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WATERMAN + BASELINE NEIGHBORHOOD SPECIFIC PLAN

for City of San Bernardino

VOLUME I

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Abbreviations and Acronyms

ABBREVIATIONS AND ACRONYMS

AAQS	ambient air quality standards
AB	Assembly Bill
ACM	asbestos-containing materials
ADT	average daily traffic
amsl	above mean sea level
AQMP	air quality management plan
AST	aboveground storage tank
BAU	business as usual
bgs	below ground surface
BMP	best management practices
CAA	Clean Air Act
CAFE	corporate average fuel economy
CalARP	California Accidental Release Prevention Program
CalEMA	California Emergency Management Agency
Cal/EPA	California Environmental Protection Agency
CAL FIRE	California Department of Forestry and Fire Protection
CALGreen	California Green Building Standards Code
Cal/OSHA	California Occupational Safety and Health Administration
CalRecycle	California Department of Resources, Recycling, and Recovery
Caltrans	California Department of Transportation
CARB	California Air Resources Board
CBC	California Building Code
CCAA	California Clean Air Act
CCR	California Code of Regulations
CDE	California Department of Education
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act
cfs	cubic feet per second
CGS	California Geologic Survey
CMP	congestion management program

Abbreviations and Acronyms

CNDDB	California Natural Diversity Database
CNEL	community noise equivalent level
CO	carbon monoxide
CO_2e	carbon dioxide equivalent
Corps	US Army Corps of Engineers
CSO	combined sewer overflows
CUPA	Certified Unified Program Agency
CWA	Clean Water Act
dB	decibel
dBA	A-weighted decibel
DPM	diesel particulate matter
DTSC	Department of Toxic Substances Control
EIR	environmental impact report
EPA	United States Environmental Protection Agency
EPCRA	Emergency Planning and Community Right-to-Know Act
FEMA	Federal Emergency Management Agency
FHWA	Federal Highway Administration
FTA	Federal Transit Administration
GHG	greenhouse gases
GWP	global warming potential
HCM	Highway Capacity Manual
HQTA	high quality transit area
HVAC	heating, ventilating, and air conditioning system
IPCC	Intergovernmental Panel on Climate Change
L_{dn}	day-night noise level
L_{eq}	equivalent continuous noise level
LBP	lead-based paint
LCFS	low-carbon fuel standard
LOS	level of service
LST	localized significance thresholds
M_W	moment magnitude
MCL	maximum contaminant level
MEP	maximum extent practicable

Abbreviations and Acronyms

mgd	million gallons per day
MMT	million metric tons
MPO	metropolitan planning organization
MT	metric ton
MWD	Metropolitan Water District of Southern California
NAHC	Native American Heritage Commission
NO_X	nitrogen oxides
NPDES	National Pollution Discharge Elimination System
O_3	ozone
OES	California Office of Emergency Services
PM	particulate matter
POTW	publicly owned treatment works
ppm	parts per million
PPV	peak particle velocity
RCRA	Resource Conservation and Recovery Act
REC	recognized environmental condition
RMP	risk management plan
RMS	root mean square
RPS	renewable portfolio standard
RWQCB	Regional Water Quality Control Board
SB	Senate Bill
SCAG	Southern California Association of Governments
SCAQMD	South Coast Air Quality Management District
SIP	state implementation plan
SLM	sound level meter
SoCAB	South Coast Air Basin
SO_X	sulfur oxides
SQMP	stormwater quality management plan
SRA	source receptor area [or state responsibility area]
SUSMP	standard urban stormwater mitigation plan
SWP	State Water Project
SWPPP	Storm Water Pollution Prevention Plan
SWRCB	State Water Resources Control Board

Abbreviations and Acronyms

TAC	toxic air contaminants
TNM	transportation noise model
tpd	tons per day
TRI	toxic release inventory
TTCP	traditional tribal cultural places
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey
UST	underground storage tank
UWMP	urban water management plan
V/C	volume-to-capacity ratio
VdB	velocity decibels
VHFHSZ	very high fire hazard severity zone
VMT	vehicle miles traveled
VOC	volatile organic compound
WQMP	water quality management plan
WSA	water supply assessment

Abbreviations and Acronyms

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1. Executive Summary

1.1 INTRODUCTION

This Draft Environmental Impact Report (DEIR) addresses the environmental effects associated with the implementation of the proposed Waterman + Baseline Neighborhood Specific Plan (Proposed Project). The California Environmental Quality Act (CEQA) requires that local government agencies consider the environmental consequences before taking action on projects over which they have discretionary approval authority. An environmental impact report (EIR) analyzes potential environmental consequences in order to inform the public and support informed decisions by local and state governmental agency decision makers. This document focuses on impacts determined to be potentially significant in the Notice of Preparation completed for this project (see Appendix A).

This DEIR has been prepared pursuant to the requirements of CEQA and the City of San Bernardino's CEQA procedures. The City of San Bernardino, as the lead agency, has reviewed and revised all submitted drafts, technical studies, and reports as necessary to reflect its own independent judgment, including reliance on City technical personnel from other departments and review of all technical subconsultant reports.

Data for this DEIR derive from onsite field observations, discussions with affected agencies, analysis of adopted plans and policies, review of available studies, reports, data and similar literature, and specialized environmental assessments (air quality, biological resources, cultural resources, greenhouse gas emissions, hazards, noise, traffic, water, and infrastructure).

1.2 ENVIRONMENTAL PROCEDURES

This DEIR has been prepared pursuant to CEQA to assess the environmental effects associated with implementation of the Proposed Project, as well as anticipated future discretionary actions and approvals. CEQA established six main objectives for an EIR:

1. Disclose to decision makers and the public the significant environmental effects of proposed activities.
2. Identify ways to avoid or reduce environmental damage.
3. Prevent environmental damage by requiring implementation of feasible alternatives or mitigation measures.
4. Disclose to the public reasons for agency approval of projects with significant environmental effects.
5. Foster interagency coordination in the review of projects.
6. Enhance public participation in the planning process.

An EIR is the most comprehensive form of environmental documentation in CEQA and the CEQA Guidelines; it is intended to provide an objective, factually supported analysis and full disclosure of the environmental consequences of a Proposed Project with the potential to result in significant, adverse environmental impacts.

An EIR is one of various decision-making tools used by a lead agency to consider the merits and disadvantages of a project that is subject to its discretionary authority. Before approving a Proposed Project, the lead agency must consider the information in the EIR; determine whether the EIR was prepared in accordance with CEQA and the CEQA Guidelines; determine that it reflects the independent judgment of the lead agency; adopt findings concerning the project's significant environmental impacts and alternatives; and adopt a statement of overriding considerations if significant impacts cannot be avoided.

