside Highland Water Company Urban Water Management Plan

This plan is prepared every five years to address changes in the availability of water or the provision of water services to the Water Company's customers. The Plan discusses historic and future water demand, existing and planned sources of water, groundwater basin management, water conservation and education programs, and the reliability of water supplies.

Santa Ana River Integrated Watershed Management Plan

This plan address resources in the Santa Ana River Watershed including hydrogeology, land use, biological resources, water supply, water quality, flood control, and demographics. The plan also presents regional watershed management practices including water storage, water quality improvements, water recycling, flood control, wetlands and sensitive habitat protection, recreational opportunities, and water conservation.

Water Quality Control Plan, Santa Ana River Basin

The Santa Ana Basin Water Quality Control Plan establishes water quality standards for all ground and surface waters within the watershed. The plan describes policies and programs designed to maintain water quality standards throughout the basin.

Local

Municipal Code

The Grand Terrace Municipal Code contains Chapter 13.20 Stormwater System. The purpose this chapter is to ensure health and by controlling and/or eliminating non-stormwater discharges into the city storm drain system. This is accomplished by eliminating all non-permitted discharges to the municipal separate storm sewers, controlling the discharge to municipal separate storm sewers from spills, dumping or disposal of materials other than stormwater, and

reducing pollutants in stormwater discharges to the maximum extent practicable. It also protects and enhances the water quality of our watercourses, water bodies, groundwater and wetlands.

General Plan

Implementation of the following General Plan policies will protect the City's water quality and water resources, meet waste discharge requirements, and protect the community from flood hazards.

Open Space and Conservation Element

Goal 4.3 Public health and safety in the City of Grand Terrace be protected, in part, through open space areas.

Policy 4.3.3: Open space shall be used to protect public health and safety resulting from flood hazard conditions in the City of Grand Terrace.

Policy 4.3.4: The City shall periodically review the flood hazard maps to identify potential flood hazards.

Policy 4.3.5: Those areas subject to flood hazard shall be placed in a flood hazard overlay zone.

Policy 4.3.6: Areas of the City subject to flood hazard shall be evaluated to determine whether they should be designated as open space.

Goal 4.8: Achieve regional water quality objectives and protect the beneficial uses of the regions surface and groundwater.

Policy 4.8.1: Evaluate all proposed land use and development plans for their potential to create groundwater contamination hazards from point and non-point sources, and cooperate with other appropriate agencies to assure appropriate mitigation.

Policy 4.8.2 Comply with the requirements of the National Pollutant Discharge Elimination System (NPDES).

Public Health and Safety Element

Goal 5.3 Reduce the risk to life and property in areas designated as flood hazard areas.

Policy 5.3.1 All development proposed within a designated 100-year floodplain shall be reviewed to assure that all structures designated for human habitation are adequately protected from flood hazards.

Policy 5.3.2 The City shall work with the San Bernardino County Flood Control District and Army Corps of Engineers to provide adequate flood protection along the Santa Ana River.

Policy 5.3.3 The City shall evaluate the flood control system of the City and improve it as required and as funds become available.

- Action 5.3.3 b. Review all proposed development projects for their impact to the City storm drain system. Require hydrology studies for new development projects that have a potential to impact the drainage system and condition projects to construct onsite and offsite drainage facilities to mitigate project-specific impacts.
- Policy 5.3.4 The City shall require all development projects to comply with the National Pollutant Discharge Elimination System (NPDES) and implement appropriate Best Management Practices.
- Action 5.3.4 a. All development projects that fall under the provisions of the NPDES program shall be conditioned to prepare and implement a Stormwater Pollution Prevention Plan (SWPPP) for construction and a Water Quality Management Plan for long-term operation.

Public Services Element

- Goal 7.2 Provide a water system that produces high quality water at sufficient pressure and with adequate quantity to meet current and future domestic demand.
 - Policy 7.2.1 Continue to work with Riverside Highland Water Company to provide efficient and economic distribution of an adequate water supply.
 - Policy 7.2.2 Work with Riverside Highland Water Company to ensure that the City's water supply meets or exceeds State and Federal health standards.
 - Policy 7.2.3 Work with Riverside Highland Water Company to promote water conservation and education programs.
- Goal 7.3: Provide a safe and efficient sanitary sewer system to meet the current and future needs of the City's residents and businesses.
 - Policy 7.3.1: Work with the City of Colton to ensure a quality wastewater treatment system that meets or exceeds all State and federal health standards.

Sustainable Development Element

- Goal 9.7: Reduce the City's per capita demand for water consumption.
 - Policy 9.7.1: The City shall work with Riverside Highland Water Company to reduce water consumption throughout the City.
 - Action 9.7.1 a. The City shall coordinate public education efforts regarding water conservation.
 - Action 9.7.1 b. The City shall support Riverside Highland Water Company in exploring the use of reclaimed water.
 - Policy 9.7.2: The City shall incorporate water conservation into the development review process.

4G.2 SIGNIFICANCE THRESHOLD CRITERIA

The criteria used to determine the significance of impacts on hydrology and water quality are taken from City-approved Thresholds of Significance based on the City's Initial Study and the model Initial Study checklist in Appendix G of the State *CEQA Guidelines*. A significant impact would occur if implementation of the proposed General Plan Update and Amendment to the Redevelopment Plan would:

- Violate any water quality standards or waste discharge requirements;
- Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted);
- Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner, which would result in substantial erosion or siltation on or offsite;
- Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner, which would result in flooding on or offsite;
- Create or contribute runoff water, which would exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff;
- Otherwise substantially degrade water quality;
- Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map;
- Place within a 100-year flood hazard area structures which would impede or redirect flood flows; or
- Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam.

The following impact was not identified as being potentially significant in the Initial Study (Appendix A) and will not be discussed further in this Program EIR:

- Cause or expose people and structures to inundation by seiche, tsunami, or mudflow.

4G.3 IMPACTS AND MITIGATION MEASURES

IMPACT 4G-1 The Proposed Project would have a significant impact if it would violate water quality standards and waste discharge requirements, or otherwise substantially degrade water quality.

Future development projects resulting from implementation of the proposed General Plan Update and Amendment to the Redevelopment Plan may contribute to water quality degradation in the City. Runoff from disturbed areas would likely contain silt and debris, resulting in a short-term increase in the sediment load of the stormdrain system serving the City. There is also the possibility for chemical releases at future construction sites. Substances such as oils, fuels, paints, and solvents may be transported to nearby drainages, watersheds and groundwater in storm runoff, wash water, and dust control water. The significance of these water quality impacts would vary depending upon the level of construction activity, weather conditions, soil conditions, and increased sedimentation of drainage systems within the area.

Implementation of the proposed General Plan Update and Amendment to the Redevelopment Plan may generate wastewater during construction of individual development projects that would adversely affect water quality beyond standards specified by the State Water Resources Control Board (SWRCB). The City has acknowledged the importance of protecting its water resources and has identified protection of water resources as General Plan Goals (4.8, 7.2 and 7.3) in the proposed General Plan Update. General Plan Policies (Policies 4.8.1, 4.8.2, 5.3.4, 7.2.1, 7.2.2, and 7.3.1, including their implementing Action) that reinforce compliance with the National Pollutant Discharge Elimination System (NPDES), encourage teamwork with the local water supplier to achieve water quality and wastewater discharge standards, and promote public education about water conservation and pollution, will minimize potential impacts related to water quality.

MITIGATION MEASURES

No mitigation measures are required.

LEVEL OF IMPACT SIGNIFICANCE AFTER MITIGATION

Impacts would be less than significant.

IMPACT 4G-2 The Proposed Project would have a significant impact if it would substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level.

The Riverside Highland Water Company (RHWC) provides water service for the City. RHWC is a private water company owned by its shareholders. The company maintains main water transmission lines, wells, reservoirs, and service laterals through the City and is directly responsible for their ongoing maintenance. RHWC extracts water from four groundwater basins including: San Bernardino Basin, Colton Basin, Riverside North Basin, and Riverside South Basin.

Implementation of the proposed General Plan Update would increase the population and businesses within the City, and ultimately increase the demand for water supplies. Implementation of the proposed General Plan Update would result in a 26.4 percent increase in the amount of residential units. Non-residential development would increase approximately 42.8 percent as a result of implementation of the proposed General Plan Update. Projected development would further constrain the water supply.

Water conservation in southern California became increasingly important in the 1980s and early 1990s, when the entire region suffered a severe drought. Drought conditions in southern

California directly affect groundwater recharge and groundwater supplies. Grand Terrace has recognized the importance of water conservation. The City has acknowledged the importance of protecting and conserving its water resources and has identified protection of water resources as Goals (7.2 and 9.7) in the proposed General Plan Update. Implementation of General Plan Policies 7.2.1, 7.2.3, 9.7.1, 9.7.2 and associated implementing Actions will conserve and enhance the City's water supply and will minimize potential impacts related to groundwater supplies.

MITIGATION MEASURES

No mitigation measures are required.

LEVEL OF IMPACT SIGNIFICANCE AFTER MITIGATION

Impacts would be less than significant.

IMPACT 4G-3 The Proposed Project would have a significant impact if it would result in impacts to drainage patterns in the City of Grand Terrace and contribute runoff water to the stormwater drainage systems in the City. In addition, implementation of the proposed General Plan Update and Amendment to the Redevelopment Plan may create or contribute runoff water to the stormwater drainage systems in the City.

Implementation of the proposed General Plan Update would result in the addition of approximately 1,176 dwelling units and approximately 148 acres of non-residential development. Subsequent development associated with implementation of the proposed General Plan Update may contribute to runoff, which may exceed the capacity of the existing drainage system.

New development projects associated with implementation of the proposed General Plan Update would be required to ensure project-specific and citywide drainage systems have adequate capacity to accommodate new development. The City has recognized the need to monitor and improve the storm drain system in order to ensure it is adequately accommodating future development. Policies and implementation measures to ensure that project-related storm water mitigation techniques are employed and monitored are proposed in the General Plan Update. Furthermore, implementation of the required mitigation measure would ensure new development projects are designed to result in less than significant impacts related to the drainage system capacity. Compliance with the policies and implementation measures included in the proposed General Plan Update (Goals 4.8, 5.3, Policies 4.8.1, 4.8.2, 5.3.3, 5.3.4 and their implementing Action) will minimize potential impacts related to drainage system capacity.

MITIGATION MEASURES

No mitigation measures are required.

LEVEL OF IMPACT SIGNIFICANCE AFTER MITIGATION

Impacts would be less than significant.

IMPACT 4G-4 The Proposed Project would have a significant impact if it would result in potential flooding impacts within the City of Grand Terrace.

The City is 57.6 percent built out. Implementation of the proposed General Plan Update would ultimately result in the addition of approximately 1,176 dwelling units and approximately 148 acres of non-residential development. New development projects associated with implementation of the proposed General Plan Update would be required to address potential flooding from on and off-site watersheds, including the watershed of adjacent jurisdictions.

Hazards associated with flooding may result in personal injury and property damage. The primary flood hazard in Grand Terrace is the Santa Ana River located along the northwest corner of the City. This floodplain has been mapped by the Federal Emergency Management Agency (FEMA) which assessed the flooding potential. As indicated in Table 4G-1, FEMA has designated a strip along the Santa Ana River as a 100-year floodplain. This indicates that the subject area has the potential to experience a major flood sometime within a span of 100 years.

The City has identified the minimization of risk and damage from flood hazards within the City as a General Plan Goals (4.3 and 5.3). The General Plan Update Policies (4.3.3 through 4.3.6 and 5.3.1 through 5.3.3) and related implementing Actions will minimize potential impacts related to flooding. These policies would ensure less than significant impacts in regards to flooding.

MITIGATION MEASURES

No mitigation measures beyond the policies identified in the proposed General Plan Update are required.

LEVEL OF IMPACT SIGNIFICANCE AFTER MITIGATION

Impacts would be less than significant.

IMPACT 4G-5 The Proposed Project would have a significant impact if it would expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam.

There are no major dams located within the City. However, the Seven Oaks Dam is located northeast of the City of Highland. In the event that this dam failed, it would eventually enter the Santa Ana River floodplain thus placing the City within the dam inundation area.

Development resulting from implementation of the proposed General Plan Update would not increase the hazards of dam inundation. However, urban uses would be located in dam inundation areas. Implementation of the General Plan Goal 5.3 and Policies (5.3.1 through 5.3.3) with related Actions will protect the City from flood hazards resulting from dam failure and inundation and decrease these hazards to a less than significant level.

MITIGATION MEASURES

No mitigation measures beyond the policies identified in the proposed General Plan Update are required.

LEVEL OF IMPACT SIGNIFICANCE AFTER MITIGATION

Impacts would be less than significant.

CHAPTER 4H - LAND USE AND PLANNING

Residential, commercial, industrial, institutional, recreational and other land uses play major roles in defining the City. The City of Grand Terrace General Plan Land Use Element is a very important element of its General Plan in that it identifies each land use designation, intensity and interrelationship with other land uses. The Land Use Element has the broadest scope of any General Plan element. The Land Use Element governs how land is used throughout the City and how virtually all issues and policies in other elements relate to decisions made in the Land Use Element. This EIR Chapter describes growth anticipated and allowed by the Land Use Element, identifies potential impacts related to anticipated and allowable growth, and assesses impacts of the growth as they relate to the proposed General Plan Update and Amendment to the Redevelopment Plan and to land use goals and policies.

4H.1 ENVIRONMENTAL SETTING

The City is located approximately 58 miles east of Los Angeles in the southwesterly portion of San Bernardino County between mountain ridges that include Blue Mountain to the east and La Loma Hills to the west. At an average elevation of 1,065 feet, the City includes approximately 3.6 square miles. The southwesterly boundary of the City coincides with the boundary line between San Bernardino and Riverside counties via Main Street. The I-215 traverses the northwesterly portion of the City. Two on/off ramps via I-215 (Barton Road and Mount Vernon Avenue) are used to access the City.

Table 4H–1 identifies existing land uses within the City. As indicated, Grand Terrace is predominantly a residential community. Approximately 42 percent of existing development in the City is residential. Non-residential land uses comprise more than 42 percent of all land within the City and include employee-generating commercial, industrial, institutional, public and open space properties. The majority of undeveloped land within the City is on Blue Mountain in the Santa Ana River floodplain or adjacent to I-215.

**Table 4H–1
Existing Land Uses**

Land Use Type	Acres	% of Total
Single Family Residential	838.8	37.3%
Multiple Family Residential	113.1	5.0%
Commercial	67.2	3.0%
Industrial/Manufacturing	144.0	6.4%
Institutional	32.2	1.4%
Public	103.3	4.6%
Open Space/Vacant	604.0	26.8%
Streets and Railroad R/W	353.0	15.5%
Total	2,255.6	100.00%

Land use designations are provided to define amount, type, and nature of future development allowed in a given location in the City. Each land use designation typically is implemented by a defined set of zoning designations included in the City Zoning Code. The Zoning Code contains detailed regulations relating to permitted and conditional uses allowed within each zone, site development standards and performance criteria that serve to implement General Plan goals and policies.

Table 4H-2 provides a summary of total acreage designated for specific land use. As illustrated, residential land uses comprise approximately 54 percent of all land within the City.

**Table 4H-2
Existing General Plan Land Categories**

Land Use Type	Acres	% of Total
Hillside Low Density Residential	115.3	5%
Low Density Residential	901.2	40%
Medium Density Residential	195.0	9%
Medium/High Density Residential	6.0	<0.1%
General Commercial	154.9	7%
Office Commercial	35.7	2%
Industrial	211.4	9%
Floodplain Industrial	26.1	1%
Public	72.3	3%
Hillside Open Space	184.1	8%
Street & Railroad R/W	353.0	16%
Total	2,255.1	100.00%

Table 4H-3 summarizes the total acreages for the specific land use categories under the proposed General Plan and General Plan Land Use Map.

Table 4H-4 presents an analysis of residentially designated land and the total number of estimated dwelling units and population at ultimate build out of the proposed General Plan. As illustrated, at ultimate development of the residential component of the Plan, the City population is estimated to be approximately 15,747. These estimates are based upon the total acreage by land use type, an average probable density in dwelling units per acre, and the City's current average population per household. The analysis also assumes that certain properties with higher density designations that are currently underutilized would be redeveloped to the average designation's density.

Non-residential land uses comprise approximately 41 percent of all land within the City and include employee generating commercial and industrial property as well as open space lands.

Table 4H-5 summarizes the build out of non-residential uses and their potential employment generation. As illustrated, at build out, a total of approximately 11,450 jobs may be available within the City.

**Table 4H-3
General Plan Acreage By Land Use Category**

Land Use Category	Acres	% of Total
Hillside Low Density Residential	125.22	5.6
Low Density Residential	885.24	39.2
Medium Density Residential	185.89	8.2
Medium High Density Residential	5.95	0.3
General Commercial	88.37	3.9
Office Commercial	32.94	1.5
Light Industrial	106.98	4.7
Floodplain Industrial	40.07	1.8
Hillside Open Space	179.19	8.0
Mixed Use	93.94	4.2
Public	158.87	7.0
Streets	353.0	15.5
Total	2,255.66	100

**Table 4H-4
Residential Build Out Calculations**

Land Use Designation	Probable Avg. Density	Acres	Dwelling Units	Persons / Household	Estimated Population
Low Density/Hillside	0.7 du/ac	155.3	109	2.83	308
Low Density	3.6 du/ac	885.2	3,187	2.83	9,019
Medium Density	11 du/ac	185.7	2,043	2.83	5,781
Medium High Density	20 du/ac	6.0	120	1.20	144
Mixed Use	12 du/ac	14.6*	175	2.83	495
Total		1,246.8	5,634		15,747

**Assumes 15% of the mixed use area is residential.*

**Table 4H-5
Non-Residential Build Out Estimates**

Land Use Designation	Probable Density (FAR)	Acres	Square Feet	Square Feet per Employee	Estimated Employment
General Commercial	0.35	88.4	1,347,764	500	2,695
Office Commercial	0.35	32.9	501,593	250	2,006
Mixed Use	0.35	78.9*	1,202,909	500	2,405
Light Industrial	0.30	107	1,398,276	1,000	1,398
Floodplain Industrial	0.30	40.1	524,027	1,000	524
Public	0.35	158.9	2,422,589	1,000	2,422
Open Space	N/A	189.1	N/A	N/A	N/A
Total		495.1	7,396,112		11,450

**Assumes 85% of the mixed use area is commercial or business uses.*

REGULATORY SETTING

City of Grand Terrace General Plan Land Use Element

The 2008 General Plan Update includes the following land use designations, defined density ranges, and general development standards.

Hillside Low Density Residential (HLDR): Maximum Density – 1 dwelling unit /gross acre

Hillside areas of Blue Mountain at the far eastern edge of the City are considered a natural resource that requires special consideration to protect its environmental resources and scenic views. Development proposed within the Hillside designation will require special evaluation of all environmental issues and must include provisions for protection of all natural resources within the area. Properties within designated areas must demonstrate that building pads and streets can be graded with minimal impact to the hillside and views and adequate utilities and public services (including drainage, domestic water, sanitary sewer and fire protection) can be provided. Proposed developments within this area shall be required to prepare a Specific Plan. Clustered development that protects sensitive slopes and natural resources shall be strongly encouraged.

Low Density Residential (LDR): Density Range - 0 to 5 dwelling units/gross acre

The Low Density Residential designation limits land uses to single family detached residential units and mobile homes subject to applicable General Plan policies and Zoning Code provisions. This designation encompasses the majority of property within the City and generally is associated with existing housing developments throughout the City.

Medium Density Residential (MDR): Density Range – 6 to 12 dwelling units/gross acre

The Medium Density Residential designation includes both single-family detached and multiple-family attached developments. Permitted uses within these areas include small lot single-family developments or attached multi-family developments, including townhomes, condominiums, and

apartments. Mobile home developments also are permitted. Density bonuses are also permitted in accordance with State law.

Medium High Density Residential (MHDR): Maximum Density - 20 dwelling units/gross acre

The Medium High Density Residential designation is reserved for affordable senior housing projects. Any project proposed on property with this designation shall be required to submit a Specific Plan that provides detailed information regarding project design and benefits that warrant the specified density range.

General Commercial (GC)

This General Commercial designation is located primarily along Barton Road and near I-215. It provides for general commercial uses to serve retail and service needs of the community.

Office Commercial (OC)

Office Commercial uses are used as buffers between residential areas and general commercial areas. Properties designated for Office Commercial uses primarily are located along Barton Road east of Mount Vernon Avenue and north of Barton Road west of Mount Vernon Avenue. Permitted uses include office/administrative, support retail, and service commercial.

Light Industrial (LI)

Permitted uses for properties designated as Light Industrial include uses compatible with surrounding uses within the City in regard to noise, dust, odors, vibration, glare, air quality, traffic, aesthetics, and hazardous materials. Typical uses include light manufacturing and assembly, small scale warehousing and distribution, research and development, administrative and service.

Floodplain Industrial (FI)

Properties designated with the Floodplain Industrial designation experience the potential for severe flooding resulting from proximity to the Santa Ana River. Properties within this designation are planned for ultimate development as light industrial, non-polluting uses similar to the Light Industrial designation. Proposed developments must demonstrate that adequate measures can be implemented to ensure the proposed use is effectively protected from identified flood hazards.

Presently, parcels within this area are largely undeveloped or developed as rural residential land uses. It is anticipated build out of this area will occur over a long period of time. During this build out period, existing residential uses shall be permitted and regulated under requirements of the Low Density Residential land use designation. Light agricultural uses shall be permitted, including keeping animals with approval of an Agricultural Overlay zoning designation.

Public (P)

Public uses include schools, parks, city hall, city maintenance facilities, and facilities owned and operated by public utility companies.

Open Space (OS)

Properties designated Open Space are those that should not be developed as urban land uses due to the presence of environmental resources, environmental constraints or scenic resources. These properties primarily are located along the western and northern slopes of Blue Mountain. Properties designated as Open Space shall be retained in their natural condition and used as either natural open space or parkland. They may be either publicly or privately owned.

Mixed Use (MU)

Properties designated as mixed use are intended to be developed with multiple uses on a single site. This may include residential, commercial, business park, open space, and recreational uses. Compatible uses may be placed horizontally or vertically on each site. All mixed use projects shall be required to submit a Specific Plan or Planned Development that demonstrates compatibility between proposed uses and (if warranted) buffering from adjacent properties. Densities will be determined through the Specific Plan or Planned Development process.

Zoning Code

The City of Grand Terrace Zoning Code establishes City standards, guidelines, and procedures relating to development and maintenance of all land uses within the City. The regulations are intended to implement General Plan goals and policies in a manner consistent with City Land Use Plan designations. The regulations are intended to protect physical, social and economic stability of City residents and businesses and their property, reduce or eliminate hazards to the public, and enhance physical, social, and economic advantages of the City through comprehensive land use and resource planning.

Specific Plans

Since incorporation of the City in 1978, the City has approved approximately 15 project-oriented Specific Plans. Specific Plan properties include multi-family residential projects, small lot single-family residential projects, commercial projects, and cellular communication projects.

Barton Road Specific Plan

The Barton Road Specific Plan is a special zoning document that governs the use and development of commercial land along Barton Road from I-215 to Preston Street. All administrative and discretionary development approvals within the Specific Plan area must be consistent with the Specific Plan. The document includes design guidelines which show how the community wants its primary commercial area to look and feel. The Barton Road Specific Plan was adopted by the City in 1990, and last amended in 2003 and established the land use and zoning criteria for lands which are generally along the 1.3-mile Barton Road Corridor. The Barton Road Specific Plan consists of three Planning Areas.

The Specific Plan was prepared in compliance with goals and policies of the City of Grand Terrace General Plan. The Specific Plan implements General Plan elements and thereby serves as the zoning code for all property fronting Barton Road between the I-215 and Preston Street. The Specific Plan provides guidance for development of predominantly commercial property along the primary transportation corridor through the City. Specific Plan boundaries are depicted on Exhibit 4H-1.

All proposed development projects found consistent with the Specific Plan are also considered consistent with the City of Grand Terrace General Plan. The Specific Plan may be amended as often as necessary to further implement the City General Plan.

Grand Terrace Town Square Master Development Plan

The proposed Grand Terrace Town Square Master Development Plan (TSMDP) and associated improvements is located within the Barton Road Specific Plan (BRSP) study area and comprises one of the two Master Plan areas dedicated to General Commercial land uses. The BRSP requires a Master Development Plan (MDP) prior to the development of the proposed project. The creation of an MDP encourages consistent development standards and integrated design among the different property owners within Planning Area 1. The MDP establishes a program-based master development plan for development of approximately 210,000 square feet of commercial uses in accordance with the Barton Road Specific Plan on approximately 21 acres.

The Master Development Plan site is located along the south side of Barton Road, east of I-215 (approximately 0.25 mile), between Michigan Street and the Gage Canal. Surrounding land uses include single-family residential uses to the south, commercial to the west, a Senior Facility, Multifamily Residential, and Professional Offices to the east, with Mixed Commercial and Single Family Residential to the north.

City of Grand Terrace Redevelopment Plan

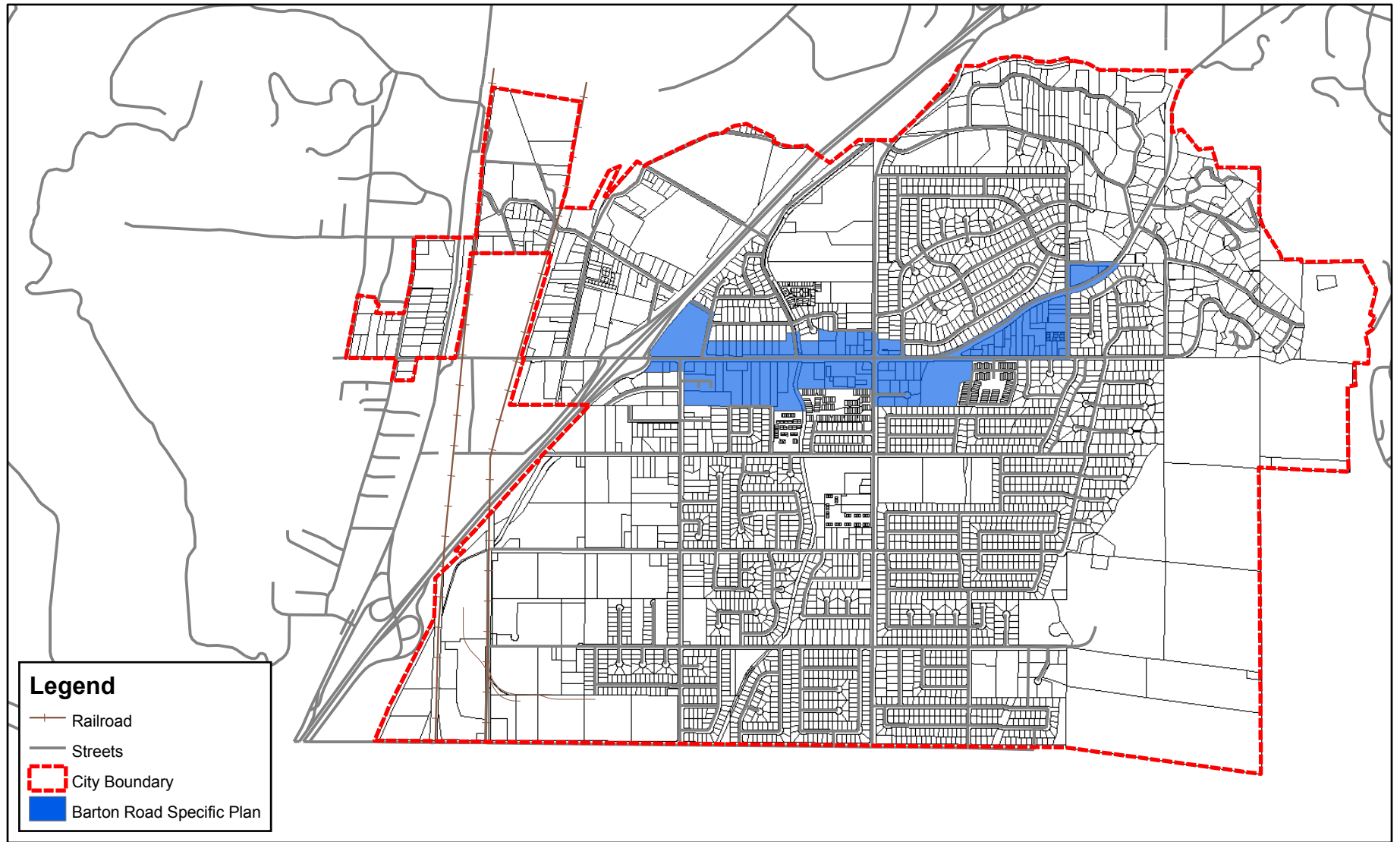
The proposed sixth amendment to and restatement of the Redevelopment Plan for the Grand Terrace Community Redevelopment Project does not present a specific plan or establish priorities for specific projects for redevelopment, rehabilitation and revitalization of any particular area with the Redevelopment Area. Rather, the proposed amended and restated Redevelopment Plan is fiscal and administrative in character and presents a process and basic framework within which specific development plans will be presented, priorities for specific projects will be established and specific solutions will be proposed, and by which tools are provided the Redevelopment Agency to fashion, develop and proceed with such specific plans, projects and solutions. The Redevelopment Plan project area is the City of Grand Terrace boundary.

Other Plans and Programs

City of Colton General Plan

The City of Colton borders the City of Grand Terrace to the north, east and west. Pockets of properties within Grand Terrace jurisdiction intermingle with pockets of properties within Colton jurisdiction west of I-215. Development in areas in Colton adjacent to Grand Terrace may result in impacts to Grand Terrace and its residents regarding land use compatibility, traffic generation and dispersal and generation of environmental hazards.

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County of Riverside General Plan

The unincorporated territory of Highgrove is located immediately south of the City. This area is projected to experience significant growth that potentially could result in impacts to Grand Terrace related to land use compatibility, traffic generation, and dispersal and generation of environmental hazards.

City of Grand Terrace Sphere of Influence

The City of Grand Terrace Sphere of Influence encompasses current City limits. The City of Colton borders Grand Terrace to the north, east and west. Unincorporated County of Riverside land borders Grand Terrace to the south. There are no opportunities to annex adjacent unincorporated San Bernardino territory.

4H.2 SIGNIFICANCE THRESHOLD CRITERIA

The criteria used to determine the significance of impacts on land use are taken from City-approved Thresholds of Significance based on the City's Initial Study and the model Initial Study checklist in Appendix G of the State *CEQA Guidelines*. A significant impact would occur if implementation of the proposed General Plan Update and Amendment to the Redevelopment Plan would:

- Physically divide an established community;
- Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the Project (including, but not limited to the general plan, specific plan, local coastal program, or zoning code) adopted for the purpose of avoiding or mitigating an environmental effect; or
- Conflict with any applicable habitat conservation plan or natural community conservation plan

4H.3 IMPACTS AND MITIGATION MEASURES

This impact analysis will consider a significant impact as occurring if implementation of the proposed project would result in conflicts or inconsistencies with applicable General Plan and/or Redevelopment Plan adopted goals and/or policies and applicable Zoning Code regulations. Effects of project development have been categorized into "less than significant" or "potentially significant" impacts. Mitigation Measures are recommended for potentially significant impacts. If a potentially significant impact cannot be reduced to a less than significant level through mitigation, the impact is categorized as a "significant unavoidable impact."

IMPACT 4H-1 The Proposed Project would have a significant impact if it would physically divide an established community.

The specific changes to land use designations are detailed in Chapter 2 of this DEIR. A new Mixed Use designation is proposed. The Mixed Use designation will replace a portion of the General Commercial and Industrial land use designations, and the build out density of the Mixed Use designation would be established through the land use review process. Other larger areas where the land use designation is proposed to change includes the redesignation of General Commercial and Industrial land to Public to accommodate a new high school, and the

redesignation of approximately 14 acres of land from Industrial to Floodplain Industrial to reflect updated FEMA Maps. These changes, as well as those identified in Chapter 2 would not physically divide an existing community. No impacts related to an established community are expected to occur.

MITIGATION MEASURES

No mitigation measures are necessary.

LEVEL OF IMPACT SIGNIFICANCE AFTER MITIGATION

Impacts would be less than significant.

IMPACT 4H-2 The Proposed Project would have a significant impact if it would conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the Project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect.

The specific changes to land use designations are detailed in Chapter 2 of this DEIR.

A new Land Use Designation, Mixed-Use, is proposed east of I-215. The area subject to this designation may include residential, commercial, business park, open space, and recreational uses. All Mixed-Use projects shall be required to submit a Specific Plan. This change in land use policy could result in approximately 1.2 million square feet of non-residential uses, 175 dwelling units, and the incorporation of recreation and open space uses. A Specific Plan will be required for development of this area.

Properties in the Floodplain Industrial location experience the potential for flooding resulting from their proximity to the Santa Ana River and are planned for development as light industrial, non-polluting uses similar to the Light Industrial designation. However, proposed developments must demonstrate that adequate measures can be implemented to ensure a proposed use is effectively protected from identified flood hazards. Presently, parcels in this area are generally undeveloped or developed as rural residential. During the build-out phase, existing residential uses shall be permitted and regulated under requirements of the Low Density Residential land use designation. Light agricultural uses shall be permitted including keeping animals with approval of an Agricultural Overlay zoning designation. This change in Land Use designation could result in up to 397,920 square feet of Floodplain Industrial land uses.

The proposed Redevelopment Plan Amendment will update land use descriptions to make them consistent with language that directly refers to adopted General Plan, zoning, and other local land use policies. This update will not result in the establishment of new land use designations or policies; rather, it will bring the Redevelopment Plan in compliance with the General Plan.

The following is a discussion of the Proposed Project's consistency with applicable land use plans policies and regulations that were described above in the Environmental Setting Chapter.

City of Colton General Plan

The City of Colton borders the City of Grand Terrace to the north, east and west. Pockets of Grand Terrace property intermingle with pockets of Colton property west of I-215. Development of undeveloped land within the City may result in land uses that are incompatible with existing land uses in the City of Colton. Implementation of City of Grand Terrace General Plan policies found in the Land Use, Open Space, Noise and Air Quality Elements will reduce these potential land use impacts to below a level of significance.

County of Riverside General Plan

The unincorporated territory of Highgrove is located immediately south of the City. This area is projected to experience significant growth that potentially could result in impacts to Grand Terrace related to land use compatibility, traffic generation, and dispersal and generation of environmental hazards. The proposed General Plan outlines several Goals and Policies that encourage coordination of environmental impact analysis between adjacent municipalities. Implementation of these policies will reduce potential land use, traffic and hazard impacts to a level below significant.

City of Grand Terrace Sphere of Influence

The City of Grand Terrace Sphere of Influence encompasses current City limits. The City of Colton borders Grand Terrace to the north, east and west. Unincorporated County of Riverside land borders Grand Terrace to the south. There are no opportunities to annex adjacent unincorporated San Bernardino territory. The proposed project would not be incompatible with the City of Grand Terrace Sphere of Influence.

Grand Terrace General Plan

The proposed General Plan contains several goals, policies and actions related to environmentally sensitive areas, reduction of traffic congestion, air quality emissions, development in urban centers, waste reduction and green technologies:

Land Use Element

Goal 2.5 Provide for the preservation of natural resources and open space.

Policy 2.5.3 Energy efficiency shall be encouraged in all future development.

Policy 2.5.2 Areas designated as Open Space shall be preserved to provide long term recreation opportunities as well as the preservation of scenic and environmental resources and the protection of public health and safety.

