

SAN BERNARDINO  
ASSOCIATED GOVERNMENTS  
**SAN BERNARDINO COUNTY REGIONAL  
GREENHOUSE GAS EMISSIONS  
INVENTORIES AND REDUCTION PLAN**  
**Environmental Impact Report**

SCH No. 2012111046

*Volume X: Draft EIR (Section 4.9 [City of Highland])*

*Prepared for*

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## 4.9 CITY OF HIGHLAND

### 4.9.0 Introduction to the Analysis

This section of the EIR analyzes the potential environmental effects in the City of Highland from implementation of the Regional Reduction Plan. The City of Highland and its Sphere of Influence is located in the southwestern corner of San Bernardino County. It is surrounded by the City of San Bernardino and unincorporated San Bernardino County to the north and west; San Bernardino National Forest and unincorporated San Bernardino County to the east; and City of Redlands to the south. The City encompasses over 11,904 acres (18.5 square miles) of land and includes another 187 acres of unincorporated land within its Sphere of Influence. Regional access to and from Highland is provided by Interstate 210/State Route 30 (I-210/SR-30) (Foothill Freeway) and SR-330; and San Bernardino International Airport. Figure 4.9-1 (Regional Vicinity Map) shows the location of Highland.

Highland’s population was 53,014 in 2010 (52,986 in 2008), up from 29,500 in 1987 when the City incorporated, an increase of approximately 79 percent. Population in 2020 is expected to be 58,646, an increase of only 11 percent since 2008. Highland anticipates a 28 percent increase in employment before 2020.

Table 4.9-1 (Socioeconomic Data for Highland) presents socioeconomic data for Highland, including population, housing (single-family and multifamily), and employment (agricultural, industrial, retail, and nonretail).

<i>Category</i>	<b>2008</b>	<b>2020</b>
Population	52,986	58,646
Housing (du)	15,436	17,713
Single-Family (du)	11,439	13,109
Multifamily (du)	3,997	4,604
Employment (jobs)	6,037	7,757
Agricultural (jobs)	0	2
Industrial (jobs)	1,376	1,999
Retail Commercial (jobs)	1,353	1,659
Non-Retail Commercial (jobs)	3,309	4,097

du = dwelling unit

Two documents are used in reviewing the potential environmental impacts and mitigation within the City of Highland from implementation of the Regional Reduction Plan. The first document is the Highland General Plan, which is the planning document for the City and includes the required General Plan elements and General Plan goals and policies. Within the General Plan are policies that are used in the environmental analysis to form thresholds of significance including the level of service (LOS) standard

for traffic impacts, as one example, and the basis for programmatic mitigation measures. The second document is the Regional Reduction Plan City of Highland chapter that describes the reduction measures and reduction targets chosen by the City of Highland. This document is the proposed project as it pertains to the City of Highland.

## ■ Highland General Plan

The Highland General Plan (2006) addresses the seven state mandated general plan elements (land use, housing, circulation, safety, open space, conservation, and noise). The General Plan establishes an overall development capacity for the City and serves as a policy guide for determining the appropriate physical development and character of the 18.5 square miles within the City and an additional 187 acres of unincorporated land within the City's Sphere of Influence. The General Plan is intended to achieve the land use, circulation, and other goals of the City in order to reflect the community's current values for growth over the long term.

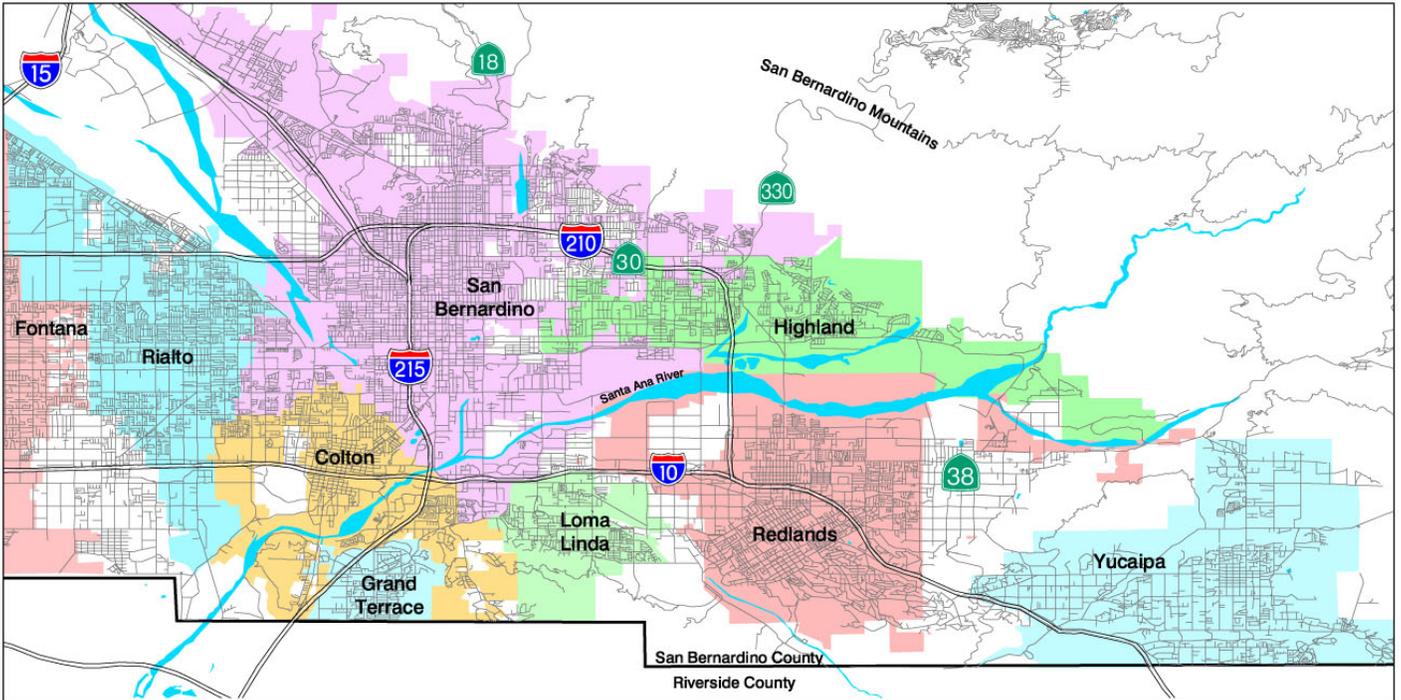
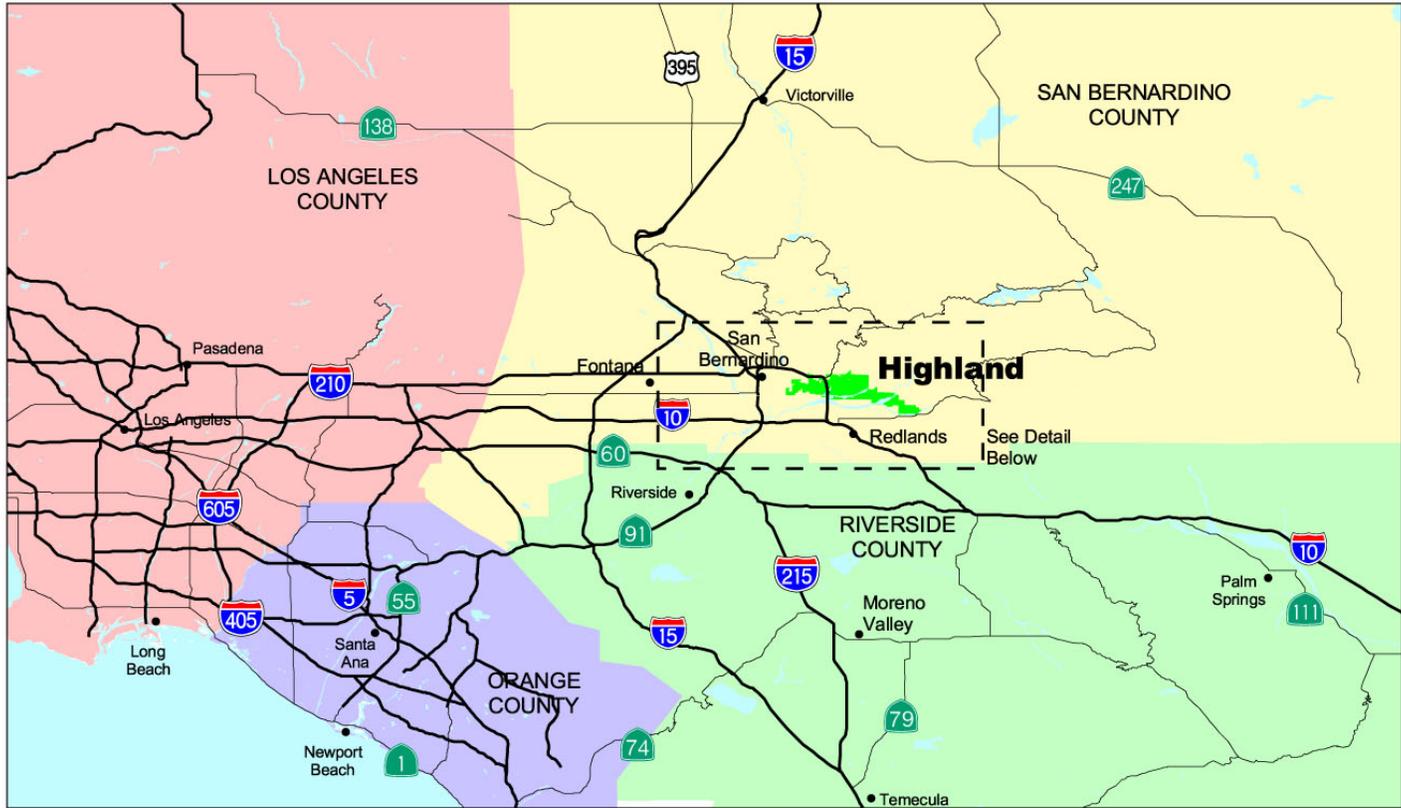
The Highland General Plan policies that are relevant to the Regional Reduction Plan implementation are listed in Table 4.9-2 (Highland General Plan Policies).

## ■ The Highland Chapter of the San Bernardino County Regional GHG Reduction Plan

The City of Highland selected a goal to reduce its community GHG emissions to a level that is 22 percent below its projected emissions in 2020. The City will meet and exceed this goal through a combination of state (~63 percent) and local (~37 percent) efforts. The City actually exceeds the goal with only state/county level actions (102 percent of goal), but has committed to several additional local measures. The Pavley vehicle standards, the state's low carbon fuel standard, the RPS, and other state measures will reduce GHG emissions in Highland's on-road, solid waste, and building energy sectors in 2020. An additional reduction of 39,355 metric tons (MT) of carbon dioxide equivalents (CO<sub>2</sub>e) will be achieved primarily through the following local measures, in order of importance: Implement SBX 7-7 (Water-4); GHG Performance Standard (PS-1); and Smart Bus Technologies (Transportation-2). Highland's Plan has the greatest impacts on GHG emissions in the building energy, solid waste management, and on-road transportation sectors.

Figure 4.9-2 (Emissions Reduction Profile for Highland) show Highland's 2008 GHG emissions total, 2020 BAU emissions forecast total, and the total emissions remaining after meeting the city's emissions reduction target (i.e., 22 percent below its projected emissions in 2020). The contribution of state/county and local reductions are overlaid on the 2020 BAU emissions forecast total ("2020 Plan"), representing the total emissions reductions achieved in 2020. As stated above, state/county reductions account for the majority (~63 percent) of the total reductions needed to achieve the 2020 target.

Figure 4.9-3 (Emissions by Sector for Highland) presents emissions by sector, for both the 2020 BAU and the 2020 reduction or Regional Reduction Plan scenario. The largest emissions contributions are in the on-road transportation, building energy, and off-road equipment emissions sectors.



100029894 | San Bernardino County Regional GHG Reduction Plan EIR

Source: City of Highland General Plan.



Figure 4.9-1  
Regional Vicinity Map



<b>Table 4.9-2 Highland General Plan Policies</b>	
<b>Policy No.</b>	<b>Policies</b>
<b>LAND USE ELEMENT</b>	
<b>Citywide Goals and Policies</b>	
2.1-1	Actively plan and promote the development of the Town Center, Golden Triangle and other designated mixed-use areas.
2.1-4	Encourage future development to provide functional public spaces that foster social interaction.
<b>Protecting and Enhancing Neighborhoods</b>	
2.2-3	Ensure that all new development is designed in a manner that preserves the quality of life in existing neighborhoods.
2.3-4	Ensure that new residential development provides appropriate community amenities, including common open space and recreation areas.
2.3-5	Continue the innovative use of land resources and development of a variety of housing types and sizes within the City by using the Planned Development designation.
<b>Ensuring Land Use Compatibility</b>	
2.6-1	Require that new development be at an appropriate density or intensity based upon compatibility with surrounding existing and planned land uses
2.6-6	Require developers to consider and address project impacts upon surrounding neighborhoods during the design and development process.
<b>Preserving Natural Resources</b>	
2.7-2	Preserve agricultural lands within the eastern portions of the City as commercial operations if possible, or within residential developments if not. Utilize Planned Developments with joint ownership or agricultural uses or placement of low density housing within an overall grove setting.
2.7-4	Preserve areas designated as Open Space to provide for recreation, preservation of scenic and environmental values, managed production of resources (agriculture, water reclamation and conservation, mineral extraction) and protection of public safety.
2.7-5	Promote joint development and use of open space resources with adjacent jurisdictions.
<b>Maintaining a Regional Perspective</b>	
2.8-1	Notify neighboring jurisdictions and adjacent developments when considering changes to the City's existing land use pattern adjacent to City boundaries.
2.9-1	Work with the Local Agency Formation Commission (LAFCO), the City and County of San Bernardino, and area residents to promote the establishment of better-defined boundaries that would facilitate more efficient provision of municipal services and an economically viable community.
<b>Community Policy Areas</b>	
2.10-2	Ensure that the Town Center maintains a mix of uses attractive to broad segments of Highland's population and that stimulate activity during day and evening hours, every day of the week.
2.10-3	Provide access to multiple modes of travel, including pedestrian, bicycle, transit and automobile.
2.10-7	Connect the Town Center physically and visually with the Historic Village District with pedestrian connections, historically compatible architecture, signage, landscaping and other streetscape elements.
<b>Base Line Corridor</b>	
2.11-1	Revitalize the Base Line Corridor with infill development of vacant land and redevelopment of aging commercial areas with residential development, consistent with the Land Use Plan.
2.11-7	Ensure quality commercial and residential development through adherence to the Community Design Element policies and guidelines and Development Code standards.

**Table 4.9-2 Highland General Plan Policies**

<b>Policy No.</b>	<b>Policies</b>
<b>Golden Triangle</b>	
2.12-4	Require residential development to provide adequate amenities such as common open space and recreation areas.
2.12-5	Require commercial development to provide functional public spaces and/or plazas for shoppers and visitors.
2.12-8	Orient uses along City Creek to take advantage of views of and connections to open space and recreational amenities.
<b>5<sup>th</sup> Street Corridor</b>	
2.13-1	Continue to coordinate with the City of San Bernardino and the San Bernardino International Airport Authority for future planning on and around the airport.
2.13-5	Protect and enhance the integrity and desirability of industrial sites from nonindustrial uses.
2.13-7	Ensure quality development through Development Code standards and the Community Design Element policies and guidelines.
<b>Victoria Avenue Corridor</b>	
2.14-2	Allow for a mix of commercial and residential uses in appropriate areas through the Planned Development land use designation.
2.14-4	Encourage the consolidation of parcels to promote quality, planned development.
<b>Seven Oaks Area</b>	
2.15-1	Ensure trail connections to existing or planned local and regional open space and trail systems.
2.15-2	Provide extensive open space linkages within the site to connect to adjacent open space resources.
2.15-4	Ensure that sufficient access, including emergency access, is provided to support future development.
2.15-5	Ensure that adequate public services and facilities keep pace with future development
2.15-7	Implement future development guidance of the Seven Oaks area by means of a specific plan or similar mechanism.
<b>CIRCULATION ELEMENT</b>	
<b>Roadway Mobility/Transportation Demand Management</b>	
3.1-1	Require new development proposals to ensure that all mid-block street segments operate at LOS "D" or better during the peak hours of traffic.
3.1-2	Ensure that all intersections operate at LOS "D" or better during the peak hours of traffic.
3.1-3	Ensure that the City's street system be designed and constructed to accommodate the traffic generated by buildout of the General Plan land use designations.
3.1-5	Design and employ traffic control measures (e.g., install traffic signals, provide access restrictions, etc.) to ensure city streets and roads function as intended.
3.1-8	Require development proposals with the potential to generate traffic volumes or other impacts not adequately evaluated in the Circulation Element and the General Plan Program EIR to prepare a traffic analysis consistent and compatible with the City's Master General Plan Traffic Model.
<b>Roadway System Maintenance</b>	
3.2-1	Maintain and rehabilitate all components of the circulation system, including roadways, sidewalks, bicycle facilities, pedestrian facilities and traffic signals.
3.2-5	Develop and implement programs and policies that require additional improvements or mitigation from industries or entities that generate heavy truck traffic and pavement impacts.

<b>Table 4.9-2 Highland General Plan Policies</b>	
<b>Policy No.</b>	<b>Policies</b>
<b>Scenic Roadways</b>	
3.3-3	Take such actions as may be necessary to protect scenic routes, including but not limited to: regulation of land use and intensity of development; detailed land and site planning; control of outdoor advertising; careful attention to and control of grading and landscaping; and careful design and maintained appearance of structures and equipment.
<b>Pedestrian Safety</b>	
3.4-2	Require new development to install and maintain streets within planned residential areas as private streets and in accordance with development standards set forth in the Development Code and other applicable standards and guidelines.
3.4-4	Require new development to provide pedestrian paths and linkages through projects, locating linkages to avoid conflicts with motorized traffic.
3.4-11	Encourage and improve pedestrian connections from residential neighborhoods to retail activity centers, employment centers, schools, parks, open space areas and community centers.
3.4-15	When feasible, walkways should include pedestrian amenities such as shade trees and/or plantings, trash bins, benches and shelters.
<b>Transit Service</b>	
3.5-1	Continue to support the regional bus system to provide intracity service, intercity service to major employment centers, and connection to regional transportation transfer points.
3.5-6	Investigate new opportunities to finance further transit service for the elderly, handicapped and recreational purposes.
<b>Bikeways</b>	
3.7-1	Develop a system of continuous and convenient bicycle routes to places of employment, shopping centers, schools, and other high activity areas with potential for increased bicycle use.
3.7-2	Encourage new development to provide reasonable and secure space for bicycle storage.
3.7-4	Assure that local bicycle routes will complement regional systems and be compatible with routes of neighboring municipalities.
3.7-5	Provide linkages between bicycle routes and other trails, such as the Santa Ana River Trail, within the City as appropriate.
<b>Freeway Bridges and Ramps</b>	
3.8-1	Participate in a wide range of regional transportation planning and programs to improve the capacity, efficiency and safety of the shared circulation system.
3.8-5	Coordinate transit planning with the Southern California Association of Governments, SANBAG, Omnitrans and adjacent communities.
3.8-8	Coordinate with human services agencies and public schools to reduce duplicate transportation where feasible.
<b>Parking</b>	
3.9-1	Locate new development and their access points in such a way that traffic is not encouraged to utilize local residential streets and alleys for access to the development and its parking.
3.9-5	Develop strategies for the control of parking demand such as improved transit service, amenities for bicyclists and rideshare vehicles.
3.9-6	Develop strategies for shared parking opportunities in mixed-use and multiple-use development.
3.9-7	Encourage the use of well-designed, aesthetically enhanced parking structures as an alternative to large, expansive surface parking lots in retail and employment centers.

**Table 4.9-2 Highland General Plan Policies**

Policy No.	Policies
<b>PUBLIC SERVICES AND FACILITIES ELEMENT</b>	
<b>General City Services and Facilities</b>	
4.1-2	Ensure that proposed development, which requires the extension of public services and facilities, will generate sufficient municipal income to pay for the operations, maintenance and replacement of those services and facilities by the City.
4.1-3	Ensure that existing residents and businesses are not burdened with the cost of financing infrastructure aimed at supporting new development or the intensification of existing development.
4.1-4	Continue to ensure that public water, sewer, drainage and other facilities needed for a project phase are constructed prior to or concurrent with initial development within that phase, unless otherwise approved by the City.
4.1-6	Continue to require that deficiencies in existing public services and facilities are corrected prior to or concurrent with proposed development.
4.1-8	Continue to direct future growth to areas with adequate existing facilities and services, or areas with adequate facilities and services committed, or areas where public services and facilities can be economically extended.
4.1-9	Develop a public facility assessment reporting system as part of the Capital Improvement Program and in accordance with AB 1600 to monitor the capacity of existing facilities to ensure that new developments do not overwhelm existing facilities. The following are guidelines for developing the reporting system: Identify and understand the demands for services that will be placed on Highland by regional demographic and economic changes, monitor the progress of current local development projects, and ensure that public service and facility plans, as well as their forecasts and funding mechanisms, reflect changing conditions, track the status of capital improvement program implementation, develop a community survey to identify public facility deficiencies and usage.
4.1-11	Continue to follow the procedures established for the regular exchange of information regarding proposed development and availability and adequacy of public services and facilities.
4.1-13	Utilize performance standards to determine the adequacy of public services and facilities and to establish requirements, fees and exactions provided by new development in the City.
4.1-15	Require the construction of public facilities as a condition of approval for a proposed development if the development exceeds the capacity of existing public facilities to support such development.
4.1-17	Continue to require that all new development pay the applicable Development Impact Fees established by the City Council.
4.1-22	Continue to require that planned communities participate in the development of public infrastructure, in addition to the payment of development impact fees, through the following methods: an approved development agreement for all new specific plan or planned unit development projects that specifies the timing of infrastructure improvements in relation to project development, An annual review of improvements conducted for all new specific plans and an annual report in a format that can be easily included in the City's infrastructure assessment and reporting system.
4.1-26	Continue to allow new development and the intensification of existing development only where and when adequate public services and facilities can be provided.
<b>Water Facilities</b>	
4.2-2	Ensure a high-quality water supply that meets or exceeds state and federal health standards.
4.2-3	Work with the East Valley Water District and local elected representatives to better define the future availability of water for the Highland community.
<b>Wastewater Facilities</b>	
4.3-1	Work with relevant agencies to determine the long-term supply of reclaimed wastewater and service to potential future uses within the City.
<b>Drainage Facilities</b>	
4.4-1	Continue to improve any deficiencies in the City's drainage system and address the long-term needs associated with future development to minimize flood damage and adequately direct rainfall and subsequent runoff.

<b>Table 4.9-2 Highland General Plan Policies</b>	
<b>Policy No.</b>	<b>Policies</b>
4.4-2	Minimize the impact of development on the City's drainage system by reducing the amount of impervious surface associated with new development and encouraging site design features or landscaping that capture runoff. Encourage on-site retention of stormwater and compliance with requirements of the National Pollutant Discharge Elimination System.
<b>Solid Waste Facilities</b>	
4.5-2	Continue to support an ongoing dialogue with the County Solid Waste Management on the rail haul access and other regional solutions for long-term limits on local landfill capacity.
<b>Law Enforcement and Equipment</b>	
4.7-1	Ensure that police services, response times, equipment, and the number of police personnel keep pace with growth and the changing needs of the community.
4.7-3	Encourage the use of urban design strategies to help prevent crime, when feasible.
<b>Educational Facilities</b>	
4.9-1	Continue to coordinate with local school districts on resolving issues such as joint use facilities, new facility locations and alternative use of vacant or underutilized sites in the City.
4.9-2	Require that new development provide the necessary funding and/or resources to establish school facilities commensurate with the impact of development on school services. In cases where existing school capacity does not support new development, require the implementation of appropriate funding mechanisms, as permitted by law, to ensure the availability of adequate school facilities. Potential financing avenues include: A contract with the developer to provide funds for schools, Land dedications, Lease back turnkey program, Special assessment district financing, such as Mello-Roos Community Facilities Districts, for the proposed area of development
4.9-3	Encourage that all school impact fees collected from development projects be allocated toward the acquisition of land and construction of schools that serve the residents of those projects.
4.9-5	Continue to work with local school districts to prepare a Master Plan of Schools that outlines specific sites needed to meet the future demand for school facilities.
<b>Cultural Facilities</b>	
4.10-1	Encourage the development of cultural facilities in the City, especially in districts such as the Town Center and Historic District.
4.10-3	Work with the County of San Bernardino to secure the availability of social services to Highland residents.
<b>CONSERVATION AND OPEN SPACE</b>	
<b>Scenic Resources</b>	
5.1-3	Enforce hillside development standards that call for natural contour grading, environmentally sensitive design, shape and siting techniques, and fire-retardant building materials.
5.1-13	Develop different water-retention standards for single dwellings and larger tracts. Subdivisions should have overall implementation and water-retention strategies.
<b>Agricultural Resources</b>	
5.2-2	Incorporate appropriate land use transitions and buffering techniques into new development.
<b>Water Resources</b>	
5.3-1	To the extent possible, preserve floodplain and aquifer recharge areas in their natural condition.
5.4-1	In coordination with the East Valley Water District and the County of San Bernardino, continue to maintain and improve the hydrology and natural quality of the watersheds of Bledsoe Creek, Plunge Creek, Elder Gulch City Creek, Sand Creek, Warm Creek, Old City Creek Overflow Channel, Bald Ridge Creek, Santa Ana Canyon and the Santa Ana River.
5.5-1	Use water quality best management practices (BMPs) in land planning, project-level site planning and procedural requirements as part of the Storm Water Quality Management Plan.

<b>Table 4.9-2 Highland General Plan Policies</b>	
<b>Policy No.</b>	<b>Policies</b>
5.5-2	Require best management practices for all parking lots and paved storage areas within industrial and commercial zones, for the City's street network, and within the City's parks and other civic facilities.
5.5-3	Require site design practices that capture and channel specified percentages of rainfall and other runoff to permeable surfaces.
5.6-1	Continue to inspect, maintain and enhance City facilities for water conservation purposes.
5.6-2	Continue interdepartmental coordination of water use and conservation policies to improve City-facility water use.
5.6-6	Encourage the use of drought-tolerant plants and water-efficient landscape design.
5.6-7	Encourage alternatives to lawns and turf uses, except for parks, playing fields, children's play areas and other specialized uses.
5.6-9	Consider underground irrigation techniques to conserve water
5.6-14	In new developments require, and in existing uses encourage, the installation of efficient irrigation systems that minimize runoff and evaporation. Such systems include: Drip irrigation, Soil moisture sensors, Automatic irrigation systems with appropriate timing devices to minimize evaporation, Subsurface, or underground, irrigation.
<b>Biological Resources</b>	
5.7-1	Ensure that all development, including roads proposed adjacent to riparian and other biologically sensitive habitat, avoid significant impacts to such areas.
5.7-2	Require that new development proposed in such locations be designed to: Minimize or eliminate the potential for unauthorized entry into the sensitive area; Create buffer areas adjacent to the sensitive area, incorporating the most passive uses of the adjacent property; Protect the visual seclusion of forage areas from road intrusion by providing vegetative buffering; Provide wildlife movement linkages to water sources and other habitat areas; Provide native vegetation that can be used by wildlife for cover along roadsides; and Protect wildlife crossings and corridors.
<b>Archeological Resources</b>	
5.8-1	Avoid significant impacts in all new developments within areas determined to be archaeologically sensitive through the following measures: Conduct an archaeological records search with the Archaeological Information Center in order to identify potential on-site sensitivities; In cooperation with a qualified archaeologist, develop mitigation measures for projects found to be located in or near sensitive areas or sites; and Require that environmental review be conducted for all applications within the area designated as archaeologically sensitive, including but not limited to grading, earth moving and stockpiling, and building and demolition permits.
5.8-2	Include the following statement as a condition of approval on all development projects: "If cultural resources are discovered during project construction, all work in the area of the find shall cease, and a qualified archaeologist shall be retained by the project sponsor to investigate the find, and to make recommendations on its disposition. If human remains are encountered during construction, all work shall cease and the San Bernardino County Coroner's Office shall be contacted pursuant to Health and Safety Code provisions."
5.8-3	Coordinate with the San Manuel Band of Mission Indians when proposals for development projects are filed within the Areas of Sensitivity for Archaeological Resources (illustrated in Figure 5.2) through the following actions: Notify the San Manuel Band of Mission Indians via notification mailings about proposed projects in archaeologically sensitive areas; and Invite comments and suggestions to be forwarded to City staff and appropriate decision makers to aid the preservation and development review processes.
<b>Mineral Resources</b>	
5.9-1	Identify any significant mineral resources within the City and, as feasible, protect them from encroachment by residential or other incompatible development, for future use.
5.9-3	Develop criteria for location and operation of mineral processing to minimize adverse impacts to the environment, watersheds, wildlife, aesthetic resources, public health and safety, and adjacent land uses.

<b>Table 4.9-2 Highland General Plan Policies</b>	
<b>Policy No.</b>	<b>Policies</b>
<b>Parks and Recreation</b>	
5.10-2	Supplement existing development fee program for parkland acquisition with other funding sources, grants and programs (fee sponsors, corporate sponsors, fund raising, for example).
5.10-3	Use the redevelopment process for the selection, acquisition and funding of additional parkland in western portions of the City.
5.10-17	Require that new specific plans and planned unit developments (PUDs) incorporate sufficient park and recreation facilities along with natural open space areas, where appropriate, to serve the needs of their future residents.
5.10-19	Connect newly developed parks, wherever practical, to the existing and future bicycle and recreational trail system.
<b>Multi-Use Trails</b>	
5.11-1	Require, where appropriate, that residential, commercial and industrial developments within the City dedicate and construct trail links within their boundaries as part of the Multi-Use Trail Master Plan.
5.11-2	Provide equestrian, bicycling and pedestrian staging areas consistent with plan standards.
5.11-4	Where possible, locate trail easements within City-required landscaping or other easements.
5.11-7	Require proposed development adjacent to trail systems to dedicate land for trailhead access points.
5.12-1	Provide trail connections between and/or along the major city and surrounding regional facilities, sites and features indicated on the Multi-Use Trails Master Plan.
5.12-2	Provide bicycle and pedestrian trails along major home-to-work, home-to-school and other travel routes, where appropriate.
5.12-5	Where possible, designate and design new trail development near transit routes or heavily traveled areas.
5.13-2	Access should be provided to the maximum extent feasible to trail users of all abilities and all ages.
5.15-1	Monitor public use of trail system on a regular basis so that maintenance issues can be addressed on a timely basis.
5.15-3	Develop a program to enlist volunteers and volunteer organizations on trail development, operations and maintenance, education, and enforcement activities.
5.15-8	Ensure that all proposed trails leading from the City into the San Bernardino National Forest are coordinated with the San Bernardino National Forest Service and consistent with the County of San Bernardino National Forest Land and Resource Management Plan.
<b>Energy Conservation, Green Building Design and Recycling</b>	
5.16-5	Coordinate energy-related policies and actions with local utilities and energy agencies.
5.17-1	Incorporate passive solar design techniques including building orientation, energy-saving materials, roof overhangs, and window and door placement.
5.17-5	Incorporate passive solar design techniques including building orientation, energy-saving materials, roof overhangs, and window and door placement.
5.17-6	Channel runoff to permeable surfaces through the design of roofs and rain gutter systems and drainage courses.
5.17-8	Distribute and participate in incentive programs for incorporation of solar and photovoltaic panels (active solar) into existing or new buildings.
<b>Solid Waste Management/Recycling</b>	
5.18-4	Continue to implement the policies and programs identified in the City's SRR (Source Reduction and Recycling Element) and HHW (Household Hazardous Waste Element), and develop measures to evaluate their effectiveness.

**Table 4.9-2 Highland General Plan Policies**

<b>Policy No.</b>	<b>Policies</b>
<b>Air Quality Planning</b>	
5.19-1	Reduce locally generated emissions through traffic flow improvements (including signal synchronization) and construction management practices.
5.19-2	Encourage the use of public transit within the City through coordination with regional transit providers and publication of routes and timetables on the City website and publications.
5.19-3	Encourage land use planning and urban design that reduces vehicle trips through mixed and multi-use development, consolidation of commercial development along major arterials, provision of pedestrian connections from residential to retail areas, and development of a multi-use Town Center.
5.19-6	Provide incentives such as permit streamlining for industrial/commercial or residential development projects that meet or exceed air quality practices.
5.19-10	Reduce particulate emissions from roads, parking lots, construction sites and agricultural lands to the maximum extent practical through dust suppression, street cleaning and other practices.
5.19-11	Establish grading and building permitting procedures so that all construction involving demolition or earth movement reduces fugitive dust emissions through the appropriate techniques (e.g., wetting).
<b>PUBLIC HEALTH AND SAFETY ELEMENT</b>	
<b>Geology, Seismicity and Liquefaction</b>	
6.1-1	Ensure that all new development, including facilities required for the provision of emergency services following a seismic or geologic event, adhere to proper construction design criteria.
6.1-2	Enforce the requirements of the Alquist-Priolo Earthquake Fault Zoning Act and require the preparation of reports pursuant to the Act as part of the development review process for all new projects.
6.1-4	Continue to evaluate all new development within the Alquist-Priolo Earthquake Fault Zone.
6.1-8	Continue to monitor new building materials used for earthquake stability and fire resistance and incorporate such materials into plan checks when applicable.
6.1-9	Continue to enforce as part of the development review process site-specific analysis of soils and other conditions related to the onsite impact of maximum credible seismic and geologic events.
<b>Slope Instability</b>	
6.2-1	Continue to enforce hillside development guidelines for proposed development within or nearby slope instability areas of the City.
6.2-2	Require appropriate structural design measures for proposed development within hillside or steep slope areas.
<b>Flooding</b>	
6.3-1	Review all proposed development to ensure that structure designed for human occupancy are accessible in the event of a 100-year storm and are protected from the 100-year storm to a point one foot above the floodplain.
6.3-2	Require all development in the City and its sphere of influence comply with discharge permit requirements established by the Regional Water Quality Control Board.
6.3-3	Encourage proposed development to balance or enhance the natural landscape features of a site in order to reduce the amount of impervious surfaces built within the City.
<b>Hazardous Materials</b>	
6.4-2	Require that new facilities involved in the production, use, storage, transport or disposal of hazardous materials locate a safe distance from land uses that may be adversely impacted by such activities. Conversely, do not allow new sensitive facilities, such as schools, child-care centers, and senior centers, to be located near existing sites that use, store or generate hazardous materials.

<b>Table 4.9-2 Highland General Plan Policies</b>	
<b>Policy No.</b>	<b>Policies</b>
<b>Fire Hazards</b>	
6.5-1	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.
6.5-2	Ensure the adequate protection of proposed and existing development in areas subject to wildland-urban interface fires and balance the need for fire prevention measures with the need to preserve significant biological resources.
6.5-6	Require all development to meet the emergency water service standards established by the East Valley Water District.
<b>Emergency Preparedness</b>	
6.6-3	Evaluate the adequacy of access routes to and from hazard areas relative to the degree of development or use (e.g., road width, road type, length of dead-end roads, etc.).
<b>Airport Land Use Compatibility and Safety</b>	
6.7-1	Require the review of all new development in proximity to the San Bernardino International Airport for compliance with Federal Aviation Administration (FAA) requirements and the California Airport Land Use Planning Handbook with adopted plans.
6.7-2	Evaluate the compatibility of airport uses, activities, and operations with all new development in proximity to the San Bernardino International Airport prior to approval and protect sensitive uses, such as residences, schools, hospitals, and libraries from overflight areas.
<b>Air Quality</b>	
6.8-2	Participate in formulating regional policies and solutions to air quality problems established by the San Bernardino County Regional Air Quality Plan.
6.8-3	Create and integrate innovative local emissions reducing pilot programs into city plans for future government facilities and equipment.
6.8-6	Cooperate with regional transit agencies in the continued development of diverse and efficiently operated transportation systems that generate the minimum feasible pollutants.
6.8-8	Develop transportation demand management programs and incentives to reduce home to work vehicle trips. Examples of programs and incentives include: Employee ride share and transit incentives in public agencies, Employee ride share and transit incentives for employers with more than 25 employees at a single location, Working with private agencies in the implementation of teleconferencing and telecommuting for employers with more than 25 employees at a single location., Working with SANBAG to develop a public/private telecommunications center in San Bernardino County.
6.8-10	Reduce vehicle emissions by supporting the design and implementation of the Citywide system of bikeways and pedestrian trails as a non-polluting circulation alternative by requiring as part of the development review process the installation of planned bicycle routes, paths, and lanes where designated; and the construction of necessary bicycle parking and storage areas within convenient commercial, employment and recreation activity areas.
6.8-12	Continue to encourage the integration of air quality planning with land use and transportation planning in the design, review, and development processes.
6.8-13	Regulate the location and design of sensitive receptors (schools, day care facilities, hospitals and the like) from excessive and hazardous emissions to air pollution, and continue to support site plans that separate and/or buffer residential and sensitive receptors from freeways, arterials, point sources, and hazardous material locations.
6.8-15	Reduce particulate emissions from construction sites, grading activities, temporary roads and parking lots, and agricultural operations by enforcing requirements that minimize fugitive dust.
6.8-16	Reduce particulate and stationary emissions attributed to the removal, transportation and processing of mineral resources by enforcing required permits and physical barrier requirements that minimize the effects of dust from day-to-day operations of mineral extraction, transportation, and processing facilities

**Table 4.9-2 Highland General Plan Policies**

<i>Policy No.</i>	<i>Policies</i>
<b>NOISE ELEMENT</b>	
<b>Land Use Planning and Design</b>	
7.1-1	Enforce the City's Noise Control Ordinance consistent with health and quality of life goals and employ effective techniques of noise abatement through such means as a noise ordinance, building codes and subdivision and zoning regulations.
7.1-2	Encourage the use of site planning and architectural techniques such as alternative building orientation and walls combined with landscaping to mitigate noise to levels consistent with interior and exterior noise standards.
7.1-4	Consider the compatibility of proposed land uses with the noise environment when preparing, revising or reviewing development proposals.
7.1-5	Prevent the siting of sensitive uses in areas in excess of established 65 dBA CNEL without appropriate mitigation. Special attention should be paid to potential development within the 65 dBA CNEL noise contour of the San Bernardino International Airport and mining operations of the Santa Ana River.
7.1-6	Work with San Bernardino International Airport Authority to ensure that future airport planning activities encourage consistency with adopted City land use plans and minimize impacts on Highland's economic development opportunities and quality of life.
<b>Transportation-Related Noise Sources</b>	
7.2-1	Guide the location and design of transportation facilities to minimize the exposure of noise on noise-sensitive land uses.
7.2-3	Require that development generating increased traffic and subsequent increases in the ambient noise level adjacent to noise sensitive land uses provide appropriate mitigation measures.
7.2-5	Encourage the development of alternative transportation modes such as bicycle paths and pedestrian walkways to minimize the number of automobile trips and noise.
<b>Non-Transportation-Related Noise Sources</b>	
7.3-1	Enforce the City's Noise Control Ordinance so that new projects located in commercial or entertainment areas do not exceed stationary source noise standards at the property line of proximate residential or commercial uses, as appropriate.
7.3-3	Require that construction activities employ feasible and practical techniques to minimize noise impacts on adjacent uses. Particular emphasis shall be placed on the restriction of hours in which work other than emergency work may occur.
7.3-5	Ensure that buildings are constructed to prevent adverse noise transmission between differing uses located in the same structure and individual residences in multi-family buildings.
<b>HOUSING ELEMENT</b>	
8.2-3	Ensure new residential projects are adequately served by park and recreation, libraries, transportation, public safety, and other public services and facilities.
8.2-4	Encourage the development of a range of housing types in targeted areas of the City, such as inventoried vacant residential sites, Planned Development districts, Mixed Use districts, Transit Oriented Development opportunities, and special Policy Areas identified in the Land Use Element.
8.2-5	Encourage the use of innovative site development and allow the use of construction materials and techniques that reduce the cost of housing and its impact on the environment.
8.3-1	Establish higher density nodes with new housing opportunities intended to serve all income levels.
<b>ECONOMIC DEVELOPMENT ELEMENT</b>	
<b>Balanced Land Uses</b>	
9.1-1	Provide an appropriate mix of retail development in focused commercial centers along commercial corridors.
9.1-2	Promote the expanded the Business Park and Industrial land use designations in the southern parts of the City to capture regional demand and growth potential from future airport development.

<b>Table 4.9-2 Highland General Plan Policies</b>	
<b>Policy No.</b>	<b>Policies</b>
9.1-5	Promote a mix of housing types and range of prices necessary to provide a diverse labor force.
<b>Revitalization and Redevelopment of Retail Development</b>	
9.2-4	Create physical and visual linkages between Highland’s historic district and the emerging Town Center.
9.2-7	Study the desirability of establishing an Infill Development Incentive program for targeted sites along major corridors and in adjacent neighborhoods.
<b>Promote and Maintain Fiscal Health</b>	
9.4-2	Establish the desired level of service for public services such as fire, police, public works and community services, and prioritize these public service areas for the allocation of revenues for ongoing operations and maintenance costs.
9.4-3	Evaluate the effectiveness and reliability of existing sources of funding that provide funds for public improvements needed to support projected growth, such as redevelopment monies, development impact fees and grants.
9.4-9	Implement land use policies that address a balance of land uses to generate a mix of jobs, increase public revenues and promote fiscal stability.
<b>Expanded Industrial Base</b>	
9.5-5	Limit nonconforming development that might compromise the integrity of the area as an industrial/business park center.
<b>COMMUNITY DESIGN ELEMENT</b>	
<b>Town Center</b>	
10.3-5	Provide comfortable pedestrian amenities—quality sitting areas, wide paths and shade—along with specialized and engaging design features, such as interesting fountains or public art, which draw and maintain people’s attention.
<b>Mixed-Use Development</b>	
10.4-1	Encourage design flexibility in mixed/multi-use development by allowing both a vertical and/or horizontal mix of uses.
<b>Commercial Centers</b>	
10.5-6	Encourage pedestrian-scale features such as shaded sitting areas, fountains, arcades, canopies and/or awnings, customized signage and strategically located secondary entrances.
10.5-8	Link newly developed retail activity centers, where practical, to surrounding residential or office uses through clear and safe pedestrian and bicycle connections.
<b>Mid-Block Corridor Residential Development</b>	
10.7-10	Provide pedestrian access and connections to nearby retail, transportation, recreation and educational centers, where practical.
<b>Industrial and Business Park Development</b>	
10.8-9	Reduce the impact of industrial uses on adjacent neighborhoods and commercial areas by buffering them with walls and landscaping and/or by locating service, delivery and loading areas as far as possible from adjacent uses and public streets.
10.8-11	Locate restaurants and other convenience retail and service uses in close proximity to industrial uses to reduce unnecessary workday car trips by employees and business clients.
<b>Historic Preservation</b>	
10.9-3	Develop a clear pedestrian and vehicular connection between the City’s emerging Town Center and the existing Historic District.
<b>People Gathering Places</b>	
10.10-3	In areas of heavy pedestrian use, provide wide sidewalks that allow room for window shopping, pedestrian passage, outdoor dining and landscape buffers.

**Table 4.9-2 Highland General Plan Policies**

<b>Policy No.</b>	<b>Policies</b>
<b>Green Building and Planning Practices</b>	
10.12-1	Encourage landscaping practices that increase energy efficiency and conserve natural resources.
10.12-3	Using native and drought-tolerant landscaping (“xeriscaping”) and drip irrigation to conserve water resources.
10.12-4	Encourage designs that channel runoff to permeable surfaces.
10.12-5	Encourage transit-oriented, infill development to make efficient use of existing land.
10.12-6	Encourage site planning and building orientation that maximizes solar and wind resources for cooling and heating.
10.12-8	During construction, require developers and builders to protect topsoil in order to reduce dust and runoff impacts.
<b>Land Use Buffers and Transitions</b>	
10.13-4	Link newly developed commercial centers, where practical, to adjoining residential uses.
10.13-7	Encourage use of landscaped trellises and accent landscaping at development entries rather than walls or structures.
<b>AIRPORT ELEMENT</b>	
<b>Noise</b>	
11.1-1	Limit the development of sensitive land uses located within the 65 decibel (dB) Community Noise Equivalent Level (CNEL) contour.
11.1-4	Ensure adherence to standards in the California Building Code (CBC) that govern acceptable interior noise levels associated with exterior airport noise sources.
11.1-5	Participate in planning activities relative to the location and activity of airports and minimize negative impacts on economic development objectives and quality of life in the City.
<b>Safety</b>	
11.2-2	Limit the type and intensity of development in designated Airport Influence Areas (AIAs).
11.2-4	Encourage the development of open space areas in Highland adjacent to designated airport safety zones.
<b>Land Use Opportunities and Future Planning</b>	
11.3-4	Participate in Airport planning efforts to promote compatibility with the City’s General Plan.
11.3-6	Encourage flexible development standards that account for changes in market demand related to airport cargo, storage and distribution.
SOURCE	City of Highland, <i>City of Highland General Plan (2006)</i> .

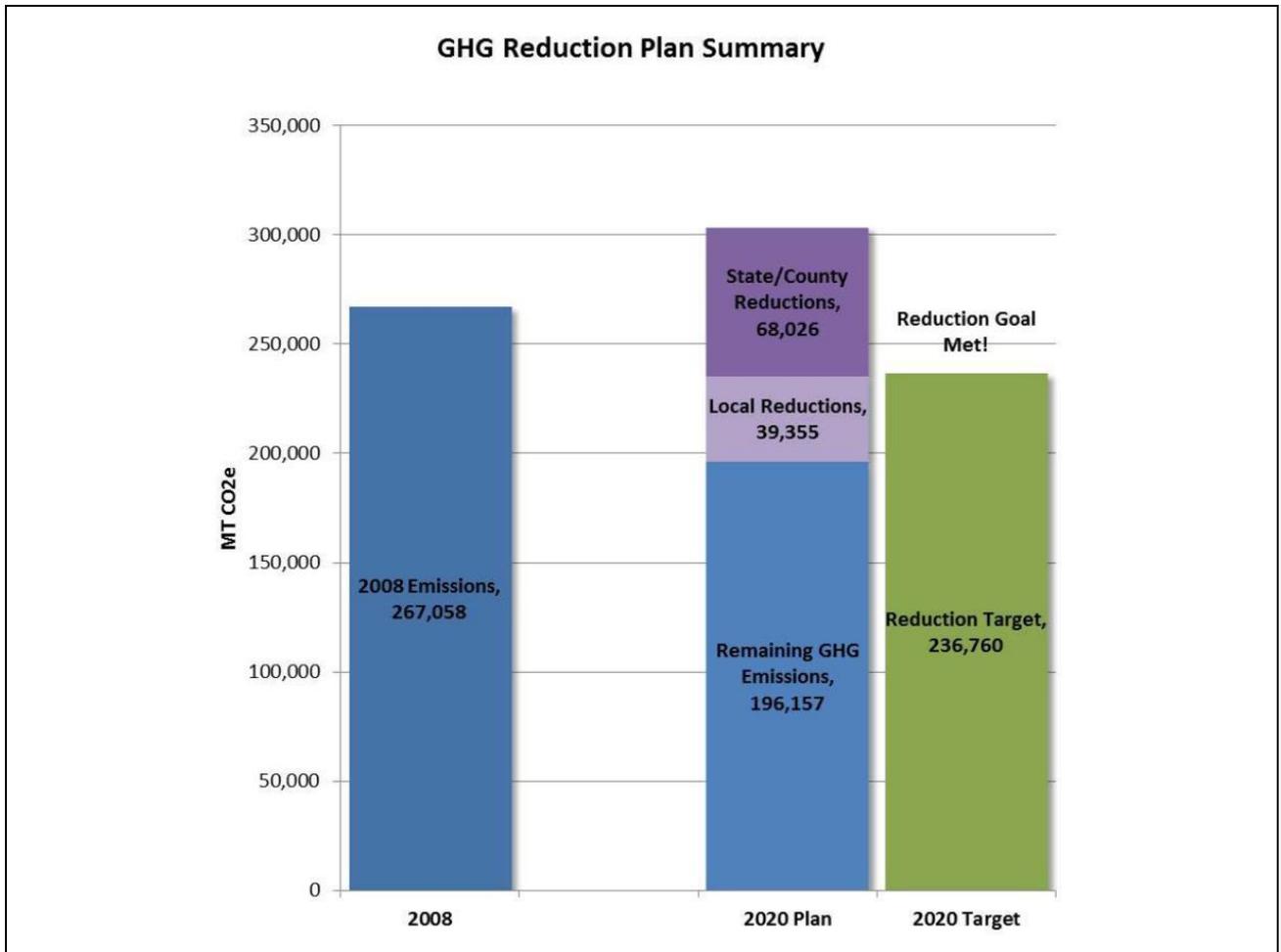


Figure 4.9-2 Emissions Reduction Profile for Highland

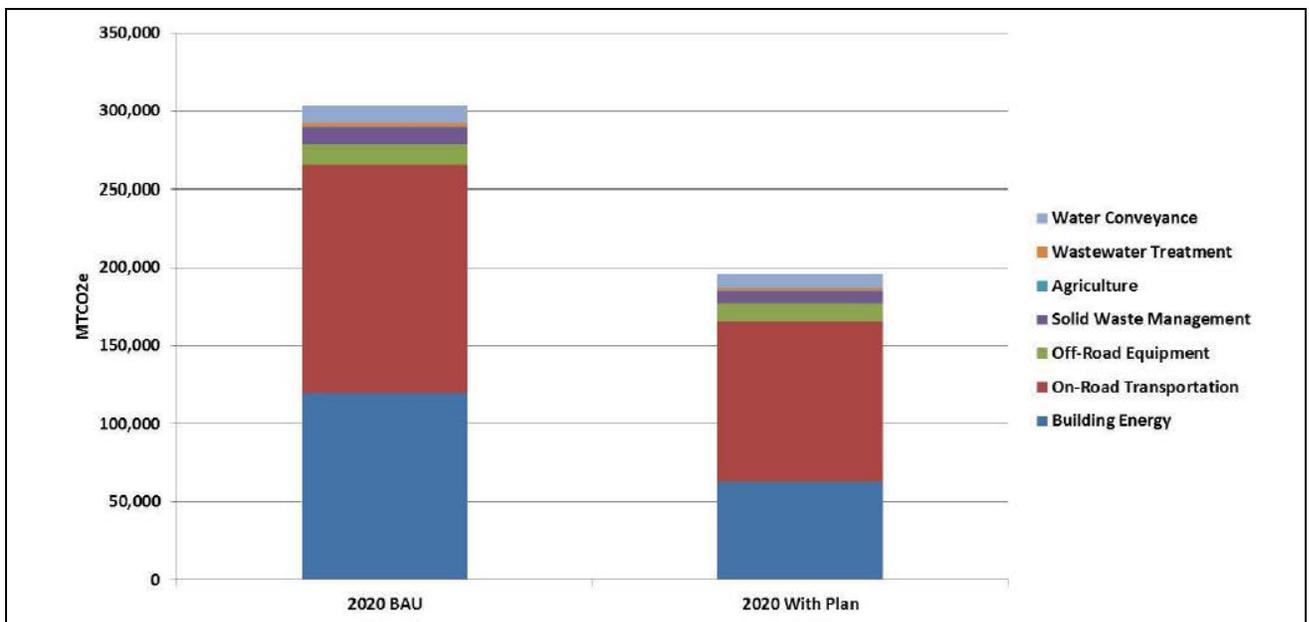


Figure 4.9-3 Emissions by Sector for Highland

Table 4.9-3 (Emissions by Sector for Highland) summarizes the 2008 inventory, 2020 BAU forecast, and GHG reduction (Regional Reduction Plan) results by sector. It shows the percent reduction in each sector’s emissions in 2020 and demonstrates that Highland exceeds its emissions reduction goal. Emissions sectors with the greatest percent reduction include the building energy, solid waste management, and on-road transportation sectors.

<b>Table 4.9-3 Emission Reduction by Sector for Highland</b>					
<b>Sector</b>	<b>2008</b>	<b>2020 BAU</b>	<b>Reductions</b>	<b>2020 Emissions with Plan</b>	<b>% Reduction</b>
Building Energy	100,948	120,044	56,192	63,852	46.8%
On-Road Transportation	133,010	145,050	40,424	104,626	27.9%
Off-Road Equipment	11,736	13,319	1,280	14,040	9.6%
Solid Waste Management	9,533	10,957	3,715	7,242	33.9%
Agriculture	715	364	0	364	0.0%
Wastewater Treatment	2,143	2,387	271	2,116	11.3%
Water Conveyance	8,974	11,417	2,387	9,030	20.9%
GHG Performance Standard*	—	—	3,114	—	—
<b>Total Emissions</b>	<b>267,058</b>	<b>303,538</b>	<b>107,381</b>	<b>196,157</b>	<b>35.4%</b>
<b>Reduction Goal</b>	—	—	<b>66,778</b>	<b>236,760</b>	<b>22.0%</b>
Met Goal?	—	—	Yes	Yes	Yes
<b>Reductions Beyond Goal</b>	—	—	<b>40,603</b>	—	—
Per-Capita Emissions	5.0	5.2	—	3.3	—
Per-Job Emissions	44.2	39.1	—	25.3	—
Excluded Stationary Source Emissions	15,615	20,364	—	—	—

SOURCE San Bernardino Associated Governments, *San Bernardino County Regional Greenhouse Gas Reduction Plan*, Draft, Prepared by ICF International (December 2012).

Values may not sum due to rounding.

\* The GHG Performance Standard for New Development is not a sector of the inventory, but it provides broad reductions and contributes toward the City’s reduction goal by promoting reductions in multiple sectors.

Figure 4.9-4 (Emission Reductions by Control and by Sector for Highland) presents emission reductions by sector and by control (i.e., state/county control versus local or city control). As stated previously, the majority of emissions reductions are due to state/county measures. Of the state/county measures, the majority of reductions are in the building energy and on-road transportation sectors. Of the local measures, the majority of reductions are in the building energy sector due to the implementation of SBX 7-7 (Water-4).

Table 4.9-4 (GHG Reduction Measures and Estimated 2020 Reductions for Highland) presents the reduction measures selected by Highland. For each measure, the short title and estimate GHG reductions in 2020 are listed. Measures are organized by state/county control and local control and listed by sector. The physical impacts of implementing the Local Measures are reviewed in this chapter of the EIR to determine the significance of the Regional Reduction Plan as it relates to the City of Highland.

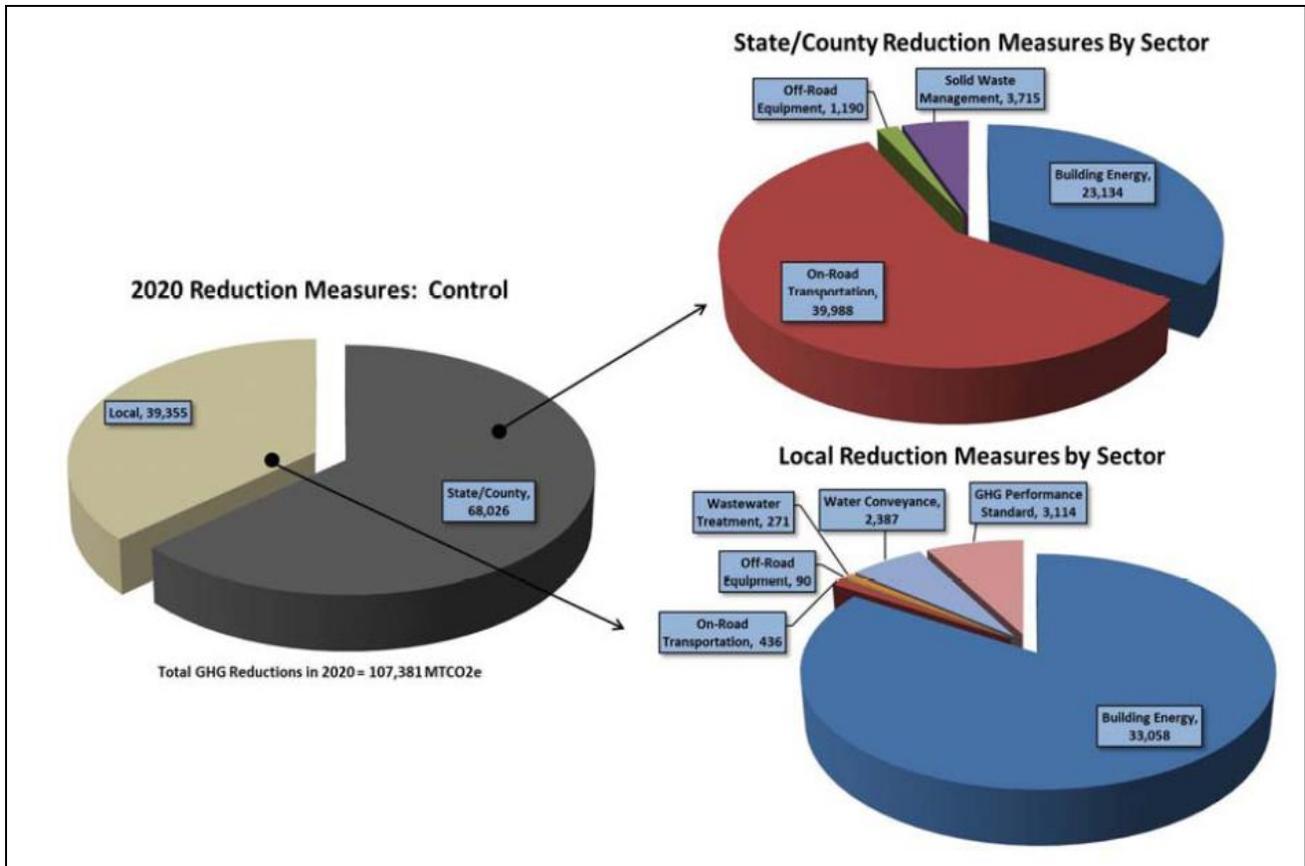


Figure 4.9-4 Emission Reductions by Control and by Sector for Highland

Table 4.9-4 GHG Reduction Measures and Estimated 2020 Reduced Emissions for Highland		
Reduction Measure Number	Description	Emissions Reductions
<b>STATE AND COUNTY MEASURES</b>		
State-1	Renewable Portfolio Standard	14,504
State-2	Title 24	4,227
State-3	AB 1190	3,902
State-4	Solar Water Heating	147
State-5	Industrial Boiler Efficiency	354
State-6	Pavley and Low Carbon Fuel Standard	36,772
State-7	AB 32 Transportation Reduction Strategies	3,217
State-8	Low Carbon Fuel Standard-Off-road	1,190
State-9	AB 32 Methane Capture	0
County-1	County GHG Reduction Plan Landfill Controls	3,715

<b>Table 4.9-4 GHG Reduction Measures and Estimated 2020 Reduced Emissions for Highland</b>		
<i>Reduction Measure Number</i>	<i>Description</i>	<i>Emissions Reductions</i>
<b>LOCAL MEASURES</b>		
<b>Building Energy</b>		
Energy-4	Solar Installation for New Housing	113
Energy-5	Solar Installation for New Commercial	138
<i>Water-4 (BE)</i>	<i>Implement SBX 7-7</i>	32,807
<b>On-Road Transportation</b>		
Transportation-2	Smart Bus Technologies	436
<b>Off-Road Equipment</b>		
Off-Road-2	Idling Ordinance	90
<b>Wastewater Treatment</b>		
<i>Water-4 (WT)</i>	<i>Implement SBX 7-7</i>	271
<b>Water Conveyance</b>		
Water-4	Implement SBX 7-7	2,387
<b>GHG Performance Standard for New Development</b>		
PS-1	GHG Performance Standard for New Development (30% below Projected BAU emissions for projects)	3,114
<b>Total Reductions</b>		<b>107,381</b>

SOURCE San Bernardino Associated Governments, *San Bernardino County Regional Greenhouse Gas Reduction Plan, Draft*, Prepared by ICF International (December 2012).

BE = building energy; WT = wastewater treatment; WC = water conveyance

Values may not sum due to rounding.

The Low Carbon Fuel Standard (LCFS) reduces emissions in both the on-road transportation and off-road equipment sectors, because the standard reduces the carbon content of fuels used in both sectors.

Measures in *italics* result in GHG reductions in multiple sectors. For example, Water-1 reduces the amount of water consumed in the city, which reduces emissions for conveying that water (water conveyance sector), the energy needed to heat that water (building energy sector), and the energy required to treat the associated wastewater (wastewater treatment sector).

\* These are measures where the avoided annual GHG emissions are small relative to the cost and effort to implement the measure on the City's part. Although the City has selected this measure, ICF recommends that the City not pursue this GHG reduction measure.

## ■ Summary of Environmental Impacts and Mitigation Measures

The Regional Reduction Plan City of Highland chapter describes the proposed project including the reduction measures and reduction targets chosen by the City of Highland. The physical impacts of implementing these reduction measures and achieving the reduction targets is reviewed in this chapter of the EIR to determine the significance of the Regional Reduction Plan as it relates to the City of Highland. No comment letters specific to the City of Highland were received in response to the notice of preparation (NOP) circulated for the proposed project.

Table 4.9-5 (Summary of Environmental Impacts of Implementing Local Reduction Measures in Highland) summarizes the environmental impacts of implementing the Regional Reduction Plan local reduction measures by issue area. There are no significant impacts requiring mitigation measures.