1.2.1 EIR Format

Chapter 1. Executive Summary: Summarizes the background and description of the Proposed Project, the format of this EIR, project alternatives, any critical issues remaining to be resolved, and the potential environmental impacts and mitigation measures identified for the project.

Chapter 2. Introduction: Describes the purpose of this EIR, background on the project, the notice of preparation, the use of incorporation by reference, and Final EIR certification.

Chapter 3. Project Description: A detailed description of the project, including its objectives, its area and location, approvals anticipated to be required as part of the project, necessary environmental clearances, and the intended uses of this EIR.

Chapter 4. Environmental Setting: A description of the physical environmental conditions in the vicinity of the project as they existed at the time the notice of preparation was published, from local and regional perspectives. These provide the baseline physical conditions from which the lead agency determines the significance of the project's environmental impacts.

Chapter 5. Environmental Analysis: Each environmental topic is analyzed in a separate section that discusses: the thresholds used to determine if a significant impact would occur; the methodology to identify and evaluate the potential impacts of the project; the existing environmental setting; the potential adverse and beneficial effects of the project; the level of impact significance before mitigation; the mitigation measures for the Proposed Project; the level of significance after mitigation is incorporated; and the potential cumulative impacts of the Proposed Project and other existing, approved, and proposed development in the area.

Chapter 6. Significant Unavoidable Adverse Impacts: Describes the significant unavoidable adverse impacts of the Proposed Project.

Chapter 7. Alternatives to the Proposed Project: Describes the alternatives and compares their impacts to the impacts of the Proposed Project. Alternatives include the No Project/Existing General Plan Alternative, Increased Residential Use Alternative, and a Reduced Intensity Alternative.

Chapter 8. Impacts Found Not to Be Significant: Briefly describes the potential impacts of the project that were determined not to be significant and were therefore not discussed in detail in this EIR.

Chapter 9. Significant Irreversible Changes Due to the Proposed Project: Describes the significant irreversible environmental changes associated with the project.

Chapter 10. Growth-Inducing Impacts of the Project: Describes the ways in which the Proposed Project would cause increases in employment or population that could result in new physical or environmental impacts.

Chapter 11. Organizations and Persons Consulted: Lists the people and organizations that were contacted during the preparation of this EIR.

Chapter 12. Qualifications of Persons Preparing EIR: Lists the people who prepared this EIR for the Proposed Project.

Chapter 13. Bibliography: The technical reports and other sources used to prepare this EIR.

Appendices: The appendices for this document (in PDF format on a CD attached to the front cover) comprise these supporting documents:

- Appendix A: Notice of Preparation
- Appendix B: NOP Responses
- Appendix C Air Quality and GHG Modeling Data
- Appendix D: Biological Technical Report
- Appendix E: Cultural Resources Report
- Appendix F: Phase I ESA and EDR Report
- Appendix G: Noise Study
- Appendix H: Public Services Correspondence
- Appendix I: Traffic Study
- Appendix J: Infrastructure Analysis Report
- Appendix K: Water Supply Assessment

1.2.2 Type and Purpose of This DEIR

This DEIR fulfills the requirements for a Program EIR. Although the legally required contents of a Program EIR are the same as for a Project EIR, Program EIRs are typically more conceptual than Project EIRs, with a more general discussion of impacts, alternatives, and mitigation measures. According to Section 15168 of the CEQA Guidelines, a Program EIR may be prepared on a series of actions that can be characterized as one large project. Use of a Program EIR gives the lead agency an opportunity to consider broad policy alternatives and programwide mitigation measures, as well as greater flexibility to address project-specific and cumulative environmental impacts on a comprehensive scale.

Agencies prepare Program EIRs for programs or a series of related actions that are linked geographically; logical parts of a chain of contemplated events, rules, regulations, or plans that govern the conduct of a continuing program; or individual activities carried out under the same authority and having generally similar environmental effects that can be mitigated in similar ways.

Once a Program EIR has been prepared, subsequent activities within the program must be evaluated to determine whether an additional CEQA document is necessary. However, if the Program EIR addresses the program's effects as specifically and comprehensively as possible, many subsequent activities may be within the Program EIR's scope, and additional environmental documents may not be required (Guidelines § 15168[c]). When a lead agency relies on a Program EIR for a subsequent activity, it must incorporate feasible mitigation measures and alternatives from the Program EIR into the subsequent activities (Guidelines § 15168[c][3]). If a subsequent activity would have effects outside the scope of the Program EIR, the lead agency must prepare a new Initial Study leading to a Negative Declaration, Mitigated Negative Declaration, or an EIR. Even in this case, the Program EIR still serves a valuable purpose as the first-tier environmental analysis. The CEQA Guidelines encourage the use of Program EIRs, citing five advantages:

- Provide a more exhaustive consideration of impacts and alternatives than would be practical in an individual EIR;
- Focus on cumulative impacts that might be slighted in a case-by-case analysis;
- Avoid continual reconsideration of recurring policy issues;
- Consider broad policy alternatives and programmatic mitigation measures at an early stage when the agency has greater flexibility to deal with them;
- Reduce paperwork by encouraging the reuse of data (through tiering). (Guidelines § 15168[h])

1.3 PROJECT OBJECTIVES

The following objectives have been established for the Proposed Project and will aid decision makers in their review of the Project and associated environmental impacts:

- Identify desired land uses for districts within the Specific Plan area, recognizing that districts have diverse needs, opportunities, constraints and assets;
- Attract a mix of quality, compatible residential, commercial, professional office, and light industrial development while preserving and enhancing existing established residential neighborhoods;
- Augment the area's development capabilities by enhancing the linkages between Downtown and Inland Valley Development Agency (IVDA) reuse and development, focusing on the economic and physical synergies with the Specific Plan area;

- Encourage the growth of jobs and services, with opportunities and training available to existing and future residents within the neighborhood;
- Support existing investment in the area and enhance existing assets;
- Lessen existing land-use conflicts and ensure avoidance of future conflicts between residential neighborhoods and non-residential uses;
- Further the physical and economic revitalization of the Waterman + Baseline neighborhoods; and
- Minimize the potential for displacement of existing residents as new residents are accommodated.