Circulation Element

Goal 3.1 Provide a comprehensive transportation system that provides for the current and long-term efficient movement of people and goods within and through the City.

Policy 3.1.1: Provide a transportation system which supports planned land uses and improves the quality of life.

Goal 3.5: Provide for efficient alternative methods of travel.

Policy 3.5.1: Promote measures which reduce reliance on single occupant vehicle usage by enforcement of the Traffic Control Measures (TCM) ordinance which addresses development standards, land use patterns, employer based ride share programs and bicycle/pedestrian facilities.

Policy 3.5.3: The City shall encourage and facilitate pedestrian movement by creating environments that are conducive to walking and maintaining a "human scale" of development.

Policy 3.5.6: The City shall encourage Transit Oriented development (TOD) to provide housing that is in close proximity to designated public transit facilities and routes.

Open Space and Conservation Element:

Policy 4.1.8 The City shall evaluate the feasibility of developing observation points (lookouts) along the northern boundary of the City to take advantage of the spectacular views of the San Bernardino Mountains.

Goal 4.2 Natural resources in the City of Grand Terrace shall be protected and preserved by utilizing open space designations or related regulations.

Policy 4.2.1 The City shall use existing information regarding biological resources including data on natural vegetation and wildlife habitats for both rare and endangered species in identifying potential natural resource open space areas.

Policy 4.2.2: The City shall establish land use regulations to preserve and protect any identified natural resources.

Policy 4.2.4 The City shall evaluate developing a specific plan for the western face of Blue Mountain. The specific plan will contain policies to preserve and maintain the open space resources of Blue Mountain including its biologic properties.

Policy 4.2.5 The City shall at to reasonably to conserve and protect significant biological resources.

Goal 4.6 The City shall support and promote the conservation of energy resources.

Policy 4.6.1: The City shall establish an energy conservation policy and implementation program for all City facilities.

Policy 4.6.2: The City shall implement a public outreach program to provide the public with information regarding energy conservation practices and programs.

Policy 4.6.3: The City shall encourage energy and environmentally sustainable design in new land development projects using the standards of Leadership in Energy and Environmental Design (LEED).

Policy 4.6.4: The City shall work with its franchised solid waste collection company to implement recycling programs designed to reduce the per capita waste generation within the City while responding to the requirements of the California Integrated Waste Management Act of 1989.

Goal 4.7 Support air quality planning through land use policies, outreach efforts, and participation in regional air quality planning.

Policy 4.7.1: The City shall evaluate and implement traffic flow improvements and construction management practices that reduce locally generated vehicle emissions.

Policy 4.7.2: The City shall encourage the use of public transportation through coordination with local and regional transit providers.

Policy 4.7.7: The City shall promote energy conservation efforts in new and existing residences and businesses.

Policy 4.7.4: The City shall promote public education programs regarding air quality programs and practices.

Policy 4.7.3: The City shall encourage land use planning and urban design that reduces vehicle trips through mixed use development, consolidation of commercial uses along arterial highways, and pedestrian connection between residential and commercial uses.

Policy 4.7.5: The City shall encourage employers to develop and implement trip reduction plans including alternate work schedules, rideshare programs, telecommuting, and employee education programs.

Policy 4.7.7: The City shall promote energy conservation efforts in new and existing residences and businesses.

Goal 4.9 Comply with State and federal regulations to ensure the protection of historical, archaeological, and paleontological resources.

Policy 4.9.1 The City shall take reasonable steps to ensure that cultural resources are located, identified and evaluated to assure that appropriate action is taken as to the disposition of these resources.

Public Services Element

Goal 7.4 Provide for an efficient and environmentally sound solid waste collection and recycling, and disposal system.

Policy 7.4.1 Work with the City's franchise waste collection company to ensure an effective and efficient waste collection program for all City residents and businesses.

Policy 7.4.2 Work with the County Waste Management Department to ensure a cost effective waste disposal system with adequate capacity to meet current and future needs.

Policy 7.4.3 Work with the County and the City's waste hauler to implement effective recycling programs to reduce the total amount of waste requiring disposal.

Sustainable Development Element

Goal 9.1: Reduce the City's per capita energy usage.

Policy 9.1.1: The City shall work with Southern California Edison to promote energy conservation at residences and businesses.

Policy 9.1.2: The City shall incorporate energy conservation measures into conditions of approval for new development projects.

Goal 9.2: Reduce the total quantity of waste generated within the City requiring landfill disposal to meet or exceed the State waste diversion goals.

Policy 9.2.1: The City shall reduce the use of disposable products at all City facilities.

Policy 9.2.2: Require all new development projects to recycle construction and demolition wastes.

Policy 9.2.3: The City shall work with its franchise waste collection company to expand current recycling programs.

Goal 9.3: Support sustainable development through good urban design practices.

Policy 9.3.1: Incorporate "green" building practices into the review of all new or renovated development projects.

Action 9.3.1 a. The City shall review its Zoning Code and Building Codes to promote green building concepts into all development projects including possible incentives for the expanded use of green building concepts.

Action 9.3.1 b. The City shall promote mixed use development projects that coordinate land uses with transportation systems and parks and open space in an effort to create a walkable neighborhood environment.

Goal 9.5: Provide alternative transportation modes designed to reduce vehicle miles traveled.

Policy 9.5.1: The City shall encourage alternative transportation modes, including mass transit, ride sharing, bicycles, and pedestrian transportation.

Policy 9.5.2: The City shall encourage the creation of local jobs designed to reduce commuter mileage and fuel consumption.

Policy 9.5.3: The City shall encourage new and rehabilitation projects that support alternative transportation modes.

Goal 9.7: Reduce the City's per capita demand for water consumption.

Policy 9.7.1: The City shall work with Riverside Highland Water Company to reduce water consumption throughout the City.

Policy 9.7.2: The City shall incorporate water conservation into the development review process.

Goal 9.8: The City shall lead the development community by example in green building, and energy and resource conservation practices.

Policy 9.8.1: The City shall support green development standards for new or rehabilitated public buildings and facilities, as feasible.

Policy 9.8.2: The City shall strive to actively reduce greenhouse gas emissions from public facilities throughout the community.

The proposed General Plan Goals, Policies and Actions identified above will not conflict with any applicable land use plan, policy or regulations, and will serve to assure avoidance or mitigation of significant environmental impacts.

MITIGATION MEASURES

No mitigation measures are necessary.

LEVEL OF IMPACT SIGNIFICANCE AFTER MITIGATION

Impacts would be less than significant.

IMPACT 4H-3 The Proposed Project would have a significant impact if it would conflict with any applicable habitat conservation plan or natural community conservation plan.

The Proposed Project was found not to conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or State habitat conservation plan as discussed in the Initial Study prepared for the Proposed Project (Appendix A).

MITIGATION MEASURES

No mitigation measures are necessary.

LEVEL OF IMPACT SIGNIFICANCE AFTER MITIGATION

Impacts would be less than significant.

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CHAPTER 4I - NOISE

4I.1 ENVIRONMENTAL SETTING

The State of California recognizes the relationship between noise and noise sensitive uses and has adopted State Guidelines for Noise Elements. A mandated component of a municipal General Plan, the Noise Element will satisfy the requirements of State planning law, including Government Code Section 65302(f). The Element will also comply with California Health and Safety Code Section 56050.1 guidelines for Noise Elements. Future noise conditions from short- and long-term growth will be quantified and identified as noise exposure contours.

Noise is commonly defined as unwanted sound. Sound pressure magnitude is measured and quantified using a logarithmic ratio of pressures, the scale of which gives the level of sound in decibels (dB). Sound pressures in the environment have a wide range of values and the sound pressure level was developed as a convenience in describing this range as a logarithm of the sound pressure. To be consistent throughout the world, the sound pressure level is the logarithm of the ratio of the unknown sound pressure to an agreed upon reference quantity of the same kind. To account for the human ear's sensitivity to the pitch of different sounds, the raw sound pressure level is adjusted with an A-weighting scheme based on frequency that is stated in units of decibels (dBA). Typical A-weighted noise levels are listed in Table 4I-1.

A given level of noise may be more or less tolerable depending on the sound level, duration of exposure, character of the noise sources, the time of day during which the noise is experienced, and the activity affected by the noise. For example, noise that occurs at night tends to be more disturbing than that which occurs during the day because sleep may be disturbed. Additionally, rest at night is a critical requirement in the recovery from exposure to high noise levels during the day. In consideration of these factors, different measures of noise exposure have been developed to quantify the extent of the effects anticipated from these activities. For example, some indices consider the 24-hour noise environment of a location by using a weighted average to estimate its habitability on a long term basis. Other measures consider portions of the day and evaluate the nearby activities affected by it as well as the noise sources.

The most commonly used indices for measuring community noise levels are the Equivalent Energy Level (Leq), and the Community Noise Equivalent Level (CNEL).

Leq, Equivalent Energy Level, is the sound level corresponding to a steady-State sound level containing the same total energy as a time-varying signal over a given sample period. Leq can be measured for any time period, but is typically measured for one hour. It is the energy sum of all the events and background noise levels that occur during that time period.

CNEL, Community Noise Equivalent Level, is the average equivalent A-weighted sound level over a 24-hour period. This measurement applies weights to noise levels during evening and nighttime hours to compensate for the increased disturbance response of people at those times. CNEL is the equivalent sound level for a 24-hour period with a +5 dBA weighting applied to all sound occurring between 7:00 p.m. and 10:00 p.m. and a +10 dBA weighting applied to all sound occurring between 10:00 p.m. and 7:00 a.m.

Table 4I-1 Typical A-Weighted Noise Levels

Common Outdoor Activities	Noise Level (dBA)	Common Indoor Activities
	— 110 —	Rock band
Jet fly-over at 1000 feet		
	— 100 —	
Gas lawn mower at 3 feet		
	— 90 —	
Diesel truck at 50 feet at 50 mph		Food blender at 3 feet
	— 80 —	Garbage disposal at 3 feet
Noisy urban area, daytime		
Gas lawn mower, 100 feet	— 70 —	Vacuum cleaner at 10 feet
Commercial area		Normal speech at 3 feet
Heavy traffic at 300 feet	— 60 —	
		Large business office
Quiet urban daytime	— 50 —	Dishwasher next room
Quiet urban nighttime	— 40 —	Theater, large conference room
Quiet suburban nighttime		
	— 30 —	Library
Quiet rural nighttime		Bedroom at night
	— 20 —	
		Broadcast/recording studio
	— 10 —	
Lowest threshold of human hearing	— 0 —	Lowest threshold of human hearing

Source: Caltrans 1998

The decibel level of a sound decreases (or attenuates) logarithmically as the distance from the source of that sound increases. For a single point source such as a piece of mechanical equipment, the sound level normally decreases by about 6 dBA for each doubling of distance from the source. Sound that originates from a linear, or “line” source such as a heavily traveled traffic corridor, attenuates by approximately 3 dBA per doubling of distance, provided that the surrounding site conditions lack ground effects or obstacles that either scatter or reflect noise. Noise from roadways in environments with major ground effects due to vegetation and loose soils may either absorb or scatter the sound yielding attenuation rates as high as 4.5 dBA for each doubling of distance. Other contributing factors that affect sound reception include meteorological conditions and the presence of manmade obstacles such as buildings and sound barriers.

There are two parameters that are used technically to describe the sound environment at any instant in time: amplitude (or sound power) and frequency (or pitch). These two characteristics affect the way people respond to sound. Amplitude of a sound is a measure of the pressure or force that a sound can exert. Subjectively, we say a sound is louder if it has greater amplitude than another sound. Thus, the amplitude of sounds can be described either in measurable magnitude or in relative terms of loudness. Physically, sound pressure is measured in units of decibels (dB). The sound pressure scale is based on the ratio of the energy of the sound energy to a reference pressure that is approximately the least sound pressure that people can perceive. Zero dB means the

lowest level normally audible, but does not mean zero sound pressure. Frequency of a sound is expressed in units of cycles per second, or Hertz (Hz), referring to the number of times per second the acoustic pressure wave peaks. Subjectively, a sound that has more cycles per second than another is higher pitched. The human hearing system is not equally sensitive to sound at all frequencies, and is most sensitive to sounds in the frequency range of human speech, from 400 to 2000 cycles per second. The most sensitive people can hear sounds ranging from a little below 20 Hz to somewhat above 20,000 Hz. As people age, their sensitivity to high frequencies tends to fall. Acoustical energy at frequencies above the range of human hearing is referred to as ultrasonic, or ultrasound. At frequencies below the range of human hearing, acoustical energy is referred to as infrasonic, or infrasound, and is experienced as vibration.

Noise intensity is discussed in terms of the Community Noise Equivalent Levels (CNEL). This measure presents a weighted average noise level that increases the relative significance of evening noise and nighttime noises. It recognizes that noises that occur during the evening and night are less tolerable than noises at other times of the day. CNEL expresses a standard acoustical scale that includes both magnitude and frequency of occurrence. The accepted exterior noise level for this scale is generally 65 dB CNEL.

Grand Terrace is subject to typical urban noises such as noise generated by traffic, heavy machinery, and day-to-day outdoor activities. The City also has several transportation-related noise sources railroad operations, major arterials, and I-215. Noise sources that are not directly related to transportation include noise from commercial and industrial centers, construction, and property maintenance activities.

In the City, there are two principal of sources of noise emissions, which reach or exceed 65 dB CNEL: Railroad lines—the Union Pacific Railroad and the Burlington Northern Santa Fe Railroad—and freeway traffic.

The Riverside Industrial Lead (RIL) of the Union Pacific Railroad (UPRR) extends 7.4 miles from its connection with the main line of the UPRR at milepost 539.0 to its terminus in downtown Riverside. The predominant cargo inbound is lumber, while outbound trains frequently carry recyclable materials. While train operations can vary, an average of two trains operates each weekday. The San Bernardino Subdivision of the Burlington Northern Santa Fe (BNSF) is a major transportation artery for this railroad. It is the principal artery into and out of the Ports of Los Angeles and Long Beach, and it connects Southern California to the rest of the nation. In this area, it is also a key part of the nationwide Union Pacific Railroad, as the railroad shares track with the BNSF between Colton and Riverside. Passenger train speeds are approximately 60 mph, while freight trains are authorized to travel only as fast as 50 mph. Two Amtrak and eight Metrolink passenger trains operate on this track. In addition, approximately 55 BNSF freight trains and 30 UPRR freight trains operate on this track over the course of a typical 24-hour day. Actual train volumes vary by day, week, or month.

I-215 traverses the City. Freeway traffic volumes are expected to increase due to rapid development of the Inland Empire in general, as well as planned freeway expansion projects. The additional traffic on freeways would increase noise levels along its extent. Residential uses along or in close proximity to freeways are impacted by vehicle noise.

REGULATORY SETTING

California Noise Control Act of 1973

Sections 46000 – 46080 of the California Health and Safety Code, known as the California Noise Control Act of 1973, find that excessive noise is a serious hazard to public health and welfare and that exposure to certain levels of noise can result in physiological, psychological, and economic damage. It also finds that there is a continuous and increasing bombardment of noise in the urban, suburban, and rural areas. The California Noise Control Act declares that the State of California has a responsibility to protect the health and welfare of its citizens by the control, prevention, and abatement of noise. It is the policy of the State to provide an environment for all Californians free from noise that jeopardizes their health or welfare.

Municipal Code

The City regulates noise through the City's Municipal Code Noise Ordinance. The City recognizes that the control of construction noise is difficult and provides exemption for this type of noise. According to the City of Grand Terrace General Plan, "the impact of construction noise that occurs during the daytime is considered minimal for no more than two or three months of activity. However, late night and weekend disturbances caused by noise may generate a significant impact when experienced at nearby residential location." The City regulates construction noise sources in the City's noise ordinance. Section 8.108.040 provides an exemption for construction activities. "Noise sources associated with or vibration created by construction, repair or remodeling or grading of any real property or during authorized seismic surveys, provided said activities do not take place between the hours of 8:00 p.m. and 7:00 a.m. on weekdays, including Saturdays, or an any give time on Sunday or a national holiday."

General Plan

The City of Grand Terrace General Plan Noise Element discusses the effects of noise exposure on the population and sets land-use compatibility goals aimed at protecting its residents from undue noise. The City establishes interior and exterior noise standards for land uses, shown in Table 4I-2 (Interior & Exterior Noise Standards).

Under implementation of the Proposed Project, the City would use the Noise/Land Use Compatibility Matrix listed in Table 4I-2 to determine the compatibility of land use when evaluating proposed development projects. The proposed Noise/Land Use Compatibility Matrix indicate ranges of compatibility and are intended to be flexible enough to apply to a range of projects and environments. For example, a commercial project would be evaluated differently than a residential project in a rural area or a mixed-use project in a more densely developed area of the City. As indicated in Table 4I-2, noise levels in the 55 to 60 dB range are normally acceptable to all land use types, while higher levels in the 70 to 80 dB ranges are typically unacceptable for most land use types.

Table 4I-2 Interior & Exterior Noise Standards

Land Use	CNEL	
	Interior ¹	Exterior ²
Residential- Single family, Multi-family, Duplex, Mobile Home	45 dB	65 dB
Residential – Transient Lodging, Hotels, Motels, Nursing Homes	45 dB	65 dB
Private Offices, Church Sanctuaries, Libraries, Conference Rooms, Theaters, Auditoriums, Concert Halls, Meeting Halls	45 dB	--
School	45 dB	65 dB
General Offices, Reception/Clerical Areas	50 dB	--
Bank Lobbies, Retail Stores, Restaurants	55 dB	--
Manufacturing, Kitchens, Warehouses	65 dB	--
Parks, Playgrounds	--	65 dB
Golf Courses, Outdoor Spectator Sports, Amusement Parks	--	65 dB

¹ Standard applies to all habitable interior areas. Standard to be achieved with windows and doors closed. Mechanical ventilation shall be provided as required by the Uniform Building Code.

² Standard applies to all habitable exterior living areas including private yards, private patios and balconies, and common recreation areas.

Proposed General Plan Noise Element Policies

Roadway Noise

Policy 6.1.4: When purchasing new equipment and vehicles, the City shall comply with noise performance standards consistent with available noise reduction technology.

Policy 6.3.1: The City shall be actively involved in improvements programs for I-215 to promote noise mitigation along the freeway corridor through the City.

Action 6.3.1a: Coordinate with Caltrans regarding proposed improvement projects for I-215 through the City and to include noise barriers along adjacent residential neighborhoods.

Action 6.3.1b: Pursue construction of new barriers or the augmentation of existing barriers, to reduce noise impacts along the I-215 freeway along segments directly next to residential areas and Grand Terrace Elementary School.

Policy 6.3.2: The City shall enforce the State's Vehicle Code noise standards within the City.

Policy 6.3.3: The City shall consider noise impacts to residential neighborhoods when designating truck routes, freeway improvements, and major circulation corridors.

Policy 6.3.4: The City shall work with Riverside and San Bernardino Counties to establish bus routes that meet public transportation needs and minimize noise impacts in residential areas.

Policy 6.3.5: Encourage, where feasible, noise mitigation measures, such as noise barriers and realignments, in the design and construction of new roadway projects and freeway improvements in the City of Grand Terrace.

Action 6.3.5a: Include an evaluation of potential noise impacts to sensitive land uses when performing feasibility studies and design engineering for new roads within the City, and incorporate appropriate mitigation measures in the design of the project.

Rail Noise

Policy 6.3.6: The City shall work with the BNSF and UPRR railroads to assess the feasibility of the construction of noise barriers along rail lines that pass adjacent to residential areas.

Policy 6.3.7: Encourage the Public Utilities Commission, the BNSF Rail Company, the Union Pacific Railroad, and Southern California Regional Rail Authority to minimize the level of noise produced by train movements and whistle noise within the City.

Policy 6.3.8 The City shall monitor activities associated with future aircraft and rail movements that may result in noise impacts to the City.

Action 6.3.8b: Encourage citizen participation and City involvement on committees that could influence future aircraft and rail activities in Riverside and San Bernardino Counties.

Stationary Noise

Policy 6.1.1: The City shall periodically review and update its Noise Ordinance and City policies and regulations affecting noise.

Policy 6.2.2: The City shall establish acceptable noise standards for various land uses throughout the City of Grand Terrace through the adoption of ordinances and standards.

Action 6.2.2b: The City shall utilize the Land Use/Noise Compatibility Matrix and Interior and Exterior Noise Standards contained in Table 4I-2, in establishing noise standards.

Policy 6.2.3: New residential developments located in close proximity to existing commercial/industrial operations shall be evaluated for potential noise impacts and interior noise mitigation.

Policy 6.2.4: Commercial uses developed as part of any mixed-use project, including residential components shall not be noise intensive. Mixed use structures shall be designed to prevent commercial noise impacts to the project's residential uses.

Policy 6.2.5: New commercial/industrial operations located in proximity to existing or proposed residential areas shall incorporate noise mitigation into project design.

Action 6.2.5b: Encourage the replacement of significant noise generating land uses with lesser or non-noise generating land uses when areas are re-developed.

4I.2 SIGNIFICANCE THRESHOLD CRITERIA

The criteria used to determine the significance of impacts on noise are taken from City-approved Thresholds of Significance based on the City's Initial Study and the model Initial Study checklist in Appendix G of the State *CEQA Guidelines*. A significant impact would occur if implementation of the proposed General Plan Update and Amendment to the Redevelopment Plan would:

- Expose people to noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies;
- Create a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project;
- Create a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project;
- Expose people to excessive groundborne vibration or groundborne noise levels.

The following impacts were not identified as being potentially significant in the Initial Study (Appendix A) and will not be discussed further in this Program EIR:

- For a project located within an airport land use plan or within two miles of a public airport, expose people residing or working in the project area to excessive noise levels; or
- For a project located in the vicinity of a private airstrip, expose people residing or working in the project area to excessive noise levels.

4I.3 IMPACTS AND MITIGATION MEASURES

A Noise Technical Study was prepared for the Proposed Project by Chambers Group (Appendix F). The following discussion represents analysis taken from the Noise Technical Study.

IMPACT 4I-1: **The Proposed Project would result in significant impacts if people are exposed to noise levels in excess of standards established in the General Plan, Noise Ordinance and applicable standards of other agencies.**

Federal Transit Authority Standards (FTA)

Future train activity along the BNSF railroad is analyzed within the Los Angeles Inland Empire Main Line Advanced Planning Study, which was conducted by the Los Angeles

County Economic Development Corporation and dated October 1, 2002. This study anticipates that by the year 2025, train activity along the BNSF rail line will increase to 120 freight trains and 100 passenger trains per day.

Train activity for the UPRR is not expected to increase in the near future (Dan Miller, Manager Special Projects for UPRR, 2009).

Future rail noise was modeled using the Federal Transit Administration General Transit Noise Assessment. Projected volumes were taken from data presented in the above referenced report and email correspondence with UPRR staff. Train mix and 24-hour trip distribution was extrapolated from the northernmost Riverside County count location identified in the Riverside County Rail Crossing Priority Analysis prepared by Kimley-Horn and Associates, Inc. for the Riverside County Transportation Commission in October of 2006.

Train horn noise also has the potential to cause noise/land use compatibility impacts with the development of mixed use and public land uses adjacent to I-215 and the UPRR and BNSF rail lines. Potential impacts related to train horn noise were addressed in the Grand Terrace Educational Facility Environmental Impact Report (EIR) (2005). Several mitigation measures to reduce exterior noise levels due to train horn noise were evaluated and it was determined that none were feasible.

In addition to implementation of General Plan Policies 6.3.6 through 6.3.8 mitigation measure MM-I-1, listed below will further reduce the potential for noise impacts related rail operations.

Federal Aviation Administration (FAA) Standards

The FAA establishes a 65 dBA CNEL as the noise standard associated with aircraft noise. According to the San Bernardino Airport Authority's Draft Existing and Ultimate Noise Contour Map (November 2009), the Ultimate 65 dBA CNEL noise contour for the airport does not encroach into the City. The Proposed Project would not result in significant impacts related to Aircraft Noise.

California Noise Control Act of 1973

With implementation of the proposed General Plan Noise Element Policies, buildout of the proposed General Plan would not create noise environments in the City that would jeopardize the health or welfare of citizens. Measures to reduce noise impacts will be implemented on a project by project basis, including, construction of noise barriers, land use setbacks, and strategic building design and placement.

California Noise Insulation Standards (CCR Title 24)

The Proposed Project will not conflict with the California Noise Insulation Standards. Table 4I-2, Interior and Exterior Noise Standards, from the General Plan presents standards that are complimentary to the Title 24.

City of Grand Terrace General Plan, Noise Element

The proposed General Plan Noise Element establishes noise and land use compatibility standards and outlines goals and policies to achieve these standards. Under implementation of the Proposed Project, the City would use the Noise/Land Use Compatibility Matrix to determine the compatibility of land use when evaluating proposed development projects.

Noise sensitive land uses are uses where an excessive amount of noise would interfere with normal operations or activities and where a high degree of noise control may be necessary. Examples include schools, hospitals, and residential areas. Recreational areas may be considered noise-sensitive where quiet and solitude are an important aspect of the specific recreational experience. The Noise/Land Use Compatibility Matrix establishes the noise levels that are acceptable for the proposed land uses under the Proposed Project, based on the noise sensitivity of the land use.

Noise contours for major transportation sources in the City have been modeled to represent noise levels associated with build-out of the General Plan Circulation Element Roadways. These contours are used to provide a general visualization of sound levels, not absolute lines of demarcation. As shown in Exhibit 4I-1, areas near several General Plan Element roadways may be exposed to noise levels that equal or exceed noise compatibility guidelines and Exterior and Interior Noise Standards (Table 4I-2). Table 4I-3 lists where there may be land use/noise incompatibilities.

**Table 4I-3
Noise Sensitive Land Uses within Noise Contours**

	Potentially Incompatible Land Uses within the 65 dBA CNEL Roadway Noise Contour	
Land Use	Existing	Buildout
Single and multiple family residential, Duplex, Mobile Home, Transient Lodging, Hotels, Motels, Nursing Homes, Schools, Libraries, Churches, Hospitals, Nursing Homes, Auditoriums, Concert Halls and Amphitheaters	Locations¹ Within 800 feet of I-215 Within 235 feet from the BNSF Rail Line Within 300 feet of Barton Road Within 220 feet of La Cadena Drive Within the road right of way of Commerce Way Within 150 feet of Michigan Ave. N. of Van Buren St. Within 175 feet of Mt. Vernon Ave.	Locations¹ Within 1100 feet of I-215 Within 800 feet of the BNSF Rail Line Within 525 feet of Barton Road Within 400 feet of La Cadena Drive Within 400 feet of Commerce Way Within 400 feet of Michigan Ave. N. of Van Buren St. Within 400 feet of Mt. Vernon Ave.

Potentially Incompatible Land Uses within the 70 dBA CNEL Roadway Noise Contour		
Land Use	Existing	Buildout
Single and multiple family residential, Duplex, Mobile Home, Transient Lodging, Hotels, Motels, Nursing Homes, Schools, Libraries, Churches, Hospitals, Nursing Homes, Auditoriums, Concert Halls and Amphitheaters, Parks and Playgrounds	Locations¹ Within 600 feet of I-215 Within 300 feet of Barton Road Within the road right of way of La Cadena Drive Within 125 feet of BNSF Rail Line	Locations¹ Within 800 feet of I-215 Within 525 feet of Barton Road Within 120 feet of La Cadena Drive Within 160 feet of the BNSF Rail Line
Potentially Incompatible Land Uses within the 75 dBA CNEL Roadway Noise Contour		
Land Use	Existing	Buildout
Single and multiple family residential, Duplex, Mobile Home, Transient Lodging, Hotels, Motels, Nursing Homes, Schools, Libraries, Churches, Hospitals, Nursing Homes, Auditoriums, Concert Halls and Amphitheaters, Parks and Playgrounds, Golf Courses, Riding Stables, Cemeteries, Office and Professional Buildings	Locations¹ Within 200 feet of I-215	Locations¹ Within 300 feet of I-215 Within 75 feet of the BNSF Rail Line

¹ As measured from the roadway or rail centerline

City of Grand Terrace Municipal Code

Buildout of the Proposed General Plan will result in conversion of existing land uses into a mixed use designation which will allow residential and commercial land uses in close proximity of each other. Residential land uses may also be allowed to be developed near land currently designated for industrial land uses. Operation of commercial or industrial land uses can cause the exposure of on- or off-site areas to increased noise associated with mechanical equipment (pumps, rooftop equipment, condenser units, A/C units, pneumatic equipment), operation-related traffic (vehicle movement, engine noise), speakers, bells, chimes, and outdoor human activity in defined limited areas. The proposed proximity of residential land uses to commercial and industrial land uses may result in increased complaints regarding Section 8.108.020 of the Municipal Code which makes it unlawful for any person to make, continue or cause to be made or continued any loud, unnecessary and excessive noise which disturbs, offends, injures or endangers the peace, quiet, comfort, repose, health or safety of any neighborhood or person within the limits of the City.

Section 8.108.03 of the Municipal Code however, exempts noises that are a natural accompaniment and effect of a lawful business, commercial or industrial enterprise carried

on in an area zoned for that purpose except as otherwise provided for in this chapter; however, such noises must be reasonable and not fall within the prohibited noise categories as set forth in Section 8.108.050.

Section 8.108.03 of the Municipal Code also exempts the use of horns, sirens or other signaling or warning devices by persons vested with legal authority to use the same and in pursuit of their lawful duties, such as on ambulances, fire, police and other governmental or official vehicles.

Compliance with existing regulations and the proposed General Plan Policies, Noise/Land Use Compatibility Matrix, and Noise Standards identified above would reduce potential conflicts with established standards set forth in the General Plan, Municipal Code as well as standards set forth by State and Federal agencies. Implementation of mitigation measure MM4I-1, listed below will further reduce the potential for noise impacts related rail operations.

MITIGATION MEASURES

MM4I-1: **The City shall enforce the General Plan Noise Element Interior Noise Standards presented in Table 4I-2 by requiring submittal of evidence/documentation showing that interior noise levels will not exceed 45 dBA.**

LEVEL OF IMPACT SIGNIFICANCE AFTER MITIGATION

Impacts would be less than significant.

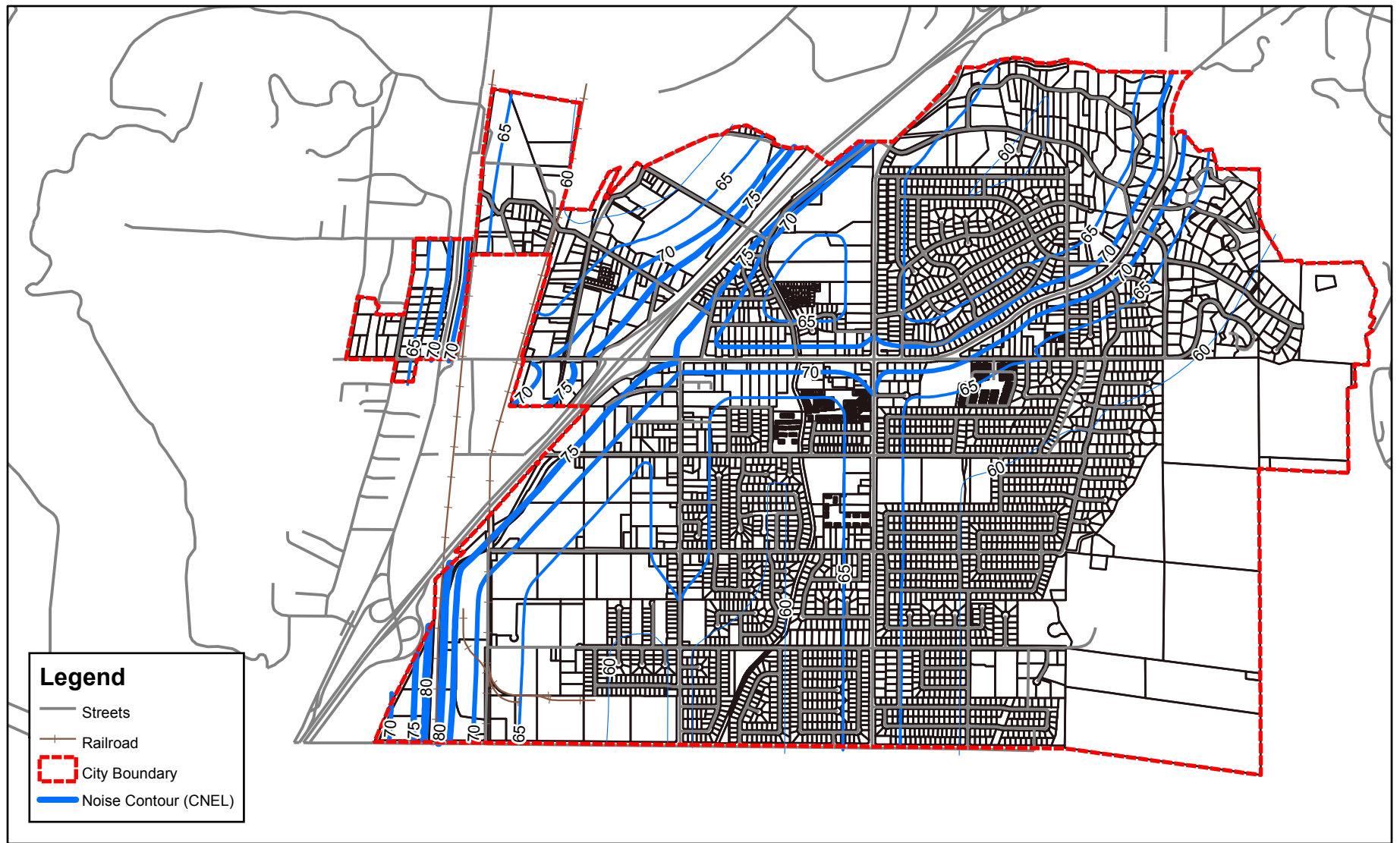
IMPACT 4I-2: **The Proposed Project would result in a significant impact if it creates a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project.**

Roadways

Table 4I-4 shows modeled existing roadway noise, modeled General Plan buildout roadway noise and the projected noise level increase due to General Plan buildout. It is important to note that modeled roadway noise only includes vehicular noise and measured existing noise may be much higher due to the contribution of other noise sources and cumulative noise. As shown, traffic volume increases associated with General Plan buildout will result in increases in noise levels of up to 16.9 dBA. A noise level increase is considered substantial if 1) the existing noise levels exceed the objectives presented in Table 4I-2 (65 dBA for residential and noise sensitive areas) and the proposed project would increase this noise level by 3 dBA CNEL (barely noticeable in an exterior environment) or more); or 2) the noise level with the implementation of the proposed project would remain within the objectives shown in Table 4I-2, but the project adds 5 dBA CNEL (noticeable to most people) or more to the pre-project noise levels.

General Plan buildout will result in traffic volumes that result in noise level of increases of 5 dB or greater along most Circulation Element roadways. Where noise level increases are less than 5 dBA but more than 3 dBA, it is likely that the projected increase will cause ambient noise levels to exceed objective noise levels in Table 4I-2 above.