**Table 4.9-5 Summary of Environmental Impacts of Implementing Local Reduction Measures in Highland**

NI = no impact; LS = less than significant; LS/PR = less than significant with implementation of policies/regulations;  
LS/MM = less than significant with mitigation measures

<i>Environmental Impacts</i>	<i>Regional Reduction Plan Local Reduction Measure</i>					
	<i>Energy-4</i>	<i>Energy-5</i>	<i>Transportation-2</i>	<i>Off-Road-2</i>	<i>Water-4</i>	<i>PS-1</i>
<b>Aesthetics</b>						
Scenic vistas	LS/PR	LS/PR	NI	NI	NI	NI
Scenic highways	NI	NI	NI	NI	NI	NI
Visual character or quality	LS/PR	LS/PR	NI	NI	NI	NI
Light and glare	LS/PR	LS/PR	NI	NI	NI	NI
Cumulative impacts	LS/PR	LS/PR	NI	NI	NI	NI
<b>Agriculture/Forestry Resources</b>						
Convert farmland to nonagricultural use	NI	NI	NI	NI	NI	NI
Conflict with existing agricultural zoning or Williamson Act	NI	NI	NI	NI	NI	NI
Conflict with existing forest land or timberland zoning	NI	NI	NI	NI	NI	NI
Loss or conversion of forest land to nonforest land	NI	NI	NI	NI	NI	NI
Other changes causing conversion of farmland to nonfarmland use or forest land to nonforest land use	NI	NI	NI	NI	NI	NI
Cumulative impacts	NI	NI	NI	NI	NI	NI
<b>Air Quality</b>						
Conflict or obstruct air quality management plan	LS	LS	LS	LS	LS	LS
Violation of air quality standard	NI	LS	NI	LS	NI	LS
Exposure of sensitive receptors	NI	LS	NI	LS	NI	NI
Creation of objectionable odors	NI	LS	NI	LS	NI	NI
Cumulatively considerable net increase of any nonattainment criteria pollutant	LS	LS	NI	LS	NI	LS
<b>Biological Resources</b>						
Special-status species	NI	LS/PR	NI	NI	NI	NI
Riparian habitat or other sensitive natural community	NI	LS/PR	NI	NI	NI	NI
Protected wetlands	NI	LS/PR	NI	NI	NI	NI
Wildlife movement	NI	LS/PR	NI	NI	NI	NI
Conflict with any local policies or ordinances protecting biological resources	NI	LS/PR	NI	NI	NI	NI
Conflict with habitat conservation plan	NI	LS	NI	NI	NI	NI
Cumulative impacts	NI	LS/PR	NI	NI	NI	NI

**Table 4.9-5 Summary of Environmental Impacts of Implementing Local Reduction Measures in Highland**

NI = no impact; LS = less than significant; LS/PR = less than significant with implementation of policies/regulations;  
LS/MM = less than significant with mitigation measures

<i>Environmental Impacts</i>	<i>Regional Reduction Plan Local Reduction Measure</i>					
	<i>Energy-4</i>	<i>Energy-5</i>	<i>Transportation-2</i>	<i>Off-Road-2</i>	<i>Water-4</i>	<i>PS-1</i>
<b>Cultural Resources</b>						
Substantial adverse change in significance of a historical resource	NI	LS/PR	NI	NI	NI	NI
Substantial adverse change in significance of a archaeological resource	NI	LS/PR	NI	NI	NI	NI
Destruction of a unique paleontological resource or site or unique geologic feature	NI	LS/PR	NI	NI	NI	NI
Disturb any human remains	NI	LS/PR	NI	NI	NI	NI
Cumulative impacts	NI	LS/PR	NI	NI	NI	NI
<b>Geology/Soils</b>						
Fault rupture, strong seismic groundshaking, seismic-related ground failure, including liquefaction, landslides	LS/PR	LS/PR	NI	NI	NI	NI
Substantial soil erosion or loss of topsoil	NI	LS/PR	NI	NI	NI	NI
Located on a geologic unit or soil that is unstable, resulting in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse	NI	LS/PR	NI	NI	NI	NI
Located on expansive soil	NI	LS/PR	NI	NI	NI	NI
Soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems	NI	NI	NI	NI	NI	NI
Cumulative impacts	NI	LS/PR	NI	NI	NI	NI
<b>Greenhouse Gas Emissions/Global Climate Change</b>						
Generate greenhouse gas emissions	LS	LS	LS	LS	LS	LS
Conflict with an applicable plan, policy, or regulation to reduce greenhouse gas emissions	LS	LS	LS	LS	LS	LS
<b>Hazards/Hazardous Materials</b>						
Create significant hazard through the routine transport, use, or disposal of hazardous materials	NI	LS/PR	NI	NI	NI	NI
Create significant hazard through release of hazardous materials	NI	NI	NI	NI	NI	NI
Emit hazardous emissions or handle acutely hazardous materials, substances, or waste within 0.25 mile of an existing or proposed school	NI	NI	NI	NI	NI	NI
Located on a site that is included on a list of hazardous materials sites, creating significant hazard	NI	LS/PR	NI	NI	NI	NI
Located within 2 miles of a public airport or public use airport	NI	NI	NI	NI	NI	NI
Located within the vicinity of a private airstrip	NI	NI	NI	NI	NI	NI
Impair or interfere with an adopted emergency response plan or emergency evacuation plan	NI	LS/PR	NI	NI	NI	NI
Risk of loss, injury, or death involving wildland fires	NI	NI	NI	NI	NI	NI

**Table 4.9-5 Summary of Environmental Impacts of Implementing Local Reduction Measures in Highland**

NI = no impact; LS = less than significant; LS/PR = less than significant with implementation of policies/regulations;  
LS/MM = less than significant with mitigation measures

<i>Environmental Impacts</i>	<i>Regional Reduction Plan Local Reduction Measure</i>					
	<i>Energy-4</i>	<i>Energy-5</i>	<i>Transportation-2</i>	<i>Off-Road-2</i>	<i>Water-4</i>	<i>PS-1</i>
Cumulative impacts	NI	LS/PR	NI	NI	NI	NI
<b>Hydrology/Water Quality</b>						
Violate any water quality standards or waste discharge requirements	NI	LS/PR	NI	NI	NI	NI
Deplete groundwater supplies or interfere with groundwater recharge	NI	LS/PR	NI	NI	NI	NI
Alter the existing drainage pattern of the site or area, resulting in substantial erosion or siltation	NI	LS/PR	NI	NI	NI	NI
Alter the existing drainage pattern of the site or area, resulting in on- or off-site flooding	NI	LS/PR	NI	NI	NI	NI
Exceed the capacity of existing or planned stormwater drainage systems or provide additional sources of polluted runoff	NI	LS/PR	NI	NI	NI	NI
Otherwise degrade water quality	NI	LS/PR	NI	NI	NI	NI
Place housing within a 100-year flood hazard area	NI	NI	NI	NI	NI	NI
Place within a 100-year flood hazard area structures that would impede or redirect flood flows	NI	LS/PR	NI	NI	NI	NI
Risk of loss, injury, or death involving flooding, including flooding as a result of the failure of a levee or dam	NI	LS/PR	NI	NI	NI	NI
Inundation by seiche, tsunami, or mudflow	NI	LS	LS	NI	NI	NI
Cumulative impacts	NI	LS/PR	LS	NI	NI	NI
<b>Land Use/Planning</b>						
Physically divide an established community	NI	NI	NI	NI	NI	NI
Conflict with any applicable land use plan, policy, or regulation	LS	LS	LS	LS	LS	LS
Conflict with any applicable habitat conservation plan or natural community conservation plan	NI	NI	NI	NI	NI	NI
Cumulative impacts	LS	LS	LS	LS	LS	LS
<b>Mineral Resources</b>						
Loss of availability of a known mineral resource	NI	LS/PR	NI	NI	NI	NI
Loss of availability of a locally important mineral resource recovery site	NI	LS/PR	NI	NI	NI	NI
Cumulative impacts	NI	LS/PR	NI	NI	NI	NI
<b>Noise</b>						
Noise levels in excess of standards established in the local general plan or noise ordinance	NI	LS/PR	NI	NI	NI	NI
Excessive groundborne vibration or groundborne noise levels	NI	LS/PR	NI	NI	NI	NI
Permanent increase in ambient noise levels	NI	NI	NI	NI	NI	NI
Temporary or periodic increase in ambient noise levels	NI	LS/PR	NI	NI	NI	NI

**Table 4.9-5 Summary of Environmental Impacts of Implementing Local Reduction Measures in Highland**

NI = no impact; LS = less than significant; LS/PR = less than significant with implementation of policies/regulations;  
LS/MM = less than significant with mitigation measures

<i>Environmental Impacts</i>	<i>Regional Reduction Plan Local Reduction Measure</i>					
	<i>Energy-4</i>	<i>Energy-5</i>	<i>Transportation-2</i>	<i>Off-Road-2</i>	<i>Water-4</i>	<i>PS-1</i>
Excessive noise levels within 2 miles of a public airport or public use airport	NI	NI	NI	NI	NI	NI
Excessive noise levels within the vicinity of a private airstrip	NI	NI	NI	NI	NI	NI
Cumulative impacts	NI	LS/PR	NI	NI	NI	NI
<b>Population/Housing</b>						
Induce substantial population growth	NI	NI	NI	NI	NI	NI
Displace substantial numbers of existing housing	NI	NI	NI	NI	NI	NI
Displace substantial numbers of people	NI	NI	NI	NI	NI	NI
Cumulative impacts	NI	NI	NI	NI	NI	NI
<b>Public Services</b>						
Provision or need of new or physically altered governmental facilities to maintain acceptable service ratios, response times, or other performance objectives for public services	NI	NI	NI	NI	NI	NI
Cumulative impacts	NI	NI	NI	NI	NI	NI
<b>Recreation</b>						
Physical deterioration of recreational facilities	NI	NI	NI	NI	NI	NI
Construction or expansion of recreational facilities	NI	NI	NI	NI	NI	NI
Cumulative impacts	NI	NI	NI	NI	NI	NI
<b>Transportation/Traffic</b>						
Conflict with an applicable plan, ordinance, or policy establishing measures of effectiveness for the performance of the circulation system	NI	NI	LS	NI	NI	LS
Conflict with an applicable congestion management program	NI	NI	LS	NI	NI	LS
Change in air traffic patterns that results in substantial safety risks	NI	NI	NI	NI	NI	NI
Increase hazards due to a design feature or incompatible uses	NI	LS/PR	NI	NI	NI	NI
Inadequate emergency access	NI	LS/PR	NI	NI	NI	NI
Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities	NI	NI	LS	NI	NI	LS
Cumulative impacts	NI	LS/PR	LS	NI	NI	LS
<b>Utilities/Service Systems</b>						
Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board	NI	NI	NI	NI	NI	NI
Construction or expansion of new or existing water or wastewater treatment facilities	NI	NI	NI	NI	LS	NI

**Table 4.9-5 Summary of Environmental Impacts of Implementing Local Reduction Measures in Highland**

NI = no impact; LS = less than significant; LS/PR = less than significant with implementation of policies/regulations;  
LS/MM = less than significant with mitigation measures

<i>Environmental Impacts</i>	<i>Regional Reduction Plan Local Reduction Measure</i>					
	<i>Energy-4</i>	<i>Energy-5</i>	<i>Transportation-2</i>	<i>Off-Road-2</i>	<i>Water-4</i>	<i>PS-1</i>
Construction or expansion of new or existing stormwater drainage facilities	NI	NI	NI	NI	NI	NI
Insufficient water supplies from existing entitlements and resources, or need new or expanded entitlements	NI	NI	NI	NI	LS	NI
Inadequate wastewater treatment capacity	NI	NI	NI	NI	NI	NI
Insufficient permitted solid waste disposal capacity	NI	NI	NI	NI	NI	NI
Noncompliance with federal, state, or local statutes and regulations related to solid waste	NI	NI	NI	NI	NI	NI
Cumulative impacts	NI	NI	NI	NI	LS	NI

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## 4.9.1 Aesthetics

This section of the EIR analyzes the potential environmental effects on aesthetics in the City of Highland from implementation of the Regional Reduction Plan. Data for this section were taken from the Highland General Plan (2006) and associated environmental document (2005). Full reference-list entries for all cited materials are provided at the end of this section. Full reference-list entries for all cited materials are provided at the end of this section.

No comment letters addressing aesthetics were received in response to the notice of preparation (NOP) circulated for the Regional Reduction Plan.

### ■ Environmental Setting

#### *Visual Character*

The San Bernardino Mountains are the major natural landscape feature in the Highland area and provide a dramatic backdrop for views of the City. Highland's location at the base of the San Bernardino Mountains contributes greatly to the City's rural, natural character.

Visually, Highland is a linear city with predominantly right-angle streets, dominated by low-density development and single-family homes, set against a backdrop of mountains and broad vistas. Over time, the City has seen the decline of many areas that once contributed to the City's charm. Therefore, Highland is also seen as a City in transition from a suburban small-town heritage to a fully urbanized community. Transition in some areas has proven to be difficult and has affected the City's community image. Underutilized parcels, the need for infill development, preservation of the existing neighborhoods, and rehabilitation or reuse of historic structures are issues that affect the aesthetic resources of the City. Efforts to improve the image of the community include special efforts in areas that show signs of decline, including establishment of a historic district, development of rehabilitation and preservation programs, and the development and implementation of updated zoning and signage standards.

#### *Scenic Views*

The City of Highland's physical setting lends opportunities for many views and vistas of the community and surrounding natural features, including panoramic views of the San Bernardino Mountains and stretches of open space along City Creek and the Santa Ana River. Scenic vistas can be viewed from an extensive system of formal and informal trails that afford recreational, commercial, and scenic opportunities for the community. Although the City does not regulate private views, it has long realized the importance of view corridor planning in both public and private development. The City believes preserving views of the San Bernardino Mountains and stretches of open space along City Creek and the Santa Ana River to be very important to creating and maintaining a sense of community in Highland.

#### *Scenic Corridors*

Interstate 210 (I-210)/State Route 30 (SR-30) traverses the northwestern and central portion of the City; and the SR-330 traverses the northern tip of the City in a southwesterly to northeasterly direction from its connection with the I-210/SR-30. These segments of I-210/SR-30 and SR-330 have not been

officially designated as scenic highways. However, approximately 3.8 miles of SR-30 from SR-330 near Highland to SR-10 near Redlands are eligible State scenic highways. Streets in the planning area that are likely candidates for local designation as scenic roadways include: Greenspot Road, Church Street, Boulder Avenue, Palm Avenue, Base Line, Orange Street, Highland Avenue, and Alabama Street.

## ■ Regulatory Framework

### **Federal**

There are no federal regulations that are applicable to aesthetics.

### **State**

#### **Scenic Highways**

The California State Legislature established the Scenic Highway Program, which is administered by the California Department of Transportation (Caltrans). The State Scenic Highway System is a list of highways, mainly state highways, which have been designated by Caltrans as scenic highways. No designated scenic highways are found in Highland (Caltrans 2012).

#### **Outdoor Lighting Energy-Efficiency Standards**

California Code of Regulations (CCR) Title 24, Parts 1 and 6 (Building Energy Efficiency Standards), establishes requirements for outdoor lighting for residential and nonresidential development. The standards regulate lighting characteristics such as maximum power and brightness, shielding, and sensor controls to turn lighting on and off. Different lighting standards are set by classifying areas by lighting zone, which are designated as LZ1 (dark), LZ2 (rural), or LZ3 (urban).

#### **Solar Energy Systems**

Government Code Section 65850.5 provides statewide standards to promote development of solar energy by providing timely and cost-effective administrative review of these systems for installation within residential, agricultural, and business areas. The law prohibits local jurisdictions from adopting ordinances that create unreasonable barriers to development of solar energy systems and specifically identifies design review for aesthetic purposes as an unreasonable barrier.

### **Regional**

#### **San Bernardino County Ordinance**

Chapter 83.07 regulates glare, outdoor lighting, and night sky protection. For instance, outdoor lighting of commercial or industrial land uses in the Valley Region must be fully shielded to preclude light pollution or light trespass. Lighting fixtures used to illuminate a new off-site sign and exterior illuminated on-site signs in the Mountain and Desert regions are required to be mounted on the top of the sign structure and must comply with the shielding requirements specified in detail in the County Code. The purpose of Chapter 83.07 is to encourage outdoor lighting practices and systems that will minimize light pollution, glare, and light trespass; conserve energy and resources while maintaining nighttime safety, visibility, utility, and productivity; and curtail the degradation of the nighttime visual environment.

## Local

### City of Highland Municipal Code

Highland Municipal Code Chapter 16.40 pertains to General Development Standards. Ordinance 16.40.44, regulating scenic resources intends “to establish development standards which protect, preserve and enhance the aesthetic resources of the city by incorporating design considerations which minimize interference with the preservation of unique natural resources, roadside views and scenic corridors.” The Ordinance provides development standards for residential and commercial land uses proposed within scenic areas that address, among other items, building and structure placement, setbacks, landscaping, above-ground utilities, and grading.

Municipal Code Section 16.40.330 addresses solar energy systems. Design standards have been adopted to incorporate, to the extent feasible, passive heating and cooling opportunities into the design or modifications of residential, commercial, and industrial developments. They are further intended to ensure that solar energy systems in residential, commercial, and industrial areas do not detract from the appearance of the surrounding neighborhood. Examples of design standards include where and how roof-mounted, wall-mounted, and ground-mounted solar collectors should be placed to minimize visibility without reducing operating efficiency.

### Highland General Plan

The Highland General Plan policies that are applicable to aesthetics<sup>1</sup> are as follows:

#### Circulation Element

- Policy 3.3-3** Take such actions as may be necessary to protect scenic routes including but not limited to: regulation of land use and intensity of development; detailed land and site planning; control of outdoor advertising; careful attention to and control of grading and landscaping; and careful design and maintained appearance of structures and equipment.

#### Conservation and Open Space Element

- Policy 5.1-3** Enforce hillside development standards that call for natural contour grading, environmentally sensitive design, shape and siting techniques, and fire-retardant building materials.

#### Community Design Element

- Policy 10.12-6** Encourage site planning and building orientation that maximizes solar and wind resources for cooling and heating.

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<sup>1</sup> These policies are not a complete listing of all policies contained in the General Plan; those policies that would be most applicable to the proposed project are included here.

## ■ Project Impact Evaluation

### Thresholds of Significance

The following thresholds of significance are based on the 2012 CEQA Guidelines Appendix G. For purposes of this EIR, implementation of the San Bernardino County Regional GHG Reduction Plan might have a significant adverse impact on aesthetics if it would do any of the following:

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

### Analytic Method

Regional Reduction Plan reduction measures were reviewed to determine if they would include elements that, if implemented, would result changes in the viewshed that could be subjectively perceived as adverse or negative, or if implementation of the measures would be inconsistent with applicable General Plan goals or City standards pertaining to development standards and visual quality.

### Effects Not Found to Be Significant

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

The City of Highland’s physical setting lends opportunities for many views and vistas of the community and surrounding natural features, including panoramic views of the San Bernardino Mountains and stretches of open space along City Creek and the Santa Ana River. Regional Reduction Plan measures that could involve solar energy systems for existing and new residential and commercial development could alter the integrity of a scenic vista if not properly sited and designed. Although the City does not regulate private views, it has long realized the importance of view corridor planning in both public and private development. General Plan Policy 3.3-3 regulates land use and intensity of development to ensure scenic vistas are not adversely affected, and Section 16.40.330 identifies specific design requirements for solar energy systems. The City would review projects to ensure consistency with the General Plan and Municipal Code, which would ensure scenic vistas are not adversely affected. The impact would be ***less than significant***. No mitigation is required.

Threshold	Would the project substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?
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Scenic resources within and adjacent to the City include the Santa Ana River, the San Bernardino Mountains, and City Creek. General Plan Conservation and Open Space Goal 5.1 is to “Preserve, maintain and create views and vistas throughout the community to enhance the visual experience of Highland.” General Plan Policy 3.3-3 regulates land use and intensity of development to protect scenic routes. The Regional Reduction Plan does not propose specific development that would affect scenic

resources along scenic corridors. Further, there are no existing or proposed state scenic highways in the Highland planning area. There would be *no impact*.

Threshold	Would the project substantially degrade the existing visual character or quality of the site and its surroundings?
-----------	--

The City of Highland’s visual character is well-established in its residential areas and natural/open space areas. Growth in the urban areas would continued to be required to be consistent with General Plan policies and to adhere to the community design standards established in the Municipal Code.

The Regional Reduction Plan includes measures that encourage energy-saving retrofits on existing buildings and incorporation of energy-generating components in new construction, such as solar arrays that could be on buildings, or off-site, in the case of new commercial development. General Plan Policy 10.12-6 encourages site planning and building orientation that maximizes solar and wind resources for cooling and heating. Such features could be visible to visitors, employees, and residents. These projects would be reviewed by the City to ensure compliance with City Municipal Code Chapter 16.40.330 (solar energy design) and the Development Code to ensure that the visual quality of each affected site and surrounding environment is not substantially degraded by the installation of energy-saving measures on new residential and commercial development.

Therefore, implementation of the Regional Reduction Plan in Highland would not substantially degrade the existing visual character or quality of the site and its surroundings, and the impact would be *less than significant*. No mitigation is required.

Threshold	Would the project create a new source of substantial light or glare that would adversely affect day or nighttime views in the area?
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The developed portions of Highland contain numerous sources of light and glare from streetlights, freestanding lights, building-mounted lights, illuminated signage, reflective building materials, and vehicular headlights. The undeveloped portions of the planning area contain few, if any sources of light and glare.

Implementation of the Regional Reduction Plan could result in energy-efficient or energy-generating rooftop structures such as photovoltaic arrays on existing and new buildings. Rooftop solar panels, to be effective, must be oriented to maximize solar radiation absorption. Solar panels are designed to maximize sunlight absorption and are generally constructed of dark, light-absorbing materials and are composed of a minimum of reflective surfaces. Therefore, it is not anticipated that solar arrays would result in an increased amount of glare even if they were oriented in such a way as to face sensitive receptors or motorists. City Municipal Code Section 16.40.330 identifies specific design requirements for solar energy systems, which would reduce potential glare impacts. Therefore, implementation of the Regional Reduction Plan measures would not create new sources of light or glare that would adversely affect daytime or nighttime views. The impact would be *less than significant*. No mitigation is required.

## ■ Cumulative Impacts

The Highland General Plan also focuses on revitalization of the City's urban areas and arterial corridors through neighborhood improvements and redevelopment. Growth in the City of Highland could also result in the development of undeveloped portions of the City, which are primarily concentrated in the north, northeast, and eastern portions of the City. Development within the City of Highland, as it moves northward into the foothills of the San Bernardino Mountains, would result in an additional source of light or glare on area residents and within undeveloped portions of the City. The General Plan EIR concluded policies in the General Plan and the City's Development Code would reduce these cumulative aesthetics impacts to less-than-significant levels.

Implementation of the Regional Reduction Plan in Highland would not represent a cumulatively considerable contribution to those effects. Energy retrofits and installation of energy-saving features in new development would be on existing or new structures, and City Municipal Code Chapter 16.40.330 identifies specific design requirements for alternative energy systems, which would reduce potential aesthetic impacts. New solar energy systems would not be a source of glare or nighttime lighting. Therefore, the proposed project would not result in a cumulatively considerable contribution to aesthetics effects. *Cumulative impacts would be less than significant.*

## ■ References

California Department of Transportation (Caltrans). 2012. Officially Designated State Scenic Highways. Available at <http://www.dot.ca.gov/hq/LandArch/scenic/schwy.htm>.

Highland, City of. 2005. *City of Highland General Plan and Development Code Update Environmental Impact Report*. Draft, September.

———. 2006. *City of Highland General Plan*, March.

———. n.d. *City of Highland Municipal Code*.

San Bernardino Associated Governments (SANBAG). 2012. *San Bernardino County Regional Greenhouse Gas Reduction Plan*. Draft. Prepared by ICF International, December.

## 4.9.2 Agriculture/Forestry Resources

This section of the EIR analyzes the potential environmental effects on agriculture/forestry resources in the City of Highland from implementation of the Regional Reduction Plan. Data for this section were taken from the Highland General Plan (2006) and associated environmental document (2005). Full reference-list entries for all cited materials are provided at the end of this section.

No comment letters addressing agriculture/forestry resources were received in response to the notice of preparation (NOP) circulated for the Regional Reduction Plan.

### ■ Environmental Setting

The State of California designates land into eight categories of land use designation based on soil quality and existing agriculture uses to produce maps and statistical data. These maps and data are used to help preserve productive farmland and to analyze impacts on farmland. Prime Farmland, Farmland of Statewide Importance, Unique Farmland, and Farmland of Local Importance are all Important Farmland and are collectively referred to as Important Farmland in this EIR. The highest rated Important Farmland is Prime Farmland. These maps are created and maintained by the California Department of Conservation Farmland Mapping and Monitoring Program (FMMP). Additional information on the FMMP is provided in this section under “Regulatory Framework,” “State.” The following summarizes the various lands mapped by the State.

- **Prime Farmland**—This has the best combination of physical and chemical features and is able to sustain long-term agricultural production. The land has the soil quality, growing season, and moisture supply needed to produce sustained high yields and it must have been used for irrigated agricultural production at some time during the 4 years prior to the mapping date.
- **Farmland of Statewide Importance**—This is similar to Prime Farmland but with minor shortcomings, such as greater slopes or less ability to store soil moisture. The land must have been used for irrigated agricultural production at some time during the 4 years prior to the mapping date.
- **Unique Farmland**—This has lesser-quality soils and is used for the production of the state’s leading agricultural crops. The land is usually irrigated, but may include non-irrigated orchards or vineyards, as found in some climatic zones in California. The land must also have been cropped at some time during the 4 years prior to the mapping date.
- **Farmland of Local Importance**—This is of importance to the local agricultural economy, as determined by each county’s board of supervisors and a local advisory committee.
- **Grazing Land**—This has existing vegetation that is suited to the grazing of livestock. This category was developed in cooperation with the California Cattlemen’s Association, University of California Cooperative Extension, and other groups interested in the extent of grazing activities. The minimum mapping unit for Grazing Land is 40 acres.
- **Urban and Built-Up Land**—This land is occupied by structures with a building density of at least one unit to 1.5 acres, or approximately six structures to a 10-acre parcel. This land is used for residential, industrial, commercial, construction, institutional, public administration, railroad,

and other transportation yards, cemeteries, airports, golf courses, sanitary landfills, sewage treatment, water control structures, and other developed purposes.

- **Other Land**—This land is not included in any other mapping category. Common examples include low density rural developments; brush, timber, wetland, and riparian areas not suitable for livestock grazing; confined livestock, poultry, or aquaculture facilities; strip mines or borrow pits; and water bodies smaller than 40 acres. Vacant and nonagricultural land surrounded on all sides by urban development and greater than 40 acres is mapped as Other Land.
- **Water**—These are areas with perennial water bodies with an extent of at least 40 acres.

Existing agricultural uses in the City are shown in Figure 4.9.2-1 (Existing Agriculture and Important Farmland) and include irrigated cropland, orchards and vineyards, nurseries, and other agriculture. Parcels of agricultural uses remain scattered throughout an area of residential uses. The majority of these uses are located within the eastern portion of the City and concentrated in an area roughly defined by Greenspot Road to the south, Base Line to the north, and Church Street to the west.

Areas designated as Prime, Unique, and Farmland of Statewide and Local Importance are generally concentrated in the eastern half of the City. Within the City and its SOI, approximately 250 acres of undeveloped land is identified as important farmlands (excluding grazing and other lands). According to the San Bernardino County Assessor's Office, there are no lands within the City of Highland under a Williamson Act contract.

## ■ Regulatory Framework

### **Federal**

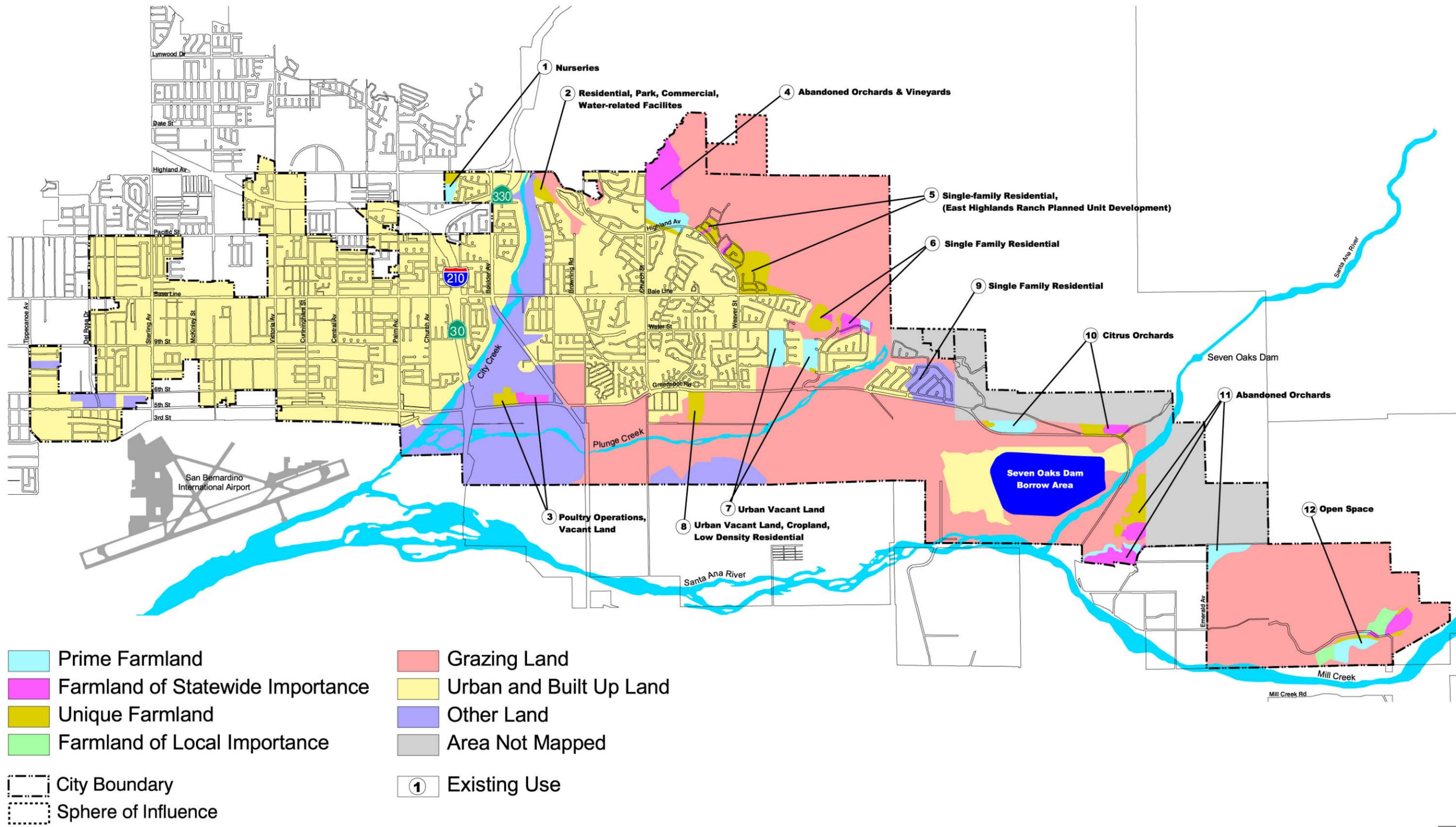
There are no federal regulations pertaining to agricultural resources.

### **State**

#### **Williamson Act**

The California Land Conservation Act of 1965, or the Williamson Act, allows city or county governments to preserve agricultural land or open space through contracts with landowners. Contracts last 10 years and are automatically renewed unless a notice of nonrenewal is issued. The preservation of agricultural land through Williamson Act contracts is meant to discourage premature and unnecessary conversion to urban uses. Landowners benefit from the contract by receiving property tax assessments that are much lower than the normal rates, based on farming and open space land values rather than urban full market values.

The California Department of Conservation Farmland Mapping and Monitoring Program (FMMP) was established in 1982 to track changes in agricultural land use and to help preserve areas of Important Farmland. It divides the state's land into eight categories of land use designation based on soil quality and existing agriculture uses to produce maps and statistical data. The maps and data are used to help preserve productive farmland and to analyze impacts on farmland.



- |   |   |
|---|---|
| <span style="display:inline-block; width:15px; height:15px; background-color:lightblue; border:1px solid black;"></span> Prime Farmland                 | <span style="display:inline-block; width:15px; height:15px; background-color:red; border:1px solid black;"></span> Grazing Land   |
| <span style="display:inline-block; width:15px; height:15px; background-color:magenta; border:1px solid black;"></span> Farmland of Statewide Importance | <span style="display:inline-block; width:15px; height:15px; background-color:yellow; border:1px solid black;"></span> Urban and Built Up Land                                   |
| <span style="display:inline-block; width:15px; height:15px; background-color:yellow; border:1px solid black;"></span> Unique Farmland                   | <span style="display:inline-block; width:15px; height:15px; background-color:purple; border:1px solid black;"></span> Other Land  |
| <span style="display:inline-block; width:15px; height:15px; background-color:green; border:1px solid black;"></span> Farmland of Local Importance       | <span style="display:inline-block; width:15px; height:15px; background-color:grey; border:1px solid black;"></span> Area Not Mapped   |
| <span style="border:1px dashed black; display:inline-block; width:15px; height:15px;"></span> City Boundary   | <span style="border:1px solid black; border-radius:50%; padding:2px; display:inline-block; width:15px; height:15px; text-align:center; line-height:15px;">1</span> Existing Use |
| <span style="border:1px dotted black; display:inline-block; width:15px; height:15px;"></span> Sphere of Influence                                       |   |

Source: City of. 2005. City of Highland General Plan and Development Code Update Environmental Impact Report. September.

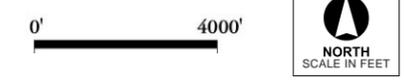


Figure 4.9.2-1  
Existing Agriculture and Important Farmland



## Regional

### County of San Bernardino Development Code

The County of San Bernardino Development Code includes Agricultural Land Use Zoning Districts that provide sites for commercial agricultural operations, agricultural support services, rural residential uses and similar and compatible uses. Open space and recreation uses may occur on nonfarmed lands within these AG (Agriculture) land use zoning district. In addition, the Development Code also includes Additional Agriculture (AA) Overlays, which are intended to create, preserve, and improve areas for small-scale and medium-scale agricultural uses utilizing productive agricultural lands for raising, some processing, and the sale of plant crops, animals, or their primary products. It is an overlay where agricultural uses exist compatibly with a variety of rural residential lifestyles. Agricultural Preserve (AP) Overlays were also established for properties that may be subject to a Land Conservation Contract executed between the landowner and the Board.

## Local

### City of Highland Municipal Code

Title 16 (Land Use Development), Chapter 16.28 (Open Space Districts), Section 16.28.020 (Open space district land use regulations), regulates land use in open space. Agriculture (all types of agriculture, horticulture, and raising of animals) is a permitted use in Open Space Districts For land use development, agricultural uses are also allowed in residential and commercial districts under Specific Use Development Standards that are intended to ensure that agricultural and animal keeping or husbandry land uses do not create adverse impacts, such as dust, noise, odor, fumes, bright light, visual blight, or insect infestation, to adjacent properties. Under these standards, agricultural uses are allowed as a pre-existing use wherein a legally established agricultural or animal keeping and husbandry use is permitted to continue as a “legal nonconforming use,” pursuant to HMC (16.08.150), Nonconforming Use and Structure Provisions.

Title 16 (Land Use Development), Chapter 16.12 (Special Districts), Section 16.20.010 (Planned Development [PD] District), defines Planned Development (PD) Districts as Special Districts that provide for large-scaled, multi-phased residential, commercial, or industrial mixed-use developments. These provisions permit the clustering of units, the mixing of land use and building types, and the formulation of specific development standards and design criteria that respond to the particular features or conditions affecting a site. Within this District a variety of uses are allowed. Existing agricultural uses may also be allowed to continue as a pre-existing use.

### Highland General Plan

The Highland General Plan policies that are applicable to agriculture resources<sup>2</sup> are as follows:

- Policy 5.2-2**      Incorporate appropriate land use transitions and buffering techniques into new development.

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<sup>2</sup> These policies are not a complete listing of all policies contained in the General Plan; those policies that would be most applicable to the proposed project are included here.

## ■ Project Impact Evaluation

### **Thresholds of Significance**

The following thresholds of significance are based on the 2012 CEQA Guidelines Appendix G. In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Dept. of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state’s inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment project; and forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board. For purposes of this EIR, implementation of the San Bernardino County Regional GHG Reduction Plan might have a significant adverse impact on agriculture/forestry resources if it would do any of the following:

- 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 nonagricultural use
- Conflict with existing zoning for agricultural use or with a Williamson Act contract
- Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code Section 12220(g)), timberland (as defined by Public Resources Code Section 4526), or timberland zoned Timberland Production (as defined by Government Code Section 51104(g))
- Result in the loss of forest land or conversion of forest land to nonforest use
- Involve other changes in the existing environment that, due to their location or nature, could result in conversion of Farmland to nonagricultural use or conversion of forest land to nonforest use

### **Analytic Method**

The following analysis reviews potential impacts to agricultural resources within the City of Highland.

### **Effects Not Found to Be Significant**

Threshold	Would the project 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 nonagricultural use?
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The Regional Reduction Plan includes implementation of solar panels for new housing and commercial uses. In addition, the Regional Reduction Plan includes renewable energy generation facilities. The renewable energy generation facilities on existing agricultural land would be complementary to the agricultural use and not be the primary use on agricultural land, such as a solar or wind farm. As an example, a large dairy might include photovoltaic (PV) solar panels on the rooftops and a methane capture system that collects methane as a renewable fuel. However PV solar and the methane capture

system described in this example would not change or covert agricultural land to non-agricultural use or in any way degrade the dairy farm as an agricultural use. Therefore, implementation of the proposed Regional Reduction Plan would not convert any of the existing agricultural use to nonagricultural use, which includes all California Resource Agency designated Prime Farmland, Unique Farmland, and Farmland of Statewide Importance. There would be **no impact**.

Threshold	Would the project conflict with existing zoning for agricultural use or with a Williamson Act contract?
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There are no Williamson Act contracts within the City of Highland and implementation of the Regional Reduction Plan does not include conversion of agricultural land. Therefore, there would be **no impact**.

Threshold	Would the project conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code Section 12220(g)), timberland (as defined by Public Resources Code Section 4526), or timberland zoned Timberland Production (as defined by Government Code Section 51104(g))?
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The City of Highland is urbanized and does not contain areas classified as timberland, zoned as timberland, or considered forested with timber. There would be **no impact**.

Threshold	Would the project result in the loss of forest land or conversion of forest land to nonforest use?
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The City of Highland is urbanized and does not contain forest land. There would be **no impact**.

Threshold	Would the project involve other changes in the existing environment that, due to their location or nature, could result in conversion of Farmland to nonagricultural use or conversion of forest land to nonforest use?
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For the reasons described above, no other changes are anticipated that would result in conversion of Farmland to nonagricultural use or conversion of forest land to nonforest use. There would be **no impact**.

## ■ Cumulative Impacts

Implementation of the Regional Reduction Plan in Highland would not result in any impacts on agricultural or forest lands at the project level. Therefore, impacts would not be cumulatively considerable, and there would be **no cumulative impact**.

## ■ References

Highland, City of. 2005. *City of Highland General Plan and Development Code Update Environmental Impact Report*. Draft, September.

———. 2006. *City of Highland General Plan*, March.

———. n.d. *City of Highland Municipal Code*.

San Bernardino Associated Governments (SANBAG). 2012. *San Bernardino County Regional Greenhouse Gas Reduction Plan*. Draft. Prepared by ICF International, December.

### 4.9.3 Air Quality

This section of the EIR analyzes the potential environmental effects on air quality in the City of Highland from implementation of the Regional Reduction Plan. Data for this section were taken from various sources, including the South Coast Air Quality Management District's (SCAQMD) Air Quality Management Plan (2012 AQMP), SCAQMD's CEQA Air Quality Handbook and online updates (accessed 2012), SCAQMD air monitoring data, Highland General Plan (2006) and associated environmental document (2005). Full reference-list entries for all cited materials are provided at the end of this section.

No comment letters addressing air quality were received in response to the notice of preparation (NOP) circulated for the Regional Reduction Plan.

#### ■ Environmental Setting

The portion of the proposed project under jurisdiction of the City of Highland is located within the South Coast Air Basin (Basin). The regional climate within the Basin is considered semi-arid and is characterized by warm summers, mild winters, infrequent seasonal rainfall, moderate daytime onshore breezes, and moderate humidity. Climate change within the Basin is influenced by a wide range of emission sources, such as utility usage, heavy vehicular traffic, industry, and meteorology.

The annual average temperature varies little throughout the Basin, ranging from the low to middle 60s, measured in degrees Fahrenheit (°F). With a more pronounced oceanic influence, coastal areas show less variability in annual minimum and maximum temperatures than inland areas. The weather station nearest the site is San Bernardino Station (AQs No. 060719004). The yearly average temperature within the project area is 65.9°F. The average low is reported at 39.4°F in December and January, while the average high is 96.6°F in July. All areas in the Basin have recorded temperatures above 100°F in recent years. January is typically the coldest month in this area of the Basin, with minimum temperatures in the 30s.

In contrast to a very steady pattern of temperature, rainfall is seasonally and annually highly variable. Almost all rain falls from November through April. Summer rainfall is normally restricted to widely scattered thundershowers near the coast with slightly heavier shower activity in the east and over the mountains. Rainfall averages around 16.7 inches per year in the project area.

Wind patterns across the south coastal region are characterized by westerly and southwesterly onshore 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.

Between periods of wind, periods of air stagnation may occur, both in the morning and evening hours. Air stagnation is one of the critical determinants of air quality conditions on any given day. 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 continue a few days before predominant meteorological conditions are reestablished. The mountain ranges surrounding the Basin affect the transport and diffusion of pollutants by inhibiting the eastward transport of pollutants. Air quality in the Basin generally ranges from fair to poor and is similar to air

quality in most of coastal southern California. The entire region experiences heavy concentrations of air pollutants during prolonged periods of stable atmospheric conditions.

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.” 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.

## **Air Pollutants of Concern**

### **Criteria Air Pollutants**

The pollutants emitted into the ambient air by stationary and mobile sources are regulated by federal and state law. These are known as criteria air pollutants and are categorized into primary and secondary pollutants. Primary air pollutants are those that are emitted directly from sources. Carbon monoxide (CO), volatile organic compounds (VOC), nitrogen oxides (NO<sub>x</sub>), sulfur dioxide (SO<sub>2</sub>), coarse inhalable particulate matter (PM<sub>10</sub>), fine inhalable particulate matter (PM<sub>2.5</sub>), and lead (Pb) are primary air pollutants. VOC and NO<sub>x</sub> are criteria pollutant precursors and go on to form secondary criteria pollutants through chemical and photochemical reactions in the atmosphere. Ozone (O<sub>3</sub>) and nitrogen dioxide (NO<sub>2</sub>) are the principal secondary pollutants.

Presented below is a description of each of the primary and secondary criteria air pollutants and their known health effects. Other pollutants, such as carbon dioxide, a natural by-product of animal respiration that is also produced in the combustion process, have been linked to such phenomena as global warming (see Section 4.9.7 [Greenhouse Gas Emissions]).

**Carbon monoxide (CO)** is a colorless, odorless, toxic gas produced by incomplete combustion of carbon substances, such as gasoline or diesel fuel. The primary adverse health effect associated with CO is interference with normal oxygen transfer to the blood, which may result in tissue oxygen deprivation (SCAQMD 2005).

**Volatile organic compounds (VOC)** are compounds comprised primarily of atoms of hydrogen and carbon. Internal combustion associated with motor vehicle usage is the major source of hydrocarbons. VOCs are synonymous with reactive organic gases. Other sources of VOC include evaporative emissions associated with the use of paints and solvents, the application of asphalt paving, and the use of household consumer products such as aerosols. Adverse effects on human health are not caused directly by VOC, but rather by reactions of VOC to form secondary pollutants such as ozone (SCAQMD 2005).

**Nitrogen oxides (NO<sub>x</sub>)** serve as integral participants in the process of photochemical smog production. The two major forms of NO<sub>x</sub> are nitric oxide (NO) and nitrogen dioxide (NO<sub>2</sub>). NO is a colorless, odorless gas formed from atmospheric nitrogen and oxygen when combustion takes place under high temperature and/or high pressure. NO<sub>2</sub> is a reddish-brown irritating gas formed by the combination of NO and oxygen. NO<sub>x</sub> acts as an acute respiratory irritant and increases susceptibility to respiratory pathogens (SCAQMD 2005).

NO<sub>2</sub> is a by-product of fuel combustion. The principal form of NO<sub>2</sub> produced by combustion is NO, but NO reacts with oxygen to form NO<sub>2</sub>, creating the mixture of NO and NO<sub>2</sub> commonly called NO<sub>x</sub>. NO<sub>2</sub> acts as an acute irritant and, in equal concentrations, is more injurious than NO. At atmospheric concentrations, however, NO<sub>2</sub> is only potentially irritating. There is some indication of a relationship between NO<sub>2</sub> and chronic pulmonary fibrosis. Some increase in bronchitis in children (two and three years old) has also been observed at concentrations below 0.3 part per million (ppm). NO<sub>2</sub> absorbs blue light; the result is a brownish-red cast to the atmosphere and reduced visibility. NO<sub>2</sub> also contributes to the formation of PM<sub>10</sub>, PM<sub>2.5</sub>, and ozone (SCAQMD 2005).

**Sulfur dioxide (SO<sub>2</sub>)** is a colorless, pungent, irritating gas formed by the combustion of sulfurous fossil fuels. Fuel combustion is the primary source of SO<sub>2</sub>. At sufficiently high concentrations, SO<sub>2</sub> may irritate the upper respiratory tract. At lower concentrations and when combined with particulates, SO<sub>2</sub> may do greater harm by injuring lung tissue. A primary source of SO<sub>2</sub> emissions is high-sulfur-content coal. Gasoline and natural gas have very low sulfur content and hence do not release significant quantities of SO<sub>2</sub> (SCAQMD 2005).

**Particulate matter (PM)** consists of finely divided solids or liquids such as soot, dust, aerosols, fumes, and mists. Two forms of fine particulates are now recognized. Inhalable coarse particles, or PM<sub>10</sub>, include the particulate matter with an aerodynamic diameter of 10 microns (i.e., 10 one-millionths of a meter or 0.0004 inch) or less. Inhalable fine particles, or PM<sub>2.5</sub>, have an aerodynamic diameter of 2.5 microns (i.e., 2.5 one-millionths of a meter or 0.0001 inch) or less. Particulate discharge into the atmosphere results primarily from industrial, agricultural, construction, and transportation activities. However, wind action on arid landscapes also contributes substantially to local particulate loading. Both PM<sub>10</sub> and PM<sub>2.5</sub> may adversely affect the human respiratory system, especially in those people who are naturally sensitive or susceptible to breathing problems (SCAQMD 2005). Diesel particulates are classified by the California Air Resources Board (ARB) as a carcinogen.

Fugitive dust primarily poses two public health and safety concerns. The first concern is that of respiratory problems attributable to the particulates suspended in the air. The second concern is that of motor vehicle accidents caused by reduced visibility during severe wind conditions. Fugitive dust may also cause significant property damage during strong windstorms by acting as an abrasive (much like sandblasting). Finally, fugitive dust can result in a nuisance factor due to the soiling of proximate structures and vehicles (SCAQMD 2005).

**Ozone (O<sub>3</sub>)**, or smog, is one of a number of substances called photochemical oxidants that are formed when VOC and NO<sub>x</sub> (both by-products of the internal combustion engine) react with sunlight. O<sub>3</sub> is present in relatively high concentrations in the Basin, and the damaging effects of photochemical smog are generally related to the concentrations of O<sub>3</sub>. O<sub>3</sub> poses a health threat to those who already suffer from respiratory diseases as well as to healthy people. Additionally, O<sub>3</sub> has been tied to crop damage, typically in the form of stunted growth and premature death. O<sub>3</sub> can also be a corrosive, resulting in property damage such as the degradation of rubber products (SCAQMD 2005).

### Toxic Air Contaminants

The public's exposure to toxic air contaminants (TACs) is a significant environmental health issue in California. In 1983, the California Legislature enacted a program to identify the health effects of TACs

and to reduce exposure to these contaminants to protect the public health. The Health and Safety Code defines a TAC as “an air pollutant which may cause or contribute to an increase in mortality or in serious illness, or which may pose a present or potential hazard to human health.” A substance that is listed as a hazardous air pollutant pursuant to subsection (b) of Section 112 of the federal Clean Air Act (CAA) (42 United States Code Section 7412(b)) is a TAC. Under state law, the California Environmental Protection Agency (Cal/EPA), acting through the California ARB, is authorized to identify a substance as a TAC if it determines the substance is an air pollutant that may cause or contribute to an increase in mortality or to an increase in serious illness, or may pose a present or potential hazard to human health.

California regulates TACs primarily through Assembly Bill (AB) 1807 (Tanner Air Toxics Act) and AB 2588 (Air Toxics “Hot Spot” Information and Assessment Act of 1987). The Tanner Air Toxics Act sets forth a formal procedure for California ARB to designate substances as TACs. Once a TAC is identified, California ARB adopts an “airborne toxics control measure” for sources that emit designated TACs. If there is a safe threshold for a substance (a point below which there is no toxic effect), the control measure must reduce exposure to below that threshold. If there is no safe threshold, the measure must incorporate toxics best available control technology to minimize emissions. California ARB has, to date, established formal control measures for eleven TACs, all of which are identified as having no safe threshold.

Air toxics from stationary sources are also regulated in California under the Air Toxics “Hot Spot” Information and Assessment Act of 1987. Under AB 2588, toxic air contaminant emissions from individual facilities are quantified and prioritized by the air quality management district or air pollution control district. High priority facilities are required to perform a health risk assessment and, if specific thresholds are exceeded, are required to communicate the results to the public in the form of notices and public meetings.

Since the last update to the TAC list in December 1999, California ARB has designated 244 compounds as TACs (California ARB 1999). Additionally, the California ARB has implemented control measures for a number of compounds that pose high risks and show potential for effective control. The majority of the estimated health risks from TACs can be attributed to relatively few compounds, the most important being particulate matter from diesel-fueled engines.

In 1998, the California ARB identified particulate emissions from diesel-fueled engines (diesel PM) as a TAC. Previously, the individual chemical compounds in the diesel exhaust were considered as TACs. Almost all diesel exhaust particle mass is 10 microns or less in diameter. Because of their extremely small size, these particles can be inhaled and eventually trapped in the bronchial and alveolar regions of the lung.

In 2000, SCAQMD conducted a study on ambient concentrations of TACs and estimated the potential health risks from air toxics. The results showed that the overall risk for excess cancer from a lifetime exposure to ambient levels of air toxics was about 1,400 in a million. The largest contributor to this risk was diesel exhaust, accounting for 71 percent of the air toxics risk. In 2008, the SCAQMD conducted its third update to their study on ambient concentrations of TACs and estimated the potential health risks from air toxics. The results showed that the overall risk for excess cancer from a lifetime exposure to

ambient levels of air toxics was about 1,200 in a million. The largest contributor to this risk was diesel exhaust, accounting for approximately 84 percent of the air toxics risk (SCAQMD 2008).

### **Existing Ambient Air Quality**

Existing levels of ambient air quality and historical trends and projections in the vicinity of the project site and the City of Highland are best documented by measurements made by the SCAQMD. The City of Highland is located within the central portion of Source Receptor Area (SRA) 34 (Central San Bernardino Valley). The SCAQMD air quality monitoring station in the SRA 34 that is closest to the City is the San Bernardino -4th Street Monitoring Station. SO<sub>2</sub> data was supplemented from the Fontana-Arrow Highway Monitoring Station Monitoring Station. Data from these two stations are summarized in Table 4.9.3-1 (Ambient Air Quality Monitoring in the City of Highland). The data show recurring violations of both the state and federal O<sub>3</sub> standards. The data also indicate that the area regularly exceeds the state PM<sub>10</sub> and federal PM<sub>2.5</sub> standards. The CO, SO<sub>2</sub>, and NO<sub>2</sub> standards have not been violated in the last 5 years at the stations. However, the area regularly exceeds the state PM<sub>10</sub> and federal PM<sub>2.5</sub> standards.

## **■ Regulatory Framework**

### **Federal**

#### **U.S. Environmental Protection Agency and the Federal Clean Air Act**

The federal CAA of 1970 and the CAA Amendments of 1971 required the U.S. Environmental Protection Agency (USEPA) to establish National Ambient Air Quality Standards (NAAQS), with States retaining the option to adopt more stringent standards or to include other specific pollutants. These NAAQS standards are the levels of air quality considered safe, along with an adequate margin of safety to protect the public health and welfare. They are designed to protect those sensitive receptors most susceptible to further respiratory distress such as asthmatics, the elderly, very young children, people already weakened by other disease or illness and persons engaged in strenuous work or exercise. Healthy adults can tolerate occasional exposure to air pollutant concentrations considerably above these minimum standards before adverse effects are observed.

The CAA (and its subsequent amendments) requires each state to prepare an air quality control plan referred to as a State Implementation Plan (SIP). The CAA Amendments dictate that states containing areas violating the NAAQS must revise their SIPs to include extra control measures to reduce air pollution. California's SIP includes strategies and control measures to attain the NAAQS by deadlines established by the CAA. The SIP is periodically modified to reflect the latest emissions inventories, plans and rules and regulations of the various agencies with jurisdiction over the state's air basins. The USEPA has the responsibility to review all SIPs to determine if they conform to the requirements of the CAA.

**Table 4.9.3-1 Ambient Air Quality Monitoring in the City of Highland**

Pollutant/Standard	Number of Days Air Quality Standards Were Exceeded per Year and Maximum Level of Concentrations in Each Year <sup>a</sup>				
	2007	2008	2009	2010	2011
<b>Ozone (O<sub>3</sub>)<sup>a</sup></b>					
State 1-Hour ≥ 0.09 ppm	48	62	53	27	40
State 8-Hour ≥ 0.07 ppm	72	87	78	60	66
Federal 8-Hour ≥ 0.075 ppm <sup>b</sup>	51	62	61	40	39
Maximum 1-Hour Average Concentration (ppm)	0.153	0.162	0.150	0.143	0.144
Maximum 8-Hour Average Concentration (ppm)	0.122	0.122	0.127	0.105	0.121
<b>Carbon Monoxide (CO)<sup>a</sup></b>					
State/Federal 8-Hour > 9.0 ppm	0	0	0	0	0
Maximum 8-Hour Average Concentration (ppm)	1.8	1.9	1.9	1.7	1.7
<b>Nitrogen Dioxide (NO<sub>2</sub>)<sup>a</sup></b>					
State 1-Hour ≥ 0.18 ppm <sup>c</sup>	0	0	0	0	0
Maximum 1-Hour Average Concentration (ppm)	0.08	0.09	0.08	0.07	0.06
<b>Sulfur Dioxide<sup>e</sup></b>					
State 24-Hour ≥ 0.04 ppm	0	0	0	0	0
Federal-24 Hour ≥ 0.14 ppm	0	0	0	0	0
Maximum 24-Hour Average Concentration (ppm)	0.004	0.003	0.002	0.002	0.003
<b>Suspended Particulates (PM<sub>10</sub>)<sup>a</sup></b>					
State 24-Hour > 50 µg/m <sup>3</sup>	26	17	10	2	2
Federal-24 Hour > 150 µg/m <sup>3</sup>	1	0	0	0	0
Maximum 24-Hour Average Concentration (µg/m <sup>3</sup> )	219	144	89	63	128
<b>Fine Particulates (PM<sub>2.5</sub>)<sup>a</sup></b>					
Federal-24 Hour ≥ 35 µg/m <sup>3d</sup>	11	3	2	2	2
Maximum 24-Hour Average Concentration (µg/m <sup>3</sup> )	72	43.5	38	39	65

SOURCE: SCAQMD, Ambient Air Quality Monitoring Data (obtained April 2013).

ppm = parts per million; µg/m<sup>3</sup> = micrograms per meter cubed

- a. Data obtained from the San Bernardino-4th Street Monitoring Station.
- b. USEPA recently updated the 8-hour ozone standard from 0.8 ppm to 0.075 ppm.
- c. California ARB updated the state nitrogen dioxide standard in 2007 from 0.25 ppm to 0.18 ppm.
- d. USEPA recently updated the 24-hour PM<sub>2.5</sub> standard from 65 µg/m<sup>3</sup> to 35 µg/m<sup>3</sup>.
- e. Data obtained from the Fontana-Arrow Highway Monitoring Station Monitoring Station.

## State

### California Air Resources Board

The California ARB, a part of CalEPA, is responsible for the coordination and administration of both federal and state air pollution control programs within California. In this capacity, ARB conducts research, sets state ambient air quality standards (California Ambient Air Quality Standards), compiles

emission inventories, develops suggested control measures and provides oversight of local programs. ARB also establishes emissions standards for motor vehicles sold in California, consumer products (such as hairspray, aerosol paints and barbecue lighter fluid) and various types of commercial equipment. It also sets fuel specifications to further reduce vehicular emissions. ARB has primary responsibility for the development of California’s SIP and works closely with the federal government and the local air districts.

Table 4.9.3-2 (State and Federal Ambient Air Quality Standards) shows the California Ambient Air Quality Standards and NAAQS for each of the criteria pollutants.

<b>Pollutant</b>	<b>Averaging Time</b>	<b>California Standard</b>	<b>Federal Primary Standard</b>	<b>Major Sources</b>
Ozone (O <sub>3</sub> ) <sup>a</sup>	1 hour	0.09 ppm	—	Internal combustion engines, coatings, and solvents
	8 hours	0.070 ppm	0.075 ppm	
Carbon Monoxide (CO)	1 hour	20 ppm	35 ppm	Internal combustion engines
	8 hours	9 ppm	9 ppm	
Nitrogen Dioxide (NO <sub>2</sub> ) <sup>b</sup>	Annual Average	0.030 ppm	0.053 ppm	Internal combustion engines and industrial processes
	1 hour	0.18 ppm	—	
Sulfur Dioxide	Annual Average	—	0.03 ppm	Internal combustion engines, chemical plants, sulfur recovery, and metal processing
	1 hour	0.25 ppm	—	
	24-hours	0.04 ppm	0.14 ppm	
Suspended Particulates (PM <sub>10</sub> )	Annual Arithmetic Mean	20 µg/m <sup>3</sup>	—	Dust from agricultural and construction, combustion, natural activities
	24 hours	50 µg/m <sup>3</sup>	150 µg/m <sup>3</sup>	
Fine Particulates (PM <sub>2.5</sub> ) <sup>c</sup>	Annual Arithmetic Mean	12 µg/m <sup>3</sup>	15 µg/m <sup>3</sup>	Primarily from Internal combustion engines
	24 hours	—	35 µg/m <sup>3</sup>	
Lead (Pb)	Monthly	1.5 µg/m <sup>3</sup>	—	Lead smelters and lead battery manufacturing & recycling.
	Quarterly	—	1.5 µg/m <sup>3</sup>	
Sulfates (SO <sub>4</sub> )	24 hours	25 µg/m <sup>3</sup>		Industrial processes

SOURCE: California ARB (2012).

ppm = parts per million; µg/m<sup>3</sup> = micrograms per meter cubed

a. USEPA recently updated the 8-hour ozone standard from 0.8 ppm to 0.075 ppm

b. California ARB updated the state nitrogen dioxide standard in 2007 from 0.25 ppm to 0.18 ppm

c. USEPA recently updated the 24-hour PM<sub>2.5</sub> standard from 65 µg/m<sup>3</sup> to 35 µg/m<sup>3</sup>

## Regional

### Southern California Association of Governments (SCAG)

The Southern California Association of Governments (SCAG) is a council of governments for Imperial, Los Angeles, Orange, Riverside, San Bernardino and Ventura counties. It is a regional planning agency and serves as a forum for regional issues relating to transportation, the economy, community development and the environment. Although SCAG is not an air quality management agency, it is responsible for developing transportation, land use and energy conservation measures that affect air

quality. SCAG's Regional Comprehensive Plan and Guide (RCPG) provide growth forecasts that are used in the development of air quality related land use and transportation control strategies by SCAQMD.

### *Regional Comprehensive Plan*

The Regional Comprehensive Plan (RCP) is a problem-solving guidance document that responds to SCAG's Regional Council directive in the 2002 Strategic Plan to develop a holistic, strategic plan for defining and solving the region's interrelated housing, traffic, water, air quality, and other regional challenges. The RCP is a voluntary framework that links broad principles to an action plan that moves the region towards balanced goals. The RCP's guiding principles include:

- Improve mobility for all residents. Improve the efficiency of the transportation system by strategically adding new travel choices to enhance system connectivity in concert with land use decisions and environmental objectives.
- Foster livability in all communities.
- Foster safe, healthy, walkable communities with diverse services, strong civic participation, affordable housing, and equal distribution of environmental benefits.
- Enable prosperity for all people. Promote economic vitality and new economies by providing housing, education, and job training opportunities for all people.
- Promote sustainability for future generations.
- Promote a region where quality of life and economic prosperity for future generations are supported by the sustainable use of natural resources.

Further, the RCP seeks to successfully integrate land and transportation planning and achieve land use and housing sustainability by implementing Compass Blueprint and 2 percent Strategy:

- Focusing growth in existing and emerging centers and along major transportation corridors
- Creating significant areas of mixed-use development and walkable, "people-scaled" communities
- Providing new housing opportunities, with building types and locations that respond to the region's changing demographics
- Targeting growth in housing, employment and commercial development within walking distance of existing and planned transit stations
- Injecting new life into under-used areas by creating vibrant new business districts, redeveloping old buildings and building new businesses and housing on vacant lots
- Preserving existing, stable, single-family neighborhoods
- Protecting important open space, environmentally sensitive areas and agricultural lands from development
- Reduce emissions of criteria pollutants to attain federal air quality standards by prescribed dates and state ambient air quality standards as soon as practicable
- Reverse current trends in greenhouse gas emissions to support sustainability goals for energy, water supply, agriculture, and other resource areas

- Minimize land uses that increase the risk of adverse air pollution-related health impacts from exposure to toxic air contaminants, particulates (PM<sub>10</sub>, PM<sub>2.5</sub>, ultrafine), and carbon monoxide

### *SCAG Compass Growth Visioning*

The Compass Blueprint Growth Vision effort by SCAG is a response, supported by a regional consensus, to the land use and transportation challenges facing Southern California now and in the coming years. The Growth Vision is driven by four key principles:

- **Mobility**—Getting where we want to go
- **Livability**—Creating positive communities
- **Prosperity**—Long-term health for the region
- **Sustainability**—Preserving natural surroundings

The fundamental 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 class. Thus, decisions regarding growth, transportation, land use and economic development should be made to promote and sustain for future generations the region's mobility, livability and prosperity.

### **South Coast Air Quality Management District**

SCAQMD is the agency principally responsible for comprehensive air pollution control in the Basin, which includes the counties of Los Angeles, Riverside, San Bernardino, and Orange. In order to provide GHG emission guidance to the local jurisdictions within the Basin, the SCAQMD has organized a Working Group to develop GHG emissions analysis guidance and thresholds.

SCAQMD released a draft guidance document regarding interim CEQA GHG significance thresholds in October 2008. On December 5, 2008, the SCAQMD Governing Board adopted the staff proposal for an interim GHG significance threshold for projects where the SCAQMD is the lead agency. SCAQMD proposed a tiered approach, whereby the level of detail and refinement needed to determine significance increases with a project's total GHG emissions. The tiered approach defines projects that are exempt under CEQA and projects that are within the jurisdiction of and subject to the policies of a GHG Reduction Plan as less than significant.

### **Air Quality Management Plan**

The SCAQMD and the SCAG are the agencies responsible for preparing the Air Quality Management Plan (AQMP) for the Basin. Once adopted, the AQMP becomes a portion of California's SIP describing the plan to bring the Basin into attainment with the NAAQS and California Ambient Air Quality Standards. The most recent plan is the 2012 AQMP adopted on December 7, 2012. The 2012 AQMP is designed to meet the state and federal CAA planning requirements and focuses on new federal ozone and PM<sub>2.5</sub> standards. The 2012 AQMP incorporates significant new emissions inventories, ambient measurements, scientific data, control strategies, and air quality modeling including transportation conformity budgets that show vehicle miles travelled (VMT) emissions offsets following the recent changes in USEPA requirements.

Table 4.9.3-3 (Attainment Status of Basin) shows the attainment status for criteria air pollutants in the Basin.

<b>Table 4.9.3-3 Attainment Status of Basin</b>		
<i>Pollutant</i>	<i>State</i>	<i>Federal</i>
Ozone: 1-hour	Extreme Nonattainment	Extreme Nonattainment
Ozone: 8-hour	Extreme Nonattainment	Severe-1 Nonattainment
Carbon Dioxide (CO)	Attainment	Attainment
Nitrogen Dioxide (NO <sub>2</sub> )	Attainment	Attainment/Maintenance
Sulfur Dioxide (SO <sub>2</sub> )	Attainment	Attainment
Suspended Particulates (PM <sub>10</sub> )	Serious Nonattainment	Serious Nonattainment
Fine Particulates (PM <sub>2.5</sub> )	Nonattainment	Nonattainment
Lead	Attainment	Attainment
Sulfates (SO <sub>4</sub> )	Unclassified	Unclassified

SOURCE: California ARB (2012).

## Local

### Highland General Plan

The Highland General Plan policies that are applicable to air quality and air pollutant emissions<sup>3</sup> are as follows:

- Policy 6.8-1** Ensure consistency of Federal, State, and County legislation with Highland’s Air Quality goal and policies.
- Policy 6.8-4** Support the development and use of alternative fuel sources for transportation related activities to reduce local government energy demand.
- Policy 6.8-5** Participate in the establishment of public private partnerships for the provision of innovative public and private transportation services and systems where the enhancement of the local and regional air quality is a major goal.
- Policy 6.8-6** Cooperate with regional transit agencies in the continued development of diverse and efficiently operated transportation systems that generate the minimum feasible pollutants.
- Policy 6.8-7** Support current incentive programs that recognize and reward developments using new and innovative emission reduction techniques such as innovative efficient window glazing, wall insulation, and ventilation systems; efficient air conditioning, heating, and appliances; use of passive solar design, and solar heating systems; use of energy cogeneration and/or use of waste energy; and landscape techniques which reduce water consumption and provide passive solar benefits.

<sup>3</sup> These policies are not a complete listing of all policies contained in the General Plan; those policies that would be most applicable to the proposed project are included here.

- Policy 6.8-8** Develop transportation demand management programs and incentives to reduce home to work vehicle trips. Examples of programs and incentives include:
- Employee ride share and transit incentives in public agencies.
  - Employee ride share and transit incentives for employers with more than 25 employees at a single location.
  - Working with private agencies in the implementation of teleconferencing and telecommuting for employers with more than 25 employees at a single location.
  - Working with SANBAG to develop a public/private telecommunications center in San Bernardino County.
- Policy 6.8-9** Reduce work trips in the City and peak period auto travel by enforcing the City's Transportation Demand Ordinance; supporting current staggered, flexible, and compressed work schedules in public agencies; working with private agencies to encourage work schedule flexibility programs for employers with more than 25 employees in a single location; educating City residents on the advantages of ride sharing and public transit; and encouraging the development of job-intensive uses within designated employment centers for local residents.
- Policy 6.8-10** Reduce vehicle emissions by supporting the design and implementation of the Citywide system of bikeways and pedestrian trails as a non-polluting circulation alternative by requiring as part of the development review process the installation of planned bicycle routes, paths, and lanes where designated; and the construction of necessary bicycle parking and storage areas within convenient commercial, employment and recreation activity areas.
- Policy 6.8-11** Reduce the number of vehicles driven to work by requiring as part of the development review process that preferential parking be included in parking lot designs to high occupancy vehicles, vanpools, and shuttle services, if applicable.
- Policy 6.8-12** Continue to encourage the integration of air quality planning with land use and transportation planning in the design, review, and development processes by:
- Supporting the mixed use overlay in the zoning ordinance as a means to enhance pedestrian movement throughout the City.
  - Providing for increased intensity of development in designated locations along existing and proposed transit corridors.
  - Supporting location and operational standards in the development code for ancillary employee services, including but not limited to child care, restaurants, banking facilities, convenience markets, at major employment centers for the purpose of reducing midday vehicle trips.
  - Continuing to develop interconnected traffic signal control system in all new projects, roadway improvements. Move forward with programs to retrofit existing signals on all streets where traffic volume and delay time is significant.
  - Enforcing parking lot design guidelines that encourage reciprocal parking designs and/or agreements between adjacent developments, provide for the consolidation of driveways along major commercial corridors such as Base

Line, and require parking areas be efficiently designed so as to minimize internal circulation conflicts.

- Integrating, where appropriate and feasible, traffic improvements (e.g., dedicated turn lanes and pockets, bus turnouts and shelters, restripe traffic lands for optimal traffic flow) into capital improvement projects that improve the efficiency of transportation systems.
- Continuing to ensure that all new development applications include an air quality improvement summary per SCAQMD and SCAG Air Quality Handbook Guidelines, which describe the general methods used in development design to reduce air emissions.

**Policy 6.8-13** Regulate the location and design of sensitive receptors (schools, day care facilities, hospitals and the like) from excessive and hazardous emissions to air pollution, and continue to support site plans that separate and/or buffer residential and sensitive receptors from freeways, arterials, point sources, and hazardous material locations.

**Policy 6.8-14** Reduce particulate emissions from construction sites, grading activities, temporary roads and parking lots, and agricultural operations by enforcing requirements that minimize fugitive dust.

## ■ Project Impact Evaluation

### **Thresholds of Significance**

The following thresholds of significance are based on the 2012 CEQA Guidelines Appendix G. Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. For purposes of this EIR, implementation of the San Bernardino County Regional GHG Reduction Plan might have a significant adverse impact on air quality if it would do any of the following:

- 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
- Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment under an applicable federal or state ambient air quality standard (including releasing emissions that exceed quantitative thresholds for ozone precursors)
- Expose sensitive receptors to substantial pollutant concentrations
- Create objectionable odors affecting a substantial number of people

The SCAQMD has developed CEQA air pollutant thresholds for projects within the Basin. The SCAQMD thresholds of significance for air quality are shown in Table 4.9.3-4 (SCAQMD Thresholds of Significance [lb/day]).

In addition, SCAQMD’s health related thresholds associated with toxic air contaminants are as follows:

- Emission of (or exposure to) carcinogenic toxic air contaminants that increase maximum cancer risk by 10 in one million
- Emission of (or exposure to) toxic air contaminants that increase the maximum hazard quotient by 1

<i>Pollutant</i>	<i>Construction Phase</i>	<i>Operational Phase</i>
Volatile Organic Compounds (VOC; an ozone precursor)	75	55
Nitrogen Oxides (both NO <sub>2</sub> and NO <sub>x</sub> as an ozone precursor)	100	55
Sulfur Oxides (SO <sub>x</sub> , both SO <sub>2</sub> and SO <sub>4</sub> )	150	150
Carbon Monoxide (CO)	550	550
Suspended Particulates (PM <sub>10</sub> )	150	150
Fine Particulates (PM <sub>2.5</sub> )	55	55

SOURCE: SCAQMD (2012).

### **Analytic Method**

The impact analysis for the Regional Reduction Plan is based on the air quality emissions analysis in The Highland General Plan EIR, and predicted air pollutant reductions that would be expected from implementation of the Regional Reduction Plan.