1.4 PROJECT LOCATION

The Specific Plan area is located in the City of San Bernardino within the County of San Bernardino, as shown in Figure 3-1, *Regional Location*. The Specific Plan area includes approximately 710 net acres located near the center of San Bernardino around the intersection on Waterman Avenue and Baseline Street. Specifically, the boundaries of the Specific Plan area are formed by Sierra Way to the west, Tippecanoe Avenue and a flood control channel on the east, 3rd Street to the south, and Highland Avenue to the north. The western boundary is approximately 1.1 miles from Interstate 215 (I-215), and the northern boundary is 0.6 mile from Interstate 210 (I-210).

1.5 PROJECT SUMMARY

The proposed Specific Plan would establish a land use and development framework, identify needed transportation and infrastructure improvements, and serve as a marketing tool for attracting developers to key sites and for boosting economic development. The Proposed Project is intended to encourage residential and neighborhood-serving commercial establishments on major corridors such as Baseline Street and Waterman Avenue, direct the creation of employment-generating uses to the southern portion of the Specific Plan area closer to the Civic Center and Downtown, and protect and enhance the existing residential neighborhoods.

Figure 3-2, *Proposed Land Use Plan,* depicts the proposed land use plan for the Specific Plan area. This is the preferred land use plan for the Proposed Project and accommodates an increase in existing residential uses from an estimated 1,946 units to approximately 4,341 units and an increase in non-residential uses from roughly 2,366,385 square feet to approximately 3,570,448 square feet. It establishes six distinct districts to guide future development of key parcels throughout the Specific Plan area. Buildout projections for the Proposed Project are shown in Table 1-1.

The proposed Specific Plan also proposes circulation and infrastructure improvements for the Specific Plan area. A detailed project description is provided in Section 3.3, *Description of the Project*, of this EIR.

Table 1-1 Specific Plan Buildout Projections

District Name	Area (acres)	Existing Residential (units)	Existing Non-residential (square feet)	Proposed Residential (units)	Proposed Non-residential (square feet)
Uptown Professional	81.7	259 units	1,244,332 SF	277 units	513,363 SF
Westside Neighborhood	127.0	397 units	243,519 SF	808 units	342,852 SF
Midtown Core Mixed Use	119.2	344 units	346,981 SF	1,017 units	610,450 SF
Eastside Neighborhood	144.5	657 units	108,527 SF	1,402 units	206,614 SF
Gateway	97.4	229 units	136,318 SF	675 units	444,896 SF
Mixed Business	140.9	60 units	286,708 SF	162 units	1,452,273 SF
Total	**710.7**	**1,946 units**	**2,366,385 SF**	**4,341 units**	**3,570,448 SF**

1.6 SUMMARY OF PROJECT ALTERNATIVES

The CEQA Guidelines (Section 15126.6[a]) state that an EIR must address "a range of reasonable alternatives to the project, or to the location of the project, which could feasibly attain the basic objectives of the project, but would avoid or substantially lessen any of the significant effects of the project and evaluate the comparative merits of the alternatives." The alternatives were based, in part, on their potential ability to reduce or eliminate the impacts determined to be significant and unavoidable for the proposed project. The following two alternatives have been determined to represent a reasonable range of alternatives which have the potential to feasibly attain most of the basic objectives of the project but which may avoid or substantially lessen any of the significant effects of the project. These alternatives are analyzed in detail in Section 7, *Alternatives to the Proposed Project*.

- No Project/Existing General Plan Alternative
- Increased Residential Use Alternative
- Reduced Intensity Alternative

Each alternative's environmental impacts are compared to the Proposed Project and determined to be environmentally superior, neutral, or inferior. However, only those impacts found significant and unavoidable are used in making the final determination of whether an alternative is environmentally superior or inferior to the Proposed Project. Section 7.7 identifies the Environmentally Superior Alternative.

1.6.1 No Project/Existing General Plan Alternative

This alternative, which is required by CEQA, assumes that the existing general plan and zoning designations would remain unchanged. The Specific Plan area currently includes approximately 1,946 dwelling units and 2,366,385 square feet of non-residential land uses. Under this alternative, the Specific Plan area would be developed to approximately 80 percent of the maximum buildout potential under the City's adopted General Plan. In calculating the total development capacity for each site, an 80% development potential is assumed and applied to the acreage, meaning that for a 5 acre parcel, only 4 acres are considered developable with the remaining acre available for infrastructure, transit right-of-ways and open space. Therefore, the No

Project/Existing General Plan Alternative assumes that 2,917 DUs (971 additional DUs) and 7,103,782 square feet of non-residential (4,737,397 additional square feet) would be developed within the Specific Plan area.

1.6.2 Increased Residential Use Alternative

Under the Increased Residential Use Alternative, the additional non-residential building area allowed by the proposed Specific Plan would be reduced by 50 percent and the maximum residential dwelling units would be increased by 100 percent. This would result in 6,736 dwelling units (4,790 additional dwelling units) and 2,968,417 square feet of maximum non-residential uses (additional 602,032 square feet from existing) within the Specific Plan area. Traffic increases associated with this alternative would be slightly reduced from 12,024 to 11,966 trips per day as compared to the Proposed Project. All other aspects of the proposed specific plan would be implemented under this alternative.

1.6.3 Reduced Intensity Alternative

This alternative would reduce the overall additional development intensity allowed by the proposed Specific Plan by 30 percent. It would result in a total of 3,622 dwelling units (1,676 additional DUs) and 3,209,229 square feet of non-residential uses (842,844 additional square feet. Project-related traffic increases would be reduced from 12,024 trips per day to 8,417 trips per day. The intent of this alternative is to reduce the air quality, GHG emissions, and traffic impacts associated with implementation of the specific plan while achieving the objectives of the Proposed Project.

1.7 ISSUES TO BE RESOLVED

Section 15123(b)(3) of the CEQA Guidelines requires that an EIR contain issues to be resolved, including the choice among alternatives and whether or how to mitigate significant impacts. With regard to the Proposed Project, the major issues to be resolved include decisions by the lead agency as to:

1. Whether this DEIR adequately describes the environmental impacts of the project.
2. Whether the benefits of the project override those environmental impacts which cannot be feasibly avoided or mitigated to a level of insignificance.
3. Whether the proposed land use changes are compatible with the character of the existing area.
4. Whether the identified goals, policies, or mitigation measures should be adopted or modified.
5. Whether there are other mitigation measures that should be applied to the project besides the Mitigation Measures identified in the DEIR.
6. Whether there are any alternatives to the project that would substantially lessen any of the significant impacts of the Proposed Project and achieve most of the basic project objectives.