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Table 4I-4**Increase in Noise Levels Associated with General Plan Buildout Traffic Volumes**

Circulation Roadways	Modeled General Plan Noise Levels @100 feet from Centerline	Modeled Existing Noise Levels @ 100 feet from Centerline	Modeled Increase in Noise Levels due to General Plan Buildout
Newport Road	62.80	54.47	8.33
Grand Terrace Road	62.80	54.47	8.33
Canal Street	62.80	54.47	8.33
Van Buren Street	62.80	54.47	8.33
Pico Street	62.80	54.47	8.33
Preston Street	62.80	54.47	8.33
Observation Street	62.80	54.47	8.33
Palm Ave	62.80	57.03	5.77
De Berry Street	62.80	57.70	5.10
Main Street E. of Mt. Vernon	62.80	58.09	4.71
Michigan Ave S. of Van Buren	62.80	60.71	2.09
La Cadena Drive	71.23	68.74	2.49
Commerce Way W. of Michigan	71.41	54.47	16.94
Mt. Vernon Ave	71.41	67.87	3.54
Michigan Ave N. of Van Buren	71.41	66.79	4.62
Main Street W. of Mt. Vernon	71.41	58.09	13.32
Barton Road	72.75	70.34	2.41
Commerce Way E. of Michigan	72.75	54.47	18.28

Rail

As discussed previously, future train activity along the BNSF railroad is anticipated to increase to 120 freight trains and 100 passenger trains per day by 2025 and train activity for the UPRR is not expected to increase in the near future. Future rail noise will increase significantly. Train horn noise is also expected to increase proportionally.

These noise events may be disruptive to exterior and interior activities. Enforcement of interior noise standards presented in Table 4I-2, which require that a plan demonstrating that interior noise levels will meet interior standards and will minimize impacts associated with train horn noise. With implementation of MM4I-1 and Proposed General Plan Policies 6.3.6 through 6.3.8, impacts related to rail activity would be reduced to a level below significance.

Non-Transportation Noise Sources

Implementation of the proposed General Plan Update would result in the addition of a mixed use land use designation, single family residential, medium density residential, industrial and public land uses. The General Plan Update would also convert several small areas from other land use designations to Public land uses. The conversion of existing land uses to a mixed use designation is the most likely to result in a noise/land use compatibility impact. The mixed use land use may include both residential and commercial land uses that inherently have the potential to conflict. Residential land uses may also be proposed near existing industrial designated land. Operation of commercial or industrial land uses can cause the exposure of on- or off-site areas to increased noise associated with mechanical equipment (pumps, rooftop equipment, condenser units, A/C units, pneumatic equipment), operation-related traffic (vehicle movement, engine noise), speakers, bells, chimes, and outdoor human activity in defined limited areas. Implementation of General Plan Policies 6.1.1, 6.2.2, 6.2.2b, 6.2.3, 6.24, 6.2.5, and 6.2.5b will reduce potential impacts related to stationary noise sources to a level below significance.

MITIGATION MEASURES

Noise levels associated with roadways would increase with implementation of the Proposed General Plan Update. The policies listed above, however, would mitigate potential noise impacts to noise sensitive land uses to the extent feasible. Nevertheless, a permanent noise increase would remain along many existing roadways. Therefore, permanent noise increases associated with City roadways are considered significant and unavoidable.

LEVEL OF IMPACT SIGNIFICANCE AFTER MITIGATION

Impacts would remain significant.

IMPACT 4I-3: **The Proposed Project would result in a significant impact if it creates a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project.**

Construction Noise

Construction equipment associated with project-related development activities would include, but are not limited to; site grading, truck/construction equipment movement, engine noise, etc. Typical construction equipment noise levels at a distance of 50 feet away are provided in Table 4I-5.

According to the information presented in Table 4I-5, the peak noise level for most of the equipment that will be used during construction is 80-89 dBA at a distance of 50 feet. At 150 feet, the peak construction noise levels would range from 68-77 dBA. At 300 feet the peak noise levels would range from 62-71 dBA. Note that these levels are based upon worst case conditions.

Table 4I-5
Typical Construction Equipment Noise Levels

Equipment	Typical Noise Level (dBA) at 50 feet or more
Air Compressor	81
Backhoe	80
Compactor	82
Concrete Mixer	85
Crane, Derrick	88
Dozer	85
Grader	85
Jack Hammer	88
Loader	85
Paver	89
Pile-driver (Impact)	101
Pump	76
Roller	74
Scraper	89
Truck	88

Source: U.S. Environmental Protection Agency, May 2006.

The grading/site preparation phase of construction is widely recognized to be the loudest part of construction. Scrapers, backhoes, excavators, dozers, and trucks are all utilized during this phase. A typical cycle for these machines includes between 1 and 2 minutes of full power operation followed by 3-4 minutes of lower power. The higher power operation produces noise levels similar to those shown in Table 4I-5.

As described previously, the majority of new development will occur in the west and southwest portions of the City. Therefore, this area is more likely to be affected by temporary increases in ambient noise from construction as a result of the development of land uses proposed under the Proposed Project.

Implementation of the Proposed General Plan will result in construction activities. Construction noise may result in temporary substantial increases in noise levels. Adherence to Municipal Code Section 8.108.040 which prohibits construction activities between the hours of eight p.m. and seven a.m. on weekdays, including Saturday, or at any time on Sunday or a national holiday will reduce impacts to a level below significance.

Nuisance Noise

Intermittent or temporary neighborhood noise from amplified music, public address systems, barking dogs, landscape maintenance, and stand-by power generators are disturbing to residents but are difficult to attenuate and control. These noise sources could result in a significant impact if they violate the Municipal Code Section 8.108.020. This Section States that "It is unlawful for any person to make, continue or cause to be made or continued any loud, unnecessary and excessive noise which disturbs, offends, injures or endangers the peace, quiet, comfort, repose, health or safety of any neighborhood or person within the limits of the City.

The Proposed Project would accommodate the development of additional residential and mixed-use development, which may result in an increased number of residents registering

noise complaints from neighboring uses. Continuing enforcement of the Municipal Code would reduce potential nuisance noise impacts to the extent feasible.

MITIGATION MEASURES

No mitigation measures are necessary.

LEVEL OF IMPACT SIGNIFICANCE AFTER MITIGATION

Impacts would be less than significant.

IMPACT4I-4: The Proposed Project would result in a significant impact if it exposes people to excessive groundborne vibration or groundborne noise levels.

The Proposed Project would have the potential to result in significant groundborne vibration or noise if construction activities associated with the development of land uses proposed under the Proposed Project would exceed the groundborne vibration levels listed in Table 4I-6, or if new vibration sensitive land uses would be located in the vicinity of groundborne vibration inducing land uses such as railroads or mining operations. Groundborne vibration can disrupt vibration-sensitive land uses by causing movement of buildings, rattling of windows and items inside buildings, rumbling sounds, and even property damage. According to the Transit Noise and Vibration Impact Assessment, prepared by the FTA (2006), background vibration level in residential areas is typically 0.00003 in/sec RMS, which is lower than 0.0001 in/sec RMS, the threshold of perception for humans.

**Table 4I-6
Significance Threshold for Ground-borne Vibration and Noise Impacts**

Land Use Category ⁽⁵⁾	Groundborne Vibration Impact Levels (inches per second RMS)		Groundborne Noise Impact Levels (dB re 20 micro Pascals)	
	Frequent Events ⁽¹⁾	Occasional or Infrequent Events ⁽²⁾	Frequent Events ⁽¹⁾	Occasional or Infrequent Events ⁽²⁾
Category 1: Buildings where low ambient vibration is essential for interior operations (research & manufacturing facilities with special vibration constraints).	0.0018 ⁽³⁾	0.0018 ⁽³⁾	Not Applicable ⁽⁴⁾	Not Applicable ⁽⁴⁾
Category 2: Residences and buildings where people normally sleep (hotels, hospitals, residences, & other sleeping facilities).	0.0040	0.010	35 dBA	43 dBA
Category 3 ⁽⁶⁾ : Institutional land uses with primarily daytime use (schools, churches, libraries, other institutions, & quiet offices).	0.0056	0.014	40 dBA	48 dBA

RMS = root mean squared

(1)"Frequent Events" is defined as more than 70 vibration events per day. Most rapid transit projects fall into this category.

(2) "Occasional or Infrequent Events" are defined as fewer than 70 vibration events per day. This combined category includes most commuter rail systems.

(3) This criterion limit is based on levels that are acceptable for most moderately sensitive equipment such as optical microscopes. Vibration sensitive manufacturing or research will require detailed evaluation to define acceptable vibration levels. Ensuring lower vibration levels in a building often requires special design of the HVAC systems and stiffened floors.

(4) Vibration-sensitive equipment is not sensitive to ground-borne noise.

(5) There are some buildings, such as concert halls, TV and recording studios, and theaters that can be very sensitive to vibration and noise but do not fit into any of the three categories.

(6) For Categories 2 and 3 with occupied facilities, isolated events such as blasting are significant when the peak particle velocity (PPV) exceeds one inch per second. Non-transportation vibration sources such as impact pile drivers or hydraulic breakers are significant when their PPV exceeds 0.1 inch per second.

**Table 4I-7
Typical Levels of Groundborne Vibration**

Vibration Level		Typical Sources (50 ft from Source)	Human/Structural Response
VdB ⁽¹⁾	in/sec RMS		
100	0.01	Blasting from construction projects	Threshold, minor cosmetic damage to fragile buildings
90-100	0.003-0.01	Bulldozers and other heavy tracked construction equipment	Difficulty with tasks such as reading
80-90	0.001-0.003	Commuter rail and rapid transit, upper range	Residential annoyance, infrequent events (e.g. commuter rail)
70-80	0.0003-0.001	Typical commuter rail, bus or truck over bump, typical rapid transit	Residential annoyance, frequent events (e.g. rapid transit)
60-70	0.0001-0.0003	Bus or truck, typical	Limit for vibration sensitive equipment. Approximate threshold for human perception
50	0.00003	Typical background vibration	Not detectable

⁽¹⁾ RMS Vibration Velocity Level in VdB relative to 10⁻⁶ inches/second Source: Federal Transit Administration, 2006

Construction

As shown in Table 4I-7, construction typically results in ground-borne vibration that ranges from 0.003 to 0.01 in/sec RMS at a distance of 50 feet. These vibration levels would exceed the significant threshold for infrequent events (fewer than 70 vibration events per day) for Category 1 land uses (vibration-sensitive equipment), but would not exceed the threshold level for the land uses within Categories 2 and 3. For isolated events such as blasting, impacts would be significant if the PPV exceeds 1.0 in/sec RMS. For other vibration sources such as pile drivers or hydraulic breakers, impacts would be significant if the PPV exceeds 0.1 in/sec RMS.

Since no specific plans or time scales for individual projects are yet available, it is not possible to determine exact vibration levels associated with the development of land uses proposed under the Proposed Project. The currently undeveloped land located in the west and southwestern portion of the City would most likely to be subjected to temporary construction related vibration impacts. Adherence to Municipal Code Section 8.108.040 which prohibits vibration created by construction activities between the hours of eight p.m.

and seven a.m. on weekdays, including Saturday, or at any time on Sunday or a national holiday will reduce impacts to a level below significance.

Railroads

Two railroads traverse the western portion of the City. The Burlington Northern Santa Fe and Union Pacific Railroads extend in a north-south route through the City of Grand Terrace. Metrolink service is also provided on the railroad tracks, with nearest stations in the City of Riverside to the south and the City of San Bernardino to the north. The only arterial roadways crossings of these railroads are at Main Street and Barton Road. The Barton Road crossings currently are grade separated. The Main Street crossing is at grade, which results in roadway traffic delays when trains are utilizing the railroad tracks. As shown in Table 4I-7, typical vibration levels for commuter rail operations can range from 0.0003 to 0.003 in/sec VMS at a distance of 50 feet. At this distance, vibration levels would not exceed the significance threshold for Categories 2 and 3, but may exceed the significance threshold for Category 1 land uses (vibration-sensitive equipment).

New development that may occur adjacent to either the BNSF or the UPRR rail line may be exposed to vibration impacts. The FTA provides screening distances for land use categories to screen projects that may be subject to vibration impacts from a commuter railroad. For Category 1 land uses (vibration-sensitive equipment), the screening distance from the railroad right-of-way to the property line is 600 feet. For Category 2 land uses, the screening distance is 200 feet. The screening distance for Category 3 land uses is 120 feet. New development that is proposed within the screening distance of the either rail line may require further analysis to determine potential vibration-related impacts.

In addition to the City Municipal Code standards and the General Plan Policies cited above, the following Policy from the Proposed General Plan Noise Element reinforces enforcement of the Municipal Code discussed above.

Policy 6.2.7: The City shall evaluate potential ground-borne vibration impacts as part of the land use planning process to mitigate or avoid detrimental impacts on adjacent land uses.

MITIGATION MEASURES

MM4L-2 For Land Use Categories defined in Table 4I-6, a ground-borne vibration technical study shall be required for proposed land uses within the following distances from the either the UPRR or BNSF rail line rights-of-way and the property line: 600 feet of a Category 1 Land Use, 200 feet of a Category 2 Land Use, and 120 feet of a Category 3 Land Use. If necessary, mitigation shall be required for land uses in compliance with the standards listed in Table 4I-6.

LEVEL OF IMPACT SIGNIFICANCE AFTER MITIGATION

Impacts would be reduced to levels below significant.

CHAPTER 4J - POPULATION AND HOUSING

This Chapter of the Program EIR addresses the potential for adverse environmental impacts on population and housing resulting from project implementation. Impacts related to build out of the updated General Plan and amended Redevelopment Plan are analyzed based on population, employment, and housing changes compared to current conditions. This Chapter is based on data contained in the Housing Element of the General Plan Update. Additional information incorporated into this Chapter was derived from the California State Department of Finance (DOF) data, United States Bureau of the Census data, and Southern California Association of Governments (SCAG) projections.

4J.1 ENVIRONMENTAL SETTING

POPULATION CHARACTERISTICS

Population

The City was incorporated as a general law city on November 7, 1978. At its incorporation, Grand Terrace was primarily a residential community surrounded by the City of Colton. As illustrated in Table 2.1 (Existing Land Uses), residential land use comprises 42.3 percent of land in the City. In 1980, Grand Terrace had a population of 8,498 (United States Census, 1980). Since incorporation, the population of Grand Terrace grew by more than 46 percent to 11,626 (101 of whom resided in group quarters) in the year 2000 (United States Census, 2000). More than 75 percent of this growth occurred between 1978 and 1990, when the population of Grand Terrace became 10,946. The California State Department of Finance estimates Grand Terrace population on January 1, 2008 was 12,543 (Department of Finance, 2008). Southern California Association of Governments (SCAG) has estimated the population of Grand Terrace will be 14,396 in the year 2020 (SCAG, 2008). SCAG population estimates are often higher than United States Department of the Census or other estimates because it is believed the Census counting efforts do not reach everyone.

Between 1990 and 2000, the population of Grand Terrace increased by 6.2 percent. The County of San Bernardino population increased 20.5 percent during that decade. Table 4J-1 presents a comparison of population growth in Grand Terrace with the County of San Bernardino during the period between 1990 and 2000.

**Table 4J-1
Population Growth of City of Grand Terrace and
County of San Bernardino, 1990 and 2000 Census**

	1990 Census	2000 Census	1990 Census	2000 Census
Total Population	10,946	11,626	1,418,380	1,709,434
Percent Change in Total Population 1990- 2000	+6.2%		+20.5%	

Table 4J-2 presents City of Grand Terrace population from 1970 through 2020.

Table 4J-2
City of Grand Terrace Comparative Population Data, 1970 – 2020

	1970	1980	1990	2000	2020
Population					
Total	5,901	8,498	10,946	11,626	13,816
Group Quarters	-	-	110	101	-
Resident Population	-	-	10,836	11,525	-

Source: Data from 1970, 1980, 1990 and 2000 is from the United States Census of those respective years; 2020 data is from the Southern California Association of Governments, San Bernardino East Valley Mode, October 1996

Racial and Ethnic Demography

The population of the City is predominantly “White”; 74 percent of its population identify themselves as White. The largest non-white ethnic group is comprised of persons of Hispanic or Latino heritage. This ethnic group comprises 25 percent of the population of Grand Terrace. Between 1990 and 2000, Grand Terrace experienced a slight decrease in the proportion of its white population and a slight increase in its Hispanic or Latino population. Proportions of Blacks, Asians, and other racial/ethnic groups in Grand Terrace remained relatively unchanged between 1990 and 2000.

San Bernardino County also experienced a decrease in its White population between 1990 and 2000. During this decade, the County White population decreased from 73 percent to 59 percent; the Hispanic or Latino population correspondingly increased from 27 percent of the County total population to 39 percent. Proportions of Blacks, Asians, and other racial/ethnic groups in the County of San Bernardino remained relatively unchanged between 1990 and 2000. Table 4J-3 presents racial and ethnic demographic data for the City and the County of San Bernardino for the period between 1990 and 2000.

Table 4J-3
Racial/Ethnic Composition of City of Grand Terrace and
County of San Bernardino, 1990 – 2000

Category	City of Grand Terrace		County of San Bernardino	
	1990 Census	2000 Census	1990 Census	2000 Census
Population (Total)	10,946	11,626	1,418,380	1,709,434
Percent Change in Total Population 1990-2000		+6.26%		+20.5%
Population (White)				
Number of Residents (White)	8,779	8,575	1,035,328	1,006,960

Category	City of Grand Terrace		County of San Bernardino	
	1990 Census	2000 Census	1990 Census	2000 Census
Percent of Total Population (White)	80%	74%	73%	59%
Population (Hispanic/Latino)				
Number of Residents (Hispanic/Latino)	1,991	2,954	378,582	669,387
Percent of Total Population (Hispanic/Latino)	18%	25%	27%	39%
Population (Black)				
Number of Residents (Black)	413	537	114,934	155,348
Percent of Total Population (Black)	4%	5%	8%	9%
Population (Asian)				
Number of Residents (Asian)	642	653	54,772	80,217
Percent of Total Population (Asian)	6%	6%	4%	5%
Population (Other)				
Number of Residents (Other)	1,861	1,861	213,346	466,909
Percent of Total Population (Other)	17%	16%	15%	27%

Source: United States Department of the Census, 1990 and 2000

Age Characteristics

Table 4J-4 presents population by age data for the City and County of San Bernardino for 1990 and 2000. The age group percentages for Grand Terrace remained relatively stable during the 1990s; City median age increased from 32.2 years to 35.3 years during that decade. County of San Bernardino median age increased from 29.3 years to 30.3 years between 1990 and 2000.

Table 4J-4
Age of Population of City of Grand Terrace
and County Of San Bernardino

	City of Grand Terrace		County of San Bernardino	
	1990 Census	2000 Census	1990 Census	2000 Census
Total Population	10,946	11,626	1,418,380	1,709,434
Population Under 5 Years				
Number of Residents	905	756	138,342	143,076
Percent of Total Population	8%	7%	10%	8%
Population 5-19 Years				
Number of Residents	2,141	2,627	300,881	463,192
Percent of Total Population	22%	23%	21%	27%

	City of Grand Terrace		County of San Bernardino	
	1990 Census	2000 Census	1990 Census	2000 Census
Population 20-34 Years and Over				
Number of Residents	2,783	2,368	384,148	364,607
Percent of Total Population	25%	20%	27%	21%
Population 35-49 Years and Over				
Number of Residents	2,547	2,873	282,249	385,308
Percent of Total Population	23%	25%	20%	23%
Population 50-64 Years and Over				
Number of Residents	1,279	1,748	145,627	206,792
Percent of Total Population	12%	15%	10%	12%
Population 65 and Over				
Number of Residents	1,019	1,245	124,900	146,459
Percent of Total Population	9%	11%	9%	9%
Population Median Age	32.2	35.3	29.3	30.3

Source: United States Department of the Census, 1990 and 2000

HOUSING

The 2000 City population (11,626) was estimated to reside in 4,221 households with an average 2.75 persons per household. The Census reported 3,052 (75.3 percent) of the households were “family” households. Fifty-four (54) percent of family households were married family households; 27.7 percent were non-family households. Table 4J-5 presents comparative household numbers for Grand Terrace between 1970 and 2020.

Table 4J--5
Comparative Housing Data, City of Grand Terrace 1970 - 2020

Category	1970	1980	1990	2000	2020
Housing Units (Total)	1,917	3,282	4,059	4,458	5,511
Households	-	-	3,856	4,221	5,235
Household Size	3.14	2.76	2.81	2.75	2.75

Source: 1970, 1980, 1990 and 2000 is from the United States Census of those respective years; 2020 data is from the Southern California Association of Governments, San Bernardino East Valley Mode, October 1996.

The City and County of San Bernardino have similar household compositions to that of Grand Terrace. Table 4J-6 presents a comparison of City of Grand Terrace and County of San Bernardino household compositions

As indicated in Table 4J-6, the year 2000 City population of 11,626 was estimated to reside in 4,221 households. The year 2000 household size of 2.75 persons represented a decrease from 3.14 persons in 1970. The estimated household size at build out of the City General Plan Update and Amendment to the Redevelopment Plan is 2.82 persons.

According to United States Census Bureau data for year 2000, 65 percent of homes in the City were owner-occupied. The comparable rate of home owner occupancy in San Bernardino County was 64.5 percent. In 2000, the median home price in Grand Terrace was \$142,600; San Bernardino County median price was \$131,500.

Table 4J-6
Household Composition, City of Grand Terrace and
County of San Bernardino, Year 2000

	CITY OF GRAND TERRACE		COUNTY OF SAN BERNARDINO	
Household Type	Number	%	Number	%
<i>Family Households</i>	3,052	72.3	404,327	76.5
With own children < 18 years	1,479	35.0	230,916	43.7
Married couple family	2,282	54.1	294,701	55.8
With own children < 18 years	1,057	25.0	163,656	31.0
Female householder	568	13.5	78,189	14.8
With own children < 18 years	315	7.5	49,345	9.3
<i>Non-Family Households</i>	1,169	27.7	124,267	23.5
Householder living alone	915	21.7	97,482	18.4
Householder > 65 years	237	5.6	34,822	6.6
<i>Total Households</i>	4,221	100.0	528,594	100.0
<i>Average Household Size</i>	2.70		3.15	
<i>Average Family Size</i>	3.15		3.58	

Source: United States Department of the Census, 2000

HOUSEHOLD INCOME

Household income is a primary factor addressing housing needs in a community since the ability of a household to afford housing is related to the household's income. The 2007 median income for a four-person household within the Riverside-San Bernardino-Ontario Metropolitan Statistical Area (MSA) was \$59,200. The County median of \$59,200 was used to determine the income category a four-person household falls into as shown in Table 4J-7.

Table 4J-7
City of Grand Terrace Household Income Categories,
(4 Person Household), Year 2007

Category	Percent of Median Income	Income Range
Extremely Low	30% or Less of Median	≤ \$17,760
Very Low	31% to 50% of Median	\$18,352 - \$29,600
Low	51% - 80% of Median	\$30,192 - \$47,360
Moderate	81% - 120% of Median	\$47,952 - \$71,040
<i>Median Income</i>		<i>\$59,200</i>

Table 4J-8 shows the household income characteristics for all income groups within the City, based on the median income noted above. This table shows that approximately 34 percent of renter households fall into the low income (extremely low, very low and low) categories, and that

approximately 20 percent of owner households fall into the lower income categories, as well. In comparison, approximately 66 percent and 80 percent of renter and owner households, respectively, fall into the moderate and above income categories. (The source of this data is the Southern California Association of Governments, 2007, based on United States Census data, 2000.)

**Table 4J-8
City of Grand Terrace Household Income Distribution,
Year 2007**

Income Category*	Renter		Owners	
	Households	Percent	Households	Percent
Extremely Low (Less than 30%)	85	5.9%	94	3.5%
Very Low (31% to 50%)	98	6.7%	190	7.1%
Low (51% to 80%)	310	21.4%	255	9.3%
Moderate and above (Over 81%)	955	66.0%	2200	80.1%
Total Households	1,448	100%	2,739	100%
**% of County median income				

Source: Southern California Association of Governments (2007) based on United States Census data (2000)

Table 4J-9 compares the City's total income distribution with that of San Bernardino County. This table shows that the City has a lesser percentage of households within the lower income categories than the County. Also, the City has a higher percentage of households in the moderate and above income categories.

**Table 4J-9
Household Income Distribution City of Grand Terrace and
County of San Bernardino, Year 2007**

Income Category*	City of Grand Terrace		County of San Bernardino	
	Households	Percent	Households	Percent
Extremely Low (Less than 30%)	179	4.3%	7,905	13.1%
Very Low (31% to 50%)	288	6.8%	8,135	13.5%
Low (51% to 80%)	565	13.5%	11,670	19.4%
Moderate and above (Over 81%)	3,155	75.3%	32,595	54%
Total Households	4,187	100%	60,305	100%
**% of County median income				

Source: Southern California Association of Governments (2007) based on United States Census data (2000)

The household income distribution groups listed in Table 4J-10 and are shown as identified by the Regional Housing Needs Assessment for purposes of the Housing Element and identifying the City's housing needs. However, household income levels within the City run a gamut of levels as shown in Table 4J-10 below.

Table 4J-10
Household Income in Grand Terrace
1990 – 2000

	1990 CENSUS		2000 CENSUS	
Income	No. of Households	Percent of Households	No. of Households	Percent of Households
Less than \$ 5,000	51	1.30%	21	0.50%
\$ 5,000 - \$ 9,999	123	3.20%	125	3.00%
\$ 10,000 - \$14,999	135	3.50%	187	4.50%
\$ 15,000 - \$24,999	462	11.90%	449	10.70%
\$ 25,000 - \$34,999	592	15.20%	354	8.40%
\$ 35,000 - \$49,999	821	21.10%	730	17.40%
\$ 50,000 - \$74,999	971	25.00%	1,169	27.90%
\$ 75,000 - \$99,999	474	12.20%	676	16.10%
\$100,000 - \$149,999	185	4.80%	357	8.50%
\$150,000 or more	76	2.00%	128	3.30%
Total Households	3,890	100.00%	4,196	100.00%*
Median Household Income		\$45,127		\$53,649
*Differences due to rounding				

EMPLOYMENT PROFILE

Commercial and industrial uses generally were located along regional transportation corridors in the City of Colton. Commercial and industrial uses occupy 9.4 percent of Grand Terrace land. Public and Institutional uses occupy 6 percent of Grand Terrace

According to United States Bureau of Census data, year 2000 median household income in the City was \$53,649. County of San Bernardino median household income in year 2000 was \$42,066. Fifty-four and four-tenths (54.4) percent of Grand Terrace households were at, or exceeded, County median income. Approximately 27 percent of Grand Terrace households earned less than \$36,102, which represents 80 percent of County median income.

REGULATORY SETTING

Municipal Code

The Grand Terrace Municipal contains Title 15 (Buildings and Construction) which regulate site and building construction in the City, including housing. In addition, Title 18 Zoning contains the City's Zoning Code which contains design standards that regulate the development of housing including density, building setbacks, building height, parking and open space.

Grand Terrace General Plan

The Updated General Plan identifies the following goals and policies:

Land Use Element

Goal 2.1. Provide for balanced growth which seeks to provide a wide range of employment and housing opportunities and maintenance of a healthy, diversified community.

Policy 2.1.7: The City shall continually refine population growth forecasts to insure adequate planning for anticipated increased levels of sewerage, water and other necessary community services.

Goal 2.2 Preserve and enhance the quality and character of the City's residential neighborhoods.

Policy 2.2.2: All residential developments shall comply with the goals and policies of the Housing Element of the General Plan.

Circulation Element

Policy 3.3.1: Promote the safe and effective movement of all segments of the population and the efficient transport of goods.

Housing Element

Goal 8.1 Provide and encourage a supply of housing suitable to the needs and sufficient in number to serve existing and projected residents of Grand Terrace.

Policy 8.1.1 Promote and encourage development of housing, which varies by type, design, form of ownership, and size.

Policy 8.1.2 Maximize use of remaining vacant land suitable for residential development.

Policy 8.1.3 Promote and encourage infill housing development and more intensive use of underutilized land for residential construction.

Policy 8.1.4 Encourage the use of innovative land use techniques and construction methods to minimize housing costs without compromising basic health, safety, and aesthetic considerations.

- Policy 8.1.5 Strive to provide incentives for and otherwise encourage the private development of new affordable housing for low- and moderate-income households.
 - Policy 8.1.6 Facilitate construction of low- and moderate-income housing to the extent possible.
 - Policy 8.1.7 Periodically reexamine local building and zoning codes for possible amendments to reduce construction costs without sacrificing basic health and safety considerations.
 - Policy 8.1.8 Continue a policy of expeditious processing of residential development proposals and permits.
 - Policy 8.1.9 Amend the Barton Road Specific Plan to promote a village atmosphere in the downtown that will encourage a mix of residential and commercial activity.
 - Policy 8.1.10 Promote mixed use development with senior citizen housing in the Barton Road Specific Plan areas.
 - Policy 8.1.11 Provide Redevelopment Agency assistance and bond financing to qualified developments to obtain new senior citizen housing in the Barton Road Specific Plan area.
 - Policy 8.1.12 Provide for a new zoning category to permit a density of at least 20 units per acre with a density bonus of 25 percent per State housing law, which would qualify for very low income housing.
 - Policy 8.1.13 Provide for housing set-aside funds to be committed to the “Habitat for Humanity” or similar organization for the development of low-income housing.
- Goal 8.2: Promote and encourage housing opportunities, accessible to employment centers and quality community services for all economic segments of the community including designated very low, low, and moderate income households.
- Policy 8.2.1 Continue a policy of expeditious processing of residential development proposals and permits.
 - Policy 8.2..2 Encourage a wide range of housing types, prices, and ownership forms in new construction.
 - Policy 8.2.3 Emphasize and promote the role of the private sector in the construction of low- and moderate-income housing.
 - Policy 8.2.4 Support the development of cost saving and energy conserving construction techniques.

- Policy 8.2.5 Assist private developers in identifying and preparing land suitable for lower-income housing developments.
 - Policy 8.2.6 Encourage the inclusion of units for low- and moderate-income families as part of private sponsored housing developments.
 - Policy 8.2.7 Support efforts of private lenders to provide alternative financing methods to make homeownership available to a greater number of households.
 - Policy 8.2.8 Streamline administrative procedures for granting approvals and permits and establish time limits for such approvals to minimize time, costs, and uncertainty associated with development.
 - Policy 8.2.9 Provide zoning, subdivision, and construction incentives to minimize the cost of new and rehabilitated units.
 - Policy 8.2.10 Promote mixed-use development that includes provisions for affordable housing.
 - Policy 8.2.11 Provide Redevelopment Agency assistance and bond financing to qualified developments.
 - Policy 8.2.12 Continue operation of the City Housing Office to administer and monitor City housing programs to low and moderate income residents.
 - Policy 8.2.13 Commit existing and future housing set-aside dollars to continue and expand the City's existing first time home buyer assistance program as needed to meet the community's low and moderate income housing needs, as described in the Housing Element.
 - Policy 8.2.14 Commit the City's Housing Office to seek available State grants to provide funds to qualified owners of mobile homes for rehabilitation or replacement purposes and to qualified buyers for the purchase of mobile homes.
 - Policy 8.2.15 Work with the San Bernardino County Housing Authority in placing Section 8 certificates in the community, when appropriate.
 - Policy 8.2.17 Maintain and enhance the low density character of existing residential neighborhoods.
 - Policy 8.2.18 Investigate and pursue programs and funding sources designed to maintain and/or improve the affordability of existing housing units to low- and moderate-income households.
- Goal 8.3 Promote and encourage the rehabilitation of deteriorated dwelling units and the conservation of the currently sound housing stock.
- Policy 8.3.1 Promote utilization of rehabilitation assistance programs to alleviate overcrowded conditions and to remove architectural barriers.

- Policy 8.3.2 Encourage the rehabilitation of deteriorating owner-occupied and rental housing.
- Policy 8.3.3 Take action to promote the removal and replacement of those substandard units that cannot be rehabilitated.
- Policy 8.3.4 Upgrade community facilities and municipal services as community needs warrant.
- Policy 8.3.5 Encourage the use of rehabilitation assistance programs to make residences more energy efficient.
- Policy 8.3.6 Commit existing and future housing set-aside dollars to continue and expand the City's housing rehabilitation program as needed to meet the community's low and moderate income housing, as described in the Housing Element.
- Policy 8.3.7 Utilize public information and assistance programs to encourage repair before deterioration occurs.
- Policy 8.3.8 Monitor housing conditions in Grand Terrace on a semi-annual basis.
- Policy 8.3.9 Prevent the encroachment of incompatible uses into established residential neighborhoods.
- Policy 8.3.10 Sustain a high standard of maintenance for all publicly owned property.
- Policy 8.3.11 Preserve the physical character of existing neighborhoods.
- Policy 8.3.12 Encourage the maintenance of sound owner-occupied and rental housing.
- Policy 8.3.13 Maintain and enhance the low density character of existing residential neighborhoods.

4J.2 SIGNIFICANCE THRESHOLD CRITERIA

The criteria used to determine the significance of impacts on population and housing are taken from City-approved Thresholds of Significance based on the City's Initial Study and the model Initial Study checklist in Appendix G of the State *CEQA Guidelines*. A significant impact would occur if implementation of the proposed General Plan Update and Amendment to the Redevelopment Plan would:

- Induce substantial population growth in an area, either directly (for example, proposing new homes and business) or indirectly (for example, through extension roads or other infrastructure);
- Displace substantial numbers of existing housing units, necessitating the construction of replacement housing elsewhere; and/or

- Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere.

4J.3 IMPACTS AND MITIGATION MEASURES

Effects of the proposed project have been categorized as either a “less than significant impact” or a “potentially significant impact”. Mitigation measures are recommended for potentially significant impacts. If a potentially significant impact cannot be reduced to a less than significant level through the application of mitigation, it is categorized as a significant unavoidable impact.

The characteristics of a project that can trigger population, employment or housing changes are 1) actual development of residential, commercial, and industrial space, or 2) changes in land use development intensity standards.

Table 4J-11 presents a comparison of land use acreages in the existing City General Plan with land use acreages proposed in the updated City General Plan. Existing land uses designated for industrial, institutional, public, and vacant uses are being converted to designated residential public and commercial uses as part of the Updated General Plan.

**Table 4J-11
Land Use Acreages Comparison**

Land use Category	Existing	Proposed	Change
Hillside Low Residential	115.3	125.0	+ 9.7
Low Density Residential	901.2	885.0	- 16.2
Medium Density Residential	195.0	185.9	- 9.1
Medium High Density Residential	6.0	6.0	0
General Commercial	154.9	88.5	- 66.4
Office Commercial	35.7	32.9	- 2.8
Light Industrial	211.4	107.0	- 49.4
Floodplain Industrial	26.1	40.1	+ 53.6
Hillside Open Space	184.1	179.0	- 5.1
Mixed Use	0	93.9	+ 93.9
Public	72.3	158.9	+ 86.6
Street and RR R/W	353.0	353.0	0
TOTAL	2,255.1	2,255.1	2,255.1

IMPACT 3J-1 The Proposed Project would induce substantial population growth in an area, either directly (for example, proposing new homes and business) or indirectly (for example, through extension roads or other infrastructure).

As of January 1, 2008, the California State Department of Finance estimated the population of the City to be 12,543. The great majority of remaining undeveloped land within the City is

located on Blue Mountain, within the Santa Ana River floodplain, or adjacent to I-215. The majority of this vacant land within the City is designated for Commercial, Industrial, or Hillside Open Space land uses. There are approximately 1,201 acres of residentially designated land shown on the proposed Land Use Map, and approximately 15 acres of land within the Mixed Use designation that would accommodate residential uses. These residential designations would be able to accommodate a population of up to 15,747 at the densities proposed. This is a growth of 25% from the DOF current estimate of 12,543. This growth is not considered significant.

IMPACT 3J-2 The Proposed Project would displace substantial numbers of people and/or housing units necessitating the construction of replacement housing elsewhere.