### **Effects Not Found to Be Significant**

Threshold	Would the project conflict with or obstruct implementation of the applicable air quality plan?
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The 2012 AQMP is the applicable air quality management plan for the region and is designed to meet the state and federal CAA planning requirements with a focus on new federal ozone and PM<sub>2.5</sub> standards. The 2012 AQMP incorporates significant new control strategies, including transportation conformity budgets that show vehicle miles travelled (VMT) emissions offsets following the recent changes in USEPA requirements.

In addition to the statewide measures to reduce VMT and vehicular emissions, the Regional Reduction Plan would implement measures within Highland designed to increase energy efficiency and reduce VMT. While these reduction strategies were formulated to reduce greenhouse gases, they also act to improve overall air quality by reducing emissions of criteria pollutants.

The City will implement transportation measures to improve air quality. These include VMT reduction strategies such as Regional Reduction Plan reduction measure, Transportation-2 (Smart Bus Technologies). Implementation of these measures through the Regional Reduction Plan would improve air quality by reducing vehicle-related air pollutant emissions through the reduction of VMT. In addition, energy efficiency measures to reduce electricity use and renewable energy generation will reduce both

GHG emissions and air pollutants at power plants generating electricity in the region. Energy efficiency measures in the Regional Reduction Plan will also reduce natural gas combustion at residential and commercial land uses within the City, which will reduce criteria air pollution locally. The implementation of the Regional Reduction Plan will further the goals of the Air Quality Management Plan for the Basin. Therefore, this impact would be *less than significant*. No mitigation is required.

Threshold	Would the project violate any air quality standard or contribute substantially to an existing or projected air quality violation?
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Construction activities, such as grading or excavation activities, if required, for installation of energy-generating structures would result in temporary, short-term emissions of air pollutants. The primary source of NO<sub>x</sub>, CO, and SO<sub>x</sub> emissions is the operation of construction equipment. The primary sources of particulate matter (PM<sub>10</sub> and PM<sub>2.5</sub>) emissions include activities that disturb the soil, such as grading and excavation, and building construction. Because information regarding specific facilities and building details required to implement the Regional Reduction Plan reduction measures is not available, short-term construction emissions from these activities cannot be quantified. However, these temporary, short-term emissions would not be substantial, and would be offset by the operation of renewable energy projects part of the reduction measures in the Regional Reduction Plan that would result in an overall reduction in both GHG and criteria air pollutant emissions.

While we may not be able to quantify short-term construction emissions, long-term emissions of criteria pollutants from operation of the renewable energy generation, water conservation measures, and a transportation measure are better understood at a regional level. This is because of the level of commitment that the City of Highland has chosen in implementing the reduction measures in the Regional Reduction Plan. Table 4.9.3-5 (City of Highland Regional Emissions [lb/day]) compares the criteria pollutant emissions predicted in The Highland General Plan with the predicted reductions in those emissions through implementation of the Regional Reduction Plan.

The Regional Reduction Plan will reduce anticipated criteria air pollutant emissions resulting from buildout of The Highland General Plan, but the net emissions from buildout of the Highland General Plan are still over the SCAQMD Thresholds. This significant impact was addressed in The Highland General Plan EIR. Impacts from the Regional Reduction Plan reduce criteria pollutants and benefit air quality in Highland. Therefore, the impact for the proposed project would be *less than significant*. No mitigation is required.

Threshold	Would the project expose sensitive receptors to substantial pollutant concentrations?
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As discussed in Table 4.9.3-5, the Regional Reduction Plan will reduce criteria pollutant emissions within the City of Highland. The emissions reduction strategies selected by the City do not include any new facilities that would result in a new source of TAC emissions, including diesel particulate matter. Therefore, the Regional Reduction Plan would not expose sensitive receptors in the City to substantial pollutant concentrations. This impact would be *less than significant*. No mitigation is required.

Threshold	Would the project create objectionable odors affecting a substantial number of people?
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Implementation of the Regional Reduction Plan will not create objectionable odors. None of reduction measures in the Regional Reduction Plan selected by the City of Highland include components that typically generate odors. Therefore, this impact would be *less than significant*. No mitigation is required.

<b>Table 4.9.3-5 City of Highland Regional Emissions (lb/day)</b>						
<i>Emission Sources</i>	VOC	NO <sub>x</sub>	CO	SO <sub>x</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
<b>Existing Land Use Emissions</b>						
Transportation	249	545	4,394	—	—	—
Area Sources:						
Natural Gas	22	285	166	0	1	—
Hearth	1,002	76	1,128	2	156	—
Landscaping	78	3	514	6	2	—
Consumer Products	711	0	0	0	0	—
Architectural Coatings	672	0	0	0	0	—
<i>Subtotal Area Sources</i>	2,484	364	1,809	8	159	—
<b>Total Existing Emissions</b>	<b>2,733</b>	<b>909</b>	<b>6,203</b>	<b>8</b>	<b>159</b>	—
<b>Highland General Plan</b>						
Transportation	150	328	2,645	—	—	—
Area Sources:						
Natural Gas	23	302	165	0	1	—
Hearth	1,227	93	1,382	3	191	—
Landscaping	94	3	614	7	2	—
Consumer Products	871	0	0	0	0	—
Architectural Coatings	760	0	0	0	0	—
<i>Subtotal Area Sources</i>	2,974	398	2,160	10	194	—
<b>Total Highland General Plan Emissions</b>	<b>3,124</b>	<b>726</b>	<b>4,805</b>	<b>10</b>	<b>194</b>	—

**Table 4.9.3-5 City of Highland Regional Emissions (lb/day)**

<i>Emission Sources</i>	VOC	NO <sub>x</sub>	CO	SO <sub>x</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
<b>Changes in Emissions with the Regional Reduction Plan<sup>a</sup></b>						
Transportation	-42	-92	-738	—	—	—
Area Sources:						
Natural Gas	-1	-13	-7	0	0	—
Hearth	-54	-4	-61	0	-8	—
Landscaping	-4	0	-27	0	0	—
Consumer Products	-38	0	0	0	0	—
Architectural Coatings	-33	0	0	0	0	—
<i>Subtotal Area Sources</i>	-131	-18	-95	0	-9	—
GHG Performance Standard <sup>b</sup>	-91	-21	-139	0	-6	—
<b>Total Changes to Emissions</b>	<b>-263</b>	<b>-130</b>	<b>-972</b>	<b>-1</b>	<b>-14</b>	<b>—</b>
<b>Emission Comparison</b>						
Net General Plan Emissions with implementation of the Regional Reduction Plan	2,861	596	3,833	9	180	—
Estimated Regional Reduction Plan Percent Reduction in Air Pollution	-8%	-18%	-20%	-7%	-7%	—
<b>SCAQMD Threshold</b>	<b>55</b>	<b>55</b>	<b>550</b>	<b>150</b>	<b>150</b>	<b>55</b>
Significance of the Highland General Plan with Regional Reduction Plan Reductions	<b>Yes</b>	<b>Yes</b>	<b>Yes</b>	No	Yes	—
Significance of The Regional Reduction Plan	No	No	No	No	No	No

SOURCE: City of Highland, *City of Highland General Plan and Development Code Update Environmental Impact Report*, Draft (September 2005), Appendix C (Air Modeling Data).

lb/day = pounds per day

- a. Regional Reduction Plan reductions based on percentage reductions by sector (energy sector = natural gas, etc.).
- b. GHG Performance Standard is not sector specific. Estimated reductions based upon expected reductions of totals for new development.

## Cumulative Impacts

**Threshold** Would the project result in a cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment under an applicable federal or state ambient air quality standard (including releasing emissions that exceed quantitative thresholds for ozone precursors)?

As shown in Table 4.9.3-5, the Regional Reduction Plan will reduce criteria pollutant emissions within the City of Highland. Regionally, additional air pollutant reductions will take place at power plants due to reductions in electrical demand and increases in renewable energy generation. Therefore, the Regional Reduction Plan will have a cumulatively net reduction in criteria air pollutants. However, this environmental benefit does not reduce air pollutants enough to cause buildout of The Highland General Plan to be less than cumulatively considerable. Therefore, the net emissions resulting from The Highland General Plan with implementation of The Regional Reduction Plan reductions is still a Cumulatively Considerable contribution to criteria air pollutants for which the Basin is in nonattainment (ozone,

suspended particulates, and fine particulates). This significant impact of The Highland General Plan was identified in The Highland General Plan EIR.

However, because implementation of the Regional Reduction Plan has a net reduction in air pollution, the *cumulative impact would be less than significant*.

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## 4.9.4 Biological Resources

This section of the EIR analyzes the potential environmental effects on biological resources in the City of Highland from implementation of the Regional Reduction Plan. Data for this section were taken from the Highland General Plan (2006) and associated environmental document (2005). Full reference-list entries for all cited materials are provided at the end of this section.

No comment letters addressing biological resources were received in response to the notice of preparation (NOP) circulated for the Regional Reduction Plan.

### ■ Environmental Setting

The City of Highland is located in the valley and upland region of San Bernardino County. The City is surrounded on two sides by other developed cities, including San Bernardino to the west, and Redlands to the south. The northernmost parts of the City, including the East Highlands Ranch Planned Development area, lie within the foothills and mountains of the San Bernardino Mountain range and are bound by the San Bernardino National Forest. Native plants and animals that once inhabited the City of Highland have undergone a considerable transition over the years due to urbanization of a large portion of the City. In the western and central portion of the City, there are limited areas of natural habitat. Open space consists primarily of developed parks and vacant land. These areas mostly contain non-native species of plants and animals. The portions of the City to the north, northeast, and east and along the major drainages contain most of the City's significant biological resources.

Most of the City of Highland lies on broad, sloping lowlands along the southwest margins of the San Bernardino Mountains. The lowland is underlain by alluvial sediments eroded from bedrock in the mountains and washed down into the valley by rivers and creeks. Alluvial fans and floodplains of the Valley floor traverse the City along the major drainages and washes, including the City and Plunge Creeks, and the Santa Ana River. These areas support distinctive alluvial fan scrub vegetation. Upland areas support inland coastal sagebrush scrub and sage scrub vegetation. Above the valley floor and uplands are canyons which support riparian and oak woodland habitats and riparian forest. Canyons and mountain slopes of the foothills support chaparral and woodland vegetation. Disturbed and developed areas of the City support non-native annual grasslands.

### ***Plant Communities/Habitat***

The City of Highland contains plant communities and habitats that range from disturbed and ornamental plant communities in the urbanized portions of the City to native plant communities along the northern, northeastern, and eastern portions of the City, along the base of the foothills and in the mountains. Plant communities potentially occurring within the City and SOI include the following:

#### **Coastal Sage Scrub**

Coastal sage scrub communities consist of drought-deciduous, low, soft-leaved shrubs and herbs on gentle to steep slopes below 3,000 feet in elevation. Coastal sage scrub communities within the planning area may include buckwheat scrub, mulefat scrub, coastal sage-chaparral scrub, and Riversidean sage

scrub, which are generally located in the upland areas and foothills to the north and east. Riversidean alluvial fan sage scrub habitat is associated with the Santa Ana River flood plain that traverses the southern portion of the City.

### **Chaparral**

Chaparral communities consist of evergreen, medium height to tall sclerophyllous (woody with leathery leaves) shrubs that form a dense cover on steep slopes. The dense, almost impenetrable, cover allows very little to no understory growth and usually consists mostly of leaf litter. Chaparral is an upland habitat and is found mainly on the upper slopes and higher elevations in the mountain ranges in the northern portion of the City. Chaparral communities potentially occurring in the planning area may include chamise chaparral and/or mixed chaparral.

### **Riparian**

Riparian communities occur along water courses or water bodies that are adaptable to seasonal flooding. Structurally, riparian areas may range from a dense canopy of large trees with a bramble/thicket understory within a steep canyon, to open, lower-growing species within a sandy wash. Riparian communities may include southern willow scrub and riparian woodland and forest communities described below.

### **Woodland**

Woodland communities are associated with multi-layered vegetation canopies ranging from open to moderately dense cover and have a tree canopy that is at least 20 percent open. Woodland habitats are often associated with watercourses and riparian communities. Within the planning area, stands of riparian woodlands primarily occur within the drainages in the foothills and mountain portions of the City and may include southern sycamore-alder riparian woodland and California walnut woodland.

### **Forest Communities**

Forest communities consist of multi-layered vegetation that forms a dense canopy cover that is almost completely closed. The ground layer of plants is sparse or absent. Within the planning area forest communities may include southern coast live oak riparian forest, southern cottonwood willow riparian forest, and white alder riparian forest.

### **Annual Grasslands (Valley and Foothill Grasslands)**

This extensive collection of series (including California Annual Grasslands, several Needlegrass Grasslands, and Wildflower Fields) is composed of many alien and native annual species. Composition varies among stands, and many species beyond those typically listed may also be present. The non-native annual grassland areas are typically disturbed or graded areas, and vacant lots that have revegetated with opportunistic weedy species.

### **Ornamental Woodland**

Ornamental woodlands are created woodlands using non-native trees and shrubs. Common species of trees found within ornamental woodlands throughout the City of Highland include various species of

eucalyptus tree, tamarisk, and Peruvian pepper trees. Ornamental woodlands often provide excellent nesting habitat for raptors and other birds. Ornamental woodlands also provide shade, wind protection, erosion control, and aesthetic value to people. Scattered ornamental woodlands exist throughout the City.

### ***Sensitive Plant Communities/Habitats***

Portions of the City supports habitat types considered sensitive by resource agencies, namely the CDFG, due to their scarcity and ability to support a number of state and federally listed endangered, threatened, and rare vascular plants, and sensitive wildlife species. The CNDDDB reports the occurrence of sensitive biological elements, including sensitive plant and animal species, and vegetation communities within and in the vicinity of Highland. The primary purpose of the CNDDDB classification is to assist in the location and determinations of significance and rarity of various vegetation types. Thus, ranking of natural communities by their rarity and threat is an important facet of the classification. The CNDDDB notes occurrences of rare communities that are either known or believed to be of high priority for conservation. Sensitive vegetation communities (i.e., “high priority” habitat types) that are known or may occur within the Highland planning area include the following:

- Valley Needlegrass Grassland
- Wildflower Field (California Annual Grassland Series)
- Riversidean Alluvial Fan Sage Scrub
- Southern Willow Scrub
- Southern Riparian Scrub
- Southern Coast Live Oak Riparian Forest
- Southern Cottonwood-Willow Riparian Forest
- Southern Riparian Forest
- White Alder Riparian Forest

### ***Sensitive Plant Species***

Sensitive plants include those that are listed, or are candidates for listing, by the USFWS, CDFG, and CNPS. The sensitive plant species listed in Table 4.9.4-1 (Sensitive Plant Species Potentially Present in Highland and Vicinity) were reported in the CNDDDB from the Harrison Mountain, Redlands San Bernardino South, and Yucaipa USGS quadrangles and potentially occur within or in the vicinity of the City.

Two sensitive plant species that are listed as endangered are found within Highland.

### ***Santa Ana Woolly Star***

The upper Santa Ana River Wash is an important component of the Land Management and Habitat Conservation Plan (HCP) for the City of Highland. The Santa Ana woolly star is one of two endangered plant species that have been reported as occurring within the Riversidean alluvial fan sage scrub habitat associated with the Santa Ana River wash. It depends on new sand deposits for its survival. The woolly

**Table 4.9.4-1 Sensitive Plant Species Potentially Present in Highland and Vicinity**

Scientific Name	Common Name	Federal/State Status	CDFG or CNPS
<i>Arenaria paludicola</i>	Marsh sandwort	END/END	1B
<i>Berberis nevinii</i>	Nevin's barberry	END/END	1B
<i>Calochortus plummerae</i>	Plummer's mariposa lily	None/None	1B
<i>Chorizanthe parryi</i> var. <i>parryi</i>	Parry's spineflower	None/None	3
<i>Dodecahema leptoceras</i>	Slender-horned spineflower	END/END	1B
<i>Eriastrum densifolium</i> spp. <i>sanctorum</i>	Santa Ana River woollystar	END/END	1B
<i>Lepidium virginicum</i> var. <i>robinsonii</i>	Robinson's pepper-grass	None/None	1B
<i>Malacothamnus parishii</i>	Parish's bush mallow	None/None	1A
<i>Monardella macrantha</i> ssp. <i>hallii</i>	Hall's monardella	None/None	1B
<i>Ribes divaricatum</i> var. <i>parishii</i>	Parish's gooseberry	None/None	1B

SOURCE: City of Highland, *City of Highland General Plan and Development Code Update Environmental Impact Report*, Draft (September 2005), Table 5.4-1.

FED: Federal Classifications

- END** = Taxa listed as endangered
- THR** = Taxa listed as threatened
- PE** = Taxa proposed to be listed as endangered
- PT** = Taxa proposed to be listed as threatened
- C2\*** = USFWS may, in the future, designate such taxa as Candidates
- (\*)** = Those C2 candidates that were removed from the list
- C** = Candidate for listing
- ND** = Not designated as a sensitive species

STATE: State Classifications

- END** = Taxa listed as endangered
- THR** = Taxa listed as threatened
- CE** = Candidate for endangered listing
- CT** = Candidate for threatened listing
- SCS** = California Species of Special Concern
- ND** = Not designated as a sensitive species

CNPS: California Native Plant Society Classifications

- 1A** = Plants presumed by CNPS to be extinct in California
- 1B** = Plants considered by CNPS to be rare or endangered in California and elsewhere
- 2** = Plants considered by CNPS to be rare, threatened, or endangered in California, but to be more common elsewhere
- 3** = Review list of plants suggested by CNPS for consideration as endangered but about which more information is needed
- 4** = Watch list of plants of limited distribution whose status should be monitored

star is a wild flowering plant that grows 10 to 30 inches tall from a woody base, with irregularly divided leaves along its stem. The plant has a white, woolly color and blooms every year from late May to mid-August generating blue-lavender flowers. It is a state and federally listed endangered species.

This subspecies used to be found on higher floodplain terraces although its range has increased along the Santa Ana River. Past and present threats facing this plant include developments within the flood plain, grazing by domestic animals, competition from plants exotic to the area, and urbanization. In an effort to mitigate such instances, 764 acres of alluvial fan scrub in the wash near the low-flow have been preserved in the WSPA. In 1990 and 1999, subpopulations of this species were reported as occurring in the Santa Ana River wash and floodplain from approximately west of Church Street and south of Greenspot Road.

**Slender-Horned Spineflower**

The slender-horned spineflower is a small annual of the buckwheat family found in the silted, flood deposited, older alluvial areas of Los Angeles, Riverside, and San Bernardino counties. It is found from 700 to 2,500 feet in elevation in central and eastern Southern California and is associated with chaparral and alluvial fan sage scrub habitats. This plant holds a cluster of small leaves and spreading flowering

stems, producing up to five pink-striped white flowers from each of twelve different stems in an intricate fashion. This species is state and federally listed as endangered. It is threatened by, development projects, flood control activities, sand and gravel mining, and urbanization. The slender-horned spineflower was reported in 1983, 1990, 1992, and 1999 as occurring in upper Santa Ana River wash and East Highlands where State Route 30 (SR-30) crosses the Santa Ana River.

### Sensitive Wildlife

Sensitive wildlife includes those species that are listed under the FESA or CESA as endangered or threatened, candidates for listing and species of special concern by the USFWS and CDFG, and/or fully protected species. A number of sensitive wildlife species from the region were reported in the CNDDDB and are listed in Table 4.9.4-2 (Sensitive Animal Species Potentially Present in Highland and Vicinity). Several raptor species that may be migrants to the general area are also considered sensitive and are included in the table.

<b>Table 4.9.4-2 Sensitive Animal Species Potentially Present in Highland and Vicinity</b>		
<i>Scientific Name</i>	<i>Common Name</i>	<i>Federal/State Status</i>
<b>Fish</b>		
<i>Catostomus santaanae</i>	Santa Ana sucker	THR/SC
<i>Rhinichthys osculus</i> ssp. 3	Santa Ana speckled dace	None/SC
<b>Amphibians</b>		
<i>Rana aurora draytonii</i>	California red-legged frog	THR/SC
<i>Rana muscosa</i>	Mountain yellow-legged frog	END/SC
<b>Reptiles</b>		
<i>Anniella pulchra pulchra</i>	Silvery legless lizard	None/SC
<i>Aspidoscelis hyperythra</i>	Orange-throated whiptail	None/SC
<i>Charina trivirgata</i>	Rosy boa	None/None SA
<i>Lampropeltis zonata parvirubra</i>	San Bernardino mountain kingsnake	None/SC
<i>Phrynosoma coronatum blainvillei</i>	Coast (San Diego) horned lizard	None/SC
<i>Thamnophis hammondi</i>	Two-striped garter snake	None/SC
<b>Birds</b>		
<i>Accipiter cooperii</i>	Cooper's hawk	None/SC
<i>Accipiter striatus</i>	Sharp-shinned hawk	None/SC
<i>Aimophila ruficeps canescens</i>	Southern California rufous-crowned sparrow	None/SC
<i>Aquila chrysaetos</i>	Golden Eagle	None/SC, CFP
<i>Athene cunicularia</i>	Burrowing owl	None/SC
<i>Buteo swainsoni</i>	Swainson's hawk	None/THR
<i>Circus cyaneus</i>	Northern Harrier (Marsh hawk)	None/SC
<i>Coccyzus americanus occidentalis</i>	Western yellow-billed cuckoo	C/END
<i>Dendroica petechia brewsteri</i>	Yellow warbler	END/SC

**Table 4.9.4-2 Sensitive Animal Species Potentially Present in Highland and Vicinity**

Scientific Name	Common Name	Federal/State Status
<i>Empidonax traillii extimus</i>	Southwestern willow flycatcher	END/END
<i>Eremophila alpestris actia</i>	California horned lark	None/SC
<i>Falco columbarius</i>	Merlin	None/SC
<i>Falco mexicanus</i>	Prairie Falcon	None/SC
<i>Falco peregrinus anatum</i>	American peregrine falcon	None (Formerly END)/END, CFP
<i>Icteria virens</i>	Yellow-breasted chat	None/SC
<i>Polioptila californica californica</i>	Coastal California gnatcatcher	THR/SC
<i>Vireo bellii pusillus</i>	Least Bell's vireo	END/END
<b>Mammals</b>		
<i>Chaetodipus fallax fallax</i>	Northwestern San Diego pocket mouse	None/SC
<i>Dipodomys merriami parvus</i>	San Bernardino kangaroo rat	END/SC
<i>Dipodomys stephensi</i>	Stephen's kangaroo rat	END/THR
<i>Perognathus longimembris brevinasus</i>	Los Angeles pocket mouse	None/SC
<i>Neotoma lepida intermedia</i>	San Diego desert woodrat	None/SC
<i>Eumops perotis californicus</i>	Western mastiff bat	None/SC
<i>Lasiurus xanthinus</i>	Western yellow bat	None/None

SOURCE: City of Highland, *City of Highland General Plan and Development Code Update Environmental Impact Report*, Draft (September 2005), Table 5.4-2.

FED: Federal Classifications

- END** = Taxa listed as endangered
- THR** = Taxa listed as threatened
- PE** = Taxa proposed to be listed as endangered
- PT** = Taxa proposed to be listed as threatened
- C2\*** = USFWS may, in the future, designate such taxa as Candidates
- (\*)** = Those C2 candidates that were removed from the list
- C** = Candidate for listing
- None** = Not designated as a sensitive species

STATE: State Classifications

- END** = Taxa listed as endangered
- THR** = Taxa listed as threatened
- CE** = Candidate for endangered listing
- CT** = Candidate for threatened listing
- CFP** = California fully protected
- SCS** = California Species of Special Concern
- None** = Not designated as a sensitive species

One sensitive animal species that is listed as endangered is found within Highland, the San Bernardino kangaroo rat (*Dipodomys merriammi*). The San Bernardino kangaroo rat is one of nineteen recognized subspecies of Merriam's kangaroo rat. In coastal Southern California, it is the only species of kangaroo rat with four toes on each of its hind feet. With a total length of 230 to 235 mm, the San Bernardino kangaroo rat is pale yellow with overtures of dusky brown. The tail stripes are medium to dark brown, with the foot pads and tail hairs also being dark brown. The species is federally listed as endangered and is a state Species of Concern. The subspecies was known to reside from the San Bernardino Valley to Riverside County on over 300,000 acres of alluvial scrub habitat. Currently, they occupy approximately 3,240 acres of suitable habitat, divided among seven widely separated locations in San Bernardino and Riverside Counties. An additional 13,193 acres are distributed within the Santa Ana River Wash, Lytle and Cajon creeks, and San Jacinto River.

## **Wildlife Corridors**

Wildlife corridors within the Highland planning area are most likely limited to the northern and eastern undeveloped portions of the City. City Creek and Plunge Creek may also serve as potential movement corridors, but to a lesser extent, as portions of the channels have been modified from natural waterways into channelized drainages. East-west corridors may exist along the Santa Ana River although large portions of the wash have also been modified for flood control and water conservation facilities, and by active aggregate mining activities. Local wildlife corridors are likely to occur within the canyons and washes in the undeveloped foothills to the north in the East Highlands Ranch Planned Development area and in the easternmost areas of the City.

## **Jurisdictional Waters and Wetlands**

Three large watercourses—the Santa Ana Rivers, City Creek, and Plunge Creek—traverse portions of the City of Highland. All three are considered as “Waters of the U.S.” The Santa Ana River flows southwest from the Seven Oaks Dam, through the eastern portion of the City, and then continues west. The southernmost limit of the City lies within the Santa Ana River wash. The City Creek and Plunge Creek are tributary to the Santa Ana River. City Creek runs through Highland in a north-south direction, crossing Interstate 210 (I-210)/SR-330, and converges with Plunge Creek before it joins the mainstem of the Santa Ana River. Plunge Creek generally flows east-west along the southern portion of the City.

Numerous tributaries within the Santa Ana watershed drain south-southwest to the Santa Ana River and traverse the urbanized portions of the City as flood control channels and canals. These tributaries include Oak Creek, Elder Creek, Bledsoe Creek, Cook Creek, Sand Creek, and Upper Warm Creek. Within the City are features that have been modified for flood control, including reservoirs, flood control basins, and percolation basins constructed to receive flow from drainages. Other minor streams drain from the foothills of the San Bernardino Mountains. Riparian resources, including wetlands that occur along these drainages, potentially fall under the jurisdiction of the USACE and CDFG.

## **■ Regulatory Framework**

### **Federal**

#### **Endangered Species Act**

The federal Endangered Species Act of 1973 (FESA), as amended, was promulgated to protect and conserve any species of plant or animal that is endangered or threatened with extinction and the habitats in which these species are found. “Take” of endangered species is prohibited under FESA Section 9. Take, as defined under the FESA, means to “harass, harm, pursue, hunt, wound, kill, trap, capture, collect, or attempt to engage in any such conduct.” FESA Section 7 requires federal agencies to consult with the U.S. Fish and Wildlife Service (USFWS) on proposed federal actions that may affect any endangered, threatened, or proposed (for listing) species or critical habitat that may support the species. FESA Section 4(a) requires that critical habitat be designated by the USFWS “to the maximum extent prudent and determinable, at the time a species is determined to be endangered or threatened.”

Critical habitat consists of specific areas, both occupied and unoccupied by a federally protected species, that are essential to the conservation of a listed species and that may require special management considerations or protection. The location of a proposed project within critical habitat typically warrants a habitat assessment and, if suitable habitat is present, focused (protocol) surveys to determine presence or absence of the listed species. Any project involving a federal agency, federal monies, or a federal permit that falls within an area designated as critical habitat requires the project proponent to consult with the USFWS regarding potential impacts to the listed species and conservation measures to offset identified impacts.

Critical habitat is formally designated by USFWS to provide guidance for planners/managers and biologists with an indication of where suitable habitat may occur and where high priority of preservation for a particular species should be given. Critical habitat receives protection under FESA Section 7 through the prohibition against destruction or adverse modification of critical habitat with regard to actions carried out, funded, or authorized by a federal agency. Federal agencies and proponents of other projects involving federal funding or permits that are proposing projects within critical habitat are required to consult with USFWS as to the impacts such projects may have on protected species, and mitigation for any such impacts. FESA Section 10 provides the regulatory mechanism that allows the incidental take of a listed species by private interests and nonfederal government agencies during lawful activities. Habitat conservation plans (HCPs) for the impacted species must be developed in support of incidental take permits for nonfederal projects to minimize impacts to the species and develop viable mitigation measures to offset the unavoidable impacts.

### **Migratory Bird Treaty Act**

The Migratory Bird Treaty Act of 1918 (MBTA) is the domestic law that affirms and implements the United States' commitment to four international conventions with Canada, Japan, Mexico, and Russia for the protection of shared migratory bird resources. The MBTA governs the taking, killing, possession, transportation, and importation of migratory birds, and their eggs, parts, and nests. It prohibits the take, possession, import, export, transport, sale, purchase, barter, or offering of these activities, except under a valid permit or as permitted in the implementing regulations. USFWS administers permits to take migratory birds in accordance with the regulations promulgated by the MBTA.

### **Clean Water Act, Sections 401 and 402**

Federal Clean Water Act (CWA) Section 401(a)(1) specifies that any applicant for a federal license or permit to conduct any activity that may result in any discharge into navigable waters shall provide the federal permitting agency a certification, issued by the state in which the discharge originates, that any such discharge will comply with the applicable provisions of the CWA. In California, the applicable RWQCB must certify that the project will comply with water quality standards. Permits requiring Section 401 certification include USACE Section 404 permits and National Pollutant Discharge Elimination System (NPDES) permits issued by the U.S. Environmental Protection Agency (USEPA) under CWA Section 402. NPDES permits are issued by the applicable Regional Water Quality Control Board (RWQCB).

## **Clean Water Act, Section 404**

USACE regulates discharges of dredged or fill material into waters of the United States including wetlands and nonwetland bodies of water that meet specific criteria. Pursuant to CWA Section 404, a permit is required for any filling or dredging in waters of the US. The permit review process entails an assessment of potential adverse impacts to USACE wetlands and jurisdictional waters, wherein the USACE may require mitigation measures. Where a federally listed species may be affected, a Section 7 consultation with USFWS may be required. Also, where a Section 404 permit is required, a Section 401 Water Quality Certification would also be required from the RWQCB.

## **State**

### **California Endangered Species Act**

The California Endangered Species Act (CESA) generally parallels the main provisions of the FESA and is administered by the CDFW. Its intent is to prohibit take and protect state-listed endangered and threatened species of fish, wildlife, and plants. Unlike its federal counterpart, CESA also applies the take prohibitions to species petitioned for listing (state candidates). Candidate species may be afforded temporary protection as though they were already listed as threatened or endangered at the discretion of the Fish and Game Commission. Unlike the FESA, CESA does not include listing provisions for invertebrate species. Under certain conditions, CESA has provisions for take through a 2081 permit or memorandum of understanding. In addition, some sensitive mammals and birds are protected by the state as Fully Protected Species. California Species of Special Concern are species designated as vulnerable to extinction due to declining population levels, limited ranges, and/or continuing threats. Known and recorded occurrences of sensitive species are listed on the CDFW's California Natural Diversity Data Base (CNDDDB) project. Informally listed taxa are not protected per se, but warrant consideration in the preparation of biological resources assessments.

### **California Fish and Game Code, Section 1600**

California Fish and Game Code Section 1600 requires that a project proponent notify the CDFW of any proposed alteration of streambeds, rivers, and lakes. The intent is to protect habitats that are important to fish and wildlife. CDFW may review a project and place conditions on the project as part of a Streambed Alteration Agreement. The conditions are intended to address potentially significant adverse impacts within CDFW's jurisdictional limits.

### **California Desert Native Plant Act**

The California Desert Native Plant Act lists several plant families, genera and/or species that are to receive special consideration due to their uniqueness individually and as a part of the California desert ecosystem. The affected species found in the planning area include the Joshua tree, catclaw, and members of the Agave, Cactus, and Mesquite families.

## **Regional**

### **Santa Ana River Area of Critical Concern/Research Natural Area**

In 1994, the Bureau of Land Management (BLM) designated three parcels (totaling 760 acres) in the Santa Ana River as an Area of Critical Concern (ACEC) and Research Natural Area (RNA) for the protection of habitat for two federally listed endangered plants, Santa Ana River woolly star (*Eriastrum densifolium* ssp. *sanctorum*), and slender-horned spineflower (*Dodecabema leptoceras*).

### **Woolly Star Preservation Area**

In 1998, the USACE and three flood control districts established the Woolly Star Preservation Area (WSPA), permanently reserving 764 acres in the Santa Ana River flood plain to protect the Santa Ana River woolly star from the effects of the Seven Oaks Dam flood control improvements (part of the Santa Ana River Mainstem Project initiated in 1990). Approximately 200 acres of the WSPA also appear to be habitat for the federally listed endangered San Bernardino kangaroo rat (*Dipodomys merriami parvus*). A portion of the WSPA is located with the City limits, southeast of the intersection of Greenspot Road and Weaver Street.

### **San Bernardino Kangaroo Rat Critical Habitat**

Critical habitat identifies specific areas, both occupied and unoccupied by a federally protected species, that are essential to the conservation of a listed species and that may require special management considerations or protection. The location of a proposed project within critical habitat typically warrants a habitat assessment and, if suitable habitat is present, focused (protocol) surveys to determine presence or absence of the listed species. Any project involving a federal agency, federal monies, or a federal permit that falls within an area designated as critical habitat requires the project proponent to consult with the USFWS regarding potential impacts to the listed species and conservation measures to offset identified impacts.

The San Bernardino kangaroo rat was emergency listed as endangered in January 1998, when its population had been reduced by approximately 95 percent due to habitat loss, urban development, degradation, water conservation activities, and fragmentation owing to sand and gravel mining operations. The species are typically found on alluvial fans, in floodplains, along washes, in adjacent upland areas, and in areas with historic braided channels. Final designation of critical habitat for the San Bernardino kangaroo rat was issued in April 2002 (Department of the Interior 2002). A total of approximately 33,295 acres in San Bernardino and Riverside Counties has been designated as critical habitat for the species. Portions of the City are located within Critical Habitat Unit 1 (Santa Ana River and San Timoteo Canyon), which covers roughly the areas encompassing City Creek, Plunge Creek, and the Santa Ana River wash.

### **Coastal California Gnatcatcher Critical Habitat**

The coastal California gnatcatcher (*Poliophtila californica californica*) is a federally listed threatened, state Species of Special Concern that typically occurs in or near sage scrub habitat. The species was listed as threatened in 1993. Final designation of critical habitat for the gnatcatcher was issued in October 2000 (Department of the Interior 2000). A total of approximately of 513,560 acres in Los Angeles, Orange,

San Diego, San Bernardino, and Riverside Counties is designated as critical habitat for the species. Portions of the City are located within Critical Habitat Unit 11 (San Bernardino Valley MSHCP), which roughly covers approximately 58,000 acres along the foothills of the San Gabriel Mountains within the Jurupa Hills on the border of San Bernardino and Riverside counties. Undeveloped areas to the north in East Highland Ranch Planned Development area, the Seven Oaks Dam inundation area, and the eastern parts of the City are located within California gnatcatcher critical habitat.

## **Local**

### **City of Highland Ordinance 171 (Environmental Management)**

City of Highland Environmental Management Ordinance regulates the protection of biological resources through requirements for heritage tree preservation, riparian plant conservation, erosion and sediment control, and hillside development.

### **Highland General Plan**

The Highland General Plan includes an Open Space and Conservation Element that identifies resources that should be preserved. This element contains the following policies related to biological resources<sup>4</sup>:

- Policy 5.7-5** As part of the environmental review process, require that projects determined to be located within a biologically sensitive area prepare documentation on the impacts of such development along with mitigation and mitigation monitoring programs.
- Policy 5.7-6** Ensure that required biological assessments are conducted in cooperation with the California Department of Fish and Game and the U.S. Fish and Wildlife Service.

## **■ Project Impact Evaluation**

### **Thresholds of Significance**

The following thresholds of significance are based on the 2012 CEQA Guidelines Appendix G. For purposes of this EIR, implementation of the San Bernardino County Regional GHG Reduction Plan might have a significant adverse impact on biological resources if it would do any of the following:

- Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service
- Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service

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<sup>4</sup> These policies are not a complete listing of all policies contained in the General Plan; those policies that would be most applicable to the proposed project are included here.

- 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
- 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 any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance
- Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan

### **Analytic Method**

The following analysis reviews potential impacts to biological resources within the City.

### **Effects Not Found to Be Significant**

Threshold	Would the project have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?
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Implementation of the Regional Reduction Plan would not directly result in removal of vegetation or wildlife in the City because the Regional Reduction Plan does not confer entitlements for development. The Regional Reduction Plan does include an increase in renewable energy sources within the City.

Sensitive plant and animal species that may occur within the City are discussed above under Environmental Setting. As discussed in the above section, a high potential of sensitive species are present, especially in the undeveloped areas of the City.

It is the policy of the City to evaluate the individual impacts of proposed development on special-status species and plants protected by the City's General Plan and Municipal Code. All projects proposed on sites that include substantially undisturbed area, or sites that have protected plant or animal species, must submit a survey from a qualified biologist. This information is required to be submitted with the project application and is included with the applicable environmental document prepared for the project under CEQA.

Renewable energy projects considered for approval on vacant land under the Regional Reduction Plan would be required to provide independent CEQA review and would be required to comply with the City's project approval process, including the requirements to survey for and protect sensitive species. If sensitive species were found, the project proponent would be required to consult with the CDFW regarding impacts to sensitive species and ensuing mitigation. Mitigation for impacts to sensitive species is often in the form of acquisition or restoration of habitat, on site or off site, at a ratio to the area of impacted land that would be determined by the CDFW or USFWS. For projects proposed by federal agencies, or projects that would involve federal permits or funding, and that are sited within critical

habitat for a listed species, the project proponent would be required under the FESA to consult with the USFWS regarding impacts and mitigation respecting listed species.

After compliance with the requirements of the City's development process, and the California and federal endangered species acts, including requirements of the USFWS regarding critical habitat, implementation of the proposed Regional Reduction Plan would not have substantial adverse impacts on sensitive animal species. Therefore, this impact would be *less than significant*. No mitigation is required.

Threshold	Would the project have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?
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Implementation of the Regional Reduction Plan would not directly result in removal of vegetation or wildlife in the City because the Regional Reduction Plan does not confer entitlements for development. The Regional Reduction Plan does include an increase in renewable energy sources within the City. Renewable energy generation facilities could potentially be built on vacant land that might contain riparian habitat; however, impacts to these habitats would be limited with compliance with the City's General Plan and Municipal Code.

In addition, as stated previously, individual projects undergoing the City's development approval process would be required to survey for sensitive biological resources. The City requires compliance with all applicable regulations pertaining to riparian habitat. Prior to the issuance of grading permits for any project potentially affecting riparian habitat, the applicant is required to provide evidence that all necessary permits have been obtained from the CDFW (California Fish and Game Code Sections 1601–1603). If there are any impacts to riparian areas, the impacts would be required to be mitigated by the California Fish and Game Code Sections 1601–1603. The mitigation would be approved by the City's Building Department and CDFW. In conclusion, projects affecting riparian habitat in the City would be required through the existing permitting process to mitigate potential impacts to riparian areas. Consequently, impacts would be *less than significant*. No mitigation is required.

Threshold	Would the project 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?
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There are several drainages that that traverse the planning area that could contain federally protected wetlands. Implementation of the Regional Reduction Plan includes energy efficiency standards for new development and smart bus technologies. However, implementation of these types of reduction measures will not affect bodies of water or wetlands.

Increased renewable energy generation will also be developed during implementation of the proposed Regional Reduction Plan. However, these types of projects are not likely to affect bodies of water or wetlands. In the unlikely event that a renewable energy project results in impacts to federally protected wetlands or waters of the state, that project would be subject to approval by the USACE through a

Section 404 Permit and/or approval by the CDFW through Streambed Alteration Agreements. If a Section 404 Permit from the USACE is required, a Section 401 Water Quality Certification will also be required from the RWQCB. The applicable permits would require mitigation as determined by the USACE, RWQCB, and/or CDFW for any consequent impacts. Consequently, impacts would be **less than significant**. No mitigation is required.

Threshold	Would the project interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?
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Wildlife corridors within the Highland planning area are most likely limited to the northern and eastern undeveloped portions of the City. City Creek and Plunge Creek may also serve as potential movement corridors, but to a lesser extent, as portions of the channels have been modified from natural waterways into channelized drainages. East-west corridors may exist along the Santa Ana River although large portions of the wash have also been modified for flood control and water conservation facilities, and by active aggregate mining activities. Local wildlife corridors are likely to occur within the canyons and washes in the undeveloped foothills to the north in the East Highlands Ranch Planned Development area and in the easternmost areas of the City. The Regional Reduction Plan does include an increase in renewable energy sources within the City. Renewable energy generation facilities could potentially be built on vacant land that might contain a wildlife corridor; however, impacts would be limited with compliance with the City's General Plan and Municipal Code. Therefore, implementation of the Regional Reduction Plan is not anticipated to impair the use of the City Creek, Plunge Creek, Santa Ana River, canyons, washes, and utility easements in the City as wildlife movement corridors.

There are trees and shrubs scattered throughout the City that may be used for nesting or roosting by migrating birds. The Regional Reduction Plan would not grant specific entitlements for development; therefore, implementation of The Regional Reduction Plan would not directly impact vegetation that could be used by migrating birds. Development of renewable energy generation projects under the Regional Reduction Plan would be required to comply with the federal MBTA. Therefore, the Regional Reduction Plan is not anticipated to have substantial adverse impacts to migratory birds. Furthermore, plants protected under the City's Biotic Resources Ordinance must be evaluated by a qualified biologist or arborist. The plants or trees are inspected and tagged, indicating that the plant or tree can be transplanted, must remain in place, or can be removed. Consequently, impacts would be **less than significant**. No mitigation is required.

Threshold	Would the project conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?
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Implementation of the Regional Reduction Plan would be required to comply with the City's General Plan and Municipal Code, which require proper assessment of biological resources before authorizing development, and incorporation of mitigations for any identified sensitive biological resources. Projects that implement the Regional Reduction Plan would be required to demonstrate compliance with the General Plan policies and the City's Municipal Code during the City's development review process. Consequently, impacts would be **less than significant**. No mitigation is required.

Threshold	Would the project conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?
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Portions of the City are within the existing BLM Santa Ana River ACEC/RNA and USACE WSPA. Portions of the WSPA located just south of Greenspot Road are located in an area designated for low density residential development. However, protection provided in federal conservation areas would supersede the local land use designation. No conflict with existing conservation plans would result. Upon approval and adoption of the proposed Upper Santa Ana Wash Land Management and Habitat Conservation Plan, adoption of the San Bernardino Valley-wide MSHCP, and participation by the City, future projects would be required to comply with the HCP and MSHCP. Therefore, impacts would be *less than significant*. No mitigation is required.

## ■ Cumulative Impacts

Threshold	Would the project have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?
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As discussed at a project-level analysis, the Regional Reduction Plan does not directly result in removal of vegetation or wildlife in the City because the Regional Reduction Plan does not confer entitlements for development. The Regional Reduction Plan does include an increase in renewable energy sources within the City. Renewable energy generation facilities could potentially be built on vacant land that might contain habitat. After compliance with the City's survey requirements and applicable requirements of the California and federal endangered species acts, including requirements of the USFWS regarding critical habitat, renewable energy facilities built during implementation of the proposed Regional Reduction Plan would not have substantial adverse impacts on sensitive animal species at a project level. Because the City, state, and federal biological resources requirements are intended to protect biological resources at a regional level, and individual projects implementing the Regional Reduction Plan would be in compliance with these regional protections, the project's *cumulative impact would be less than significant*.

Threshold	Would the project have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?
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Increased renewable energy generation could be proposed during implementation of the proposed Regional Reduction Plan. As stated previously, individual projects undergoing development review in the City would be required to determine whether there is potential habitat on site for sensitive species. If sensitive species were found on site, the project proponent would be required to consult with the CDFW and other agencies as applicable regarding impacts to sensitive species and ensuing mitigation. Projects affecting riparian habitat in the City would be required through the existing permitting process to mitigate potential impacts to riparian areas. This existing permitting process substantially limits degradation of habitat on a regional level. Therefore, on a cumulative level, implementation of the

proposed project would not substantially degrade the riparian habitat on a regional basis, and the ***cumulative impact would be less than significant.***

Threshold	Would the project 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?
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Increased renewable energy generation could be proposed during implementation of the proposed Regional Reduction Plan. However, these types of projects are not likely to affect bodies of water or wetlands. In the unlikely event that a renewable energy project results in impacts to waters of the state, that project would be subject to approval by the USACE through a Section 404 permit and/or the CDFW through Streambed Alteration Agreements and would require mitigation as determined by the USACE and/or CDFW for any consequent impacts. With Section 404 permits and Streambed Alteration Agreements, impacts to water bodies would be minimal and not result in cumulative impacts. The ***cumulative impact would be less than significant.***

Threshold	Would the project interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?
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City Creek, Plunge Creek, Santa Ana River, canyons, washes, and utility easements within the City could serve as corridors for movement. However, implementation of the Regional Reduction Plan will not impair the use of these areas in the City as wildlife movement corridors. Development of renewable energy generation projects under the Regional Reduction Plan would be required to comply with the federal MBTA. Therefore, the Regional Reduction Plan is not anticipated to have substantial adverse impacts to migratory birds. Because the Regional Reduction Plan would have no impact on wildlife corridors at a project level, the Regional Reduction Plan will not participate in a cumulative impact. Furthermore, compliance with the MBTA reduces both potential project-level and cumulative impacts to migratory birds to less than significant. Consequently, the ***cumulative impact would be less than significant.***

Threshold	Would the project conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?
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Projects proposed under the Regional Reduction Plan and cumulative projects in the City would be required to demonstrate compliance with City requirements related to biological resources during the project's development review process. Therefore, there would be ***no cumulative impact.***

Threshold	Would the project conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?
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Projects proposed under the Regional Reduction Plan and cumulative projects in the City would be required to demonstrate compliance with the existing BLM Santa Ana River ACEC/RNA and USACE WSPA during the project's development review process. Upon approval and adoption of the proposed

Upper Santa Ana Wash Land Management and Habitat Conservation Plan, adoption of the San Bernardino Valley-wide MSHCP, and participation by the City, future projects would be required to comply with the HCP and MSHCP. Therefore, the *cumulative impact would be less than significant*.

## ■ References

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## 4.9.5 Cultural Resources

This section of the EIR analyzes the potential environmental effects on cultural resources in the City of Highland from implementation of the Regional Reduction Plan. Data for this section were taken from the Highland General Plan (2006), associated environmental impact report (2005), and searches conducted on-line for resources listed in the NRHP and CRHR (OHP 2013). Full reference-list entries for all cited materials are provided at the end of this section.

No comment letters addressing cultural resources were received in response to the notice of preparation (NOP) circulated for the Regional Reduction Plan.

### ■ Environmental Setting

Cultural resources are frequently defined in terms of tangible materials attributed to a culture. These include districts, sites, structures, artifacts, and other evidence of human use considered important to a culture or community for scientific, traditional, religious, or other reasons. Resources may be historical, archaeological, architectural, or archival in nature. Cultural resources may also consist of less tangible attributes, such as landscapes considered sacred to particular groups.

#### ***Prehistoric Setting***

The City of Highland lies within an area known to contain prehistoric archaeological materials, which include the material culture reflective of groups that preceded Euro-American contact and settlement. The prehistoric setting is defined by four horizons (Highland 2005), as outlined below:

- **Early Man Horizon:** This period, pre-dating 6,000 B.C., is characterized by the presence of large projectile points and scrapers, suggesting reliance on hunting rather than gathering.
- **Milling Stone Horizon:** This period, from 6,000 B.C. to 1,000 B.C., is characterized by the presence of hand stones, milling stones, choppers, and scraper planes; tools associated with seed gathering and shell fish processing with limited hunting activities; and evidence of a major shift in the exploitation of natural resources.
- **Intermediate Horizon:** This period, from 1,000 B.C. to A.D. 750, reflects the transitional period between the Milling Stone and Late Prehistoric Horizons. Little is known of this time period but evidence suggests interactions with outside groups and a shift in material culture reflecting this contact.
- **Late Prehistoric Period:** This period, from A.D. 750 to European contact, is characterized by the presence of small projectile points; use of the bow and arrow; steatite containers and trade items; asphaltum; cremations; grave goods; mortars and pestles; and bedrock mortars.

#### ***Ethnohistoric Setting***

Highland is found in an ethnographic transitional region, and is situated near the borders of the traditional use areas of the Gabrieliño/Tongva, Serrano and Cahuilla groups. The City is found in the eastern-most portion of the Gabrieliño/Tongva tribal territory, which is mapped as extending north from Aliso Creek to just beyond Topanga Canyon along the Pacific Coast, and inland to the City of San

Bernardino. The Serrano traditional use is mapped as encompassing the San Bernardino Mountains from the Cajon Pass in the west to beyond modern Twentynine Palms in the east, and from about Victorville in the north to near the San Gorgonio Pass in the south. The project area is also located adjacent to the northwestern-most portion of documented Cahuilla territory, mapped as extending just beyond the City of Riverside (Heizer 1978). Tribal boundaries were likely very fluid in this area, allowing for the exchange of ideas and technology among these groups. Currently, San Manuel Indian Reservation lands are located on the northern boundary of the City (Highland 2005).

### **Historic Setting**

The historic era setting of the region relates to the Mission San Gabriel, established in 1771 in the Los Angeles area. In the early decades of the nineteenth century, the Missions began establishing ranchos for the purpose of expanding their agricultural holdings. The region was affiliated with the Rancho San Bernardino, which was established by the Mission San Gabriel. The history of the Rancho San Bernardino influenced the entire San Bernardino Valley region, including portions of the northern Coachella Valley.

Mexico achieved independence from Spain in 1821, and the former mission lands were secularized and subdivided into land grants under a law adopted by the Mexican congress in 1833. Antonio Maria Lugo established the Rancho San Bernardino in the region in the 1830s on approximately 37,000 acres of land.

The American Period began in 1848 when Mexico ceded California to the U.S. under the Treaty of Guadalupe Hidalgo. Mexican ranchos were subdivided or sold during this period, and much of the land that once constituted rancho holdings became available for settlement by immigrants to California. During the American period, several important communities developed in the vicinity of the modern City of Highland, and in the vast geographic area that extended eastward from Sterling Avenue to the mouth of the Santa Ana River, north of the U.S. Forest Service boundary, and south to the Santa Ana River. These communities included Cramville (1856), Rabel Springs (1851), Del Rosa (1861), Messina (1873), Harlem Springs (1887), and Patton (1890) (Highland 2005).

Historic era development in this area was linked to the availability of water. Early agricultural pursuits consisted of the farming of deciduous fruits, vegetables, and grains. With the development of the North Fork Water, Bear Valley Water, and Highland Ditch Companies between 1881 and 1888, citrus cultivation was stimulated and substantial acreage in the area was planted in groves (Highland 2005).

The name “Highland” was first used in 1883, when it was adopted for the first school located west of City Creek. Then, in 1889, the community of Messina changed its name to Highland. However, the original townsite of Highland was not founded (surveyed) until 1891 (Highland 2005, 2013), and this coincided with the advent of the railroad in the area.

By 1888, the Santa Fe Railroad line was constructed from San Bernardino to Redlands, and then onto Mentone. In 1891, negotiations commenced with the railroad to complete service from San Bernardino to Mentone through the northern areas. In 1892, the notable Kite Track loop was finished. Thereafter, the name “Highland” was adopted by the railroad for its depot on Palm and Pacific Avenues, and the completion of the railroad prompted the founding of the Highland townsite at the junction of Palm Avenue, Pacific Street and the Depot (Highland 2005). The original townsite was founded (surveyed) in

1891 and formally recorded in 1893 (Highland 2005, 2013). It consisted of the area south of Pacific Street and included the south side of Main Street.

Between 1889 and 1903, growth occurred in the area with the construction of a library, a community hall, new businesses, the Methodist Episcopal Church on Pacific Street, and a population influx. In addition, the San Bernardino Valley Traction Company completed an electric railway line connecting Highland with downtown San Bernardino. After 1904, Highland had developed into a town with a population of more than 1,000 people, and it expanded into previously undeveloped acreage south and west of the intersection of Palm Avenue and Pacific Street. Highland's economy prospered from citrus production and shipping, and in April of 1904, the First Bank of Highland was opened. This bank had a prominent role as the town's only financial institution into the Depression era, when it was sold to Bank of America in 1937 (Highland 2005).

Beginning in 1943, and with the establishment of the San Bernardino Army Air Depot (Norton Air Force Base), citrus groves were increasingly replaced with housing. This process accelerated after World War II, and the citrus packing houses located throughout the region began to close. Eventually, all of the surrounding groves were removed and packing houses were converted to alternative uses, such as light industry and manufacturing. The Santa Fe depot was torn down in the 1950s, and the railroad abandoned its line in 1953. By the 1960s, the old central business district on Palm Avenue lost its grocery and drug store, post office, library, and other historic community services, and these were replaced by shopping centers on Base Line and Highland Avenue (Highland 2005). Currently, Highland is primarily a residential community, boasting six different residential developers. The City is also the home of East Highlands Ranch, which is a master-planned community featuring premium housing and private recreation facilities (Highland 2013).

## ***Historical Resources in Highland***

### **Designation Process**

There are three general types of designations for significant cultural resources within the City, including archaeological resources, historical structures, historical districts, traditional cultural properties, and landscapes. The system includes federal designation in the National Register of Historic Places (NRHP) for resources of importance and relevance to national heritage, state-level designation in the California Register of Historical Resources (CRHR), and local-level designation as Cultural Resources as defined by City of Highland Municipal Code Chapter 16.32 (Historic and Cultural Preservation). Each of these registers employs different criteria to determine whether a resource could be determined eligible for inclusion, and these criteria are further discussed below, in the Regulatory Framework.

### **Resources Listed on the National Register of Historic Places**

The NRHP is the nation's official list of buildings, structures, objects, sites, and districts worthy of preservation, and the NRHP recognizes resources of local, state, and national significance. One resource in the City of Highland is listed on the NRHP and five resources are considered eligible for inclusion in the NRHP (Highland 2005 and OHP 2013):

- Highland Historic District—Listed in 2001

- Water Transportation Site—Eligible
- Agricultural Site—Eligible
- Bridge—Eligible
- Boulder Park Historic District—Eligible
- Refuse Disposal Site—Eligible

### **Resources Listed on the California Register of Historical Resources**

The State Historic Resources Commission has designed the CRHR for use by state and local agencies, private groups, and citizens to identify, evaluate, register, and protect California’s historical resources. The CRHR is the authoritative guide to the state’s significant historical and archaeological resources. The CRHR program encourages public recognition and protection of resources of architectural, historical, archaeological, and cultural significance; identifies historical resources for state and local planning purposes; determines eligibility for state historic preservation grant funding; and affords certain protections under the CEQA. Properties listed in the NRHP are automatically listed in the CRHR and certain CHLs and PHIs are also listed or considered eligible for the CRHR. Six properties listed on or considered eligible for listing on the NRHP (as outlined above) are also listed on the CRHR (Highland 2005).

### **California Historical Landmarks and Points of Historical Interest**

CHLs are sites, buildings, features, or events that are of statewide significance and have anthropological, cultural, military, political, architectural, economic, scientific or technical, religious, experimental, or other value. In order to be considered a CHL, the landmark must meet at least one of the following criteria: (1) associated with events that have made a significant contribution to the broad patterns of local or regional history or the cultural heritage of California or the United States; (2) associated with the lives of persons important to local, California, or national history; (3) embodies the distinctive characteristics of a type, period, region, or method of construction; represents the work of a master; or possesses high artistic values; and (4) has yielded, or has the potential to yield, information important to the prehistory or history of the local area, California, or the nation.

If a site is primarily of local or countywide interest, it may meet the criteria for the California PHI Program. PHIs are sites, buildings, features, or events that are of local (city or county) significance and have anthropological, cultural, military, political, architectural, economic, scientific or technical, religious, experimental, or other value. To be eligible for designation as a PHI, a resource must meet at least one of the following criteria: (1) the first, last, only, or most significant of its type in the local geographic region (city or county); (2) be associated with an individual or group having a profound influence on the history of the local area; (3) a prototype of, or an outstanding example of, a period, style, architectural movement or construction; or (4) is one of the more notable works or the best surviving work in the local region of a pioneer architect, designer, or master builder. PHIs designated after December 1997 and recommended by the State Historical Resources Commission are also listed in the CRHR. No historical resource may be designated as both a CHL and a PHI. If a PHI is subsequently granted status as a CHL, the PHI designation will be retired.

The California PHIs in the City of Highland are (Highland 2005 and OHP 2013):

- Baseline Road
- Cram Homestead Site (Cram Ranch and House)
- City Creek Civilian Conservation Corps Camp

### **Local Resources**

To be designated as a Cultural Resource within the City of Highland, an improvement, natural feature, or site may be nominated by the Historic and Cultural Preservation Board (pursuant to Highland Municipal Code Section 16.32.060) if it meets the criteria for listing on the NRHP or additional specific criteria as further described in the Regulatory Framework, below. As such, six properties listed on or considered eligible for listing on the NRHP (as outlined above) are also considered eligible for local nomination and designation.

### **Archaeological Resources in Highland**

Archaeological resources are the physical remains of past human activities and can be either prehistoric or historic. Archaeological sites contain significant evidence of human activity. Generally a site is defined by a significant accumulation or presence of: food remains, waste from the manufacturing of tools, tools, concentrations or alignments of stones, modification of rock surfaces, unusual discoloration or accumulation of soil, and/or human skeletal remains.

According to a records search completed at the San Bernardino County Museum Archaeological Information Center (AIC), a number of areas have been identified as archaeologically sensitive in the City. These areas are considered to have a high probability for discovery of archaeological resources if disturbed by development (see Figure 4.9.5-1 [Sensitive Archaeological Areas]). Within these areas, a total of 86 cultural resources have been recorded, including: one prehistoric archaeological site, 58 historic age archaeological resources, two historic age isolated finds, and 25 historic age pending resources. Pending resources consist of site locations based on oral tradition or incomplete information and are not formally recorded or assigned a permanent identifying number (trinomial and or primary number). These resources require a field check and formal recordation efforts in order to be assigned a trinomial and/or primary number in the future (Highland 2005).

### **Paleontological Resources in Highland**

Paleontological resources are the fossilized remains of organisms from prehistoric environments found in geologic strata. These are valued for the information they yield about the history of the earth and its past ecological settings. There are two types of resources; vertebrate and invertebrate. These resources are found in geologic strata conducive to their preservation, typically sedimentary formations. Paleontological sites are those areas that show evidence of prehuman activity. Often they are simply small outcroppings visible on the surface or sites encountered during grading. While the sites are important indications, it is the geologic formations that are the most important, since they may contain important fossils. Potentially sensitive areas for the presence of paleontological resources are based on the underlying geologic formation. Fossil remains may occur throughout the City of Highland, although

the evenness of their distribution is not known. The potential for fossil occurrence depends on the rock type exposed at the surface in a given area (Highland 2005).

## ■ Regulatory Framework

### **Federal**

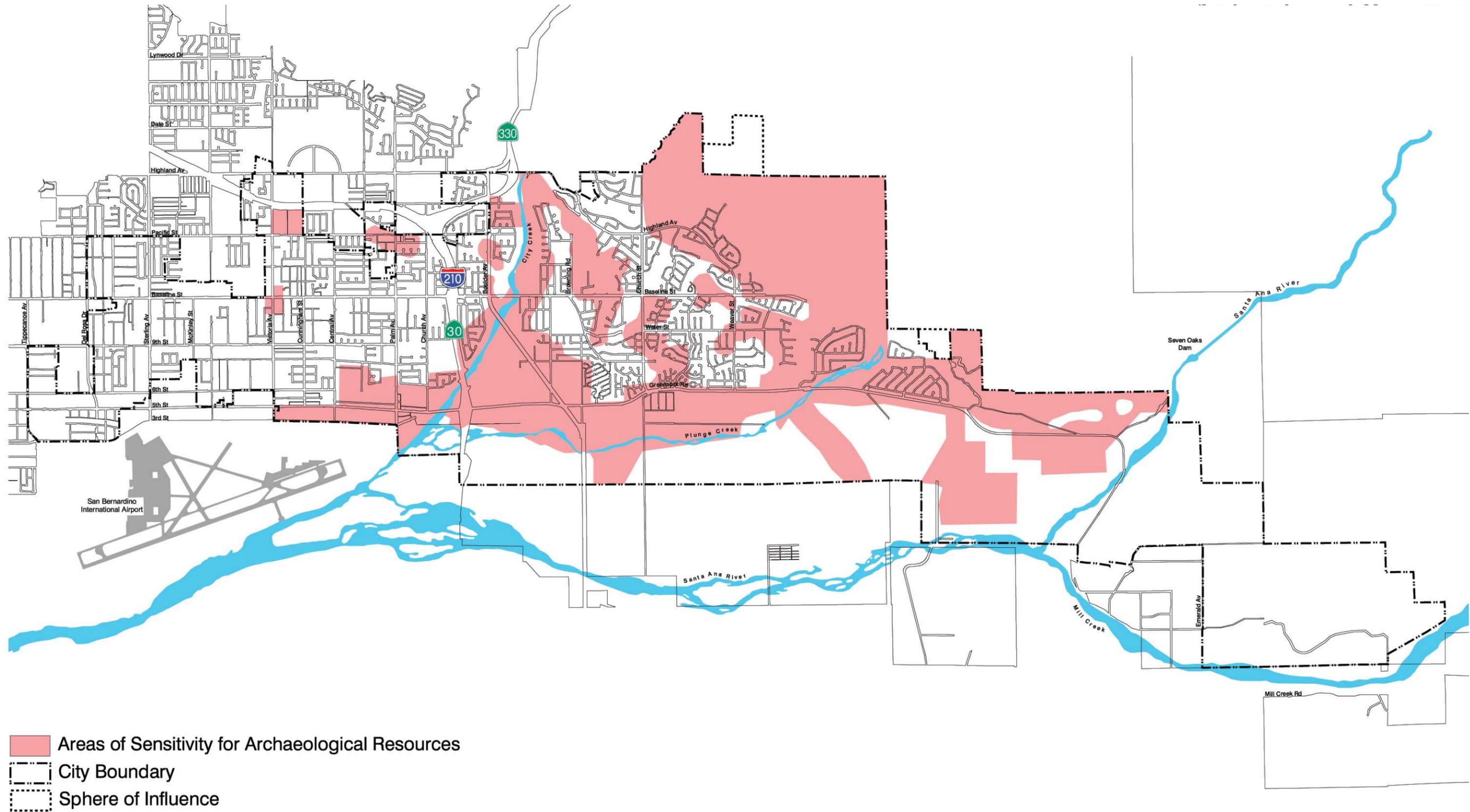
Federal regulations for cultural resources are primarily governed by National Historic Preservation Act of 1966 (NHPA) Section 106, which applies to actions taken by federal agencies. The goal of the Section 106 review process is to offer a measure of protection to sites that are listed or determined eligible for listing on the NRHP. The criteria for determining NRHP eligibility are found in 36 Code of Federal Regulations (CFR) Part 60. NHPA Section 106 requires federal agencies to take into account the effects of their undertakings on Historic Properties and affords the federal Advisory Council on Historic Preservation a reasonable opportunity to comment on such undertakings. The Council's implementing regulations, "Protection of Historic Properties," are found in 36 CFR Part 800. The NRHP criteria (36 CFR 60.4) are used to evaluate resources when complying with NHPA Section 106. Those criteria state that eligible resources comprise districts, sites, buildings, structures, and objects that possess integrity of location, design, setting, materials, workmanship, feeling, and association, and any of the following:

- (a) Are associated with events that have made a significant contribution to the broad patterns of our history
- (b) Are associated with the lives of persons significant in our past
- (c) Embody the distinctive characteristics of a type, period, or method of construction, or that possess high artistic values, or that represent a significant distinguishable entity whose components may lack individual distinction
- (d) Have yielded or may be likely to yield, information important to history or prehistory

Eligible properties must meet at least one of the criteria and exhibit integrity. Historical integrity is measured by the degree to which the resource retains its historical attributes and conveys its historical character, the degree to which the original fabric has been retained, and the reversibility of changes to the property.

Historic Districts derive their importance from being considered a unified entity, even though they are often composed of a variety of resources. The identity of a district results from the interrelationship of its resources, which can be an arrangement of historically or functionally related properties. A district is defined as a geographically definable area of land containing a significant concentration of buildings, sites, structures, or objects united by past events or aesthetically by plan or physical development. A district's significance and integrity should help determine the boundaries.

Within historic districts, resources are identified as contributing and noncontributing. A contributing building, site, structure, or object adds to the historic associations, historic architectural qualities, or archaeological values for which a district is significant because it was either present during the period of significance, relates to the significance of the district, and retains its physical integrity; or it independently meets the criteria for listing in the NRHP.



- Areas of Sensitivity for Archaeological Resources
- City Boundary
- Sphere of Influence

Source: City of Highland General Plan EIR.

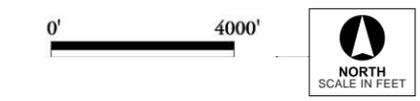


Figure 4.9.5-1  
Sensitive Archaeological Areas



Archaeological site evaluation assesses the potential of each site to meet one or more of the criteria for NRHP eligibility based upon visual surface and subsurface evidence (if available) at each site location, information gathered during the literature and records searches, and the researcher's knowledge of and familiarity with the historic or prehistoric context associated with each site.

Paleontological resources are considered under NHPA Section 106 primarily when found in a culturally related context (i.e., fossil shells included as mortuary offerings in a burial or a rock formation containing petrified wood used as a chipped stone quarry). In such instances, the material is considered a cultural resource and is treated in the manner prescribed for the site by Section 106.

The Antiquities Act of 1906 (Title 16, United States Code, Sections 431-433) protects any historic or prehistoric ruin or monument, or any object of antiquity, situated on lands owned or controlled by the Government of the United States from appropriation, excavation, injure or destruction without the permission of the Secretary of the Department of the Government having jurisdiction over the lands on which the antiquities are situated. The California Department of Transportation, the National Park Service, Bureau of Land Management, U.S. Forest Service, and other federal agencies have interpreted objects of antiquity to include fossils. The Antiquities Act provides for the issuance of permits to collect fossils on lands administered by federal agencies and requires projects involving federal lands to obtain permits for both paleontological resource evaluation and mitigation efforts.