1.8 AREAS OF CONTROVERSY

Prior to the preparation of the DEIR, the City of San Bernardino circulated a Notice of Preparation (NOP) and held an EIR scoping meeting on September 10, 2015 at Bobby Vega Community Center to determine the concerns of interested parties regarding environmental analysis of the Proposed Project. Table 1-2 summarizes issues identified by respondents to the NOP. The table also provides references to the sections of the DEIR in which these issues are evaluated. No other areas of controversy are known to the Lead Agency. Correspondence received in response to the NOP is included in Appendix B.

Table 1-2 Summary of NOP Comments

Commenting Agency	Comment Type	Comment Summary	Issue Addressed In:
California Department of Transportation (Caltrans)	Traffic	• Expresses support for infill development and redevelopment • Requests that the traffic study analyze state facilities; identifies recommended methodology for traffic analysis • Recommends strategies for promoting multimodal accessibility	Section 5.15, *Transportation and Traffic*.
County of San Bernardino, Department of Public Works	Project Description; Traffic; Water Resources	• Seeks more information regarding water resources • Requests that traffic analysis evaluate impacts on County maintained traffic signals • Requests that the DEIR discuss project phasing	Chapter 3, *Project Description*, Section 5.15, *Transportation and Traffic*, and Section 5.16, *Utilities and Service Systems*.
South Coast Air Quality Management District (SCAQMD)	Air Quality	• Identifies recommended methodology for air quality analysis and mitigation	Section 5.2, *Air Quality*.
Southern California Association of Governments (SCAG)	Land Use; Population and Housing	• Requests that the DEIR review the Proposed Project's consistency with goals and strategies identified in SCAG's adopted Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS)	Sections 5.9, *Land Use and Planning*; 5.12, *Population and Housing*.

1.9 SUMMARY OF ENVIRONMENTAL IMPACTS, MITIGATION MEASURES, AND LEVELS OF SIGNIFICANCE AFTER MITIGATION

Table 1-3 summarizes the conclusions of the environmental analysis contained in this EIR. Impacts are identified as significant or less than significant, and mitigation measures are identified for all significant impacts. The level of significance after imposition of the mitigation measures is also presented.

Table 1-3 Summary of Environmental Impacts, Mitigation Measures and Levels of Significance After Mitigation

Environmental Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation/Alternatives that Reduce Significant Impacts
5.1 AESTHETICS			
Impact 5.1-1: Implementation of the Proposed Project would alter the visual appearance and character of the Specific Plan area.	Less Than Significant	No mitigation measures are required.	Less Than Significant
Impact 5.1-2: 1mplementation of the Proposed Project would not alter scenic resources within a state scenic highway.	Less Than Significant	No mitigation measures are required.	Less Than Significant
Impact 5.1-3: Implementation of the Proposed Project would generate additional light and glare.	Less Than Significant	No mitigation measures are required.	Less Than Significant
Cumulative Impacts: Visual Character and Quality	Less Than Significant	No mitigation measures are required.	Less Than Significant
Cumulative Impacts: Scenic Views	Less Than Significant	No mitigation measures are required.	Less Than Significant
Cumulative Impacts: Light and Glare	Less Than Significant	No mitigation measures are required.	Less Than Significant
5.2 AIR QUALITY			
Impact 5.2-1: Buildout of the Proposed Project would generate slightly more growth than the existing general plan; therefore, the Proposed Project would be inconsistent with SCAQMD's air quality management plan.	Less Than Significant	No mitigation measures are required.	Less Than Significant
Impact 5.2-2: Construction activities associated with the Proposed Project would generate a substantial increase in short-term criteria air pollutant emissions that exceeds the threshold criteria and would cumulatively contribute to the nonattainment designations of the SoCAB.	**Potentially Significant**	AQ-1 Applicants for new development projects within the Waterman + Baseline Neighborhood Specific Plan area shall require the construction contractor to use equipment that meets the US Environmental Protection Agency (EPA) Tier 4 emissions standards for off-road diesel-powered construction equipment with more than 50 horsepower, unless it can be demonstrated to the City of San Bernardino that such equipment is not available. Any emissions control device used by the contractor shall achieve emissions reductions that are no less than what could be achieved by a Level 4 diesel	**Significant and Unavoidable**

Table 1-3 Summary of Environmental Impacts, Mitigation Measures and Levels of Significance After Mitigation

Environmental Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation/Alternatives that Reduce Significant Impacts
		emissions control strategy for a similarly sized engine, as defined by the California Air Resources Board's regulations. Prior to construction, the project engineer shall ensure that all demolition and grading plans clearly show the requirement for EPA Tier 4 or higher emissions standards for construction equipment over 50 horsepower. During construction, the construction contractor shall maintain a list of all operating equipment in use on the construction site for verification by the City of San Bernardino. The construction equipment list shall state the makes, models, and numbers of construction equipment onsite. Equipment shall be properly serviced and maintained in accordance with the manufacturer's recommendations. Construction contractors shall also ensure that all nonessential idling of construction equipment is restricted to five minutes or less in compliance with California Air Resources Board's Rule 2449.	
		AQ-2 Applicants for new development projects within the Waterman + Baseline Neighborhood Specific Plan shall require the construction contractor to prepare a dust control plan and implement the following measures during ground-disturbing activities—in addition to the existing requirements for fugitive dust control under South Coast Air Quality Management District (SCAQMD) Rule 403—to further reduce PM_{10} and $PM_{2.5}$ emissions. The City of San Bernardino shall verify that these measures have been implemented during normal construction site inspections. ▪ Following all grading activities, the construction contractor shall reestablish ground cover on the construction site through seeding and watering. ▪ During all construction activities, the construction contractor shall sweep streets with SCAQMD Rule 1186–compliant, PM_{10}-efficient vacuum units on a daily basis if silt is carried over to adjacent public thoroughfares or occurs as a result of hauling. ▪ During all construction activities, the construction contractor shall maintain a minimum 24-inch freeboard on trucks hauling dirt, sand, soil, or other loose materials and shall tarp materials with a fabric cover or other cover that achieves the same amount of protection.	