Implementation of the updated General Plan Update and amended Redevelopment Plan will result in population growth of at least 3,367 persons (using 2005 Census Bureau estimates) or 3,405 persons (using 2007 California State Department of Finance estimates) in the City at complete build out of the General Plan under proposed land uses. This projected growth in population represents an increase of 21.4 -21.6 percent over the estimated recent City population. This increase is comparable to the net increase in population growth (3,128 persons; 36.7 percent) that occurred between 1990 and 2000.

SCAG Integrated Growth Forecasts pertaining to population, housing and employment for the City are presented in Table 4J-12.

**Table 4J-12
SCAG Growth Forecasts, City of Grand Terrace
2010 – 2035**

	2010	2015	2020	2025	2030	2035
Population	12,926	13,406	13,801	14,188	14,557	14,911
Households	4,432	4,657	4,836	5,009	5,171	5,324
Employment	3,517	3,969	4,287	4,673	5,114	5,866

The Amended Redevelopment Plan (Section V of the Amended Redevelopment Plan) contains several requirements that will reduce the potential significant impacts related to displacement of existing housing and people to a less than significant level. These requirements will alleviate and prevent spread of blight and deterioration in Grand Terrace. These actions include the following: acquisition, installation, construction, re-construction, re-design or re-use of structures, public facilities and public improvements, structural demolition and rehabilitation, development of affordable housing, provision of opportunities for owner and tenant participation and extension of benefits for remaining in or relocating from the Redevelopment Area, provision of relocation assistance for displaced occupants, land development or re-development, property acquisition, on-site and off-site preparation, improvement of open space, street closures or vacations, structural relocations, and various forms of financial incentives for property development. The California Health and Safety Code mandates that any affordable housing destroyed or removed by the Agency is required to be replaced within four years so that there is no net loss of affordable housing. Therefore, no significant impact will occur.

MITIGATION MEASURES

No mitigation measures are required.

LEVEL OF IMPACT SIGNIFICANCE AFTER MITIGATION

All population, housing, and employment impacts associated with implementation of the proposed General Plan Update and Redevelopment Plan Amendment will be less than significant by adherence to and/or compliance with policies in the proposed General Plan Update, and requirements stipulated in the Amended Redevelopment Plan. No unavoidable significant population, employment and housing impacts will occur as a result of build out of the proposed General Plan Update and Amendment to the Redevelopment Plan.

CHAPTER 4K - PUBLIC SERVICES

The analysis in this Chapter focuses on public services. Public services include fire protection, police protection, schools, parks, and libraries. The potential impacts on public service agencies were evaluated based on correspondence (refer to Appendix G, Public Service/Utility Correspondence) with local public service agencies that serve the City.

4K.1 ENVIRONMENTAL SETTING

FIRE PROTECTION

Fire protection services for the City are provided by the San Bernardino County Fire Protection District, which provides the following services:

- Structural Fire Suppression
- Wildland Fire Suppression including County hand crews, bulldozers, and helicopter suppression services
- Emergency Medical Services including basic life support
- Technical Rescue Services
- Hazardous Materials Mitigation
- Incident Command and Control including Battalion Chiefs, Division Chiefs, and a County Incident Management Team
- Code Enforcement through the California Building Code and California Fire Code
- Pre-Fire Planning Services
- Public Education Services

The City is staffed by the San Bernardino County Fire Protection District and provides fire protection services for the citizens of the area. Fire Station Number 23, located at 22582 City Center Court is responsible for providing fire protection to the community of Grand Terrace. Daily staffing includes one career Fire Captain and one Limited-term firefighter. The daily staffing is augmented by a force of 20 paid-call firefighters. An additional firefighter augments the daily staffing during fire season (May-December), however funding for seasonal positions is reviewed annually and not guaranteed.

Equipment stationed at Station 23 includes the following:

- One Type 1 Fire Engine used for structural fires and general response to all calls
- One Type 3 Rescue Truck used for all types of technical rescue
- One Type 2 Squad Truck used for augmented response in conjunction with the Rescue Unit

- One Shoring Trailer used to carry emergency shoring materials for structural collapse and trench collapse rescues
- There is only one Fire Demand Zone for the City and the average response time is 5 minutes, 23 seconds.

POLICE PROTECTION

The City contracts with the San Bernardino County Sheriff to provide general patrol services as well as all necessary management and support services. Sheriff's services are operated from the County's main Sheriff's station at 655 East 3rd Street in San Bernardino.

The San Bernardino County Sheriff Department currently provides one Sheriff's Sergeant, one Sheriff's Detective, one Sheriff's Specialist, and eight Deputy Sheriffs for police protection within the City.

Average police service response times within the City for 2008 are indicated in Table 4K-1.

**Table 4K-1
Average Police Response Times 2008**

Priority	Response Time
Priority Emergency	3:31
Priority 1	5:43
Priority 2	8:14
Priority 3	11:24
Priority 4	10:34

Source: San Bernardino County Sheriff's Department

SCHOOLS

All public schools within the City are owned and operated by the Colton Joint Unified School District (CJUSD). Presently, there are two elementary schools and one middle school operated by CJUSD within the City limits. Table 4K-2 identifies current enrollment and capacity levels for each school in addition to any portable buildings being used.

Currently, two school facilities serving the City are above capacity levels and one is near capacity. In addition, every school has owned and leased portable buildings on-site.

In the event of overcrowding at any of the local schools, newly registered children may be transferred to other schools throughout the District until local capacity is available. High school-aged children currently attend Colton High School located in the City of Colton. The District has acquired property in the southwest portion of the City for a new high school which is currently under construction (High School #3).

**Table 4K-2
Current School Enrollment**

School	Enrollment*	Capacity	Portable Buildings	
			Owned	Leased
Grand Terrace Elementary School	807	530	13	7
Terrace View Elementary School	433	550	12	8
Terrace Hills Middle School	998	990	26	7

**CBBEDS as of 10/15/07*

Source: Colton Joint Unified School District

PARKS

The City has five public parks for a total 41.2 acres that include facilities for baseball, soccer, basketball, jogging, playgrounds, picnicking, and casual activities. Richard Rollins Park and Pico Park are developed; Griffin Park and TJ Austin Park are partially developed; and Susan Petta Park and Grand Terrace Wilderness Park are undeveloped.

Richard Rollins Park

Richard Rollins Park is located at 22735 De Berry Street in the City. The park provides the following amenities: soccer fields, public restrooms, 16 picnic tables, a toddler playground, and 80 parking spaces.

Pico Park

Pico Park is located at 21950 Pico Street in the City. The park provides the following amenities: one baseball /softball fields, two basketball courts, public restrooms, nine picnic tables, a toddler playground, and parking for 90 vehicles.

LIBRARIES

The Grand Terrace Branch Library is part of the San Bernardino County Library System. It is located in the Grand Terrace Civic Center at 22795 Barton Road. The Grand Terrace Branch Library is open seven days a week and provides on-site and internet services to patrons of the San Bernardino County Library System.

REGULATORY SETTING

Municipal Code

The Grand Terrace Municipal establishes Development Impact Fees for Public Use Facilities and Parkland and Open Space Acquisition; and contains Title 15 Building and Construction which regulates site and building development in accordance with applicable building and fire codes.

Grand Terrace General Plan

The Grand Terrace General Plan proposes the following:

Open Space and Conservation

Goal 4.1: That the Open Space needed for outdoor recreation in the City of Grand Terrace be provided and thereby, improve the quality of life for the residents of the City.

Policy 4.1.1: A park standard of five (5) acres per 1,000 population shall be used to determine the total acreage of developed parks and recreation areas for the City.

Policy 4.1.2: The City shall evaluate the siting of a public park site within that portion of the City lying westerly of I-215. The evaluation shall include the possibility of utilizing privately held, underutilized parcels and those areas subject to flood hazard lying west of the freeway.

Policy 4.1.3: The City shall evaluate the possibility of developing existing utility easements as linear parks.

Policy 4.1.4: The City shall evaluate the possibility of developing the Gage Canal as a linear park including a pedestrian/bike trail which would connect with the proposed regional trail along the Gage Canal in Riverside County.

Policy 4.1.10: The City will consider the feasibility of utilizing various methodologies and techniques to provide open space for identified future needs.

Policy 4.1.12: The City shall evaluate the feasibility of developing the proposed Grand Terrace Wilderness Park into an active recreational facility including biking, hiking, and picnicking.

Policy 4.3.9: The City shall apply a high fire overlay district to those areas in the City subject to wild land fires such as portions of Blue Mountain.

Action 4.3.9 a. As part of the General Plan and Zoning Ordinance updates, designate areas subject to high fire hazards with an overlay zone that establishes special development standards and criteria to mitigate the potential fire hazard.

Public Health and Safety Element

Goal 5.5 Maintain a high degree of readiness to respond to natural and man-made disasters.

Policy 5.5.1 Maintain effective emergency preparedness and response programs and coordinate with appropriate public agencies to develop a regional system to respond to natural and man-made emergencies and catastrophes.

Public Services Element

Goal 7.1 Coordinate and balance the provision of public services with existing and planned development to eliminate service gaps, maximize the use of existing public facilities and services, provide a high level of quality public services at a

reasonable cost, and maintain adequate services to meet the needs of current and future City residents and businesses.

Policy 7.1.1 All proposed development shall be evaluated to determine whether current public services and facilities can meet with their needs. If determined that current services and facilities are inadequate to meet the needs of new development, appropriate mitigation measures shall be applied to the new development to assure an adequate level of service

Policy 7.1.2 The City shall establish and periodically update a Development Impact Fee program for new development designed to generate adequate fees to provide new public services and facilities necessary to serve the new development.

Policy 7.1.6 The City shall work with the County of San Bernardino to evaluate the feasibility for the development of a new library within the City.

Policy 7.1.8 The City shall work with the Colton Joint Unified School District to evaluate the potential to share facilities such as playgrounds, libraries, and assembly halls in an effort to efficiently use these facilities and avoid duplication of these facilities.

Goal 7.5 Provide for adequate law enforcement and police protection services and facilities.

Policy 7.5.1 Work with the County Sheriff's Department to ensure that adequate police personnel, response times, and equipment are available to meet current and future demands of the City's residents and businesses.

Policy 7.5.2 Maintain and expand existing crime prevention and public education programs.

Goal 7.6 Provide for adequate fire protection services and facilities.

Policy 7.6.1 Work with the County Fire Department to ensure that adequate fire protection personnel, response times, and equipment are available to meet current and future demands of the City's residents and businesses.

Policy 7.6.2 Work with Riverside Highland Water Company to ensure adequate water pressure for fire-fighting throughout the City.

Policy 7.6.3 Maintain and expand existing fire prevention and public education programs.

Goal 7.7 In cooperation with the Colton Joint Unified School District, provide adequate public educational facilities and programs.

Policy 7.7.1 Work with the Colton Joint Unified School District to provide expanded public education facilities that meet the current and future needs of the residents.

Policy 7.7.2 Cooperate with the School District in the collection of school impact mitigation fees for all new developments within the City.

4K.2 SIGNIFICANCE THRESHOLD CRITERIA

The criteria used to determine the significance of impacts on public services are taken from City-approved Thresholds of Significance based on the City's Initial Study and the model Initial Study checklist in Appendix G of the State *CEQA Guidelines*. A significant impact would occur if implementation of the proposed General Plan Update and Amendment to the Redevelopment Plan would:

- Result in substantial adverse physical impacts associated with the provision of 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.

4K.3 IMPACTS AND MITIGATION MEASURES

IMPACT 4K-1 The Proposed Project would have a significant impact if it would result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, 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 or the public services: fire protection, police protection, schools, parks, or other public facilities.

Fire Protection

Build out of the proposed General Plan Update would result in additional demands on existing fire services, as individual projects are developed and associated increases in population are realized. New developments associated with the build out of the proposed General Plan Update would be required to comply with all applicable fire code and ordinance requirements for construction, access, water mains, fire flows, and hydrants. Individual projects would be reviewed by the San Bernardino County Fire Protection District to determine the specific fire requirements applicable to the specific development and to ensure compliance with these requirements. This would ensure that new developments would not reduce the staffing, response times, or existing service levels within the City. Therefore, implementation of the proposed General Plan Update would result in a less than significant impact in this regard.

Currently, daily staffing for fire protection services in the City include one career Fire Captain and one Limited-Term firefighter. The daily staffing is augmented by a force of 20 paid-call firefighters and during fire season (May-December) an additional firefighter augments the daily staff. In order to maintain adequate level of service for the community, a minimum daily staffing of three career positions (Captain, Engineer, and Firefighter/Paramedic) would be required. Optimum daily staffing would be four career positions.

Additional daily staffing would be required to maintain or exceed current response times in the City at General Plan build out. The City just completed a remodel of the Grand Terrace Fire Station so that it will accommodate the recommended staffing patterns indicated above,

reducing potential service and facility related impacts to a less than significant level. In addition, General Plan Goals 5.5, 7.1, 7.6 Policies 4.3.9, 5.5.1, 7.1.1, 7.1.2, 7.6.1 through 7.6.3 and their related Actions will support the activities of the San Bernardino County Fire Department, including provisions to coordinate and balance the provision of public services with existing and planned development, to establish and update on a regular basis a Development Impact Fee program so that new development generates adequate fees to support public services and facilities, and provisions that require development standards to be put in place for areas subject to high fire hazard . As a result of these Goals, Policies and Action the impact of population growth under the General Plan Update would be a less than significant impact to fire services.

MITIGATION MEASURES

No mitigation measures are required.

LEVEL OF IMPACT SIGNIFICANCE AFTER MITIGATION

Impacts would be less than significant.

Police Protection

Current staffing levels for the San Bernardino County Sheriff's Department meets the existing service demands for police protection within the City. The gradual increase in population and development associated with the proposed General Plan Update would require continued assessment of the adequacy of law enforcement staffing within the City. The need for increased police service within the City is determined by increases in service calls, demands on existing personnel, crime levels, and population.

As individual projects are proposed within the City, San Bernardino County Sheriff's Department service levels and staffing requirements would be evaluated to determine if additional staffing would be required. As the proposed General Plan build out would occur over a 20-year period, the San Bernardino County Sheriff's Department would effectively plan for increases in population and police protection service demand. No service shortfall requiring additional personnel or equipment is anticipated as a result of the implementation of the proposed Grand Terrace General Plan Update. The goals and policies in the proposed General Plan Update (Goal 7.1 and 7.5, and Policies 7.5.1 and 7.5.2) and their implementing Actions would reduce impacts resulting from the proposed General Plan Update to a less than significant level.

MITIGATION MEASURES

No mitigation measures beyond the policies identified in the proposed General Plan Update are required.

LEVEL OF IMPACT SIGNIFICANCE AFTER MITIGATION

Impacts would be less than significant.

Schools

Colton Joint Unified School District is responsible for the provision of public school facilities in the City. Currently, the three schools in the City are at or above capacity levels. Implementation of the proposed General Plan Update would allow for the construction of approximately 1,233

additional residential units and the addition of 4,121 residents through the City's build out. This increased population will result in increased student generation.

Colton Joint Unified School District assesses development fees against residential and commercial/industrial development to mitigate impacts resulting from the increase in demand for school related services. However, as school facilities within Grand Terrace are either near or in excess of capacity, significant impacts to school facilities would result from implementation of the proposed General Plan Update.

The General Plan Update Goal (7.7) and Policies (7.7.1 and 7.7.2), including their implementing Actions would ensure that school services maintain acceptable service levels.

As a result of these policies, the impact of population growth under the General Plan Update would be a less than significant impact to school services.

MITIGATION MEASURES

No mitigation measures beyond the policies identified in the proposed General Plan Update are required.

LEVEL OF IMPACT SIGNIFICANCE AFTER MITIGATION

Impacts would be less than significant.

Parks

Local park and recreation standards have been established to determine the appropriate size, type, and number of recreational facilities required to adequately serve a given population. The State of California has established a standard of four acres of improved park and recreational facilities per 1,000 population. Assuming a build out population of 17,500, the total required acreage is approximately 70 acres. As indicated in Table 4K-3, approximately 100 acres of developed and undeveloped parks and recreation areas are currently available throughout the City.

This acreage shall be provided through the following means:

City Parks: The City presently has five designated public parks. The five parks total 41.2 acres and include facilities for baseball, soccer, basketball, jogging, playgrounds, picnicking, and casual activities. All parks are improved except for Susan Petta Park that is planned as a passive park and the Wilderness Park that is proposed for hillside open space recreational uses.

Schools: Local schools play an integral part in providing active recreational facilities to city residents. The three local schools (two elementary and one middle) provide 19 acres of playgrounds and sports field. In addition, the planned public high school located in the southwest area of the City will add approximately 40 acres of improved recreational facilities for use by City residents. The City and the Colton Joint Unified School District maintain joint use agreements at all schools within the City.

**Table 4K-3
Existing Parks and School Sites**

Site	Acres
Richard Rollins Park	5.4 acres
Pico Park	5.0 acres
Susan Petta Park (undeveloped)	2.6 acres
Griffin Park (partially developed)	1.6 acres
T. J. Austyn Park (partially developed)	1.6 acres
Grand Terrace Wilderness Park (undeveloped)	25.0 acres
Park Total	41.2 acres
Terrace Hills Junior High School	9.0 acres
Grand Terrace Elementary School	5.0 acres
Terrace View Elementary School	5.0 acres
High School #3	40.0 acres
School Total	59.0 acres
Combined Total	100.2 acres

Source: City of Grand Terrace General Plan

The Open Space and Recreation and Public Services Element contain a number of Goals (4.1 and 7.8), and Policies (4.1.1 through 4.1.4, and 7.18), including their implementing Actions relating to the provision of open space and park facilities, including coordinating with the CJUSD for the use of joint facilities, and a development impact fee program for park space. Implementation of these General Plan Goals, Policies and Actions would reduce impacts to a less than significant level.

MITIGATION MEASURES

No mitigation measures are required.

LEVEL OF IMPACT SIGNIFICANCE AFTER MITIGATION

There would be no impact without mitigation.

Libraries

Most public libraries utilize space in relationship to population as the determining factor in providing services to the community. This is usually tempered by factors such as, the community's socio-economics, education, and the history of service within a community. The San Bernardino County Library's Master Facility Plan adopted a standard of 0.4 square foot per capita County wide. However, the County adopted a slightly higher standard for the City. Currently, the City's population of 12,543 should provide physical space of 5,000-5,500 square feet. The current space allocated for the City's library services is 3,500 (30 percent below standard), thus limiting the services the County library can provide for the community.

Implementation of the proposed General Plan Update would result in population increases to the City. Implementation of goals and policies in the General Plan Update (Goals 7.1 and Policies 7.1.6) would ensure that library services maintain acceptable service levels and reduce impacts to a less than significant level.

MITIGATION MEASURES

No mitigation measures beyond the policies identified in the proposed General Plan Update are required.

LEVEL OF IMPACT SIGNIFICANCE AFTER MITIGATION

Impacts would be less than significant.

CHAPTER 4L - RECREATION

This Chapter identifies existing parks and recreational facilities within the City and provides an analysis of potential impacts to parks and recreation facilities that could result from the implementation of the proposed General Plan Update and Amendment to the Redevelopment Plan. Mitigation measures to reduce significance of impacts are recommended, as necessary. The analysis is based on information obtained from the Open Space and Conservation Element of the proposed General Plan Update.

4L.1 ENVIRONMENTAL SETTING

The City has five public parks for a total of 41.2 acres that include facilities for baseball, soccer, basketball, jogging, playgrounds, picnicking, and casual activities (Exhibit 4L-1). Richard Rollins Park and Pico Park are developed; Griffin Park and TJ Austin Park are partially developed; and Susan Petta Park and Grand Terrace Wilderness Park are undeveloped.

REGULATORY SETTING

Quimby Act

Originally enacted in 1975, the Quimby Act (California Government Code Section 66477) allows cities and counties to pass ordinances requiring developers set aside land, donate conservation easements, or pay fees for park improvements. This act also allows local agencies to establish ordinances requiring developers of residential subdivisions to provide impact fees for land and/or recreational facilities. Revenues generated through the Quimby Act cannot be used for operation or maintenance of park facilities. In 1982, the Act was substantially amended to further define acceptable uses of, or restrictions on, Quimby funds, to provide acreage/population standards and formulas for determining exaction and to indicate exactions must be closely tied to project impacts. Local ordinances now must include definite standards for determining proportion of the subdivision to be dedicated and amount of fee to be paid.

General Plan

The General Plan Update includes the following policies related to recreation.

- Policy 2.5.2 Areas designated as Open Space shall be preserved to provide long term recreation opportunities as well as the preservation of scenic and environmental resources and the protection of public health and safety.
- Goal 4.1 That Open Space needed for outdoor recreation in the City of Grand Terrace be provided and thereby improve the quality of life for the residents of the City.
 - Policy 4.1.1 A park standard of 5 acres per 1,000 population shall be used to determine the total acreage of developed parkland for the City.
 - Policy 4.1.2 The City shall evaluate the siting of a public park site within that portion of the City lying westerly of I-215. The evaluation shall include the possibility of utilizing privately held, underutilized parcels and those areas subject to flood hazard lying west of the freeway.

- Policy 4.1.3 The City shall evaluate the possibility of developing existing utility easements as linear parks.
- Policy 4.1.4 The City shall evaluate the possibility of developing the Gage Canal as a linear park including a pedestrian/bike trail which would connect with the proposed regional trail along the Gage Canal in Riverside County.
- Policy 4.1.5 The City will establish guidelines and standards for the establishment of a linkage system among the City's parks and open space areas. In residential areas, the feasibility of utilizing sidewalks shall be made. These sidewalks will be part of the "Pedestrian Sidewalk Master Plan" called for in the Circulation Element and "safe routes" to schools plan. In addition, consideration will be given to the placement of appropriate signage along the sidewalk identifying them as part of a designated trail system.
- Policy 4.1.6 The City will work with other public agencies and private entities to coordinate its trail planning and development to tie into the regional trails systems, including the California recreational Trail System, connecting neighboring cities and counties. These trails may be used for pedestrian, equestrian, or biking. Such efforts will include a connection with the Santa Ana River Trail as shown in the "Plan of Open Space and Trails for the County of San Bernardino" and with the trail system of the County of Riverside including the proposed regional trail along the Gage Canal in Riverside County.
- Policy 4.1.7 The City will explore various means to fund the construction and maintenance of its trail system.
- Policy 4.1.8 The City shall evaluate the feasibility of developing observation points (lookouts) along the northern boundary of the City to take advantage of the spectacular views of the San Bernardino Mountains.
- Policy 4.1.9 The City shall develop Susan Petta Park as a passive park site connected to the City's Senior Center.
- Policy 4.1.10 The City will consider the feasibility of utilizing various methodologies and techniques to provide open space for identified future needs. These programs may include:
- Open space zoning pursuant to Section 65910 of the Government Code
 - Public acquisition of open space
 - Private acquisition of open space (e.g. non-profit land trusts or conservancies)
 - Application of the Quimby Act to subdivision approvals
 - Provision for open space in specific plans
 - Provision for open space in development agreements
 - Transfer of development rights
 - Open space in planned unit developments.
 - Joint use agreements with the Colton Joint Unified School District

Policy 4.1.11 The City will explore various ways for park/open space development and maintenance funding including such programs as:

- "Adopt a Park" where private groups and organizations can support, financially the procurement or recreational equipment and park maintenance.
- Actively seek out various government grant programs such as the Local Assistance Grants administered by the California Dept. of Parks & Recreation; the Urban Park and Recreation Recovery Program; CDBG grants, and other government sponsored programs.
- Explore the possibility of obtaining grants from private corporations.
- Actively use various resources on the Internet.
- Review the feasibility of utilizing various other mechanisms for funding open space development and maintenance.

Policy 4.1.12 The City shall evaluate the feasibility of developing the proposed Grand Terrace Wilderness Park into an active recreational facility including biking, hiking, and picnicking.

Policy 4.4.3 The City shall use various multi-media marketing methods to proactively market the City's parks and recreation facilities.

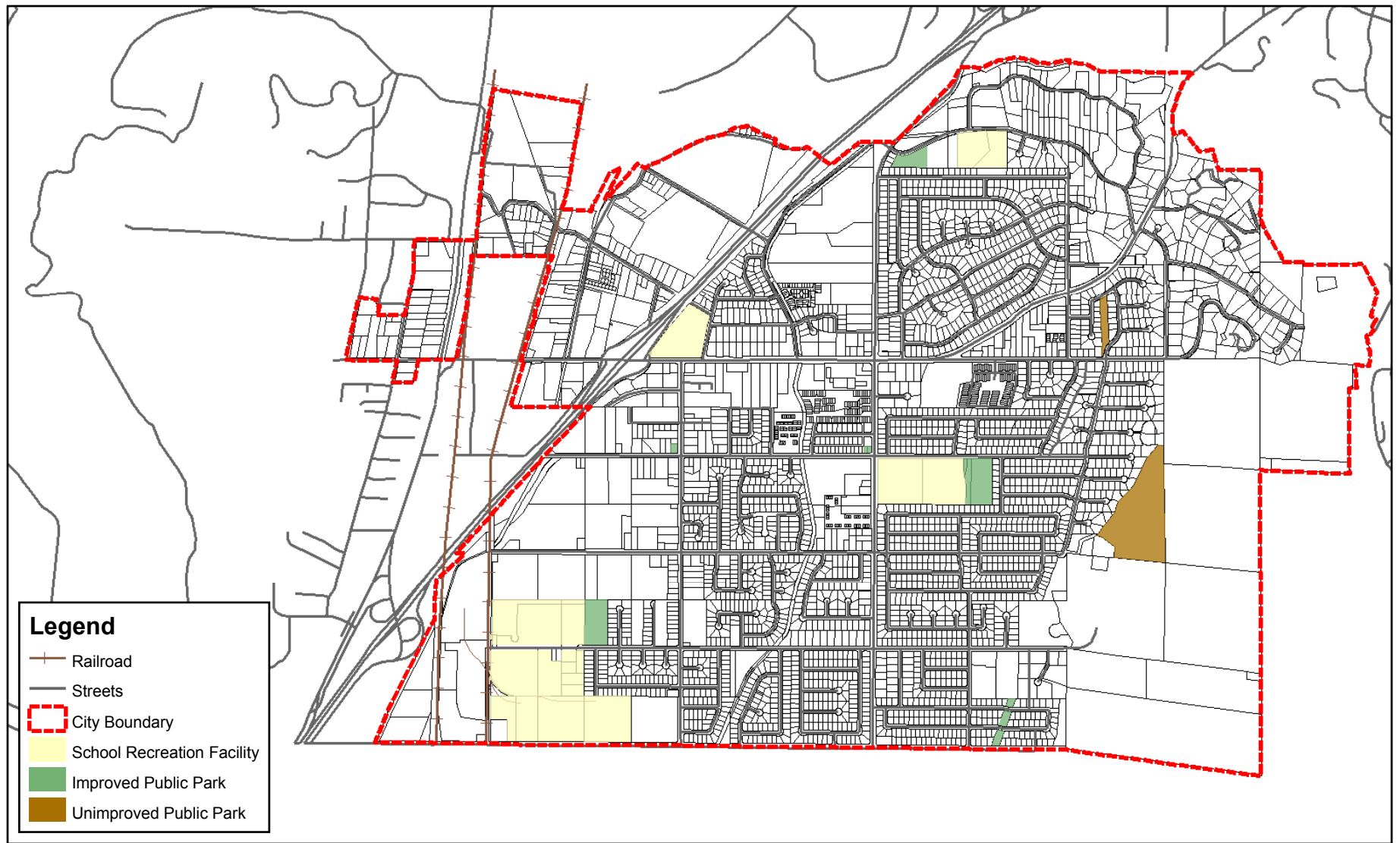
Policy 4.4.4 The City shall continue to implement the City's Bike Trail Master Plan as funds are available.

Policy 4.5.4 The City shall evaluate the feasibility of developing a trail system emanating from the proposed Grand Terrace Wilderness Passive Park to provide trails on Blue Mountain with possible connections to regional trail systems in the area.

Public Services Element

Policy 7.1.8 The City shall work with the Colton Joint Unified School District to evaluate the potential to share facilities such as playgrounds, libraries, and assembly halls in an effort to efficiently use these facilities and avoid duplication of these facilities.

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4L.2 SIGNIFICANCE THRESHOLD CRITERIA

The criteria used to determine the significance of impacts on recreation are taken from City-approved Thresholds of Significance based on the City's Initial Study and the model Initial Study checklist in Appendix G of the State *CEQA Guidelines*. A significant impact would occur if implementation of the proposed General Plan Update and Amendment to the Redevelopment Plan would:

- Increase use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated; or,
- Include recreational facilities or require construction or expansion of recreational facilities, which might have an adverse effect on the environment.

4L.3 IMPACTS AND MITIGATION MEASURES

Impact 4B-1: **The Proposed Project would have a significant impact if it would increase use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated or require construction or expansion of recreational facilities, which might have an adverse effect on the environment.**

The City of Grand Terrace General Plan Update provides for the development and ultimate construction of additional recreational facilities at various locations in the City. The State of California has established a standard of four acres of improved park and recreational facilities per 1,000 residents. The City of Grand Terrace General Plan Update assumes a build-out population of 15,747; therefore, the total park and recreational acreage required is approximately 63 acres. Currently, the City 100.2 acres of developed, undeveloped, and recreational areas (including schools) available for use. As indicated in Table 4L-1, approximately 100 acres of developed and undeveloped parks and recreation areas are currently available throughout the City.

This acreage shall be provided through the following means:

City Parks: The City presently has five designated public parks. The five parks total 41.2 acres and include facilities for baseball, soccer, basketball, jogging, playgrounds, picnicking, and casual activities. All parks are improved except for Susan Petta Park that is planned as a passive park and the Wilderness Park that is proposed for hillside open space recreational uses.

Schools: Local schools play an integral part in providing active recreational facilities to city residents. The three local schools (two elementary schools and one middle school) provide 19 acres of playgrounds and sports field. In addition, the planned public high school located in the southwest area of the City will add approximately 40 acres of improved recreational facilities for use by City residents. The City and the Colton Joint Unified School District maintain joint use agreements at all schools within the City.

**Table 4L-1
Existing Parks and School Sites**

Site	Acres
Richard Rollins Park	5.4 acres
Pico Park	5.0 acres
Susan Petta Park (undeveloped)	2.6 acres
Griffin Park (partially developed)	1.6 acres
T. J. Austyn Park (partially developed)	1.6 acres
Grand Terrace Wilderness Park (undeveloped)	25.0 acres
Park Total	41.2 acres
Terrace Hills Junior High School	9.0 acres
Grand Terrace Elementary School	5.0 acres
Terrace View Elementary School	5.0 acres
High School #3	40.0 acres
School Total	59.0 acres
Combined Total	100.2 acres

Source: City of Grand Terrace General Plan

Implementation of the Goals and Policies in the General Plan Update (Goal 4.1, Policies 2.5.2, 4.1.1 through 4.1.12, 4.4.3, 4.4.4, 4.5.4, and 7.1.8) would further minimize impacts to recreation.

MITIGATION MEASURES

No mitigation measures are required.

LEVEL OF IMPACT SIGNIFICANCE AFTER MITIGATION

No significant impacts have been identified and no mitigation measures are required.

CHAPTER 4M - TRANSPORTATION/CIRCULATION

This Chapter addresses City existing traffic conditions, impacts of future traffic growth, planned physical improvements and additional improvements to accommodate growth. This Chapter is based upon the City of Grand Terrace General Plan Update Traffic Study (Revised) prepared by Urban Crossroads (August 18, 2008), contained in Appendix B to this document. The Traffic Study has been prepared in support of the Circulation Element of the General Plan Update. The intent of the General Plan Circulation Element is to establish a transportation system that is safe, achievable, efficient, environmentally and financially sound, accessible, and coordinated with the Land Use Element. The Circulation Element emphasizes upgrade and maintenance of a transportation system for the City that responds to demands of current and planned land uses set forth in the General Plan Update Land Use Element and external travel demand impacts on the City circulation system. Furthermore, the Traffic Study identifies improvements required to maintain City desired service levels throughout Grand Terrace. The system of streets in the Traffic Study area of analysis is depicted on Exhibit 4M-1.

4M.1 ENVIRONMENTAL SETTING

The City possesses an extensive transportation network that consists of State highways, arterials and local streets, public transit, and nearby rail. Regional access to Grand Terrace is provided by the I-215 via interchanges at La Cadena Drive/Iowa Avenue and Barton Road. As shown in (Exhibit 4M-2), existing roadways within Grand Terrace range from two lane undivided roadways to four lane divided facilities. The most significant arterial roadways in the City are La Cadena Drive, Barton Road, and Mount Vernon Avenue. Barton Road and Mount Vernon Avenue are backbone east-west and north-south corridors, respectively.

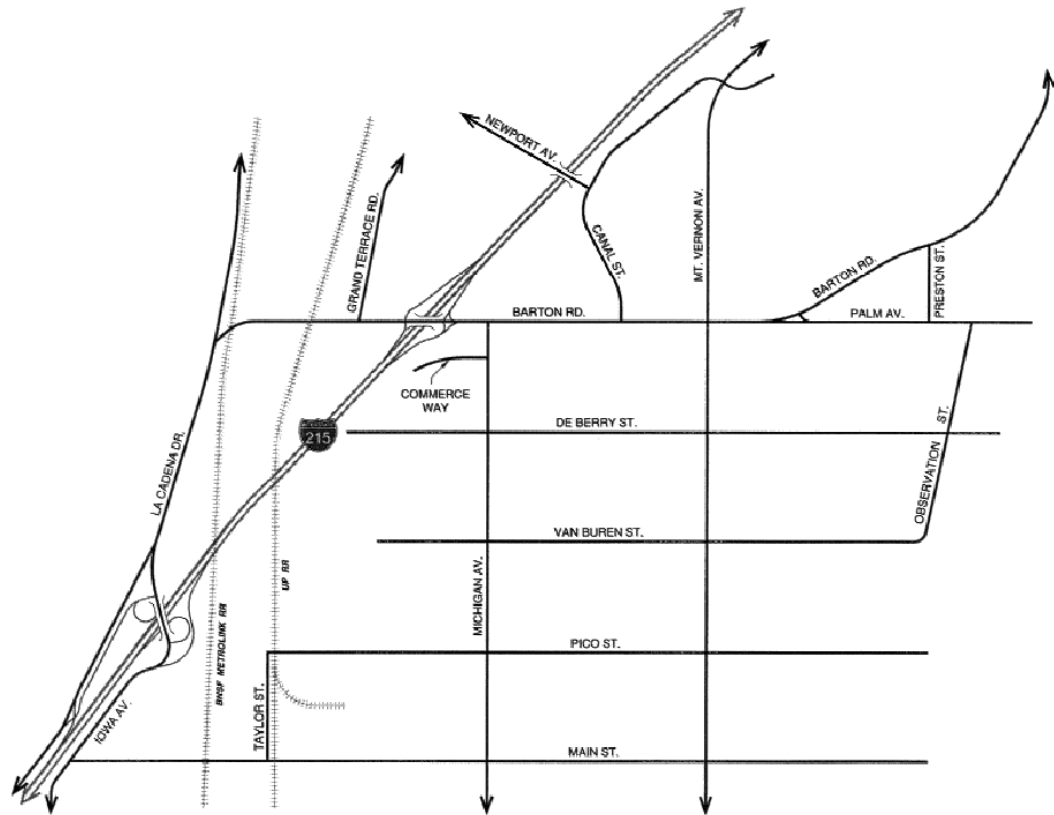
Barton Road between the I-215 Freeway and Grand Terrace Road / Honey Hill Drive is a four lane divided roadway. East of Grand Terrace Road / Honey Hill Drive, Barton Road is a two-lane arterial. Barton Road from the I-215 Freeway northbound ramps to La Cadena Drive is currently a two lane undivided roadway. Mount Vernon Avenue is a four lane undivided roadway from Pico Street to the northerly City limit, and a three lane undivided roadway with two through lanes in the southbound direction and one through lane northbound from Pico Street to Main Street (the south City limit). Remaining roadways are two lane undivided facilities.