The federal Paleontological Resources Preservation Act of 2002 was enacted to codify the generally accepted practice of limiting the collection of vertebrate fossils and other rare and scientifically significant fossils to qualified researchers; these researchers must obtain a permit from the appropriate state or federal agency and agree to donate any materials recovered to recognized public institutions, where they will remain accessible to the public and to other researchers.

## **State**

Under CEQA, public agencies must consider the impacts of their actions on both historical resources and unique archaeological resources. Pursuant to Public Resources Code (PRC) Section 21084.1, a "project that may cause a substantial adverse change in the significance of an historical resource is a project that may have a significant effect on the environment." Section 21083.2 requires agencies to determine whether proposed projects would have effects on unique archaeological resources.

Historical resource is a term with a defined statutory meaning (refer to PRC Section 21084.1 and CEQA Guidelines Section 15064.5(a) and (b)). The term applies to any resource listed in or determined to be eligible for listing in the CRHR. The CRHR includes California resources listed in or formally determined eligible for listing in the NRHP, as well as certain California Historic Landmark (CHLs) and Points of Historical Interest (PHIs).

Properties of local significance that have been designated under a local preservation ordinance (local landmarks or landmark districts) or that have been identified in a local historical resources inventory may be eligible for listing in the CRHR and are presumed to be historical resources for purposes of CEQA unless a preponderance of evidence indicates otherwise (PRC Section 5024.1 and California Code of Regulations Title 14, Section 4850). Unless a resource listed in a survey has been demolished, lost

substantial integrity, or there is a preponderance of evidence indicating that it is otherwise not eligible for listing, a lead agency should consider the resource to be potentially eligible for the CRHR.

In addition to assessing whether historical resources potentially impacted by a proposed project are listed or have been identified in a survey process, lead agencies have a responsibility to evaluate them against the CRHR criteria prior to making a finding as to a proposed project's impacts to historical resources (PRC Section 21084.1 and CEQA Guidelines Section 15064.5(a)(3)). In general, a historical resource, under this approach, is defined as any object, building, structure, site, area, place, record, or manuscript that:

- (a) Is historically or archeologically significant, or is significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political or cultural annals of California; and
- (b) Meets any of the following criteria:
  - 1) Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage;
  - 2) Is associated with the lives of persons important in our past;
  - 3) Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values; or
  - 4) Has yielded, or may be likely to yield, information important in prehistory or history.

(CEQA Guidelines, Section 15064.5(a)(3))

Archaeological resources can sometimes qualify as historical resources (CEQA Guidelines Section 15064.5(c)(1)). In addition, PRC Section 5024 requires consultation with the Office of Historic Preservation when a project may impact historical resources located on state-owned land.

For historic structures, CEQA Guidelines Section 15064.5(b)(3) indicate that a project that follows the Secretary of the Interior (SOI) Standards for the Treatment of Historic Properties with Guidelines for Preserving, Rehabilitating, Restoring, and Reconstructing Historic Buildings, or the SOI Standards for Rehabilitation and Guidelines for Rehabilitating Historic Buildings, shall mitigate impacts to a level of less than significant. Potential eligibility also rests upon the integrity of the resource. Integrity is defined as the retention of the resource's physical identity that existed during its period of significance. Integrity is determined through considering the setting, design, workmanship, materials, location, feeling, and association of the resource.

As noted above, CEQA also requires lead agencies to consider whether projects will impact unique archaeological resources. PRC Section 21083.2(g) states that 'unique archaeological resource means an archaeological artifact, object, or site about which it can be clearly demonstrated that, without merely adding to the current body of knowledge, there is a high probability that it meets any of the following criteria:

- Contains information needed to answer important scientific research questions and that there is a demonstrable public interest in that information.
- Has a special and particular quality such as being the oldest of its type or the best available example of its type.

- Is directly associated with a scientifically recognized important prehistoric or historic event or person.  
(PRC Section 21083.2(g))

Treatment options under Section 21083.2 include activities that preserve such resources in place and in an undisturbed state. Other acceptable methods of mitigation under Section 21083.2 include excavation and curation, or study in place without excavation and curation (if the study finds that the artifacts would not meet one or more of the criteria for defining a unique archaeological resource).

Advice on procedures to identify cultural resources, evaluate their importance, and estimate potential effects is given in several agency publications such as the series produced by the Governor's Office of Planning and Research (OPR). The technical advice series produced by OPR strongly recommends that Native American concerns and the concerns of other interested persons and corporate entities, including, but not limited to, museums, historical commissions, associations, and societies, be solicited as part of the process of cultural resources inventory. In addition, California law protects Native American burials, skeletal remains, and associated grave goods regardless of their antiquity and provides for the sensitive treatment and disposition of those remains.

CEQA affords protection to paleontological resources, as CEQA Guidelines indicate that a project would have a significant environmental impact if it would disturb or destroy a unique paleontological resource or site or unique geologic feature. Although CEQA does not specifically define a unique paleontological resource or site, the definition of a unique archaeological resource (Section 21083.2) can be applied to a unique paleontological resource or site and a paleontological resource could be considered a historical resource if it has yielded, or may be likely to yield, information important in prehistory or history under Section 15064.5 (a)(3)(D).

### **California Public Resources Code 5097.5**

California PRC Section 5097.5 provides protection for cultural and paleontological resources, where PRC 5097.5(a) states, in part, that:

No person shall knowingly and willfully excavate upon, or remove, destroy, injure, or deface, any historic or prehistoric ruins, burial grounds, archaeological or vertebrate paleontological site, including fossilized footprints, inscriptions made by human agency, rock art, or any other archaeological, paleontological or historical feature, situated on public lands, except with the express permission of the public agency having jurisdiction over the lands.

### **California Health and Safety Code Sections 7050.5, 7051, and 7054**

California Health and Safety Code Section 7050.5(b) specifies protocol when human remains are discovered. The code states:

In the event of discovery or recognition of any human remains in any location other than a dedicated cemetery, there shall be no further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent remains until the coroner of the county in which the human remains are discovered has determined, in accordance with Chapter 10 (commencing with section 27460) of Part 3 of Division 2 of Title 3 of the Government Code, that the remains are not subject to the provisions of section 27492 of the Government Code or any other related provisions of law concerning investigation of the circumstances, manner and cause of death, and the recommendations concerning treatment and disposition of the human remains have been made to the person responsible for the

excavation, or to his or her authorized representative, in the manner provided in section 5097.98 of the Public Resources Code.

### **California Public Resources Code Section 5097.98**

Section 5097.98 requires the NAHC to notify the most likely descendants regarding the discovery of Native American human remains upon notification by a county coroner. This enables the descendants to inspect the site of the discovery of Native American human remains within 48 hours of notification by the NAHC, and to recommend to the landowner or the person responsible for the excavation work means for treating or disposition, with appropriate dignity, the human remains and any associated grave goods. Further, this section requires the owner of the land upon which Native American human remains were discovered, in the event that no descendant is identified, or the descendant fails to make a recommendation for disposition, or the land owner rejects the recommendation of the descendant, to reinter the remains and burial items with appropriate dignity on the property in a location not subject to further disturbance.

### **Senate Bill 18**

As of March 1, 2005, Senate Bill 18 (Government Code Sections 65352.3 and 65352.4) requires that, prior to the adoption or amendment of a general plan proposed on or after March 1, 2005, a city or county must consult with Native American tribes with respect to the possible preservation of, or the mitigation of impacts to, specified Native American places, features, and objects located within that jurisdiction.

## **Regional**

### **County of San Bernardino Development Code**

The County of San Bernardino Development Code defines Cultural Resources Preservation (CP) Overlays. The CP Overlay is established by Development Code Sections 82.01.020 and 82.01.030, and is intended to provide for the identification and preservation of important archaeological resources. The County requires that a proposed project within the CP Overlay includes a report prepared by a qualified professional archaeologist that determines the presence or absence of archaeological and/or historical resources on the project site, as well as appropriate data recovery or protection measures. The CP Overlay may be applied to areas where archaeological and historic sites that warrant preservation are known or are likely to be present, as determined by cultural resources research and/or inventory. In highly sensitive CP Overlay Districts, the local Native American tribe would be notified in the event of uncovering evidence of Native American cultural resources. If requested by the tribe, a Native American Monitor shall be required during such grading or excavation to ensure all artifacts are properly protected and/or recovered (Section 82.12.050).

A Paleontologic Resources (PR) Overlay is also defined by the County under Development Code Sections 82.01.020 (Land Use Plan and Land Use Zoning Districts) and 82.01.030 (Overlays). The PR Overlay may be applied to those areas where paleontological resources are known to occur or are likely to be present (determined through a paleontological records search). Detailed criteria for evaluation of paleontological resources and paleontologist qualifications are described in San Bernardino County Development Code Sections 82.20.030 and 82.20.40.

The CP and PR Overlays are applicable to County lands; however, each local municipality has its own criteria for the preservation of local historic and prehistoric resources within their jurisdiction, as outlined below.

## **Local**

### **City of Highland Municipal Code**

Historic and Cultural Preservation is addressed in Highland Municipal Code Title 16, Chapter 16.32. This chapter establishes the City's requirements for historic and cultural preservation and creates the City's Historic and Cultural Preservation Board (Board). The Board maintains a local register of designated cultural resources consistent with the NRHP and additional criteria, and reviews projects that may result in changes to the character or use of designated resources. The Board also issues certificates of appropriateness for all permits for alteration, restoration, rehabilitation, remodeling, additions, change of use, demolition or relocation for designated cultural resources and properties located in historic district.

The criteria for designation as a Cultural Resource are presented in Section 16.32.060. An improvement, natural feature, or site may be nominated as a Cultural Resource by the Board pursuant to this section if it meets the criteria for listing on the NRHP or the following:

- A. It exemplifies or reflects special elements of the city's cultural, social, economic, political, aesthetic, engineering, architectural, or natural history;
- B. It is identified with persons or events significant in local, state, or national history;
- C. It embodies distinctive characteristics of a style, type, period, or method of construction, or is a valuable example of the use of indigenous materials or craftsmanship;
- D. It is representative of the work of a notable builder, designer, or architect;
- E. It contributes to the significance of an historic area, being a geographically definable area possessing a concentration of historic or scenic properties or thematically related grouping of properties which contribute to each other and are unified aesthetically by plan or physical development;
- F. It has a unique location or singular physical characteristics or is a view or vista representing an established and familiar visual feature of a neighborhood, community, or the city of Highland;
- G. It embodies elements of architectural design, detail, materials, or craftsmanship that represent a significant structural or architectural achievement or innovation;
- H. It is similar to other distinctive properties, sites, areas, or objects based on a historic, cultural, or architectural motif.
- I. It reflects significant geographical patterns, including those associated with different eras of settlement and growth, particular transportation modes, or distinctive examples of park or community planning.
- J. It is one of the few remaining examples in the city, region, state, or nation possessing distinguishing characteristics of an architectural or historical type of specimen.

## Highland General Plan

The Highland General Plan goal and policies applicable to cultural resources are contained in the Conservation and Open Space Element<sup>5</sup>, and are as follows:

**Goal 5.8** Protect, document and minimize disruption of sites that have archaeological significance.

**Policy 5.8.1** Avoid significant impacts in all new developments within areas determined to be archaeologically sensitive through the following measures:

- Conduct an archaeological records search with the Archaeological Information Center in order to identify potential on-site sensitivities;
- In cooperation with a qualified archaeologist, develop mitigation measures for projects found to be located in or near sensitive areas or sites; and
- Require that environmental review be conducted for all applications within the area designated as archaeologically sensitive, including but not limited to grading, earth moving and stockpiling, and building and demolition permits.

**Policy 5.8.2** Include the following statement as a condition of approval on all development projects:

“If cultural resources are discovered during project construction, all work in the area of the find shall cease, and a qualified archaeologist shall be retained by the project sponsor to investigate the find, and to make recommendations on its disposition. If human remains are encountered during construction, all work shall cease and the San Bernardino County Coroner’s Office shall be contacted pursuant to Health and Safety Code provisions.”

**Policy 5.8.3** Coordinate with the San Manuel Band of Mission Indians when proposals for development projects are filed within the Areas of Sensitivity for Archaeological Resources (illustrated in Figure 5.2 of the City’s General Plan [Figure 4.9.5-1 of this document]) through the following actions:

- Notify the San Manuel Band of Mission Indians via notification mailings about proposed projects in archaeologically sensitive areas; and

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<sup>5</sup> These policies are not a complete listing of all policies contained in the General Plan; those policies that would be most applicable to the proposed project are included here.

- Invite comments and suggestions to be forwarded to City staff and appropriate decision makers to aid the preservation and development review processes.

## ■ Project Impact Evaluation

### **Thresholds of Significance**

The following thresholds of significance are based on the 2012 CEQA Guidelines Appendix G. For purposes of this EIR, implementation of the San Bernardino County Regional GHG Reduction Plan might have a significant adverse impact on cultural resources if it would do any of the following:

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

### **Analytic Method**

The following analysis considers the presence and absence of historical, archaeological, or paleontological resources within the City. Historical resources include any resource listed in or determined to be eligible for listing in the NRHP, CRHR, certain CHLs and PHIs, as well as resources of regional or local significance that have been identified in a local historical resources inventory. Such regional or locally designated resources are presumed to be historical resources for purposes of CEQA unless a preponderance of evidence indicates otherwise. The presence of historical, archaeological, or paleontological resources is then considered against the potential impacts on such resources from implementation of the Regional Reduction Plan. To gather information on known historical resources within Highland, City planning documents were reviewed, and searches were conducted on-line for resources listed in the NRHP and CRHR (Highland 2005; Highland 2006; and OHP 2013).

### **Effects Not Found to Be Significant**

Threshold	<p>Would the project cause a substantial adverse change in the significance of a historical resource as defined in CEQA Guidelines Section 15064.5?</p> <p>Would the project cause a substantial adverse change in the significance of an archaeological resource pursuant to CEQA Guidelines Section 15064.5?</p> <p>Would the project directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?</p>
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There are several historical resources in the City of Highland, including NRHP and CRHR listed and eligible properties. CEQA Guidelines Section 15064.5(b) states that “a project with an effect that may cause a substantial adverse change in the significance of an historical resource is a project that may have a significant effect on the environment.”

Archaeological materials associated with occupation of the area are known to exist and have the potential to provide important scientific information regarding history and prehistory. These resources are located throughout the City, and archaeologically sensitive areas are outlined in Figure 4.9.5-1. Ground-disturbing activities, particularly in areas that have not previously been developed with urban uses (“native soils,” which include agricultural lands), have the potential to damage or destroy historic age or prehistoric archaeological resources that may be present on or below the ground surface. Such resources may be considered as historical resources, as defined in Section 15064.5(a)(3)(D) (“[h]as yielded, or may be likely to yield, information important in history or prehistory”). In addition to the status of archaeological resources as historical resources, a resource may also be a “unique archaeological resource,” as defined in CEQA Section 21083.2(g)(1)–(3). Further, archaeological resources are often of cultural or religious importance to Native American groups.

Geologic units known to have the potential to yield fossil remains are also found within the City of Highland. Therefore, ground-disturbing activities could have the potential to impact paleontological resources.

Implementation of the Regional Reduction Plan will not include activities that will result in impacts to existing structures, and does not include activities that would directly result in extensive ground disturbing activities within previously undisturbed soils. Therefore, the potential for impacts to historical, archaeological, and paleontological resources as a result of implementation of the Regional Reduction Plan would be *less than significant*.

Threshold	Would the project disturb any human remains, including those interred outside of formal cemeteries?
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The Regional Reduction Plan does not include activities that would directly result in extensive ground disturbing activities within previously undisturbed soils, which renders it unlikely that human burials would be disturbed as a result of project implementation. In addition, and in the event human remains are encountered, the discovery is required to comply with State of California Public Resources Health and Safety Code Sections 7050.5–7055. Specifically, Health and Safety Code Section 7050.5 describes the requirements if any human remains are discovered during excavation of a site. As required by state law, the requirements and procedures set forth in California PRC Section 5097.98 would be implemented, including notification of the County Coroner, notification of the Native American Heritage Commission, and consultation with the individual identified by the Native American Heritage Commission to be the Most Likely Descendant. If human remains are found during excavation, excavation must stop in the vicinity of the find and any area that is reasonably suspected to overlie adjacent remains until the County Coroner has been contacted, the remains investigated, and appropriate recommendations made for the treatment and disposition of the remains. Given required compliance with state regulations that detail the appropriate actions necessary in the event human remains are encountered, potential impacts associated with the implementation of the Regional Reduction Plan would be reduced to *less than significant*.

## ■ Cumulative Impacts

The cumulative analysis for impacts on cultural resources considers a broad regional system of which the resources are a part. The cumulative context for the cultural resources analysis is the San Bernardino

Valley and Prado Basin within San Bernardino and Riverside Counties. In these areas, common patterns of prehistoric and historic development have occurred. The analysis accounts for anticipated cumulative growth within the region. In these areas, common patterns of prehistoric and historic development have occurred. Based upon existing studies outlining intense resource use in this region, and the documented, observable material culture (i.e., artifacts) recovered from the prehistoric era to the present, the Santa Ana River Valley and Prado Basin are known to have high archaeological sensitivity, and past development has resulted in substantial adverse changes in the significance of various archaeological resources prior to the implementation of regulations enacted for the purpose of avoiding disturbance, damage, or degradation of these resources.

Urban development that has occurred over the past several decades in the Santa Ana River Valley and Prado Basin has resulted in the demolition and alteration of innumerable historical resources, and it is reasonable to assume that present and future development activities will continue to result in impacts on historical resources. Because all historical resources are unique and non-renewable members of finite classes, all adverse effects or negative impacts erode a dwindling resource base. Federal, state, and local laws protect historical resources in most instances. Even so, it is not always feasible to protect historical resources, particularly when preservation in place would prevent implementation of projects. For this reason, the cumulative effects of development in the region on historical resources are considered significant.

There is a broad range of measures that could be implemented by Participating Cities that, along with future growth in the region, have the potential to result in cultural resources impacts if ground disturbance occurs or if the historic integrity or context of significant resources is affected. Impacts to such resources would be determined on a discretionary case-by-case basis, and would be required to follow CEQA, and adopted City and County policies pertaining to cultural resources protection. For future discretionary projects occurring under the Regional Reduction Plan and cumulative development, environmental review would occur at project-level and would require mitigation. Properties with resources would be addressed through detailed mitigation plans, including monitoring, recovery and/or in situ preservation, as appropriate, and based on the recommendations of a qualified expert.

Implementation of the GHG reduction measures selected by Highland are not anticipated to result in impacts on historical, archaeological, and/or paleontological resources due to the small scale and extent of those measures. However, in the event that there were minimal impacts, any potential impacts would be mitigated to levels that would not be significant through implementation of existing City policies and ordinances. Therefore, implementation of the GHG reduction measures identified in the Regional Reduction Plan for Highland would not result in a cumulatively considerable contribution with regard to historical, archaeological, and paleontological resources, and the ***cumulative impact would be less than significant.***

Cumulative development, including the Regional Reduction Plan, could disturb human remains, including those interred outside of formal cemeteries. This has led to the implementation of specific requirements to preserve such remains, as codified in CEQA Guidelines Section 15064.5(e) and PRC Section 5097.98. There is always the possibility that ground-disturbing activities during future construction may uncover previously unknown and buried human remains. Treatment of human remains

is covered under these standard regulatory requirements. Therefore, the *cumulative impact would be less than significant*.

## ■ References

- Heizer, R.F., ed. 1978. *Handbook of North American Indians*. Vol. 8: California. Washington, DC: Smithsonian Institution.
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- . 2013. About the City. <http://www.ci.highland.ca.us/AboutTheCity/> (accessed April 2013).
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- Office of Historic Preservation (OHP). 2013. OHP Listed Resources. <http://ohp.parks.ca.gov/ListedResources/?view=county&criteria=36> (accessed April 2013).
- San Bernardino Associated Governments (SANBAG). 2012. *San Bernardino County Regional Greenhouse Gas Reduction Plan*. Draft. Prepared by ICF International, December.

## 4.9.6 Geology/Soils

This section of the EIR analyzes the potential environmental effects on geology/soils in the City of Highland from implementation of the Regional Reduction Plan. Data for this section were taken from the Highland General Plan (2006) and General Plan EIR (2005). Full reference-list entries for all cited materials are provided at the end of this section.

No comment letters addressing geology/soils were received in response to the notice of preparation (NOP) circulated for the Regional Reduction Plan.

### ■ Environmental Setting

#### ***Geology and Physiography***

The City of Highland and the surrounding areas are part of a gently sloping alluvial plain, bordered on the north by the San Bernardino Mountains, a west-east trending mountain range. The geology of Highland and the surrounding areas is primarily composed of layers of alluvium deposited by rivers and creeks that drain the nearby mountains. During the Pleistocene epoch, the area that is now the San Bernardino Valley shifted downward as the San Bernardino Mountains were uplifted. Over geologic time, this event created a gently sloping plain made up predominantly of layers of alluvium deposited by the rivers and creeks that drain from the San Bernardino Mountains. The Santa Ana River and Mill Creek produced the major coalescing alluvial fans, and smaller fans were created by East Twin and City Creeks.

Approximately half of the City is covered by older alluvial deposits that were laid down after the Pliocene and Pleistocene Epochs of the Tertiary and Quaternary Periods. These deposits extend down from the foothills in the central portion of the City. The older alluvial deposits consist of terrace deposits in major stream canyons, older conglomerates of alluvial fans downstream from canyon mouths, and deposits under mesas. Younger alluvium including river channel deposits consisting of unconsolidated gravel, sand, and silt underlies much of the City, particularly in the western portion of the City. Younger alluvium is highly permeable and is conducive to groundwater recharge, particularly in streambeds. These materials appear near the surface of the Santa Ana River course in the eastern portion of Highland.

#### ***Faults and Seismic Hazards***

Several “active” and “potentially active” faults, many associated with the San Andreas fault zone, have been identified within and in close proximity to the City of Highland. The two major fault zones that affect the City are the San Andreas fault zone, located within the northeastern portion of the City, and the San Jacinto fault zone, located approximately 4.5 miles southwest of the City. The San Andreas fault is capable of generating an earthquake magnitude of up to 8.3 on the Richter scale. Existing geologic data indicates that earthquakes with Richter magnitudes of 7.0 or more can be expected along the southern branch of the San Andreas on the average of every 100 to 200 years. It has been estimated that there is a 20 to 30 percent probability of a major earthquake (7.0 magnitude or greater) within the next 30 years in the San Bernardino region. The San Jacinto Fault Zone has a maximum credible earthquake Richter magnitude of 8.5 and has the potential for significant ground shaking within the region.

North and south branches of the San Andreas fault, along with a number of minor and trace faults of the San Andreas fault that run through the northeastern part of the City have been delineated as Alquist-Priolo Earthquake Fault Zones, which are shown in Figure 4.9.6-1 (Earthquake Fault Zones).

Primary seismic hazards, such as ground rupture, and secondary seismic hazards, such as rockfalls, ground subsidence, ground sliding and lurching, liquefaction, dam overtopping or failure, and seiches in local water tanks and reservoirs, are related to potential seismic activity within the San Andreas fault zone. Groundshaking is a particular risk in the hills to the north of Highland. Areas within the City of Highland are known to have liquefaction potential, particularly in valley and alluvial floodplain areas.

## **Other Geologic Hazards**

### **Slope Failure (Landslides)**

Highland's topography ranges in steepness from 0 percent slope (flat) to over 15 percent slope. The majority of the City (71 percent) is relatively flat. Foothill slopes of the San Bernardino Mountains exist as a major feature in the eastern portion of Highland and its sphere of influence. These slopes have been subject to erosion, seismic and non-seismic related landslides, mudslides, and slope collapse. Drainages within the foothills have created steep walls that are susceptible to landslides. There is also potential for landslides from groundshaking due to the proximity of the San Andreas and the San Jacinto fault zones.

### **Erosion**

The northeastern and eastern portions of the City, especially hillside areas, are subject to wind erosion. These areas are also susceptible to wildland fires. Slopes devoid of suitable vegetation after a natural fire event may not be able to maintain topsoil in times of heavy precipitation, resulting in increased susceptibility to soil erosion, landslides, and mudslides.

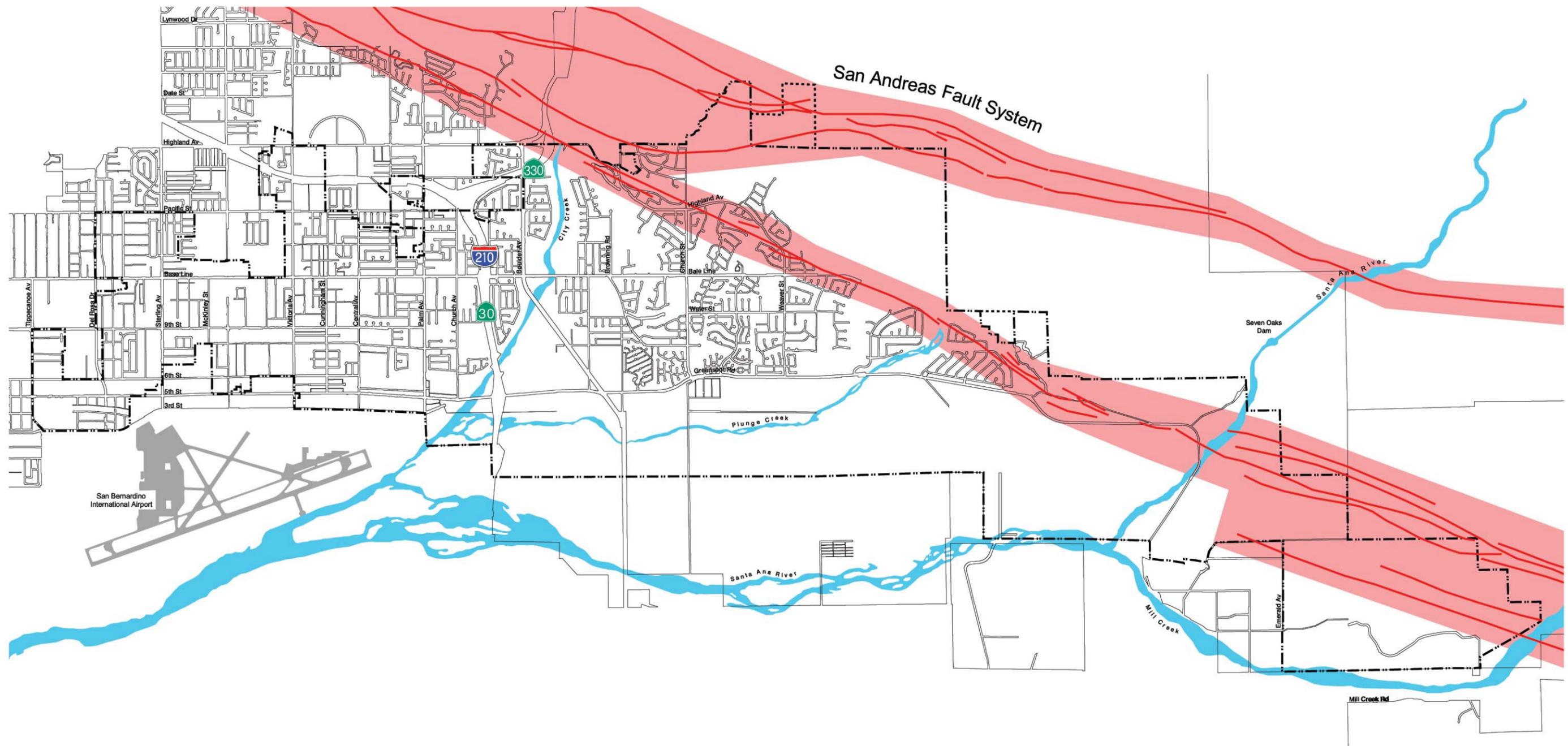
### **Subsidence**

Overdraft of the Bunker Hill-San Timoteo Basin could lead to an increase in susceptibility to impacts from subsidence as a decrease in groundwater levels could initiate sinking to fill the empty space previously occupied by water or soluble minerals. This can be aggravated by weight, including surface developments such as roads, reservoirs, and buildings, and man-made vibrations from such activities as blasting and heavy truck or train traffic, which can accelerate the natural processes of subsidence. However, groundwater recharge programs initiated by the San Bernardino Valley Municipal Water Department (SBVMWD) in the Bunker Hill-San Timoteo Basin has reduced this hazard by reducing overdraft in the Basin.

## **■ Regulatory Framework**

### **Federal**

There are no federal regulations related to geologic and soil resources and hazards.



-  Approximate Fault Location
-  Alquist-Priolo Earthquake Fault Zone
-  City Boundary
-  Sphere of Influence

0' 4000'



Source: City of Highland General Plan EIR.

Figure 4.9.6-1  
Earthquake Fault Zones



## **State**

### **California Alquist-Priolo Earthquake Fault Zoning Act**

The Alquist-Priolo Earthquake Fault Zoning Act was signed into state law in 1972. Its primary purpose is to mitigate the hazard of fault rupture by prohibiting the location of structures for human occupancy across the trace of an active fault. The act requires the State Geologist to delineate “Earthquake Fault Zones” along faults that are “sufficiently active” and “well defined.” The act also requires that cities and counties withhold development permits for sites within an Earthquake Fault Zone until geologic investigations demonstrate that the sites are not threatened by surface displacement from future faulting. Pursuant to this act, structures for human occupancy are not allowed within 50 feet of the trace of an active fault. There are several Earthquake Fault Zones delineated in Highland.

### **Seismic Hazard Mapping Act**

The Seismic Hazard Mapping Act was adopted by the state in 1990 for the purpose of protecting the public from the effects of nonsurface fault rupture earthquake hazards, including strong ground shaking, liquefaction, seismically induced landslides, or other ground failure caused by earthquakes. The goal of the act is to minimize loss of life and property by identifying and mitigating seismic hazards. The California Geological Survey prepares and provides local governments with seismic hazard zone maps that identify areas susceptible to amplified shaking, liquefaction, earthquake-induced landslides, and other ground failures. The State has not published maps that cover the portion of San Bernardino County where Highland is located.

### **Senate Bill 547**

After the 1933 Long Beach earthquake, building codes changed prohibiting unreinforced masonry buildings, and few have been built in California since then; however, there are unreinforced concrete buildings that remain and pose a danger of collapse during seismic events. Senate Bill 547 (Government Code Sections 8875 et seq.), requires local governments to conduct an inventory of unreinforced concrete buildings within their jurisdiction and assess the hazard posed by this class of building. The Senate bill does not specify the level of performance required or expected, but leaves it up to each community.

### **California Building Code (2010)**

California Code of Regulations (CCR), Title 24, Part 2, the California Building Code (CBC), provides minimum standards for building design in the State. The 2010 CBC, effective January 1, 2011, is the current code and is based on the current (2009) International Building Code (IBC).

Each jurisdiction in California may adopt its own building code based on the 2010 CBC. Local codes are permitted to be more stringent than the 2010 CBC, but, at a minimum, are required to meet all state standards and enforce the regulations of the 2010 CBC beginning January 1, 2011. The City of Highland has adopted the 2010 CBC (Municipal Code Section 15.04.020, Ordinance 357 § 2, 2011).

CBC Chapter 16 addresses structural design requirements governing seismically resistant construction (Section 1604), including, but not limited to, factors and coefficients used to establish seismic site class

and seismic occupancy category for the soil/rock at the building location and the proposed building design (Sections 1613.5 through 1613.7). Chapter 18 includes, but is not limited to, the requirements for foundation and soil investigations (Section 1803); excavation, grading, and fill (Section 1804); allowable load-bearing values of soils (Section 1806); and the design of footings, foundations, and slope clearances (Sections 1808 and 1809), retaining walls (Section 1807), and pier, pile, driven, and cast-in-place foundation support systems (Section 1810). Chapter 33 includes, but is not limited to, requirements for safeguards at work sites to ensure stable excavations and cut or fill slopes (Section 3304). Appendix J of the CBC includes, but is not limited to, grading requirements for the design of excavations and fills (Sections J106 and J107) and for erosion control (Sections J109 and J110). Construction activities are subject to occupational safety standards for excavation, shoring, and trenching as specified in Cal-OSHA regulations (CCR Title 8).

### **Natural Hazards Disclosure Act**

The Natural Hazards Disclosure Act requires that sellers of real property and their agents provide prospective buyers with a “Natural Hazard Disclosure Statement” when the property being sold lies within one or more state-mapped hazard areas, including a Seismic Hazard Zone. California law also requires that when houses built before 1960 are sold, the seller must give the buyer a completed earthquake hazards disclosure report and a booklet titled “The Homeowners Guide to Earthquake Safety.” This publication was written and adopted by the California Seismic Safety Commission.

### **Regional**

No regional regulations exist pertaining to geologic and soil resources and hazards. Each local jurisdiction has their own criteria for regulating geologic and soil resources and hazards.

### **Local**

#### **City of Highland Municipal Code**

Highland Municipal Code Chapters 15.04 and 15.08 implement the provisions of the 2010 CBC.

Under City of Highland Municipal Code Section 16.40.320 (Soil Reports) a preliminary soils report, prepared by a civil engineer registered in the state of California and based upon adequate test borings, shall be required for every subdivision for which a final tract or final parcel map is required, and may be required by the city engineer for other development applications. The City of Highland Municipal Code, Section 16.40.420 (Hillside Development) places additional hillside development regulations on any lot or parcel of land with an average slope of 10 percent or greater.

City of Highland Municipal Code Section 16.64.070 places requirements on new development and redevelopment within the City to reduce, eliminate, and prevent conditions of accelerated erosion. These include areas within or adjacent to hillsides and additional requirements if construction is to occur during the rainy season, design considerations, runoff control, and restrictions on land clearing. The City of Highland also conducts inspections by the city building official to ensure compliance with provisions contained within the Municipal Code.

The City of Highland recognizes that many active and potentially active faults may be located outside the Alquist-Priolo Special Studies Zone. Under City of Highland Municipal Code Section 16.40.300 (Seismic Hazards) geologic investigations shall be required in all instances for certain types of development.

## Highland General Plan

The Highland General Plan policies that are applicable to geologic and soil resources and hazards<sup>6</sup> are as follows:

### Public Health and Safety Element

- Policy 6.1-1** Ensure that all new development, including facilities required for the provision of emergency services following a seismic or geologic event, adhere to proper construction design criteria.
- Policy 6.1-2** Enforce the requirements of the Alquist-Priolo Earthquake Fault Zoning Act and require the preparation of reports pursuant to the Act as part of the development review process for all new projects.
- Policy 6.1-4** Continue to evaluate all new development within the Alquist-Priolo Earthquake Fault Zone.
- Policy 6.1-8** Continue to monitor new building materials used for earthquake stability and fire resistance and incorporate such materials into plan checks when applicable.
- Policy 6.1-9** Continue to enforce as part of the development review process site-specific analysis of soils and other conditions related to the onsite impact of maximum credible seismic and geologic events.
- Policy 6.2-1** Continue to enforce hillside development guidelines for proposed development within or nearby slope instability areas of the City.
- Policy 6.2-2** Require appropriate structural design measures for proposed development within hillside or steep slope areas.

## ■ Project Impact Evaluation

### **Thresholds of Significance**

The following thresholds of significance are based on the 2012 CEQA Guidelines Appendix G. For purposes of this EIR, implementation of the San Bernardino County Regional GHG Reduction Plan might have a significant adverse impact on geology/soils if it would do any of the following:

- 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? Refer to Division of Mines and Geology Special Publication 42.

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<sup>6</sup> These policies are not a complete listing of all policies contained in the General Plan; those policies that would be most applicable to the proposed project are included here.

- > Strong seismic groundshaking
- > Seismic-related ground failure, including liquefaction
- > Landslides
- Result in substantial soil erosion or the loss of topsoil
- 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
- Be located on expansive soil, as defined in 2010 California Building Code Section 1803.5.2, 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

### **Analytic Method**

Baseline information to characterize geologic and soils conditions that could affect or be affected by the proposed project was compiled from readily available publications, including the General Plan, and available resource mapping. GHG reduction measures selected by the City of Highland in the Regional Reduction Plan were reviewed to determine which actions could result in physical changes to the environment that could affect or be affected by seismic hazards, erosion, or other geologic or soils hazards.

### **Effects Not Found to Be Significant**

Threshold	<p>Would the project expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:</p> <ul style="list-style-type: none"> <li>■ 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? Refer to Division of Mines and Geology Special Publication 42.</li> <li>■ Strong seismic groundshaking</li> <li>■ Seismic-related ground failure, including liquefaction</li> <li>■ Landslides</li> </ul>
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Alquist-Priolo Earthquake Fault Zones associated with the San Andreas fault have been delineated in Highland (Figure 4.9.6-1), indicating the potential for surface rupture. The presence of the San Andreas fault, San Jacinto fault, and other regional faults also has the potential to cause strong groundshaking, liquefaction, and other seismic hazards.

With PS-1, the installation of energy-saving features (e.g., indoor energy-efficient appliances, roof-mounted equipment, or small-scale energy-generating facilities for a new individual development project) would be within the footprint of that development. Similarly, solar installation in housing within new housing developments (Energy-4) would also be within the footprint. As such, potential impacts related to fault rupture would not be a direct effect of implementing the Regional Reduction Plan in Highland.

However, if there are elements of new development that are within the Earthquake Fault Zones, at the time individual development applications are submitted, the City will assess development proposals for potential impacts, consistent with General Plan Policies 6.1-2 and 6.1-4. Similarly, if off-site solar energy systems are installed as part of commercial development (Energy-5), those projects would also require special study and mitigation, as required. New development projects would be required to comply with the 2010 CBC. With implementation of General Plan Policies 6.1-1, 6.1-2, 6.1-4, 6.1-8, and 6.1-9 and the City's Municipal Code (Chapters 15 and 16), potential impacts as a result of implementation of the Regional Reduction Plan would be *less than significant*. No mitigation is required.

Threshold	Would the project result in substantial soil erosion or the loss of topsoil?
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The northeastern and eastern portions of the City, especially hillside areas, are subject to wind erosion. Potential erosion impacts would be specific to future project sites that could be developed as a result of implementing reduction measures in the Regional Reduction Plan such as solar systems for new commercial land uses, and would depend largely on the areas affected and the length of time soils are subject to erosion. Energy-efficiency features in new development (e.g., PS-1) and solar for new housing (Energy-4) would be integral to that development. City of Highland Municipal Code Section 16.64.070 places requirements on new development within the City to reduce, eliminate, and prevent conditions of accelerated erosion. These include areas within or adjacent to hillsides and additional requirements if construction is to occur during the rainy season, design considerations, runoff control, and restrictions on land clearing. This would reduce soil erosion potential related to construction activities associated with the Regional Reduction Plan. Consequently, potential impacts as a result of implementation of the Regional Reduction Plan would be *less than significant*. No mitigation is required.

Threshold	Would the project be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse?
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Most of the City is relatively flat, but foothill slopes of the San Bernardino Mountains in the eastern portion of Highland planning area have been subject to erosion, seismic and non-seismic related landslides, mudslides, and slope collapse. Drainages within the foothills have created steep walls that are susceptible to landslides. Potential impacts would be specific to future project sites that could be developed as a result of implementing reduction measures in the Regional Reduction Plan such as solar systems for new commercial land uses, and would depend largely on location and would be site-specific. Energy-efficiency features in new development (e.g., PS-1) and solar for new housing (Energy-4) would be integral to that development, which could be exposed to unstable geologic or soils hazards.

Potential hazards would be reduced through implementation of General Plan Policies 6.2-1 and 6.2-2, Municipal Code Section 16.40.420 (Hillside Development), which places additional hillside development regulations on any lot or parcel of land with an average slope of 10 percent or greater, and Municipal Code Section 16.40.320 (Soil Reports). Impacts would be *less than significant*. No mitigation is required.

Threshold	Would the project be located on expansive soil, as defined in 2010 California Building Code Section 1803.5.2, creating substantial risks to life or property?
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Expansive soils are defined as soils that shrink when dry and swell when wet. These characteristics apply to soils with a high percentage of clay. Movement that occurs during expansion can exert enough pressure to crack sidewalks, driveways, basement floors, pipelines, and even foundations. Potential risks to life or property due to structural collapse as a result of construction on expansive soils could occur within the City. Potential expansive soil impacts would be specific to future project sites that could be developed as a result of implementing reduction measures in the Regional Reduction Plan such as solar systems for new commercial land uses, and would depend largely on the areas affected and the length of time soils are subject to erosion. Energy-efficiency features in new development (e.g., PS-1) and solar for new housing (Energy-4) would be integral to that development.

Under City of Highland Municipal Code Section 16.40.320 (Soil Reports) a preliminary soils report would be required for every subdivision for which a final tract or final parcel map is required (e.g., a new development project associated with PS-1), and may be required by the city engineer for other development applications (e.g., new solar for commercial [Energy-5]). This would identify whether expansive soils could pose a hazard, and recommendations for mitigating hazards. With implementation of City requirements, impacts would be *less than significant*. No mitigation is required.

Threshold	Would the project have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?
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None of the reduction measures are related to or require the need for septic tanks or alternative wastewater disposal systems. There would be *no impact*.

## ■ Cumulative Impacts

Future growth envisioned in the General Plan could be affected by seismic hazards or other geotechnical conditions, or could cause erosion. Geologic and soils hazards and erosion are typically site-specific and do not combine to produce cumulative effects. Policies in the General Plan and adherence to CBC and City standards for development, as established in the Municipal Code, would reduce impacts of new development to the extent required by law.

The Regional Reduction Plan would not result in any direct or indirect significant effects related to geology and soils, and, therefore, implementation of the Regional Reduction Plan would not create impacts that are cumulatively considerable. Therefore, *cumulative impacts would be less than significant*.

## ■ References

California Geological Survey, Seismic Hazards Mapping Program. 2008. *Official Maps Released in Southern California*.

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## 4.9.7 Greenhouse Gas Emissions

This section of the EIR analyzes the potential environmental effects on greenhouse gas (GHG) emissions in the City of Highland from implementation of the Regional Reduction Plan. Data for this section were taken from the Highland General Plan (2006), associated environmental document (2005), and various sources, including publications prepared by a number of professional associations and agencies that have suggested approaches and strategies for complying with CEQA's environmental disclosure requirements. Such organizations include the California Attorney General's Office (AGO), the California Air Pollution Controls Officers Association (CAPCOA), the United Nations and World Meteorological Organization's Intergovernmental Panel on Climate Change (IPCC), the Climate Registry, and the Association of Environmental Professionals (AEP). Full reference-list entries for all cited materials are provided at the end of this section.

No comment letters addressing greenhouse gas emissions were received in response to the notice of preparation (NOP) circulated for the Regional Reduction Plan.

### ■ Environmental Setting

The proposed project is located within the South Coast Air Basin (Basin). The regional climate within the Basin is considered semi-arid and is characterized by warm summers, mild winters, infrequent seasonal rainfall, moderate daytime onshore breezes, and moderate humidity. Climate change within the Basin is influenced by a wide range of emission sources, such as utility usage, heavy vehicular traffic, industry, and meteorology.

The City of Highland emitted approximately 267,058 metric tons (MT) of carbon dioxide equivalents (CO<sub>2</sub>e) in 2008. The emissions were calculated based on the 2012RTP traffic modeling, data from utilities, and land use. The largest portion of the City's 2008 emissions were from transportation (49.8 percent), followed by emissions from electricity and natural gas use in buildings (37.8 percent). Table 4.9.7-1 (2008 Net Total Emissions) summarizes the City's net 2008 emissions of CO<sub>2</sub>e as broken down by emissions category. This represents the baseline against which GHG emissions as a result of implementation of the Regional Reduction Plan are analyzed. A detailed breakdown of 2008 emissions by category is available in the Regional Reduction Plan.

### ■ Climate Change Background

Parts of the earth's atmosphere act as an insulating blanket of the right thickness to trap sufficient solar energy and keep the global average temperature in a suitable range. The "blanket" is a collection of atmospheric gases called "greenhouse gases" based on the idea that these gases trap heat like the glass walls of a greenhouse. These gases, mainly water vapor, carbon dioxide (CO<sub>2</sub>), methane (CH<sub>4</sub>), nitrous oxide (N<sub>2</sub>O), ozone (O<sub>3</sub>), and chlorofluorocarbons (CFCs), all act as effective global insulators, reflecting visible light and infrared radiation back to earth. Human activities, such as producing electricity and driving internal combustion vehicles, have contributed to the elevated concentration of these gases in the atmosphere. This in turn is causing the earth's temperature to rise. A warmer earth may lead to changes

in rainfall patterns, smaller polar ice caps, a rise in sea level, and a wide range of impacts on plants, wildlife, and humans.

**Table 4.9.7-1 2008 Net Total Emissions**

<i>Category</i>	<i>Metric tons of CO<sub>2</sub>e</i>
Building Energy	100,948
On-Road Transportation	133,010
Off-road Equipment	11,736
Solid Waste	9,533
Agriculture	715
Water and Wastewater	11,117
<b>Total</b>	<b>267,058</b>
Excluded Stationary Sources under Title V Permits <sup>a</sup>	15,615

a. Excluded from target setting and reductions due to lack of jurisdictional control (see "Analytical Method" section below)

The relationships of water vapor and ozone as GHGs are poorly understood. It is unclear how much water vapor acts as a GHG. The uncertainty is due to the fact that water vapor can also produce cloud cover, which reflects sunlight away from earth and can counteract its effect as a GHG. Also, water vapor tends to increase as the earth warms, so it is not well understood whether the increase in water vapor is contributing to or rather a result of climate change. Ozone tends to break down in the presence of solar radiation but is not understood well enough for evaluation. For these reasons, methodologies approved by the IPCC, United States Environmental Protection Agency (USEPA), and the California Air Resources Board (ARB) focus on carbon dioxide, nitrous oxide, methane, and chlorofluorocarbons. The following provides a brief description of each of these GHGs.

### **Carbon Dioxide**

The natural production and absorption of carbon dioxide occurs through the burning of fossil fuels (e.g., oil, natural gas, and coal), solid waste, trees and wood products, and as a result of other chemical reactions, such as those required to manufacture cement. Globally, the largest source of CO<sub>2</sub> emissions is the combustion of fossil fuels such as coal, oil, and gas in power plants, automobiles, and industrial facilities. A number of specialized industrial production processes and product uses, such as mineral or metal production, and the use of petroleum-based products, leads to CO<sub>2</sub> emissions.

CO<sub>2</sub> is removed from the atmosphere (or sequestered) when it is absorbed by plants as part of the biological carbon cycle. Natural sources of CO<sub>2</sub> occur within the carbon cycle where billions of tons of atmospheric CO<sub>2</sub> are removed by oceans and growing plants and are emitted back into the atmosphere through natural processes. When in balance, total CO<sub>2</sub> emissions and removals from the entire carbon cycle are roughly equal. Since the Industrial Revolution in the 1700s, human activities, including burning of oil, coal, and gas and deforestation, increased CO<sub>2</sub> concentrations in the atmosphere by 35 percent as of 2005.

## **Methane**

Methane is emitted from a variety of both human-related and natural sources. CH<sub>4</sub> is emitted during the production and transport of coal, natural gas, and oil, from livestock and other agricultural practices, and from the decay of organic waste in municipal solid waste landfills. It is estimated that 60 percent of global CH<sub>4</sub> emissions are related to human activities. Natural sources of CH<sub>4</sub> include wetlands, gas hydrates,<sup>7</sup> permafrost, termites, oceans, freshwater bodies, non-wetland soils, and wildfires. CH<sub>4</sub> emissions levels from a particular source can vary significantly from one country or region to another. These variances depend on many factors, such as climate, industrial and agricultural production characteristics, energy types and usage, and waste management practices. For example, temperature and moisture have a significant effect on the anaerobic digestion process, which is one of the key biological processes resulting in CH<sub>4</sub> emissions from both human and natural sources. Also, the implementation of technologies to capture and utilize CH<sub>4</sub> from sources such as landfills, coal mines, and manure management systems affects the emissions levels from these sources.

## **Nitrous Oxide**

Concentrations of nitrous oxide also began to rise at the beginning of the Industrial Revolution reaching 314 parts per billion (ppb) by 1998. Microbial processes in soil and water, including those reactions that occur in fertilizer containing nitrogen, produce nitrous oxide. In addition to agricultural sources, some industrial processes (fossil fuel-fired power plants, nylon production, nitric acid production, and vehicle emissions) also contribute to the atmospheric load of N<sub>2</sub>O.

## **Chlorofluorocarbons**

Chlorofluorocarbons have no natural source, but were synthesized for uses as refrigerants, aerosol propellants, and cleaning solvents. Since their creation in 1928, the concentrations of CFCs in the atmosphere have been rising. Due to the discovery that they are able to destroy stratospheric ozone, a global effort to halt their production was undertaken, and levels of the major CFCs are now remaining static or declining. However, their long atmospheric lifetimes mean that some of the CFCs will remain in the atmosphere for over 100 years. Since they are also a GHG, along with such other long-lived synthesized gases as CF<sub>4</sub> (carbontetrafluoride) and SF<sub>6</sub> (sulfurhexafluoride), they are of concern. Another set of synthesized compounds called HFCs (hydrofluorocarbons) are also considered GHGs, though they are less stable in the atmosphere and therefore have a shorter lifetime and less of an impact. CFCs, CF<sub>4</sub>, SF<sub>6</sub>, and HFCs have been banned and are no longer available. Therefore, these GHGs are not included further in this analysis.

## **■ Potential Effects of Global Climate Change**

Climate change could have a number of adverse effects. Although these effects would have global consequences, in most cases they would not disproportionately affect any one site or activity. In other words, many of the effects of climate change are not site-specific. Emission of GHGs would contribute

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<sup>7</sup> Gas hydrates are crystalline solids that consist of a gas molecule, usually methane, surrounded by a “cage” of water molecules.

to the changes in the global climate, which would in turn, have a number of physical and environmental effects. A number of general effects are discussed below.

**Water Supply.** California Health and Safety Code Section 38501(a) recognizes that climate change “poses a serious threat to the economic well-being, public health, natural resources, and the environment of California,” and notes, “the potential adverse impacts of [climate change] include...reduction in the quality and supply of water to the state from the Sierra snowpack.” As most of the state, including the City of Highland, depends on surface water supplies originating in the Sierra Nevada, this potential water supply reduction is a concern.

Most of the scientific models addressing climate change show that the primary effect on California’s climate would be a reduced snow pack and a shift in stream-flow seasonality. A higher percentage of the winter precipitation in the mountains would likely fall as rain rather than as snow in some locations, reducing the overall snowpack. Further, as temperatures rise, snowmelt is expected to occur earlier in the year. As a result, peak runoff would likely come a month or so earlier. The end result of this would be that the state may not have sufficient surface storage to capture the early runoff, and so, absent construction of additional water storage projects, a portion of the current supplies would flow to the oceans and be unavailable for use in the state’s water delivery systems.

**Water Quality.** Climate change could have adverse effects on water quality, which would in turn affect the beneficial uses (habitat, water supply, etc.) of surface water bodies and groundwater. The changes in precipitation discussed above could result in increased sedimentation, higher concentration of pollutants, higher dissolved oxygen levels, increased temperatures, and an increase in the amount of runoff constituents reaching surface water bodies. Sea level rise, discussed above, could result in the encroachment of saline water into freshwater bodies.

**Ecosystems and Biodiversity.** Climate change could have effects on diverse types of ecosystems, from alpine to deep sea habitat. As temperatures and precipitation change, seasonal shifts in vegetation would occur, which would potentially have an effect on the distribution of associated flora and fauna species. As the range of species shifts, habitat fragmentation could occur, with acute impacts on the distribution of certain sensitive species. The IPCC states that “20 percent to 30 percent of species assessed may be at risk of extinction from climate change impacts within this century if global mean temperatures exceed 2 to 3°C (3.6 to 5.4°F) relative to pre-industrial levels” (IPCC 2007). Shifts in existing biomes<sup>8</sup> could also make ecosystems vulnerable to invasive species encroachment. Wildfires, which are an important control mechanism in many ecosystems, may become more severe and more frequent, making it difficult for native plant species to repeatedly re-germinate. In general terms, climate change would put a number of stressors on ecosystems, with potentially catastrophic effects on biodiversity.

**Human Health Impacts.** Climate change may increase the risk of vector-borne infectious diseases, particularly those found in tropical areas and spread by insects—malaria, dengue fever, yellow fever, and encephalitis (USEPA 2008). While these health impacts would largely affect tropical areas in other parts of the world, effects would also be felt in California. Warming of the atmosphere would be expected to increase smog and particulate pollution, which could adversely affect individuals with heart and

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<sup>8</sup> A biome is a major ecological community classified by the predominant vegetation, and hence animal inhabitants.

respiratory problems, such as asthma. Extreme heat events would also be expected to occur with more frequency, and could adversely affect the elderly, children, and the homeless. Finally, the water supply impacts and seasonal temperature variations which could occur as a result of climate change could affect the viability of existing agricultural operations, making the food supply more vulnerable.

## ■ Potential Effects of Human Activity on Climate Change

The burning of fossil fuels, such as coal and oil, especially for the generation of electricity and powering of motor vehicles, has led to substantial increases in CO<sub>2</sub> emissions (and thus substantial increases in atmospheric concentrations). In 1994, atmospheric CO<sub>2</sub> concentrations were found to have increased by nearly 30 percent above pre-industrial (c. 1760) concentrations.

The effect each GHG has on climate change is measured as a combination of the volume of its emissions, and its global warming potential (GWP), and is expressed as a function of how much warming would be caused by the same mass of CO<sub>2</sub>. Thus, GHG emissions are typically measured in terms of pounds or tons of CO<sub>2</sub> equivalents (CO<sub>2</sub>e), and are often expressed in metric tons (MT) or millions of metric tons (MMT) of CO<sub>2</sub>e.

- **Global Emissions**—Worldwide emissions of GHGs in 2004 were nearly 30 billion tons of CO<sub>2</sub>e per year (including both on-going emissions from industrial and agricultural sources, but excluding emissions from land-use changes) (United Nations 2007).
- **U.S. Emissions**—In 2004, the United States emitted 7.1 billion tons of CO<sub>2</sub>e. Of the four major sectors nationwide—residential, commercial, industrial, and transportation—transportation accounts for the highest percentage of GHG emissions (approximately 35 to 40 percent); these emissions are entirely generated from direct fossil fuel combustion. In 2008, the United States emitted 6.9 billion tons of CO<sub>2</sub>e, with transportation accounting for the highest percentage of GHG emissions, approximately 32 percent (USEPA 2011).
- **State of California Emissions**—In 2004, California emitted approximately 483 million tons of CO<sub>2</sub>e, or about 6 percent of the U.S. emissions. This large number is due primarily to the sheer size of California compared to other states. By contrast, California has one of the fourth lowest per-capita GHG emission rates in the country, due to the success of its energy-efficiency and renewable energy programs and commitments that have lowered the state's GHG emissions rate of growth by more than half of what it would have been otherwise. Another factor that has reduced California's fuel use and GHG emissions is its mild climate compared to that of many other states. In 2008, California's GHG emissions were approximately 478 million metric tons CO<sub>2</sub>e, generally attributed to the reduced travel, and therefore, transportation emissions (USEPA 2010).
  - > The California Energy Commission (CEC) found that transportation is the source of approximately 41 percent of the state's GHG emissions, followed by electricity generation (both in-state and out-of-state) at 23 percent, and industrial sources at 20 percent. Agriculture and forestry is the source of approximately 8.3 percent, as is the source categorized as "other," which includes residential and commercial activities (CEC 2007).

Various aspects of constructing, operating, and eventually discontinuing (demolition and disposal of waste) the use of industrial, commercial, and residential development will result in GHG emissions. Operational GHG emissions result from energy use associated with heating, lighting, and powering

buildings (typically through natural gas and electricity consumption), pumping and processing water (which consumes electricity), as well as fuel used for transportation and decomposition of waste associated with building occupants. New development can also create GHG emissions in its construction and demolition phases in connection with the use of fuels in construction equipment, creation and decomposition of building materials, vegetation clearing, and other activities. However, it is noted that new development does not necessarily create entirely new GHG emissions. Occupants of new buildings are often relocating and shifting their operational-phase emissions from other locations.

## ■ Regulatory Framework

### **Federal**

#### **U.S. Environmental Protection Agency**

The USEPA is responsible for implementing federal policy to address global climate change. The federal government administers a wide array of public-private partnerships to reduce GHG intensity generated by the United States. These programs focus on energy efficiency, renewable energy, methane and other non-CO<sub>2</sub> gases, agricultural practices, and implementation of technologies to achieve GHG reductions.

#### **Federal Mandatory Greenhouse Gas Reporting Rule**

On September 22, 2009, USEPA released its final Greenhouse Gas Reporting Rule (Reporting Rule). The Reporting Rule is a response to the fiscal year (FY) 2008 Consolidated Appropriations Act (H.R. 2764; Public Law 110–161), which required USEPA to develop “mandatory reporting of greenhouse gasses above appropriate thresholds in all sectors of the economy ...” The Reporting Rule would apply to most entities that emit 25,000 MT CO<sub>2</sub>e or more per year. Starting in 2010, facility owners were required to submit an annual GHG emissions report with detailed calculations of facility GHG emissions. The Reporting Rule also mandates recordkeeping and administrative requirements in order for USEPA to verify annual GHG emissions reports.

#### **USEPA Endangerment and Cause and Contribute Findings**

On December 7, 2009, USEPA signed the Endangerment and Cause or Contribute Findings for GHGs under Clean Air Act (CAA) Section 202(a). Under the Endangerment Finding, USEPA finds that the current and projected concentrations of the six key well-mixed GHGs—carbon dioxide (CO<sub>2</sub>), methane (CH<sub>4</sub>), nitrous oxide (N<sub>2</sub>O), perfluorinated carbons (PFCs), sulfur hexafluoride (SF<sub>6</sub>), and hydrofluorocarbons (HFCs)—in the atmosphere threaten the public health and welfare of current and future generations. Under the Cause or Contribute Finding, USEPA found that the combined emissions of these well-mixed GHGs from new motor vehicle engines contribute to the GHG pollution that threatens public health and welfare. These findings did not by themselves impose any requirements on specific industries or other entities. However, this action was a prerequisite to finalizing USEPA’s CAA Title V permitting regulations known as the “Tailoring Rule” under the for new, large point source emitters and corporate average fuel economy (CAFE) standards for light-duty vehicles for future years.

## **Clean Air Act Permitting (Tailoring Rule) for GHG Emissions**

On January 2, 2011 USEPA required states to implement new pollution control measures designed to reduce GHG emissions from new large emission sources such as power plants and refineries. The new GHG standards fall under CAA Title V; while the USEPA oversees compliance with the CAA, individual states are in control of issuing CAA Title V air permits. All states have adapted their air permit programs to comply with the GHG standards of the CAA except for Arizona and Texas. For these two states, the USEPA will take over the issuing of air permits until such a time that the state can resume compliance. The final rule, called the “Tailoring Rule,” established a phased schedule that focuses the GHG permitting programs on the largest sources with the most CAA permitting experience in the first step. Then, in step two, the rule expands to cover large sources of GHGs that may not have been previously covered by the CAA for other pollutants. The rule also describes USEPA’s commitment to future rulemaking that will describe subsequent steps for GHG permitting. The “Tailoring Rule” requires all new sources or modifications of existing sources subject to the New Source Review Prevention of Significant Deterioration (PSD) for another regulated air pollutant under the CAA to also provide Best Available Contract Technology (BACT) if the source has a potential to emit (PTE) at least 75,000 MT CO<sub>2</sub>e per year. In addition new sources that are not regulated under the CAA for other air pollutants, but have a PTE of at least 100,000 MT CO<sub>2</sub>e per year must provide BACT for GHG emissions.

## **Updated Corporate Average Fuel Economy (CAFE) Standards**

The current Federal CAFE standards (for model years 2011 to 2016) incorporate stricter fuel economy requirements promulgated by the federal government and the state of California into one uniform standard. Additionally, automakers are required to cut GHG emissions in new vehicles by roughly 25 percent by 2016 (resulting in fleet average of 35.5 miles per gallon [mpg] by 2016). Rulemaking to adopt these new standards was completed in 2010. California agreed to allow automakers who show compliance with the national program to also be deemed in compliance with state requirements. The federal government issued new standards in summer 2012 for model years 2017–2025, which will require a fleet average in 2025 of 54.5 mpg.

## **State**

### **California Air Resources Board**

California ARB, a part of the California EPA, is responsible for the coordination and administration of both federal and state air pollution control programs within California. In this capacity, California ARB conducts research, sets state ambient air quality standards, compiles emission inventories, develops suggested control measures, and provides oversight of local programs. California ARB establishes emissions standards for motor vehicles sold in California, consumer products (such as hairspray, aerosol paints, and barbecue lighter fluid), and various types of commercial equipment. It also sets fuel specifications to further reduce vehicular emissions. California ARB has primary responsibility for the development of California’s State Implementation Plan (SIP), for which it works closely with the federal government and the local air districts.

### **Executive Order S-3-05**

California Governor Arnold Schwarzenegger announced on June 1, 2005, through Executive Order S-3-05, the following GHG emission reduction targets:

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

### **Assembly Bill (AB) 32, the California Global Warming Solutions Act of 2006**

In 2006, the California State Legislature adopted AB 32, the California Global Warming Solutions Act of 2006. AB 32 focuses on reducing GHGs in California. California ARB has determined the statewide levels of GHG emissions in 1990 to be 427 MMT CO<sub>2</sub>e. California ARB has adopted the Climate Change Scoping Plan, which outlines the state's strategy to achieve the 2020 GHG limit set by AB 32. This Scoping Plan proposes a comprehensive set of actions designed to reduce overall greenhouse gas emissions in California, improve the environment, reduce dependence on oil, diversify energy sources, save energy, create new jobs, and enhance public health.

Part of California's strategy for achieving GHG reductions under AB 32 are the early action greenhouse gas reduction measures, which include the following: a low carbon fuel standard; reduction of emissions from non-professional servicing of motor vehicle air conditioning systems; and improved landfill methane capture (California ARB 2007).

### **Assembly Bill (AB) 1493—Pavley Rules**

Known as "Pavley I," AB 1493 standards were the nation's first GHG standards for automobiles. AB 1493 requires the California ARB to adopt vehicle standards that will lower GHG emissions from new light-duty autos to the maximum extent feasible beginning in 2009. Additional strengthening of the Pavley standards (referred to previously as "Pavley II", now referred to as the "Advanced Clean Cars" measure) has been proposed for vehicle model years 2017–2025. Together, the two standards are expected to increase average fuel economy to roughly 43 mpg by 2020 (and more for years beyond 2020) and reduce GHG emissions from the transportation sector in California by approximately 14 percent. In June 2009, USEPA granted California's waiver request enabling the state to enforce its GHG emissions standards for new motor vehicles beginning with the current model year. USEPA and the California ARB have worked together on a joint rulemaking to establish GHG emissions standards for model-year 2017–2025 passenger vehicles. As noted above, the federal government completed rulemaking in summer 2012 resulting in adoption of new standards that would lead to fleet average of 54.5 mpg in 2025.

### **Senate Bill (SB) 1078, SB 107, and SB 2—Renewable Portfolio Standard**

SB 1078 and SB 107, California's Renewable Portfolio Standard (RPS), obligates investor-owned utilities (IOUs), energy service providers (ESPs), and Community Choice Aggregations (CCAs) to procure an additional 1 percent of retail sales per year from eligible renewable sources until 20 percent is reached, no later than 2010. The California Public Utilities Commission (CPUC) and California Energy Commission

(CEC) are jointly responsible for implementing the program. SB 2 (2011) set forth a longer-range target of procuring 33 percent of retail sales by 2020.

### **Executive Order S-01-07—Low Carbon Fuel Standard**

Executive Order S-01-07 mandates (1) that a statewide goal be established to reduce the carbon intensity of California's transportation fuels by at least 10 percent by 2020 and (2) that an LCFS for transportation fuels be established in California. The executive order initiated a research and regulatory process at California ARB. California ARB developed the LCFS regulation pursuant to the authority under AB 32 and adopted it in 2009. In late 2011, a federal judge issued a preliminary injunction blocking enforcement of the LCFS, ruling that the LCFS violates the interstate commerce clause (Georgetown Climate Center 2012). The injunction was lifted in April 2012 so that California ARB can continue enforcing the LCFS pending California ARB's appeal of the federal district court ruling.

### **Senate Bill (SB) 375**

SB 375, which establishes mechanisms for the development of regional targets for reducing passenger vehicle greenhouse gas emissions, was adopted by the State on September 30, 2008. On September 23, 2010, California ARB adopted the vehicular greenhouse gas emissions reduction targets that had been developed in consultation with the metropolitan planning organizations (MPOs); the targets require a 7 to 8 percent reduction by 2020 and between 13 to 16 percent reduction by 2035 for each MPO. SB 375 recognizes the importance of achieving significant greenhouse gas reductions by working with cities and counties to change land use patterns and improve transportation alternatives. Through the SB 375 process, MPOs, such as the Southern California Council of Governments (SCAG), which includes Orange County, will work with local jurisdictions in the development of sustainable communities strategies (SCS) designed to integrate development patterns and the transportation network in a way that reduces greenhouse gas emissions while meeting housing needs and other regional planning objectives. SCAG's reduction target for per capita vehicular emissions is 8 percent by 2020 and 13 percent by 2035 (California ARB 2010). The MPOs will prepare their first SCS according to their respective regional transportation plan (RTP) update schedule; to date, no region has adopted an SCS. The first of the RTP updates with SCS strategies are expected in 2012.

### **Senate Bill (SB) 97**

SB 97, enacted in 2007, amends the CEQA statute to clearly establish that GHG emissions and the effects of GHG emissions are appropriate subjects for CEQA analysis. In March 2010, the California Office of Administrative Law codified into law CEQA amendments that provide regulatory guidance with respect to the analysis and mitigation of the potential effects of GHG emissions, as found in CEQA Guidelines Section 15183.5. To streamline analysis, CEQA provides for analysis through compliance with a previously adopted plan or mitigation program under special circumstances.

### **Executive Order S-13-08**

Executive Order S-13-08, the Climate Adaptation and Sea Level Rise Planning Directive, provides clear direction for how the state should plan for future climate impacts. The first result is the 2009 California Adaptation Strategy (CAS) report which summarizes the best known science on climate change impacts

in the state to assess vulnerability and outlines possible solutions that can be implemented within and across state agencies to promote resiliency.