Table 1-3 Summary of Environmental Impacts, Mitigation Measures and Levels of Significance After Mitigation

Environmental Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation/Alternatives that Reduce Significant Impacts
		▪ During all construction activities, the construction contractor shall water exposed ground surfaces and disturbed areas a minimum of every three hours on the construction site and a minimum of three times per day. ▪ During all construction activities, the construction contractor shall limit onsite vehicle speeds on unpaved roads to no more than 15 miles per hour. AQ-3 Applicants for new development projects within the Waterman + Baseline Neighborhood Specific Plan shall require the construction contractor to use coatings and solvents with a volatile organic compound (VOC) content lower than required under SCAQMD Rule 1113 (i.e., super compliant paints). The construction contractor shall also use precoated/natural-colored building materials, where feasible. Use of low-VOC paints and spray method shall be included as a note on architectural building plans and verified by the City of San Bernardino during construction.	
Impact 5.2-3: Long-term operation of the Proposed Project would generate a substantial increase in criteria air pollutant emissions that exceed the threshold criteria and would cumulatively contribute to the nonattainment designations of the SoCAB.	**Potentially Significant**	AQ-4 Prior to issuance of a building permit for new development projects within the Waterman + Baseline Neighborhood Specific Plan area, the property owner/developer shall show on the building plans that all major appliances (dishwashers, refrigerators, clothes washers, and dryers) to be provided/installed are Energy Star appliances. Installation of Energy Star appliances shall be verified by the City of San Bernardino prior to issuance of a certificate of occupancy. AQ-5 Prior to issuance of building permits for residential development projects within the Waterman + Baseline Neighborhood Specific Plan area, the property owner/developer shall indicate on the building plans that the following features have been incorporated into the design of the building(s). Proper installation of these features shall be verified by the City of San Bernardino prior to issuance of a certificate of occupancy. ▪ For multifamily dwellings, electric vehicle charging shall be provided as specified in Section A4.106.8.2 (Residential Voluntary Measures) of the CALGreen Code.	**Significant and Unavoidable**

1. Executive Summary

Table 1-3 Summary of Environmental Impacts, Mitigation Measures and Levels of Significance After Mitigation

Environmental Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation/Alternatives that Reduce Significant Impacts
		▪ Bicycle parking shall be provided as specified in Section A4.106.9 (Residential Voluntary Measures) of the CALGreen Code. AQ-6 Prior to issuance of building permits for nonresidential development projects within the Waterman + Baseline Neighborhood Specific Plan area, the property owner/developer shall indicate on the building plans that the following features have been incorporated into the design of the building(s). Proper installation of these features shall be verified by the City of San Bernardino prior to issuance of a certificate of occupancy. ▪ For buildings with more than 50 tenant-occupants, changing/shower facilities shall be provided as specified in Section A5.106.4.3 (Nonresidential Voluntary Measures) of the CALGreen Code. Alternatively, buildings with more than 50 tenant-occupants can document a memorandum of understanding with an adjacent facility that provides changing/shower facilities that meet those listed in Section A5.2016.4.3 of the CALGreen Code. ▪ Designated parking for low-emitting, fuel-efficient, and carpool/van vehicles, or combination thereof, shall be provided as specified in Section A5.106.5.1 (Nonresidential Voluntary Measures) of the CALGreen Code. ▪ Facilities shall be installed to support future electric vehicle charging at each nonresidential building with 30 or more parking spaces. Installation shall be consistent with Section A5.106.5.3 (Nonresidential Voluntary Measures) of the CALGreen Code.	
Impact 5.2-4: Construction activities related to buildout of the Proposed Project could expose sensitive receptors to substantial pollutant concentrations.	**Potentially Significant**	Mitigation Measures AQ-1 through AQ-3 apply.	**Significant and Unavoidable**
Impact 5.2-5: Buildout of the Proposed Project could result in new source sources of criteria air pollutant emissions and/or toxic air contaminants near existing or planned sensitive	**Potentially Significant**	AQ-7 New industrial land uses that have industrial equipment which requires a permit to operate from the SCAQMD or have the potential to generate 40 or more diesel trucks per day and are located within 1,000 feet of a sensitive land use (e.g. residential, schools, hospitals, nursing homes), as measured	**Significant and Unavoidable**

Table 1-3 Summary of Environmental Impacts, Mitigation Measures and Levels of Significance After Mitigation

Environmental Impact	Level of Significance Before Mitigation	Mitigation Measures		Level of Significance After Mitigation/Alternatives that Reduce Significant Impacts
receptors.			from the property line of the project to the property line of the nearest sensitive use, shall submit a health risk assessment (HRA) to the City of San Bernardino prior to future discretionary project approval. The HRA shall be prepared in accordance with policies and procedures of the state Office of Environmental Health Hazard Assessment and the applicable air quality management district. If the HRA shows that the incremental cancer risk exceeds ten in one million (I0E-06), that particulate matter concentrations would exceed 2.5 $\mu g/m^3$, or that the appropriate noncancer hazard index exceeds 1.0, the applicant will be required to identify and demonstrate that best available control technologies for toxics (T-BACTs) are capable of reducing potential cancer and noncancer risks to an acceptable level, including appropriate enforcement mechanisms. T-BACTs may include, but are not limited to, restricting idling onsite, electrifying warehousing docks to reduce diesel particulate matter, and requiring use of newer equipment and/or vehicles. T-BACTs identified in the HRA shall be identified as mitigation measures in the environmental document and/or incorporated into the site development plan as a component of the project.	
Impact 5.2-6: Industrial land uses associated with the Proposed Project could create objectionable odors.	**Potentially Significant**	AQ-8	If it is determined during project-level environmental review that a development project has the potential to emit nuisance odors beyond the property line, an odor management plan may be required, subject to County's regulations. Facilities within the Specific Plan that have the potential to generate nuisance odors include, but are not limited to, food-processing facilities. If an odor management plan is determined to be required through CEQA review, the County of San Bernardino shall require the project applicant to submit the plan prior to approval to ensure compliance with the South Coast Air Quality Management District's Rule 402, for nuisance odors. If applicable, the odor management plan shall identify the best available control technologies for toxics (T-BACTs) that will be utilized to reduce potential odors to acceptable levels, including appropriate enforcement mechanisms. T-BACTs may include, but are not limited to, scrubbers (e.g., air pollution control devices) at the industrial facility. T-BACTs identified in the odor management plan shall be identified as mitigation measures in the	Less Than Significant

1. Executive Summary

Table 1-3 Summary of Environmental Impacts, Mitigation Measures and Levels of Significance After Mitigation