The Burlington Northern Santa Fe and Union Pacific Railroads extend in a north-south route through the City and provide additional transportation opportunities and potential issues. Metrolink service also is provided on the railroad tracks, with nearest stations in the City of Riverside to the south and the City of San Bernardino to the north. The only arterial roadway crossings of these railroads are Main Street and Barton Road. The Barton Road crossings currently are grade separated. The Main Street crossing is at grade, which results in roadway traffic delays when trains are utilizing the railroad tracks.

EXISTING DAILY TRAFFIC

Exhibit 4M-3 depicts available year 2007 average daily traffic count data. The I-215 carries 146,000 vehicles daily south of the Barton Road interchange and 149,000 vehicles daily north of the Barton Road interchange within Grand Terrace City limits. Daily traffic volumes on the City of Grand Terrace General Plan Circulation Element roadway system range from very low

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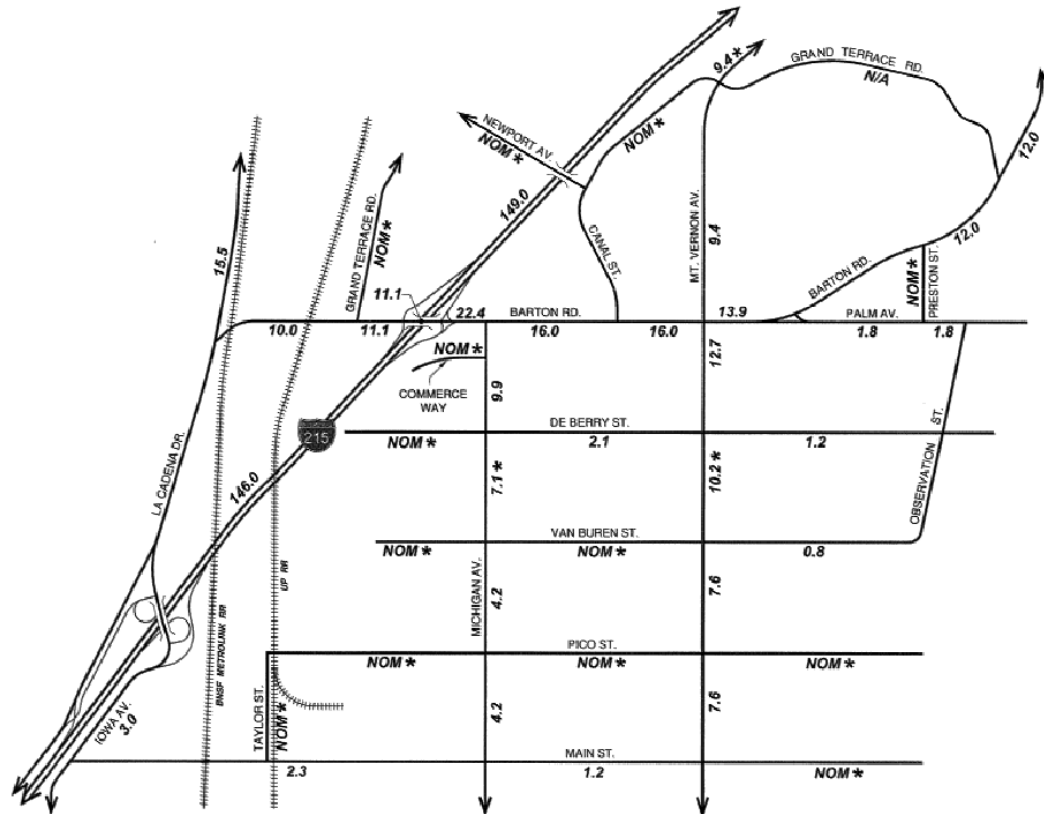


Grand Terrace General Plan Update
Study Area
Exhibit 4M-1

Source: Urban Crossroads, City of Grand Terrace
General Plan Update Traffic Study, August 2008

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LEGEND:

4.2 = VEHICLES PER DAY (1000'S)

* = ESTIMATED

NOM = NOMINAL (LESS THAN 1000 VEHICLES PER DAY)

N/A = NOT APPLICABLE (LOCAL STREET SHOWN FOR INFORMATIONAL PURPOSES ONLY)



NOTE: FREEWAY COUNTS ARE FROM 2006



Existing (2007) Average Daily Traffic (ADT) Volumes Exhibit 4M-3

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volumes to volumes that exceed 20,000 vehicles per day. Barton Road is the most heavily traveled east-west arterial in Grand Terrace and carries daily traffic volumes ranging between 10,000 vehicles east of I-215 and 22,400 vehicles between I-215 and Michigan Avenue. La Cadena Drive north of Barton Road currently serves 15,500 vehicles daily. Mount Vernon Avenue carries between 7,600 and 12,700 vehicles daily. Michigan Avenue daily traffic volumes range between 4,200 and 9,900.

To identify deficiencies on the General Plan circulation system, daily traffic volumes are compared to roadway capacity standards in the context of a volume-to-capacity (V/C) ratio. Exhibit 4M-4 presents the available year 2007 daily V/C ratios based upon existing lanes. The highest existing V/C ratio is on Barton Road north of Grand Terrace Road/Honeyhill Drive, where Barton Road transitions from a four-lane divided roadway to a two-lane undivided roadway. The next highest V/C ratio within the City of Grand Terrace occurs on the two-lane undivided segment of Barton Road from Grand Terrace Road to the Barton Road overcrossing of I-215. The level of service for this segment is "D," but is technically acceptable because Barton Road is adjacent to I-215 ramps at this location. Mount Vernon Avenue north of Grand Terrace Road, Barton Road from La Cadena Drive to Grand Terrace Road and Michigan Avenue from Barton Road to De Berry Street operate at level of service "C" under existing conditions. All remaining roadways in the City currently operate at level of service "A."

Although daily roadway segment operations analyses indicate acceptable traffic operations throughout the City, peak hour traffic diversions from I-215, combined with closely spaced signalized intersections (especially on Barton Road in the vicinity of the I-215 interchange), result in some observed peak hour congestion along Barton Road and Mount Vernon Avenue.

TRANSIT

The Riverside Transit Authority, under contract with Omnitrans, provides one transit route (Route 25) that serves the City. Route 25 runs along Michigan Avenue at the south end of the City and transitions to Barton Road at the northerly end of the City.

NON-MOTORIZED TRANSPORTATION

The City has an extensive sidewalk system along various arterial and collector roadways. The City also provides for bicycle transportation. The existing and proposed bikeway system is depicted on Exhibit 4M-5. Existing bikeways are provided along Main Street, Mount Vernon Avenue and Barton Road from east of Michigan Avenue to the northerly City limits. The Santa Ana River Trail also traverses the northwest area of the City.

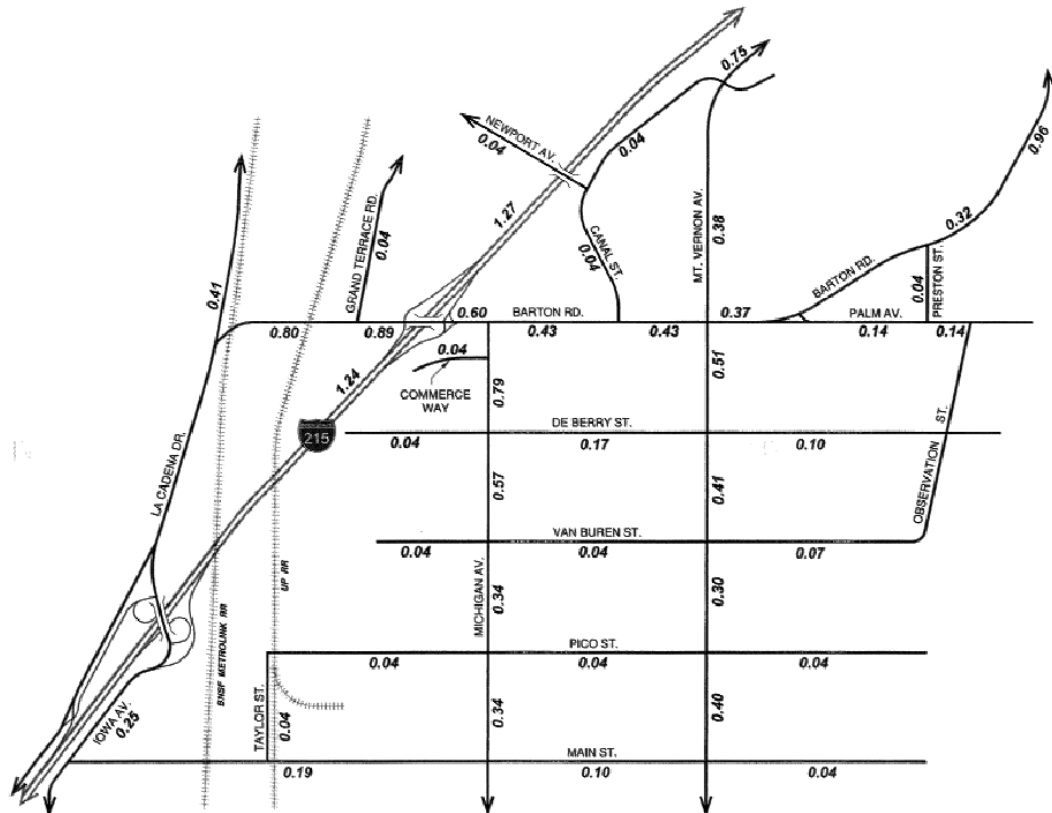
Future bikeways are planned along Commerce Way, Barton Road from Michigan Avenue to the easterly City limits and along La Cadena Drive and Terrace Avenue (providing a connection to the Santa Ana River Trail).

TRANSPORTATION PLANNING CONTEXT

The transportation planning context for the City of Grand Terrace includes the City's General Plan Circulation Element and standard roadway cross-sections. The transportation planning context also includes ongoing regional planning efforts, including the Regional Transportation Plan and the Congestion Management Program.

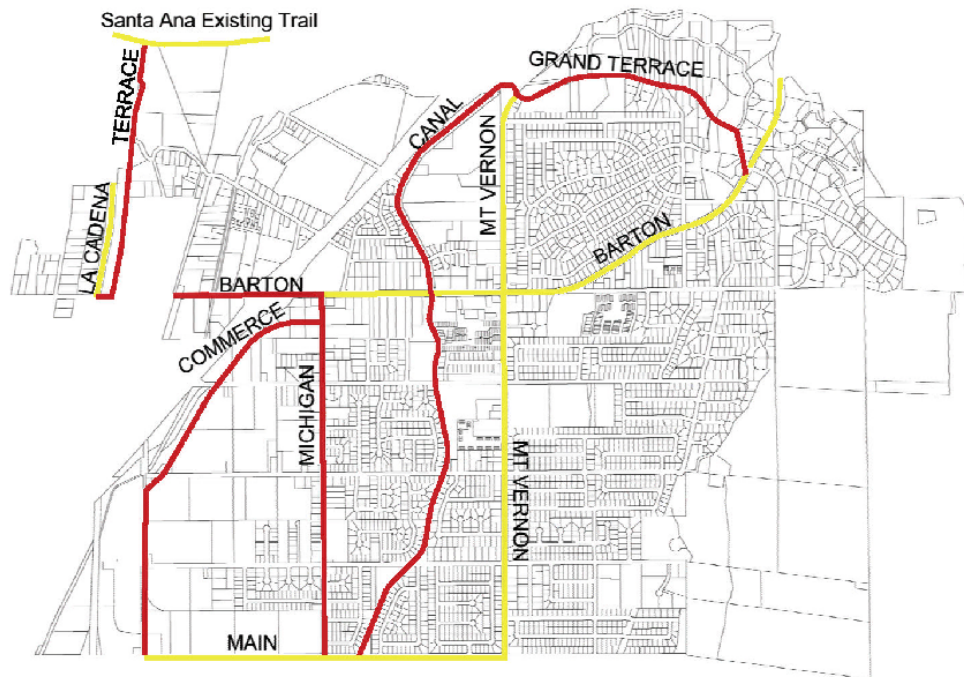
Conformity with various regional plans is necessary if the City wishes to be eligible for various State and federal funding sources. For instance, the City's General Plan must be consistent with

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Existing Daily Volume / Capacity (V / C) Ratios
Exhibit 4M-4

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LEGEND:

-  Proposed Bikeways
-  Existing Bikeways
-  Parcels

SOURCE: CITY OF GRAND TERRACE



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the Regional Transportation Plan (RTP) and Regional Transportation Improvement Plan (RTIP). Both the RTP and RTIP are administered by the Southern California Association of Governments (SCAG). SCAG is the federally designated Metropolitan Planning Organization (MPO) for a six county area that includes San Bernardino County.

The City is also required to conform to the requirements of the San Bernardino Congestion Management Program (CMP). The CMP is administered by the SANBAG. The City has adopted its current transportation impact fee (TIF) program in accordance with the CMP Nexus Study, which is one of the requirements of the CMP. The City also participates in monitoring the performance of the CMP roadway system, which is another CMP requirement.

General Plan Circulation Element

Exhibit 4M-6 depicts the currently adopted Master Plan of Streets and Highways for the City. The currently adopted General Plan roadway cross-sections are presented on Exhibit 4M-7. In addition, the City has an adopted a Specific Plan for the Barton Road corridor. The Barton Road Specific Plan is depicted on Exhibit 4M-8. As shown on Exhibit 4M-6, Barton Road is designated as a Major Highway from the westerly City limit to Palm Avenue. From Palm Avenue to the northerly City limit, Barton Road is designated as a Modified Major Highway. La Cadena Drive is designated as a Divided Major Highway for its entire length within the City. Similarly, Mount Vernon Avenue is designated as a Secondary Highway throughout the City.

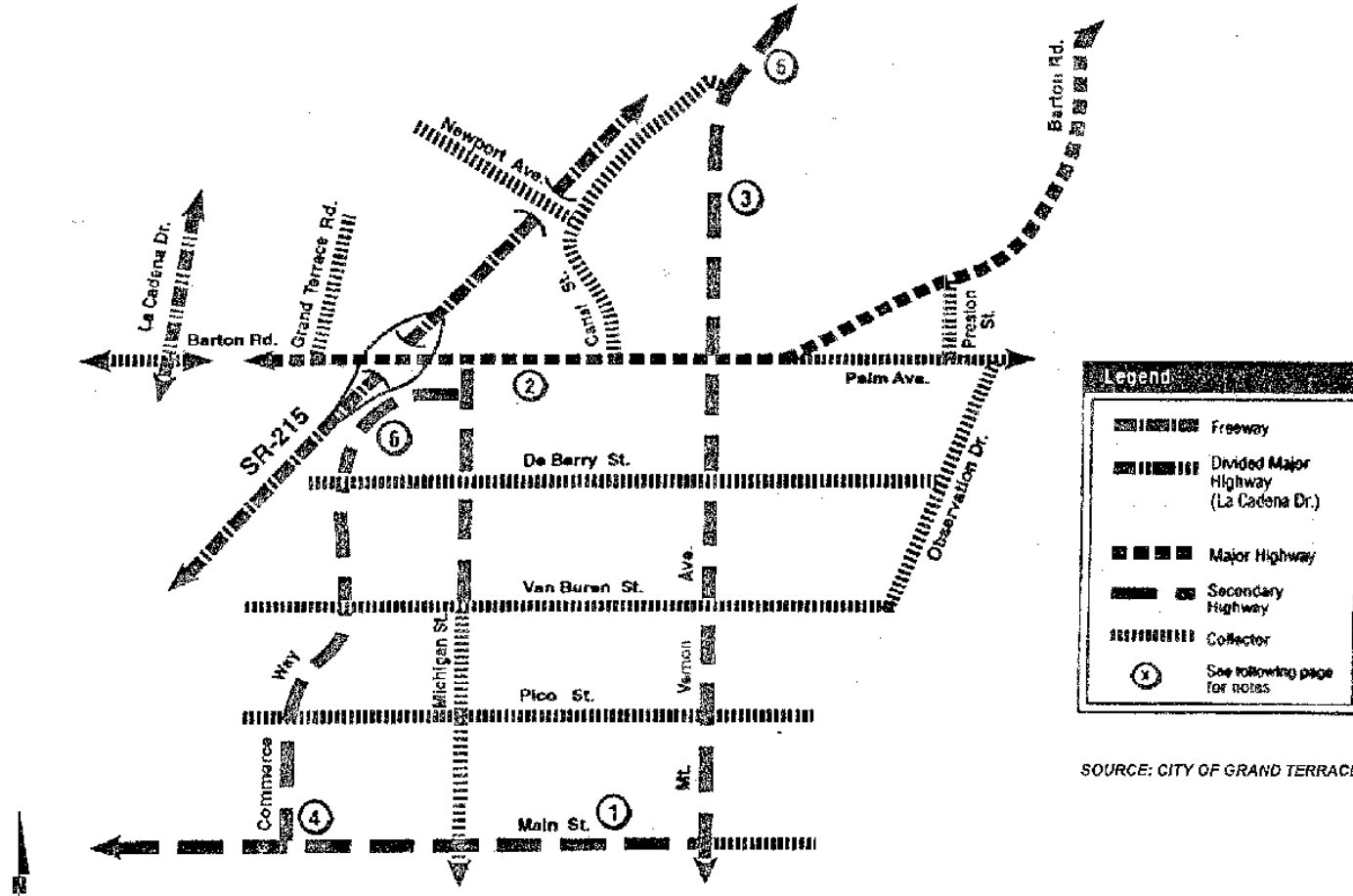
Commerce Way in its entirety (from Main Street to Michigan Avenue) is designated as a Secondary Highway. Michigan Avenue is designated as a Secondary Highway from Barton Road to Van Buren Street, transitioning to a Collector from Van Buren Street to Main Street. Similarly, Main Street is designated as a Secondary Highway from the westerly City limits to Mount Vernon Avenue and transitions to a Collector designation from Mount Vernon Avenue to its easterly terminus.

The remaining roadways included on the currently adopted General Plan Master Plan of Streets and Highways are all designated as Collector streets. The majority of these Collector streets are characterized by direct access from adjacent single family development. This is an undesirable situation, as conflicts arise between the role of the Collector streets in carrying higher traffic volumes than local streets and the tendency of adjacent residents to view these roads as local streets that should carry lower traffic volumes. All other roadways not shown on Master Plan of Streets and Highways are local streets.

There are a number of roadways on the currently adopted Master Plan of Streets and Highways that are not constructed to their ultimate cross-section. Roads that are not constructed to their ultimate cross-section include:

- Barton Road from the westerly City limit to the I-215 Freeway Northbound Ramps is a two lane undivided roadway.
- Barton Road from Grand Terrace Road to the easterly City limits is a two lane undivided roadway.
- Mount Vernon Avenue from Grand Terrace Road to the northerly City limits is a two lane undivided roadway.

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SOURCE: CITY OF GRAND TERRACE



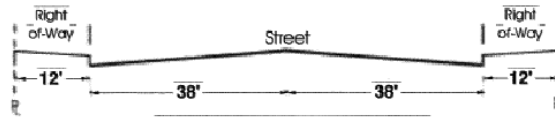
Source: Urban Crossroads, City of Grand Terrace
General Plan Update Traffic Study, August 2008

City of Grand Terrace
Current General Plan Master
Planned Streets and Highways
Exhibit 4M-6

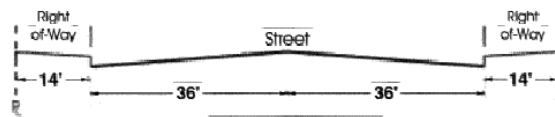
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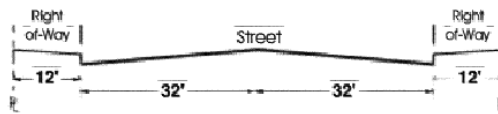
**Divided Major Highway (La Cadena Dr.)
120' Right-of-way**



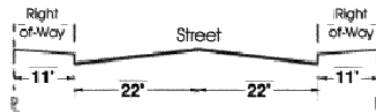
**Modified Major Highways
100' Right-of-way**



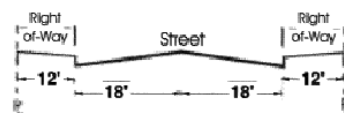
**Major Highways
100' Right-of-way
(4 Lanes Divided)**



**Secondary Highway
88' Right-of-way
(4 Lanes Undivided)**



**Collector
66' Right-of-way
(2 Lanes Undivided)**

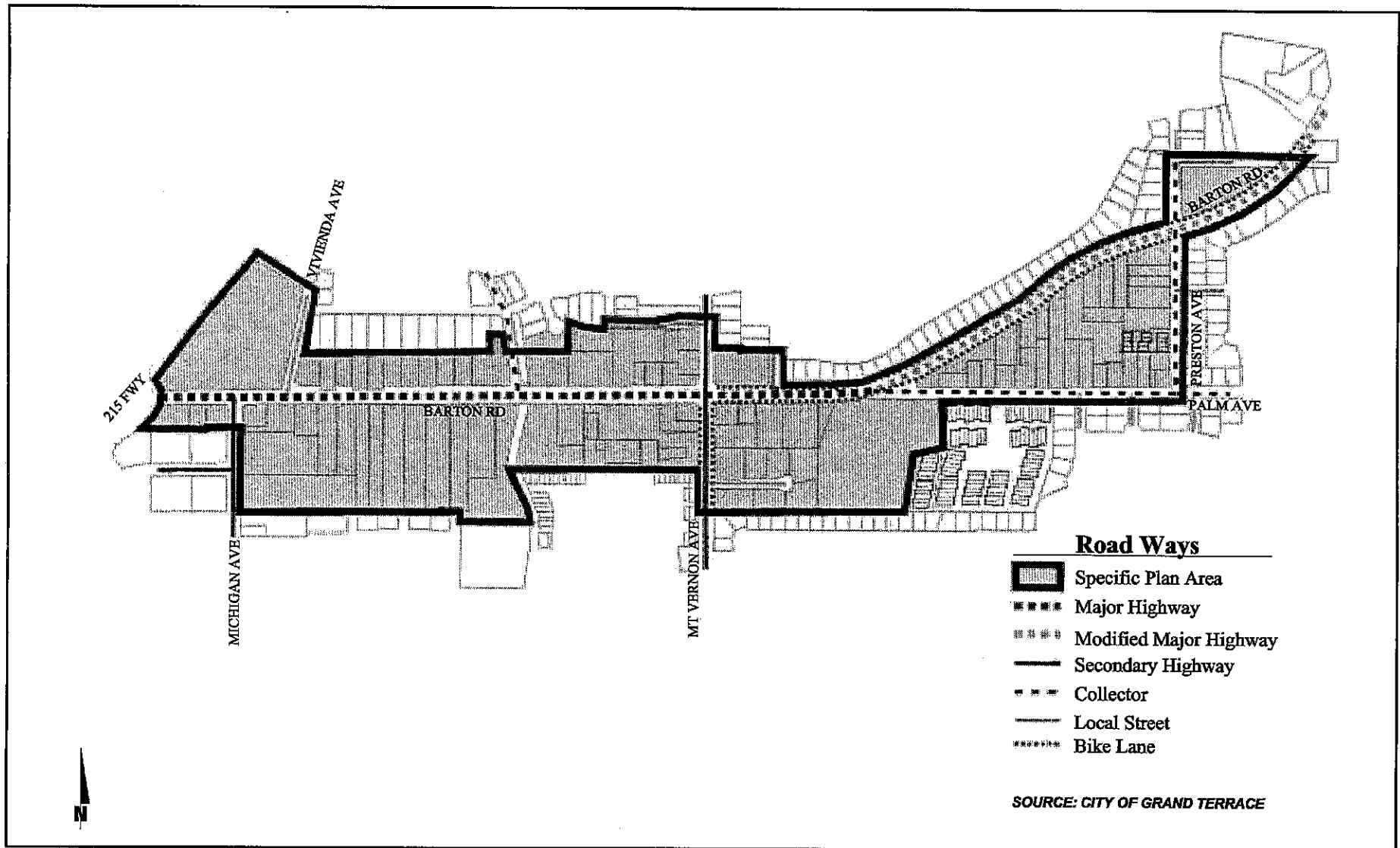


**Local
60' Right-of-way
(2 Lanes Divided)**



**City of Grand Terrace
Current General Plan
Roadway Cross-Sections
Exhibit 4M-7**

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- Main Street from the westerly City limit to Mount Vernon Avenue is a two lane undivided roadway (although some sections of Main Street that are striped as a two lane undivided roadway appear to be constructed to the ultimate required cross section as a Secondary Highway).
- Commerce Way does not exist from Main Street to just west of Michigan Street and from Michigan Street to Barton Road.

The currently adopted General Plan goals, objectives, policies, and programs support regional efforts to improve roads, freeways, and mass transit systems, as well as promote the utilization of non-motorized modes of transport (walking, bicycling, etc.). Current and proposed policies and practices also require that new development pay its fair share of the cost of local and regional road improvements and to provide improvements to serve project-generated traffic. The purpose of the Circulation Element is to ensure a complete, balanced, and well-maintained circulation system that relies on vehicular travel and transit modes of transportation, and also incorporates alternative modes of transportation, including bikeways and pedestrian facilities. The Circulation Element is designed to support the land uses promulgated in the Land Use Element. The Circulation Element is also designed to accommodate regional traffic that passes through the City, and allow City residents and visitors to travel to and from other cities and counties.

A primary objective of the Circulation Element update is to ensure that the effects of future new development on the City's transportation system are understood and that the improvements needed to support new growth are planned and properly funded. The primary funding source for needed improvements is the City of Grand Terrace Development Impact Fee (DIF) Program. The DIF program establishes the appropriate fair share contribution for new development throughout the City.

REGULATORY SETTING

Municipal Code

The Grand Terrace Municipal establishes Impact Fees to fund the construction and improvements of roadways depicted on the Circulation Plan, and for the installation of traffic signals. Additional, Title 18 the City's Zoning Code requires the improvement of roadways fronting development project sites as a condition of approval.

Grand Terrace General Plan

Goal 3.1 Provide a comprehensive transportation system that provides for the current and long-term efficient movement of people and goods within and through the City.

Policy 3.1.1 Provide a transportation system which supports planned land uses and improves the quality of life.

Policy 3.1.2 An arterial street system shall be established that provides for the collection of local traffic and provide for the efficient movement of people and goods through the City.

Policy 3.1.3 Commerce Way shall provide for the movement of traffic associated with commercial and business traffic.

- Policy 3.1.4 Coordinate with transportation planning, programming and implementation agencies such as SCAG, Caltrans, SANBAG, and the cities of San Bernardino County, as well as neighboring jurisdictions in Riverside County on various studies relating to freeway, high occupancy vehicle/high occupancy toll lanes and transportation corridor planning, construction, and improvement in order to facilitate the planning and implementation of an integrated circulation system in accordance with regional planning goals.
- Policy 3.1.5 New development projects shall be analyzed in accordance with SANBAG congestion management Program (CMP) Traffic Impact Analysis (TIA) Guidelines.
- Policy 3.1.6 The City shall work with adjacent jurisdictions to assess future land development projects and their impact to the City circulation system and provide appropriate mitigation for identified impacts.
- Policy 3.1.7 The maximum acceptable Level of Service for streets identified in the City Master Plan of Streets and Highways during peak hours shall be LOS "D".
- Policy 3.1.8 The City shall use the Caltrans Design and traffic manuals as guidelines for street lighting, traffic signage, street markings and intersection signalization.

Goal 3.3 Provide for a safe circulation system.

- Policy 3.3.1 Promote the safe and effective movement of all segments of the population and the efficient transport of goods.
- Policy 3.3.2 The City shall require that new developments provide adequate off street parking in order to minimize the need for on street parking.
- Policy 3.3.3 The City shall ensure that local street improvements are designed with proper attention to community appearance and aesthetics as well as the need to move traffic safely and efficiently.
- Policy 3.3.4 The City shall route truck traffic away from residential areas and work with regional agencies in order to mitigate potential impacts from regional traffic.
- Policy 3.3.5 The City shall evaluate and, when appropriate, implement traffic calming measures on residential local residential streets.

Goal 3.4: Provide for an efficient and safe bikeway system within the City.

- Policy 3.4.1: Develop a system of continuous and convenient bicycle routes designed to connect schools, residential areas, shopping centers, parks, and employment areas.

Goal 3.5 Provide for efficient alternative methods of travel.

- Policy 3.5.1 Promote measures which reduce reliance on single occupant vehicle usage by enforcement of the Traffic Control Measures (TCM) ordinance which addresses development standards, land use patterns, employer based ride share programs and bicycle/pedestrian facilities.
- Policy 3.5.2 The City shall participate in local and regional public transit programs.
- Policy 3.5.3 The City shall encourage and facilitate pedestrian movement by creating environments that are conducive to walking and maintaining a "human scale" of development.
- Policy 3.5.4 The City shall work closely with the regional transit agencies to ensure convenient and the affordable bus service continues to be available to local residents.
- Policy 3.5.5 The City shall work with OmniTrans and SANBAG to implement a public transit system that meets the City's need for internal circulation as well as connections to regional activity centers and inter-urban transit routes.
- Policy 3.5.6 The City shall encourage Transit Oriented Development (TOD) to provide housing that is in close proximity to designated public transit facilities and routes.
- Policy 3.5.7 The City shall provide amenities along the Barton Road corridor that promote pedestrian and bicyclist use, such as a continued system of pedestrian paths and bike lanes to connect the City Center with schools, parks, and residential areas.

Public Health and Safety Element

- Policy 5.5.1 Maintain effective emergency preparedness and response programs; and coordinate with appropriate public agencies to develop a regional system to respond to natural and man-made emergencies and catastrophes.

Sustainable Development Department

- Goal 9.5: Provide alternative transportation modes designed to reduce vehicle miles traveled.
 - Policy 9.5.1: The City shall encourage alternative transportation modes, including mass transit, ride sharing, bicycles, and pedestrian transportation.
 - Policy 9.5.2: The City shall encourage the creation of local jobs designed to reduce commuter mileage and fuel consumption.
 - Policy 9.5.3: The City shall encourage new and rehabilitation projects that support alternative transportation modes.

4M.2 SIGNIFICANCE THRESHOLD CRITERIA

The California Environmental Quality Act (CEQA) Appendix G outlines significance criteria this project is measured against for transportation and traffic. The proposed General Plan Update and Amendment to the Redevelopment Plan would result in significant environmental impacts if any of the following occur:

- The project would cause an increase in traffic that is substantial in relation to the existing traffic load and capacity of the street system (i.e., result in a substantial increase in either the number of vehicle trips, the volume to capacity ratio on roads, or congestion at intersections).
- The project would exceed, either individually or cumulatively, a level of service standard established by the county congestion management agency for designated roads or highways.
- The project would result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks.
- The project would substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment).
- The project would result in inadequate emergency access.
- The project would result in inadequate parking capacity.
- The project would conflict with adopted policies, plans, or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks).

The following impacts were not identified as being potentially significant in the Initial Study (Appendix A) and will not be discussed further in this Program EIR:

- The project would result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks.
- The project would result in inadequate parking capacity.

4M.3 IMPACTS AND MITIGATION MEASURES

Methodology

The City provided land use data pertaining to existing conditions, as well as the “Proposed” General Plan land use. The land use data has been converted to socio-economic data for input to the East Valley Traffic Model (EVTM). The EVTM is a subarea travel demand model developed by a consortium of jurisdictions in the Eastern San Bernardino Valley for use in evaluating long range traffic conditions throughout the model’s limits.

The EVTM includes growth in the areas surrounding the City, consistent with regionally adopted growth forecasts. The data for the areas east and south of the southern areas of the City has been examined as part of the traffic study effort. The data review indicated that substantial growth, consistent with the known cumulative development projects, is included in the areas south and east of the City.

The future roadway system that has been developed for input to the future conditions traffic model is shown on Exhibit 4M-9. The roadway differs from the current General Plan Circulation Element Master Plan of Streets and Highways as follows:

- Michigan Avenue is proposed to be eliminated between Commerce Way and Barton Road
- Commerce Way is proposed to be extended east of Michigan Avenue, then north to connect with Barton Road at Vivienda Avenue
- These differences are included in the proposed roadway system to improve spacing of major intersections along Barton Road in the vicinity of the I-215 interchange.

IMPACT 4M-1 The Proposed Project would cause an increase in traffic that is substantial in relation to the existing traffic load and capacity of the street system (i.e., result in a substantial increase in either the number of vehicle trips, the volume to capacity ratio on roads, or congestion at intersections).

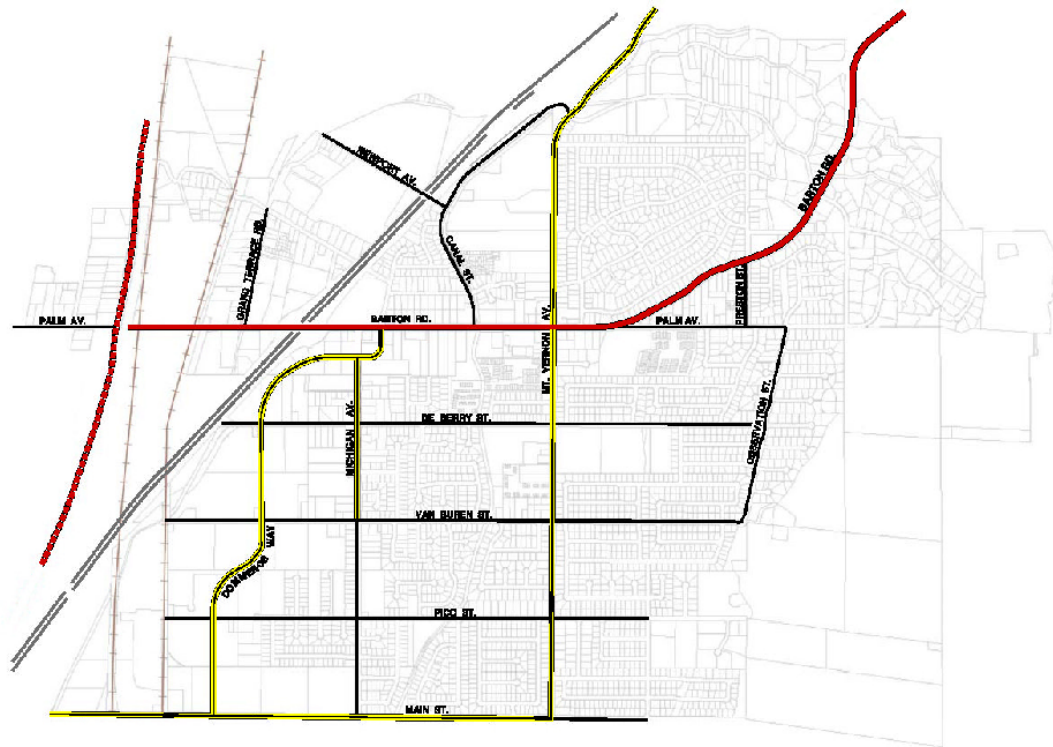
The daily traffic volumes for future scenarios under the Currently Adopted General Plan and the Proposed General Plan have been developed using the East Valley Traffic Model (EVTM). The daily traffic volumes for Currently Adopted General Plan conditions are shown on Exhibit 4M-10. The forecast refinement calculations are found in the Traffic Study found in Appendix B.