### **California Code of Regulations (CCR) Title 24**

CCR Title 24, Part 6 (California's Energy Efficiency Standards for Residential and Nonresidential Buildings) (Title 24) were first established in 1978 in response to a legislative mandate to reduce California's energy consumption. The standards are updated periodically to increase the baseline energy efficiency requirements. Although it was not originally intended to reduce GHG emissions, electricity production by fossil fuels results in GHG emissions and energy efficient buildings require less electricity. Therefore, increased energy efficiency results in decreased GHG emissions. The 2008 standards are the most recent version which went into effect in January 1, 2010.

CCR Title 24, Part 11 (California's Green Building Standard Code) (CALGreen) was adopted in 2010 and went into effect January 1, 2011. CALGreen is the first statewide mandatory green building code and significantly raises the minimum environmental standards for construction of new buildings in California. The mandatory provisions in CALGreen will reduce the use of VOC-emitting materials, strengthen water conservation, and require construction waste recycling.

### **Greenhouse Gas Cap-and-Trade Program**

On October 20, 2011, California ARB adopted the final cap-and-trade program for California. The California cap-and-trade program will create a market-based system with an overall emissions limit for affected sectors. The program is currently proposed to regulate more than 85 percent of California's emissions and will stagger compliance requirements according to the following schedule: (1) electricity generation and large industrial sources (2012) and (2) fuel combustion and transportation (2015). The first auction will be in late 2012 with the first compliance year in 2013.

## **Regional**

### **Southern California Association of Governments (SCAG)**

SCAG is the designated Metropolitan Planning Organization for six Southern California counties (Los Angeles, Ventura, Orange, San Bernardino, Riverside, and Imperial), and is federally mandated to develop plans for transportation, growth management, hazardous waste management, and air quality. The Southern California Association of Governments (SCAG) regional plans cover San Bernardino County, which includes the City and SOI, and five other counties within Southern California.

### *Regional Comprehensive Plan*

The Regional Comprehensive Plan (RCP) is a problem-solving guidance document that responds to SCAG's Regional Council directive in the 2002 Strategic Plan to develop a holistic, strategic plan for defining and solving the region's interrelated housing, traffic, water, air quality, and other regional challenges. The RCP is a voluntary framework that links broad principles to an action plan that moves the region towards balanced goals. The RCP's guiding principles include:

- Improve mobility for all residents. Improve the efficiency of the transportation system by strategically adding new travel choices to enhance system connectivity in concert with land use decisions and environmental objectives.
- Foster livability in all communities.
- Foster safe, healthy, walkable communities with diverse services, strong civic participation, affordable housing, and equal distribution of environmental benefits.
- Enable prosperity for all people. Promote economic vitality and new economies by providing housing, education, and job training opportunities for all people.
- Promote sustainability for future generations.
- Promote a region where quality of life and economic prosperity for future generations are supported by the sustainable use of natural resources.

Further, the RCP seeks to successfully integrate land and transportation planning and achieve land use and housing sustainability by implementing Compass Blueprint and 2 percent Strategy:

- Focusing growth in existing and emerging centers and along major transportation corridors
- Creating significant areas of mixed-use development and walkable, "people-scaled" communities
- Providing new housing opportunities, with building types and locations that respond to the region's changing demographics
- Targeting growth in housing, employment and commercial development within walking distance of existing and planned transit stations
- Injecting new life into under-used areas by creating vibrant new business districts, redeveloping old buildings and building new businesses and housing on vacant lots
- Preserving existing, stable, single-family neighborhoods
- Protecting important open space, environmentally sensitive areas and agricultural lands from development
- Reduce emissions of criteria pollutants to attain federal air quality standards by prescribed dates and state ambient air quality standards as soon as practicable
- Reverse current trends in greenhouse gas emissions to support sustainability goals for energy, water supply, agriculture, and other resource areas
- Minimize land uses that increase the risk of adverse air pollution-related health impacts from exposure to toxic air contaminants, particulates (PM<sub>10</sub>, PM<sub>2.5</sub>, ultrafine), and carbon monoxide

### *Regional Transportation Plan*

On May 8, 2012, the Regional Council of SCAG adopted the 2012 Regional Transportation Plan (RTP) and SCS for the SCAG area aimed at attaining the reduction targets of an 8 percent per capita reduction in GHG emissions from passenger vehicles by the year 2020 and a 13 percent reduction by 2035. There are transportation-related reduction measures included in this Regional Reduction Plan that coordinate with efforts in SCAG's SCS. The 2012 RTP strives to provide a regional investment framework to address the region's transportation and related challenges, and looks to strategies that integrate land use into transportation planning with an emphasis on transit and other non-vehicle transportation modes. The RTP also provides the framework for aggregating sub-regional and local efforts to institute measures aimed at mitigating the adverse air pollution impacts from transportation activities. These measures are known as transportation control measures (TCMs). The RTP links the goal of sustaining mobility with the goals of fostering economic development, enhancing the environment, reducing energy consumption, promoting transit-friendly development patterns, and encouraging fair and equitable access to residents affected by socio-economic, geographic, and commercial limitations. The Regional Transportation Implementation Plan (RTIP) is the vehicle used to implement the RTP and SCS. The RTIP also provides the schedule and framework for the timely implementation of the Region's TCM strategies.

SCAG is currently in the process of developing the 2014 RTP and SCS for their jurisdiction aimed at updating the regional transportation modeling system and keeping on track to achieve the reduction targets of an 8 percent per capita reduction in GHG emissions from passenger vehicles by the year 2020 and a 13 percent reduction by 2035.

### *SCAG Compass Growth Visioning*

The Compass Blueprint Growth Vision effort by SCAG is a response, supported by a regional consensus, to the land use and transportation challenges facing Southern California now and in the coming years. The Growth Vision is driven by four key principles:

- **Mobility**—Getting where we want to go
- **Livability**—Creating positive communities
- **Prosperity**—Long-term health for the region
- **Sustainability**—Preserving natural surroundings

The fundamental 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 class. Thus, decisions regarding growth, transportation, land use and economic development should be made to promote and sustain for future generations the region's mobility, livability and prosperity.

### **South Coast Air Quality Management District**

The South Coast Air Quality Management District (SCAQMD) is the agency principally responsible for comprehensive air pollution control in the South Coast Air Basin, which includes the counties of Los Angeles, Riverside, San Bernardino, and Orange. In order to provide GHG emission guidance to the

local jurisdictions within the Basin, the SCAQMD has organized a Working Group to develop GHG emissions analysis guidance and thresholds.

SCAQMD released a draft guidance document regarding interim CEQA GHG significance thresholds in October 2008. On December 5, 2008, the SCAQMD Governing Board adopted the staff proposal for an interim GHG significance threshold for projects where the SCAQMD is the lead agency. SCAQMD proposed a tiered approach, whereby the level of detail and refinement needed to determine significance increases with a project's total GHG emissions. The tiered approach defines projects that are exempt under CEQA and projects that are within the jurisdiction of and subject to the policies of a GHG Reduction Plan as less than significant.

### **Air Quality Management Plan**

The SCAQMD and the SCAG are the agencies responsible for preparing the Air Quality Management Plan (AQMP) for the Basin. The most recent comprehensive plan is the 2012 AQMP adopted on December 7, 2012. The 2012 AQMP is designed to meet the state and federal CAA planning requirements and focuses on new federal ozone and PM<sub>2.5</sub> standards. The 2012 AQMP incorporates significant new emissions inventories, ambient measurements, scientific data, control strategies, and air quality modeling including transportation conformity budgets that show vehicle miles traveled (VMT) emissions offsets following the recent changes in USEPA requirements.

### **San Bernardino County GHG Reduction Plan**

Following San Bernardino County's adoption of its General Plan in March 2007, the California Attorney General filed a lawsuit alleging that the EIR prepared for the General Plan Update did not comply with the requirements of CEQA in its analysis of GHG emissions and climate change. Subsequently, the County and the Attorney General entered into an agreement to settle the lawsuit, which included an agreement by the County to (1) prepare an amendment to its General Plan adding a policy that describes the County's goal of reducing those GHG emissions reasonably attributable to the County's discretionary land use decisions and the County's internal government operations and (2) prepare a GHG Emissions Reduction Plan, which includes inventories, a reduction target, and reduction measures to meet the reduction target, by regulating those sources of GHG emissions reasonably attributable to the County's discretionary land use decisions and the County's internal government operations.

The County's GHG Reduction Plan fulfilled the requirements of the settlement agreement and includes a comprehensive analysis and inventory of GHG emissions within the unincorporated County areas and emissions from County government operations within municipalities, 2020 forecasted emissions, a set of reduction measures used to reduce 2020 emission levels down to the reduction targets for the County, and a monitoring and updating framework designed to keep the County on track toward achieving the reduction targets.

The technical data, emission inventory processes, and methodology used in the San Bernardino County GHG Reduction Plan became the foundational inventory processes and methodology used in this Regional Reduction Plan.

## Local

### Highland General Plan

The Highland General Plan policies that are applicable to GHG emissions and reductions<sup>9</sup> are as follows:

#### Land Use Element

- Policy 2.10.3** Provide access to multiple modes of travel, including pedestrian, bicycle, transit and automobile.

#### Circulation Element

- Policy 3.1.10** Encourage major employers to reduce vehicular trips by offering incentive concepts discussed in the General Plan Circulation Element, including but not limited to reduced transit passes and preferential parking for ridesharing.
- Policy 3.4.11** Encourage and improve pedestrian connections from residential neighborhoods to retail activity centers, employment centers, schools, parks, open space areas and community centers.
- Policy 3.4.13** Support the planning of sidewalks of appropriate width to allow the provision of buffers to shield nonmotorized traffic from vehicles.
- Goal 3.5** Promote bus service and paratransit improvements. [All Policies]
- Goal 3.7** Protect and encourage bicycle travel. [All Policies]

#### Public Services & Utilities Element

- Policy 4.5.3** Encourage Grey Water Recycling, especially for residential use irrigation.
- Policy 4.5.3** Reduce the volume of solid waste material sent to landfills by continuing source reduction, recycling and composting programs in compliance with State law and encouraging the participation of all residents and businesses in these programs.
- Policy 4.5.4** Increase the price paid for recycling glass and plastic from private vendors.

#### Conservation & Open Space Element

- Policy 5.1.9** Preserve mature trees, natural hydrology, native plant materials and areas of visual interest.
- Policy 5.6.3** Continue to specify and install water-conserving plumbing fixtures and fittings in public facilities such as parks, community centers and government buildings in accordance with Title 24 of the California Code of Regulations.
- Policy 5.6.5** Ensure that the latest water-saving technologies for domestic and landscaping uses are incorporated into new developments or retrofitted into existing developments where intensification is proposed.
- Policy 5.6.6** Encourage the use of drought-tolerant plants and water-efficient landscape design.
- Policy 5.6.9** Consider underground irrigation techniques to conserve water.

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<sup>9</sup> These policies are not a complete listing of all policies contained in the General Plan; those policies that would be most applicable to the proposed project are included here.

- Policy 5.6.10** To the extent possible, require the preservation of existing native trees and shrubs.
- Policy 5.6.11** Within each model home complex, require that homes incorporate a specified amount of drought-tolerant landscaping.
- Policy 5.6.12** Require residential builders to provide information, including a plant palette of xeriscape species, to prospective buyers of new homes within the City of Highland regarding drought-tolerant planting concepts.
- Policy 5.6.13** Where possible, require the extensive use of mulch in landscape areas to improve the water-holding capacity of the soil by reducing evaporation and soil compaction.
- Policy 5.6.15** Establish landscape maintenance districts along streets for water conservation purposes.
- Policy 5.12.5** Where possible, designate and design new trail development near transit routes or heavily traveled areas.
- Policy 5.16.1** Consolidate and adopt energy-saving practices for all City departments.
- Policy 5.16.2** Monitor energy usage for all City facilities.
- Policy 5.16.4** Distribute energy-conservation information, in both English and Spanish, to residents and businesses.
- Policy 5.16.5** Coordinate energy-related policies and actions with local utilities and energy agencies.
- Policy 5.17.1** Encourage energy and environmentally sustainable designs—such as “Green Development Standards”—in the design and approval of new projects.
- Policy 5.17.7** Encourage energy-efficient retrofitting of existing buildings, where practical, throughout the City including assisting applicants in the installation of more efficient HVAC (heating, ventilation, air conditioning) systems.
- Policy 5.17.8** Distribute and participate in incentive programs for incorporation of solar and photovoltaic panels (active solar) into existing or new buildings.
- Policy 5.17.10** Adopt LEED design standards for public buildings.
- Policy 5.17.11** Participate in the CEEP (Community Energy Efficiency Program) Certificate and Recognition Program.
- Policy 5.18.2** Where joint programs offer improved efficiency or reduced cost, collaborate with other entities in waste recycling efforts.
- Policy 5.18.3** Maintain a comprehensive public education program, coordinated, in part, through the Environmental Learning Center, to stimulate recycling, reuse and waste reduction by its resident and businesses.
- Policy 5.19.13** Continue comprehensive efforts to reduce energy consumption.
- Policy 5.19.14** Offer incentives to home-based businesses, carpool networks and park-and-ride facilities.

Public Health & Safety Element

- Policy 6.8.3** Create and integrate innovative local emissions reducing pilot programs into city plans for future government facilities and equipment.
- Policy 6.8.4** Support the development and use of alternative fuel sources for transportation-related activities to reduce local government energy demand.
- Policy 6.8.7** Support current incentive programs that recognize and reward developments using new and innovative emission reduction techniques such as innovative efficient window glazing, wall insulation, and ventilation systems; efficient air conditioning, heating, and appliances; use of passive solar design, and solar heating systems; use of energy cogeneration and/or use of waste energy; and landscape techniques that reduce water consumption and provide passive solar benefits.
- Policy 6.8.9** Reduce work trips in the City and peak period auto travel by enforcing the City’s Transportation Demand Ordinance; supporting current staggered, flexible, and compressed work schedules in public agencies; working with private agencies to encourage work schedule flexibility programs for employers with more than 25 employees in a single location; educating City residents on the advantages of ride sharing and public transit; and encouraging the development of job-intensive uses within designated employment centers for local residents.
- Policy 6.8.11** Reduce the number of vehicles driven to work by requiring as part of the development review process that preferential parking be included in parking lot designs to high occupancy vehicles, vanpools, and shuttle services, if applicable.
- Policy 6.8.15** Enforce compliance of new development with the Tree Preservation Ordinance.

Community Design Element

- Policy 10.5.4** Provide ample landscaping for internal parking areas using landscaped bays and overstory shade trees.
- Policy 10.12.1** Encourage landscaping practices that increase energy efficiency and conserve natural resources.
- Policy 10.12.2** Planting trees and incorporating landscaped berms to provide shade and wind buffering.
- Policy 10.12.3** Using native and drought-tolerant landscaping (“xeriscaping”) and drip irrigation to conserve water resources.
- Policy 10.12.5** Encourage transit-oriented, infill development to make efficient use of existing land.
- Policy 10.12.6** Encourage site planning and building orientation that maximizes solar and wind resources for cooling and heating.
- Policy 10.12.9** Encourage local recycling and composting initiatives at the neighborhood level.

## ■ Project Impact Evaluation

### ***Thresholds of Significance***

The following thresholds of significance are based on the 2012 CEQA Guidelines Appendix G. For purposes of this EIR, implementation of the San Bernardino County Regional GHG Reduction Plan might have a significant adverse impact on greenhouse gas emissions if it would do any of the following:

- Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment
- Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases

### ***Analytic Method***

The impact analysis for the Regional Reduction Plan is based on a GHG emissions analysis, which is presented in the environmental analysis, below. The Regional Reduction Plan document includes community-wide GHG emissions inventories for the City of Highland for the following scenarios: 2008, 2020 business-as-usual, and 2020 reduced. The 2008 inventory is the baseline; this was the most recent year for which adequate data was available and uniform to all the Partnership Cities. The baseline emissions inventory was also used to establish the reduction target for the year 2020.

As stated above the GHG Reduction Target for the City is to reduce the GHG emissions predicted for 2020 business as usual by at least 22 percent.

The 2020 business-as-usual (BAU) scenario represents the forecasted emissions for the City without the incorporation of recently adopted measures to reduce GHG emissions. The 2020 reduced scenario demonstrates the effects of the Regional Reduction Plan reduction measures and their ability to reduce Highland's emissions to levels at or below the reduction target. The methodology and assumptions used in this analysis are detailed in Appendices A and B of the Regional Reduction Plan. Refer to in the Regional Reduction Plan (included in Appendix B of this EIR) for model inputs and sources, model output and detailed calculations. A summary of the Regional Reduction Plan methodology is provided below.

The following summarizes the basis of the GHG calculations by emission source. The emissions and emissions reduction calculations performed for the Regional Reduction Plan followed guidance provided by the California Air Pollution Control Officers Association (CAPCOA), other reference sources (such as the USEPA, California Energy Commission, California Air Resource Board, and Intergovernmental Panel on Climate Change), and ICF International's professional experience obtained from preparing climate action plans for other jurisdictions in California. Baseline emissions inventories were completed by quantifying GHG sources in the region based on information provided by local utility providers, the Southern California Association of Governments (SCAG), and local land use information. These sources were multiplied by GHG emissions factors from a variety of sources, including EMFAC2011, and guidance from the reference sources listed above. 2020 business as usual emissions were estimated based on anticipated growth in the residential and commercial/industrial areas, and the projected increase in VMT determined by SCAG. Refer to Appendices A and B of the Regional Reduction Plan for a detailed

methodology of the GHG emissions and emission reduction calculations. The complete Regional Reduction Plan is included in Appendix B of this EIR.

Because the impact each GHG has on climate change varies, a common metric of CO<sub>2</sub>e is used to report a combined impact from all of the GHGs. The effect each GHG has on climate change is measured as a combination of the volume of its emissions, and its global warming potential, and is expressed as a function of how much warming would be caused by the same mass of CO<sub>2</sub>. Thus, GHG emissions in this analysis are measured in terms of metric tons of CO<sub>2</sub> equivalents (MT CO<sub>2</sub>e).

Note that some stationary sources within the City are permitted under CAA Title V. Permitted industrial process such as oil and gas production (combustion), petroleum production and marketing, chemical production, mineral processes, and other permitted industrial processes are strictly regulated under the CAA by SCAQMD, California ARB, and USEPA. The City cannot change in any way the industrial process and BACT emission reduction devices on these permitted sources. Because the City does not have jurisdictional control over these point source industrial processes, GHG emissions from these permitted stationary sources were not included in determining GHG Reduction Target setting or subject to City-administered reduction measures associated with them in the Regional Reduction Plan. However, SCAQMD permit regulations, and in some cases the USEPA Tailoring Rule and California Cap and Trade Program, will regulate and reduce GHG emissions from these permitted industrial process sources. GHG emissions from these permitted stationary sources in the City of Highland totaled 15,615 MT CO<sub>2</sub>e in 2008.

### **Effects Not Found to Be Significant**

Threshold	Would the project generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?
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Implementation of the Regional Reduction Plan in the City of Highland would result in the reduction of GHG emissions over the long term, which would be a beneficial effect. Area source reduction strategies such as landscape strategies, cool roofs, cool pavement, and parking lot shading would reduce GHG emissions. Construction activities, such as building energy retrofits and grading or excavation activities, if required, for installation of energy-generating structures, would result in temporary, short-term emissions of GHGs. These temporary, short-term emissions would not be substantial, and would be offset by the operation of energy-efficiency retrofits and renewable energy projects that are part of the reduction measures in the Regional Reduction Plan that would result in an overall reduction in GHG emissions.

The Regional Reduction Plan would implement additional reduction strategies that build from the existing programs in the General Plan such as transit oriented development and infill development. Table 4.9.7-2 (GHG Emission Inventories and Reductions in the City of Highland) quantitatively shows the reductions of GHG emissions in 2020 that result would result from implementation of the Regional Reduction Plan in the City of Highland and compares the reduced emissions with the City Reduction Target.

The reduction measures that reduce GHG emissions down to levels below the Reduction Target are discussed in Section 4.09.0 of this EIR. Regional Reduction Plan Chapter 4 has additional details of these reduction measures.

The Regional Reduction Plan includes emission inventories, forecasted emissions, a reduction target and reduction measures and quantification demonstrating that the reduction measures achieve the reduction target for the City of Highland.

The proposed project will result in a reduction of GHG emissions. Therefore, this impact would be *less than significant*, and no further mitigation is required.

Threshold	Would the project conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases?
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The proposed project is a GHG reduction plan and includes a baseline GHG emissions inventory for the year 2008, an emission reduction target for the year 2020, a forecasted emissions inventory under a business-as-usual scenario for 2020, and a reduced 2020 inventory that demonstrates the emissions reductions achieved with the implementation of the Regional Reduction Plan reduction measures. Table 4.9.7-2 (GHG Emission Inventories and Reductions in the City of Highland) summarizes the 2008 GHG emissions for the City. The emissions in 2008 totaled 267,058 MT CO<sub>2</sub>e. The largest source of emissions was transportation, followed closely by energy use.

<b>Table 4.9.7-2 GHG Emission Inventories and Reductions in the City of Highland</b>					
<i>Category</i>	<i>Metric tons of CO<sub>2</sub>e</i>				
<b>Emission Source</b>	<b>2008</b>	<b>2020 BAU</b>	<b>Plan Reductions</b>	<b>2020 with Plan</b>	<b>% Reduction</b>
Energy	100,948	120,044	56,192	63,852	46.8%
On-Road Transportation	133,010	145,050	40,424	104,626	27.9%
Off-road Equipment	11,736	13,319	1,280	12,040	9.6%
Solid Waste	9,533	10,957	3,715	7,242	33.9%
Agriculture	715	364	0	364	0.0%
Wastewater Treatment	2,143	2,387	271	2,116	11.3%
Water Conveyance	8,974	11,417	2,387	9,030	20.9%
GHG Performance Standard for New Development	-	-	3,114	-	-
<b>Total</b>	<b>267,058</b>	<b>303,538</b>	<b>107,381</b>	<b>196,157</b>	<b>35.4%</b>
<b>Reduction Target</b>			<b>66,778</b>	<b>236,760</b>	<b>22.0%</b>
Does the Plan Meet the Reduction Target?			Yes	Yes	Yes
<b>Reductions Beyond Target</b>			<b>40,603</b>		
Excluded Stationary Sources under Title V Permits <sup>b</sup>	15,615	20,364			

Values may not sum due to rounding.

- a. The GHG Performance Standard for New Development is not a sector of the inventory, but it contributes toward the reduction target by promoting reductions in multiple sectors. See the Regional Reduction Plan Chapter 4 for a complete description of this measure.
- b. Excluded from target setting and reductions due to lack of jurisdictional control (see Analytical Method section, above).

The 2020 BAU emissions inventory for the City was estimated in the Regional Reduction Plan using the General Plan and SCAG growth rates for the City from 2008 to the year 2020. The BAU inventory represents the projected City emissions without the incorporation of recently adopted sustainability

measures or reduction measures included in the proposed project. Table 4.9.7-2 summarizes the 2020 BAU emissions inventory. The emissions are an estimated at 303,538 MT CO<sub>2</sub>e, an increase of 36,480 MT CO<sub>2</sub>e (or 13.7 percent) from the 2008 baseline. Similar to the 2008 inventory, the largest source of emissions is predicted to be transportation followed closely by emissions associated with energy use. The difference between the BAU-forecasted emissions and the established reduction target for the year 2020 is 66,778 MT CO<sub>2</sub>e. This is the amount the City must reduce in order to reach their target. Implementation of the Regional Reduction Plan reduces 107,381 MT CO<sub>2</sub>e of emissions in 2020 which exceeds the reduction goal by approximately 40,603 MT CO<sub>2</sub>e. This is a reduction of approximately 35.4 percent in 2020. Therefore the Regional Reduction Plan fulfills its own GHG reduction planning.

AB 32 is implemented through the Scoping Plan which is the statewide plan for the reduction of GHG emissions. The Regional Reduction Plan builds complements the statewide efforts of the Scoping Plan by building upon the reduction measures administered by the State. For example, the Regional Reduction Plan Reduction Measure Energy-4: Solar Installation for New Housing and Measure Energy-5: Solar Installation for New Commercial, implements the renewable energy requirements contemplated in the Scoping Plan. In addition, the AB 32 Scoping Plan shows that statewide emissions would be reduced by approximately 29 percent below 2020 BAU. The Highland chapter of the Regional Reduction Plan demonstrates that the City exceeds that level of reduction. All of the reduction measures in the Highland chapter of the Regional Reduction Plan complement the reduction efforts of the AB 32 Scoping Plan. Therefore, the Regional Reduction Plan does not conflict with the AB 32 Scoping Plan.

Descriptions of the reduction measures are shown in Section 4.09.0 of this EIR and are described in further detail in Chapter 4 of the Regional Reduction Plan.

Highland will participate in the Regional Reduction Plan reduction measure On-Road-2 (“Smart Bus” Technology):

- **On-Road-2 “Smart Bus” Technology**—Collaborate with Omnitrans to implement “Smart Bus” technology, global positioning system (GPS), and electronic displays at all transit stops by 2020 to provide customers with “real-time” arrival and departure time information (California Air Pollution Control Officers Association 2009). Smart Bus Technologies include Automatic Vehicle Location (AVL) systems and real-time passenger information at bus stations. Omnitrans plans to implement these technologies systemwide on all bus routes serving San Bernardino Valley (Omnitrans service area) to enable information sharing, enhance rider services, and attract potential riders. The AVL system has already been implemented. The Bus Arrival Prediction Information System (BAPIS) would be installed in two phases. In Phase I, real-time rider information would be available via text messaging, Quick Response (QR), website, Interactive Voice Response (IVR), and mobile phone devices. Completed implementation is slated for December 2012. In Phase II, Omnitrans will install electronic signs at all major transit hubs and provide General Transit Feed Specification (GTFS) data to the general public to build apps for mobile devices like smartphones and tablet computers. Phase II completion is slated for December 2013. GHG emissions are expected to decrease because the AVL technologies could lead to more fuel efficient bus operations for Omnitrans and the BAPIS technologies could potentially attract more transit riders who may switch modes from automobiles. Omnitrans' Demand Response Services, OmniLink and Access, do not operate on a fixed schedule or route

and are not included in this analysis. Omnitrans is primarily responsible for this measure. The City of Highland will coordinate with Omnitrans as appropriate.

The following discussion summarizes the General Plan policies that correlate with the “smart bus” technologies reduction measures implementing within the City of Highland:

On-Road Transportation-2 (“Smart Bus” Technologies)

- Goal 3.5** Promote bus service and paratransit improvements. [All Policies]
- Policy 5.12.5** Where possible, designate and design new trail development near transit routes or heavily traveled areas.

The Regional Reduction Plan provides the GHG reductions contemplated by SB 375 by implementing smart bus technologies in Highland. Therefore, this impact would be *less than significant*. No mitigation is required.

## ■ Cumulative Impacts

The analysis of GHG emissions is cumulative in nature, and no separate analysis is required.

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## 4.9.8 Hazards/Hazardous Materials

This section of the EIR analyzes the potential environmental effects on hazards/hazardous materials, including hazardous materials, hazardous waste disposal, airport safety, emergency preparedness, and wildfire potential, in the City of Highland from implementation of the Regional Reduction Plan. Geologic and flood hazards are addressed separately in Section 4.9.6 (Geology/Soils) and Section 4.9.9 (Hydrology/Water Quality), respectively. Data for this section were taken from Highland General Plan (2006) and associated environmental document (2005). Full reference-list entries for all cited materials are provided at the end of this section.

No comment letters addressing hazards/hazardous materials were received in response to the notice of preparation (NOP) circulated for the Regional Reduction Plan.

### ■ Environmental Setting

#### ***Hazardous Materials and Hazardous Waste***

Hazardous materials refer generally to hazardous substances that exhibit corrosive, poisonous, flammable, and/or reactive properties and have the potential to harm human health and/or the environment. Hazardous materials are used in products (household cleaners, industrial solvents, paint, pesticides, etc.) and in the manufacturing of products (e.g., electronics, newspapers, plastic products). Hazardous materials can include petroleum, natural gas, synthetic gas, acutely toxic chemicals, and other toxic chemicals that are used in agriculture, commercial, and industrial uses; businesses; hospitals; and households. Accidental releases of hazardous materials can occur from a variety of causes, including highway incidents, warehouse fires, train derailments, shipping accidents, and industrial incidents.

#### **Hazardous Materials and Waste Sites**

Hazardous waste information is contained in the RCRA Information (RCRAInfo), a national program management and inventory system about hazardous waste handlers. In general, all generators, transporters, treaters, storers, and disposers of hazardous waste are required to provide information about their activities to state environmental agencies. These agencies, in turn pass on the information to regional and national U.S. Environmental Protection Agency (USEPA) offices. There are thirteen hazardous waste handlers in Highland.

The Comprehensive Environmental Response, Compensation and Liability Information System (CERCLIS) Database is maintained by the USEPA and contains information on hazardous waste sites, potentially hazardous waste sites and remedial activities across the nation. The database includes sites that are on or being considered for the NPL. Based on an online query of the CERCLIS database, no Superfund sites or sites on the NPL were found in the City of Highland. A search of the Cortese List and Department of Toxic Substance Control's (DTSC) Active Hazardous Waste Transporter Database resulted in a negative listing. For leaking underground fuel tanks sites, there are fifteen within the City.

Businesses that generate no more than 27 gallons or 220 pounds of hazardous waste, or 2.2 pounds of extremely hazardous waste per month are "Conditionally Exempt Small Quantity Generators" or

CESQGs. The most common CESQGs in San Bernardino County are painters, print shops, auto shops, builders, and property managers. The CESQG Program is a mobile hazardous waste pick-up disposal service for eligible businesses in San Bernardino County. Trained San Bernardino County Fire Department staff provides assistance to properly label and mark hazardous wastes and remove it for disposal. All legal documentation is provided as part of the service. Hazardous waste collected by the CESQG Program is transported to a state-permitted processing facility located in San Bernardino. The waste is further processed at this point and packaged for off-site recycling (oil filters, oil, latex paint, antifreeze, and batteries) or destructive incineration (pesticides, corrosives, flammables, and oil-based paints).

Businesses that produce more than 27 gallons or 220 pounds of hazardous waste must coordinate with the San Bernardino County CUPA for assistance with hazardous waste management. Radioactive wastes, water reactive wastes, explosives, pyrotechnics or fire arms, compressed gas cylinders, asbestos, medical wastes or hazardous waste site remediation waste are not accepted.

### **Airport Hazards**

The closest airports to Highland are the Rialto Municipal Airport approximately nine miles to the west, Redlands Municipal Airport adjacent to the City in the southeast, and the San Bernardino International Airport (SBIA) to the southwest. No private airstrips are located within or in close proximity to Highland. No heliports are located within Highland. It is the policy of the City to coordinate with the airport authorities to ensure that proposed land uses within the airport safety zones are consistent with the adopted master land use plans and land use compatibility plans for the airport.

### **Emergency Response**

Highland has adopted the City of Highland Emergency Operations Plan. As discussed under Fire Hazards, the City also has a five-year plan that outlines fire hazards and risks, and present and future fire protection needs.

The current San Bernardino County General Plan identifies potential evacuation routes in and around Highland. Major evacuation routes within the San Bernardino Valley include, but are not limited to, Interstate 10 (I-10), I-15, and I-215; State Highways 30, 31, 60, 66, and 71; and numerous major and secondary highways. Since earthquakes, floods, fires, or other disasters may render some or portions of these routes impassible, specific evacuation routes may need to be designated during an emergency depending on the nature and location of the particular disaster.

### **Fire Hazard**

The northeastern and eastern portions of the City, especially hillside areas, are most susceptible to wildfires due to the presence of fire-prone vegetation, limited access for firefighting equipment, and steep topography. Fire Zones I, II, and III, which have been adopted by many counties and cities, are established by the Uniform Building Code (UBC). These zones set standards by requiring decreasing degrees of fire safety to be built into structures of various types of occupancy and prohibit certain occupancies in Zones I and II. Zones I and II are areas at high-risk for fire. Zone III includes all other

areas within the jurisdiction not included in Zones I and II. In all zones, the standards are designed to provide protection from fires starting within the building or in another one nearby (3 to 20 feet).

Areas rated as Very High Fire Severity Zone and Wildland Area That May Contain Substantial Forest Fire Risks and Hazards within the City of Highland and cover the East Highlands Ranch development and open space areas in the foothills. Owners of property within areas designated as Wildland Area That May Contain Substantial Forest Fire Risks and Hazards and areas designated Very High Fire Hazard Severity Zone are also subject to maintenance requirements of Public Resources Code Section 4291 and Government Code Section 51182, respectively.

## ■ Regulatory Framework

There are numerous federal, state, and local programs that regulate the use, storage, and transportation of hazardous materials and hazardous waste. Federal and state statutes, as well as local ordinances and plans, regulate hazardous waste management. These regulations can reduce the danger hazardous substances may pose to people and businesses under normal daily circumstances and as a result of emergencies and disasters.

### **Federal**

The USEPA is the primary federal agency that regulates hazardous materials and waste. The regulations are codified in Code of Federal Regulations (CFR) Title 40. USEPA is responsible for researching and setting national standards for a variety of environmental programs, and delegates to states and tribes the responsibility for issuing permits and for monitoring and enforcing compliance. The Resource Conservation and Recovery Act of 1976 (RCRA) is the principal federal law that regulates the generation, management, and transportation of waste. Hazardous waste management also includes the treatment, storage, or disposal of hazardous waste. RCRA authorized the USEPA to authority to control hazardous waste from generation to transportation, treatment, storage, and disposal. The Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA), commonly known as the Superfund, was enacted to protect the water, air, and land resources from the risks created by past chemical disposal practices such as abandoned and historical hazardous wastes sites. Through the act, the USEPA was given power to seek out those parties responsible for any release and assure their cooperation in the cleanup. Other key federal laws pertaining to hazardous materials and waste include the Emergency Planning and Community Right-to-Know Act (EPCRA) and Toxic Substances Control Act (TSCA). The U.S. Department of Transportation (USDOT) has established regulations (CFR Title 49) for the transport of hazardous materials and wastes.

### **State**

California Department of Toxic Substances Control (DTSC) is a department of California Environmental Protection Agency (Cal/EPA), which authorizes DTSC to carry out the RCRA program in California. DTSC regulates hazardous waste, cleans up existing contamination, and looks for ways to control and reduce the hazardous waste produced in California primarily under the authority of RCRA and in accordance with the California Hazardous Waste Control Law (California Health and Safety Code Division 20, Chapter 6.5) and the Hazardous Waste Control Regulations (California Code of Regulations [CCR] Title 22, Divisions 4 and 4.5). The State Water Resources Control Board (SWRCB), under the

umbrella of Cal/EPA, provides assistance to local agencies enforcing underground storage tank (UST) requirements, and it also regulates groundwater cleanup programs.

## **Regional**

### **San Bernardino Fire Protection District**

The San Bernardino Fire Protection District, Hazardous Materials Division, was granted authority by the Cal/EPA to become the certified Unified Program Agency (CUPA) for San Bernardino County. The CUPA is directly involved in the inspection, permitting, and enforcement of hazardous materials manufacturers, hazardous waste generators. USDOT and the California Highway Patrol (CHP) regulate the transportation of hazardous materials while the DTSC is actively involved in the storage of hazardous materials and the cleanup of hazardous waste sites. The San Bernardino Fire Protection District also provides wildland fire suppression services and hazardous materials incident response.

### **San Bernardino County Solid Waste Management Plan**

The City of Highland has adopted the San Bernardino County Solid Waste Management Plan. This is in accordance with California Government Code Section 65302, which requires solid waste management to be addressed in a City's adopted General Plan, also that it must be consistent with the adopted San Bernardino County Solid Waste Management Plan as a plan of that agency's plan. The City has adopted the San Bernardino County Solid Waste Management Plan in order to mitigate problems associated with hazardous waste materials.

## **Local**

### **City of Highland Municipal Code**

There are no hazardous materials use regulations that are directly applicable to implementation of the Regional Reduction Plan local reduction measures.

### **Highland General Plan**

There are no General Plan policies that are directly applicable to implementation of the Regional Reduction Plan local reduction measures selected by Highland.

## **■ Project Impact Evaluation**

### **Thresholds of Significance**

The following thresholds of significance are based on the 2012 CEQA Guidelines Appendix G. For purposes of this EIR, implementation of the San Bernardino County Regional GHG Reduction Plan might have a significant adverse impact on hazards/hazardous materials if it would do any of the following:

- Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials

- 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 0.25 mile of an existing or proposed school
- Be located on a site that 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
- If located within an airport land use plan or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport, result in a safety hazard for people residing or working in the project area
- If within the vicinity of a private airstrip, result in a safety hazard for people residing or working in the project area
- Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan
- 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

### **Analytic Method**

The following analysis considers whether or not implementation of the Regional Reduction Plan within the City would create or increase potential hazards or inhibit the ability to respond to hazards.

### **Effects Not Found to Be Significant**

Threshold	Would the project create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?
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The Regional Reduction Plan reduces GHG emissions citywide and includes reduction measures such as energy efficiency goals, renewable energy generation and smart bus technologies. The GHG reductions do not involve the transport or use of hazardous materials. Current federal and state regulations, City ordinances, and General Plan would regulate the handling of hazardous substances to reduce potential releases; exposure; and risks of transporting, storing, treating, and disposing of hazardous materials and wastes. Consequently, potential impacts as a result of implementation of the Regional Reduction Plan would be ***less than significant***. No mitigation is required.

Threshold	Would the project create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?
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Upset and accident conditions that result in hazardous materials incidents are primarily associated with industrial processes and transport of large quantities of materials (e.g., trucks hauling fuel). Implementation of the reduction measures would not involve processes or operations that would use or

transport, or dispose of hazardous materials or wastes in large quantities or of a type that poses serious human health or environmental risks should an accident occur. There would be **no impact**.

Threshold	Would the project emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within 0.25 mile of an existing or proposed school?
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Implementation of the reduction measures would not involve processes or operations that would generate hazardous air emissions or involve the use of acutely hazardous materials, as defined in California Health and Safety Code Section 25316 and 22 CCR Section 66260. Installation of solar installation in new housing and commercial (Energy 4 and 5) would not involve the use of such materials. Any potential impacts associated with emissions during implementation of the Regional Reduction Plan would be regulated by the California health and safety code, South Coast Air Quality Management District permits, and City health and safety codes to ensure that the Regional Reduction Plan does not emit hazardous emissions. Therefore, impacts would be **less than significant**. No mitigation is required.

Threshold	Would the project be located on a site that 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?
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The Regional Reduction Plan does not propose siting reduction measures at particular locations. Siting of renewable energy generation is reviewed by the City Planning to ensure that implementation of the Regional Reduction Plan does not create a hazard to the public or the environment. The impact would be **less than significant**. No mitigation is required.

Threshold	Would the project, if located within an airport land use plan or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport, result in a safety hazard for people residing or working in the project area?
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The closest airports to Highland are the Rialto Municipal Airport approximately nine miles to the west, Redlands Municipal Airport adjacent to the City in the southeast, and the San Bernardino International Airport (SBIA) to the southwest. It is the policy of the City to coordinate with the airport authorities to ensure that proposed land uses within the airport safety zones are consistent with the adopted master land use plans and land use compatibility plans for the airport. The City review of proposed projects such as renewable energy generation during implementation of the Regional Reduction Plan within the airport safety zones and near the airports ensures that implementation of these types of uses near airports does not result in safety hazards to people in the area. The impact would be **less than significant**. No mitigation is required.

Threshold	Would the project, if within the vicinity of a private airstrip, result in a safety hazard for people residing or working in the project area?
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No private airstrip is located within the City. Therefore, there would be **no impact**.

Threshold	Would the project impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?
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Emergency response plans have been prepared at the regional and local level. There are numerous evacuation routes within the City. None of the reduction measures selected by the City would involve changes in land use or population, roadway configurations or capacity, or other changes in the environment that would directly or indirectly affect emergency response plans or evacuation routes. There would be ***no impact***.

Threshold	Would the project 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?
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None of the reduction measures that would be implemented by the City would involve the construction or operation of structures or development of new occupied uses that would be vulnerable to wildland fire hazard. There would be ***no impact***.

## ■ Cumulative Impacts

Because the Regional Reduction Plan does not create hazards at a project level, implementation of the Regional Reduction Plan will not create impacts related to hazards and hazardous materials that are cumulatively considerable. Therefore, ***cumulative impacts would be less than significant***.

## ■ References

Highland, City of. 2005. *City of Highland General Plan and Development Code Update Environmental Impact Report*. Draft, September.

———. 2006. *City of Highland General Plan*, March.

———. n.d. *City of Highland Municipal Code*.

San Bernardino Associated Governments (SANBAG). 2012. *San Bernardino County Regional Greenhouse Gas Reduction Plan*. Draft. Prepared by ICF International, December.

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## 4.9.9 Hydrology/Water Quality

This section of the EIR analyzes the potential environmental effects on hydrology/water quality, including flood hazards, in the City of Highland from implementation of the Regional Reduction Plan. Data for this section were taken from the Highland General Plan (2006) and associated environmental document (2005). Full reference-list entries for all cited materials are provided at the end of this section.

No comment letters addressing hydrology/water quality were received in response to the notice of preparation (NOP) circulated for the Regional Reduction Plan.

### ■ Environmental Setting

#### ***Regional Drainage***

The Santa Ana River Basin, Region 8, includes portions of San Bernardino, Orange, and Riverside counties and covers approximately 2,800 square miles. The Santa Ana River is the main surface drainage course in the region, and the largest river within the Basin. It is approximately 75 miles in length. The City is located nearest to Reach 5 of the Santa Ana River, which extends from the Seven Oaks Dam to the San Jacinto Fault, shown in Figure 4.9.9-1 (Major Tributaries and Flood Hazard Areas). The river originates in the San Bernardino Mountains, travels in a southwesterly direction, and terminates at the Pacific Ocean near the Huntington Beach/Newport Beach city boundary. Water flow within the river is regulated by the Prado Dam, the Seven Oaks Dam, and other flood-control facilities along in the river and its tributaries.

#### ***Local Surface Waters and Drainage***

Major water bodies within the City of Highland include a portion of the Santa Ana River, City Creek, and Plunge Creek. From the east, the northern branch of the Santa Ana River passes through the City in a northeasterly to southwesterly direction and joins the main branch of the Santa Ana River at the City's southern boundary. City Creek and Plunge Creek are tributaries to the Santa Ana River. City Creek runs through the central portion of Highland in a north/south direction and Plunge Creek generally flows east/west near the southern boundary of the City. Highland's drainage system also includes modified and unmodified flood control channels and creeks throughout the City. Eight major tributaries traverse the City, shown in Figure 4.9.9-1. These channels and creeks include Oak Creek, Plunge Creek, Elder Creek, Bledsoe Creek, Cook Creek, City Creek, Sand Creek, and Upper Warm Creek. City Creek and Plunge Creek are the major tributaries that traverse the City. The remaining, smaller tributaries predominately run from northeast to southwest, emanating from the San Bernardino Mountains. These drainages carry surface runoff from the mountains to the Santa Ana River.

#### ***Groundwater***

Extensive groundwater basins underlie much of the San Bernardino region. The San Bernardino Valley overlies the Upper Santa Ana Valley Groundwater Basin, Bunker Hill Subbasin. The Basin consists of the alluvial materials that underlie the valley. This Basin is bounded by contact with consolidated rocks of the San Gabriel Mountains, San Bernardino Mountains, Crafton Hills, and by several faults. The Santa

Ana River, Mill Creek, and Lytle Creek are the main tributary streams within the Basin. The Basin is filled from rain and snow melt that filters down through the San Bernardino Mountains.

Recharge to the Bunker Hill Basin historically has resulted from infiltration of runoff from the San Gabriel and San Bernardino Mountains. The Santa Ana River, Mill Creek, and Lytle Creek contribute more than 60 percent of the total recharge to the groundwater system. Lesser contributors include Cajon Creek, San Timoteo Creek, and most of the creeks flowing southward out of the San Bernardino Mountains, such as East Twin Creek. Total groundwater storage of the Basin is 5,976,000 acre-feet, while as of 1998 the total amount of water in the Basin was 5,890,300 acre-feet. To ensure future water supply on a regional level, the Bunker Hill Subbasin is managed by the San Bernardino Valley Municipal Water District (SBVMWD). SBVMWD is legally responsible for managing and replenishing groundwater basins within the San Bernardino Valley and importing supplemental water supply. To date, the district has maintained water levels since 1972 (Highland 2005).

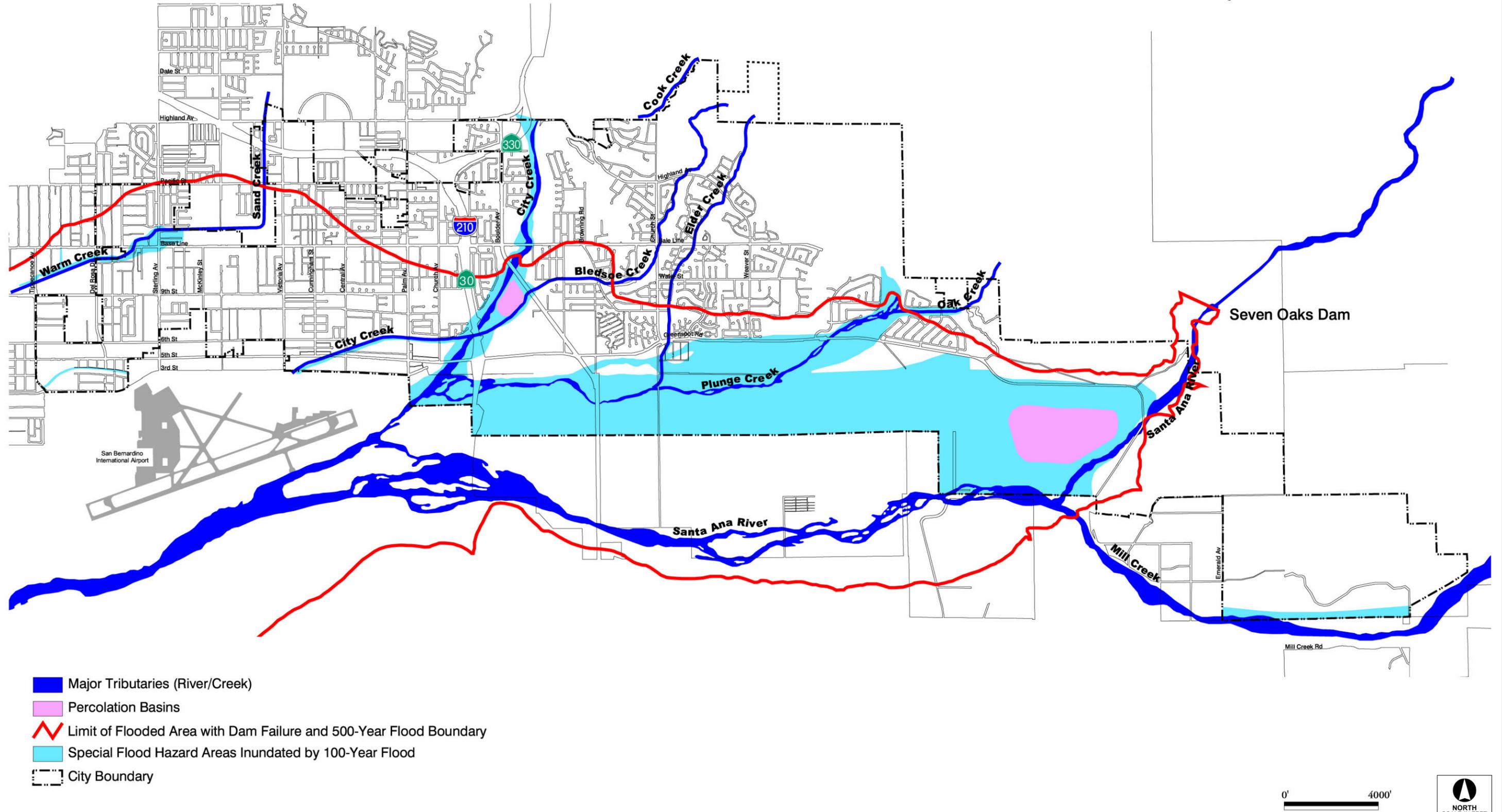
To ensure an adequate water supply for the City of Highland, the SBVWD and EVWD participate in the State Water Program (SWP). The SWP provides 22 dams and reservoirs and 102,600 acre-feet of water for domestic, commercial, and agricultural uses. The EVWD can obtain State Project water, if needed, by an exchange agreement called the Santa Ana River Mill Creek Cooperative Water Project Agreement. This allows the EVWD to take water at the various Valley District turnouts and, in exchange, forego its entitlements to the Santa Ana River Water, which is delivered for further allocation (Highland 2005).

Groundwater quality within the subbasin consistently meets drinking water standards for the nation and California. The USEPA 2003 Consumer Confidence Report contends that EVWD water has met all federal and state criteria for 2003. EVWD water supply is tested for microbiological contaminants, radioactive contaminants, inorganic contaminants, volatile organic compounds, lead, copper, disinfectants, and other unregulated contaminants (Highland 2005).

### **Flood Hazards**

Highland, like most of southern California, is subject to unpredictable seasonal rainfall. Most years, winter rains are scant. However, every few years the region is subjected to periods of intense and sustained precipitation that result in flooding. Floods are natural and recurring events that become hazardous when humans encroach onto floodplains, modifying the landscape, increasing the amount of impervious surfaces, and building structures in areas meant to convey excess water during floods (Highland 2005).

The City of Highland is potentially affected by both local and regional flood hazards. The San Bernardino County Flood Control District created the San Bernardino County Flood Control District Comprehensive Storm Drain Plan to outline and recommend drainage improvements. Flooding in areas adjacent to Highland may contribute to potential flood hazards in Highland if appropriate local and regional flood control measures are not properly planned and implemented.



Source: City of Highland General Plan EIR.

Figure 4.9.9-1  
Major Tributaries and Flood Hazards



## Designated Flood Zones

Portions of the City of Highland fall are located within both 100-Year and 500-Year Flood Plains (see Figure 4.9.9-1). In the City of Highland, the flood plains are separated into three flood plain review areas (FP). FP1 is delegated to 100-Year Flood Plain, FP2 is delegated to 500-Year Floodplain, and FP3 is delegated to areas of shallow and intermittent flooding. Projects within these designated flood zones must comply with FEMA's NFIP. Flooding in the Highland area generally occurs along the southern portion of Highland and flood zone adjacent to City Creek, Plunge Creek, Mill Creek, and the Santa Ana River, primarily below the Seven Oaks Dam and east of Mill Creek. Although the yearly rainfall can vary from 7 to 30 inches, seasonal rains have caused severe localized north/south street flooding and channel/creek overflows.

The Santa Ana River Mainstem Project was designed to provide flood protection to the growing urban communities in Orange, Riverside and San Bernardino Counties. The proposed improvements the system cover 75 miles, from the headwaters of Santa Ana River east of San Bernardino to the mouth of the Pacific Ocean between the cities of Newport Beach and Huntington Beach. The project increases levels of flood protection to more than 3.35 million people within the three counties. The project includes seven independent features, including Seven Oaks Dam, Mill Creek Levee, San Timoteo Creek, Oak Street Drain, Prado Dam, Santiago Creek, and Lower Santa Ana River (Highland 2005).

## Dam Inundation

Seismically induced inundation refers to flooding that occurs when water retention structures (e.g., dams) fail due to an earthquake. The City of Highland is surrounded by several fault lines, although the San Andreas Fault poses the biggest threat. The California State Water Code contains statutes governing dam safety. These statutes empower the California Division of Dam Safety to monitor the structural safety of dams that are greater than 25 feet in dam height or have more than 50 acre-feet in storage capacity. In the unlikely event of dam failure, an inundation zone for the Seven Oaks Dam has been determined as shown on Figure 4.9.9-1. The southeastern portion of the City would potentially be affected (Highland 2005).

Seven Oaks Dam, constructed in 1999, is a major feature of the Santa Ana Mainstem Project and is a single-purpose flood control project constructed by the U.S. Army Corps of Engineers (USACE), Los Angeles District. The dam is located on the Santa Ana River in the upper Santa Ana Canyon 8 miles northeast of the City of Redlands, which borders the City of Highland to the south. The dam is of earth and rock filled construction, is 550 feet in height and 2,600 feet wide. The dam was designed to resist an earthquake measuring 8.0 on the Richter scale, with any single point able to sustain a displacement of 4 feet without causing any overall structural damage. The dam is designed to provide 350-year flood protection. During flood conditions it creates a lake that is 500 feet deep and extends 3 miles back into the canyon (Highland 2005).

Big Bear Lake is a water conservation reservoir owned by the Big Bear Municipal Water District. The Big Bear Dam outpouring from Big Bear Lake is the only existing structure that affects flood flows into the Seven Oaks reservoir. Prior to the construction of Seven Oaks Dam, failure of the Big Bear Dam could potentially inundate portions of the East Highland area, assuming the dam was full. The Seven Oaks Dam was created to protect downstream areas (including Highland) from such flooding hazards. In

addition, the Seven Oaks Dam Project was planned to operate in tandem with Prado Dam, which is 40.3 miles downstream, by providing flood protection to Orange County. During the early part of each flood season, runoff will be stored behind the dam in order to build a debris pool to protect the outlet works. Small releases will be made on a continual basis in order to maintain the downstream water supply. During a flood, the dam will store water destined for Prado Dam for as long as the reservoir pool at Prado Dam is rising. When the flood threat at Prado Dam has passed, Seven Oaks will begin to release its stored water at a rate that does not exceed the downstream channel capacity (Highland 2005).

### **Inundation from Aboveground Water Storage Reservoirs**

New standards for design of steel water tanks were adopted in 1994. However, there are facilities located near the San Andreas Special Studies Zone that have a potential for damage and/or flooding during a seismic event, including the East Highlands Reservoir, a smaller reservoir located within Bledsoe Gulch, the North Fork Canal, and the SBVMWD transmission line (Highland 2005).

### **Seiches and Tsunamis**

A seiche is a surface wave created when an inland body of water is shaken, usually by earthquake activity. Seiches could pose flood hazards due to a wave overtopping a reservoir such as that behind San Antonio Creek Dam, an aboveground reservoir, or percolation basins. Seismically induced inundation can also occur if strong ground shaking causes structural damage to aboveground water storage reservoirs. If a water tank is not adequately braced and baffled, sloshing water can lift the tank off its foundation, splitting the shell, damaging the roof, and bulging the bottom of the tank. Movement can also shear off the pipes leading to the tank, releasing water through the broken pipes. New standards for design of steel water tanks were adopted in 1994. However, there are facilities located near the San Andreas Special Studies Zone that have a potential for damage and/or flooding during a seismic event, including the East Highlands Reservoir, a smaller reservoir located within Bledsoe Gulch, the North Fork Canal, and the SBVMWD transmission line (Highland 2005).

A tsunami is a high ocean wave generated by a submarine earthquake or volcanic eruption. Highland is located inland and would not be affected by tsunamis.

### **Mudflows**

A mudflow is a type of landslide composed of saturated rock debris and soil with a consistency of wet cement. Most streams in the San Bernardino area have the potential to carry large amounts of debris, or debris flow. Mudflows may also occur near hills and mountains. Development at the base of the mountains and downstream from canyons has the potential to convey mudflows (Highland 2005).

## **■ Regulatory Framework**

### **Federal**

#### **United States Environmental Protection Agency (USEPA)**

The USEPA is the primary federal agency that regulates water quality and water resources principally through the Clean Water Act (CWA) and Safe Drinking Water Act (SWDA).

### *Clean Water Act*

The federal Water Pollution Control Act (also known as the CWA) is the principal statute governing water quality. The CWA establishes the basic structure for regulating discharges of pollutants into the waters of the United States and gives the USEPA the authority to implement pollution control programs, such as setting wastewater standards for industry. The statute's goal is to restore, maintain, and preserve the integrity of the nation's waters. The CWA regulates both the direct and indirect discharge of pollutants into the nation's waters and sets water quality standards for all contaminants in surface waters. It is unlawful for any person to discharge any pollutant from a point source into navigable waters, unless a permit is obtained under its provisions. The CWA mandates permits for wastewater and stormwater discharges, requires states to establish site-specific water quality standards, and regulates other activities that affect water quality, such as dredging and the filling of wetlands. The CWA also funded the construction of sewage treatment plants and recognized the need for planning to address nonpoint sources of pollution. CWA Section 402 requires a permit for all point source (a discernible, confined, and discrete conveyance, such as a pipe, ditch, or channel) discharges of any pollutant into waters of the United States.

### *Safe Drinking Water Act*

The federal SDWA provides regulations on drinking water quality in Highland. The SDWA gives the USEPA the authority to set drinking water standards, such as the National Primary Drinking Water Regulations (NPDWRs or primary standards). The NPDWRs protect drinking water quality by limiting the levels of specific contaminants that are known to occur or have the potential to occur in water and can adversely affect public health. All public water systems that provide service to 25 or more individuals are required to satisfy these legally enforceable standards. Water purveyors must monitor for these contaminants on fixed schedules and report to the USEPA when a Maximum Contaminant Level (MCL) has been exceeded. MCL is the maximum permissible level of a contaminant in water that is delivered to any user of a public water system. Drinking water supplies are tested for a variety of contaminants, including organic and inorganic chemicals (e.g., minerals), substances that are known to cause cancer, radionuclides (e.g., uranium and radon), and microbial contaminants (e.g., coliform and *Escherichia coli*). Changes to the MCL list are typically made every three years, as the USEPA adds new contaminants or, based on new research or new case studies, revised MCLs for some contaminants are issued. The California Department of Health Services, Division of Drinking Water and Environmental Management, is responsible for implementation of the SDWA in California.

### *National Pollution Discharge Elimination System*

Under the National Pollutant Discharge Elimination System (NPDES) program promulgated under CWA Section 402, all facilities that discharge pollutants from any point source into waters of the United States are required to obtain a NPDES permit. The term pollutant broadly includes any type of industrial, municipal, and agricultural waste discharged into water. Point sources include discharges from publicly owned treatment works (POTWs), discharges from industrial facilities, and discharges associated with urban runoff. While the NPDES program addresses certain specific types of agricultural activities, most agricultural facilities are nonpoint sources and are exempt from NPDES regulation. Pollutants come from direct and indirect sources. Direct sources discharge directly to receiving waters, whereas indirect

sources discharge wastewater to POTWs, which in turn discharge to receiving waters. Under the national program, NPDES permits are issued only to direct point-source discharges. The National Pretreatment Program addresses industrial and commercial indirect dischargers. Municipal sources are POTWs that receive primarily domestic sewage from residential and commercial customers. Specific NPDES program areas applicable to municipal sources are the National Pretreatment Program, the Municipal Sewage Sludge Program, Combined Sewer Overflows, and the Municipal Storm Water Program. Nonmunicipal sources include industrial and commercial facilities. Specific NPDES program areas applicable to these industrial/commercial sources are: Process Wastewater Discharges, Non-Process Wastewater Discharges, and the Industrial Storm Water Program. NPDES issues individual and general permits. Also, the USEPA has focused on integrating the NPDES program further into watershed planning and permitting.

NPDES has a variety of measures designed to minimize and reduce pollutant discharges. For example, pollutant discharges to a publicly owned conveyance or system of conveyances (including roadways, catch basins, curbs, gutters, ditches, man-made channels and storm drains, designed or used for collecting and conveying stormwater) are regulated by the USEPA's Storm Water Phase II Final Rule. The Phase II Final Rule requires an operator (such as a city) of a regulated small municipal separate storm sewer system (MS4) to develop, implement, and enforce a program (e.g., best management practices [BMPs], ordinances, or other regulatory mechanisms) to reduce pollutants in post-construction runoff to the City's storm drain system from new development and redevelopment projects that result in the land disturbance of greater than or equal to 1 acre. The MS4 permit in effect in the City of Highland is Order R8-2002-0012 issued by the Santa Ana Regional Water Quality Control Board in April 2002. The City of Highland Public Works Department is the local enforcing agency of the MS4 NPDES permit.

### *National Flood Insurance Program*

The National Flood Insurance Act of 1968 and the Flood Disaster Protection Act of 1973 mandate the Federal Emergency Management Agency (FEMA) to evaluate flood hazards. FEMA provides Flood Insurance Rate Maps (FIRMs) for local and regional planners to promote sound land use and floodplain development, identifying potential flood areas based on the current conditions. To delineate a FIRM, FEMA conducts engineering studies called flood insurance studies. The most recent study and FIRM were completed and published for Highland on January 17, 1997 (Highland 2005). Using information gathered in these studies, FEMA engineers and cartographers delineate Special Flood Hazard Areas on FIRMs.

The Flood Disaster Protection Act requires owners of all structures in identified special flood hazard areas to purchase and maintain flood insurance as a condition of receiving federal or federally related financial assistance, such as mortgage loans from federally insured lending institutions. Community members in designated areas are able to participate in the National Flood Insurance Program afforded by FEMA. The program is required to offer federally subsidized flood insurance to property owners in those communities that adopt and enforce floodplain management ordinances that meet minimum criteria established by FEMA. The National Flood Insurance Reform Act of 1994 further strengthened the program by providing a grant program for state and community flood mitigation projects. The act also established the Community Rating System, a system for crediting communities that implement

measures to protect the natural and beneficial functions of their floodplains, as well as managing erosion hazards.

The City of Highland, under the National Flood Insurance Program, has created standards and policies to ensure flood protection. These policies address development and redevelopment, compatibility of uses, required predevelopment drainage studies, compliance with discharge permits, enhancement of existing waterways, and cooperation with USACE and the San Bernardino County Flood Control District for updating, method consistency with the RWQCB, and proposed BMPs.

## **State**

### **State Water Resources Control Board**

The State Water Resources Control Board (SWRCB), a division of the California Environmental Protection Agency (Cal/EPA), regulates water resources including water quality within California. The SWRCB's mission is to preserve, enhance and restore the quality of California's water resources, and ensure their proper allocation and efficient use for the benefit of present and future generations. SWRCB's regulatory authority is based upon USEPA's delegated authority of the NPDES permitting process within the state, and California's Porter-Cologne Water Quality Act. The SWRCB is divided into nine Regional Water Quality Control Boards (RWQCB), each regulating watersheds within their region.

#### *Porter-Cologne Water Quality Act*

The Porter-Cologne Water Quality Control Act (Water Code Sections 13000 et seq.) is the basic water quality control law for California. Under this act, the SWRCB has ultimate control over state water rights and water quality policy. In California, the USEPA has delegated authority to issue NPDES permits to the SWRCB. The state is divided into nine regions related to water quality and quantity characteristics. The SWRCB, through its nine RWQCBs carries out the regulation, protection, and administration of water quality in each region. Each regional board is required to adopt a Water Quality Control Plan, or Basin Plan, that recognizes and reflects the regional differences in existing water quality, the beneficial uses of the region's ground and surface water, and local water quality conditions and problems. The City of Highland is in the Santa Ana River Basin, Region 8, in the Upper Santa Ana Watershed. The Water Quality Control Plan for this region was adopted in 1995. This Basin Plan gives direction on the beneficial uses of the state waters within Region 8, describes the water quality that must be maintained to support such uses, and provides programs, projects, and other actions necessary to achieve the established standards.

#### *Storm Water Pollution Prevention Plans*

Pursuant to the CWA, in 2001, the SWRCB issued a statewide general NPDES Permit for stormwater discharges from construction sites (NPDES No. CAS000002). Under this Statewide General Construction Activity permit, discharges of stormwater from construction sites with a disturbed area of 1 acre or more are required to either obtain individual NPDES permits for stormwater discharges or to be covered by the General Permit. Coverage by the General Permit is accomplished by completing and filing a Notice of Intent with the SWRCB and developing and implementing a Storm Water Pollution Prevention Plan (SWPPP). Each applicant under the General Construction Activity Permit must ensure that a SWPPP is prepared prior to grading and is implemented during construction. The SWPPP must

list BMPs implemented on the construction site to protect stormwater runoff, and must contain a visual monitoring program, a chemical monitoring program for nonvisible pollutants to be implemented if there is a failure of BMPs, and a monitoring plan if the site discharges directly to a water body listed on the state's 303(d) list of impaired waters.

## **Regional**

### **County of San Bernardino Stormwater Program**

The San Bernardino County Stormwater Program has developed the Model Water Quality Management Plan guidance document to comply with the Santa Ana RWQCB's NPDES permit requirements. This guidance document requires that a project's post-development discharge not exceed predevelopment discharges for 1-, 5-, and 10-year storms; or that a project proponent carry out additional analysis and mitigation to ensure that a project not adversely impact downstream erosion, sedimentation, or stream habitat.

### **Santa Ana River Basin Water Quality Control Plan**

The Water Quality Control Plan for the Santa Ana River Basin, updated in February 2008, establishes water quality standards for groundwater and surface water in the basin; that is, standards for both beneficial uses of specific waterbodies and the water quality levels that must be maintained to protect those uses. The Basin Plan includes an implementation plan describing actions by the Santa Ana RWQCB and others needed to achieve and maintain the water quality standards. The SARWQCB regulates waste discharges to minimize and control their effects on the quality of the region's groundwater and surface waters. The Basin Plan lists water quality problems in the region, along with causes, where they are known. Plans for improving water quality are included for water bodies with quality below the levels needed to enable all the beneficial uses of the water.

## **Local**

### **City of Highland Municipal Code**

Title 13 (Public Services), Chapter 13.04 (Storm Drain Regulation), pursuant to and consistent with federal, state and local laws and regulations, protects and enhances the water quality of the City's watercourses, water bodies, groundwater and wetlands by controlling and/or eliminating non-stormwater discharges into the city storm drain system. This will be accomplished by eliminating all nonpermitted discharges to the municipal separate storm drains, controlling the discharge to municipal separate storm drains from spills, dumping, or disposal of materials other than stormwater, and reducing pollutants in stormwater discharges to the maximum extent practicable.

Title 16 (Land Use and Development), Chapter 16.64 (Environmental Management), Section 16.64.070 (Erosion and Sediment Control), is intended to reduce, eliminate, and prevent conditions of accelerated erosion that have led to, or could lead to, degradation of water quality, loss of fish habitat, damage to property, loss of topsoil and vegetation cover, disruption of water supply, increased danger from flooding, and the deposition of sediments and associated nutrients.