Environmental Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation/Alternatives that Reduce Significant Impacts
		environmental document and/or incorporated into the site plan.	
Cumulative Impacts: Construction	**Potentially Significant**	Mitigation Measures AQ-1 through AQ-3 apply.	**Significant and Unavoidable**
Cumulative Impacts: Operation	**Potentially Significant**	Mitigation Measures AQ-4 through AQ-7 apply.	**Significant and Unavoidable**
5.3 BIOLOGICAL RESOURCES			
Impact 5.3-1: Proposed Project buildout could impact burrowing owl (*Athene cunicularia*), California horned lark (*Eremophila alpestris actia*), and Swainson's hawk (*Buteo swainsoni*).	**Potentially Significant**	BIO-1 Prior to issuance of grading permits for future projects containing non-native grassland and/or ruderal communities as identified on Figure 3 of the Biological Technical Report, a pre-construction, take avoidance survey shall be conducted in accordance with the CDFW Staff Report on Burrowing Owl Mitigation (2012). If there is no sign of burrowing owl occupation ("occupied" defined in the aforementioned Staff Report), then no further mitigation would be required. If sign of occupation is present, the following mitigation shall be implemented. Direct impacts to occupied burrowing owl burrows shall be avoided during the breeding period from February 1 through August 31 and during the non-breeding season as described in the aforementioned Staff Report. Mitigation for direct, permanent impacts to nesting, occupied, and satellite burrows and/or burrowing owl habitat shall be required based on the burrowing owl life history information provided in Appendix A of the aforementioned Staff Report, site-specific analysis, and consultation with the CDFW. A Burrowing Owl Mitigation Plan shall be prepared and submitted to the City and CDFW for approval prior to impacts to the burrowing owl and/or its habitat.	Less Than Significant

Table 1-3 Summary of Environmental Impacts, Mitigation Measures and Levels of Significance After Mitigation

Environmental Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation/Alternatives that Reduce Significant Impacts
Impact 5.3-2: There are no sensitive natural communities or riparian habitats in the Specific Plan area, and Specific Plan buildout would not impact such communities or habitats.	Less Than Significant	No mitigation measures are required.	Less Than Significant
Impact 5.3-3: The Proposed Project could impact approximately 2.2 acres of ephemeral streambed.	**Potentially Significant**	BIO-2 Prior to issuance of grading permits, future project applicants for any project located adjacent to the ephemeral streambed shown on Figure 5.3-1 shall provide evidence from a qualified biologist to the City that non-wetland WUS (and WS) have been avoided to the extent feasible. Where avoidance is not feasible, mitigation will be required in accordance with federal and State regulations. The types of mitigation would include on-site protection, enhancement, and/or restoration. Mitigation is typically required at a 1:1 ratio in close proximity to the impacts or at least in the same watershed. The final mitigation requirements and locations for the mitigation, however, are subject to the permit processes with the Corps and CDFW. If avoidance is not feasible, the project applicant shall provide evidence to the City that all required federal and State permits have been obtained prior to issuance of grading permits.	Less Than Significant
Impact 5.3-4: There are no wildlife movement corridors in the Specific Plan area, and Specific Plan buildout would not impact any such corridors. Vegetation clearance or construction by projects developed pursuant to the Specific Plan could impact nesting birds protected under federal and State laws.	**Potentially Significant**	BIO-3 The mature trees within the Specific Plan area could be used for nesting by migratory birds protected under the federal MBTA (United States Code, Title 16, Sections 703-712). The Federal Migratory Bird Treaty Act prohibits direct impacts to nesting birds and their nests. Also, the California Fish and Game Code (Section 3503.5) prohibits activities that take, possess or destroy the nest of eggs of any such bird. Future project applicants are required to comply with the MBTA. Prior to the start of grading activities between January 15 and September 1 (bird nesting season), future project applicants are required to conduct a site survey for nesting birds by a qualified biologist before commencement of grading activities. If nesting birds are found, the applicant is required to consult with the US Fish and Wildlife Service regarding means to avoid or minimize impacts to nesting birds in accordance with MBTA requirements.	Less Than Significant

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Table 1-3 Summary of Environmental Impacts, Mitigation Measures and Levels of Significance After Mitigation

Environmental Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation/Alternatives that Reduce Significant Impacts
		If nests are not observed, and the City approves the results of the pre-construction survey, grading activities may proceed. If nests are found, work may proceed provided that activity is: 1) located at least 500 feet from raptor/owl nests; 2) located at least 300 feet from federal or State listed bird species' nests; and 3) located at least 100 feet from non-listed bird species' nests. A qualified biologist shall conspicuously mark the buffer so that vegetation clearing and tree removal/trimming does not encroach into the buffer until the nest is no longer active (i.e., the nestlings fledge, the nest fails, or the nest is abandoned, as determined by a qualified biologist).	
Impact 5.3-5: Proposed Project buildout would not impact local ordinances or policies protecting biological resources or habitat conservation plans.	Less Than Significant	No mitigation measures are required.	Less Than Significant
Cumulative Impacts: Biological Resources	**Potentially Significant**	Mitigation Measures BIO-1 through BIO-3 apply.	Less Than Significant
5.4 CULTURAL RESOURCES			
Impact 5.4-1: Specific Plan buildout could impact historic resources.	**Potentially Significant**	CUL-1 Future development or redevelopment projects on any of the properties listed in Table 5.4-1 (Historical Resources Identified within Specific Plan area) of this DEIR shall require that an intensive-level historical evaluation of the property be conducted by the property owner or project applicant/developer; the evaluation shall be conducted in accordance with all applicable federal, state and local guidelines for evaluating historical resources. If based on the evaluation of the property it is determined that the proposed development or redevelopment project will have a substantial adverse effect on a historical resource (i.e. it would reduce its integrity to the point that it would no longer be eligible for inclusion in the California Register of Historical Resources or in the list of San Bernardino Landmarks), then the provisions of Mitigation Measure CUL-2 shall be implemented by the property owner or project applicant/developer to eliminate or reduce the project's impact on historical resources.	Less Than Significant

Table 1-3 Summary of Environmental Impacts, Mitigation Measures and Levels of Significance After Mitigation