As shown on Exhibit 4M-10, the highest daily traffic volume (more than 39,000 vehicles) in the City under existing General Plan conditions is expected to occur on Barton Road east of the I-215 interchange. Daily traffic volumes on Barton Road east of Commerce Way range from 28,500 to 32,500 vehicles. Michigan Street between Commerce Way and Van Buren Street is the only other roadway expected to carry traffic volumes in excess of 10,000 vehicles daily. Volumes along this portion of Michigan Street are projected to range between 10,700 and 11,000 vehicles per day. All other roadways are projected to carry fewer than 7,000 vehicles per day and all Collector roadways other than Canal Street are projected to carry fewer than 5,000 vehicles per day.

The daily traffic volumes on the I-215 Freeway (not under City jurisdiction) in the vicinity of the Barton Road interchange range from 312,300 VPD north of Barton Road to 311,500 VPD south of Barton Road.

Exhibit 4M-11 presents the daily traffic volumes for the Proposed General Plan scenario. The model data refinement calculations for the Proposed General Plan scenario are included in the Traffic Report in Appendix B. In general, the daily traffic volumes are slightly lower than the volumes projected for the Currently Adopted General Plan scenario. Daily volumes on Barton Road drop below 30,000 VPD east of Mount Vernon Avenue. The daily traffic volumes on Michigan Avenue between Van Buren Street and Main Street are approximately 1,000 VPD lower than the Currently Adopted General Plan scenario. The daily volume of 17,600 VPD on Mount Vernon Avenue at the northerly City limit is very similar to the volume at the same location for the Currently Adopted General Plan scenario (17,800 VPD). The volume on the I-215 Freeway is also virtually unchanged compared to the Currently Adopted General Plan scenario.

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LEGEND:

-  Collector
-  Divided Major Highway
-  Major Highway
-  Secondary Highway
-  Railroad

SOURCE: CITY OF GRAND TERRACE



Proposed General Plan
Modeled / Proposed Roadway System
Exhibit 4M-9

Source: Urban Crossroads, City of Grand Terrace
General Plan Update Traffic Study, August 2008

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Exhibit 4M-12 and Exhibit 4M-13 show the volume/capacity (V/C) ratios for the Currently Adopted General Plan scenario and the Proposed General Plan Land Use scenario, respectively. Table 4M-1 summarizes the V/C ratios for each scenario.

The City of Grand Terrace Existing Circulation Element defines LOS C (V/C Ratio ≤ 0.80) as the limit of acceptable LOS within the City. Therefore, roadway segments with a daily V/C ratio exceeding 0.80 are considered to operate at unacceptable levels of service under the current City of Grand Terrace LOS standard policy. However, the Existing Circulation Element allows LOS D operations at freeway ramps in peak travel hours. As such, segments adjacent to freeway ramp intersections are assumed to operate acceptably if LOS D or better (V/C ratio < 0.90) is achieved.

**Table 4M-1
Future Daily Volume to Capacity Ratios and Levels of Services**

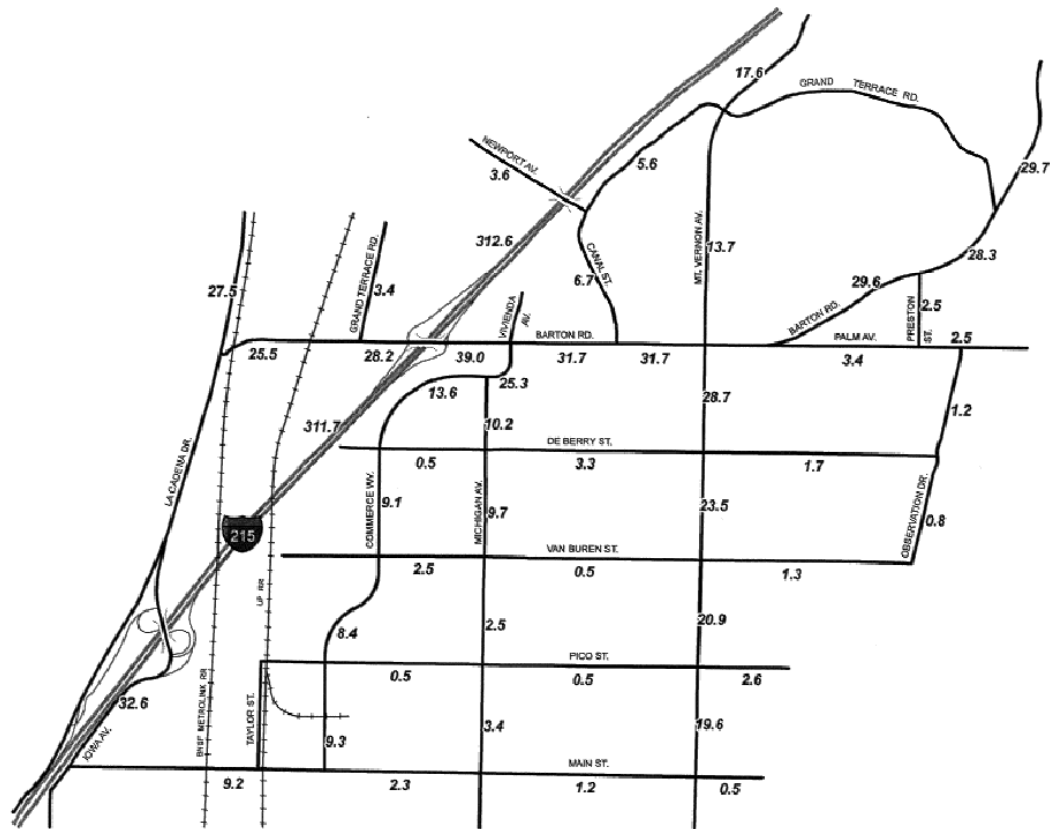
Roadway	From	To	Existing		Adopted General Plan		Proposed General Plan	
			V/C	LOS	V/C	LOS	V/C	LOS
La Cadena Dr.	Vivenda Ave.	Barton Rd.	0.41	A	0.73	C	0.73	C
Grand Terrace Rd.	Vivenda Ave.	Barton Rd.	0.04	A	0.26	A	0.26	A
Commerce Way	Barton Rd.	Michigan St.	*	*	2.03	F	1.01	F
Commerce Way	Michigan St.	De Berry St.	*	*	0.51	A	0.51	A
Commerce Way	De Berry St.	Van Buren St.	*	*	0.34	A	0.34	A
Commerce Way	Van Buren St.	Pico St.	*	*	0.28	A	0.28	A
Commerce Way	Pico St.	Main St.	*	*	0.34	A	0.34	A
Michigan St.	Commerce Way	De Berry St.	0.79	C	0.88	D	0.44	A
Michigan St.	De Berry St.	Van Buren St.	0.57	A	0.85	D	0.43	A
Michigan St.	Van Buren St.	Pico St.	0.34	A	0.21	A	0.21	A
Michigan St.	Pico St.	Main St.	0.34	A	0.25	A	0.25	A
Canal St.	Grand Terrace Rd.	Newport Ave.	0.04	A	0.43	A	0.43	A
Canal St.	Newport Ave.	Barton Rd.	0.75	C	0.54	A	0.54	A
Mt. Vernon Ave.	n/o Grand Terrace Rd.	Grand Terrace Rd.	0.75	C	1.43	F	0.71	C

Roadway	From	To	Existing		Adopted General Plan		Proposed General Plan	
			V/C	LOS	V/C	LOS	V/C	LOS
Mt. Vernon Ave.	Grand Terrace Rd.	Barton Rd.	0.39	A	0.55	A	0.55	A
Mt. Vernon Ave.	Barton Rd.	De Berry St.	0.51	A	1.16	F	1.16	F
Mt. Vernon Ave.	De Berry St.	Van Buren St.	0.41	A	0.94	E	0.94	E
Mt. Vernon Ave.	Van Buren St.	Pico St.	0.30	A	0.84	D	0.84	D
Mt. Vernon Ave.	Pico St.	Main St.	0.40	A	1.05	F	0.79	C
Preston St.	Barton Rd.	Palm Ave.	0.04	A	0.31	A	0.31	A
Observation Dr.	Palm Ave.	De Berry St.	*	*	0.17	A	0.17	A
Observation Dr.	De Berry St.	Van Buren St.	*	*	0.06	A	0.06	A
Newport Ave.	w/o Canal St.	Canal St.	0.04	A	0.30	A	0.30	A
Barton Rd.	La Cadena Dr.	Grand Terrace Rd.	0.80	C	0.68	B	0.68	B
Barton Rd.	Grand Terrace Rd.	1-215 Freeway	0.89	D	0.73	C	0.73	C
Barton Rd.	1-215 Freeway	Commerce Way/ Vivenda Ave.	0.60	A	1.06	F	1.06	F
Barton Rd.	Commerce Way/ Vivenda Ave.	Canal St.	0.43	A	0.81	D	0.81	D
Barton Rd.	Canal St.	Mt. Vernon Ave.	0.43	A	0.87	D	0.87	D
Barton Rd.	Mt. Vernon Ave.	Preston St.	0.37	A	0.81	D	0.81	C
Barton Rd.	Preston St.	Grand Terrace Rd./ Honey Hill Dr.	0.32	A	0.76	C	0.76	C
Barton Rd.	Grand Terrace Rd./ Honey Hill Dr.	Northerly City Limit	0.96	E	2.42	F	0.81	C
Palm Ave.	Barton Rd.	Preston St.	0.14	A	0.32	A	0.32	A

Roadway	From	To	Existing		Adopted General Plan		Proposed General Plan	
			V/C	LOS	V/C	LOS	V/C	LOS
Palm Ave.	Preston St.	Honey Hill Dr.	0.14	A	0.28	A	0.28	A
De Berry St.	w/o Michigan Ave.	Michigan Ave.	0.04	A	0.04	A	0.04	A
De Berry St.	Michigan Ave.	Mt. Vernon Ave.	0.17	A	0.28	A	0.28	A
De Berry St.	Mt. Vernon Ave.	e/o Mt. Vernon Ave.	0.10	A	0.14	A	0.14	A
Van Buren St.	w/o Michigan Ave.	Michigan Ave.	0.04	A	0.20	A	0.20	A
Van Buren St.	Michigan Ave.	Mt. Vernon Ave.	0.04	A	0.04	A	0.04	A
Van Buren St.	Mt. Vernon Ave.	e/o Mt. Vernon Ave.	0.07	A	0.11	A	0.11	A
Pico St.	w/o Michigan Ave.	Michigan Ave.	0.04	A	0.04	A	0.04	A
Pico St.	Michigan Ave.	Mt. Vernon Ave.	0.04	A	0.04	A	0.04	A
Pico St.	Mt. Vernon Ave.	e/o Mt. Vernon Ave.	0.04	A	0.20	A	0.20	A
Main St.	W. City Limit	Commerce Way	0.19	A	0.31	A	0.31	A
Main St.	Commerce Way	Michigan Ave.	0.19	A	0.09	A	0.09	A
Main St.	Michigan Ave.	Mt. Vernon Ave.	0.10	A	0.05	A	0.05	A
Main St.	Mt. Vernon Ave.	e/o Mt. Vernon Ave.	0.04	A	0.04	A	0.04	A
Outside of City Jurisdiction								
S. Iowa St.	1-215 NB Freeway	Main St.	0.24	A	2.58	F	1.29	F
1-215 Freeway	n/o Barton Rd.	Barton Rd.	1.27	F	2.66	F	1.56	F
1-215 Freeway	Barton Rd.	s/o Barton Rd.	1.24	F	2.65	F	1.55	F

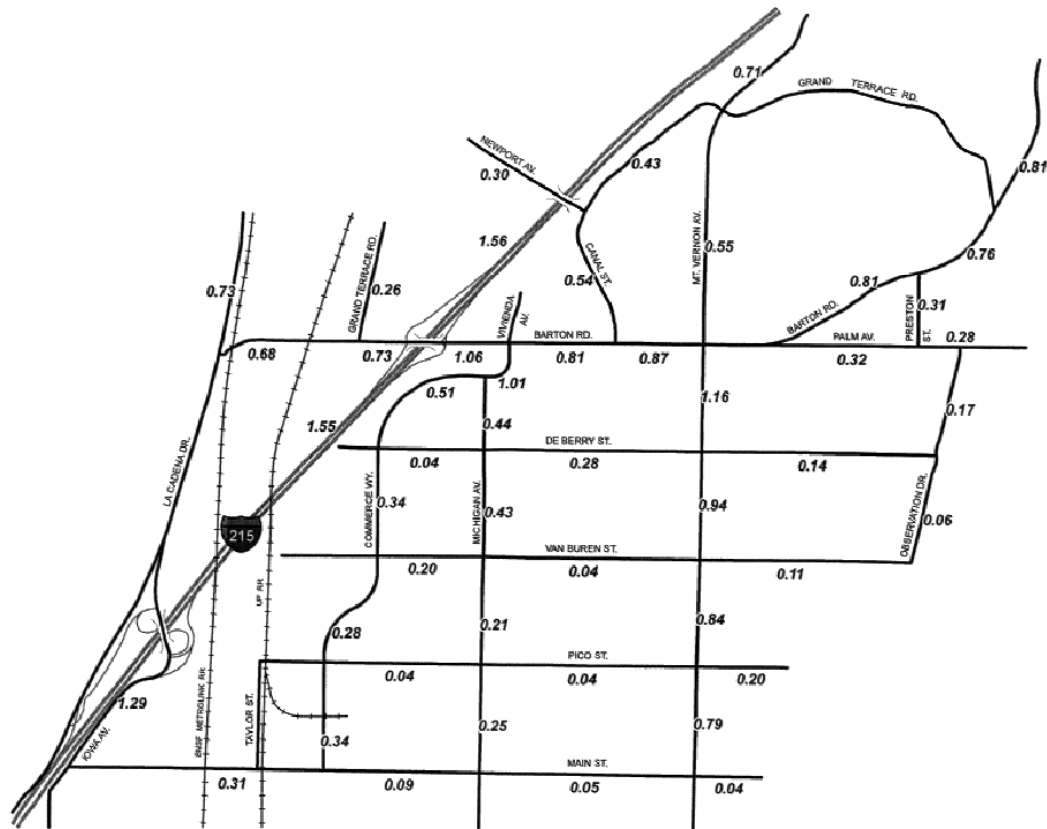
* No data – Road either does not exist at present or traffic volumes were minimal.

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Proposed Average
Daily Traffic (ADT)
Exhibit 4M-11

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The Traffic Study contained in Appendix B includes recommendations to ensure that acceptable LOS is maintained with implementation of the General Plan Update. Recommendations include changing the maximum LOS from LOS C to LOS D, which is already being proposed as Policy 3.1.7. Upon implementation of Policy 3.1.7 those roadway segments within Barton Road identified in Table 4M-1, above, with an LOS D would provide adequate levels of service, and would have a less than a significant impact, except for the segment between I-215 and Vivienda Avenue.

The Traffic Study contained in Appendix B determined that even with the adoption of LOS D as the city-wide standard, that segment of Barton Road between I-215 and Vivienda Avenue would continue to operate at an unacceptable LOS F. The Traffic Study recommended that this segment be upgraded to a Divided Major Highway designation, so that it would operate at an LOS C. However, a Final Traffic and Operational Analysis (TOA) was prepared by Iteris, Inc. (2009) for SANBAG for the I-215/Barton Road Interchange Project. The TOA evaluated six alternative designs including Alternative 6, which depicts the extension of Commerce Way to Barton Road. The TOA, which is a more detailed analysis of the actual operation of roadway segments and intersections, determined that that segment of Barton Road between I-215 and Vivienda Avenue would operate at LOS D at its existing right-of-way width (100 feet). The 100-foot wide right-of-way corresponds to the City's Major Highway designation. Therefore, based on the more detailed operational analysis of the TOA, this segment will remain at its Major Highway designation, and a less than significant impact will occur.

The Traffic Study recommends incorporating a "modified" Secondary Highway designation to allow re-striping to incorporate additional turn lanes so that additional capacity can be accommodated within existing rights-of-way, where physical conditions limit the ability to obtain additional right-of-way. This concept is already in place at certain intersections within Mount Vernon Avenue. While the Traffic Study recommends the "modified" concept along Mount Vernon Avenue, Exhibit 4M-7 Street Cross Sections of the Proposed Circulation Element proposes this concept for all cross sections and contains the following note: Cross-sections may be modified to accommodate additional turning lanes within the designated right-of-way. As shown in Table 4M-2, , all segments along Mount Vernon Avenue that would operate at an LOS D or worse will operate at LOS C or better with the modified concept.

The Traffic Study recommends the extension of Commerce Way east of Michigan Avenue and north to Barton Road at Vivienda Avenue, as a Major Highway, and the elimination of a segment of Michigan Street between Commerce Way and Barton Road. The Proposed Circulation Plan shows the extension of Commerce Way as a potential future Major Highway extension, which would allow for it to be extended and the segment of Michigan Street to be deleted at such time as it determined that construction of the Commerce Way extension is required with necessary I-215 improvements. The designation of this segment of Commerce Way as a Major Highway results in its operation at an acceptable LOS B.

As shown in Table 4M-2, with the incorporation of the recommendations of the Traffic Study as discussed above, all roadway segments under City of Grand Terrace jurisdiction would operate at an acceptable LOS for the proposed General Plan Update and Amendment to the Redevelopment Plan. The recommendations are depicted in Exhibit 4M-14, which constitutes the proposed Circulation Plan for the City of Grand Terrace.

It should be further noted that traffic from the City is only a small proportion of the overall traffic on the I-215 segments. In addition, the City will continue to participate in and support regional

efforts for the improvement of the I-215 Freeway (Policy 3.1.4 and its implementing Action). Impacts would be reduced to a level of less than significant.

MITIGATION MEASURES

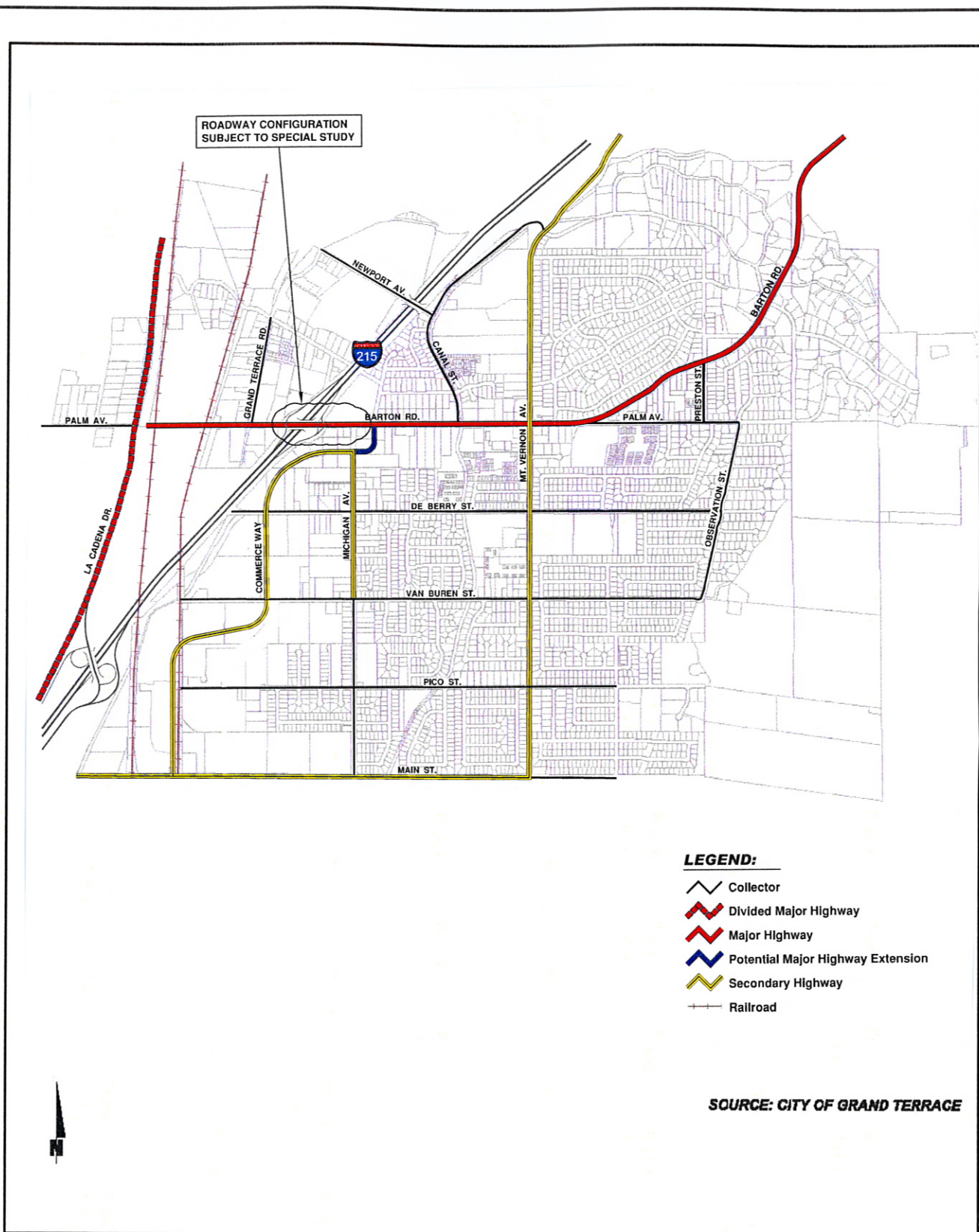
No mitigation measures beyond the Goals, Policies, and implementing Actions identified in the proposed General Plan Update are required.

LEVEL OF IMPACT SIGNIFICANCE AFTER MITIGATION

Impacts would be less than significant.

**Table 4M-2
Future Daily V/C Ratios and LOSs With Traffic Study Recommendations**

Roadway	From	To	Proposed General Plan		Proposed General Plan With Mitigation	
			V/C	LOS	V/C	LOS
Commerce Way	Barton Rd.	Michigan St.	1.01	F	0.67	B
Mt. Vernon Ave.	Barton Rd.	De Berry St.	1.16	F	0.77	C
Mt. Vernon Ave.	De Berry St.	Van Buren St.	0.94	E	0.63	B
Mt. Vernon Ave.	Van Buren St.	Pico St.	0.84	D	0.56	A
Barton Rd.	I-215	Commerce Way/ Vivenda Ave.	1.06	F	0.71	C
Barton Rd.	Commerce Way/ Vivenda Ave.	Canal St.	0.81	D	0.54	A
Barton Rd.	Canal St.	Mt. Vernon Ave.	0.87	D	0.58	A
S. Iowa St.	I-215 NB	Main St.	1.29	F	0.86	D
1-215 Freeway	n/o Barton Rd.	Barton Rd.	1.56	F	1.56	F
1-215 Freeway	Barton Rd.	s/o Barton Rd.	1.55	F	1.55	F



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IMPACT 4M-2: The Proposed Project would exceed, either individually or cumulatively, a level of service standard established by the county congestion management agency for designated roads or highways.

As stated previously, the City of Grand Terrace is also required to conform to the requirements of the San Bernardino Congestion Management Program (CMP). The CMP is administered by the San Bernardino Associated Governments (SANBAG). The City of Grand Terrace has adopted its current transportation impact fee (TIF) program in accordance with the CMP Nexus Study, which is one of the requirements of the CMP. The City also participates in monitoring the performance of the CMP roadway system, which is another CMP requirement. The City has also adopted an "acceptable level of service" of "D" which is consistent with the CMP requirement that no LOS standards established be below the level of service E or the current level. The Proposed Project is consistent with the CMP. Impacts would be less than significant.

MITIGATION MEASURES

No mitigation measures are required.

LEVEL OF IMPACT SIGNIFICANCE AFTER MITIGATION

Impacts would be less than significant.

IMPACT 4M-3: The project would substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections" or incompatible uses (e.g., farm equipment).

The Recommended General Plan Road Way System (depicted in Exhibit 4M-14), shows the southerly alignment of Commerce Way crossing the UPRR line then continuing south to Main Street. The Riverside Industrial Lead (RIL) of the UPRR runs along Taylor Street. There is also an approximate 900 foot long spur that runs south of Pico Street. The predominant cargo inbound is lumber, while outbound trains frequently carry recyclable materials. While train operations can vary, there are on average two trains currently operating each weekday, and train activity for the UPRR is not expected to increase in the near future. The trains operate at no greater than 20 mph.

Although there is not a high level of train activity on this rail line, the alignment of Commerce Way would potentially result in an incompatible design feature. The incorporation of the mitigation measures identified below would require consultation and coordination with the UPRR Company in the design and construction of Commerce Way across the rail line to ensure a safe intersection.

Further, through the City's development review process, future developments would be evaluated to determine the appropriate land use permit for authorizing their use and the conditions for their establishment and operation. At a minimum, compliance with relevant Code standards would be required. Therefore, the proposed General Plan Update would not substantially increase hazards due to design feature or incompatible uses. A less than significant impact would occur in this regard.

Future development projects would be evaluated on a case-by-case basis to ensure that adequate access and circulation to and within the development would be provided. Access to development sites would be required to comply with all City design standards and would be

reviewed by the City and the San Bernardino County Fire Protection District to ensure that inadequate design features or incompatible uses do not occur. The City and the San Bernardino County Fire Protection District would review future development in order to ensure that they are designed to meet adopted standards and provide adequate emergency access. In addition implementation of goals and policies of the General Plan Update (Goal 3.3, Policies 3.3.1 through 3.3.5, and implementing Actions) would further minimize significant impacts involving inadequate design features or incompatible uses. Therefore, implementation of the proposed General Plan Update would not result in significant impacts involving inadequate design features or incompatible uses.

MITIGATION MEASURES

- MM4M-1** The City shall ensure that the design of Commerce Way at the UPRR line is coordinated with the UPRR Company.
- MM4M-2** The City shall evaluate proposed railroad crossing design options with UPRR Company and the California Public Utility Commission to ensure compliance with all state design criteria.

LEVEL OF IMPACT SIGNIFICANCE AFTER MITIGATION

Impacts would be less than significant.

IMPACT 4M-4: The project would result in inadequate emergency access.

Proposed development projects would be required to comply with the City's development review process including review for compliance with the City's Zoning Code. New developments associated with the build out of the proposed General Plan Update would be required to comply with all applicable fire code and ordinance requirements for construction and access to the site. Individual projects would be reviewed by the San Bernardino County Fire Protection District to determine the specific fire requirements applicable to the specific development and to ensure compliance with these requirements. This would ensure that new developments would provide adequate emergency access to and from the site. Further, the San Bernardino County Fire Protection District would review any modifications to existing roadways to ensure that adequate emergency access or emergency response would be maintained. Emergency response and evacuation procedures would be coordinated through the City in coordination with the police and fire departments. These procedures as well as implementation of Goals, Policies and Actions of the General Plan Update (Goal 3.3, Policies 3.3.1 through 3.3.5, 5.5.1 and associated Actions), result in less than significant impacts.

MITIGATION MEASURES

No mitigation measures are required.

LEVEL OF IMPACT SIGNIFICANCE AFTER MITIGATION

Impacts would be less than significant.

IMPACT 4M-5: The project would conflict with adopted policies, plans, or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks).

The City of Grand Terrace participates in the OmniTrans public transit system. OmniTrans operates public bus service throughout the San Bernardino urban area. Currently, there are no scheduled bus routes operated by OmniTrans within the City. However, OmniTrans contracts with the RTA for service. The RTA operates Line 25 Bus service within the City is provided through a “dial-a-ride” service.

The Riverside Transit Authority provides one transit route (Route 25) that serves the City of Grand Terrace. Route 25 runs along Michigan Avenue at the south end of the City and transitions to Barton Road at the northerly end of the City.

The City of Grand Terrace has an extensive sidewalk system along various arterial and collector roadways. The City also provides for bicycle transportation. The existing and proposed bikeway system is depicted on Exhibit 4M–5. Existing bikeways are provided along Main Street, Mount Vernon Avenue and Barton Road from east of Michigan Avenue to the northerly City limits. The Santa Ana River Trail also traverses the northwest area of the City.

Future bikeways are planned along Commerce Way, Barton Road from Michigan Avenue to the easterly City limits and along La Cadena Drive and Terrace Avenue (providing a connection to the Santa Ana River Trail).

The proposed General Plan Update would increase population in the City, thus, increasing the demand for transit service. Additionally, the proposed General Plan Update would establish a new mixed-use land use designation, which would encourage the use of transit and alternative modes of transportation. Potential impacts in this regard would be reduced to less than significant levels following compliance with General Plan Update goals and policies which promote the use of public transit and coordination with Riverside Transit Authority and OmniTrans to facilitate alternative transportation systems within the City.

Implementation of the proposed General Plan Update would not conflict with adopted policies, plans, or programs supporting alternative transportation (i.e., bus routes). In addition, implementation of goals and policies of the General Plan Update (Goals 3.5, 9.5, Policies 3.5.1 through 3.5.7, 9.5.1 through 9.5.3 and associated Actions) would minimize impacts and a less than significant impact would occur in this regard.

MITIGATION MEASURES

No mitigation measures beyond the goals, policies, and implementation measures identified in the proposed General Plan Update are required.

LEVEL OF IMPACT SIGNIFICANCE AFTER MITIGATION

Impacts would be less than significant.

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CHAPTER 4N - UTILITIES AND SERVICE SYSTEMS

The analysis in this Chapter focuses on utilities and service systems. Utilities and service systems include wastewater, water and solid waste. Electricity, natural gas and telephone services are also evaluated. The potential impacts utility agencies were evaluated based on correspondence with local utility agencies that serve the City of Grand Terrace.

4N.1 ENVIRONMENTAL SETTING

WATER

The Riverside Highland Water Company (RHWC) provides water service for the City of Grand Terrace. RHWC is the successor to the Vivienda Water Company, which was part of the Highest Riverside Mesa Scheme. The Vivienda Water Company was incorporated in August 1887 and was operated in unison with the North Riverside Land and Water Company and the Jurupa Land and Water Company, under one management for the development of water for irrigation of lands on both sides of the Santa Ana River. RHWC was incorporated and certified as a Mutual Water Company by the California Secretary of State on February 21, 1898, for the purpose of providing domestic and irrigation water to its shareholders RHWC is a member agency of the San Bernardino Valley Municipal Water District that was formed to provide for supplemental State Project Water in the area.

RHWC is a private water company owned by its shareholders. The company maintains water main transmission lines, wells, reservoirs, and service laterals throughout the City and is directly responsible for their ongoing maintenance.

RHWC extracts water from four groundwater basins: San Bernardino Basin, Colton Basin, Riverside North Basin and Riverside South Basin. The RHWC optimizes its' water supply through an integrated resource approach, utilizing available programs and projects. The RHWC receives its' water from groundwater; however, non-potable water is used in place of potable water whenever the possibility arises, conserving potable water.

The 2005 Urban Water Management Plan (UWMP) prepared for RHWC address changes in the availability of water and the provision of water services to the Water Company's customers. The Report discusses historic and future water demand, existing and planned sources of water, groundwater basin management, water conservation and education programs, and the reliability of water supplies.

The UWMP analysis of water demand and supply projections for the RHWC, including expected growth, demonstrates that projected water supplies exceed demand through the year 2025. These projections consider land use, water development, approved projects, conversion projects and water conservation. RHWC has additional opportunities to increase the water supply to meet demands through the use of imported water or developing a recycled water supply for non-potable water uses. These additional options will enable RHWC to increase the water supply to exceed demand now and into the future.

Additionally, RHWC has developed programs designed to conserve water through the replacement of older lines, which has decreased unaccounted for water from 39% in 1982 to 1% in 2008, while educating its customers on methods of conserving water, such as an Adopt-A-

School program that teaches students about water conservation, water conservation displays at community events, water audits, and tiered rates.

SEWER SERVICES

Sanitary sewer service is provided by the City of Grand Terrace. The City maintains all collection lines within the City limits. The City contracts with the City of Colton for wastewater treatment.

The Colton Water Reclamation Facility (WRF) is located at 1201 S. Rancho in the City of Colton, California 92324. An interagency agreement to accept and treat up to 1.6 MGD from the City of Grand Terrace is in place and also contains wastewater strength limitations. Current flows from the City are estimated at approximately 1.3 MGD based on flow dated from 4 of the 6 connections in Grand Terrace that are delivered via sewer system piping to the City of Colton Water Reclamation Facility (WRF). The Colton WRF has secondary treatment capabilities utilizing screening, grit removal, sequencing batch reactors (activated sludge/secondary clarification), flow equalization, flocculation, filtration, chlorination and dechlorination. NPDES Permit No. R8-2005-0075 authorizes up to 5.84 MGD of secondary treated effluent to be discharged to Reach 4 of the Santa Ana River when it can be demonstrated that a minimum of a 20:1 dilution with flows in the river exist. Under all other circumstances, the treated secondary is delivered to the Rapid Infiltration and Extraction (RIX) Facility which is jointly owned by the Cities of San Bernardino and Colton. Tertiary equivalent treatment is provided to wastewaters received from San Bernardino and Colton prior to discharge to the Santa Ana River. The facility is adequate for existing flows (approximately 5.3 MGD on average) but minimal capacity remains for discharge to the Santa Ana River under the current permit.

SOLID WASTE

The City of Grand Terrace maintains a franchise agreement with Burrtec for the collection and disposal of municipal solid wasters and recyclable materials generated by residences and businesses within the City. All municipal solid waste collected in the City is taken to the San Bernardino County landfill system for disposal. The City currently uses the Colton Landfill and San Timoteo Landfill for waste disposal.

REGULATORY SETTING

Municipal Code

The Grand Terrace Municipal Code contains provisions regulating sewer service, charges, and collection; provisions regulating the stormwater system, and provisions regulating trash service and recycling at construction sites.

Grand Terrace General Plan

Open Space and Conservation Element

Goal 4.6 The City shall support and promote the conservation of energy resources.

Policy 4.6.4: The City shall work with its franchised solid waste collection company to implement recycling programs designed to reduce the per capita waste

generation within the City while responding to the requirements of the California Integrated Waste Management Act of 1989.

Goal 4.8: Achieve regional water quality objectives and protect the beneficial uses of the regions surface and groundwater.

Policy 4.8.1: Evaluate all proposed land use and development plans for their potential to create groundwater contamination hazards from point and non-point sources, and cooperate with other appropriate agencies to assure appropriate mitigation.

Policy 4.8.2 Comply with the requirements of the National Pollutant Discharge Elimination System (NPDES).

Public Services Element

Goal 7.1 Coordinate and balance the provision of public services with existing and planned development to eliminate service gaps, maximize the use of existing public facilities and services, provide a high level of quality public services at a reasonable cost, and maintain adequate services to meet the needs of current and future City residents and businesses.

Policy 7.1.1 All proposed development shall be evaluated to determine whether current public services and facilities can meet with their needs. If determined that current services and facilities are inadequate to meet the needs of new development, appropriate mitigation measures shall be applied to the new development to assure an adequate level of service.

Policy 7.1.4 The City shall coordinate with public and private utility companies and agencies to assure the long-term provision of necessary public services including water, sewer, electrical, natural gas, telephone, cable TV and waste collection/recycling.

Goal 7.2 Provide a water system that produces high quality water at sufficient pressure and with adequate quantity to meet current and future domestic demand.

Policy 7.2.1 Continue to work with Riverside Highland Water Company to provide efficient and economic distribution of an adequate water supply.