Title 16 (Land Use and Development), Chapter 16.40 (General Development Standards), Section 16.40.110 (Flood Control and Drainage), requires that minimum design for facilities which control drainage of stormwater generated within a subdivision or other residential, commercial, or industrial development, or for floodwater flowing into or crossing a subdivision or other residential, commercial, or industrial development shall be based on a storm of an intensity with a one percent or greater chance of being equaled or exceeded in any given year. When a proposed development encroaches into the 100-year flood plain, the developer shall submit design plans and other engineering data to the FEMA and request FEMA to revise the FEMA map accordingly. Prior to map approval of a subdivision or building permit issuance, if not a subdivision, the developer shall obtain a positive response from FEMA that the 100-year flood plain boundary will be revised to reflect the project to be outside the 100-year flood plain areas.

Title 16 (Land Use and Development), Chapter 16.76 (Floodplain Management), is established to provide greater public safety, promote public health, and minimize public and private economic losses due to flood conditions by establishing regulations for development and construction within flood prone areas.

### Highland General Plan

The Highland General Plan policies that are applicable to hydrology, water quality, and flood hazards<sup>10</sup> are as follows:

- Policy 5.3.1** To the extent possible, preserve floodplain and aquifer recharge areas in their natural condition.
- Policy 5.3.2** Continue to coordinate water resource policy with the East Valley Water District and through other relevant agencies.
- Policy 5.3.3** Expand outreach efforts to educate the public on water supply and water quality issues.
- Policy 5.4.1** In coordination with the East Valley Water District and the County of San Bernardino, continue to maintain and improve the hydrology and natural quality of the watersheds of Bledsoe Creek, Plunge Creek, Santa Ana Canyon, and the Santa Ana River.
- Policy 5.4.2** Review and revise, as necessary, zoning and subdivision ordinance provisions related to protection of the City's watersheds, especially in areas that abut creek systems and natural vegetation and open space areas.
- Policy 5.4.3** Cooperate with other agencies, and participate in multi-jurisdictional efforts, to improve watershed management practices.
- Policy 5.5.1** Use water quality best management practices (BMPs) in land planning, project-level site planning and procedural requirements as part of the Storm Water Quality Management Plan.
- Policy 5.5.2** Require best management practices (BMPs) for all parking lots and paved storage areas within industrial and commercial zones, for the City's street network, and within the City's parks and other civic facilities.

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<sup>10</sup> These policies are not a complete listing of all policies contained in the General Plan; those policies that would be most applicable to the proposed project are included here.

- Policy 6.3.1** Review all proposed development to ensure that structures designed for human occupancy are accessible in the event of a 100-year storm, and are protected from the 100-year storm to a point one foot above the floodplain.
- Policy 6.3.2** Continue to evaluate the compatibility of critical, essential, high occupancy, and normal to low risk uses in areas within the 100-year floodplain during the review of all discretionary and ministerial actions.
- Policy 6.3.3** Require a drainage study be completed by a qualified engineer prior to all proposed development to certify that the proposed development will be adequately protected and that implementation of the development will not create new downstream flood hazards.
- Policy 6.3.4** Require all development in the City and its sphere of influence comply with discharge permit requirements established by the Regional Water Quality Control Board.
- Policy 6.3.5** Encourage proposed development to balance or enhance the natural landscape features of a site in order to reduce the amount of impervious surfaces built within the City.
- Policy 6.3.6** Continue to work with the San Bernardino County Flood Control District and the United States Army Corps of Engineers to receive and implement updated flood control measures and information.
- Policy 6.3.7** Utilize flood control methods that are consistent with Regional Water Quality Control Board Policies and Best Management Practices (BMPs).
- Policy 4.4.1** Continue to improve any deficiencies in the City's drainage system and address the long-term needs associated with future development to minimize flood damage and adequately direct rainfall and subsequent runoff.
- Policy 4.4.2** Minimize the impact of development on the City's drainage system by reducing the amount of impervious surface associated with new development and encouraging site design features or landscaping that capture runoff. Encourage on-site retention of storm water and compliance with requirements of the National Pollutant Discharge Elimination System.

## ■ Project Impact Evaluation

### ***Thresholds of Significance***

The following thresholds of significance are based on the 2012 CEQA Guidelines Appendix G. For purposes of this EIR, implementation of the San Bernardino County Regional GHG Reduction Plan might have a significant adverse impact on hydrology/water quality if it would do any of the following:

- 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 that 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 that would result in substantial erosion or siltation on or off site
- 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 that would result in flooding on or off site
- Create or contribute runoff water that would exceed the capacity of existing or planned stormwater 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 that would impede or redirect flood flows
- 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
- Inundation by seiche, tsunami, or mudflow

### **Analytic Method**

The following analysis considers whether or not implementation of the Regional Reduction Plan within the City would impact hydrology, water quality, create or increase the potential for flood hazards or inhibit the ability to respond to flood hazards.

### **Effects Not Found to Be Significant**

Threshold	Would the project violate any water quality standards or waste discharge requirements?
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Water quality degradation in the City from erosion impacts would be specific to future project sites that could be developed and/or retrofitted as a result of implementing reduction measures in the Regional Reduction Plan, and depend largely on the areas affected and the length of time soils are subject to erosion. Although implementation of the Regional Reduction Plan may result in runoff during construction of individual energy-generating facilities, methane or transit infrastructure that could adversely affect water quality beyond standards specified by the SWRCB, all reduction measure development requiring ground disturbance would be subject to regional and local regulations including the need for an SWPPP under NPDES No. CAS000002. In addition, the City requires the obtainment of a grading permit for all developments that would require grading. In turn, all work requiring a grading permit would be required to have an approved Soil Erosion and Sediment Control Plan. Compliance with SWRCB's General Construction Activity Stormwater Permit regulations requiring an SWPPP, and the grading permit required by the City would reduce the risk of water degradation within the City from soil erosion related to construction activities associated with the Regional Reduction Plan to less than significant. Consequently, potential impacts as a result of implementation of the Regional Reduction Plan would be *less than significant*. No mitigation is required.

Threshold	Would the project 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 that would not support existing land uses or planned uses for which permits have been granted)?
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Implementation of the Regional Reduction Plan would not result in a substantial (if any) increase in impervious surfaces in the City. The Proposed Project would facilitate development in areas which are already developed with impervious surfaces. The Proposed Project would not substantially increase the impermeable surface area such that groundwater recharge would be substantially affected. Energy retrofits, solar arrays, or wind turbines would not increase impermeable surface area in the City. Therefore, the proposed project would not substantially deplete groundwater supplies or interfere substantially with groundwater recharge. The impact would be *less than significant*. No mitigation is required

Threshold	Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner that would result in substantial erosion or siltation on or off site?
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Energy retrofits and passive energy-producing components such as photovoltaic arrays would not alter existing drainage patterns in the City, as they would consist of structural alterations, not an increase in overall building footprint. Some renewable energy-generating facilities that could be constructed on vacant land, hillsides, or open space areas could alter existing drainage patterns; however, as noted above, all construction would be subject to regulations related to water quality, erosion, and stormwater runoff. Individual projects associated with implementation of the Regional Reduction Plan would be subject to review by the City prior to issuance of a grading permit, which process requires preparation of a drainage study and SWPPP. Consequently, any potential impacts associated with emissions during implementation of the Regional Reduction Plan would be reduced to *less than significant*. No mitigation is required

Threshold	Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner that would result in flooding on or off site?
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Energy facilities under the Regional Reduction Plan could be constructed in a 100-year flood plain. Flooding in the Highland area generally occurs along the southern portion of Highland and flood zone adjacent to City Creek, Plunge Creek, Mill Creek, and the Santa Ana River, primarily below the Seven Oaks Dam and east of Mill Creek. All new development, including facilities constructed pursuant to implementation of the Regional Reduction Plan, would be subject to the provisions of City Municipal Code Chapter 16.76 (Floodplain Management) and Section 16.40.110 (Flood Control and Drainage) regulations. Recognizing that the flood hazard areas of the City are subject to periodic inundation that can adversely affect the public health, safety and general welfare, the purpose of the regulations are to minimize public and private losses due to flood conditions by ensuring proper design of structures to prevent against flood damages. Additionally, these regulations include provisions for preventing or regulating the construction of flood barriers that would unnaturally divert floodwaters or which may

increase flood hazards in other areas. As such, the development of energy facilities within the City's 100-year flood areas would not result in the redirection of flood flows in a manner that would subsequently lead to the loss of adequate flood conveyance in the City. Furthermore, any new development or work within the City that involves the San Bernardino County Flood Control and Water Conservation District's right of way, easements, or facilities would require the obtainment of an encroachment permit from the District. General Plan Policies 4.4.1, 6.3.1, 6.3.2, and 6.3.6 reduce the risk from flooding throughout the City. Compliance with the General Plan policies is assured through City review of all proposed development. Therefore, the impact would be **less than significant**. No mitigation is required.

Threshold	Would the project create or contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?
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The development of any new facilities during implementation of the Regional Reduction Plan within a road right-of-way or other areas that may impact storm drains must be coordinated with the City prior to the beginning of construction. Compliance of City provisions including the Storm Drain and Floodplain Management regulations of the Municipal Code would ensure that people and property are protected from flooding through responsible and efficient stormwater management. Compliance with NPDES permit requirements would ensure that the proposed project would not provide substantial additional sources of polluted runoff. The impact would be **less than significant**. No mitigation is required.

Threshold	Would the project otherwise substantially degrade water quality?
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The Regional Reduction Plan would not otherwise substantially degrade water quality. The impact would be **less than significant**. No mitigation is required.

Threshold	Would the project 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?
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The Regional Reduction Plan does not include a housing component. There would be **no impact**.

Threshold	Would the project place within a 100-year flood hazard area structures that would impede or redirect flood flows?
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Renewable energy generation facilities could be constructed in a 100-year flood hazard area as a result of Regional Reduction Plan implementation. Floodplain Management and Flood Control Drainage regulations include provisions for preventing or regulating the construction of structures that would unnaturally divert floodwaters or which may increase flood hazards in other areas. As such, the development of energy facilities within the City's 100-year flood areas would not impede or result in the redirection of flood flows in the City. Furthermore, any new development or work within the City that involves the San Bernardino County Flood Control and Water Conservation District's right of way, easements, or facilities would require the obtainment of an encroachment permit from the District. General Plan Policies 4.4.1, 6.3.1, 6.3.2, and 6.3.6 further reduce the risk from flooding throughout the City. Compliance with the Municipal Code and the General Plan policies is assured through City review

of all proposed development. Therefore, the impact would be *less than significant*. No mitigation is required.

Threshold	Would the project 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?
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Transit infrastructure, energy retrofits, and passive energy solar arrays built during implementation of the Regional Reduction Plan may have a risk of flooding from dam failure. If wind farms or other energy-producing facilities are built in open space areas, they could be subject to increased risk from dam inundation depending on their location. However, all new development would be subject to the provisions of City’s Floodplain Management and Flood Control Drainage regulations which are designed to minimize public and private losses due to flood conditions by ensuring proper design of structures to prevent against flood damages. General Plan Policies 4.4.1, 6.3.1, and 6.3.6 restrict development in areas subject to flooding, as noted, above. These policies identified in the General Plan would minimize the effects of prospective growth from flooding hazards. Therefore, the impact would be *less than significant*. No mitigation is required.

Threshold	Would the project inundation by seiche, tsunami, or mudflow?
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The City is not located within the immediate area of the Pacific Ocean; thus, there would be no impacts associated with inundation by tsunamis. Seiches could occur at existing water storage facilities located near the San Andreas Special Studies Zone that have a potential for damage and/or flooding during a seismic event, including the East Highlands Reservoir, a smaller reservoir located within Bledsoe Gulch, the North Fork Canal, and the SBVMWD transmission line. Compliance with the Municipal regulations applicable to Floodplain Management and Flood Control Drainage ensure that the proposed Regional Reduction Plan minimizes public and private losses and damage caused by seiches. Mudflows may occur near hills and mountains. Development at the base of the mountains and downstream from canyons has the potential to convey mudflows. Compliance with Floodplain Management restricts development in areas of special mudslide hazards. General Plan Policies 4.4.1, 6.3.1, and 6.3.6 restrict development in areas subject to flooding, as noted, above. Facilities and infrastructure built as a result of the Regional Reduction Plan implementation within the City are reviewed for adherence to the General Plan policies, the City’s Floodplain Management regulations, and any San Bernardino County Flood Control District encroachment permits. Therefore, the impact would be *less than significant*. No mitigation is required,

## ■ Cumulative Impacts

Because the Regional Reduction Plan does not significantly impact hydrology, water quality, or create flood hazards at a project level, implementation of the Regional Reduction Plan will not create impacts to hydrology, water quality or flood hazards that are cumulatively considerable. Therefore, *cumulative impacts would be less than significant*.

## ■ References

Highland, City of. 2005. *City of Highland General Plan and Development Code Update Environmental Impact Report*. Draft, September.

———. 2006. *City of Highland General Plan*, March.

———. n.d. *City of Highland Municipal Code*.

San Bernardino Associated Governments (SANBAG). 2012. *San Bernardino County Regional Greenhouse Gas Reduction Plan*. Draft. Prepared by ICF International, December.

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## 4.9.10 Land Use/Planning

This section of the EIR analyzes the potential environmental effects on land use/planning in the City of Highland from implementation of the Regional Reduction Plan. Data for this section were taken from the Highland General Plan (2006) and associated environmental document (2005). Full reference-list entries for all cited materials are provided at the end of this section.

No comment letters addressing land use/planning were received in response to the notice of preparation (NOP) circulated for the Regional Reduction Plan.

### ■ Environmental Setting

The City of Highland and its Sphere of Influence (SOI) is located in the southwestern corner of San Bernardino County, approximately 30 miles northeast of Pomona. The City is surrounded by the City of San Bernardino and unincorporated San Bernardino County to the north and west; San Bernardino National Forest and unincorporated San Bernardino County to the east; and the City of Redlands to the south. The City encompasses over 11,948 acres (18.6 square miles) of incorporated land and includes another 146 acres of unincorporated land within its SOI. Regional access to and from Highland is provided by Interstate 210/State Route 30 (I-210/SR-30) (Foothill Freeway) and SR-330; and San Bernardino International Airport (SBIA).

### *Existing Land Uses*

Residential uses dominate the western and central portions of the City and account for over 60 percent of the planned or already developed land uses. The predominant type of residential development is single-family housing. The dominance of residential lands can be attributed to the history of the City's incorporation where much of the property for retail/industrial uses was annexed to the City of San Bernardino, leaving only areas that logically could be developed in residential-based uses.

Planned Development residential uses are located in the East Highlands Ranch area in the northern portion of the City and the area east of I-210/SR-30 known as the Golden Triangle. Undeveloped land consisting of predominantly rural, agricultural and equestrian land comprises the southeastern portion of the City also comprises a substantial part of the City of Highland, reflecting the city's rural, agricultural roots. More than 20 percent of the City is designated for open space, due mainly to the City's proximity to the San Bernardino Mountains, the Santa Ana River and Wash, City, and Plunge Creeks that traverse the City and the SBIA.

Commercial and industrial development in Highland is fairly limited, with only 6 percent of the total land designated for commercial or industrial uses. Commercial uses are located primarily along major arterial corridors including Base Line and 5<sup>th</sup> Street.

The SBIA is in the City of San Bernardino immediately south of the western portion of Highland. While the SBIA is not within the boundaries of City of Highland, portions are within the SBIA Airport Influence Area. The Redlands Municipal Airport (RMA) is adjacent to the City in the southeast. A small

portion of Highland is within an area designated as an Area of Special Compatibility Concern on the RMA Airport Land Use Compatibility (ALUC) Plan.

### **Future Growth**

Figure 4.9.10-1 (General Plan Land Uses) shows the adopted General Plan land uses. The adopted General Plan Land Use Plan, which includes areas within Highland's sphere of influence, identifies 6,395 acres of residential land uses, including Planned Development; 58 acres of mixed-use land uses; 754 acres of employment-generating land uses, not including commercial uses allowed in Planned Development areas; and 3,570 acres of open space and park uses. A key focus of future development is a new Town Center core area under a new Mixed Use land use designation that would accommodate commercial, residential, business, civic, and public uses. It would also physically connect with the Historic Village District through pedestrian connections. Another important component of the adopted General Plan is revitalization of the City's primary commercial area along Base Line by consolidating commercial uses, allowing infill development of vacant land, redevelopment of aging mid-block commercial areas, and increasing new residential development.

## **■ Regulatory Framework**

### **Federal**

There are no federal regulations pertaining to land use/planning.

### **State**

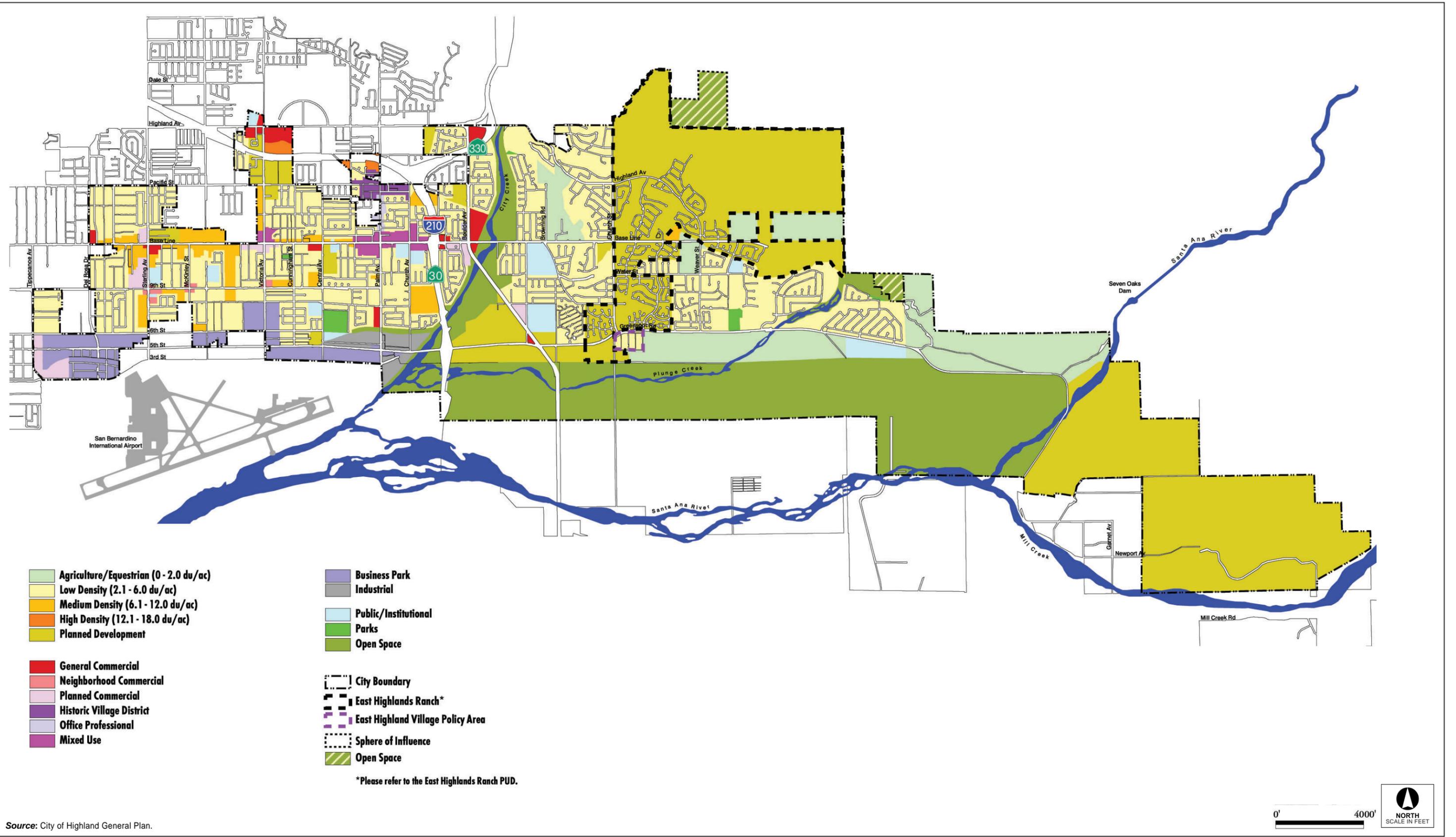
#### **California Air Resources Board**

The California Air Resources Board (ARB), a part of the California EPA (Cal/EPA) is responsible for the coordination and administration of both federal and state air pollution control programs within California. In this capacity, California ARB conducts research, sets state ambient air quality standards (California Ambient Air Quality Standards), compiles emission inventories, develops suggested control measures, and provides oversight of local programs. California ARB establishes emissions standards for motor vehicles sold in California, consumer products (such as hairspray, aerosol paints, and barbecue lighter fluid), and various types of commercial equipment. It also sets fuel specifications to further reduce vehicular emissions. California ARB has primary responsibility for the development of California's State Implementation Plan (SIP), for which it works closely with the federal government and the local air districts.

#### **Executive Order S-3-05**

California Governor Arnold Schwarzenegger announced on June 1, 2005, through Executive Order S-3-05, the following GHG emission reduction targets:

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



Source: City of Highland General Plan.

Figure 4.9.10-1  
General Plan Land Uses



The first California Climate Action Team Report to the Governor in 2006 contained recommendations and strategies to help meet the targets in Executive Order S-3-05. In April 2010, the Draft California Action Team (CAT) Biennial Report expanded on the policy oriented 2006 assessment. The new information detailed in the CAT Assessment Report includes development of revised climate and sea-level projections using new information and tools that have become available in the last 2 years; and an evaluation of climate change within the context of broader social changes, such as land-use changes and demographic shifts (Cal/EPA 2006). The action items in the report focus on the preparation of the Climate Change Adaptation Strategy, required by Executive Order S-13-08, described below.

### **Assembly Bill 32, the California Global Warming Solutions Act of 2006**

In 2006, the California Legislature adopted Assembly Bill 32 (AB 32), the California Global Warming Solutions Act of 2006. AB 32 focuses on reducing GHG in California. GHGs as defined under AB 32 include carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride. AB 32 required California ARB to adopt rules and regulations that would achieve greenhouse gas emissions equivalent to 1990 statewide levels by 2020. On or before June 30, 2007, California ARB was required to publish a list of discrete early action GHG emission reduction measures that would be implemented by 2010. The law further required that such measures achieve the maximum technologically feasible and cost effective reductions in GHGs from sources or categories of sources to achieve the statewide greenhouse gas emissions limit for 2020.

California ARB published its final report for Proposed Early Actions to Mitigate Climate Change in California in October 2007. This report described recommendations for discrete early action measures to reduce GHG emissions. The measures included are part of California's strategy for achieving GHG reductions under AB 32. Three new regulations are proposed to meet the definition of "discrete early action greenhouse gas reduction measures," which include the following: a low carbon fuel standard; reduction of HFC-134a emissions from nonprofessional servicing of motor vehicle air conditioning systems; and improved landfill methane capture (California ARB 2007b). California ARB estimates that by 2020, the reductions from those three measures would be approximately 13 million to 26 million metric tons (MMT) carbon dioxide equivalent (CO<sub>2</sub>e).

Under AB 32, California ARB has the primary responsibility for reducing GHG emissions. California ARB has published a staff report titled California 1990 GHG Emissions Level and 2020 Emissions Limit (California ARB 2007a) that determined the statewide levels of GHG emissions in 1990 to be 427 MMT CO<sub>2</sub>e. Additionally, in December 2008, California ARB adopted the Climate Change Scoping Plan, which outlines the state's strategy to achieve the 2020 GHG limit. This Scoping Plan proposes a comprehensive set of actions designed to reduce overall greenhouse gas emissions in California, improve the environment, reduce dependence on oil, diversify energy sources, save energy, create new jobs, and enhance public health. The plan emphasizes a cap-and-trade program, but also includes the discrete early actions.

### **Senate Bill 97 (SB 97)**

SB 97, enacted in 2007, amends the CEQA statute to clearly establish that GHG emissions and the effects of GHG emissions are appropriate subjects for CEQA analysis. It directed the California Office of Planning and Research (OPR) to develop draft CEQA Guidelines "for the mitigation of GHG

emissions or the effects of GHG emissions” and directed the Resources Agency to certify and adopt the CEQA Guidelines.

On April 13, 2009, OPR submitted the proposed amendments to the Secretary for Natural Resources. The Natural Resources Agency conducted formal rulemaking in 2009, certified, and adopted the amendments in December 2009. The California Office of Administrative Law codified into law the amendments in March 2010. The amendments became effective in June 2010 and provide regulatory guidance with respect to the analysis and mitigation of the potential effects of GHG emissions.

CEQA Guidelines Section 15183.5 (Tiering and Streamlining the Analysis of GHG Emissions) was added as part of the CEQA Guideline amendments and describes the criteria needed in a Climate Action Plan that would allow for the tiering and streamlining of CEQA analysis for subsequent development projects. The following quote is from the CEQA Guideline amendments:

Section 15183.5. Tiering and Streamlining the Analysis of Greenhouse Gas Emissions.

- (a) Lead agencies may analyze and mitigate the significant effects of greenhouse gas emissions at a programmatic level, such as in a general plan, a long range development plan, or a separate plan to reduce greenhouse gas emissions. Later project-specific environmental documents may tier from and/or incorporate by reference that existing programmatic review. Project-specific environmental documents may rely on an EIR containing a programmatic analysis of greenhouse gas emissions as provided in section 15152 (tiering), 15167 (staged EIRs) 15168 (program EIRs), 15175–15179.5 (Master EIRs), 15182 (EIRs Prepared for Specific Plans), and 15183 (EIRs Prepared for General Plans, Community Plans, or Zoning).
- (b) Plans for the Reduction of Greenhouse Gas Emissions. Public agencies may choose to analyze and mitigate significant greenhouse gas emissions in a plan for the reduction of greenhouse gas emissions or similar document. A plan to reduce greenhouse gas emissions may be used in a cumulative impacts analysis as set forth below. Pursuant to sections 15064(h)(3) and 15130(d), a lead agency may determine that a project’s incremental contribution to a cumulative effect is not cumulatively considerable if the project complies with the requirements in a previously adopted plan or mitigation program under specified circumstances.
  - (1) Plan Elements. A plan for the reduction of greenhouse gas emissions should:
    - (A) Quantify greenhouse gas emissions, both existing and projected over a specified time period, resulting from activities within a defined geographic area;
    - (B) Establish a level, based on substantial evidence, below which the contribution to greenhouse gas emissions from activities covered by the plan would not be cumulatively considerable;
    - (C) Identify and analyze the greenhouse gas emissions resulting from specific actions or categories of actions anticipated within the geographic area;
    - (D) Specify measures or a group of measures, including performance standards, that substantial evidence demonstrates, if implemented on a project-by-project basis, would collectively achieve the specified emissions level;
    - (E) Establish a mechanism to monitor the plan’s progress toward achieving the level and to require amendment if the plan is not achieving specified levels;
    - (F) Be adopted in a public process following environmental review.
  - (2) Use with Later Activities. A plan for the reduction of greenhouse gas emissions, once adopted following certification of an EIR or adoption of an environmental document, may be used in the cumulative impacts analysis of later projects. An environmental document that relies on a greenhouse gas reduction plan for a cumulative impacts analysis must identify those requirements specified in the plan that apply to the project,

and, if those requirements are not otherwise binding and enforceable, incorporate those requirements as mitigation measures applicable to the project. If there is substantial evidence that the effects of a particular project may be cumulatively considerable notwithstanding the project's compliance with the specified requirements in the plan for the reduction of greenhouse gas emissions, an EIR must be prepared for the project.

One of the goals of the Climate Action Plan (C-CAP) is to allow programmatic level review and mitigation of GHG emissions that allows streamlining of CEQA review for subsequent development projects. To accomplish this, the C-CAP framework is designed to fulfill the requirements identified in CEQA Guidelines Section 15183.5, above.

### **Executive Order S-13-08**

On November 14, 2008, Governor Schwarzenegger issued Executive Order S-13-08, the Climate Adaptation and Sea Level Rise Planning Directive, which provides clear direction for how the State should plan for future climate impacts. Executive Order S-13-08 calls for the implementation of four key actions to reduce the vulnerability of California to climate change:

- Initiate California's first statewide Climate Change Adaptation Strategy (CAS) that will assess the State's expected climate change impacts, identify where California is most vulnerable, and recommend climate adaptation policies
- Request that the National Academy of Sciences establish an expert panel to report on sea level rise impacts in California in order to inform State planning and development efforts
- Issue interim guidance to State agencies for how to plan for sea level rise in designated coastal and floodplain areas for new and existing projects
- Initiate studies on critical infrastructure and land-use policies vulnerable to sea level rise

The 2009 CAS report summarizes the best known science on climate change impacts in the state to assess vulnerability, and outlines possible solutions that can be implemented within and across state agencies to promote resiliency. This is the first step in an ongoing, evolving process to reduce California's vulnerability to climate impacts (CNRA 2009).

### **California Code of Regulations (CCR) Title 24, Part 6**

CCR Title 24, Part 6 (California's Energy Efficiency Standards for Residential and Nonresidential Buildings) (Title 24) were first established in 1978 in response to a legislative mandate to reduce California's energy consumption. The standards are updated periodically to allow consideration and possible incorporation of new energy efficiency technologies and methods. Although it was not originally intended to reduce GHG emissions, electricity production by fossil fuels results in GHG emissions and energy efficient buildings require less electricity. Therefore, increased energy efficiency results in decreased GHG emissions.

The Energy Commission adopted 2008 Standards on April 23, 2008, and the Building Standards Commission approved them for publication on September 11, 2008. These updates became effective on August 1, 2009. The Energy Commission adopted the 2008 changes to the Building Energy Efficiency Standards for several reasons:

- To provide California with an adequate, reasonably priced, and environmentally sound supply of energy
- To respond to AB 32, the Global Warming Solutions Act of 2006, which mandates that California must reduce its GHG emissions to 1990 levels by 2020
- To pursue California energy policy, which states that energy efficiency is the resource of first choice for meeting California's energy needs
- To act on the findings of California's Integrated Energy Policy Report (IEPR) that concludes that the Standards are the most cost effective means to achieve energy efficiency, expects the Building Energy Efficiency Standards to continue to be upgraded over time to reduce electricity and peak demand, and recognizes the role of the Standards in reducing energy related to meeting California's water needs and in reducing GHG emissions
- To meet the West Coast Governors' Global Warming Initiative commitment to include aggressive energy efficiency measures into updates of state building codes
- To meet the Executive Order in the Green Building Initiative to improve the energy efficiency of nonresidential buildings through aggressive standards

### **Senate Bill 375**

Senate Bill 375 (SB 375), which establishes mechanisms for the development of regional targets for reducing passenger vehicle greenhouse gas emissions, was adopted by the State on September 30, 2008. On September 23, 2010, California ARB adopted the vehicular greenhouse gas emissions reduction targets that had been developed in consultation with the metropolitan planning organizations (MPOs); the targets require a 7 to 8 percent reduction by 2020 and between 13 to 16 percent reduction by 2035 for each MPO. SB 375 recognizes the importance of achieving significant greenhouse gas reductions by working with cities and counties to change land use patterns and improve transportation alternatives. Through the SB 375 process, MPOs will work with local jurisdictions in the development of sustainable communities strategies (SCS) designed to integrate development patterns and the transportation network in a way that reduces greenhouse gas emissions while meeting housing needs and other regional planning objectives. MPOs will prepare their first SCS according to their respective regional transportation plan (RTP) update schedule.

### **Regional**

#### **Southern California Association of Governments (SCAG)**

SCAG is the designated Metropolitan Planning Organization for six Southern California counties (Los Angeles, Ventura, Orange, San Bernardino, Riverside, and Imperial), and is federally mandated to develop plans for transportation, growth management, hazardous waste management, and air quality. The SCAG regional plans cover San Bernardino County, which includes the City, and five other counties within Southern California.

## Regional Comprehensive Plan

The Regional Comprehensive Plan (RCP) is a problem-solving guidance document that responds to SCAG's Regional Council directive in the 2002 Strategic Plan to develop a holistic, strategic plan for defining and solving the region's interrelated housing, traffic, water, air quality, and other regional challenges. The RCP is a voluntary framework that links broad principles to an action plan that moves the region towards balanced goals. The RCP's guiding principles include:

- Improve mobility for all residents. Improve the efficiency of the transportation system by strategically adding new travel choices to enhance system connectivity in concert with land use decisions and environmental objectives.
- Foster livability in all communities.
- Foster safe, healthy, walkable communities with diverse services, strong civic participation, affordable housing, and equal distribution of environmental benefits.
- Enable prosperity for all people. Promote economic vitality and new economies by providing housing, education, and job training opportunities for all people.
- Promote sustainability for future generations.
- Promote a region where quality of life and economic prosperity for future generations are supported by the sustainable use of natural resources.

Further, the RCP seeks to successfully integrate land and transportation planning and achieve land use and housing sustainability by implementing Compass Blueprint and 2 percent Strategy:

- Focusing growth in existing and emerging centers and along major transportation corridors
- Creating significant areas of mixed-use development and walkable, "people-scaled" communities
- Providing new housing opportunities, with building types and locations that respond to the region's changing demographics
- Targeting growth in housing, employment, and commercial development within walking distance of existing and planned transit stations
- Injecting new life into under-used areas by creating vibrant new business districts, redeveloping old buildings and building new businesses and housing on vacant lots
- Preserving existing, stable, single-family neighborhoods
- Protecting important open space, environmentally sensitive areas and agricultural lands from development
- Reducing emissions of criteria pollutants to attain federal air quality standards by prescribed dates and state ambient air quality standards as soon as practicable
- Reversing current trends in greenhouse gas emissions to support sustainability goals for energy, water supply, agriculture, and other resource areas
- Minimizing land uses that increase the risk of adverse air pollution-related health impacts from exposure to toxic air contaminants, particulates (PM<sub>10</sub>, PM<sub>2.5</sub>, ultrafine), and carbon monoxide

## Regional Transportation Plan

On May 8, 2012, the Regional Council of SCAG adopted the 2012 RTP and SCS for the SCAG area aimed at attaining the reduction targets of an 8 percent per capita reduction in GHG emissions from passenger vehicles by the year 2020 and a 13 percent reduction by 2035. There are transportation-related reduction measures included in this Regional Reduction Plan that coordinate with efforts in SCAG's SCS. The 2012 RTP strives to provide a regional investment framework to address the region's transportation and related challenges, and looks to strategies that integrate land use into transportation planning with an emphasis on transit and other nonvehicle transportation modes. The RTP also provides the framework for aggregating sub-regional and local efforts to institute measures aimed at mitigating the adverse air pollution impacts from transportation activities. These measures are known as transportation control measures (TCMs). The RTP links the goal of sustaining mobility with the goals of fostering economic development, enhancing the environment, reducing energy consumption, promoting transit-friendly development patterns, and encouraging fair and equitable access to residents affected by socio-economic, geographic, and commercial limitations. The Regional Transportation Implementation Plan (RTIP) is the vehicle used to implement the RTP and SCS. The RTIP also provides the schedule and framework for the timely implementation of the Region's TCM strategies. SCAG is currently in the process of developing the 2014 RTP and SCS for their jurisdiction aimed at updating the regional transportation modeling system and keeping on track to achieve the reduction targets.

## SCAG Compass Growth Visioning

The Compass Blueprint Growth Vision effort by SCAG is a response, supported by a regional consensus, to the land use and transportation challenges facing Southern California now and in the coming years. The Growth Vision is driven by four key principles:

- **Mobility**—Getting where we want to go
- **Livability**—Creating positive communities
- **Prosperity**—Long-term health for the region
- **Sustainability**—Preserving natural surroundings

The fundamental 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 class. Thus, decisions regarding growth, transportation, land use and economic development should be made to promote and sustain for future generations the region's mobility, livability and prosperity.

## South Coast Air Quality Management District (SCAQMD)

The City of Highland is also located within the South Coast Air Basin (Basin) and is, therefore, within the jurisdiction of the SCAQMD. The 2012 Air Quality Management Plan (AQMP) is a regional and multi-agency effort between the SCAQMD Governing Board, California ARB, Southern California Association of Governments, and the USEPA, and includes control strategies, attainment demonstration, reasonable further progress, and maintenance plans. The AQMP is periodically updated to incorporate more recent scientific data, primarily in the form of updated emissions inventories, ambient measurements, new meteorological episodes, and new air quality modeling tools. The AQMP provides guidance to local

government about how to incorporate these strategies into land use plans and decisions about development.

SCAG is responsible for generating the socio-economic profiles and growth forecasts on which land use, transportation, air quality management and implementation plans are based. The growth forecasts provide the socioeconomic data used to estimate vehicle trips and vehicle miles traveled (VMT). Emission estimates can then be forecast by SCAQMD based on these projected estimates. Reductions in emissions due to changes in the socio-economic profile of the region are an important way of taking account of changes in land use patterns. For example, changes in jobs/housing balance induced by changes in urban form and transit-oriented development induce changes in VMT by more closely linking housing to jobs. Thus, socio-economic growth forecasts are a key component to guide the Basin toward attainment of the National Ambient Air Quality Standards (NAAQS).

The current 2012 AQMP establishes a comprehensive regional air pollution control program leading to the attainment of state and federal air quality standards in the Basin. The 2012 AQMP incorporates significant new emissions inventories, ambient measurements, scientific data, control strategies, and air quality modeling including transportation conformity budgets that show VMT emissions offsets following the recent changes in USEPA requirements.

## **Species and Habitat Conservation Plans**

### *Santa Ana River Area of Critical Concern/Research Natural Area*

The Bureau of Land Management (BLM) has designated three parcels (totaling 760 acres) in the Santa Ana River as an Area of Critical Concern (ACEC) and Research Natural Area (RNA) for the protection of habitat for two federally listed endangered plants, Santa Ana River woolly star (*Eriastrum densifolium* ssp. *sanctorum*), and slender-horned spinyflower (*Dodecahema leptoceras*).

### *Woolly Star Preservation Area*

The Woolly Star Preservation Area (WSPA) permanently reserves 764 acres in the Santa Ana River flood plain to protect the Santa Ana River woolly star from the effects of the Seven Oaks Dam flood control improvements (part of the Santa Ana River Mainstem Project initiated in 1990). A portion of the WSPA is located within the City limits, southeast of the intersection of Greenspot Road and Weaver Street.

### *San Bernardino Kangaroo Rat Critical Habitat*

Critical habitat identifies specific areas, both occupied and unoccupied by a federally protected species, that are essential to the conservation of a listed species and that may require special management considerations or protection. Approximately 33,295 acres in San Bernardino and Riverside Counties has been designated as critical habitat for the San Bernardino kangaroo rat. Portions of the City are located within Critical Habitat Unit 1 (Santa Ana River and San Timoteo Canyon), which covers roughly the areas encompassing City Creek, Plunge Creek, and the Santa Ana River wash.

### *Coastal California Gnatcatcher Critical Habitat*

Approximately 513,560 acres in Los Angeles, Orange, San Diego, San Bernardino, and Riverside Counties is designated as critical habitat for the coastal California gnatcatcher. Critical Habitat Unit 11

covers approximately 58,000 acres along the foothills of the San Gabriel Mountains within the Jurupa Hills on the border of San Bernardino and Riverside counties. Undeveloped areas to the north in East Highland Ranch Planned Development area, the Seven Oaks Dam inundation area, and the eastern parts of the City are located within California gnatcatcher critical habitat.

### **Airport Plans**

The CLUP and the Airport Master Plan for the SBIA were not adopted as of the writing of the Highland General Plan DEIR or the General Plan Update. In a joint workshop with representatives of the SBIA, Inland Valley Development Agency (IVDA), and San Bernardino International Airport Authority (SBIAA), it was determined that the Highland General Plan could include general policies related to airport compatibility. The Airport Element of the adopted General Plan includes policies that address compatibility with and protection of the SBIA. Specifically, the policies in the adopted General Plan address compatibility with the airport's noise and safety zones in terms of land use, density, and height of land uses in the City. Upon adoption of the SBIA CLUP and Airport Master Plan, the General Plan can be amended to incorporate the adopted noise contours and safety zones and any new airport-related policies.

The RMA Land Use Compatibility Plan is a stand-alone document adopted by the City of Redlands for the purpose of establishing procedures and criteria by which the City can address, evaluate, and review airport compatibility issues in the vicinity of the Redlands Municipal Airport. Another purpose of the Airport Land Use Compatibility Plan is to alert the City of Highland to the potential effects of air traffic from the Redlands Municipal Airport on land uses in southern Highland.

### **Local**

#### **City of Highland Municipal Code**

The City of Highland Land Use and Development Code (Municipal Code Title 16) sets forth the City's standards, guidelines, and procedures concerning the development and maintenance of land use in the City. These regulations are intended to serve as the primary tools to implement the goals, objectives, and policies of the General Plan; protect the physical, social, and economic stability and vitality of Highland residents and their property; reduce or eliminate hazards to the public; and enhance the City's physical, social, and economic advantages through comprehensive land use and resource planning.

Section 16.40.330 (Solar Energy Design) identifies how passive heating and cooling opportunities may be incorporated, to the extent feasible, into the design or modifications of residential and commercial developments. Section 16.60.060 (Minimum Design Standards) addresses how solar may be incorporated into specific plan design.

## Highland General Plan

The Highland General Plan policies that are applicable to land use/planning<sup>11</sup> are as follows:

### Land Use Element, Citywide Goals and Policies

- Policy 2.1-1** Actively plan and promote the development of the Town Center, Golden Triangle and other designated mixed-use areas.

### Land Use Element, Protecting and Enhancing Neighborhoods

- Policy 2.3-5** Continue the innovative use of land resources and development of a variety of housing types and sizes within the City by using the Planned Development designation.

### Land Use Element, Community Policy Areas

- Policy 2.10-3** Provide access to multiple modes of travel, including pedestrian, bicycle, transit and automobile.

### Land Use Element, Base Line Corridor

- Policy 2.11-1** Revitalize the Base Line Corridor with infill development of vacant land and redevelopment of aging commercial areas with residential development, consistent with the Land Use Plan.

### Land Use Element, 5<sup>th</sup> Street Corridor

- Policy 2.13-1** Continue to coordinate with the City of San Bernardino and the San Bernardino International Airport Authority for future planning on and around the airport.

### Public Services and Facilities Element, General City Services and Facilities

- Policy 4.1-8** Continue to direct future growth to areas with adequate existing facilities and services, or areas with adequate facilities and services committed, or areas where public services and facilities can be economically extended.
- Policy 4.1-26** Continue to allow new development and the intensification of existing development only where and when adequate public services and facilities can be provided.

### Conservation and Open Space, Air Quality Planning

- Policy 5.19-3** Encourage land use planning and urban design that reduces vehicle trips through mixed and multi-use development, consolidation of commercial development along major arterials, provision of pedestrian connections from residential to retail areas, and development of a multi-use Town Center.

### Public Health and Safety Element, Air Quality

- Policy 6.7-1** Require the review of all new development in proximity to the San Bernardino International Airport for compliance with Federal Aviation Administration (FAA) requirements and the California Airport Land Use Planning Handbook with adopted plans.

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<sup>11</sup> These policies are not a complete listing of all policies contained in the General Plan; those policies that would be most applicable to the proposed project are included here.

**Policy 6.8-10** Reduce vehicle emissions by supporting the design and implementation of the Citywide system of bikeways and pedestrian trails as a non-polluting circulation alternative by requiring as part of the development review process the installation of planned bicycle routes, paths, and lanes where designated; and the construction of necessary bicycle parking and storage areas within convenient commercial, employment and recreation activity areas.

**Policy 6.8-12** Continue to encourage the integration of air quality planning with land use and transportation planning in the design, review, and development processes.

Housing Element

**Policy 8.2-4** Encourage the development of a range of housing types in targeted areas of the City, such as inventoried vacant residential sites, Planned Development districts, Mixed Use districts, Transit Oriented Development opportunities, and special Policy Areas identified in the Land Use Element.

Community Design Element, Green Building and Planning Practices

**Policy 10.12-5** Encourage transit-oriented, infill development to make efficient use of existing land.

**Policy 10.12-6** Encourage site planning and building orientation that maximizes solar and wind resources for cooling and heating.

Airport Element

**Policy 11.2-2** Limit the type and intensity of development in designated Airport Influence Areas (AIAs).

## ■ Project Impact Evaluation

### **Thresholds of Significance**

The following thresholds of significance are based on the 2012 CEQA Guidelines Appendix G. For purposes of this EIR, implementation of the San Bernardino County Regional GHG Reduction Plan might have a significant adverse impact on land use/planning if it would do any of the following:

- 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 ordinance) adopted for the purpose of avoiding or mitigating an environmental effect
- Conflict with any applicable habitat conservation plan or natural community conservation plan

### **Analytic Method**

The programs and measures contained in the Regional Reduction Plan were compared to applicable land use plan policies to determine if any inconsistency exists. These land use plans include the SCAQMD 2012 Air Quality Management Plan, SCAG's Regional Comprehensive Plan and Guide (RTP and Compass Growth Visioning), the Highland General Plan, the City's Land Use and Development Code, airport master plans, and the regional habitat conservation plans.

## Effects Not Found to Be Significant

Threshold	Would the project physically divide an established community?
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The City of Highland is a highly urbanized area with well-established communities integrated into the land use plan. Implementation of the Regional Reduction Plan measures selected by Highland would not physically divide an established community. The GHG Reduction Performance Standard for New Development (PS-1) includes measures that the City would require of new development, which would be integral to the projects, which would not divide an established community. Smart Bus Technologies (Transportation-2) would have no physical effects on land use planning. There would be *no impact*.

Threshold	Would the project 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?
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Several regionally and locally adopted land use plans, policies, and regulations would be applicable to development of infrastructure and renewable generation under the proposed Regional Reduction Plan. These include the 2012 Air Quality Management Plan, SCAG's Regional Comprehensive Plan and Guide, 2012 RTP and SCS, and City Municipal Code.

To fulfill the purposes of the Regional Reduction Plan, the City identified the following goals:

- Provide a list of specific actions that will reduce GHG emissions, with the highest priority given to actions that provide the greatest reduction in GHG emissions and benefits to the community at the least cost.
- Reduce the City of Highland community GHG emissions to a level that is 22 percent below its projected emissions level in 2020.
- Establish a qualified reduction plan for which future development within the City can tier and thereby streamline the environmental analysis necessary under the California Environmental Quality Act (CEQA).

The City will meet and exceed this goal through a combination of state (~63 percent) and local (~37 percent) efforts. The City actually exceeds the goal with only state/county level actions (102 percent of goal), but has committed to several additional local measures. The Pavley vehicle standards, the state's low carbon fuel standard, the RPS, and other state measures will reduce GHG emissions in Highland's on-road, solid waste, and building energy sectors in 2020. An additional reduction of 39,355 MT CO<sub>2</sub>e will be achieved primarily through the following local measures, in order of importance: Implement SBX 7-7 (Water-4); GHG Performance Standard (PS-1); and Smart Bus Technologies (Transportation-2). Highland's Plan has the greatest impacts on GHG emissions in the building energy, solid waste management, and on-road transportation sectors.

Figure 4.9-2 (Emissions Reduction Profile for Highland) in Section 4.9.0 (Introduction to the Analysis) shows Highland's 2008 GHG emissions total, 2020 BAU emissions forecast total, and the total emissions remaining after meeting the city's emissions reduction target (i.e., 22 percent below its projected emissions in 2020). The contribution of state/county and local reductions are overlaid on the 2020 BAU

emissions forecast total (“2020 Plan”), representing the total emissions reductions achieved in 2020. As stated above, state/county reductions account for the majority (~63 percent) of the total reductions needed to achieve the 2020 target.

Figure 4.9-3 (Emissions by Sector for Highland) in Section 4.9.0 presents emissions by sector, for both the 2020 BAU and the 2020 reduction or Regional Reduction Plan scenario. The largest emissions contributions are in the on-road transportation, building energy, and off-road equipment emissions sectors.

Table 4.9-3 (Emissions by Sector for Highland) in Section 4.9.0 summarizes the 2008 inventory, 2020 BAU forecast, and GHG reduction (Regional Reduction Plan) results by sector. It shows the percent reduction in each sector’s emissions in 2020 and demonstrates that Highland exceeds its emissions reduction goal. Emissions sectors with the greatest percent reduction include the building energy, solid waste management, and on-road transportation sectors.

Figure 4.9-4 (Emission Reductions by Control and by Sector for Highland) in Section 4.9.0 presents emission reductions by sector and by control (i.e., state/county control versus local or city control). As stated previously, the majority of emissions reductions are due to state/county measures. Of the state/county measures, the majority of reductions are in the building energy and on-road transportation sectors. Of the local measures, the majority of reductions are in the building energy sector due to the implementation of SBX 7-7 (Water-4).

Policies in the applicable land use plans identified above are designed to promote sustainability in land use planning. For example, SCAG’s RTP provides the framework for aggregating sub-regional and local efforts to institute measures aimed at mitigating the adverse air pollution impacts from increased transportation activities. These measures are known as transportation control measures (TCMs). The RTP links the goal of sustaining mobility with the goals of fostering economic development, enhancing the environment, reducing energy consumption, promoting transportation-friendly development patterns, and encouraging fair and equitable access to residents affected by socio-economic, geographic, and commercial limitations. The current AQMP establishes a comprehensive regional air pollution control program leading to the attainment of state and federal air quality standards in the Basin. In addition to setting minimum acceptable exposure standards for specified pollutants, the AQMP incorporates SCAG’s growth management strategies that can be used to reduce vehicle trips and VMT, and hence air pollution. These include, for example, co-location of employment and housing, and mixed-use land patterns that allow the integration of residential and nonresidential uses. The goals of the Highland General Plan promote sustainability.

While a separate document, the Regional Reduction Plan will be utilized as a companion document to the Highland General Plan to provide a more comprehensive and detailed framework for land-based policy decisions to reduce greenhouse gas emissions from existing and future development. The Regional Reduction Plan will further the goals and policies of the General Plan with regard to energy conservation and sustainable development by implementing, in addition to City programs already in place, measures and programs to reduce greenhouse gas emissions and facilitate transit-oriented development. All of the Land Use Element policies, as well as the others listed above, in the General Plan seek to maximize efficient use of resources, maintain a high quality of life, enhance job opportunities, promote

sustainability, and facilitate access to transportation facilities. Policies related to historic resources are designed to protect and preserve recognized historic resources, and any solar installations in new housing and new commercial implemented pursuant to the Regional Reduction Plan would be required to be consistent with those policies.

The Regional Reduction Plan does not propose any specific development. Under the GHG Performance Standard for New Development (PS-1) component the Regional Reduction Plan, the City could require new projects to quantify project-generated GHG emissions and adopt feasible reduction measures to reduce project emissions to a level that is a certain percent below BAU project emissions. PS-1 does not require project applicants to implement a pre-determined set of measures. It is anticipated such measures could include energy-efficient appliances and alternative energy sources, water conservation, landscaping, and site design. Any energy-efficiency or energy-generating facilities that would be constructed in new development would require consistency with the applicable specific plans. Thus, there would be no inconsistency with implementation of the Regional Reduction Plan.

The SBIA is in the City of San Bernardino immediately south of the western portion of Highland. While the SBIA is not within the boundaries of City of Highland, portions are within the SBIA Airport Influence Area. The RMA is adjacent to the City in the southeast. A small portion of Highland is within an area designated as an Area of Special Compatibility Concern on the RMA ALUC Plan. It is the policy of the City to coordinate with the airport authorities to ensure that proposed land uses within the airport safety zones are consistent with the adopted master land use plans and land use compatibility plans for the airports. The City review of proposed projects such as renewable energy generation during implementation of the Regional Reduction Plan within the airport safety zones and near the airports ensures that implementation of these types of uses near airports does not result in land use incompatibilities.

Therefore, because the proposed Regional Reduction Plan furthers the goals of the identified land use plans and would not conflict with those plans, including the City's General Plan, it is consistent with these plans. This impact would be *less than significant*. No mitigation is required. Implementation of the proposed project would also ensure compliance with AB 32, which would be a benefit of the project.

Threshold	Would the project conflict with any applicable habitat conservation plan or natural community conservation plan?
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Portions of the City are within the existing BLM Santa Ana River ACEC/RNA and USACE WSPA. Portions of the WSPA located just south of Greenspot Road are located in an area designated for low density residential development. However, protection provided in federal conservation areas would supersede the local land use designation. No conflict with existing conservation plans would result. Upon approval and adoption of the proposed Upper Santa Ana Wash Land Management and Habitat Conservation Plan, adoption of the San Bernardino Valley-wide MSHCP, and participation by the City, future projects would be required to comply with the HCP and MSHCP. Therefore, impacts would be *less than significant*. No mitigation is required.

## ■ Cumulative Impacts

The geographic context for land use impacts with respect to consistency with applicable land use plans is San Bernardino County, which assumes buildout to a horizon year of 2030 in the County General Plan. While the County is part of the larger SCAG region, compliance with SCAG policies is voluntary, and individual municipalities are not required, although they aim to conform to SCAG policies. In addition, land use decisions are subject to the jurisdiction of the SCAQMD, which implements the AQMP for the South Coast Air Basin, of which the County is a part. All development in this geographic context is required to be consistent with the applicable General Plan, and any inconsistencies with the AQMP must be identified as impacts in the environmental analysis. With respect to consistency with land use plans, The Regional Reduction Plan's *cumulative impact would be less than significant*.

## ■ References

Highland, City of. 2005. *City of Highland General Plan and Development Code Update Environmental Impact Report*. Draft, September.

———. 2006. *City of Highland General Plan*, March.

———. n.d. *City of Highland Municipal Code*.

San Bernardino Associated Governments (SANBAG). 2012. *San Bernardino County Regional Greenhouse Gas Reduction Plan*. Draft. Prepared by ICF International, December.

## 4.9.11 Mineral Resources

This section of the EIR analyzes the potential environmental effects on mineral resources in the City of Highland from implementation of the Regional Reduction Plan. Data for this section were taken from Highland General Plan (2006) and associated environmental document (2005). Full reference-list entries for all cited materials are provided at the end of this section.

No comment letters addressing mineral resources were received in response to the notice of preparation (NOP) circulated for the Regional Reduction Plan.

### ■ Environmental Setting

Minerals are defined as any naturally occurring chemical elements or compounds, formed from inorganic processes and organic substances. Movable minerals or an “ore deposit” is defined as a deposit of ore or mineral having a value materially in excess of the cost of developing, mining and processing the mineral and reclaiming the project area.

The City of Highland is located in the San Bernardino Production-Consumption (P-C) Region of the Greater Los Angeles Sand and Gravel Resource Area (California Department of Conservation 1987). This P-C region covers approximately 1,098 square miles and includes the large urbanizing portions of southwestern San Bernardino County and northwestern Riverside County. It approximately covers an area from Fontana on the west to Cabazon on the east, Devore on the north and Lake Elsinore and Hemet on the south. The most prominent geographic features include the southern slopes of the eastern San Gabriel Mountains, the southern slopes of the San Bernardino Mountains, and the Cajon Pass to the north. Other important features include the major drainages in the area—San Antonio Creek, Day Creek, Dear Creek, Lytle Creek, Cajon Creek and the Santa Ana River—and the huge alluvial fans that have developed at the mouths of these drainages. The drainages and alluvial fans are important sources of aggregate (sand and gravel) resources.

Along the southwestern edge of the San Bernardino Mountains, the Santa Ana River emerges from its narrow canyon onto a widening floodplain in the eastern arm of the San Bernardino Valley. Traversing to the southwest, the river flows across a broad wash for about 6 miles before entering the construction of the Santa Ana River channel; then courses through another 18 miles before reaching the boundary near the City of Riverside. Within the San Bernardino P-C region there are nine major areas that are classified MRZ-2 where significant mineral deposits are present. The City of Highland is located within the Santa Ana Wash and River deposits. The Santa Ana Wash contains approximately 34 square miles of land classified MRZ-2. The river channel contains an additional 10 square miles of land classified MRZ-2. The deposits of alluvium underlying the Santa Ana River are topped by an upper layer of younger deposits suitable for use as Portland cement concrete (PCC) aggregate. This layer, made up of deposits of boulders, gravel, sand, and occasionally clay, overlies an older weathered alluvium which is probably unsuitable for use as PCC aggregate.

Three MRZ classifications are present within the City of Highland. As shown in Figure 4.9.11-1 (Mineral Resource Areas), MRZ-3 generally covers the northern portions of Highland, while MRZ-2 covers the southern portions of Highland. The far northwestern corner of the City boundary lies within the edge of

MRZ-1. Most of the MRZ zones exist in areas that have been developed. Currently, there are approximately 4,439 acres in the City that have not been developed.

The City of Highland overlies portions of non-urbanized MRZ-2 lands designated as Resource Sector F (Santa Ana River and Santa Ana Wash). Per the 1987 Department of Conservation Report, an estimated 4.6 billion tons of resources underlie Sector F. Total projected aggregate consumption to the year 2032 in the San Bernardino P-C Region is estimated to be 476 million tons. Within the entire P-C Region there are an estimated 10.5 billion tons of potentially available aggregate resources.

## ■ **Regulatory Framework**

### ***Federal***

#### **United States Department of the Interior, Office of Surface Mining, Reclamation and Enforcement**

The Office of Surface Mining Reclamation and Enforcement (OSM) is a bureau within the United States Department of the Interior. OSM is responsible for establishing a nationwide program to protect society and the environment from the adverse effects of surface coal mining operations, under which OSM is charged with balancing the nation's need for continued domestic coal production with protection of the environment. OSM was created in 1977 when Congress enacted the Surface Mining Control and Reclamation Act. OSM works with State and Indian Tribes to assure that citizens and the environment are protected during coal mining and that the land is restored to beneficial use when mining is finished. OSM and its partners are also responsible for reclaiming and restoring lands and water degraded by mining operations before 1977.

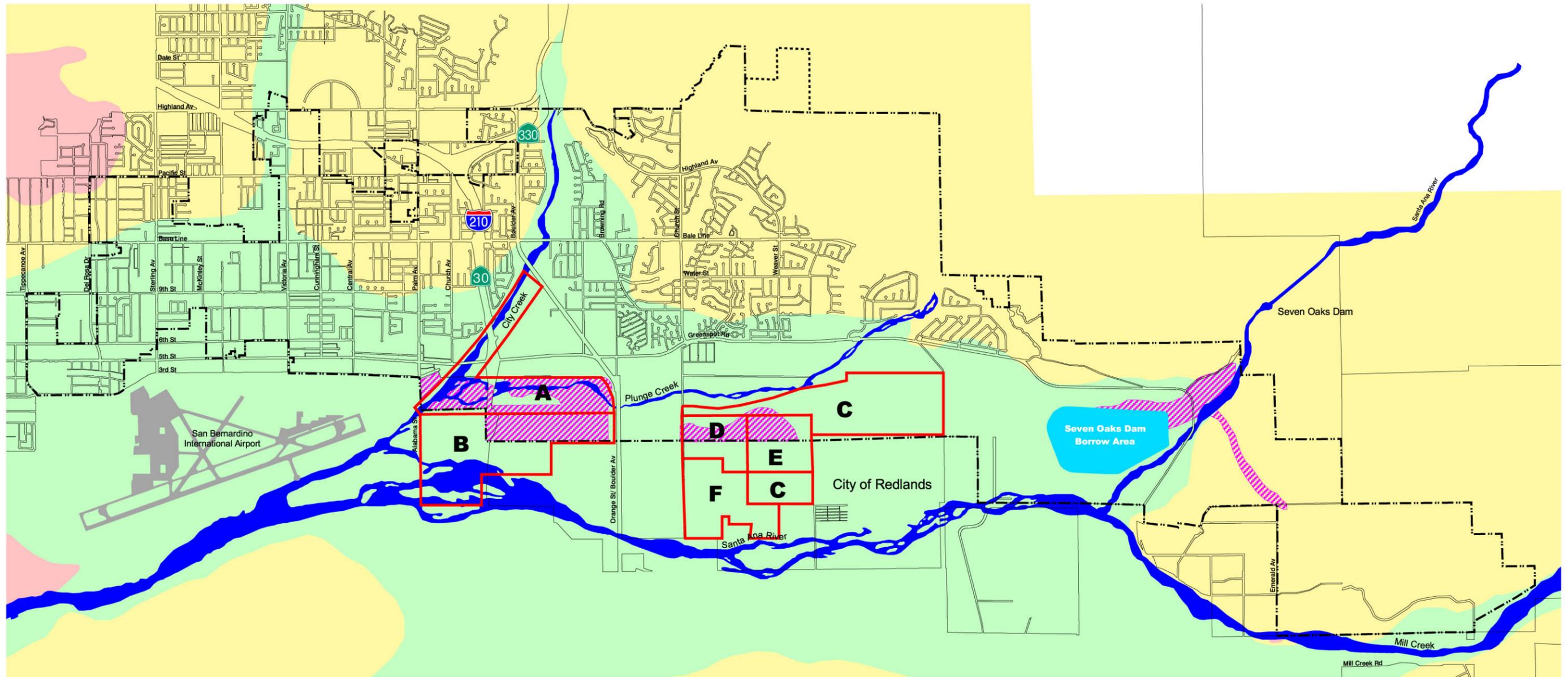
#### **Surface Mining Control and Reclamation Act**

The Surface Mining Control and Reclamation Act of 1977 (SMCRA) is the primary federal law that regulates the environmental effects of coal mining in the United States. SMCRA created two programs: one for regulating active coal mines and a second for reclaiming abandoned mine lands. SMCRA also created the Office of Surface Mining, an agency within the Department of the Interior, to promulgate regulations, to fund state regulatory and reclamation efforts, and to ensure consistency among state regulatory programs. Under SMCRA, the federal government can approve a program, which gives the state the authority to regulate mining operations, if the state demonstrates that it has a law that is at least as strict as SMCRA, and that they have a regulatory agency with the wherewithal to operate the program. OSM has delegated authority to the California Department of Conservation for enforcement of SMCRA through California Public Resources Code (PRC) Sections 2710–2796.

### ***State***

#### **California Department of Conservation**

The California Department of Conservation provides services and information that promote environmental health, economic vitality, informed land-use decisions and sound management of our state's natural resources including mineral resources. The California Department of Conservation



- MRZ-1 No significant mineral deposits are likely to be present.
- MRZ-2 Significant mineral deposits are likely, development should be controlled.
- MRZ-3 Significant mineral deposits cannot be determined from available data.
- Existing Mineral Extraction Uses
- City Boundary
- Sphere of Influence

- Aggregate Pits
- A - Plunge Creek Pit
- B - Alabama Street Pit
- C - Sunwest Lease Lands
- D - Johnson Pit
- E - Redlands Aggregate Pit
- F - Old Webster Pit



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Source: City of 2005. City of Highland General Plan and Development Code Update Environmental Impact Report. September.

Figure 4.9.11-1  
Mineral Resource Areas



maintains information on mineral resources within the state through the California Geological Survey Mineral Resources Project. The California Department of Conservation regulates mining of mineral resources through the Office of Mining Reclamation (OMR), which enforces the Surface Mining and Reclamation Act.

### **Surface Mining and Reclamation Act**

The Surface Mining and Reclamation Act of 1975 (SMARA) (PRC Sections 2710–2796) provides a comprehensive surface mining and reclamation policy with the regulation of surface mining operations to assure that adverse environmental impacts are minimized and mined lands are reclaimed to a usable condition. SMARA also encourages the production, conservation, and protection of the state’s mineral resources. PRC Section 2207 provides annual reporting requirements for all mines in the state, under which the State Mining and Geology Board is also granted authority and obligations. SMARA (PRC Chapter 9, Division 2) requires the State Mining and Geology Board to adopt state policy for the reclamation of mined lands and the conservation of mineral resources. These policies are prepared in accordance with the Administrative Procedures Act (Government Code) and are found in California Code of Regulations Title 14, Division 2, Chapter 8, Subchapter 1.

### **Local**

#### **City of Highland Municipal Code**

Surface Mining and Land Reclamation Regulations Ordinance regulates surface mining operations as authorized by SMCARA and Public Resources Code Section 2207.

#### **Highland General Plan**

The Highland General Plan policies that are applicable to mineral resources<sup>12</sup> are as follows:

- Policy 5.9-1** Identify any significant mineral resources within the City and, as feasible, protect them from encroachment by residential or other incompatible development, for future use.
- Policy 5.9-8** Permit non-mining uses within the designated Open Space District only if a finding is made that no significant impacts on future regional mineral resources will result from project approval.

## **■ Project Impact Evaluation**

### **Thresholds of Significance**

The following thresholds of significance are based on the 2012 CEQA Guidelines Appendix G. For purposes of this EIR, implementation of the San Bernardino County Regional GHG Reduction Plan might have a significant adverse impact on mineral resources if it would do any of the following:

- 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

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<sup>12</sup> These policies are not a complete listing of all policies contained in the General Plan; those policies that would be most applicable to the proposed project are included here.

- Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan

### Analytic Method

The following analysis considers whether or not implementation of the Regional Reduction Plan within the City would impact mineral resources.

### Effects Not Found to Be Significant

Threshold	Would the project result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?
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As shown on Figure 4.9.11-1, the State of California designates MRZ-2 areas and one overall designated Resource Sector (F) with regionally significant mineral resources within the City. The proposed Regional Reduction Plan would not change the land use designations or affect the ability of mining operations to extract minerals in the MRZ-2 area. Any energy efficiency retrofits or renewable energy generation as a result of implementing the Regional Reduction Plan in the MRZ-2 and MRZ-3 designated areas would require City review to ensure that mining resources/operations are not affected. Therefore, this impact would be *less than significant*. No mitigation is required.

Threshold	Would the project result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?
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As stated above, any energy efficiency retrofits or renewable energy generation as a result of implementing the Regional Reduction Plan in MRZ-2 and MRZ-3 designated areas would require City review to ensure that mining resources/operations are not affected. . Therefore, this impact would be *less than significant*. No mitigation is required.

### ■ Cumulative Impacts

Because the Regional Reduction Plan does not significantly impact mineral resources at a project level, implementation of the Regional Reduction Plan will not create impacts to mineral resources that are cumulatively considerable. Therefore, *cumulative impacts would be less than significant*.

### ■ References

Highland, City of. 2005. *City of Highland General Plan and Development Code Update Environmental Impact Report*. Draft, September.

———. 2006. *City of Highland General Plan*, March.

———. n.d. *City of Highland Municipal Code*.

San Bernardino Associated Governments (SANBAG). 2012. *San Bernardino County Regional Greenhouse Gas Reduction Plan*. Draft. Prepared by ICF International, December.

## 4.9.12 Noise

This section of the EIR analyzes the potential environmental effects on noise in the City of Highland from implementation of the Regional Reduction Plan. Data for this section were taken from Highland General Plan (2006) and associated environmental document (2005). Full reference-list entries for all cited materials are provided at the end of this section.