Environmental Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation/Alternatives that Reduce Significant Impacts
		CUL-2 If, based on the intensive-level historical evaluation of a property listed in 5.4-1 (Historical Resources Identified within Specific Plan area) of this DEIR, as required under Mitigation Measure CUL-1, it is determined that the proposed development or redevelopment project will have a substantial adverse effect on a historical resource, the City of San Bernardino shall require the property owner or project applicant/developer to implement the following measures: A. Rehabilitation According to the Secretary of the Interior's Standards 1. If the Proposed Project includes renovation, alteration, or an addition to an historical resource (not including total demolition), then the property owner or project applicant/developer shall first seek to design all proposed renovations, alterations or additions to the historical resource in a manner that is consistent with the Secretary of the Interior's Standards for Rehabilitation (Standards) found at: http://www.nps.gov/tps/standards/rehabilitation/rehab/stand.htm. a. Plans for rehabilitation shall be created under the supervision of a professional meeting the Department of Interior's Professional Qualifications Standards in Architectural History or Historic Architecture and be designed by a licensed architect with demonstrated historic preservation experience. b. Plans shall be reviewed in the schematic design phase prior to any construction work, as well as in the 60 and 90 percent construction documents phases for compliance with the Standards by a historic preservation professional meeting the Secretary of the Interior's Professional Qualifications Standards with demonstrated experience with the Standards compliance reviews. c. The qualified historic preservation professional reviewing the plans shall create a technical memo at each phase and submit the memo to the City of San Bernardino Community	

Table 1-3 Summary of Environmental Impacts, Mitigation Measures and Levels of Significance After Mitigation

Environmental Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation/Alternatives that Reduce Significant Impacts
		Development Department for concurrence. d. At the discretion of the City, a detailed character-defining features analysis and/or historical resource treatment plan may need to be prepared for select historical resources by a historic preservation professional meeting the Secretary of the Interior's Professional Qualifications Standards if the nature of the project or the significance of the property warrants such detailed analysis. e. A qualified historic preservation professional shall monitor construction activities at key milestones to ensure the work complies with the Standards. The milestones shall be agreed upon in advance by the City and property owner or project applicant/developer. f. City staff and the qualified historic preservation professional shall review the finished rehabilitation/renovation in person upon completion. g. In the event that any historical resource(s) are leased to third-party tenants and tenant improvements will be made, all of the terms of this stipulation shall be disclosed in the lease agreements, agreed upon in writing, and mutually enforced by the property owner or project applicant/developer and the City. The tenants shall not be permitted to conduct work that does not comply with the Standards. B. Retention/On-Site Relocation- For Proposed Demolition 1. If the Proposed Project includes total demolition of a historical resource, the property owner or project applicant/developer shall first consider an alternative that retains the historical resource and incorporates it into the overall project development as an adaptive re-use of the building, as determined feasible.	

Table 1-3 Summary of Environmental Impacts, Mitigation Measures and Levels of Significance After Mitigation

Environmental Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation/Alternatives that Reduce Significant Impacts
		2. If the project site permits, the historical resource should be relocated to another location on the site and the resource should be re-incorporated into the overall project, as determined feasible. 3. If the City determines that retention/onsite relocation of the historical resource is not feasible through a credible feasibility study, then the City shall elect to allow the property owner or project applicant/developer to move forward with the development/redevelopment project; however, all other requirements outlined in this mitigation measure shall apply. C. Third Party Sale 1. If the City determines that retention or onsite relocation of the historical resource is not feasible, then the property owner or project applicant/developer shall offer any historical resources scheduled for demolition to the public for sale and offsite relocation by a third party: a. The historic resource(s) shall be advertised by the property owner or project applicant/developer at a minimum in the following locations: project applicant's/developer's website (if applicable); City of San Bernardino website; Los Angeles Times website and print editions; San Bernardino County Sun Newspaper. b. The bidding period shall remain open for 60 days after the date of advertisement to allow adequate response time from interested parties. c. Qualified parties shall meet the following minimum qualifications to be considered a realistic buyer: possess adequate financial resources to relocate and rehabilitate the historical resource(s); possess an available location for the historical resource(s); and provide for a new use for the historical resource(s).	

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Table 1-3 Summary of Environmental Impacts, Mitigation Measures and Levels of Significance After Mitigation

Environmental Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation/Alternatives that Reduce Significant Impacts
		d. The City shall approve the qualified buyer. If no such buyer comes forward within the allotted time frame, the City shall elect to issue a demolition permit for the historical resource. However, all other requirements outlined in this mitigation measure shall apply. D. Recordation 1. The property owner or project applicant/developer shall create HABS-like Level II documentation prepared in accordance with the Secretary of the Interior's Standards and Guidelines for Architectural and Engineering Documentation. Information on the Standards and Guidelines is available at the following links: http://www.nps.gov/history/local-law/arch_stnds_6.htm. http://www.nps.gov/history/hdp/standards/index.htm. a. Photographs with large-format (4 inches by 5 inches or larger), black and white negatives of the property as a whole shall be provided; photocopies with large format negatives of select existing drawings, site plans, or historic views where available. A minimum of 12 views showing context and relationship of historical resources to each other shall be provided; aerial views showing the whole property shall also be provided. b. Written historical descriptive data, index to photographs, and photo key plan shall be provided. c. The above items shall be created by a historic preservation professional meeting the Secretary of the Interior's Professional Qualifications Standards with demonstrated experience in creating HABS Level II documentation. d. The above items shall be created prior to any demolition or relocation work.	

Table 1-3 Summary of Environmental Impacts, Mitigation Measures and Levels of Significance After Mitigation

Environmental Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation/Alternatives that Reduce Significant Impacts
		e. The above items shall be distributed to the following repositories for use by future researchers and educators. Before submitting any documents, each of the following repositories shall be contacted to ensure that they are willing and able to accept the items: City of San Bernardino Public Library; City Of San Bernardino Historical and Pioneer Society; California State University, San Bernardino Department of Anthropology; and City of San Bernardino Community Development Department (building files). E. Salvage and Reuse 1. If offsite relocation of the historical resource by a third party is not accomplished, the property owner or project applicant/developer shall create a salvage and reuse plan identifying elements and materials of the resource that can be saved prior to any demolition work. a. The salvage and reuse plan shall be included in bid documents prepared for the site and shall be created by a historic preservation professional meeting the Secretary of the Interior's Professional Qualifications Standards with demonstrated experience in creating salvage and reuse plans. b. Elements and materials that may be salvageable include windows; doors; roof tiles; decorative elements; bricks, foundation materials, and/or paving materials; framing members; furniture; lighting; and flooring materials, such as tiles and hardwood. 2. The property owner or project applicant/developer shall identify individuals, organizations, or businesses interested in receiving the salvaged items; these may include Habitat for Humanity Restore; other affordable housing organizations; or salvage yards. The following steps shall be taken by the property owner or project applicant/developer:	

Table 1-3 Summary of Environmental Impacts, Mitigation Measures and Levels of Significance After Mitigation