Policy 7.2.2 Work with Riverside Highland Water Company to ensure that the City's water supply meets or exceeds State and Federal health standards.

Policy 7.2.3 Work with Riverside Highland Water Company to promote water conservation and education programs.

Goal 7.3 Provide a safe and efficient sanitary sewer system to meet the current and future needs of the City's residents and businesses.

Policy 7.3.1 Work with the City of Colton to ensure a quality wastewater treatment system that meets or exceeds all State and federal health standards.

- Policy 7.3.2 Establish a sewer main maintenance program to ensure proper and timely maintenance of the City's sanitary sewer collection system.
- Policy 7.4.2 Work with the County Waste Management Department to ensure a cost effective waste disposal system with adequate capacity to meet current and future needs.
- Policy 7.4.3 Work with the County and the City's waste hauler to implement effective recycling programs to reduce the total amount of waste requiring disposal.

Sustainable Development Element

Goal 9.2: Reduce the total quantity of waste generated within the City requiring landfill disposal to meet or exceed the State waste diversion goals.

Policy 9.2.1: The City shall reduce the use of disposable products at all City facilities.

Policy 9.2.2: Require all new development projects to recycle construction and demolition wastes.

Policy 9.2.3: The City shall work with its franchise waste collection company to expand current recycling programs.

Goal 9.7: Reduce the City's per capita demand for water consumption.

Policy 9.7.1: The City shall work with Riverside Highland Water Company to reduce water consumption throughout the City.

Policy 9.7.2: The City shall incorporate water conservation into the development review process.

4N.2 SIGNIFICANCE THRESHOLD CRITERIA

The criteria used to determine the significance of impacts on utilities and service systems are taken from City-approved Thresholds of Significance based on the City's Initial Study and the model Initial Study checklist in Appendix G of the State *CEQA Guidelines*. A significant impact would occur if implementation of the proposed General Plan Update and Amendment to the Redevelopment Plan would:

- Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board.
- The following impacts were not identified as being potentially significant in the Initial Study (Appendix A) and will not be discussed further in this Program EIR:
- Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects;

- Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects;
- Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed;
- 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;
- Be served by a landfill with sufficient permitted capacity to accommodate the projects solid waste disposal needs;
- Comply with federal, State, and local statutes and regulations related to solid waste.

4N.3 IMPACTS AND MITIGATION MEASURES

IMPACT 4N-1: The Proposed Project would have a significant impact if it would exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board.

Approval of the proposed project would not directly generate any wastewater that could exceed wastewater treatment capacity. However, implementation of the General Plan Update and Amendment to the Redevelopment Plan would facilitate future land development in the City and therefore generate increased demands for wastewater treatment services.

Wastewater generated by the City of Grand Terrace is treated at the City of Colton Water Reclamation Facility (WRF). The WRF is subject to RWQCB wastewater regulations and standards. Subsequent projects that would result from the General Plan Update and Amendment to the Redevelopment Plan would require a permit from the City. This permit would require various technical information and water quality data, and the City would not issue a discharge permit until it has confirmed that the treatment facility can treat the proposed effluent.

In addition, the implementation of goals and policies of the General Plan (Goal 7.3 and Policies 7.3.1 and 7.3.2) would ensure that applicable wastewater treatment requirements are met. Compliance with these policies and requirements would ensure that the impacts related to wastewater treatment requirements would be less than significant.

MITIGATION MEASURES

No mitigation measures beyond the goals, policies, and implementation measures identified in the proposed General Plan Update are required.

LEVEL OF IMPACT SIGNIFICANCE AFTER MITIGATION

Impacts would be less than significant.

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CHAPTER 5 - PROJECT CONSISTENCY WITH REGIONAL POLICIES

5.1 REGIONAL POLICIES

SOUTHERN CALIFORNIA ASSOCIATION OF GOVERNMENTS

The Southern California Association of Governments (SCAG), which is the designated Metropolitan Planning Organization for six Southern California counties (Ventura, Orange, San Bernardino, Riverside, Imperial, and Los Angeles), is federally mandated to develop plans for transportation, growth management, hazardous waste management, and air quality. SCAG requires that “Regionally Significant” projects show consistency with Regional Transportation Plan Transportation Goals and Compass Growth Visioning Principles. The Proposed Project’s consistency with these goals and principles are demonstrated below in Table 5-1.

Regional Transportation Plan

SCAG adopted its 2008 RTP on May 8, 2008. The 2008 RTP presents the transportation vision for the SCAG region through year 2035 and provides a long-term investment framework for addressing regional transportation and related challenges. The RTP focuses on maintaining and improving the transportation system through a balanced approach and addresses system preservation, operation and management, improved coordination between land use decisions and transportation investments and strategic expansion of the system to accommodate future growth. On December 4, 2008, the Regional Council of the Southern California Association of Governments (SCAG) adopted Amendment #1 to the 2008 Regional Transportation Plan (RTP) and Amendment #08-01 to the Regional Transportation Improvement Program. The Amendments were developed as a response to changes to projects in the 2008 RTP.

Compass Growth Vision

A portion of the City of Grand Terrace is located within a Compass 2% Strategy Area, where development is intended to balance employment, housing, and services to reduce vehicle trips and emissions, enhance livability, expand prosperity and increase sustainability. The Strategy Area generally is located along I-215, Barton Road, and South La Cadena Drive.

The primary goal of the Compass Growth Visioning effort is to make the SCAG region a better place to live, work and play for all residents regardless of race, ethnicity or income status. Decisions pertaining to growth, transportation, land use and economic development should be made to promote and sustain for future generations regional mobility, livability and prosperity. The following “Regional Growth Principles” are intended to provide the framework for local and regional decision making that improves quality of life for all SCAG residents.

Table 5-1 Project Consistency with SCAG Regional Policies

Regional Transportation Plan Goals		
RTP G1	Maximize mobility and accessibility for all people and goods in the region.	Consistent: General Plan (GP) Goal 3.4 and 3.5 and Policies 3.5.1-3.5.7 and 3.4.1-3.4.6 promote a variety of efficient alternative methods of travel.
RTP G2	Ensure travel safety and reliability for all people and goods in the region.	Consistent: GP Goal 3.1 and Policies 3.1.1-3.1.8 support a comprehensive transportation system that provides for the current and long-term efficient movement of people and goods within and through the City; ensure safety and reliability; and promote cooperation with SANBAG and Caltrans for highway expansion projects.
RTP G3	Preserve and ensure a sustainable regional transportation system.	
RTP G4	Maximize the productivity of our transportation system.	
RTP G5	Protect the environment, improve air quality and promote energy efficiency.	Consistent: GP Goal 4.7 and Policies 4.7.1-4.7.7 support air quality planning through land use policies, outreach efforts, and participation in regional air quality planning. GP Goals 9.1 and 9.5 and Policies 9.1.2 and 9.5.1 promote energy efficiency in project design and city facilities.
RTP G6	Encourage land use and growth patterns that complement our transportation investments and improves the cost-effectiveness of expenditures.	Consistent: GP Policies 3.1.1 , 2.1.6, 3.5.6 - encourage development of a transportation system which supports planned land uses and improves the quality of life, and encourage mixed land uses that demonstrate efficient utilization of transportation facilities. .
RTP G7	Maximize the security of our transportation system through improved system monitoring, rapid recovery planning, and coordination with other security agencies	Consistent: GP Policy 3.3.4 states that the City shall route truck traffic away from residential areas and work with regional agencies in order to mitigate potential impacts from regional traffic; and designate truck routes in coordination with the County Sheriff. GP Policy 5.5.1 states that the City will maintain effective emergency preparedness and response programs; and coordinate with appropriate public agencies to develop a regional system to respond to natural and man-made emergencies and catastrophes, including regular review of the City's Emergency Operations Plan and mutual aid agreements, and maintenance of communication links with San Bernardino authorities and volunteer radio clubs.
COMPASS/Growth Visioning Principles		

Principle 1: Improve mobility for all residents

GV P1.1	Encourage transportation investments and land use decisions that are mutually supportive.	<p>Consistent: As stated in GP Policy 3.1.3, Commerce Way shall serve provide for the movement of traffic associated with freeway commercial and business traffic. The improvement of Commerce Way supports the land use changes proposed as part of the GP Update.</p> <p>GP Policy 3.1.1 promotes a transportation system that supports planned land uses and improves the quality of life. GP Policy 3.1.4 states that the City shall cooperate with SANBAG and Caltrans for the implementation of the improvement and ultimate expansion of I-215 between SR-91/I-215/SR-60 and I-10. It is in the City's interest to improve the flow of traffic past and through the City. Projects that will relieve congestion will also improve the local air quality.</p>
GV P1.2	Locate new housing near existing jobs and new jobs near existing housing.	Consistent: GP Policy 2.1.6 strongly encourages mixed use development in the City which can demonstrate superior use of land, more efficient utilization of public facilities, and more effective utilization of natural resources.
GV P1.3	Encourage transit-oriented development.	Consistent: GP Policies 3.5.2-3.4.6 encourage participate in local and regional public transit programs by encouraging pedestrian environments, working closely with regional transit agencies and encouraging transit oriented developments.
GV P1.4	Promote a variety of travel choices.	Consistent: GP Goal 3.4 and 3.5 and Policies 3.5.1-3.5.7 and 3.4.1-3.4.6 promote a variety of efficient alternative methods of travel.

Principle 2: Foster livability in all communities

GV P2.1	Promote infill development and redevelopment to revitalize existing communities.	Consistent: GP Goal 8.1 encourages a supply of housing suitable to the needs and sufficient in number to serve existing and projected residents of Grand Terrace. Policy 8.1.3 encourages infill housing development and more intensive use of underutilized land for residential construction
GV P2.2	Promote developments that provide a mix of uses.	Consistent: GP Policy 2.1.6 strongly encourages mixed use development in the City which can demonstrate superior use of land, more efficient utilization of public facilities, and more effective utilization of natural resources. Action 9.3.1 b. promotes mixed use development projects that coordinate land uses with transportation systems and parks and open space in an effort to create a walkable neighborhood environment.

GV P2.3	Promote “people scaled,” pedestrian-friendly (walkable) communities.	Consistent: GP Policy 3.5.3 encourages the facilitation of pedestrian movement by creating environments that are conducive to walking and maintaining a “human scale” of development. Policy 3.5.7 states that the City shall provide amenities along the Barton Road corridor that promote pedestrian and bicyclist use, such as a continued system of pedestrian paths and bike lanes to connect the City Center with schools, parks, and residential areas. Policy 4.7.3 encourages land use planning and urban design that reduces vehicle trips through mixed use development, consolidation of commercial uses along arterial highways, and pedestrian connection between residential and commercial uses. Action 9.3.1b. promotes mixed use development projects that coordinate land uses with transportation systems and parks and open space in an effort to create a walkable neighborhood environment.
GV P2.4	Support the preservation of stable, single-family neighborhoods.	Consistent: GP Goal 2.2 and Policies 2.2.1 and 2.2.2 encourage preservation and enhancement of the quality and character of the City’s residential neighborhoods. Housing Element Goal 8.1 and Policies 8.3.1, 8.3.2, 8.3.8 and 8.3.11 promote the preservation of neighborhoods and their housing stock.

Principle 3: Enable prosperity for all people

GV P3.1	Provide, in each community, a variety of housing types in each community to meet the housing needs of all income levels.	Consistent: GP Goal 8.2 and Policies 8.2.1-8.2.18 promote and encourage housing opportunities, accessible to employment centers and quality community services for all economic segments of the community including designated very low, low, and moderate income households.
GV P3.2	Support educational opportunities that promote balanced growth.	Consistent: GP Goal 7.7 and Policies 7.1.1 and 7.1.2 require cooperation with the Colton Joint Unified School District in collection of school impact mitigation fees in an effort to provide adequate public educational facilities and programs.
GV P3.3	Ensure environmental justice regardless of race, ethnicity or income class.	Consistent: Several Policies of the General Plan call out for the preparation of environmental studies to evaluate potential impacts stemming from development projects (Policies 4.8.1, 4.9.1, 5.1.2, 5.4.2, 6.2.3 and 6.2.4). Additionally, the adoption of this General Plan in itself required the preparation of an EIR. An NOP for the EIR was legally published and notice was provided on the City’s website as well as posting in public places. The NOP also advertised the time and place for a Scoping meeting for the project. As with all public meetings, the Scoping meeting was open to all members of the public regardless of race, ethnicity or income and provisions for persons with disabilities was provided. Fifteen members of the public took part of the public Scoping meeting and eight members provided oral comments on the preparation of the EIR.

GV P3.4	Support local and state fiscal policies that encourage balanced growth.	Consistent: Goal 2.1 and Policies 2.1.1 – 2.1.7 provide for balanced growth which seeks to provide a wide range of employment and housing opportunities and maintenance of a healthy, diversified community.
GV P3.5	Encourage civic engagement.	Consistent: General Plan Policy 5.5.2 requires the City to establish a working relationship with local amateur radio clubs and secure their voluntary participation in disaster recovery, and Policy 6.3.8 and its implementing action calls for the City to encourage citizen participation and City involvement on committees that could influence future aircraft and rail activities in Riverside and San Bernardino Counties.

Principle 4: Promote sustainability for future generations

GV P4.1	Preserve rural, agricultural, recreational and environmentally sensitive areas.	Consistent: Goal 4.1 and Policies 4.1.1 – 4.1.13 promote the need for open space and outdoor recreation in the City. The Policies encourage creative use of public properties as parkland, a wilderness park and a coordinated trail plan. Goal 4.2 states that natural resources in the City of Grand Terrace shall be protected and preserved by utilizing open space designations or related regulations. Policies 4.2.1 – 4.1.8 also promote the protection of natural resources and open space in the City.
GV P4.2	Focus development in urban centers and existing cities.	Consistent: The General Plan contains Policies that focus development in existing urban centers and areas of existing development. Policy 2.3.2 calls for the maintenance and continued development of Grand Terrace's established commercial areas, as an encouragement of new commercial development, Policy 4.7.3 encourages land use planning and urban design that reduces vehicle trips through mixed use development, consolidation of commercial uses along arterial highways, and pedestrian connection between residential and commercial uses; and Policy 8.1.3 which promotes and encourages infill housing development and more intensive use of underutilized land for residential construction.
GV P4.3	Develop strategies to accommodate growth that uses resources efficiently, eliminate pollution and significantly reduce waste.	GP Goal 9.1 is to reduce the City's per capita energy usage. Policies that support this goal, (9.1.1 and 9.1.2 promote coordination with Southern California Edison, public education, energy audits, and promotion of green building development. Goal 9.2 and Policy 9.2.1 through 9.2.3 call for the reduction in waste by reducing the use of disposable products at all City facilities, requiring new development projects to recycle construction and demolition wastes; and working with its franchise waste collection company to expand current recycling programs.

GV P4.4	Utilize “green” development techniques.	Policy 9.1.2 encourage green building development by adopting a green building ordinance which incentivizes developers to meet LEED building standards for new and refurbished projects
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CHAPTER 6 - ALTERNATIVES ANALYSIS

6.1 INTRODUCTION

Section 15126.6 of the *CEQA Guidelines* requires the identification and evaluation of reasonable alternatives designed to feasibly achieve the most basic objectives of the project, while avoiding or substantially lessening any of the significant environmental effects of the project. In addition, CEQA requires a comparative evaluation of the merits of the alternatives.

Pursuant to Section 15126.6 (f)(1) of the *CEQA Guidelines*, factors that may be taken into account when addressing the feasibility of alternatives include, but are not limited to, site suitability, economic viability, availability of infrastructure, general plan consistency, other plans or regulatory limitations, jurisdictional boundaries, and whether the proponent can reasonably acquire, control or otherwise have access to the alternative site (or the site is already owned by the proponent). Although these factors do not present a strict limit on the scope of reasonable alternatives to be considered, they help establish the context in which “the rule of reason” is measured against when determining an appropriate range of alternatives sufficient to establish and foster meaningful public participation and informed decision-making.

6.2 ALTERNATIVES ANALYSIS

Potentially significant impacts that would result from implementation of the proposed General Plan Update are identified in Chapter 4 which indicates that the proposed General Plan Update would result in significant and unavoidable impacts related to air quality and noise. Implementation of the identified policies, implementation measures, or mitigation measures can mitigate all other potentially significant impacts to less than significant levels. This Chapter considers alternatives to otherwise avoid or minimize these impacts.

The analysis of alternatives includes the assumption that all applicable policies, implementation measures, or mitigation measures associated with the proposed General Plan Update and Amendment to the Redevelopment Plan would be implemented with the No Project/Existing General Plan and Redevelopment Plan Alternative. A description of each alternative and a comparative environmental evaluation to the impacts identified for the proposed General Plan Update is provided below.

NO PROJECT/NO DEVELOPMENT ALTERNATIVE

Description

Implementation of the No Project/No Development Alternative assumes that no additional development would occur; thus, the City of Grand Terrace would maintain the status quo of existing land use conditions and levels of development. Any development that would occur as part of build out of the proposed General Plan Update would not occur under this Alternative. By definition, this Alternative prohibits the issuance of any further building permits. This situation would void the implementation of any current or future General Plan for the City of Grand Terrace. This would be in direct conflict with California statutes requiring General Plans, the Subdivision Map Act, and the rights of land owners to develop their property.

Impact Evaluation

The following impact evaluation provides a comparison between the existing land use condition and levels of development, which would remain unchanged with the No Project/No Development Alternative, and those associated with the proposed General Plan Update. An analysis is provided for each of the impact areas identified in this Program EIR. The evaluation is followed by a conclusion.

Aesthetics

The No Project/No Development Alternative would result in no net change to the landform and visual character of the area given that no development beyond existing levels would be permitted. Development standards specified in planning documents, such as adopted Specific Plans would not be applied. Further, redevelopment areas would remain in their current state, as redevelopment would not occur. Thus, the aesthetic character of the City would remain as it exists today. In this regard, the No Project/No Development Alternative is considered environmentally inferior to the proposed General Plan Update.

Air Quality

Implementation of this No Project/No Development Alternative would result in no new development that could result in an increase in air quality impacts. Development pursuant to the proposed General Plan Update would result in significant unavoidable impacts related to generate emissions levels that will exceed the daily SCAQMD thresholds for ROG, NO_x, CO, PM₁₀, and PM_{2.5} in the Basin. All other impacts for the proposed General Plan Update can be mitigated to less than significant levels. Thus, this Alternative would eliminate a significant unavoidable impact generated by the proposed General Plan Update, since the projected growth in population/development would not occur. The No Project/No Development Alternative is considered environmentally superior to the proposed General Plan Update in this regard.

Biological Resources

Implementation of this Alternative would result in no new development that could result in an increase in biological resource impacts. Any impacts for the proposed General Plan Update can be mitigated to less than significant levels, however, the No Project/No Development Alternative would eliminate the potential development of land with sensitive plant and wildlife habitat. The No Project/No Development Alternative is considered environmentally superior to the proposed General Plan Update in this regard.

Cultural Resources

Implementation of this Alternative would result in no new development that could result in an increase in cultural resource impacts. Any impacts for the proposed General Plan Update can be mitigated to less than significant levels, however, the No Project/No Development Alternative would eliminate potential impacts on potential archaeological or paleontological resources or unique geologic features associated with the development of land. The No Project/No Development Alternative is considered environmentally superior to the proposed General Plan Update in this regard.

Geology

Implementation of the proposed General Plan Update would result in new development (i.e. new residential, commercial, office, mixed-use and industrial land uses), thereby resulting in an increase in population. Potential new development would be located throughout the City. The No Project/No Development Alternative would not permit any new development and therefore, an increase in the number of structures/people potentially exposed to substantial adverse effects associated with rupture of known earthquake faults or severe ground shaking would not occur. In this regard, the No Project/No Development Alternative is considered environmentally superior to the proposed General Plan Update.

Hazards and Hazardous Materials

Implementation of the proposed General Plan Update Alternative would result in the expansion or development of facilities that could impact the health and safety of Grand Terrace residents and employees. However, the proposed General Plan Update would result in the implementation of policies designed to maintain public health and safety, which would minimize risk. Although policies and standards would reduce the potential threat associated with hazardous material use, disposal and transport with the proposed General Plan Update, impacts would be reduced with implementation of the No Project/No Development Alternative. Therefore, this Alternative is considered environmentally superior to the proposed General Plan Update in this regard.

Hydrology and Water Quality

Development under this Alternative would not result in an increase in the population and development in the City. Thus, there would not be an increase in water demand, impermeable surface coverage, or additional buildings potentially located in flood areas. Under this Alternative, no new or additional development that could be impacted by potential hydrology and drainage hazards (i.e. flood hazards) would occur. Thus, the No Project/No Development Alternative would be considered environmentally superior to the proposed General Plan Update in this regard.

Land Use

The No Project/No Development Alternative would not result in any changes to existing land uses or development levels within the City. Under this Alternative, the 420 acres of vacant land would remain undeveloped. The vacant land represents an opportunity for infill development. However, under this Alternative, infill development would not occur. Additionally, this Alternative would prohibit underutilized parcels from expanding their existing use or constructing a new use on the site. Under the No Project/No Development Alternative, land use conditions would not be updated to reflect current (actual) development conditions within the City, as would occur with the proposed General Plan Update. The proposed General Plan Update would not conflict with the City's existing plans for build out, nor would it result in conflicts with *CEQA* statutes. In this regard, the No Project/No Development Alternative is considered environmentally inferior to the proposed General Plan Update.

Noise

Implementation of this Alternative would result in no new development that could result in an increase in noise impacts. New potential noise impacts associated with construction, traffic,

mobile and stationary noise sources would not occur with this Alternative. Development pursuant to the proposed General Plan Update would result in additional noise from construction activities and the resulting increase in traffic associated with future development. However, it is important to note that under this Alternative regional through-traffic would continue to adversely impact the roadways in Grand Terrace, and thus increase noise levels in the City without the benefit of mitigation. While an increase in noise levels associated with an increase in population/development would not occur under this Alternative, noise levels would continue to increase as result of regional through-traffic. The No Project/No Development Alternative is considered environmentally inferior to the proposed General Plan Update in this regard.

Population/Housing

This Alternative would result in the City neglecting its obligation to maintain a current Housing Element. The Housing Element includes the City's plan for attempting to meet its share of the region's future housing needs, as required by State law and mandated by the State of California Housing and Community Development (HCD). Under the No Project/No Development Alternative, the City would not develop any additional housing units, which would not allow the City to meet its quantified objectives for housing as outlined in the Housing Element. Opportunities to increase and diversify employment in the City would also be lost through this Alternative, as no additional development in the City would occur. Additionally, the City's population growth expected to result from implementation of the proposed General Plan Update would be consistent with the subregion, and would not result in any significant impacts. Therefore, the No Project/No Development Alternative is considered environmentally inferior to the proposed General Plan Update in this regard.

Public Services

Implementation of the No Project/No Development Alternative would result in no new or additional impacts to public services since no new development would occur. The level of service and demand for service would remain similar to what currently exists within the City. Impacts to public services with implementation of the proposed General Plan Update would be less than significant. The No Project/No Development Alternative would not introduce new residents to the City. Thus, the No Project/No Development Alternative is considered environmentally superior to the proposed General Plan Update in this regard.

Recreation

Implementation of the No Project/No Development Alternative would result in no new or additional impacts to recreation since no new development would occur. The level of service and demand for service would remain similar to what currently exists within the City. Impacts to recreation with implementation of the proposed General Plan Update would be less than significant. The No Project/No Development Alternative would not introduce new residents to the City. Thus, the No Project/No Development Alternative is considered environmentally superior to the proposed General Plan Update in this regard.

Transportation/Circulation

Implementation of this Alternative would result in no new development that could result in an increase in transportation and circulation impacts. Transportation and circulation impacts for the proposed General Plan Update can be mitigated to less than significant levels and would be less significant than impacts under the current General Plan. However, this Alternative would

eliminate transportation and circulation impacts, since growth in population/development would not occur. The No Project/No Development Alternative is considered environmentally superior to the proposed General Plan Update in this regard.

Utilities/Service Systems

Implementation of the No Project/No Development Alternative would result in no new or additional impacts to utilities and service systems since no new development would occur. The level of service and demand for service would remain similar to what currently exists within the City. Impacts to utilities and service systems with implementation of the proposed General Plan Update would be less than significant. The No Project/No Development Alternative would not introduce new residents to the City. Thus, the No Project/No Development Alternative is considered environmentally superior to the proposed General Plan Update in this regard.

Conclusion

The No Project/No Development Alternative would result in no change to the existing conditions within the City of Grand Terrace. Therefore, no new or additional environmental impacts would result directly from this Alternative. However, the No Project/No Development Alternative would prevent the City from making needed improvements to existing properties, infrastructure, and public services. Existing conditions under this Alternative would be maintained at first, but due to an increased dependence on developer fees to provide new and improved infrastructure, property and areas would become unimproved. Additionally, the No Project/No Development Alternative would not result in any changes to existing land uses or development levels within the City and would conflict with the City's existing plans for build out. Also, regional through traffic in the City would continue to increase and would impact both roadway capacity and noise levels in the City without the benefit of mitigation. Overall, the No Project/No Development Alternative is considered environmentally superior to the proposed General Plan Update.

NO PROJECT/EXISTING GENERAL PLAN ALTERNATIVE

Description

As required by Section 15126.6 (e) of the *CEQA Guidelines*, the No Project/Existing General Plan Alternative describes build out of the City of Grand Terrace in accordance with existing zoning and General Plan land use designations and policies of the current General Plan, which was adopted in 1988. This Alternative assumes that the existing General Plan would continue to provide outdated information regarding several issues, such as land uses, traffic conditions, community noise levels, air quality data, and population and housing.

This Alternative assumes that ultimate build out of the existing General Plan would occur. The No Project/Existing General Plan Alternative encompasses the same geographic area as that in the proposed General Plan Update. The General Plan Update proposes the revisions to the Existing General Plan, as outlined in Section 2.3, Statement of Objectives.

Impact Evaluation

The following impact evaluation provides a comparison between the current City of Grand Terrace General Plan, adopted in 1988, and the proposed General Plan Update. An analysis is provided for each of the impact areas identified in this Program EIR. The evaluation is followed by a conclusion.

Aesthetics

The No Project/ Existing General Plan Alternative would not result in the designation of certain areas along the northern flank of Blue Mountain for residential development. However, any impact associated with this development under the proposed General Plan Update would be reduced to less than significant. Development standards specified in planning documents, such as adopted Specific Plans would be applied to both this Alternative and the proposed Project. However, redevelopment areas would remain in their current state, as redevelopment would not occur. Thus, the aesthetic character of the City in the redevelopment area would remain as it exists today. In this regard, the No Project/Existing General Plan Alternative is considered environmentally inferior to the proposed General Plan Update.

Air Quality

Implementation of this Alternative would result in development as allowed under the existing General Plan that could result in an increase in air quality impacts. This development as with that under the proposed General Plan Update would result in significant unavoidable impacts related to generate emissions levels that will exceed the daily SCAQMD thresholds for ROG, NO_x, CO, PM₁₀, and PM_{2.5} in the Basin. In addition, this Alternative would involve greater traffic congestion and associated emissions and would not reduce vehicle emissions caused by traffic congestion by implementing proposed Project transportation systems management techniques, such as synchronized traffic signals and limiting on-street parking. This Alternative would also not implement proposed General Plan GHG reduction measures. The No Project/Existing General Plan Alternative is considered environmentally inferior to the proposed General Plan Update in this regard.

Biological Resources

As with the Proposed Project, this Alternative would result in the potential development of land with sensitive plant and wildlife habitat. These impacts can be mitigated to less than significant levels. The No Project/Existing General Plan Alternative is considered similar to the proposed General Plan Update in this regard.

Cultural Resources

As with the Proposed Project, this Alternative would result in the potential development of land with archaeological or paleontological resources or unique geologic features. These impacts can be mitigated to less than significant levels. The No Project/Existing General Plan Alternative is considered similar to the proposed General Plan Update in this regard.

Geology

As with the proposed Project, implementation of this Alternative would result in new development thereby resulting in an increase in population (5% greater than under the General Plan Update). Any new development potentially increases the number of structures/people potentially exposed to substantial adverse effects associated with rupture of known earthquake faults or severe ground shaking. These impacts can be mitigated to less than significant levels. In this regard, the No Project/Existing General Plan Alternative is considered slightly environmentally inferior to the proposed General Plan Update, due to the slightly greater potential population.

Hazards/Hazardous Materials

Implementation of the proposed General Plan Update Alternative would result in the expansion or development of facilities that could impact the health and safety of Grand Terrace residents and employees. Both this Alternative and the proposed General Plan Update would result in the implementation of policies designed to maintain public health and safety, which would minimize risk. Therefore, the No Project/Existing General Plan Alternative is considered environmentally similar to the proposed General Plan Update in this regard.

Hydrology/Water Quality

Development under this Alternative would result in an increase in the population/ development in the City slightly greater than that with the General Plan Update. The increase in water demand, impermeable surface coverage, or additional buildings potentially located in flood areas would be slightly greater under this Alternative. Thus, the No Project/Existing General Plan Alternative would be considered slightly environmentally inferior to the proposed General Plan Update in this regard.

Land Use

The No Project/Existing General Plan Alternative would not result in any changes to existing land uses or development levels within the City. This Alternative would not conflict with the City's existing plans for build out, nor would it result in conflicts with *CEQA* statutes. In this regard, the No Project/Existing General Plan Alternative is considered environmentally similar to the proposed General Plan Update.

Noise

Implementation of this Alternative would result in new potential noise impacts associated with construction, traffic, mobile and stationary noise sources associated with buildout under the existing General Plan. Development pursuant to the proposed General Plan Update would also result in additional noise from construction activities and the resulting increase in traffic associated with future development. However, it is important to note that this Alternative would increase noise levels in the City without the benefit of mitigation. The No Project/Existing General Plan Alternative is considered environmentally inferior to the proposed General Plan Update in this regard.

Population and Housing

This Alternative would result in the City neglecting its obligation to maintain a current Housing Element. The Housing Element includes the City's plan for attempting to meet its share of the region's future housing needs, as required by State law and mandated by the State of California Housing and Community Development (HCD). Opportunities to increase and diversify employment in the City would be lost through this Alternative, as the redevelopment plan would not occur. Additionally, the City's population growth expected to result from implementation of the proposed General Plan Update would be consistent with the subregion, and would not result in any significant impacts. Therefore, the No Project/Existing General Plan Alternative is considered environmentally inferior to the proposed General Plan Update in this regard.

Public Services

Implementation of the No Project/Existing General Plan Alternative would result in additional impacts to public services with new development associated with buildout under the existing General Plan. The level of service and demand for service would be slightly higher than that for the Proposed Project. Impacts to public services with implementation of the proposed General Plan Update would be less than significant. Thus, the No Project/Existing General Plan Alternative is considered slightly environmentally inferior to the proposed General Plan Update in this regard.

Recreation

Implementation of the No Project/Existing General Plan Alternative would result in additional impacts to recreation with new development associated with buildout under the existing General Plan. The level of service and demand for service would be slightly higher than that for the Proposed Project. Impacts to recreation with implementation of the proposed General Plan Update would be less than significant. Thus, the No Project/Existing General Plan Alternative is considered slightly environmentally inferior to the proposed General Plan Update in this regard.

Transportation/Circulation

Implementation of this Alternative would result in development as allowed under the existing General Plan that could result in an increase in transportation and circulation impacts. In addition, this Alternative would involve greater traffic congestion and associated emissions and would not reduce traffic congestion by implementing proposed Project transportation systems management techniques, such as synchronized traffic signals and limiting on-street parking. The No Project/Existing General Plan Alternative is considered environmentally inferior to the proposed General Plan Update in this regard.

Utilities and Service Systems

Implementation of the No Project/Existing General Plan Alternative would result in additional impacts to utilities and service systems with new development associated with buildout under the existing General Plan. The level of service and demand for service would be slightly higher than that for the Proposed Project. Impacts to utilities and service systems with implementation of the proposed General Plan Update would be less than significant. Thus, the No Project/Existing General Plan Alternative is considered slightly environmentally inferior to the proposed General Plan Update in this regard.

Conclusion

The No Project/Existing General Plan Alternative would result in build out of the City under the existing General Plan. This Alternative would prevent the City from making updates to outdated information regarding several issues, such as land uses, traffic conditions, community noise levels, air quality data, and population and housing. This Alternative would result in the City neglecting its obligation to maintain a current Housing Element and would result in losing opportunities to increase and diversify employment through the redevelopment plan. Regional through traffic in the City would continue to increase and would impact both roadway capacity and noise levels in the City without the benefit of mitigation. Overall, the No Project/Existing General Plan Alternative is considered environmentally inferior to the proposed General Plan Update.

REDUCED DEVELOPMENT INTENSITY ALTERNATIVE

Description

The Reduced Development Intensity Alternative assumes growth would occur but at an overall reduced intensity. This Alternative assumes that the General Plan would be revised to provide updated information regarding several issues, such as land uses, traffic conditions, community noise levels, air quality data, and population and housing. This Alternative assumes that ultimate build out of the General Plan Update would occur but at an overall reduction of 30%. The Reduced Development Intensity Alternative encompasses the same geographic area as that in the proposed General Plan Update.

Impact Evaluation

Aesthetics

The Reduced Development Intensity Alternative would result in 30% less of the designation of certain areas along the northern flank of Blue Mountain for residential development. However with the Proposed Project, any impact associated with this development would be reduced to less than significant. Development standards specified in planning documents, such as adopted Specific Plans would be applied to both this Alternative and the proposed Project. Redevelopment would occur but to a reduced degree. As with the Proposed Project, any impacts associated with aesthetics would be reduced to less than significant. Overall the Reduced Development Intensity Alternative is considered environmentally similar to the proposed General Plan Update.

Air Quality

Implementation of this Alternative would result in development that could result in an increase in air quality impacts. However, there would be 30% less development and a similar reduction in air quality impacts in comparison to those under the General Plan Update. This Alternative would involve lesser traffic congestion and associated emissions and would reduce vehicle emissions caused by traffic congestion by implementing proposed Project transportation systems management techniques, such as synchronized traffic signals and limiting on-street parking. This Alternative would also implement GHG reduction measures. The Reduced Development Intensity Alternative is considered environmentally superior to the proposed General Plan Update in this regard.

Biological Resources

Due to the reduction in development, this Alternative would result in less potential development of land with sensitive plant and wildlife habitat than that associated with the proposed General Plan Update. These impacts can be mitigated to less than significant levels. The Reduced Development Intensity Alternative is considered environmentally superior to the proposed General Plan Update in this regard.

Cultural Resources

Due to the reduction in development, this Alternative would result in less potential development of land with archaeological or paleontological resources or unique geologic features than that associated with the proposed General Plan Update. These impacts can be mitigated to less

than significant levels. The Reduced Development Intensity Alternative is considered environmentally superior to the proposed General Plan Update in this regard.

Geology

As with the proposed Project, implementation of this Alternative would result in new development thereby resulting in an increase in population (30% lower increase than under the General Plan Update). Any new development potentially increases the number of structures/people potentially exposed to substantial adverse effects associated with rupture of known earthquake faults or severe ground shaking. These impacts can be mitigated to less than significant levels. In this regard, the Reduced Development Intensity Alternative is considered environmentally superior to the proposed General Plan Update, due to the lower potential population.

Hazards and Hazardous Materials

Implementation of the proposed Alternative would result in the expansion or development of facilities that could impact the health and safety of Grand Terrace residents and employees but to a lesser degree than that associated with the General Plan Update. Both this Alternative and the proposed General Plan Update would result in the implementation of policies designed to maintain public health and safety, which would minimize risk. Therefore, the Reduced Development Intensity Alternative is considered environmentally superior to the proposed General Plan Update in this regard.