No comment letters addressing noise were received in response to the notice of preparation (NOP) circulated for the Regional Reduction Plan.

### ■ Environmental Setting

#### **Noise Terminology and Effects**

Noise is defined as unwanted or objectionable sound. The effects of noise on people can include general annoyance, interference with speech communication, sleep disturbance and, in the extreme, hearing impairment. The unit of measurement used to describe a noise level is the decibel (dB). The human ear is not equally sensitive to all frequencies within the sound spectrum. Therefore, the “A weighted” noise scale, which weights the frequencies to which humans are sensitive, is used for measurements. Noise levels using A-weighted measurements are written dB(A) or dBA. Decibels are measured on a logarithmic scale, which quantifies sound intensity in a manner similar to the Richter scale used for earthquake magnitudes. Thus, a doubling of the energy of a noise source, such as doubling a traffic volume, would increase the noise level by 3 dBA; a halving of the energy would result in a 3 dBA decrease. Table 4.9.12-1 (Sound Levels of Typical Noise Sources and Noise Environments) shows the relationship of various noise levels to commonly experienced noise events.

Average noise levels over a period of minutes or hours are usually expressed as dB  $L_{eq}$ , or the equivalent noise level for that period of time. For example,  $L_{eq(3)}$  would represent a 3-hour average. When no period is specified, a 1-hour average is assumed. Noise standards for land use compatibility, which are addressed in the General Plan Noise Element and the Municipal Code Noise Control chapter, are stated in terms of the Community Noise Equivalent Level (CNEL) and the Day-Night Average Noise Level ( $L_{dn}$ ). CNEL is a 24-hour weighted average measure of community noise. The computation of CNEL adds 5 dBA to the average hourly noise levels between 7:00 PM and 10:00 PM (evening hours), and 10 dBA to the average hourly noise levels between 10:00 PM and 7:00 AM (nighttime hours). This weighting accounts for the increased human sensitivity to noise in the evening and nighttime hours.  $L_{dn}$  is a very similar 24-hour weighted average, which weights only the nighttime hours and not the evening hours.

It is widely accepted that the average healthy ear can barely perceive changes of 3 dBA, increases or decreases; that a change of 5 dBA is readily perceptible, and that an increase (decrease) of 10 dBA sounds twice (half) as loud (Caltrans 1998).

**Table 4.9.12-1 Sound Levels of Typical Noise Sources and Noise Environments**

Noise Source (at a Given Distance)	Noise Environment	Scale of A-Weighted Sound Level in Decibels	Human Judgment of Noise Loudness (Relative to a Reference Loudness of 70 dB*)
Military Jet Take-off with After-burner (50 ft)	Carrier flight deck	140	<u>Hearing damage without protection</u> 128 times as loud
Civil Defense Siren (100 ft)		130	64 times as loud
Commercial Jet Take-off (200 ft)	Airport Runway	120	<u>Threshold of Pain</u> 32 times as loud
Pile Driver (50 ft) Rock & Roll Band (50 ft)	Construction Site Rock Concert	110	16 times as loud
Ambulance Siren (100 ft) Newspaper Press (5 ft) Power Lawn Mower (3 ft) Motorcycle (25 ft) Propeller Plane Flyover (1000 ft) Diesel Truck, 40 mph (50 ft) Garbage Disposal (3 ft)	Boiler Room Printing Press Plant High Urban Ambient Sound	100 90 89	<u>Very Loud</u> 8 times as loud 4 times as loud 2 times as loud
Passenger Car, 65 mph (25 ft) Living Room Stereo (15 ft) Vacuum Cleaner (3 ft) Electronic Typewriter (10 ft)	Busy Shopping Mall Indoor Sports Park	70	<u>Moderately Loud</u> * 70 dB (Reference Loudness)
Normal Conversation (5 ft) Air Conditioning Unit (100 ft)	Data Processing Center Department Store	60	½ as loud
	Office	50	¼ as loud
	Lower Limit of Urban Ambient Sound	40	<u>Quiet</u> ⅛ as loud
Bird calls (distant)	Rural Residential Area	30	
Soft Whisper (5 ft)	Quiet Bedroom	20	<u>Just Audible</u>
		10	<u>Threshold of Hearing</u>

**Existing Setting**

Like all highly urbanized areas, the City of Highland is subject to noise from a myriad of sources. The major source of noise is from mobile sources and most specifically, traffic traveling through the City on its various roadways and freeways. Aircraft over flights from the SBIA and the Redlands Municipal Airport also contribute to this noise. The southwestern portion of the City is located directly within the flight path of aircraft approaching and departing the San Bernardino International Airport (SBIA) while the south-central and southeastern portion of the City is located within the flight path of the Redlands Municipal Airport. Noise generated by aircraft generates substantial noise within the area surrounding the airport. The City also includes a variety of stationary noise sources. These are primarily associated with existing industrial land uses and existing mineral resource extraction land uses.

## On-Road Vehicles

Noise from motor vehicles is generated by engine vibrations, the interaction between tires and the road, and the exhaust system. Reducing the average motor vehicle speed reduces the noise exposure of receptors adjacent to the road. Each reduction of 5 miles per hour reduces noise by about 1.3 dBA.

In order to assess the potential for mobile-source noise impacts, it is necessary to determine the noise currently generated by vehicles traveling through the project area. Average daily traffic (ADT) volumes were based on the existing daily traffic volumes provided by Urban Crossroads. The results of this modeling indicate that average noise levels along arterial segments currently range from approximately 58 dBA to 77 dBA CNEL as calculated at a distance of 50 feet from the centerline of the road. Interstate routes would have noise levels that range from 66 dBA to 82 dBA CNEL at the edge of the roadway.

## Aircraft Noise

The SBIA is located in the southeastern portion of the City of San Bernardino, adjacent to the western boundary of the City of Highland. Airport noise generated from large aircraft contributes to the noise environment within the City. Noise from aircraft is produced from takeoff, flyovers/overflights, and approaches/landings. Each of these events results in noise exposure to populations living in proximity to the airport.

In addition to aircraft noise from the SBIA, local helicopter air traffic occurs within the City. News and other helicopters (e.g., freeway traffic report helicopters) fly through the area. Helicopter use for fire and police and at hospitals is considered as an emergency activity and is addressed by Federal Aviation Administration regulations. The noise exposure generated by helicopter activity varies dependant on flight path which is determined by wind direction and terrain. There are currently no heliports in Highland; therefore, intermittent flyovers by helicopters are not considered to be a substantial source of noise within the City.

## Stationary Source Noise

Stationary sources of noises may occur from all types of land uses. Residential uses would generate noise from landscaping, maintenance activities, and air conditioning systems. Commercial uses would generate noise from heating, ventilation, air conditioning (HVAC) systems, loading docks and other sources. Industrial uses may generate HVAC systems, loading docks and possibly machinery. Noise generated by residential or commercial uses are generally short and intermittent. Industrial uses may generate noise on a more continual basis due to the nature of its activities. For the developed land within the City of Highland, land uses are primarily residential, with retail along major roadways and industrial uses in the western and southern portion of the City. Noise from stationary sources is regulated through Municipal Code Chapter 8.5 (Noise Control).

## ■ Regulatory Framework

### ***Federal***

#### **Federal Highways Administration**

The Federal Highways Administration (FHWA) administers the protocols and methods of analyzing traffic noise. United States Code of Federal Regulations Title 23, Part 772 (23 CFR 772), provides the procedures for analysis and abatement of highway traffic noise and construction noise. It provides technical assistance to state authorities, in conjunction with other local and federal authorities, to prepare and execute appropriate noise review and abatement programs for roadway and highway construction noise impacts. The maximum highway-related noise level considered acceptable for land uses along highways is 65 dBA CNEL.

#### **Federal Aviation Administration**

The primary responsibility of the Federal Aviation Administration (FAA) in regard to noise is the enforcement of the FAA Noise Standards (Title 14, Part 150), which prescribes the procedures, standards and methodology governing the development, submission, and review of airport noise exposure maps and airport noise compatibility programs, including the process for evaluating and approving or disapproving those programs. Title 14 also identifies those land uses which are normally compatible with various levels of exposure to noise by individuals. It provides technical assistance to airport operators, in conjunction with other local, state, and federal authorities, to prepare and execute appropriate noise compatibility planning and implementation programs. The FAA establishes the 65 dB CNEL contour of an airport as the threshold for evaluation of potential noise impacts. The maximum airport-related noise level considered compatible with NSLU is 65 dBA CNEL.

#### **Federal Transit Administration**

The Federal Transit Administration (FTA) establishes noise impact criteria to be used in evaluating noise impacts from mass transit projects, including railroads, in the Transit Noise and Vibration Impact Assessment published in 2006. The FTA criteria do not establish a screening level for potential impacts. Rather, the FTA noise impact criteria are based on comparison of the existing outdoor noise levels and the future outdoor noise levels from the transit project. The noise level that would result from a proposed transit project's implementation is evaluated as having either a low, moderate or severe impact based on the existing noise level and sensitivity of the affected land use. Lands set aside for serenity and quiet are considered the most sensitive land uses (Category 1), followed by residences and buildings where people normally sleep (Category 2), and institutional land uses with primarily daytime and evening use (Category 3).

### ***State***

#### **California Department of Transportation**

The California Department of Transportation (Caltrans) administers the FHWA requirements for analysis and abatement of highway traffic noise and construction noise (23 CFR 772) in California. Caltrans also has additional technical methodologies for analysis of roadway and highway construction

noise in California. The Caltrans Traffic Noise Analysis Protocol (CATNAP) and Technical Noise Supplement (TENS) provide the methodology and procedures for analysis and abatement of roadway noise in the state.

### **California Noise Control Act of 1973**

California Health and Safety Code Sections 46000 through 46080, known as the California Noise Control Act, finds 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 that is free from noise that jeopardizes their health or welfare.

### **California Noise Insulation Standards**

In 1974, the California Commission on Housing and Community Development adopted noise insulation standards for multi-family residential buildings (California Code of Regulations Title 24, Part 2). Title 24 establishes standards for interior room noise (attributable to outside noise sources). The regulations also specify that acoustical studies must be prepared whenever a multi-family residential building or structure is proposed to be located near an existing or adopted freeway route, expressway, parkway, major street, thoroughfare, rail line, rapid transit line, or industrial noise source, and where such noise source or sources create an exterior CNEL (or  $L_{dn}$ ) of 60 dBA or greater. Such acoustical analysis must demonstrate that the residence has been designed to limit intruding noise to an interior CNEL (or  $L_{dn}$ ) of at least 45 dBA.

### **California Airport Noise Standards**

The 1990 California Airport Noise Standards require airport proprietors, aircraft operators, local governments, pilots, and the California Department of Transportation Division of Aeronautics to work cooperatively to diminish noise. This requirement is accomplished by controlling and reducing noise in the communities in the vicinity of airports. The level of noise acceptable to a person residing in the vicinity of an airport is established as a CNEL value of 65 dBA. The limitation on airport noise in residential communities is established to be 65 dBA CNEL for proposed new airports, active military airports being converted to civilian use, and existing civilian airports.

### **California Department of Health Services (DHS)**

The effects of noise on various land uses were studied by The California Department of Health Services (DHS) Office of Noise Control. Based on that study, the DHS established four categories for to determine the severity of noise impacts on these various land uses.

Table 4.9.12-2 (Land Use Compatibility for Community Noise Exposure) details a compatibility chart for community noise with respect to land use as prepared by the California Office of Noise Control. It identifies four categories of exterior noise levels for different land uses. These categories are, normally acceptable, conditionally acceptable, normally unacceptable, and clearly unacceptable.

**Table 4.9.12-2 Land Use Compatibility for Community Noise Exposure**

Land Use Category	Use	Exterior Noise Level (CNEL)					
		55	60	65	70	75	80
Residential/ Lodging	Single-Family/Duplex/Mobile homes	CLEARLY ACCEPTABLE		NORMALLY ACCEPTABLE		NORMALLY UNACCEPTABLE	
	Multi-Family	CLEARLY ACCEPTABLE		NORMALLY ACCEPTABLE		NORMALLY UNACCEPTABLE	
	Hotel/Motel	CLEARLY ACCEPTABLE		NORMALLY ACCEPTABLE		CLEARLY UNACCEPTABLE	
Public/ Institutional	Schools/Hospitals/Churches, Hospitals, Nursing Homes	CLEARLY ACCEPTABLE		NORMALLY ACCEPTABLE		CLEARLY UNACCEPTABLE	
	Auditoriums/Concert Halls	CLEARLY ACCEPTABLE		NORMALLY UNACCEPTABLE			
Recreational	Sports Arena, Outdoor Spectator Sports	CLEARLY ACCEPTABLE		NORMALLY UNACCEPTABLE			
	Playgrounds, Neighborhood Parks	CLEARLY ACCEPTABLE		NORMALLY UNACCEPTABLE		CLEARLY UNACCEPTABLE	
	Golf Courses, Riding Stables, Water recreation, Cemeteries	CLEARLY ACCEPTABLE		NORMALLY UNACCEPTABLE		CLEARLY UNACCEPTABLE	
Commercial	Office Buildings, business, commercial, and Professional	CLEARLY ACCEPTABLE		NORMALLY UNACCEPTABLE			
Industrial	Industrial, Manufacturing, Utilities, Agriculture	CLEARLY ACCEPTABLE		NORMALLY UNACCEPTABLE			

SOURCE: California Office of Noise Control and the Governor's Office of Planning and Research.

-  CLEARLY ACCEPTABLE—Specified land use is satisfactory, based upon the assumption that buildings involved are of normal conventional construction, without any special noise insulation requirements.
-  NORMALLY ACCEPTABLE—New construction or development should be undertaken only after a detailed analysis of the noise reduction requirements is made and needed noise insulation features included in the design.
-  NORMALLY UNACCEPTABLE—New construction or development does proceed, a detailed analysis of the noise reduction requirements must be made with noise insulation features included in the design.
-  CLEARLY UNACCEPTABLE—New construction or development clearly should not be undertaken.

Conditionally acceptable indicates that new development of that land use should only be undertaken after a detailed analysis of the noise and required noise insulation features to reduce interior noise levels have been incorporated into the design. A normally acceptable designation, by contrast, indicates that standard development can occur with no special noise reduction requirements.

The state interior and exterior noise standards for varying land uses are included in Table 4.9.12-3 (California Interior and Exterior Noise Standards). This represents standards for interior noise as well as exterior noise within “habitable” areas.

<b>Table 4.9.12-3 California Interior and Exterior Noise Standards</b>			
<i>Land Use</i>		<i>CNEL (dBA)</i>	
<i>Categories</i>	<i>Uses</i>	<i>Interior<sup>a</sup></i>	<i>Exterior<sup>b</sup></i>
Residential	Single and multi-family, duplex	45 <sup>c</sup>	65
	Mobile homes	—	65 <sup>d</sup>
Commercial	Hotel, motel, transient housing	45	—
	Commercial retail, bank, restaurant	55	—
	Office building, research and development, and professional offices	50	—
	Amphitheatre, concert hall, auditorium, movie theatre	46	—
	Gymnasium (Multipurpose)	50	—
	Sports Club	55	—
	Manufacturing, warehousing, wholesale, utilities	65	—
	Movie theatres	45	—
Institutional/Public Space	Hospital, school classroom/playground	45	65
	Church, Library	45	—
Open Space	Park	—	65

SOURCE: California Office of Noise Control and the Governor's Office of Planning and Research.

- a. Indoor environment excluding: bathrooms, kitchens, toilets, closets, and corridors.
- b. Outdoor Environment Limited to:
  - Private yard of single-family dwellings
  - Multi-family private patios or balconies accessed from within the dwelling (Balconies 6 feet deep or less are exempt)
  - Mobile home parks
  - Park Picnic area
  - School playgrounds
  - Hospital patios
- c. Noise level requirement with closed windows, mechanical ventilation or other means of natural ventilation shall be provided in Uniform Building Code Chapter 12, Section 1205.
- d. Exterior noise levels should be such that interior noise levels.

## Regional

There are no regional regulations related to noise.

**Local**

**City of Highland Noise Ordinance**

The City of Highland Noise Ordinance (Chapter 8.50 [Noise Control]) specifies the maximum acceptable levels of noise for land uses in the City. Exterior and Interior noise standards for the City of Highland are displayed in Table 4.9.12-4 (City of Highland Exterior Noise Standards) and Table 4.9.12-5 (City of Highland Interior Noise Standards), respectively. According to the Noise Ordinance, in residential areas, no exterior noise level shall exceed 60 dBA during the daytime and 55 dBA during the nighttime and no interior noise level shall exceed 45dBA anytime. It is unlawful for any person to create noise, which causes the noise level when measured on any property to exceed the applicable noise standard for a cumulative period of more than 30 minutes in any hour; or the applicable noise standard plus 5 dBA for a cumulative period of more than 15 minutes in any hour; or the applicable noise standard plus 10 dBA for a cumulative period of more than 5 minutes in any hour; or the applicable noise standard plus 15 dBA for a cumulative period of more than 1 minute in any hour; or the noise standard plus 20 dBA for any period of time.

<b>Table 4.9.12-4 City of Highland Exterior Noise Standards</b>		
<i>Land Use Categories</i>	<i>Time</i>	<i>Exterior Noise Limits (dBA)</i>
Single-family, two-family, or multiple-family residential	10:00 pm–7:00 am	55
	7:00 am–10:00 pm	60
Agriculture/Equestrian	10:00 p.m.–7:00 a.m. 60	
	7:00 am–10:00 pm	65
Commercial	10:00 pm–7:00 am	65
	7:00 am–10:00 pm	70
Manufacturing or Industrial	Anytime	75
Open Space	Anytime	75

SOURCE: City of Highland, *City of Highland General Plan and Development Code Update Environmental Impact Report*, Draft (September 2005), Table 5.7-6.

<b>Table 4.9.12-5 City of Highland Interior Noise Standards</b>	
<i>Land Use Categories</i>	<i>Interior Noise Limits (dBA)</i>
Residential	45
Educational, churches, other institutional uses	45
General offices	50
Retail stores, restaurants	55
Manufacturing, warehousing, etc.	66
Agricultural	55
Sand and gravel operations	75

SOURCE: City of Highland, *City of Highland General Plan and Development Code Update Environmental Impact Report*, Draft (September 2005), Table 5.7-7.

Noise from the operation of construction equipment within specified hours of activity is exempt under the City of Highland Municipal Code Section 8.50.100. The Municipal Code exempts noise sources associated with the construction, repair, remodeling, or grading of any real property or during authorized seismic surveys, provided such activities do not take place between the hours of 8:00 p.m. and 7:00 a.m. on weekdays, including Saturdays, or at any time on Sunday or a federal holiday, provided the noise level created by such activities does not exceed the noise standard of 70 dBA plus the limits specified in the Municipal Code as measured on residential property and does not endanger the public health, welfare, and safety

### **Highland General Plan**

The Highland General Plan policies that are applicable to noise<sup>13</sup> are as follows:

- Policy 7.1-1**      Enforce the City’s Noise Control Ordinance consistent with health and quality of life goals and employ effective techniques of noise abatement through such means as a noise ordinance, building codes, and subdivision and zoning regulations.
- Policy 7.2-5**      Encourage the development of alternative transportation modes such as bicycle paths and pedestrian walkways to minimize the number of automobile trips and noise.

## **■ Project Impact Evaluation**

### **Thresholds of Significance**

The following thresholds of significance are based on the 2012 CEQA Guidelines Appendix G. For purposes of this EIR, implementation of the San Bernardino County Regional GHG Reduction Plan might have a significant adverse impact on noise if it would do any of the following:

- Result in the exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies
- Result in the exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels
- Result in a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project
- Result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project
- If located within an airport land use plan or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport, result in the exposure of people residing or working in the project area to excessive noise levels
- If within the vicinity of a private airstrip, result in the exposure of people residing or working in the project area to excessive noise levels

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<sup>13</sup> These policies are not a complete listing of all policies contained in General Plan; those policies that would be most applicable to the proposed project are included here.

## Analytic Method

The following analysis considers whether or not implementation of the Regional Reduction Plan within the City would impact noise-sensitive receptors.

### Effects Not Found to Be Significant

Threshold	Would the project result in the exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?
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Implementation of the measures in the Regional Reduction Plan would augment existing City programs and policies with regard to transit-oriented development. Land use planning that encourages transit-oriented development along existing and planned transit corridors could increase the population who could be exposed to roadway noise. Other measures could include operation of new or expanded park-and-ride lots and pedestrian/bicycle network enhancements. Vehicles entering and exiting a park-and-ride lot could result in temporary increases in noise levels during commute hours, but, typically noise levels do not exceed community noise level standards. Pedestrian and bicycle network enhancements would not involve motorized travel and would not be expected to contribute to the noise environment.

The location or extent of new renewable energy-generating facilities structures such as solar arrays that would potentially be developed under the Regional Reduction Plan and their locations, are not specifically identified in the Regional Reduction Plan. However, the operation of solar arrays would not generate substantial noise. In some locations, energy retrofits on existing structures could reduce interior noise levels for certain types of buildings, as increased insulation and double- or triple-paned windows would also act to buffer exterior noise levels.

The Noise Element of the General Plan provides land use noise compatibility information and specifies maximum interior and exterior noise standards for various land use types. All development, including energy-generating facilities, would be required to be designed in such a way, e.g., through setbacks or shielding, that future noise levels do not exceed these standards. Therefore, installation of these energy-generating structures would likely be constructed away from sensitive uses, and would not result in any adverse noise impacts. Highland Noise Ordinance (Table 4.9.12-4 and Table 4.9.12-5) and Highland General Plan Policies would ensure that noise impacts to sensitive uses would be avoided or minimized. Each specific development project would undergo evaluation prior to project approval for consistency with The Chino General Plan policies and standards. Therefore, this impact would be *less than significant*. No mitigation is required.

Threshold	Would the project result in the exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?
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Construction vibration that could occur during installation of photovoltaic arrays or wind turbines would not be substantial, and if these activities were to occur on or near fragile buildings, all appropriate measures would be required per the Highland Noise Ordinance to reduce the effect of any groundborne vibration at the sensitive receptor. The Municipal Code further restricts construction activities that occur in close proximity to noise- or vibration-sensitive uses to specific hours of the day. Specific limits on the

noise levels associated with construction and mechanical equipment that can be measured at sensitive uses are identified and subject to enforcement. Therefore, this impact would be *less than significant*. No mitigation is required.

Threshold	Would the project result in a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?
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Implementation of the Regional Reduction Plan would not result in a substantial increase in noise levels over what was analyzed in the Highland General Plan EIR. Highland Noise Ordinance (Table 4.9.12-4 and Table 4.9.12-5) and Highland General Plan Policies would ensure that noise impacts to sensitive uses would be avoided or minimized. Each specific development project that implements the Regional Reduction Plan would undergo evaluation prior to project approval for consistency with the Highland General Plan policies and standards. Therefore, this impact would be *less than significant*. No mitigation is required.

Threshold	Would the project result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?
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Implementation of the Regional Reduction Plan would not result in a substantial temporary increase in noise levels over what was analyzed in the Highland General Plan EIR. Highland Noise Ordinance (Table 4.9.12-4 and Table 4.9.12-5) and Highland General Plan Policies would ensure that construction noise impacts to sensitive uses would be avoided or minimized. Each specific development project that implements the Regional Reduction Plan would undergo evaluation prior to project approval for consistency with the Highland General Plan policies and standards. Therefore, this impact would be *less than significant*. No mitigation is required.

Threshold	Would the project, if located within an airport land use plan or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport, result in the exposure of people residing or working in the project area to excessive noise levels?
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The Regional Reduction Plan does not provide housing or workplaces that would bring people into the vicinity of the SBIA and Redlands Municipal Airport Influence Area. Implementation of the Regional Reduction Plan would not result in a substantial increase in noise levels over what was analyzed in the Highland General Plan EIR. Highland Noise Ordinance (Table 4.9.12-4 and Table 4.9.12-5), Highland General Plan Policies, and airport compatibility review by the City would ensure that noise impacts to sensitive uses within the vicinity of the airports would be avoided or minimized. Each specific development project that implements the Regional Reduction Plan would undergo evaluation prior to project approval for consistency with the Highland General Plan policies and standards and airport compatibility. Therefore, this impact would be *less than significant*. No mitigation is required.

Threshold	Would the project, if within the vicinity of a private airstrip, result in the exposure of people residing or working in the project area to excessive noise levels?
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No private airstrips are located within or in close proximity to Highland. Therefore, *no impact* would occur.

## ■ Cumulative Impacts

Because the Regional Reduction Plan does not create significant noise and groundborne vibration impacts at a project level, implementation of the Regional Reduction Plan will not create impacts that are cumulatively considerable. Therefore, *cumulative impacts would be less than significant*.

## ■ References

California Department of Transportation (Caltrans). 1998. *Technical Noise Supplement*.

Highland, City of. 2005. *City of Highland General Plan and Development Code Update Environmental Impact Report*. Draft, September.

———. 2006. *City of Highland General Plan*, March.

———. n.d. *City of Highland Municipal Code*.

San Bernardino, City of. 2005. *City of San Bernardino General Plan*, November 1.

### 4.9.13 Population/Housing

This section of the EIR analyzes the potential environmental effects on population/housing in the City of Highland from implementation of the Regional Reduction Plan. Data for this section were taken from the Highland General Plan (2006) and associated environmental document (2005). Full reference-list entries for all cited materials are provided at the end of this section.

No comment letters addressing population/housing were received in response to the notice of preparation (NOP) circulated for the Regional Reduction Plan.

#### ■ Environmental Setting

Highland’s population in 2010 was 53,014 (52,986 in 2008) and is expected to increase to 58,646 by 2020, an increase of 11 percent over 2008. The City expects a 28 percent increase in employment by 2020.

Table 4.9.13-1 (Socioeconomic Data for Highland) presents socioeconomic data for Highland, including population, housing (single-family and multifamily), and employment (agricultural, industrial, retail, and nonretail).

<b>Table 4.9.13-1 Socioeconomic Data for Highland</b>		
<i>Category</i>	<b>2008</b>	<b>2020</b>
Population	52,986	58,646
Housing (du)	15,436	17,713
Single-Family (du)	11,439	13,109
Multifamily (du)	3,997	4,604
Employment (jobs)	6,037	7,757
Agricultural (jobs)	0	2
Industrial (jobs)	1,376	1,999
Retail Commercial (jobs)	1,353	1,659
Non-Retail Commercial (jobs)	3,309	4,097
du = dwelling unit		

Residential uses dominate the western and central portions of the City and account for over 60 percent of the planned or already developed land uses. The predominant type of residential development is single-family housing. Planned Development residential uses are located in the East Highlands Ranch area in the northern portion of the City and the area east of Interstate 210/State Route 30 known as the Golden Triangle.

The City’s General Plan guides planning for new growth within the City, in part, through designation of land uses that result in additional housing supply within the City. The land use plan provides land use designations for a variety of housing types within the City and provides for additional residential

opportunities in areas that currently do not allow residential uses, such as the Baseline Corridor and the Golden Triangle.

## ■ Regulatory Framework

### ***Federal***

#### **United States Department of Housing and Urban Development (HUD)**

The United States Department of Housing and Urban Development's (HUD) mission is to create strong, sustainable, inclusive communities and quality affordable homes within the United States. HUD is working to strengthen the housing market to bolster the economy and protect consumers; meet the need for quality affordable rental homes; utilize housing as a platform for improving quality of life; build inclusive and sustainable communities free from discrimination; and transform the way HUD does business. HUD is responsible for enforcement of the federal Fair Housing Act.

#### **Federal Fair Housing Act**

In April 1968, at the urging of President Lyndon B. Johnson, Congress passed the federal Fair Housing Act (codified at 42 USC 3601–3619, penalties for violation at 42 USC 3631), Title VIII of the Civil Rights Act of 1968. The primary purpose of the Fair Housing Law of 1968 is to protect the buyer/renter of a dwelling from seller/landlord discrimination. Its primary prohibition makes it unlawful to refuse to sell, rent to, or negotiate with any person because of that person's inclusion in a protected class. The goal is a unitary housing market in which a person's background (as opposed to financial resources) does not arbitrarily restrict access. Calls for open housing were issued early in the twentieth century, but it was not until after World War II that concerted efforts to achieve it were undertaken.

### ***State***

#### **California Housing Element Law**

California planning and zoning law requires each city and county to adopt a general plan for future growth (California Government Code Section 65300). This plan must include a housing element that identifies housing needs for all economic segments and provides opportunities for housing development to meet that need. At the state level, the Housing and Community Development Department estimates the relative share of California's projected population growth that would occur in each county in the state based on California Department of Finance (DOF) population projections and historical growth trends. Where there is a regional council of governments, the Housing and Community Development Department provides the regional housing need to the council. The California housing element law (Government Code Sections 65580–65589) requires that each City and County identify and analyze existing and projected housing needs within its jurisdiction and prepare goals, policies, and programs to further the development, improvement, and preservation of housing for all economic segments of the community commensurate with local housing needs. State law recognizes the vital role local governments play in the supply and affordability of housing.

## **Senate Bill 375**

Senate Bill 375 (SB 375), which establishes mechanisms for the development of regional targets for reducing passenger vehicle greenhouse gas emissions, was adopted by the State on September 30, 2008. These regional targets are met within each region through the drafting, adoption, and implementation of a sustainable community strategy (SCS). The SCS outlines the region's plan for combining transportation resources, such as roads and mass transit, with a realistic land use pattern, in order to meet a state target for reducing greenhouse gas emissions. The strategy must take into account the region's housing needs, transportation demands, and protection of resource and farm lands. The Metropolitan Planning Organization (MPO) for each region is responsible for drafting, adoption and implementation of the SCS for that region. SB 375 also modified Housing Element Law to achieve consistency between the land use pattern outlined in the SCS and Regional Housing Needs Assessment allocation. The legislation also substantially improved cities' and counties' accountability for carrying out their housing element plans. After submitting the SCS to the California Air Resources Board, the MPO allocates the Regional Housing Needs Assessment numbers to localities, based on the development pattern shown in the SCS and the existing allocation factors in housing element law. SB 375 extended the duration of housing elements from 5 to 8 years in order to align them with RTP deadlines. One housing element will be completed for every two RTPs. The bill also set the housing element due date at 18 months after the MPO estimates it will adopt the SCS. The MPO for this region is the Southern California Association of Governments (SCAG).

## **Regional**

### **Southern California Association of Governments (SCAG)**

SCAG is the designated Metropolitan Planning Organization for six Southern California counties (Los Angeles, Ventura, Orange, San Bernardino, Riverside, and Imperial), and is federally mandated to develop plans for transportation, growth management, hazardous waste management, and air quality. SCAG regional plans cover San Bernardino County, which includes the City, and five other counties within Southern California.

### **Regional Transportation Plan**

On May 8, 2012, the Regional Council of SCAG adopted the 2012 Regional Transportation Plan (RTP) and SCS for the SCAG area aimed at attaining the reduction targets of an 8 percent per capita reduction in GHG emissions from passenger vehicles by the year 2020 and a 13 percent reduction by 2035. There are transportation-related reduction measures included in this Regional Reduction Plan that coordinate with efforts in SCAG's SCS. The 2012 RTP strives to provide a regional investment framework to address the region's transportation and related challenges, and looks to strategies that integrate land use and housing into transportation planning with an emphasis on transit and other nonvehicle transportation modes.

## SCAG Compass Growth Visioning

The Compass Blueprint Growth Vision effort by SCAG is a response, supported by a regional consensus, to the land use and transportation challenges facing Southern California now and in the coming years. The Growth Vision is driven by four key principles:

- **Mobility**—Getting where we want to go
- **Livability**—Creating positive communities
- **Prosperity**—Long-term health for the region
- **Sustainability**—Preserving natural surroundings

The fundamental 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 class. Thus, decisions regarding growth, transportation, land use and economic development should be made to promote and sustain for future generations the region’s mobility, livability and prosperity.

## Local

### Highland General Plan

The Highland General Plan policies that are applicable to housing<sup>14</sup> are as follows:

#### Land Use Element, Citywide Goals and Policies

- Policy 2.1-1** Actively plan and promote the development of the Town Center, Golden Triangle and other designated mixed-use areas.

#### Land Use Element, Protecting and Enhancing Neighborhoods

- Policy 2.3-5** Continue the innovative use of land resources and development of a variety of housing types and sizes within the City by using the Planned Development designation.

#### Land Use Element, Base Line Corridor

- Policy 2.11-1** Revitalize the Base Line Corridor with infill development of vacant land and redevelopment of aging commercial areas with residential development, consistent with the Land Use Plan.

#### Open Space and Conservation Element, Air Quality Planning

- Policy 5.19-3** Encourage land use planning and urban design that reduces vehicle trips through mixed and multi-use development, consolidation of commercial development along major arterials, provision of pedestrian connections from residential to retail areas, and development of a multi-use Town Center.

#### Housing Element

- Policy 8.2-4** Encourage the development of a range of housing types in targeted areas of the City, such as inventoried vacant residential sites, Planned Development districts,

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<sup>14</sup> These policies are not a complete listing of all policies contained in the General Plan; those policies that would be most applicable to the proposed project are included here.

Mixed Use districts, Transit Oriented Development opportunities, and special Policy Areas identified in the Land Use Element.

Economic Development Element

**Policy 9.1-5** Promote a mix of housing types and range of prices necessary to provide a diverse labor force.

Community Design Element, Green Building and Planning Practices

**Policy 10.12-5** Encourage transit-oriented, infill development to make efficient use of existing land.

## ■ Project Impact Evaluation

### **Thresholds of Significance**

The following thresholds of significance are based on the 2012 CEQA Guidelines Appendix G. For purposes of this EIR, implementation of the San Bernardino County Regional GHG Reduction Plan might have a significant adverse impact on population/housing if it would do any of the following:

- Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)
- Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere
- Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere

### **Analytic Method**

The programs and measures contained in the Regional Reduction Plan were compared to applicable housing policies to determine if any inconsistency exists.

### **Effects Not Found to Be Significant**

Threshold	Would the project induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?
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Implementation of the Regional Reduction Plan would not induce substantial population growth that could exceed local and regional growth projections either directly or indirectly. The project would not result in an increased demand for housing nor would it result in permanent employment-generating activities that would generate demand for housing. No extension of infrastructure is proposed. There would be *no impact*.

Threshold	Would the project displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?
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The Regional Reduction Plan would not involve the development of any structures or facilities that would displace existing housing. All proposed measures would occur at existing locations or within planned future development subject to discretionary approvals by the City. There would be ***no impact***.

Threshold	Would the project displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?
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The Regional Reduction Plan would not involve the development of any structures or facilities that would displace people. All proposed measures would occur at existing locations or within planned future development subject to discretionary approvals by the City. There would be ***no impact***.

## ■ Cumulative Impacts

Because the Regional Reduction Plan would not result in significant impacts on population and housing at a project level, implementation of the Regional Reduction Plan would not create impacts that are cumulatively considerable. Therefore, there would be ***no cumulative impact***.

## ■ References

Highland, City of. 2005. *City of Highland General Plan and Development Code Update Environmental Impact Report*. Draft, September.

———. 2006. *City of Highland General Plan*, March.

———. n.d. *City of Highland Municipal Code*.

San Bernardino Associated Governments (SANBAG). 2012. *San Bernardino County Regional Greenhouse Gas Reduction Plan*. Draft. Prepared by ICF International, December.

## 4.9.14 Public Services

This section of the EIR analyzes the potential environmental effects on public services (fire protection and emergency medical response services, police protection services, schools, and libraries) in the City of Highland from implementation of the Regional Reduction Plan. Park services are addressed in Section 4.9.15 (Recreation). Public and private utilities and service systems, including water, wastewater, and solid waste services and systems, are addressed in Section 4.9.17 (Utilities/Service Systems). Data for this section were taken from the Highland General Plan (2006) and associated environmental document (2005). Full reference-list entries for all cited materials are provided at the end of this section.

No comment letters addressing public services were received in response to the notice of preparation (NOP) circulated for the Regional Reduction Plan.

### ■ Environmental Setting

#### ***Fire Protection and Emergency Medical Response Services***

##### **San Bernardino County Fire Department**

The San Bernardino County Fire Department (SBCFD) is responsible for firefighting operations within San Bernardino County and coordinates with the City of Highland Fire Department for local needs within the City. The Office of Emergency Services (OES), a division within the SBCFD, is responsible for broad emergency services coordination throughout the county, including the City of Highland.

##### **City of Highland Fire Department**

The California Department of Forestry and Fire Protection (CAL FIRE) provides fire protection and emergency medical services to the City of Highland. These services are provided by CAL FIRE through a cooperative agreement between the City and the State, which provides for CAL FIRE employees to staff City-owned facilities and apparatus. There are currently three fire stations in the City of Highland: Stations 541, 542, and 543.

The City of Highland also participates in the California Mutual Aid Agreement with all cities and counties as well as fire districts throughout California. The City also has a full automatic aid response agreement with the Cities of Redlands and Yucaipa, the United States Forest Service (USFS), and the San Manuel Band of Serrano Mission Indian Tribe. These agreements provide the City of Highland with available fire protection services from other area agencies. The master mutual aid agreement requires that the department requesting assistance be on the scene before summoning support from other departments. The automatic aid agreements render simultaneous response from various departments upon initial report of an emergency.

#### ***Police Protection Services***

##### **City of Highland Police Department**

The City of Highland contracts out its law enforcement services through the San Bernardino County Sheriff's Department (SBCSD), which is the regional law enforcement agency in San Bernardino County.

The City of Highland Police Department is located at 26985 Base Line and provides police protection for the City including, patrol, limited investigations, traffic enforcement, and crime prevention. The Highland Station is traditionally one of the busiest stations in the County, in terms of the ratio of safety personnel to population, calls for service, and arrests per deputy. The average response times for the department are approximately three minutes for emergency calls and eight minutes for routine responses. In addition, the City of Highland Police Department is a contract station operating under a mutual aid agreement, and the City has access to several resources offered by the Sheriff's Department.

## **Schools**

The City of Highland is serviced by the San Bernardino City Unified School District (SBCUSD) and the Redlands Unified School District (RUSD), which provide K–12 educational facilities and programs to the City. SBCUSD covers the area of Highland that is west of City Creek, while RUSD covers the portion of Highland that is located east of City Creek. SBCUSD currently has nine elementary schools, two middle schools, and two high schools that serve the City of Highland. RUSD has three elementary schools, three junior high schools, and two high schools that serve the City. The City of Highland also is serviced by private schools, which include one pre-school and two elementary schools. Colleges in the vicinity of Highland include the Junior Colleges of San Bernardino Valley College, University of California at Riverside, and California State University at San Bernardino.

## **Libraries**

Library services within the City of Highland are provided by the San Bernardino County Libraries library System. The Highland Sam J. Racadio Library and Environmental Learning Center is located at 7863 Central Avenue and includes a rooftop garden, amphitheatre, and flora and fauna exhibits. The Environmental Learning Center also has interactive displays, where children can view animals and insects. The facility is LEED Gold certified and built with 28% recycled or reused materials. Because the City library and the San Bernardino County library system are part of the Inland Valley Library System, residents can use any of the City or County libraries within the County boundaries.

# **■ Regulatory Framework**

## **Federal**

### **Federal Fire Protection Standards**

The National Fire Protection Association (NFPA) Code Section 1710 contains minimum requirements relating to the organization and deployment of fire suppression operations, emergency medical operations, and special operations to the public by substantially all career fire departments. The requirements address functions and objectives of fire department emergency service delivery, response capabilities, and resources. The code also contains general requirements for managing resources and systems, such as health and safety, incident management, training, communications, and pre-incident planning. The code addresses the strategic and system issues involving the organization, operation, and deployment of a fire department and does not address tactical operations at a specific emergency incident.

## State

### California Education Codes

California Senate Bill 50 modifies Government Code Section 65995 to limit the acquisition of development fees by local agencies to three levels set in Government Code Sections 65995, 65995.5, and 65995.7 and prohibits a local agencies from denying a legislative or adjudicative action under CEQA involving real estate development on the basis of the inadequacy of school facilities.

California Education Code Section 17620 gives school districts the authority to levy a fee, charge, dedication, or other requirement against any construction within the boundaries of the district, for the purpose of funding the construction or reconstruction of school facilities, subject to any limitations set forth in Government Code Title 7, Division 1, Chapter 4.9 (commencing with Section 65995).

## Regional

There are no regional regulations applicable to public services.

## Local

### City of Highland Municipal Code

City Municipal Code Ordinance 151 requires that all new developments pay the applicable Development Impact Fees that then go to a variety of public services including, law enforcement facilities, fire suppression facilities, library facilities and collection, public use (community center facilities), and park land acquisition and park facilities development.

### Highland General Plan

The Highland General Plan policies that are applicable to public services<sup>15</sup> are as follows:

#### Public Services and Facilities Element, General City Services and Facilities

- |                      |  |
|----------------------|--|
| <b>Policy 4.1-8</b>  | Continue to direct future growth to areas with adequate existing facilities and services, or areas with adequate facilities and services committed or areas where public services and facilities can be economically extended. |
| <b>Policy 4.1-15</b> | Require the construction of public facilities as a condition of approval for a proposed development if the development exceeds the capacity of existing public facilities to support such development.                         |
| <b>Policy 4.1-17</b> | Continue to require that all new development pay the applicable Development Impact Fees established by the City Council.   |
| <b>Policy 4.1-26</b> | Continue to allow new development and the intensification of existing development only where and when adequate public services and facilities can be provided.   |

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<sup>15</sup> These policies are not a complete listing of all policies contained in the General Plan; those policies that would be most applicable to the proposed project are included here.

## ■ Project Impact Evaluation

### **Thresholds of Significance**

The following thresholds of significance are based on the 2012 CEQA Guidelines Appendix G. For purposes of this EIR, implementation of the San Bernardino County Regional GHG Reduction Plan might have a significant adverse impact on public services if it would do any of the following:

- Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, or in the need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for any of the following public services:
  - > Fire protection and emergency medical response
  - > Police protection
  - > Schools
  - > Libraries

### **Analytic Method**

The reduction measures selected by Highland in the Regional Reduction Plan were reviewed to determine if they would include elements that would directly or indirectly result in adverse environmental effects related to the provision of fire protection, emergency medical response, and police protection services or schools or libraries.

### **Effects Not Found to Be Significant**

Threshold	Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, or in the need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for fire protection and emergency medical response, police protection, schools, or libraries?
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Demand for fire protection and law enforcement services is generally based on population and land use changes that increase the number of facilities and structures requiring these services. None of the measures selected by Highland in the Regional Reduction Plan would increase resident population in the City; therefore, service ratios, response times, or performance objectives would not be affected. Implementation of the measures would not result in new or expanded facilities requiring fire protection or law enforcement services; therefore, there would be no demand for new or altered fire or police facilities, the construction of which could result in environmental impacts. Similarly, demand for schools and libraries is population-based. None of the measures selected by Highland in the Regional Reduction Plan would increase resident population in the City, requiring the need for new or expanded schools or libraries, the construction of which could result in environmental impacts. Therefore, there would be ***no impact***.

## ■ Cumulative Impacts

Implementation of the Regional Reduction Plan measures in Highland would not result in any project-level impacts. Therefore, there would be *no cumulative impacts*.

## ■ References

Green Libraries. 2009. USA Green Librerie Directory H – N. [http://greenlibraries.org/usa\\_green\\_libraries\\_directory\\_h\\_-\\_n](http://greenlibraries.org/usa_green_libraries_directory_h_-_n) (accessed May 30, 2013).

Highland, City of. 2005. *City of Highland General Plan and Development Code Update Environmental Impact Report*. Draft, September.

———. 2006. *City of Highland General Plan*, March.

———. n.d. *City of Highland Municipal Code*.

National Fire Protection Association (NFPA). 2013. NFPA 1710. <http://www.nfpa.org/aboutthecodes/AboutTheCodes.asp?DocNum=1710> (accessed February 20, 2013).

San Bernardino Associated Governments (SANBAG). 2012. *San Bernardino County Regional Greenhouse Gas Reduction Plan*. Draft. Prepared by ICF International, December.

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## 4.9.15 Recreation

This section of the EIR analyzes the potential environmental effects on public parks and other recreational facilities in the City of Highland from implementation of the Regional Reduction Plan. Data for this section were taken from the Highland General Plan (2006) and associated environmental document (2005). Full reference-list entries for all cited materials are provided at the end of this section.

One comment letter stating that the Regional Reduction Plan should include a comprehensive regional bicycle path master plan was received in response to the notice of preparation (NOP) circulated for the Regional Reduction Plan.

### ■ Environmental Setting

#### ***Parks and Recreational Facilities***

The City of Highland currently has a total of 72.5 acres of parkland, with four local parks that range in size and amenities. There are currently two mini-parks (1 to 2 acres in size) and two neighborhood parks (12 to 17 acres in size) in Highland that have a variety of facilities including tot lots, open turf areas, picnic tables, walking trails, dog playgrounds, baseball/softball fields and playground equipment.

School facilities also provide areas for recreation in Highland and count for 40 acres of the City's total developed parkland. The City of Highland has a Joint-Use Agreement with the Redlands Unified School District that enables the City to use two public school facilities (Beattie Middle School and Highland Grove Elementary School) for recreational activities. The City also has a "single joint use agreement" with the San Bernardino City Unified School District that allows permitted recreational uses at Thompson and Cypress Elementary Schools. The City of Highland also utilizes the school fields of Arroyo Verde, Lankershim, Warm Springs, and Cram Elementary Schools for public recreation. Although the District has first priority concerning the use of school grounds, the City has access rights to all outdoor space, playground equipment, and baseball fields when these facilities are not in use by the District, or after school hours on weekdays, and all day on weekends.

The City also has areas that provide private recreation use. Residents of the East Highlands Development have exclusive access to the East Highlands Ranch facilities. Recreation facilities for these developments consist of 113.6 acres of developed park land, including three recreation centers, volleyball courts, softball/soccer fields; pool and passive trail networks; and 940.3 acres of natural parkland. These facilities are accessible only to residents of the East Highlands Ranch and are not counted toward City's parkland requirements.

#### ***Trails and Recreational Linkages***

The City of Highland has an extensive system of informal trails, which encourages walking, hiking, biking, and horseback riding. Trail opportunities in the western portions of the City are limited because of urbanization. Most trail use is restricted to flood control channels and other informal trails. Figure 4.9.15-1 (Multi-Use Trail System) shows the City's Multi-Use Trail System.

Bicycle trails in Highland are designated as Class I, II, or III. Class I bikeways are joint pedestrian and bicycle pathways that are completely separated from vehicular lanes of traffic. Class II bikeways are signed and striped bicycle lanes within the paved section of the street. Class III bike routes are typically identified by signage and are used as transitions or connections to other trails.

Many of the City's bicycle paths are combined with sidewalks along each side of major streets. Cyclists generally use these one-way bike lanes for commuter or longer recreational purposes. Most of the City's arterial streets are sufficiently wide to allow for a four-foot-wide Class II bike lane along the curb. Highland's Class III bikeways are designated but unmarked bike routes on the street within vehicular travel lanes.

## **Regional Facilities**

The San Bernardino National Forest (SBNF) abuts the north boundary of the City of Highland. It is situated in the San Gabriel, San Bernardino, San Jacinto, and Santa Rosa mountains and includes the vacation resort areas of Big Bear Lake, Lake Arrowhead, Mount San Jacinto, and the San Gorgonio Wilderness. The SBNF consists of 500 miles of trails. Aside from camping, SBNF provides outdoor activities like hunting, fishing, recreational shooting, hiking, backpacking, mountain biking, horseback riding, and boating in the warmer months; and cross-country skiing, snowboarding, and snowmobiling in the winter months.

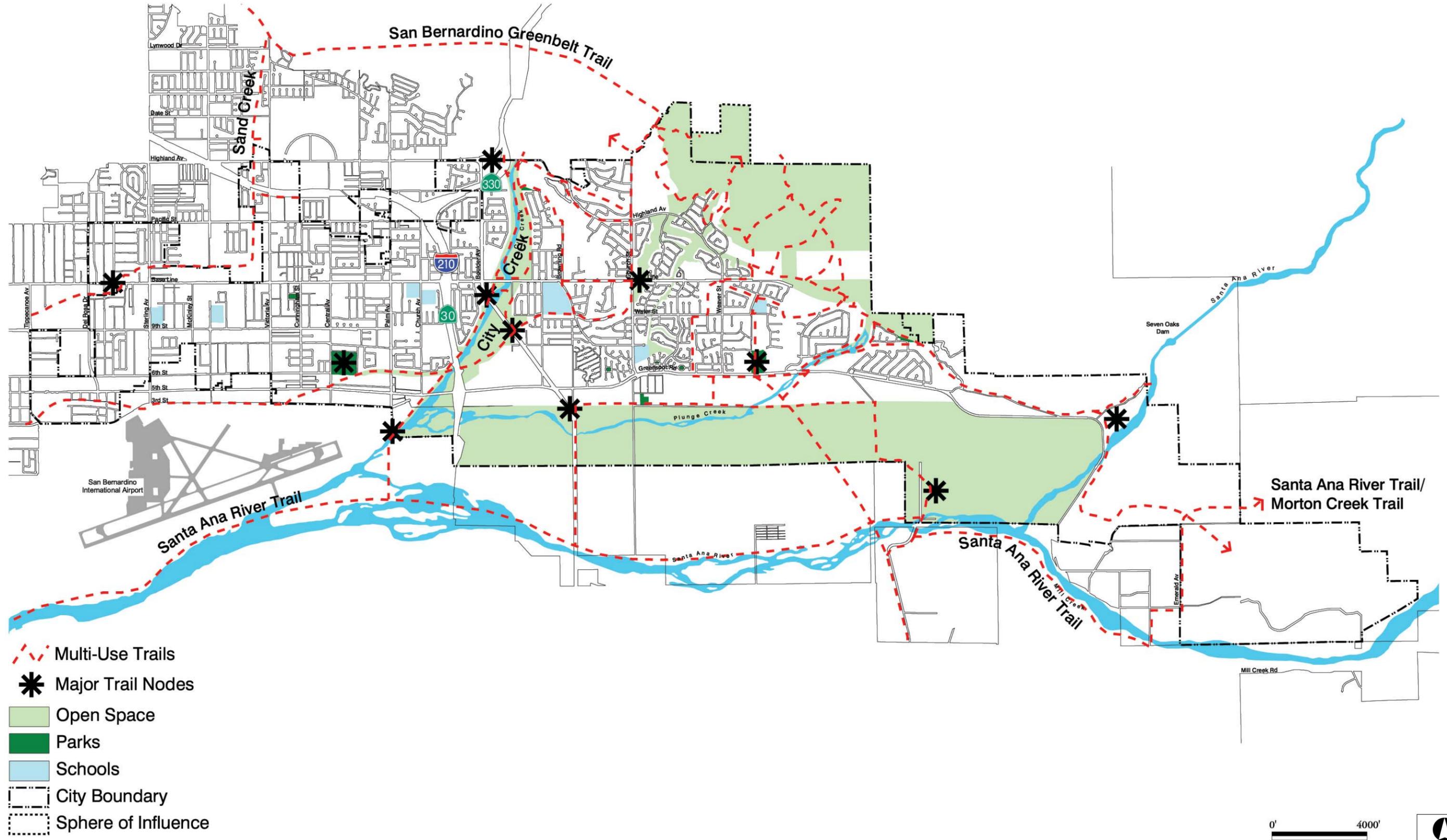
Silverwood Lake State Recreation Area is located adjacent to the San Bernardino National Forest, approximately 10 miles north of Highland. Activities at Silverwood Lake State Recreation Area include camping, hiking trails, swimming, boating, waterskiing, and fishing.

Three regional parks are available to Highland's resident; Lake Gregory Regional Park, Glen Helen Regional Park and Yucaipa Regional Park. Lake Gregory Regional Park is located to the north, off of State Route 30 (SR-30) and SR-18, in the City of Crestline. The 150-acre park features a lake for fishing, boating, sailing, swimming, and other water activities during summer months; a two-mile hiking trail; horseback riding and picnicking facilities; two volleyball courts, and a lodge for special events rental. Glen Helen Regional Park is located in the City of San Bernardino at the northern junction of Interstate 215 (I-215) and I-15. The 1,350-acre park offers campgrounds, picnic facilities, hiking trails, volleyball courts, softball fields, swimming, fishing, and an amphitheatre with a seating capacity of 65,000. Yucaipa Regional Park is located in the City of Yucaipa, approximately 15 miles southwest of Highland. It consists of 885 acres in the foothills of the San Bernardino Mountains. The park provides volleyball courts, playgrounds, swimming, boating, fishing, campgrounds, and picnic facilities.

## **■ Regulatory Framework**

### **Federal**

There are no federal regulations that are applicable to the provisions of recreation, park, and trail facilities in Highland.



Source: City of Highland General Plan EIR, 2005.

Figure 4.9.15-1  
Multi-Use Trail System



## **State**

### **Quimby Act**

The Quimby Act (California Government Code Section 66477) is state legislation that requires the dedication of land and/or fees for park and recreational purposes as a condition of approval of tentative map or parcel map. The Quimby Act establishes procedures that can be used by local jurisdictions to provide neighborhood and community parks and recreational facilities and services for new residential subdivisions.

## **Regional**

### **San Bernardino County Regional Parks Division**

The San Bernardino County Regional Parks is administered by the San Bernardino County Regional Parks Division and the San Bernardino County Regional Parks Advisory Commission. The San Bernardino County Regional Parks division operates the Mojave Narrows Regional Park and Mojave River Forks Regional Park.

## **Local**

### **City of Highland Municipal Code**

City Municipal Code Ordinance 151 requires that all new developments pay the applicable Development Impact Fees that then go to a variety of public services including, law enforcement facilities, fire suppression facilities, library facilities and collection, public use (community center facilities), and park land acquisition and park facilities development.

City Municipal Code Title 2.32 establishes a Community Trails Committee, which consists of five members that are appointed by the City Council. Their job is to submit recommendations for trails-related matter to the City Council and to identify existing and future needs for trails development within the city, including interconnections with regional trails outside the city's boundaries.

## **Highland General Plan**

The Highland General Plan policies that are applicable to recreational facilities that include pedestrian and bicycle trail networks<sup>16</sup> are as follows:

### Conservation and Open Space Element, Parks and Recreation

- Policy 5.10-17** Require that new specific plans and planned unit developments (PUDs) incorporate sufficient park and recreation facilities along with natural open space areas, where appropriate, to serve the needs of their future residents.
- Policy 5.10-19** Connect newly developed parks, wherever practical, to the existing and future bicycle and recreational trail system.

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<sup>16</sup> These policies are not a complete listing of all policies contained in the General Plan; those policies that would be most applicable to the proposed project are included here.

Conservation and Open Space Element, Multi-Use Trails

- Policy 5.11-1** Require, where appropriate, that residential, commercial and industrial developments within the City dedicate and construct trail links within their boundaries as part of the Multi-Use Trail Master Plan.
- Policy 5.11-2** Provide equestrian, bicycling and pedestrian staging areas consistent with plan standards.
- Policy 5.11-4** Where possible, locate trail easements within City-required landscaping or other easements.
- Policy 5.11-7** Require proposed development adjacent to trail systems to dedicate land for trailhead access points.
- Policy 5.12-2** Provide bicycle and pedestrian trails along major home-to-work, home-to-school and other travel routes, where appropriate.
- Policy 5.12-5** Where possible, designate and design new trail development near transit routes or heavily traveled areas.
- Policy 5.15-1** Monitor public use of trail system on a regular basis so that maintenance issues can be addressed on a timely basis.
- Policy 5.15-8** Ensure that all proposed trails leading from the City into the San Bernardino National Forest are coordinated with the San Bernardino National Forest Service and consistent with the County of San Bernardino National Forest Land and Resource Management.

## ■ Project Impact Evaluation

### ***Thresholds of Significance***

The following thresholds of significance are based on the 2012 CEQA Guidelines Appendix G. For purposes of this EIR, implementation of the San Bernardino County Regional GHG Reduction Plan might have a significant adverse impact on recreation if it would do any of the following:

- Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated
- Include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment

### ***Analytic Method***

The reduction measures selected by Highland in the Regional Reduction Plan were reviewed to determine if they would include elements that would directly or indirectly result in environmental effects on existing recreation facilities or through construction of new facilities.

## Effects Not Found to Be Significant

Threshold	Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?
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Demand for existing parks and recreational facilities is based on population. The Regional Reduction Plan would not increase resident population in the City; therefore, implementation of the GHG reduction measures would not affect the demand for and use of existing recreational facilities such that significant adverse environmental effects would occur. Therefore, there would be *no impact*.

Threshold	Would the project include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment?
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The Regional Reduction Plan does not include recreational facilities. Therefore, there would be *no impact*.

### ■ Cumulative Impacts

Because the Regional Reduction Plan does not create significant impacts on recreation facilities at a project level, implementation of the Regional Reduction Plan would not create impacts that are cumulatively considerable. Therefore, *cumulative impacts would be less than significant*.

### ■ References

Highland, City of. 2005. *City of Highland General Plan and Development Code Update Environmental Impact Report*. Draft, September.

———. 2006. *City of Highland General Plan*, March.

———. n.d. *City of Highland Municipal Code*.

San Bernardino Associated Governments (SANBAG). 2012. *San Bernardino County Regional Greenhouse Gas Reduction Plan*. Draft. Prepared by ICF International, December.

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## 4.9.16 Transportation/Traffic

This section of the EIR analyzes the potential environmental effects on transportation/traffic in the City of Highland from implementation of the Regional Reduction Plan. Data for this section were taken from the Highland General Plan (2006), the associated environmental document (2005), the Southern California Association of Governments (SCAG) Regional Transportation Plan and SCS (2012), the SCAG Regional Comprehensive Plan (2009), the San Bernardino Associated Governments (SANBAG) Congestion Management Program (2012), the SANBAG Passenger Rail Short-Range Transit Plan (2007), and the San Bernardino County Non-Motorized Transportation Plan (2011). Full reference-list entries for all cited materials are provided at the end of this section.

One comment letter stating that the Regional Reduction Plan should include a comprehensive regional bicycle path master plan was received in response to the notice of preparation (NOP) circulated for the Regional Reduction Plan.

### ■ Environmental Setting

#### ***Existing Transportation Network***

The City of Highland's circulation system consists of freeways, arterial roadways and local streets. Figure 4.9.16-1 (Existing Roadway Network) shows the existing roadway network for the City of Highland.

#### **Roadway Network**

The City of Highland has the following roadway hierarchy. This classification is intended as a general description only to understand the movement of people and vehicles, and to identify connections to the transit and bicycle networks:

- **Collector Street**—This category of roadway is intended to carry traffic between residential neighborhoods and the larger street network. They are, generally, two-lane roadways which have a mixture of residential and commercial land uses along them. Collector streets are 44 feet, curb-to-curb, within 66-foot rights-of-way.
- **Special Collector Street**—This is a two-lane roadway with a 52-foot roadway, curb-to-curb, within a 66-foot right-of-way. Restrictions on the amount and design of on-street parking within the Historic Village Area are anticipated.
- **Secondary Highway**—Secondary highways provide more local access than major arterials, but also provide some non-local through traffic service. This classification includes a four-lane roadway with a raised median and has a typical right-of-way width of 88 feet and a curb-to-curb pavement width of approximately 64 feet. The alternative secondary highway cross-section does not include a raised median but enhances the opportunity to provide bike paths and/or parking lanes. The Circulation Element summarizes the different cross-section configurations for all Secondary Highways in the City of Highland.
- **Special Secondary Highway**—This section of roadway is designated as containing a 66-foot roadway, curb-to-curb, within a 104-foot right-of-way.

- **Major Highway**—Major highways provide service to non-local through trips, as well as providing limited local access. Ideally, curb cuts are minimized on major arterials, although, historically, such access control has been difficult to achieve. Major highways are designated as four-lane, 80-foot roadways (including a 12-foot median) curb-to-curb, within 104-foot rights-of-way.
- **Primary Arterial**—Primary arterials are limited access facilities which provide service to non-local through trips with a minimal level of direct access to adjacent land uses. They are designated as 96-foot roadways, curb-to-curb, within a minimum of 112-foot rights-of-way, and carry up to three lanes of through traffic in each direction.
- **Modified Primary Arterial**—The modified primary arterial is designated as a six-lane divided roadway, with a typical right-of-way width of 135 feet and a curb-to-curb pavement width of approximately 98 feet with a raised median.

### Freeways

State Route 210 (SR-210) provides regional access to the city through connections with Interstate 215 (I-215) to the west and I-10 to the south. SR-330 provides access to the mountain areas north of the City.

### Truck Routes

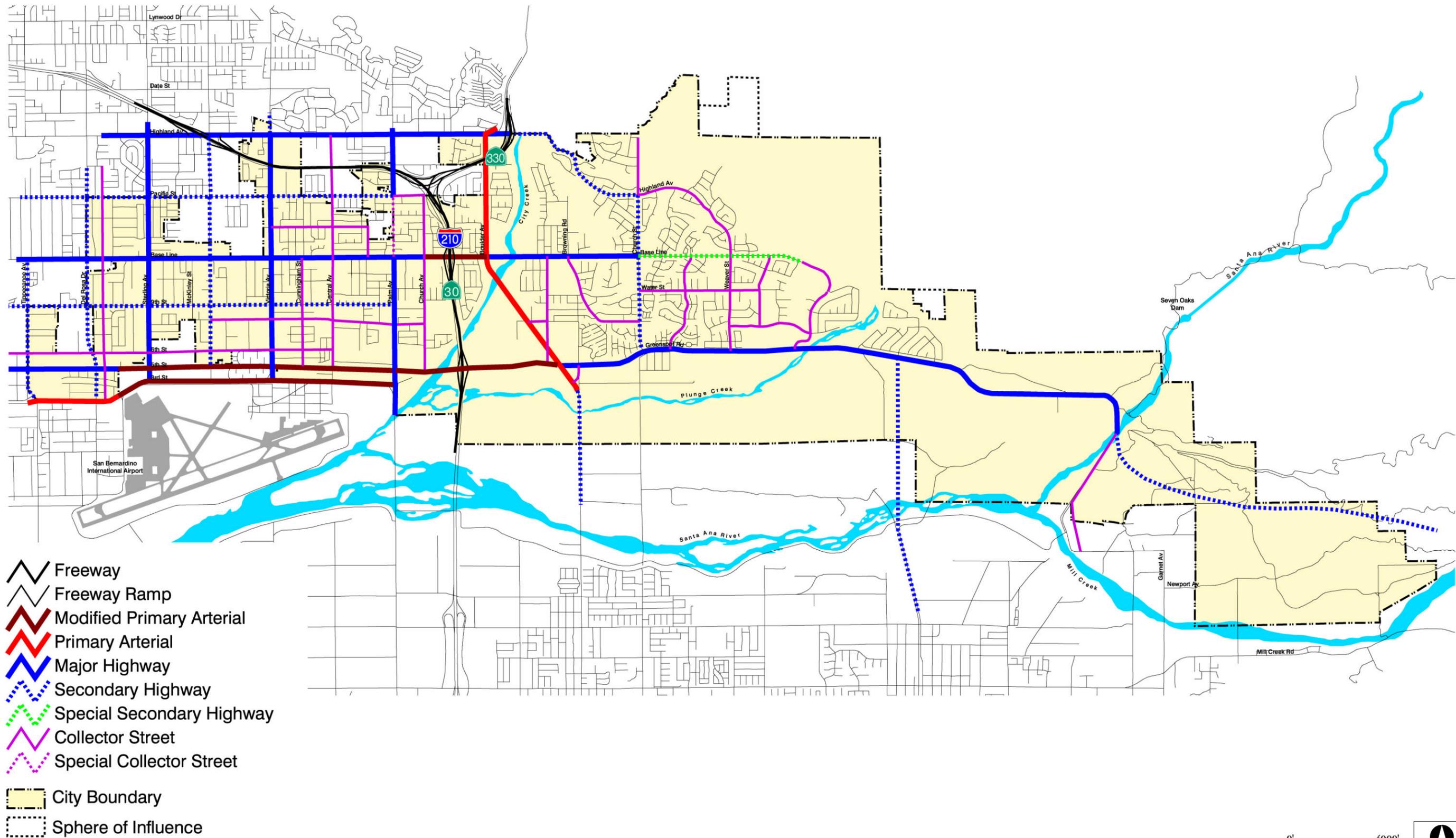
The City has designated a system of truck routes linking industrial areas with major roadways and freeway connections throughout the City. The east/west truck routes are Base Line and 5th Street, while the major north/south truck routes are Del Rosa Drive, Sterling Avenue, Victoria Avenue, Palm Avenue and Boulder Avenue. These truck routes accommodate commercial, industrial and mineral extraction uses and can create significant impacts on roadway deterioration, neighborhood safety, congestion and air quality. Truck routes are shown in Figure 4.9.16-2 (Truck Routes).

### Airports

The San Bernardino International Airport (formerly the Norton Air Force Base) is located within the City of San Bernardino, adjacent to the southwestern boundary of the City of Highland. The Airport is currently owned and operated by the Inland Valley Development Agency (IVDA) and San Bernardino International Airport Authority (SBIAA). The Redlands Municipal Airport is also located adjacent to the City of Highland, on the City's south-central boundary, near the Santa Ana Wash. The airport is designed as a General Utility airport capable of accommodating small general aviation aircraft for personal and business purposes as well as some air taxi type aircrafts.

### Bus Transit

Omnitrans Transit Agency provides local transit service throughout San Bernardino County, including the City of Highland. OMNITRANS carries over 15 million passengers each year throughout its 480-square-mile service area. The City of Highland has several OMNITRANS routes which run through the City. Generally bus routes are dictated by need, which in turn are generated by land use patterns. As the City develops, it is expected that the transportation system will be developed to meet the need. Bus routes are shown in Figure 4.9.16-3 (Bus Routes).



- Freeway
- Freeway Ramp
- Modified Primary Arterial
- Primary Arterial
- Major Highway
- Secondary Highway
- Special Secondary Highway
- Collector Street
- Special Collector Street
- City Boundary
- Sphere of Influence

Source: City of Highland General Plan EIR.