Hydrology and Water Quality

Development under this Alternative would result in a lower increase in the population/development in the City than that associated with the General Plan Update. The increase in water demand, impermeable surface coverage, or additional buildings potentially located in flood areas would be lower under this Alternative. Thus, the Reduced Development Intensity Alternative would be considered environmentally superior to the proposed General Plan Update in this regard.

Land Use

Similar to the Proposed Project, this Alternative would update land use descriptions to make them consistent with language that directly refers to adopted General Plan, zoning, and other local land use policies. This Alternative would apply the proposed General Plan Goals, Policies and Actions identified for the General Plan Update, which would serve to assure avoidance or mitigation of significant environmental impacts. However, this Alternative would provide opportunities for development of vacant or underutilized properties to a lower degree than that with the Proposed Project. In this regard, the Reduced Development Intensity Alternative is considered environmentally inferior to the proposed General Plan Update.

Noise

Due to reduced development, implementation of this Alternative would result in new potential noise impacts associated with construction, traffic, mobile and stationary noise sources less than that associated with the proposed General Plan Update. This Alternative would apply the same mitigation measures as the proposed General Plan Update reducing any impacts to less than

significant. Therefore, the Reduced Development Intensity Alternative is considered environmentally superior to the proposed General Plan Update in this regard.

Population and Housing

This Alternative would result in the City meeting its obligation to maintain a current Housing Element. Opportunities to increase and diversify employment in the City would be at a reduced rate than with the proposed General Plan Update. The City's population growth expected to result from implementation of this Alternative would be consistent with the subregion, and would not result in any significant impacts. Therefore, the Reduced Development Intensity Alternative is considered environmentally inferior to the proposed General Plan Update in this regard.

Public Services

Implementation of the Reduced Development Intensity Alternative would result in additional impacts to public services with new development associated with buildout under this Alternative. The level of service and demand for service would be at a reduced level to that for the Proposed Project. Impacts to public services with implementation of the proposed General Plan Update would be less than significant. Thus, the Reduced Development Intensity Alternative is considered environmentally superior to the proposed General Plan Update in this regard.

Recreation

Implementation of the Reduced Development Intensity Alternative would result in additional impacts to recreation with new development associated with buildout under this Alternative. The level of service and demand for service would be at a reduced level to that for the Proposed Project. Impacts to recreation with implementation of the proposed General Plan Update would be less than significant. Thus, the Reduced Development Intensity Alternative is considered superior to the proposed General Plan Update in this regard.

Transportation/Circulation

Implementation of this Alternative would result in reduced transportation and circulation impacts in comparison to those with the proposed General Plan Update. In addition, this Alternative would implement proposed Project transportation systems management techniques, such as synchronized traffic signals and limiting on-street parking, resulting in less than significant impacts. The Reduced Development Intensity Alternative is considered environmentally superior to the proposed General Plan Update in this regard.

Utilities/Service Systems

Implementation of the Reduced Development Intensity Alternative would result in additional impacts to utilities and service systems with new development associated with buildout under this Alternative. The level of service and demand for service would be at a reduced level to that for the Proposed Project. Impacts to utilities and service systems with implementation of the proposed General Plan Update would be less than significant. Thus, the Reduced Development Intensity Alternative is considered environmentally superior to the proposed General Plan Update in this regard.

Conclusion

The Reduced Development Intensity Alternative would result in build out of the City with reduced development than with the proposed General Plan Update. This Alternative would allow the City to make updates to outdated information regarding several issues, such as land uses, traffic conditions, community noise levels, air quality data, and population and housing. This Alternative would result in the City maintaining a current Housing Element and would result in opportunities to increase and diversify employment through the redevelopment plan though to a lower degree than that with the Proposed Project. Overall, the Reduced Development Intensity Alternative is considered environmentally superior to the proposed General Plan Update.

EXPANDED MIXED USE ALTERNATIVE

Description

The Expanded Mixed Use Alternative would be similar to the Proposed Project but would result in a larger percentage of land in the City designated as Mixed Use. The Mixed-Use Designation would be further modified to include two Mixed Use Designations: MU-1 and MU-2. MU-1 would include the area designated as Mixed Use under the Proposed Project. MU-2 would involve 44.32 acres of industrial, general commercial, and low density residential uses located immediately east of the MU-1 area. Both these areas may include residential, commercial, business park, open space, and recreational uses. All mixed use projects will be required to submit a Specific Plan.

Aesthetics

The Expanded Mixed Use Alternative would result in the designation of certain areas along the northern flank of Blue Mountain for residential development. However as with the Proposed Project, any impact associated with this development would be reduced to less than significant. Development standards specified in planning documents, such as adopted Specific Plans would be applied to both this Alternative and the proposed Project and redevelopment would occur. As with the Proposed Project, any impacts associated with aesthetics would be reduced to less than significant. In this regard, the Expanded Mixed Use Alternative is considered environmentally similar to the proposed General Plan Update.

Air Quality

Implementation of this Alternative would result in development that could result in an increase in air quality impacts. This development as with that under the proposed General Plan Update would result in significant unavoidable impacts related to generate emissions levels that will exceed the daily SCAQMD thresholds for ROG, NO_x, CO, PM₁₀, and PM_{2.5} in the Basin. This Alternative would involve similar traffic congestion and associated emissions and would reduce vehicle emissions caused by traffic congestion by implementing proposed Project transportation systems management techniques, such as synchronized traffic signals and limiting on-street parking. This Alternative would also implement GHG reduction measures. The Expanded Mixed Use Alternative is considered environmentally similar to the proposed General Plan Update in this regard.

Biological Resources

As with the Proposed Project, this Alternative would result in the potential development of land with sensitive plan and wildlife habitat. These impacts can be mitigated to less than significant

levels. The Expanded Mixed Use Alternative is considered similar to the proposed General Plan Update in this regard.

Cultural Resources

As with the Proposed Project, this Alternative would result in the potential development of land with archaeological or paleontological resources or unique geologic features. These impacts can be mitigated to less than significant levels. The Expanded Mixed Use Alternative is considered similar to the proposed General Plan Update in this regard.

Geology

As with the proposed Project, implementation of this Alternative would result in new development thereby resulting in an increase in population (0.5% greater than under the General Plan Update). Any new development potentially increases the number of structures/people potentially exposed to substantial adverse effects associated with rupture of known earthquake faults or severe ground shaking. These impacts can be mitigated to less than significant levels. In this regard, the Expanded Mixed Use Alternative is considered environmentally similar to the proposed General Plan Update.

Hazards and Hazardous Materials

Implementation of the proposed Alternative would result in the expansion or development of facilities that could impact the health and safety of Grand Terrace residents and employees. Both this Alternative and the proposed General Plan Update would result in the implementation of policies designed to maintain public health and safety, which would minimize risk. Therefore, the Expanded Mixed Use Alternative is considered environmentally similar to the proposed General Plan Update in this regard.

Hydrology and Water Quality

Development under this Alternative would result in an increase in the population/development in the City similar to that with the General Plan Update. The increase in water demand, impermeable surface coverage, or additional buildings potentially located in flood areas would be similar under this Alternative. Thus, the Expanded Mixed Use Alternative would be considered environmentally similar to the proposed General Plan Update in this regard.

Land Use

Similar to the Proposed Project, this Alternative would update land use descriptions to make them consistent with language that directly refers to adopted General Plan, zoning, and other local land use policies. This update would result in the establishment of new land use designations of MU-1 and MU-2. This Alternative would apply the proposed General Plan Goals, Policies and Actions identified for the General Plan Update, which would serve to assure avoidance or mitigation of significant environmental impacts. In this regard, the Expanded Mixed Use Alternative is considered environmentally similar to the proposed General Plan Update.

Noise

Implementation of this Alternative would result in new potential noise impacts associated with construction, traffic, mobile and stationary noise sources similar to the proposed General Plan Update. This Alternative would apply the same mitigation measures as the proposed General Plan Update reducing any impacts to less than significant. Therefore, the Expanded Mixed Use Alternative is considered environmentally similar to the proposed General Plan Update in this regard.

Population/Housing

This Alternative would result in the City meeting its obligation to maintain a current Housing Element. Opportunities to increase and diversify employment in the City would be similar with the proposed General Plan Update. Additionally, the City's population growth expected to result from implementation of this Alternative would be consistent with the subregion, and would not result in any significant impacts. Therefore, the Expanded Mixed Use Alternative is considered environmentally similar to the proposed General Plan Update in this regard.

Public Services

Implementation of the Expanded Mixed Use Alternative would result in additional impacts to public services with new development associated with buildout under this Alternative. The level of service and demand for service would be similar to that for the Proposed Project. Impacts to public services with implementation of the proposed General Plan Update would be less than significant. Thus, the Expanded Mixed Use Alternative is considered environmentally similar to the proposed General Plan Update in this regard.

Recreation

Implementation of the Expanded Mixed Use Alternative would result in additional impacts to recreation with new development associated with buildout under this Alternative. The level of service and demand for service would be similar to that for the Proposed Project. Impacts to recreation with implementation of the proposed General Plan Update would be less than significant. Thus, the Expanded Mixed Use Alternative is considered similar to the proposed General Plan Update in this regard.

Transportation/Circulation

Implementation of this Alternative would result similar transportation and circulation impacts as with the proposed General Plan Update. In addition, this Alternative would implement proposed Project transportation systems management techniques, such as synchronized traffic signals and limiting on-street parking, resulting in less than significant impacts. The Expanded Mixed Use Alternative is considered environmentally similar to the proposed General Plan Update in this regard.

Utilities and Service Systems

Implementation of the Expanded Mixed Use Alternative would result in additional impacts to utilities and service systems with new development associated with buildout under this Alternative. The level of service and demand for service would be similar to that for the Proposed Project. Impacts to utilities and service systems with implementation of the proposed General Plan Update would be less than significant. Thus, the Expanded Mixed Use Alternative is considered environmentally similar to the proposed General Plan Update in this regard.

Conclusion

The Expanded Mixed Use Alternative would result in build out of the City with slightly greater mixed uses and slightly lower low density residential, general commercial and Industrial uses than with the proposed General Plan Update. This Alternative would allow the City to make updates to outdated information regarding several issues, such as land uses, traffic conditions, community noise levels, air quality data, and population and housing. This Alternative would result in the City maintaining a current Housing Element and would result in opportunities to increase and diversify employment through the redevelopment plan. Overall, the Expanded Mixed Use Alternative is considered environmentally similar to the proposed General Plan Update.

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CHAPTER 7 - EFFECTS FOUND NOT TO BE SIGNIFICANT

The Initial Study identified several impact categories among a number of environmental issues that would not be significantly impacted by the proposed project and therefore, did not warrant further review in this EIR. Each of these environmental issues were evaluated in the Initial Study and not determined to be a potentially significant impact of the project. Refer to the Initial Study in Appendix A for more information.

Agricultural

The Proposed Project will not:

- Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use.
- Conflict with existing zoning for agricultural use, or a Williamson Act contract.
- Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland to non-agricultural use.

Biological Resources

The Proposed Project will not:

- 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.
- Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or State habitat conservation plan.

Geology

The Proposed Project will not:

- Expose people or structures to 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.
- Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving Seismic-related ground failure, including liquefaction.
- Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property.

- 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.

Hazards and hazardous materials

The Proposed Project will not:

- Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials.
- Be located on a site which is included on a list of hazardous materials 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.
- 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 for people residing or working in the project area.
- For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area.

Hydrology and water quality

The Proposed Project will not:

- Cause or expose people and structures to inundation by seiche, tsunami, or mudflow.

Mineral Resources

The Proposed Project will not:

- 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.
- Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan other land use plan.

Noise

The Proposed Project will not:

- 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 expose people residing or working in the project area to excessive noise levels.
- For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels.

Transportation and traffic

The Proposed Project will not:

- Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks.
- Result in inadequate parking capacity.

Utilities and service systems

The Proposed Project will not:

- Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects.
- Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects.
- Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed.
- 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.
- Be served by a landfill with sufficient permitted capacity to accommodate the projects solid waste disposal needs.
- Comply with federal, State, and local statutes and regulations related to solid waste.

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CHAPTER 8 - ANALYSIS OF LONG TERM EFFECTS

8.1 CUMULATIVE IMPACTS

Aesthetics

The City is mostly urban with occasional views to Blue Mountain to the east. New residential and nonresidential development will be allowed by the proposed General Plan that will allow low density residential development on the lower elevations of Blue Mountain. Other new residential and nonresidential development allowed by the proposed General Plan is not expected to impact scenic resources or corridors. New development allowed by the proposed General Plan may slightly increase the amount of light and glare within the planning area. Implementation of City regulations, General Plan policies, and mitigation measures identified in Chapter 4.1 of this EIR will reduce potential impacts related to aesthetics to a less than significant level. Additionally, future development projects will be reviewed by the City per CEQA to identify potential impacts to aesthetic resources on a project-by-project basis. If project-level impacts are identified, specific mitigation measures will be required. Thus, future development according to the proposed General Plan will not result in a cumulatively significant aesthetics impact.

Air Quality

The basin is identified as a nonattainment area with regard to meeting federal standards for ozone (O3), PM2.5, and respirable particulate (PM10). Buildout of the proposed General Plan will continue to add pollutants to the atmosphere from both transportation and stationary sources. Although implementation of the SCAQMD Air Quality Management Plan, General Plan Goals, Policies and Actions and mitigation measures identified in Chapter 4.2 of this EIR, would reduce cumulative impacts related to would remain cumulatively significant.

Climate Change

As discussed in Chapter 4-2, construction and operation of land uses associated with buildout of the General plan will result in GHG emissions. Implementation of General Plan Goals, Policies and Actions and MM4B-3 will minimize cumulative impacts related to Climate Change to less than significant.

Biology

Buildout of the General Plan may impact biological resources including removal of sensitive vegetation communities and individual plant species for building pad development and building and roadway construction. Other potential impacts include continued increased incidence of fire due to human activity, trampling and increased erosion from roadways, the introduction of non-native weedy and insect species, and increased competition from non-native species. The collection of sensitive species may also increase as greater access is afforded to previously inaccessible areas through roadway development. Potential cumulative impacts associated with these activities will be minimized with implementation of General Plan Policies presented in Chapter 4.3 of this EIR; and project by project compliance with USFES, CDFG, and Natural Community Conservation Planning/Habitat Conservation Plan (NCCP/HCP) and USFWS and CDFG requirements.

Cultural Resources

Implementation of the proposed General Plan Update and Redevelopment Plan would result in the development of approximately 600 acres of vacant land. An evaluation of potential cultural impacts regarding development of this land would be conducted on a project by project basis. Each incremental development is required to comply with all applicable State and federal regulations including the National Historic Preservation Act of 1966 and Public Resources Code Sections 5020 *et seq.* (the California Register of Historical Resources) concerning preservation of historic resources. Implementation of General Plan Goal 4.9, and its related Policy and Actions would also minimize any cumulative impacts to historical resources that may occur with buildout of the proposed General Plan. Additionally, future development projects will be reviewed by the City per CEQA to identify potential impacts to cultural resources on a project-by-project basis. If project-level impacts are identified, specific mitigation measures will be required. Thus, future development according to the proposed General Plan will not result in cumulatively significant impacts to cultural resources.

Hydrology/Water Quality

Future development projects resulting from implementation of the proposed General Plan Update may contribute to water quality degradation in the City. Runoff from disturbed areas would likely contain silt and debris, resulting in a short-term increase in the sediment load of the stormdrain system serving the City. There is also the possibility for chemical releases at future construction sites. Substances such as oils, fuels, paints, and solvents may be transported to nearby drainages, watersheds and groundwater in storm runoff, wash water, and dust control water. The significance of these water quality impacts would vary depending upon the level of construction activity, weather conditions, soil conditions, and increased sedimentation of drainage systems within the area.

The City has acknowledged the importance of protecting its water resources and has identified protection of water resources as General Plan Goals (4.8, 7.2 and 7.3) in the proposed General Plan Update. General Plan Policies (Policies 4.8.1, 4.8.2, 5.3.4, 7.2.1, 7.2.2, and 7.3.1, including their implementing Action) that reinforce compliance with the National Pollutant Discharge Elimination System (NPDES), encourage teamwork with the local water supplier to achieve water quality and wastewater discharge standards, and promote public education about water conservation and pollution, will minimize potential cumulative impacts related to water quality.

Hazards

Implementation of the proposed General Plan would result in a reduction in the amount of land dedicated to industrial uses. In addition, general commercial land uses are proposed to be replaced with mixed-use. The total decrease of dedicated industrial and commercial uses and the increase in mixed-use designations would result in a slight decrease in the amount of hazardous materials used, generated, or transported. Cumulative Impacts related to the transport of hazardous materials would be less than significant.

Implementation of General Plan Policies and Actions regarding land use buffering (Policies 2.3.5 and 2.4.1 through 2.4.4) will minimize potential hazards associated with wildland fires; and Policies related to the extension of business routes (Policy 3.1.2), truck route designation (Policies 3.3.4, 5.4.1 and 5.4.2) and Policies 5.4.3 and 5.4.4 regarding public information on hazardous waste use and collection will all serve to minimize potential impacts associated with potential releases of hazardous materials into the environment. These policies would ensure

that cumulative impacts associated with hazardous materials would be reduced to a less than significant level.

Geology

The majority of the City has been urbanized. However, implementation of the proposed General Plan Update and Amendment to the Redevelopment Plan would result in development of vacant and underutilized parcels. All construction activities would be required to comply with Chapter 33 of the California Building Code (CBC), which regulates excavation activities and the construction of foundations and retaining walls, and Chapter 33 of the CBC

Policies found in the Open Space and Conservation Element (4.3.1 and 4.3.2, 4.8.2 and related Actions) and the Public Health and Safety Element (5.1.1 through 5.1.3 and related Actions) encourage the avoidance of geotechnically hazardous areas, require the preparation of grading and erosion control plans, require adherence to RWQCB regulations including compliance with NPDES requirements to minimize soil erosion and loss of topsoil, and compliance with existing seismic design standards along with policies that recommend that portions of Blue Mountain be designated as open space, will all serve to minimize potential geological hazards and soil erosion in the City to less than significant levels. These policies would ensure that cumulative impacts associated with geological and soil issues would be reduced to a less than significant level.

Land Use and Planning

The proposed Redevelopment Plan Amendment will update land use descriptions to make them consistent with and in compliance with the General Plan. The proposed General Plan Goals, Policies and Actions identified in Chapter 4H will not conflict with any applicable land use plan, policy or regulations, and will ensure that development of undeveloped land within the City will not result in land use incompatibilities. These policies will serve to ensure that cumulative impacts associated with land use issues would be reduced to a less than significant level.

Noise

The Proposed Project would result in permanent noise increases that would remain cumulatively significant and unavoidable even with the implementation of proposed General Plan Policies and recommended mitigation measures.

Population and Housing

The Amended Redevelopment Plan (Section V of the Amended Redevelopment Plan) contains several requirements that will reduce the potential significant impacts related to displacement of existing housing and people to a less than significant level. These requirements will alleviate and prevent spread of blight and deterioration in Grand Terrace. Cumulative impacts would be less than significant.

Public Services

As individual projects are proposed within the City, public facilities, service levels and staffing requirements for fire and police services, schools, libraries and parks would be evaluated and planned for. The goals and policies in the Goals and Policies presented in Chapter 4K of this EIR and their implementing Actions would reduce impacts resulting from the proposed General

Plan Update to a less than significant level. Cumulative impacts related to the provision of public services would be less than significant.

Recreation

Future growth within both the planning area and surrounding areas within the County will increase demand for recreation facilities. To meet this increased demand, the City evaluate both the amount of recreational facilities available and the funding sources available to meet increases in regional demand. The proposed General Plan contains numerous policies to encourage the acquisition of additional parkland and open space through joint use, incentives, and creative techniques to exceed the minimum park requirements of 3.0 acres per 1,000 population per the Quimby Act. General Plan policies and programs, including mitigation measures identified in Chapter 4L of this EIR, will reduce impacts related to recreational facilities to a less than significant level. Thus, implementation of the proposed General Plan will not contribute to a cumulative recreation impact.

8.2 GROWTH INDUCING IMPACTS

As required by the *CEQA Guidelines*, an Environmental Impact Report (Program EIR) must include a discussion of the ways in which a project could directly or indirectly foster economic development or population growth, or the construction of additional housing and how that growth would, in turn, affect the surrounding environment (*CEQA Guidelines* Section 15126.2(d)). Growth can be induced in a number of ways, including the elimination of obstacles to growth, or through the stimulation of economic activity within the region. The discussion of removal of obstacles to growth relates directly to the removal of infrastructure limitations or regulatory constraints that could result in growth unforeseen at the time of project approval.

Section 15126 of the CEQA Guidelines requires that an EIR discuss the ways in which a proposed project could directly or indirectly foster economic or population growth, or the construction of additional housing. Direct growth-inducing impacts are generally associated with the provision of urban services and the extension of infrastructure to an undeveloped area.

The extension of services and facilities to an individual site can reduce development constraints for other nearby areas and can serve to induce further development in the vicinity. Indirect or secondary growth-inducing impacts consist of growth induced in the region by the additional demands for housing, employment, and goods and services associated with population increase caused by, or attracted to, new development.

The purpose of a General Plan is to guide growth and development in a community. Accordingly, the General Plan Update is premised on a certain amount of growth taking place. San Bernardino County, as well as the entire southern California region, has experienced dramatic growth the past two decades and this trend expected to continue. The focus of the General Plan Update, then, is to provide a framework in which the growth can be managed and to tailor it to suit the needs of the community and surrounding area.

During the past several decades, the SCAG region, including Imperial, Riverside, San Bernardino, Los Angeles, Orange and Ventura counties, has been one of the fastest growing regions in the nation. Between 1950 and 1970, the population doubled in size, growing at a rate of 5 percent per year. Between 1980 and 1990, the region's population grew by over 25 percent

to 14.6 million. Between 1990 and 2000, the region's population grew by nearly 15 percent to 16.5 million and the population of Grand Terrace increased by 6.2 percent.

The General Plan Update and Amended Redevelopment Plan contain policies that provide a framework for accommodating the orderly growth of the planning area. The General Plan Update provides the necessary tools to accommodate future growth and provides direction for new development and redevelopment projects and establishes the desired mix and relationship between land use types.

The General Plan Update and Amended Redevelopment Plan also ensures that the City will have a diversity of land uses and balanced development, encourages mixed use development, promotes commercial enterprise, ensures that City interests are achieved through inter-jurisdictional and regional planning, and encourages public involvement in land use planning decisions.

The majority of development under the General Plan Update and Amended Redevelopment Plan would occur within or adjacent to areas already developed in the City. Many of these areas contain underutilized land, land used previously for industrial or commercial activity, and/or areas in need of revitalization. Additionally, many of these areas are adjacent to existing employment centers, transit, and services. Some development will occur on previously undeveloped land. Infrastructure is available in the vicinity of these sites.

As of January 1, 2008, the California State Department of Finance estimated the population of the City to be 12,543. Under the existing General Plan, the City is expected to have a population of 16,493 at buildout (Urban Crossroads, 2008). The great majority of remaining undeveloped land within the City is located on Blue Mountain, within the Santa Ana River floodplain, or adjacent to I-215. The majority of this vacant land within the City is designated for Commercial, Industrial, or Hillside Open Space land uses. There are approximately 1,201 acres of residentially designated land shown on the proposed Land Use Map, and approximately 15 acres of land within the Mixed Use designation that would accommodate residential uses. These residential designations would be able to accommodate a population of up to 15,747 at the densities proposed. This is a decrease of 5% from the estimated current General Plan population of 16,493. Therefore, the proposed Project is not expected to result in a growth inducing impact.

8.3 SIGNIFICANT UNAVOIDABLE ENVIRONMENTAL IMPACTS

The California Environmental Quality Act (CEQA) Guidelines Section 15126(b) requires an Environmental Impact Report to "describe any significant impacts, including those which can be mitigated but not reduced to a level of insignificance. Where there are impacts that cannot be alleviated without imposing an alternative design, their implications and the reasons why the project is being proposed, notwithstanding their effect, should be described."

Chapter 4 of this Program EIR provides a description of the potential environmental impacts of the proposed project and recommends General Plan policies and implementation measures as well as mitigation measures to reduce impacts to a less than significant level, where possible. After implementation of the recommended policies, implementation measures, and mitigation measures, most of the potentially significant impacts associated with the proposed project would be reduced to less than significant levels. However, the impacts listed below could not be

feasibly mitigated and would result in a significant unavoidable impact associated with approval of the proposed General Plan Update.

Chapter 4 of this Program EIR provides a description of potential environmental impacts of the proposed General Plan Update and Amendment to the Redevelopment Plan and recommends mitigation measures to reduce impacts to a less than significant level, where feasible. After implementation of the recommended mitigation measures most of the significant or potentially significant impacts associated with the proposed General Plan would be reduced to a less than significant level. However, the impacts listed below could not be feasibly mitigated and would result in a significant and unavoidable impact with implementation of the proposed General Plan Update and Amendment to the Redevelopment Plan.

Air Quality The Proposed Project is expected to generate emissions levels that exceed daily South Coast Air Quality Management District thresholds. This impact would remain significant even with the implementation of proposed General Plan Policies and recommended mitigation measures.

Noise The Proposed Project would result in permanent noise increases that would remain significant and unavoidable even with the implementation of proposed General Plan Policies and recommended mitigation measures.

8.4 SIGNIFICANT IRREVERSIBLE ENVIRONMENTAL CHANGES

Section 15126.2(c) of the CEQA Guidelines requires a discussion of any significant irreversible environmental changes that would be caused by the proposed project. Specifically, Section 15126.2(c) States:

Uses of nonrenewable resources during the initial and continued phases of the project may be irreversible since a large commitment of such resources makes removal or nonuse thereafter unlikely. Primary impacts, and particularly, secondary impacts (such as highway improvement which provides access to a previously inaccessible area) generally commit future generations to similar uses. Also, irreversible damage can result from environmental accidents associated with the project. Irretrievable commitments of resources should be evaluated to assure that such current consumption is justified.

The environmental effects of the proposed General Plan are discussed in Chapter 4 of this Program EIR. The City of Grand Terrace has approximately 420 acres of vacant land available for development. Therefore, implementation of future projects under the proposed General Plan would require some long-term commitment of natural resources and land.

Actions related to future development under the proposed General Plan would result in an irretrievable commitment of nonrenewable resources such as energy supplies and other construction-related resources. These energy resource demands would be used for construction, heating and cooling of buildings, transportation of people and goods to and from future project sites, heating and refrigeration of food, water supplies, lighting and other associated energy needs.

The environmental changes produced by future development projects under implementation of the proposed General Plan would primarily occur as a result of the alteration of the physical

environment from underdeveloped and vacant land uses, to urban uses. As future projects are developed, utilities would be expanded to serve the increase in demand for site infrastructure including parking, circulation, and landscaping improvements.

Fossil fuels currently provide the principle source of energy. Future development under build out of the proposed General Plan would directly reduce existing supplies of these energy sources such as fuel oil, natural gas, and gasoline. This would result in a long-term commitment to the consumption of essentially nonrenewable resources.

Future projects that may occur as a result of implementation of the proposed General Plan would require the commitment or destruction of other nonrenewable and slowly renewable resources. These include, but are not limited to, lumber and other forest products, sand and gravel, asphalt, petrochemical construction materials, steel, copper, lead and water. A marginal increase in the commitment of social services and public maintenance services (i.e., waste disposal and treatment, etc.) would also be required. Implementation of the proposed General Plan would result in some irreversible environmental changes.

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CHAPTER 9 - ACRONYMS AND ABBREVIATIONS

AB	Assembly Bill
USACE	United States Army Corps of Engineers
AFVs	Alternative Fuel Vehicles
ANSI	American National Standards Institute
AOC	Areas of Concern
AQMP	Air Quality Management Plan
ASHRAE	American Society of Heating, Refrigeration and Air-Conditioning Engineers
ASLHA	American Speech-Language-Hearing Association
ATCM	Airborne Toxics Control Measure
ATCS	Adaptive Traffic Control System
ATSAC	Automated Traffic Surveillance and Control
BACT	Best Available Control Technology
BLM	Bureau of Land Management Sensitive
BMP	Best Management Practice
BNSF	Burlington Northern Santa Fe
C&D	Construction & Demolition
CAA	Federal Clean Air Act
CAAA	Clean Air Act Amendments
CAAQS	California Ambient Air Quality Standards
CAFE	Corporate Average Fuel Economy
Cal EPA	California Environmental Protection Agency
CALFIRE	California Department of Forestry and Fire Protection
Cal/OSHA	California Occupational Safety and Health Administration
Caltrans	California Department of Transportation
CARB	California Air Resources Board
CAT	Climate Action Team
CBC	California Building Code
CCAA	California Clean Air Act
CCR	California Code of Regulations
CCRL	California Community Redevelopment Law

CDE	California Department of Education
CDFG	California Department of Fish and Game
CDTSC	California Department of Toxic Substances Control
CEC	California Education Code
CEQA	California Environmental Quality Act
CERCLIS	Comprehensive Environmental Response Compensation and Liability Information System
CERT	Community Emergency Response Team
CESA	California Endangered Species Act
CFCs	Chlorofluorocarbons
CH ₄	Methane
CHRIS	California Historical Resources Information System
CJUSD	Colton Joint Unified School District
CLUP	Comprehensive Land Use Plan
CMA	Critical Movement Analysis
CMP	Congestion Management Program
CNDDB	California Natural Diversity Database
CNEL	Community Noise Equivalent Level
CNPS	California Native Plant Society
CO	Carbon Monoxide
CO ₂	Carbon Dioxide
CRHR	California Register of Historical Resources
CRWQB	California Regional Water Quality Control Board
CSC	California Special Concern Species
CUP	Conditional Use Permit
CWA	Clean Water Act
dB	Decibels
dBA	A-weighting units of decibels
Draft EIR	Draft Environmental Impact Report
DOT	U.S. Department of Transportation
DPM	Diesel Particulate Matter
DTSC	Department of Toxic Substances Control
EIA	Environmental Impact Assessment
EIR	Environmental Impact Report

EPA	Environmental Protection Agency
EPAct	Energy Policy Act
ESA	Endangered Species Act
°F	Fahrenheit
FAA	Federal Aviation Administration
FCAA	Federal Clean Air Act
FEMA	Federal Emergency Management Agency
FHWA	Federal Highway Administration
FMP	Facilities Master Plan
FTA	Federal Transit Administration
GHG	Greenhouse Gas
GWh/y	Gigawatt-hours Per Year
GWP	Global Warming Potential
H ₂ S	Hydrogen Sulfide
HAPs	Hazardous Air Pollutants
HCP	Habitat Conservation Plan
HFCs	Hydrofluorocarbons
HMBP	Hazardous Materials Business Plan
HMMA	Hazardous Materials Management Act
HRA	Health Risk Assessment
HSC	California Health and Safety Code
HUD	U.S. Department of Housing and Urban Development
IPCC	Intergovernmental Panel on Climate Change's
IS	Initial Study
K	Kindergarten
KOA	Katz, Okitsu & Associates
LAFD	Los Angeles City Fire Department
LEED	Leadership in Energy and Environmental Design
Leq	Equivalent Energy Level
LOS	Level of Service
LQG	Large Quantity Generators
LST	Localized Significance Thresholds
LUST	Leaking Underground Storage Tank

MACT	Maximum Available Control Technology
MEP	Maximum Extent Practicable
MICR	Maximum Individual Cancer Risk
MLD	Most Likely Descendant
MMRP	Mitigation Monitoring and Reporting Program
MND	Mitigated Negative Declaration
MOC	Memorandum of Cooperation
MOU	Memorandum of Understanding
MPH	Miles per Hour
MtCO ₂	Million (M) Tonnes of CO ₂
NAAQS	National Ambient Air Quality Standards
NAHC	Native American Heritage Commission
NO ₂	Nitrogen Dioxide
NO _x	Nitrogen Oxides
NCCP	Natural Community Conservation Planning
NESHAP	National Emissions Standards for HAPs
NOAA	National Oceanic and Atmospheric Administration
NOI	Notice of Intent
NOP	Notice of Preparation
NPDES	National Pollutant Discharge Elimination System
NRHP	National Register of Historic Places
NSR	New Source Review
O ₃	Ozone
OAQPS	Office of Air Quality Planning and Standards
OEHS	Office of Environmental Health and Safety
OPR	Governor's Office of Planning and Research
OSHA	Occupational Safety and Health Administration
PEA	Preliminary Environmental Assessment
PEIR	Program Environmental Impact Report
PFCs	Perfluorocarbons
Phase I	Phase I Environmental Site Assessment
Pinnacle	Pinnacle Environmental Technologies
PM ₁₀	Particulate Matter Less than 10 Microns in Diameter

PPM	Parts Per Million
PPV	Peak Particle Velocity
PRC	Public Resources Code
PSD	Prevention of Significant Deterioration
PSI	Pounds per Square Inch
RCP	Regional Comprehensive Plan
RCRA	Resource Conservation and Recovery Act
RCRIS	Resource Conservation and Recovery Information System
RHWC	Riverside Highland Water Company
RIL	Riverside Industrial Lead
RMS	Root Mean Square
ROC	Reactive Organic Compounds
ROG	Reactive Organic Gases
RWQCB	Regional Water Quality Control Board
SANBAG	San Bernardino Associated Governments
SAR	Site Assessment Report
SCAB	South Coast Air Basin
SCAG	Southern California Association of Governments
SCAQMD	South Coast Air Quality Management District
SF ₆	Sulfur Hexafluoride
SHPO	State Historic Preservation Office
SLC	Small Learning Community
SO ₂	Sulfur Dioxide
SO ₄	Sulfates
SQG	Small Quantity Generators
SRA	Source Receptor Area
SWPPP	Stormwater Pollution Prevention Program
SWRCB	State Water Resources Control Board
TACs	Toxic Air Contaminants
tCO ₂	Tonnes (i.e. metric tons) of CO ₂
TCM	Traffic Control Measures
TIA	Transportation Impact Assessment
TOA	Traffic and Operational Analysis

TPY	Tons per Year
UBC	Uniform Building Code
UPRR	Union Pacific Railroad
URBEMIS	Urban Emissions Model
USACE	Army Corps of Engineers
USDOT	United States Department of Transportation
USEPA	United States Environmental Protection Agency
USFWS	United States Fish and Wildlife Service
UST	Underground Storage Tank
UWMP	Urban Water Management Plan
VdB	Velocity Levels in Decibels
V/C	Volume-to-Capacity
VOC	Volatile Organic Compound
WRCC	Western Regional Climate Center
WRF	Water Reclamation Facility
ZIMAS	Zone Information and Map Access System

CHAPTER 10 - REFERENCES

10.1 REPORT PREPARERS

Table 10-1
List of Preparers and Reviewers

Name	Project Role/Program EIR Chapter
Lead Agency/Reviewers	
Joyce Powers	City of Grand Terrace Community & Economic Development Director
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CEQA Consultant: Chambers Group, Inc	
Jim Smithwick	Program Manager
Albert Armijo	CEQA Project Manager
Roma Stromberg	Principal Environmental Planner, Noise Analyst
Paula Fell	Senior Environmental Planner
Lisa Romero	Environmental Planner
Meghan Directo	Environmental Planner
Joe O'Bannon	Air Quality Analyst
Jessica Auck	Cultural Resources Specialist
Sean Tondre	GIS Analyst
Claude Duncan	GIS Analyst

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