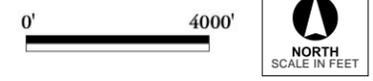
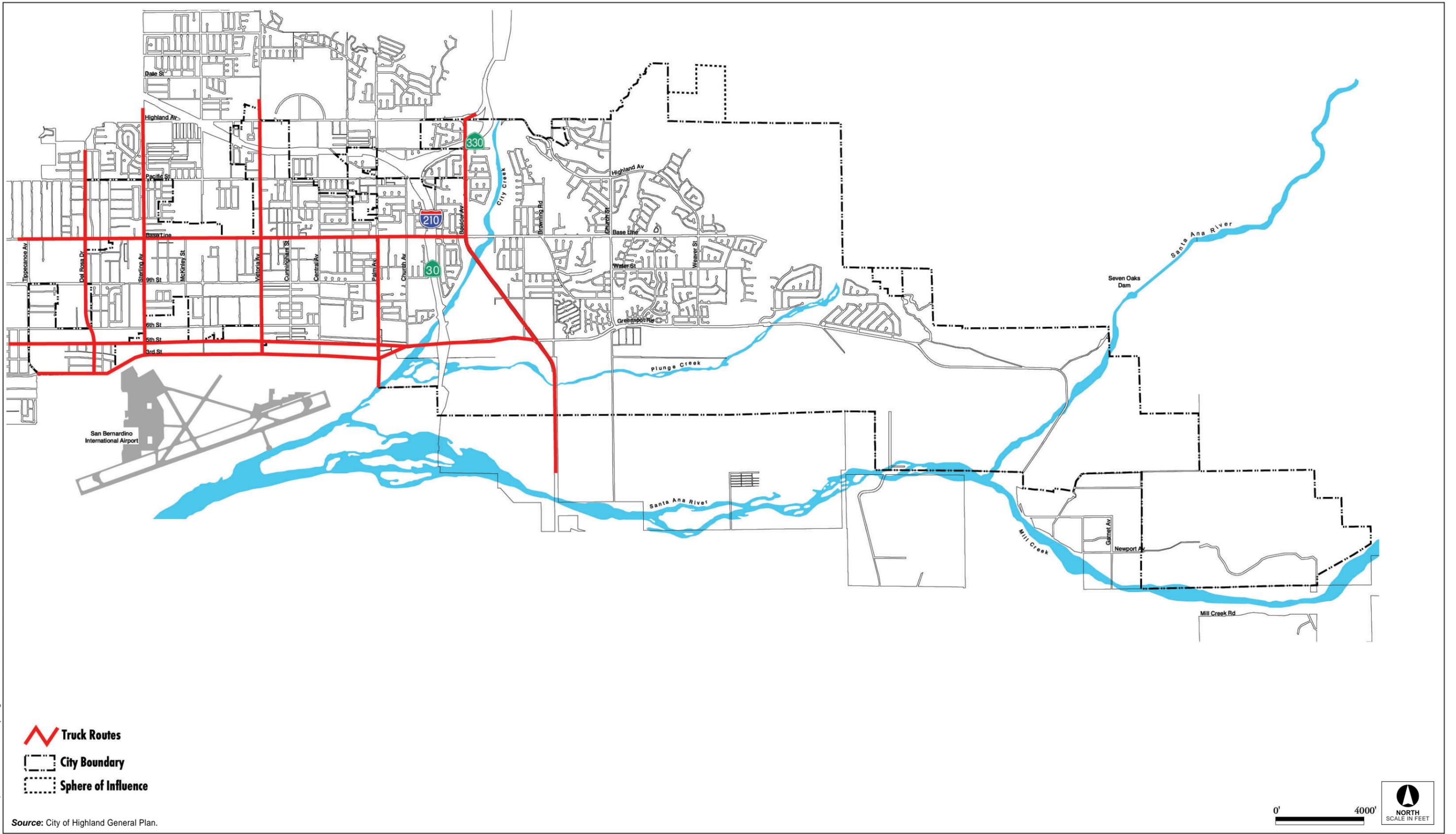


Figure 4.9.16-1  
Existing Roadway Network

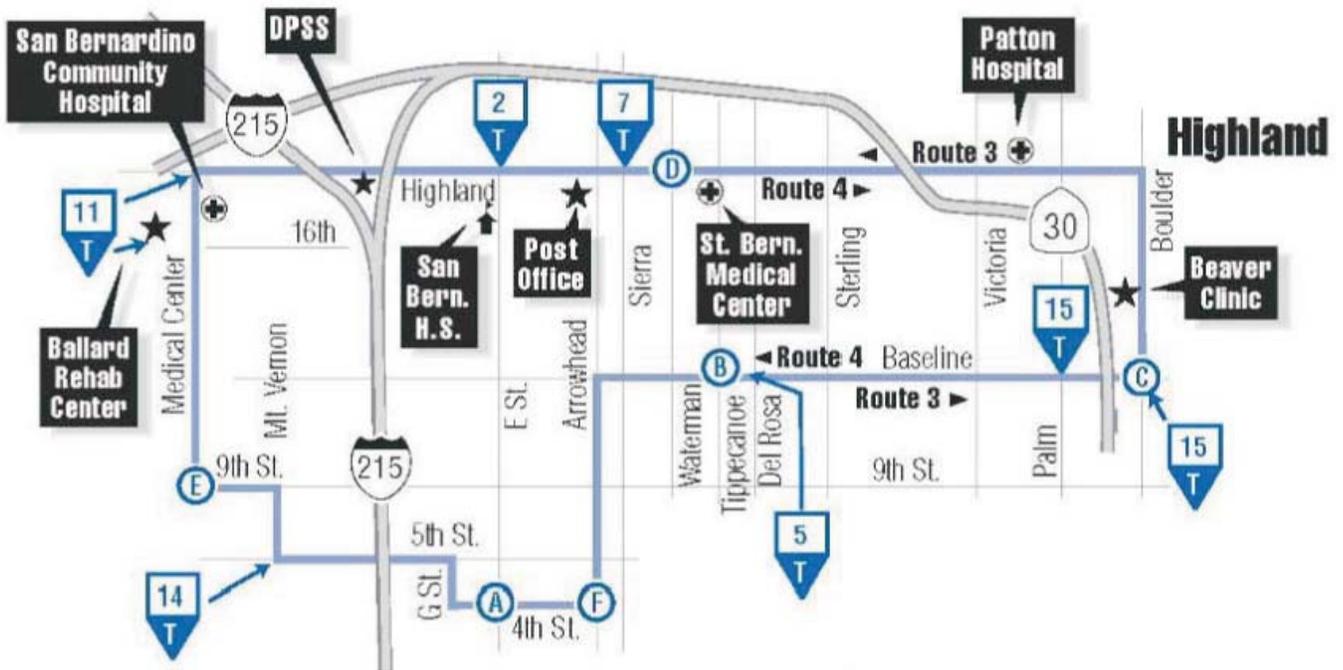




Source: City of Highland General Plan.

Figure 4.9.16-2  
Truck Routes





Source: City of Highland General Plan.



Figure 4.9.16-3  
Bus Routes



## **Bikeways and Pedestrian Facilities**

The City has three classifications of Bikeways: Class I Bike Paths, Class II Bike Lanes, and Class III Bike Routes. Pedestrian facilities include sidewalks, trails, and walkways. These facilities are an important part of Highland's non-motorized transportation network. Class I bikeways are joint pedestrian and bicycle pathways that are completely separated from vehicular lanes of traffic. Class II bikeways are signed and striped bicycle lanes within the paved section of the street. Class III bike routes are typically identified by signage and are used as transitions or connections to other trails.

## **Parking**

On-street parking is generally not permitted on major, primary and secondary highways in the City. On-street parking is permitted on neighborhood streets unless specifically prohibited. Most uses within Highland provide sufficient parking facilities either on-site or on adjacent street frontages. Although the parking opportunities in the low density residential portions of the community are ample, older strip commercial and industrial uses along Base Line, Fifth Street and Third Street often are deficient. The Highland historic district has also been identified as being a parking deficient area.

## **■ Regulatory Framework**

### **Federal**

#### **United States Department of Transportation**

The United States Department of Transportation (USDOT) oversees federal highway, air, railroad, and maritime and other transportation administration functions.

The Federal Highway Administration (FHWA) is an agency within the USDOT that supports state and local governments in the design, construction, and maintenance of the Nation's highway system (Federal Aid Highway Program) and various federally and tribal owned lands (Federal Lands Highway Program).

The Federal Transit Administration (FTA) is an agency within the USDOT that provides financial and technical assistance to local public transit systems. The FTA is headed by an Administrator who is appointed by the President of the United States and functions through a Washington, D.C. headquarters office and ten regional offices which assist local transit agencies throughout the United States.

The Federal Aviation Administration (FAA) is an agency within the USDOT that provides oversight and assistance to state and local airport authorities in the safety and improvements at airports throughout the United States. The FAA also provides technical assistance to airport operators, in conjunction with other local, state, and federal authorities, to prepare and execute appropriate airport compatibility planning and implementation programs.

### **State**

#### **California Department of Transportation**

The California Department of Transportation (Caltrans) manages the state highway system and freeway lanes, provides inter-city rail services, permits of public-use airports and special-use hospital heliports,

and works with local agencies. Caltrans carries out its mission of improving mobility across California with six primary programs: Aeronautics, Highway Transportation, Mass Transportation, Transportation Planning, Administration and the Equipment Service Center.

### **California Air Resources Board**

The California Air Resources Board, a part of the California EPA (Cal/EPA) is responsible for the coordination and administration of both federal and state air pollution control programs within California. With respect to transportation the California Air Resources Board reviews and approves Metropolitan Planning Organizations (MPOs) implementation of Senate Bill 375 (SB 375) within each region of California.

### **Senate Bill 375**

SB 375, which establishes mechanisms for the development of regional targets for reducing passenger vehicle greenhouse gas emissions, was adopted by the State on September 30, 2008. On September 23, 2010, California ARB adopted the vehicular greenhouse gas emissions reduction targets that had been developed in consultation with the MPOs; the targets require a 7 to 8 percent reduction by 2020 and between 13 to 16 percent reduction by 2035 for each MPO. SB 375 recognizes the importance of achieving significant greenhouse gas reductions by working with cities and counties to change land use patterns and improve transportation alternatives. Through the SB 375 process, MPOs will work with local jurisdictions in the development of sustainable communities strategies (SCS) designed to integrate development patterns and the transportation network in a way that reduces greenhouse gas emissions while meeting housing needs and other regional planning objectives. MPOs will prepare their first SCS according to their respective regional transportation plan (RTP) update schedule; to date, no region has adopted an SCS. The first of the RTP updates with SCS strategies are expected in 2012.

### **Regional**

#### **Southern California Association of Governments (SCAG)**

SCAG is the designated Metropolitan Planning Organization for six Southern California counties (Los Angeles, Ventura, Orange, San Bernardino, Riverside, and Imperial), and is federally mandated to develop plans for transportation, growth management, hazardous waste management, and air quality. SCAG regional plans cover San Bernardino County, which includes the City, and five other counties within Southern California.

#### **Regional Comprehensive Plan**

The Regional Comprehensive Plan (RCP) is a problem-solving guidance document that responds to SCAG's Regional Council directive in the 2002 Strategic Plan to develop a holistic, strategic plan for defining and solving the region's interrelated housing, traffic, water, air quality, and other regional challenges. The RCP is a voluntary framework that links broad principles to an action plan that moves the region towards balanced goals. The RCP's guiding principles include:

- Improve mobility for all residents. Improve the efficiency of the transportation system by strategically adding new travel choices to enhance system connectivity in concert with land use decisions and environmental objectives.

- Foster livability in all communities.
- Foster safe, healthy, walkable communities with diverse services, strong civic participation, affordable housing, and equal distribution of environmental benefits.
- Enable prosperity for all people. Promote economic vitality and new economies by providing housing, education, and job training opportunities for all people.
- Promote sustainability for future generations.
- Promote a region where quality of life and economic prosperity for future generations are supported by the sustainable use of natural resources.

Further, the RCP seeks to successfully integrate land and transportation planning and achieve land use and housing sustainability by implementing Compass Blueprint and 2 percent Strategy:

- Focusing growth in existing and emerging centers and along major transportation corridors
- Creating significant areas of mixed-use development and walkable, “people-scaled” communities
- Providing new housing opportunities, with building types and locations that respond to the region’s changing demographics
- Targeting growth in housing, employment, and commercial development within walking distance of existing and planned transit stations
- Injecting new life into under-used areas by creating vibrant new business districts, redeveloping old buildings and building new businesses and housing on vacant lots
- Preserving existing, stable, single-family neighborhoods
- Protecting important open space, environmentally sensitive areas and agricultural lands from development
- Reducing emissions of criteria pollutants to attain federal air quality standards by prescribed dates and state ambient air quality standards as soon as practicable
- Reversing current trends in greenhouse gas emissions to support sustainability goals for energy, water supply, agriculture, and other resource areas
- Minimizing land uses that increase the risk of adverse air pollution-related health impacts from exposure to toxic air contaminants, particulates (PM<sub>10</sub>, PM<sub>2.5</sub>, ultrafine), and carbon monoxide

## Regional Transportation Plan

On May 8, 2012, the Regional Council of SCAG adopted the 2012 RTP and SCS for the SCAG area aimed at attaining the reduction targets of an 8 percent per capita reduction in GHG emissions from passenger vehicles by the year 2020 and a 13 percent reduction by 2035. There are transportation-related reduction measures included in this Regional Reduction Plan that coordinate with efforts in SCAG’s SCS. The 2012 RTP strives to provide a regional investment framework to address the region’s transportation and related challenges, and looks to strategies that integrate land use into transportation planning with an emphasis on transit and other nonvehicle transportation modes. The RTP also provides the framework for aggregating sub-regional and local efforts to institute measures aimed at mitigating the adverse air pollution impacts from transportation activities. These measures are known as transportation

control measures (TCMs). The RTP links the goal of sustaining mobility with the goals of fostering economic development, enhancing the environment, reducing energy consumption, promoting transit-friendly development patterns, and encouraging fair and equitable access to residents affected by socio-economic, geographic, and commercial limitations. The Regional Transportation Implementation Plan (RTIP) is the vehicle used to implement the RTP and SCS. The RTIP also provides the schedule and framework for the timely implementation of the Region's TCM strategies. SCAG is currently in the process of developing the 2014 RTP and SCS for their jurisdiction aimed at updating the regional transportation modeling system and keeping on track to achieve the reduction targets.

### **SCAG Compass Growth Visioning**

The Compass Blueprint Growth Vision effort by SCAG is a response, supported by a regional consensus, to the land use and transportation challenges facing Southern California now and in the coming years. The Growth Vision is driven by four key principles:

- **Mobility**—Getting where we want to go
- **Livability**—Creating positive communities
- **Prosperity**—Long-term health for the region
- **Sustainability**—Preserving natural surroundings

The fundamental 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 class. Thus, decisions regarding growth, transportation, land use and economic development should be made to promote and sustain for future generations the region's mobility, livability and prosperity.

### **San Bernardino Associated Governments (SANBAG)**

SANBAG is an association of local San Bernardino County governments. It is the MPO for the county, with policy makers consisting of mayors, council members, and county supervisors, and the funding agency for the county's transit systems, which include Omnitrans, Victor Valley Transit Authority, Morongo Basin Transit Authority, Mountain Area Regional Transit Authority, Barstow Area Transport, and Needles Area Transit. SANBAG administers the Congestion Management Program (CMP), provides transit planning, and regional nonmotorized transportation infrastructure and regional bicycle and pedestrian path network planning within San Bernardino County

### **Congestion Management Program**

The CMP defines a network of state highways and arterials, level of service standards and related procedures, a process for mitigation of the impacts of new development on the transportation system, and technical justification for the approach. The policies and technical information contained in this document are subject to ongoing review, with updates required each two years. The last update of the CMP was completed in 2012.

## **Passenger Rail Short-Range Transit Plan**

SANBAG, acting as the County Transportation Commission, requires each transit agency to prepare a multi-year operating and capital plan every other year. This Short-Range Transit Plan provides basic information about the transit services provided in San Bernardino County, including performance, needs, deficiencies and a proposed plan for operations and capital investments covering the next 5 years. The San Bernardino County Passenger Rail SRTP reflects SANBAG's share of the Metrolink operating and capital plan, as well as the future Redlands Passenger Rail and Gold Line Extension projects.

## **San Bernardino County Non-Motorized Transportation Plan**

The Non-Motorized Transportation Plan provides the planning for interconnected cycling and walking system within communities in San Bernardino County. The Plan is for the development of a comprehensive system of cycling facilities, pathways, and trails. As of 2011, the combined total of centerline miles of bicycle infrastructure for all jurisdictions is 468 miles. This represents an eight-fold growth in the County's bicycle infrastructure. The challenge ahead involves developing a cohesive, integrated plan and identifying sources of funds to implement that plan. This is the goal of the San Bernardino County Non-Motorized Transportation Plan (NMTP). The NMTP of 2001 and the 2006 update have taken us part way there. The 2011 update identifies a comprehensive network, with a focus on the bicycle system. The Plan satisfies the California requirements of a Bicycle Transportation Plan (BTP) for purposes of Caltrans Bicycle Transportation Account (BTA) funding.

## **Local**

### **City of Highland Municipal Code**

Highland Municipal Code Title 10 specifically addresses vehicles and traffic in the City. This regulation includes regulations pertaining to truck routes, vehicle size and weight regulations, handicapped parking and local transportation control measures for new developments. Overweight parking restrictions are also addressed in these regulations. The City's vehicle abatement and removal program is also defined in Title 10.

Section 16.40.050 (General Development Standards) includes regulations related to circulation, transportation and trails facilities. This subsection ensures that development proposals which include the design and/or construction of new roads, trails and transit facilities are consistent with adopted general plan circulation element and open space/conservation element goals and policies.

Transportation Control Measures are included under Highland Municipal Code General Development Standards Chapter 16.40.470. These measure address transit improvements, bicycle racks, vanpool parking facilities, telecommuting centers, reduced parking requirements and other measures intended to implement measures included in both the 1991 South Coast Air Quality Management Plan and the 1992 Federal Attainment Plan for Carbon Monoxide.

## Highland General Plan

The Highland General Plan contains the following policies regarding transportation, mobility and traffic<sup>17</sup>:

### Circulation Element, Roadway Mobility/Transportation Demand Management

- Policy 3.1-1** Require new development proposals to ensure that all mid-block street segments operate at LOS “D” or better during the peak hours of traffic.
- Policy 3.1-2** Ensure that all intersections operate at LOS “D” or better during the peak hours of traffic.
- Policy 3.1-3** Ensure that the City’s street system be designed and constructed to accommodate the traffic generated by buildout of the General Plan land use designations.
- Policy 3.1-5** Design and employ traffic control measures (e.g., install traffic signals, provide access restrictions, etc.) to ensure city streets and roads function as intended.
- Policy 3.1-8** Require development proposals with the potential to generate traffic volumes or other impacts not adequately evaluated in the Circulation Element and the General Plan Program EIR to prepare a traffic analysis consistent and compatible with the City’s Master General Plan Traffic Model.

### Circulation Element, Roadway System Maintenance

- Policy 3.2-1** Maintain and rehabilitate all components of the circulation system, including roadways, sidewalks, bicycle facilities, pedestrian facilities and traffic signals.
- Policy 3.2-5** Develop and implement programs and policies that require additional improvements or mitigation from industries or entities that generate heavy truck traffic and pavement impacts.

### Circulation Element, Pedestrian Safety

- Policy 3.4-2** Require new development to install and maintain streets within planned residential areas as private streets and in accordance with development standards set forth in the Development Code and other applicable standards and guidelines.
- Policy 3.4-4** Require new development to provide pedestrian paths and linkages through projects, locating linkages to avoid conflicts with motorized traffic.
- Policy 3.4-11** Encourage and improve pedestrian connections from residential neighborhoods to retail activity centers, employment centers, schools, parks, open space areas and community centers.
- Policy 3.4-15** When feasible, walkways should include pedestrian amenities such as shade trees and/or plantings, trash bins, benches and shelters.

### Circulation Element, Transit Service

- Policy 3.5-1** Continue to support the regional bus system to provide intracity service, intercity service to major employment centers, and connection to regional transportation transfer points.

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<sup>17</sup> These policies are not a complete listing of all policies contained in the General Plan; those policies that would be most applicable to the proposed project are included here.

- Policy 3.5-6** Investigate new opportunities to finance further transit service for the elderly, handicapped and recreational purposes.

Circulation Element, Bikeways

- Policy 3.7-1** Develop a system of continuous and convenient bicycle routes to places of employment, shopping centers, schools, and other high activity areas with potential for increased bicycle use.
- Policy 3.7-2** Encourage new development to provide reasonable and secure space for bicycle storage.
- Policy 3.7-4** Assure that local bicycle routes will complement regional systems and be compatible with routes of neighboring municipalities.
- Policy 3.7-5** Provide linkages between bicycle routes and other trails, such as the Santa Ana River Trail, within the City as appropriate.

Circulation Element, Freeway Bridges and Ramps

- Policy 3.8-1** Participate in a wide range of regional transportation planning and programs to improve the capacity, efficiency and safety of the shared circulation system.
- Policy 3.8-5** Coordinate transit planning with the Southern California Association of Governments, SANBAG, Omnitrans and adjacent communities.
- Policy 3.8-8** Coordinate with human services agencies and public schools to reduce duplicate transportation where feasible.

Circulation Element, Parking

- Policy 3.9-1** Locate new development and their access points in such a way that traffic is not encouraged to utilize local residential streets and alleys for access to the development and its parking.
- Policy 3.9-5** Develop strategies for the control of parking demand such as improved transit service, amenities for bicyclists and rideshare vehicles.
- Policy 3.9-6** Develop strategies for shared parking opportunities in mixed-use and multiple-use development.
- Policy 3.9-7** Encourage the use of well-designed, aesthetically enhanced parking structures as an alternative to large, expansive surface parking lots in retail and employment centers.

### **City of Highland Intersection Analysis Criteria**

The City of Highland uses the Intersection Delay Methodology found in the 2000 Highway Capacity Manual (HCM) in analyzing intersections. This method calculates vehicle delay based on the capacity of the intersection, with the length of delay defining the level of service (LOS) at the intersection. The LOS is a qualitative and quantitative measure that describes the operational conditions and a motorist's and/or passenger's perception of travel conditions. LOS is designated a letter from A to F, with LOS A representing free flowing traffic conditions and LOS F representing the worst-case scenario with forced flow low operating speeds. Roadway performance is controlled by the performance of intersections, and more specifically, by intersection performance during peak hours. This is because traffic control at

intersections interrupts traffic flow that would otherwise be relatively unimpeded. Thus, LOS typically depends on the quantity of traffic at the intersection. Descriptions of LOS standards are provided in Table 4.9.16-1 (Intersection Level of Service [LOS] Definitions).

<b>Table 4.9.16-1 Intersection Level of Service (LOS) Definitions</b>		
<b>LOS</b>	<b>Interpretation</b>	<b>Volume-to-Capacity Ratio</b>
A	There are no stables that are fully loaded, and few are close to loaded. No approach phase is fully utilized by traffic and no vehicle waits longer than one red indication. Typically, the approach appears quite open, turning movements are easily made, and nearly all drivers find freedom of operation.	0.00–0.60
B	Represents stable operation. An occasional approach phase is fully utilized and a substantial number are approaching full use. Many drivers begin to feel somewhat restricted within platoons of vehicles.	0.61–0.70
C	Stable operation continues. Full signal cycle loading is still intermittent, but more frequent. Occasional drivers may have to wait through more than one red signal intersection, and backups may develop behind turning vehicles.	0.71–0.80
D	Encompasses a zone of increasing restriction approaching instability. Delays to approaching vehicles may be substantial during short peaks with the peak period, but enough cycles with lower demand occur to permit periodic clearance of developing queues, thus preventing excessive backups.	0.81–0.90
E	Represents the most vehicles that any particular intersection approach can accommodate. At capacity (V/C = 1.00), there may be long queues of vehicles waiting upstream of the intersection and delays may be great (up to several signal cycles).	0.90–1.00
F	Represents jammed conditions. Backups from locations downstream or on the cross street may restrict or prevent movement of vehicles out of the approach under consideration; hence, volumes carried are not predictable. V/C values are highly variable because full utilization of the approach may be prevented by outside conditions.	>1.00

SOURCE: City of Highland, *City of Highland General Plan* (March 2006).

## ■ Project Impact Evaluation

### **Thresholds of Significance**

The following thresholds of significance are based on the 2012 CEQA Guidelines Appendix G. For purposes of this EIR, implementation of the San Bernardino County Regional GHG Reduction Plan might have a significant adverse impact on transportation/traffic if it would do any of the following:

- Conflict with an applicable plan, ordinance, or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and nonmotorized travel and relevant components of the circulation system, including, but not limited to, intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit
- Conflict with an applicable congestion management program, including, but not limited to, level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways
- 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

- Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)
- Result in inadequate emergency access
- Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities

### **Analytic Method**

The programs and measures contained in the Regional Reduction Plan were compared to applicable transportation plans and transportation policies to determine if any inconsistency exists. These plans include the SCAG's RTP with an adopted SCS, the Compass Growth Visioning, SANBAG CMP, and the San Bernardino County Non-Motorized Transportation Plan. The Regional Reduction Plan was also reviewed for potential traffic impacts that could result during implementation of the reduction measures.

### **Effects Not Found to Be Significant**

Threshold	Would the project conflict with an applicable plan, ordinance, or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and nonmotorized travel and relevant components of the circulation system, including, but not limited to, intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?
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Implementation of the Regional Reduction Plan will reduce GHG emissions and vehicle miles traveled (VMT) associated with on road passenger vehicles within the City. The Regional Reduction Plan does this by building upon and supporting the Highland General Plan policies related to circulation. The Circulation Element contains a number of goals and supporting policies that would provide an integrated and balanced multi-modal transportation network to meet the needs of all users. They provide a transportation system that includes motorized and non-motorized networks. Additionally, the General Plan requires coordination with local authorities and other jurisdictions on regional transportation issues. General Plan Circulation Element policies such as Policy 3.5-1 (support the regional bus system to provide intracity service, intercity service to major employment centers, and connection to regional transportation transfer points), and Policy 3.5-6 (Investigate new opportunities to finance further transit service for the elderly, handicapped and recreational purposes), ensure VMT reduction through greater transit opportunities and ridership. Under Regional Reduction Plan reduction measure Transportation-2 (Smart Bus Technologies), the City of Highland would work with Omnitrans, which also correlates with these policies.

Implementation of the Highland reductions measures include energy efficiency (solar) measures for new residential and commercial development, energy goals, water conservation, smart bus technologies, and off-road measures. Construction of any new renewable energy infrastructure would require review by City Planning staff for approval to ensure that the improvements do not interfere with planned transportation facilities. Energy-producing facilities needed for implementation of the Regional Reduction Plan would be required to incorporate appropriate setbacks as specified in the Municipal Code

to ensure there would be no impact to transportation routes as a result of implementation of the proposed project.

Therefore, the Regional Reduction Plan implements and furthers the goals of the applicable plans, ordinances, or policies establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and nonmotorized travel. Further, because of City review of transit and nonmotorized infrastructure to ensure that these improvements do not negatively impact the traffic flow on roadways, the implementation of the Regional Reduction Plan will not conflict with the level of effectiveness for the performance of intersections, roadways, highways and freeways set by the City of Highland, the CMP and Caltrans. This impact would be **less than significant**. No mitigation is required.

Threshold	Would the project conflict with an applicable congestion management program, including, but not limited to, level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?
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The CMP defines a network of state highways and arterials, level of service standards and related procedures, a process for mitigation of the impacts of new development on the transportation system, and technical justification for the approach. The last update of the CMP was completed by SANBAG in 2012. Implementation of the Regional Reduction Plan in the City of Highland does not include an on-road measures that would require any infrastructure to be built on CMP roadways. As discussed in the previous section, implementation of the Regional Reduction Plan would not generate any new vehicle trips; therefore, it would not result in any new or worsened congestion in Highland. Additionally, policies in the General Plan Circulation Element (e.g., Policies 3.1-1, 3.1-2, 3.1-3, 3.1-5, 3.5-1, and 3.8-1, which address transportation demand management and regional solutions to congestion) are consistent with the goals of the CMP. This impact is considered **less than significant**. No mitigation is required.

Threshold	Would the project 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 San Bernardino International Airport is located directly adjacent to the City in the southwest. However, the Regional Reduction Plan would not result in changes in air traffic patterns through an increase in traffic levels or a change in location. As such, no safety risks would occur. There would be no impact to air traffic patterns. There would be **no impact**.

Threshold	Would the project substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?
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The proposed project does not include facilities that would substantially increase hazards, nor would it construct incompatible uses. Energy-producing facilities needed for implementation of the Regional Reduction Plan could consist of roof-mounted solar energy systems on new residential development and roof-mounted or ground-mounted solar systems for new commercial development. Appropriate setbacks would be required as specified in the Municipal Code to ensure there would be no increase in hazards to vehicles as a result of implementation of the proposed project. This impact would be **less than significant**. No mitigation is required.

Threshold	Would the project result in inadequate emergency access?
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The Regional Reduction Plan reduces GHG emissions citywide and includes reduction measures related to energy efficiency, water conservation, and smart bus technologies. None of the reduction measures would alter emergency access or evacuation plans. Improvements to bus transit technology along roadways that serve as emergency access and evacuation within the City would be reviewed by the City Planning Department to ensure adequate ingress and egress along these roadways. Therefore, the impact would be **less than significant**. No mitigation is required.

Threshold	Would the project conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?
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The Regional Reduction Plan reduces GHG emissions citywide and includes reduction measures such as energy efficiency goals, solar energy systems, smart bus technologies and water conservation measures. None of the reduction measures would alter alternative transportation facilities or decrease the safety of any facilities. As described above, energy-producing facilities needed for implementation of the Regional Reduction Plan would be required to incorporate appropriate setbacks as specified in the Municipal Code to ensure there would be no impact to transportation routes as a result of implementation of the proposed project. Therefore, the impact would be **less than significant**. No mitigation is required.

## ■ Cumulative Impacts

Because the Regional Reduction Plan does not create significant transportation impacts at a project level, implementation of the Regional Reduction Plan will not create impacts to transportation that are cumulatively considerable. Therefore, **cumulative impacts would be less than significant**.

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## 4.9.17 Utilities/Service Systems

This section of the EIR analyzes the potential environmental effects on utilities/service systems (water supply, storage, and distribution; wastewater collection, transmission, and treatment; solid waste; and energy) in the City of Highland from implementation of the Regional Reduction Plan. Data for this section were taken from the Highland General Plan (2006) and associated environmental document (2005). Full reference-list entries for all cited materials are provided at the end of this section.

No comment letters addressing utilities/service systems were received in response to the notice of preparation (NOP) circulated for the Regional Reduction Plan.

### ■ Environmental Setting

#### **Potable Water Supplies and Service Systems**

Water availability has been, and will likely continue to be, the primary resource constraint facing Highland. The East Valley Water District (EVWD) provides water service to the City of Highland. Local water sources within the EVWD include surface water from the Santa Ana River, groundwater from the Bunker Hill Groundwater Basin, and supplemental water supplied by the City of San Bernardino domestic water system. The EVWD is a member of the San Bernardino Valley Municipal Water District (SBVMWD).

Figure 4.9.17-1 (East Valley Water District Boundaries, Plant Sites, and Pressure Zones) shows the location of plant sites and pressure zones within the EVWD. The EVWD operates approximately 20 wells in the area. Water is pumped from the wells and stored in storage reservoirs located throughout the District. The EVWD primarily operates with water from the Bunker Hill Groundwater Basin, an underground basin made up of soil, sand and gravel saturated by water. Due to past drought conditions, water levels within the EVWD wells have dropped and overall water production has decreased by approximately 20 percent. In an effort to increase the water supply, the EVWD is currently constructing additional wells within the Bunker Hill Groundwater Basin (Highland 2005).

In dry years, the City can obtain additional water from Northern California through the State Water Project. The State Water Project encompasses 22 dams and reservoirs statewide and provides up to 102,600 acre-feet of water per year through its member agency, SBVMWD, for domestic, commercial, and agricultural uses. EVWD can obtain State project water by an exchange agreement called the Santa Ana River Mill Creek Cooperative Water Project Agreement. This allows the EVWD to take water at the various Valley District turnouts. In exchange, it will forego its entitlements to the Santa Ana River water, which is then delivered elsewhere for further allocation. The EVWD currently produces approximately 15,140 million gallons per year (approximately 46 acre-feet per year), which supplies a total of 65,000 customers, including customers in the City of San Bernardino and unincorporated San Bernardino County. The EVWD uses transmission lines to transport large quantities of water from one area to another. These transmission lines range in size from 16 to 24 inches in diameter. Major transmission lines are located in parts of Victoria Avenue, Sterling Avenue, Del Rosa Avenue, Tippecanoe Avenue, and 5<sup>th</sup> Street. Distribution lines are used to deliver water to individual dwelling units. They range in size from three-fourths of 1 to 24 inches in diameter. Major streets have the larger distribution lines, while

secondary and local streets have progressively smaller lines. A new 36-inch transmission main is proposed along Sterling from 6<sup>th</sup> Street to Date Street within the City (Highland 2005).

### **Wastewater Collection and Treatment**

The EVWD in conjunction with the San Bernardino Municipal Water Department (SBMWD) provides wastewater transmission facilities for the City of Highland. The SBMWD owns and has operated the San Bernardino Water Reclamation Plant (WRP) also known as the Margaret H Chandler Water Reclamation Plant since 1973, treating both residential and industrial wastewater. The WRP treatment process includes screening, grit removal, primary clarification, activated sludge (biological oxidation) with nitrification and de-nitrification and secondary clarification, ensuring all water discharged into the Santa Ana River is properly treated. The wastewater facility, which includes both primary and secondary treatment, has the capacity to process 33 million gallons per day (mgd) and currently processes 28 mgd. In March 1996, the City of San Bernardino and the City of Colton jointly opened the Rapid Infiltration and Extraction (RIX) facility, where secondary-treated water undergoes the final filtering and disinfecting process to produce wastewater that is superior or equivalent to that produced by conventional filtration systems and is suitable for recycling into the Santa Ana River. The RIX (tertiary treatment) facility has a capacity of 40.0 mgd and currently treats 32 mgd (Highland 2005).

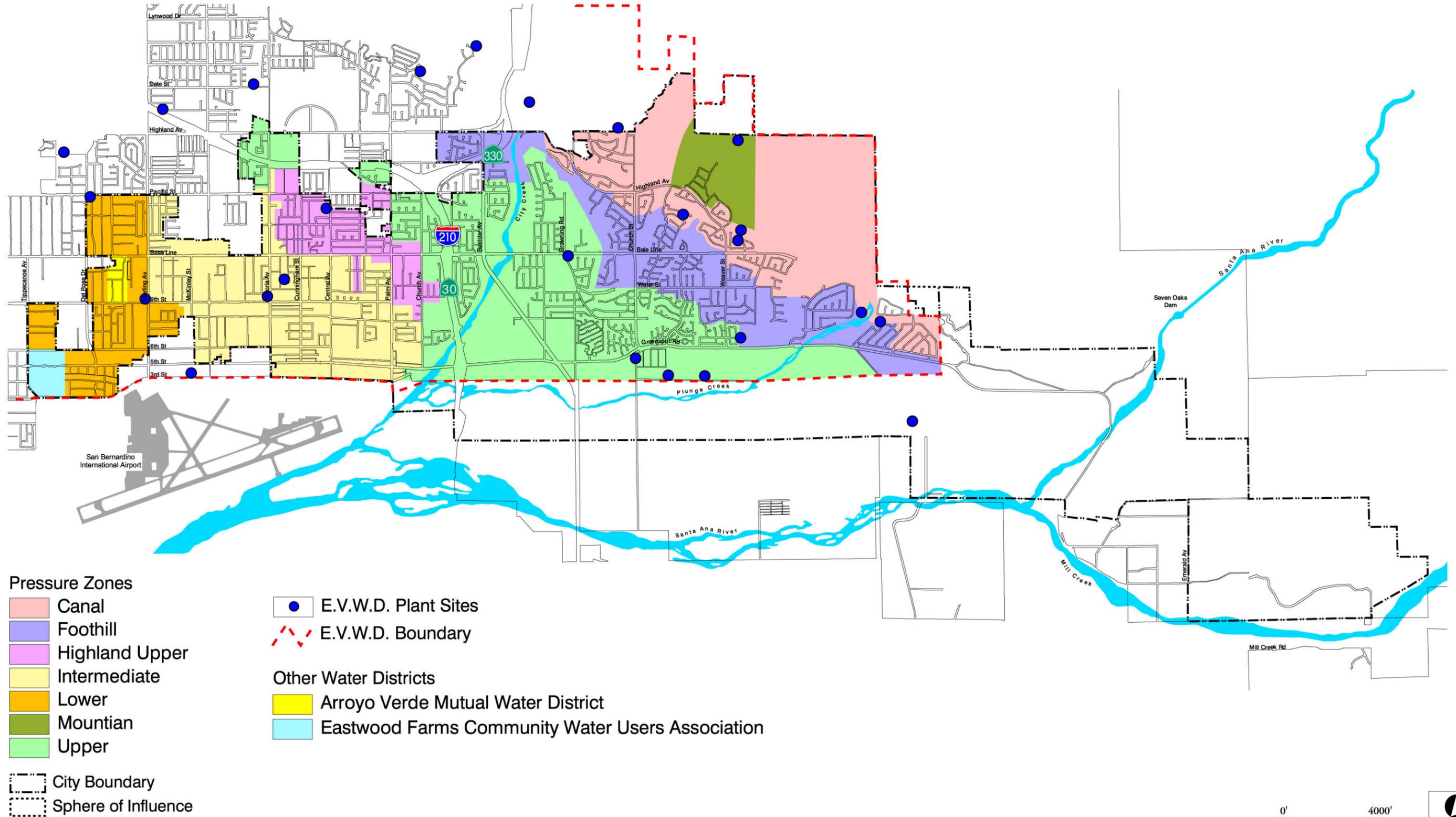
As of 2005, wastewater generation rates are as follows (Highland 2005):

- 300 gallons per day per dwelling unit
- 1,950 gallons per acre of commercial/retail/office
- 3,450 gallons per day per acre of industrial

Sewer collection systems within the City of Highland are maintained by the EVWD and the City's Department of Public Works. The EVWD has prepared a Master Plan of Sewage that addresses the current and future sewer needs of the City. The EVWD's existing sewage collection system delivers over 2 billion gallons of wastewater per year to the San Bernardino Wastewater Treatment Plant. This treatment plant works jointly with the cities of San Bernardino and Loma Linda. The plant must meet strict quality standards because it returns cleaned wastewater to the Santa Ana River, where it is reused by downstream communities (Highland 2005).

### **Solid Waste**

Two private waste collectors provide solid waste service to the City of Highland. These collectors are Cal Disposal and Jacks Disposal and Recycling. Cal Disposal is located at 26009 East 9<sup>th</sup> Street in San Bernardino. Jacks Disposal and Recycling, which includes Curran Rubbish Disposal, is located at 5455 Industrial Parkway in San Bernardino. The Colton, Mid-Valley, and San Timoteo landfills receive the majority of the collected waste. The Colton landfill is located approximately 10 miles southwest of Highland. The Mid-Valley landfill is located approximately 14 miles west of Highland. The San Timoteo landfill is owned by the City of San Bernardino and is located approximately 7 miles to the southeast of Highland, near the City of Redlands. At current disposal rates, the Colton landfill is expected to close in March 2007, the Mid-Valley landfill is expected to close in 2033, and the San Timoteo landfill is expected



Source: City of Highland General Plan EIR, 2005.

0' 4000'



Figure 4.9.17-1 East Valley Water District Boundaries, Plant Sites, and Pressure Zones



to close in May 2016. All three are classified as Class III landfills, which are suitable for disposal of non-hazardous and general municipal waste (Highland 2005).

The City of Highland has developed and/or participated in recycling programs throughout the area in an effort to reduce the amount of recyclable materials disposed of at area landfills. In 1991, the City sponsored a recycling program that separates, collects, and recycles glass, plastics, cardboard, and fiberboard at no cost to City residents. Both residential and commercial customers participate in the greenwaste and recycle programs that are provided.

As of 2005, generation rates for solid waste in the City are as follows (Highland 2005):

- Residential: 1 pound per resident per day
- Business: 14.9 pounds per employee per day

### **Electricity**

Electricity is provided to the City by Southern California Edison (SCE). SCE's transmission system includes 500 and 220 kilovolt (kV) transmission lines, which are generally reduced to 66 kV transmissions at transformers at substations.

SCE has forecast energy demands for its service area to reach 118,497 gigawatt hours by 2016 (CEC 2007). Energy consumption per capita in 2006 for the SCE area is about 7,300 kilowatt-hours. This is forecast to remain constant through 2016 (CEC 2007).

### **Natural Gas**

The Southern California Gas Company (TGC) provides natural gas service to the City of Highland. TGC has gas mains throughout urbanized areas of the City.

### **Telephone and Communications**

Communication services and telephone, mobile phone, cable, and internet services, are provided by private companies in the City of Highland, including Verizon Communications, AT&T, and Time Warner Telecommunications. Cable service is provided to the City by local cable franchises, including Time Warner Cable, Comcast Cable, Cox Cable, and Charter Cable. Installation of cable services is provided by these private companies and supported by service fees.

For Internet service, transmission can be obtained through the phone lines for dial-up coverage or by broadband providers. Most Internet service providers are regulated by the California Public Utilities Commission. Broadband providers supply Internet services through cable lines or through Ethernet, a bundling of local area networks that are transmitted by fiber optics (DSL). Like cell phones, the Internet can also be provided through wireless connections. Infrastructure to support these services is therefore run over the associated local telephone and cable service provider lines.

## **■ Regulatory Framework**

Utilities within the City of Highland tend to grow proportionally with the population. The following discussion of regulations helps to understand how public utilities are evaluated.

## **Federal**

### **Federal**

#### **Safe Drinking Water Act**

The Safe Drinking Water Act (SDWA) is the main federal law that ensures the quality of Americans' drinking water. Under SDWA, the U.S. Environmental Protection Agency (USEPA) sets standards for drinking water quality and oversees the states, localities, and water suppliers who implement those standards. SDWA was originally passed by Congress in 1974 to protect public health by regulating the nation's public drinking water supply. The law was amended in 1986 and 1996 and requires many actions to protect drinking water and its sources: rivers, lakes, reservoirs, springs, and ground water wells. (SDWA does not regulate private wells which serve fewer than 25 individuals.)

#### **Federal Energy Regulatory Commission (FERC)**

The Federal Energy Regulatory Commission (FERC) is the United States federal agency with jurisdiction over interstate electricity sales, wholesale electric rates, hydroelectric licensing, natural gas pricing, and oil pipeline rates. FERC also reviews and authorizes liquefied natural gas (LNG) terminals, interstate natural gas pipelines and nonfederal hydropower projects.

#### **Federal Communications Commission (FCC)**

The Federal Communications Commission (FCC) regulates interstate and international communications by radio, television, wire, satellite and cable in all fifty states, the District of Columbia and U.S. territories. It was established by the Communications Act of 1934 and operates as an independent U.S. government agency overseen by Congress. Primary responsibilities of the FCC include promoting competition in broadband communications while maintaining the quality and integrity of the signal reaching the public, and ensuring broad access to telecommunications by the public even in rural areas of the United States. The FCC has oversight over telecommunications and media regulations in the United States.

## **State**

#### **California Code of Regulations Title 22, Chapter 15 (Water Quality General Requirements)**

California Code of Regulations (CCR) Title 22, Chapter 15, requires general water quality standards for water and wastewater discharge. The law ensures that pathogens and other contamination does not enter surface water or groundwater supplies within the state

#### **California Health and Safety Code Article 1 (Pure and Safe Drinking Water)**

California Health and Safety Code Article 1, Section 116270, was established a drinking water regulatory program within the Department of Health Services and provide drinking water standards for all water purveyors and distribution systems within the state. The law also requires regular sampling and record keeping of water supplies to ensure that potable water supplies are meeting the standards.

## **Senate Bills 610 and 210 Water Supply Assessment and Planning**

To assist water suppliers, cities, and counties in integrated water and land use planning, the state passed Senate Bill (SB) 610 (Chapter 643, Statutes of 2001) and SB 221 (Chapter 642, Statutes of 2001), effective January 1, 2002. SB 610 and SB 221 improve the link between information of water supply availability and certain land use decisions made by cities and counties. SB 610 and SB 221 are companion measures that promote more collaborative planning between local water suppliers and cities and counties.

Both statutes require detailed information regarding water availability to be provided to city and county decision makers prior to approval of specified large development projects. Both statutes also require this detailed information be included in the administrative record as the evidentiary basis for an approval action by the city or county on such projects. Both measures recognize local control and decision making regarding the availability of water for projects and the approval of projects. Under SB 610, water supply assessments (WSA) must be furnished to local governments for inclusion in any environmental documentation for certain projects (as defined in Water Code Section 10912(a)) subject to CEQA. Under SB 221, approval by a city or county of certain residential subdivisions requires an affirmative verification of sufficient water supply. SB 221 is intended as a fail-safe mechanism to ensure that collaboration on finding the needed water supplies to serve a new large subdivision occurs before construction begins.

A WSA is required for any project if it is a residential development of 500 units or more; a shopping center or business establishment project employing more than 1,000 persons or having more than 500,000 square feet of floor space; a commercial office building employing more than 1,000 persons or having more than 250,000 square feet of floor space; or an industrial, manufacturing, or processing plant or industrial park planned to house more than 1,000 persons, occupying more than 40 acres of land, or having more than 650,000 square feet of floor area. Individual development projects implemented under the Proposed Land Use Plan would be required to prepare a WSA if they meet these requirements.

## **California Water Code Sections 10610–10656**

In 1983, the California legislature enacted the Urban Water Management Planning Act (Water Code Sections 10610–10656). The act states that every urban water supplier that provides water to 3,000 or more customers, or that provides over 3,000 acre-feet of water annually, should make every effort to ensure the appropriate level of reliability in its water service to meet the needs of its various categories of customers during normal, dry, and multiple dry years. Both SB 610 and SB 221 repeatedly identify the UWMP as a planning document that, if properly prepared, can be used by a water supplier to meet the standards set forth in both statutes. Thorough and complete UWMPs are foundations for water suppliers to fulfill the specific requirements of these two statutes. UWMPs serve as important source documents for cities and counties as they update their General Plan. Conversely, General Plans are source documents as water suppliers update the UWMPs. These planning documents are linked, and their accuracy and usefulness are interdependent (CDWR 2003). The EVWD UWMP is a foundational document for compliance with both SB 610 and SB 221.

## **Assembly Bill 939—Integrated Waste Management Act**

Assembly Bill (AB) 939 (Chapter 1095, Statutes of 1989), the Integrated Waste Management Act, requires, among other things, every California city and county to divert 50 percent of its waste from

landfills by the year 2000. In addition, AB 939 requires each county and each city within the county to prepare a Source Reduction and Recycling Element for its jurisdiction, identifying waste characterization, source reduction, recycling, composting, solid waste facility capacity, education and public information, funding, special waste (asbestos, sewage sludge, etc.), and household hazardous waste, and a countywide siting element, specifying areas for transformation or disposal sites to provide capacity for solid waste generated in the jurisdiction that cannot be reduced or recycled for a 15-year period.

### **California Energy Commission (CEC)**

The California Energy Commission (CEC) is the state's primary energy policy and planning agency. Created by the Legislature in 1974 the CEC has six basic responsibilities in setting state energy policy. They are:

- Forecasting Energy needs within the state
- Promoting energy efficiency and conservation by setting the appliance and building efficiency standards for the state of California
- Supporting energy research that advances energy science and technology, energy technology development, and demonstration projects
- Licensing all thermal electric power plants of 50 megawatts or larger
- Planning for and directing State responses to energy emergencies

### **Regional**

#### **Southern California Association of Governments (SCAG)**

SCAG's Energy Planning Program focusing on renewable energy projects and energy efficiency enable the region to support state and federal energy goals while growing in accordance with SCAG's adopted plans, such as the Regional Transportation Plan and Sustainable Communities Strategy, Compass Growth Vision, and Regional Comprehensive Plan.

#### **County of San Bernardino Solid Waste Management Division (SWMD)**

The County of San Bernardino Solid Waste Management Division (SWMD) is responsible for the operation and management of the County of San Bernardino's solid waste disposal system which consists of five regional landfills and nine transfer stations. SWMD administers the County's solid waste handling franchise program and the refuse collection permit program which authorizes and regulates trash collection by private haulers.

### **Local**

#### **City of Highland Comprehensive Storm Drain Plan**

The City of Highland has a comprehensive storm drainage system within the City. The City of Highland maintains a Comprehensive Storm Drain Plan (CSDP) which highlights design criteria. The CSDP was developed by the City of Highland, the City of San Bernardino, and the San Bernardino County Flood Control District. The City's storm water drainage system includes regional (major) drainage facilities designed to convey peak 100-year discharge flows and secondary drainage facilities designed for peak 10-,

25-, or 100- year flows that convey locally generated flows to regional facilities. The City also maintains local facilities, which are facilities where there is a sump pump condition or where the facility size does not meet the minimum facility size requirements.

### **City of Highland Municipal Code**

City of Highland Municipal Code Chapter 16.40 (General Development Standards), Section 16.40.390 (Water Efficient Landscape Ordinance), assures beneficial, efficient, and responsible use of water resources in the City. It is at least as effective in conserving water as the model ordinance drafted by the California Department of Water Resources pursuant to Assembly Bill AB 1881.

City of Highland Municipal Code Chapter 13.04 (Storm Drain Regulations) promotes the future health, safety and general welfare by controlling and/or eliminating nonstormwater discharges into the city storm drain system. This will be accomplished by eliminating all nonpermitted discharges to the municipal separate storm drains, controlling the discharge to municipal separate storm drains from spills, dumping or disposal of materials other than stormwater, and reducing pollutants in stormwater discharges to the maximum extent practicable. The intent of this chapter is to protect and enhance the water quality of our watercourses, water bodies, groundwater and wetlands in a manner pursuant to and consistent with federal, state and local laws and regulations.

City of Highland Municipal Code Chapter 16.40 (General Development Standards), Section 16.40.400 (Solid Waste Reuse and Recycling Regulations), enforces the California Solid Waste Reuse and Recycling Access Act of 1991. The lack of adequate areas for collecting and loading recyclable materials that are compatible with surrounding land uses is a significant impediment to diverting solid waste and constitutes an urgent need for state and local agencies to address access to solid waste for source reduction, recycling, and composting activities. This section has been developed to meet that need.

City of Highland Municipal Code Chapter 8.12 (Integrated Waste Management) calls for an integrated waste management service relating to collection, transfer, and disposal of refuse, recyclable, and compostables within and throughout the city.

City of Highland Municipal Code Chapter 5.22 (Telecommunication Regulations) promotes competition in the telecommunications industry, facilitates the development of telecommunications infrastructure, minimizes aesthetic impacts and damage to public property, provides for the payment of reasonable compensation for the commercial use of public property, protects public safety, and establishes customer service standards.

City of Highland Municipal Code Chapter 16.45 (Wireless Telecommunication Facilities) establishes general guidelines for the siting of wireless telecommunications towers and antennas.

## Highland General Plan

The Highland General Plan provides a framework for the City's physical development of infrastructure addressing all geographic areas in the City policies pertinent to utilities and service systems<sup>18</sup> include:

- Policy 4.2-1** Continue to work with the East Valley Water District to provide an efficient and economic distribution of adequate water supply and pressure to the District's service areas in Highland.
- Policy 4.2-2** Ensure a high quality water supply that meets or exceeds State and Federal health standards.
- Policy 4.2-3** Work with the East Valley Water District and local elected representatives to better define the future availability of water for the Highland community.
- Policy 4.2-4** Work with the East Valley Water District to promote water conservation and education programs, such as public education programs available through the Environmental Learning Center in Highland.
- Policy 4.3-1** Continue an ongoing dialogue with the East Valley Water District regarding funding and scheduling of any additional sewage facilities needed to serve the City.
- Policy 4.3-2** Work with relevant agencies to determine the long-term supply of reclaimed wastewater and service to potential future uses within the City.
- Policy 4.3-3** Encourage Grey Water Recycling, especially for residential use irrigation.
- Policy 4.4-1** Continue to improve any deficiencies in the City's drainage system and address the long-term needs associated with future development to minimize flood damage and adequately direct rainfall and subsequent runoff.
- Policy 4.4-2** Minimize the impact of development on the City's drainage system by reducing the amount of impervious surface associated with new development and encouraging site design features or landscaping that capture runoff. Encourage on-site retention of storm water and compliance with requirements of the National Pollutant Discharge Elimination System.
- Policy 4.5-1** Ensure that solid waste generated within the City is collected and transported in a cost-effective manner and protects the public's health and safety.
- Policy 4.5-2** Continue to support an ongoing dialogue with the County Solid Waste Management on the rail haul access and other regional solutions for long-term limits on local landfill capacity.
- Policy 4.5-3** Reduce the volume of solid waste material sent to landfills by continuing source reduction, recycling and composting programs in compliance with State law and encouraging the participation of all residents and businesses in these programs.
- Policy 4.5-4** Increase the price paid for recycling glass and plastic from private vendors.
- Policy 4.6-1** Continue to coordinate with the local gas and electric companies on the location and timing of additional energy facilities needed within the City.

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<sup>18</sup> These policies are not a complete listing of all policies contained in the General Plan; those policies that would be most applicable to the proposed project are included here.

- Policy 4.6-2** Coordinate with private utilities to provide Highland residents, schools, and businesses with an efficient telecommunications infrastructure, including telephone, cable, and high-speed services, such as high-speed Internet.
- Policy 5.16-1** Consolidate and adopt energy saving practices for all City departments.
- Policy 5.16-2** Monitor energy usage for all City facilities.
- Policy 5.16-4** Distribute energy conservation information, in both English and Spanish, to residents and businesses.
- Policy 5.16-5** Coordinate energy related policies and actions with local utilities and energy agencies.
- Policy 5.17-1** Encourage energy and environmentally sustainable designs—such as “Green Development Standards”—in the design and approval of new projects.
- Policy 5.17-7** Encourage energy efficient retrofitting of existing buildings, where practical, throughout the City including assisting applicants in the installation of more efficient HVAC (heating, ventilation, air conditioning) systems.
- Policy 5.17-8** Distribute and participate in incentive programs for incorporation of solar and photovoltaic panels (active solar) into existing or new buildings.
- Policy 5.17-10** Adopt LEED design standards for public buildings.
- Policy 5.17-11** Participate in the CEEP (Community Energy Efficiency Program) Certificate and Recognition Program.
- Policy 5.19-13** Continue comprehensive efforts to reduce energy consumption.
- Policy 6.8-7** Support current incentive programs that recognize and reward developments using new and innovative emission reduction techniques such as innovative efficient window glazing, wall insulation, and ventilation systems; efficient air conditioning, heating, and appliances; use of passive solar design, and solar heating systems; use of energy cogeneration and/or use of waste energy; and landscape techniques that reduce water consumption and provide passive solar benefits.
- Policy 6.8-15** Enforce compliance of new development with the Tree Preservation Ordinance.
- Policy 10.12-1** Encourage landscaping practices that increase energy efficiency and conserve natural resources.
- Policy 10.12-6** Encourage site planning and building orientation that maximizes solar and wind resources for cooling and heating.

## ■ Project Impact Evaluation

### **Thresholds of Significance**

The following thresholds of significance are based on the 2012 CEQA Guidelines Appendix G. For purposes of this EIR, implementation of the San Bernardino County Regional GHG Reduction Plan might have a significant adverse impact on utilities/service systems if it would do any of the following:

- Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board
- Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which would cause significant environmental effects
- Require or result in the construction of new stormwater drainage facilities or expansion of existing facilities, the construction of which would cause significant environmental effects
- Not have sufficient water supplies available to serve the project from existing entitlements and resources, or need new or expanded entitlements
- Result in a determination by the wastewater treatment provider that serves or may serve the project that it does not have adequate capacity to serve the project's projected demand in addition to the provider's existing commitments
- Be served by a landfill with insufficient permitted capacity to accommodate the project's solid waste disposal needs
- Not comply with federal, state, or local statutes and regulations related to solid waste

### **Analytic Method**

The programs and measures contained in the Regional Reduction Plan were compared to applicable utility infrastructure policies and capacity to determine if any inconsistency exists.

### **Effects Not Found to Be Significant**

Threshold	Would the project exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?
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Implementation of the Regional Reduction Plan includes water conservation strategies, such as low flow toilets, and more efficient water using appliances such as dishwashers in new residential and commercial buildings along with existing building retrofit incentives to conserve water use. These water conservation strategies will reduce the amount of wastewater going to the wastewater treatment facilities but will not change the treatment process at those facilities. The quality of wastewater is overseen by two agencies, the Santa Ana Regional Water Quality Control Board (RWQCB) and the California Department of Public Health (CDPH). The Santa Ana RWQCB has regional permitting authority over water quality issues and the CDPH oversees standards and health concerns. California Code of Regulations Title 22 provides the regulatory setting for drinking water quality in California and is followed by these agencies when they assess water quality. Therefore, there would be *no impact*. No further analysis is required.

Threshold	Would the project require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which would cause significant environmental effects?
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Implementation of the Regional Reduction Plan includes water conservation strategies, such as water-efficient landscaping, low flow toilets, and more efficient water using appliances such as dishwashers in new residential and commercial buildings along with existing building retrofit incentives to conserve water use. Implementation of the Regional Reduction Plan will reduce the need for water and wastewater treatment through the various water conservation strategies. Therefore, there would be **no impact**. No further analysis is required.

Threshold	Would the project require or result in the construction of new stormwater drainage facilities or expansion of existing facilities, the construction of which would cause significant environmental effects?
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New stormwater drainage facilities would be needed, if a project increased impervious surfaces causing additional runoff or a project changed the surface flow in a way that required stormwater new drainage facilities. However, implementation of the Regional Reduction Plan would not result in a substantial (if any) increase in impervious surfaces in the City. The Proposed Project would facilitate development in areas which are already developed with impervious surfaces, consistent with the General Plan and Municipal Code Chapter 13.04 (Storm Drain Regulations). The Proposed Project would not substantially change the drainage patterns on any site within the City. The impact would be **less than significant**. No mitigation is required.

Threshold	Would the project have sufficient water supplies available to serve the project from existing entitlements and resources, or need new or expanded entitlements?
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Implementation of the Regional Reduction Plan includes water conservation strategies, such as water-efficient landscaping, low flow toilets, and more efficient water using appliances such as dishwashers in new residential and commercial buildings along with existing building retrofit incentives to conserve water use. The net result of these measures is the reduction in water consumption. Therefore, the Regional Reduction Plan results in better management of existing water supplies within the City. For these reasons, the Regional Reduction Plan would have a beneficial impact on water supplies and impacts to water supply would be **less than significant**. No mitigation is required.

Threshold	Would the project result in a determination by the wastewater treatment provider that 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?
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Implementation of the Regional Reduction Plan includes water conservation strategies, such as low flow toilets, and more efficient water using appliances such as dishwashers in new residential and commercial buildings along with existing building retrofit incentives to conserve water use. These water conservation strategies will reduce the amount of wastewater going to wastewater treatment facilities. Therefore, impacts would be **less than significant**. No mitigation is required.

Threshold	Would the project be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?
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Implementation of the Regional Reduction Plan would not increase the amount of waste going to landfills. Also, the City's Integrated Waste Management program and Solid Waste Reuse and Recycling Regulations regulate service and collection of waste in the City and ensure that federal, state, and local regulations related to solid waste are met. Therefore, impacts would be ***less than significant***. No mitigation is required.

Threshold	Would the project comply with federal, state, or local statutes and regulations related to solid waste?
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Implementation of the Regional Reduction Plan would not increase the amount of waste going to landfills. Also, the City's Integrated Waste Management program and Solid Waste Reuse and Recycling Regulations regulate service and collection of waste in the City and ensure compliance with federal, state, and local statutes and regulations related to the recycling of solid waste. Therefore, impacts would be ***less than significant***. No mitigation is required.

## ■ Cumulative Impacts

Because the Regional Reduction Plan does not create significant impacts to utilities and service systems at a project level, implementation of the Regional Reduction Plan will not create impacts that are cumulatively considerable. Therefore, ***cumulative impacts would be less than significant***.

## ■ References

- California Energy Commission. (CEC). 2007. *The Role of Land Use in Meeting California's Energy and Climate Change Goals*. Report CEC-600-2007-008-SD.
- Highland, City of. 2005. *City of Highland General Plan and Development Code Update Environmental Impact Report*. Draft, September.
- . 2006. *City of Highland General Plan*, March.
- . n.d. *City of Highland Municipal Code*.
- San Bernardino Associated Governments (SANBAG). 2012. *San Bernardino County Regional Greenhouse Gas Reduction Plan*. Draft. Prepared by ICF International, December.

## 4.9.18 Mandatory Findings of Significance

Under the California Environmental Quality Act (CEQA), an EIR must be prepared when certain specified impacts might result from construction or implementation of a project. This EIR has been prepared for the San Bernardino County Regional GHG Reduction Plan to fully address all of the Mandatory Findings of Significance, as described below.

### ■ Thresholds of Significance

The following thresholds of significance are based on the 2012 CEQA Guidelines Appendix G. For purposes of this EIR, implementation of the San Bernardino County Regional GHG Reduction Plan might have a significant adverse impact on mandatory findings of significance if it would do any of the following:

- Have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal, or eliminate important examples of the major periods of California history or prehistory
- Have impacts that are individually limited, but cumulatively considerable (“cumulatively considerable” means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)
- Have environmental effects that will cause substantial adverse effects on human beings, either directly or indirectly

### ■ Degradation of the Environment

Under CEQA Guidelines Section 15065(a), a finding of significance is required if a project “has the potential to substantially degrade the quality of the environment.” In practice, this is the same standard as a significant effect on the environment, which is defined in CEQA Guidelines Section 15382 as “a substantial or potentially substantial adverse change in any of the physical conditions within the area affected by the project including land, air, water, minerals, flora, fauna, ambient noise, and objects of historic or aesthetic significance.”

This EIR, in its entirety, addresses and discloses all potential environmental effects associated with construction and operation of the proposed project, including direct, indirect, and cumulative impacts in the following resource areas:

- Aesthetics
- Agriculture/Forestry Resources
- Air Quality
- Biological Resources
- Cultural Resources
- Geology/Soils

- Greenhouse Gas Emissions
- Hazards/Hazardous Materials
- Hydrology/Water Quality
- Land Use/Planning
- Mineral Resources
- Noise
- Population/Housing
- Public Services
- Recreation
- Transportation/Traffic
- Utilities/Service Systems

As summarized in Table 2-22 (Summary of Mitigation Measures) and Table 4.9-5 (Summary of Environmental Effects of Implementing Local Reduction Measures in Highland), this EIR discloses all potential environmental impacts, the level of significance prior to mitigation, project requirements that are required by law or are incorporated as part of the project description, feasible mitigation measures, and the level of significance after the incorporation of mitigation measures.

### ■ Long-Term Impacts

As described in CEQA Guidelines Section 15065(a)(2), a lead agency shall find that a project might have a significant effect on the environment where there is substantial evidence that the project has the potential to achieve short-term environmental goals to the disadvantage of long-term environmental goals. Section 5.1 (Significant Irreversible Environmental Effects) of this document addresses the short-term and irretrievable commitment of natural resources to ensure that the consumption is justified on a long-term basis. In addition, Section 5.2 (Growth-Inducing Impacts) identifies any long-term environmental impacts caused by the proposed project with respect to economic or population growth. Lastly, Section 5.4 (Significant Environmental Effects That Cannot Be Avoided if the Proposed Project is Implemented) identifies all significant and unavoidable project-related impacts that could occur.

### ■ Cumulative Impacts

A cumulative impact analysis is only provided for those thresholds that result in a less-than-significant or significant and unavoidable impact. A cumulative impact analysis is not provided for Effects Found Not to Be Significant, which result in no project-related impacts.

Under CEQA Guidelines Section 15065, a lead agency shall find that a project might have a significant effect on the environment where there is substantial evidence that the project has potential environmental effects that are individually limited, but cumulatively considerable. As defined in CEQA Guidelines Section 15065(a)(3), cumulatively considerable means “that the incremental effects of an individual project are significant when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.” Cumulative impacts are addressed for each of the environmental topics listed above and are provided in Sections 4.9.1 through 4.9.17 of this EIR.

## ■ Impacts on Species

Under CEQA Guidelines Section 15065(a)(1), a lead agency shall find that a project might have a significant effect on the environment where there is substantial evidence that the project has the potential to (1) substantially reduce the habitat of a fish or wildlife species; (2) cause a fish or wildlife population to drop below self-sustaining levels; or (3) substantially reduce the number or restrict the range of an endangered, rare, or threatened species. Section 4.9.4 (Biological Resources) of this EIR fully addresses impacts related to the reduction of the fish or wildlife habitat, the reduction of fish or wildlife populations, and the reduction or restriction of the range of special-status species.

## ■ Impacts on Historical Resources

CEQA Guidelines Section 15065(a)(1) states that a lead agency shall find that a project might have a significant effect on the environment where there is substantial evidence that the project has the potential to eliminate important examples of a major period of California history or prehistory. Section 15065(a)(1) amplifies Public Resources Code (PRC) Section 21001(c) requiring that major periods of California history are preserved for future generations. It also reflects the provisions of PRC Section 21084.1 requiring a finding of significance for substantial adverse changes to historical resources. CEQA Guidelines Section 15064.5 establishes standards for determining the significance of impacts to historical resources and archaeological sites that are a historical resource. Section 4.9.5 (Cultural Resources) of this EIR) fully addresses impacts related to California history and prehistory, historic resources, archaeological resources, and paleontological resources.

## ■ Impacts on Human Beings

Consistent with CEQA Guidelines Section 15065(a)(4), a lead agency shall find that a project might have a significant effect on the environment where there is substantial evidence that the project has the potential to cause substantial adverse effects on human beings, either directly or indirectly. Under this standard, a change to the physical environment that might otherwise be minor must be treated as significant if people would be significantly affected. This factor relates to adverse changes to the environment of human beings generally, and not to effects on particular individuals. While changes to the environment that could indirectly affect human beings would be represented by all of the designated CEQA issue areas, those that could directly affect human beings include air quality, geology/soils, hazards/hazardous materials, hydrology/water quality, noise, population/housing, public services, transportation/traffic, and utilities/service systems, which are addressed in Sections 4.9.3, 4.9.6, 4.9.8, 4.9.9, 4.9.12, 4.9.13, 4.9.14, 4.9.16, and 4.9.17 of this EIR, respectively.

## ■ References

Kostka, Stephan L. and Michael H. Zischke. 2005. *Practice under the California Environmental Quality Act*.

San Bernardino Associated Governments (SANBAG). 2012. *San Bernardino County Regional Greenhouse Gas Reduction Plan*. Draft. Prepared by ICF International, December.

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