Environmental Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation/Alternatives that Reduce Significant Impacts
		a. Identification of the individuals, organizations, or businesses interested in receiving the salvaged items shall be completed in consultation with the City. b. Identification of the individuals, organizations, or businesses interested in receiving the salvaged items shall be accomplished by contacting potentially interested parties directly first. c. Items to be salvaged shall be advertised in the following locations for a period of 60 days if none of the contacted parties are able to receive the items: Los Angeles Times and San Bernardino County Sun. 3. The property owner or project applicant/developer shall remove salvageable items in the gentlest, least destructive manner possible. Historic materials and features shall be protected by storing salvaged items in indoor, climate- and weather-controlled conditions until recipients can retrieve them. The removal of salvageable items shall be performed by a licensed contractor with demonstrated experience with implementing salvage and reuse plans. F. Other Optional Interpretive, Commemorative, or Educational Measures The City may also elect to require additional (optional) mitigation measures crafted in response to a specific historical resource's property type or significance, association with a specific historic person, or overall value to the community, as practical, so long as the measure is commensurate with the significance of the property and the level of impact to that resource. Such measures may include educational or interpretive programming; signage; incorporation of historical features into new developments or public art; contribution to a mitigation fund for future historic preservation efforts; written histories or contexts important to the public's understanding of the lost resource (presuming no other	

Table 1-3 Summary of Environmental Impacts, Mitigation Measures and Levels of Significance After Mitigation

Environmental Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation/Alternatives that Reduce Significant Impacts
		extant resource can interpret such significance); etc. The need for these additional measures shall be determined by the City on a case by case basis and incorporated into the conditions of approval for the project. Some measures may be made available to the public through museum displays, written reports at research repositories or made available through on- or offsite signage or existing online multi-media sites.	
Impact 5.4-2: Development of the Proposed Project could impact archaeological resources	**Potentially Significant**	CUL-3 If, at any time during ground-disturbing activities during the course of Specific Plan buildout, evidence of Native American resources is uncovered, the construction contractor for the affected project shall halt work within 50 feet of the find until a qualified archaeologist assesses the nature and significance of the find. The archaeologist shall notify the City of San Bernardino Planning Division of the discovery immediately. No further disturbance within 50 feet of the find shall occur until the archaeologist has cleared the area. A Native American tribe with traditional tribal territory on or near the Specific Plan area, who agrees to accept such resources without fees, may take possession of such resources after the archaeologist has assessed and recorded them. If no Native American tribe seeks possession of the resources or if multiple tribes cannot agree on disposition of the resources, the resources shall be curated at the facilities of the Western Science Center in Hemet in Riverside County. CUL-4 If, at any time, evidence of Native American resources is uncovered, local representatives of the Serrano and Gabrieliño must be notified within 24 hours and, depending on the location and nature of the find, a determination as to the need for an archaeological monitoring program shall be revisited. If an archaeological monitoring program is justified, the archaeological consultant will work with the Native American representatives to ensure adequate coverage and protection of the identified resource(s).	Less Than Significant

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Table 1-3 Summary of Environmental Impacts, Mitigation Measures and Levels of Significance After Mitigation

Environmental Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation/Alternatives that Reduce Significant Impacts
Impact 5.4-3: The Proposed Project could destroy paleontological resources.	**Potentially Significant**	CUL-5 All excavations more than ten feet below ground surface shall be periodically monitored for paleontological resources. This monitoring should include the preparation of a Paleontological Resources Impact Mitigation Plan (PRIMP) document and adherence to all standard protocols of the San Bernardino County Museum Earth Science Department. a. The paleontological monitor shall be empowered to temporarily halt or redirect excavation construction efforts if paleontological resources are discovered. b. In the event of a paleontological discovery, the monitor shall flag the area and notify the construction crew immediately. No further disturbance in the flagged area shall occur until the qualified paleontologist has cleared the area. c. The paleontological monitor shall quickly assess the nature and significance of the find. If the specimen is not significant, it shall be quickly removed and the area shall be cleared. d. If the discovery is significant, the qualified paleontologist shall notify the applicant and the City immediately. e. In consultation with the applicant and the City, the qualified paleontologist shall develop a plan of mitigation that will likely include salvage excavation and removal of the find, removal of sediment from around the specimen (in the laboratory), research to identify and categorize the find, and preparation of a report summarizing the find. All recovered specimens shall be curated at the San Bernardino County Museum in Redlands.	Less Than Significant
Impact 5.4-4: Grading activities could disturb human remains.	Less Than Significant	No mitigation measures are required.	Less Than Significant

Table 1-3 Summary of Environmental Impacts, Mitigation Measures and Levels of Significance After Mitigation

Environmental Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation/Alternatives that Reduce Significant Impacts
Impact 5.4-5: No tribal cultural resources within the Specific Plan area were identified during consultation with Native American tribal representatives. Specific Plan buildout would not impact known tribal cultural resources.	Less Than Significant	No mitigation measures are required.	Less Than Significant
Cumulative Impacts: Cultural Resources	Less Than Significant	No mitigation measures are required.	Less Than Significant
5.5 GEOLOGY AND SOILS			
Impact 5.5-1: Buildout of the Proposed Project would not subject people or structures to substantial hazards from surface rupture of a known active fault.	Less Than Significant	No mitigation measures are required.	Less Than Significant
Impact 5.5-2: Implementation of the Proposed Project could subject people or structures to hazards from strong ground shaking.	Less Than Significant	No mitigation measures are required.	Less Than Significant
Impact 5.5-3: Implementation of the Proposed Project could subject people or structures to substantial hazards from liquefaction or lateral spreading.	Less Than Significant	No mitigation measures are required.	Less Than Significant
Impact 5.5-4: Buildout of the Proposed Project would not cause substantial landslide hazards.	Less Than Significant	No mitigation measures are required.	Less Than Significant
Impact 5.5-5: Implementation of the Proposed Project could cause increased soil erosion.	Less Than Significant	No mitigation measures are required.	Less Than Significant
Impact 5.5-6: Buildout of the Proposed Project would not cause or accelerate substantial ground subsidence.	Less Than Significant	No mitigation measures are required.	Less Than Significant
Impact 5.5-7: Buildout of the Proposed Project would not expose people or structures to substantial hazards from collapsible soils.	Less Than Significant	No mitigation measures are required.	Less Than Significant

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Table 1-3 Summary of Environmental Impacts, Mitigation Measures and Levels of Significance After Mitigation

Environmental Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation/Alternatives that Reduce Significant Impacts
Impact 5.5-8: Implementation of the Proposed Project would not cause substantial hazards from expansive soils.	Less Than Significant	No mitigation measures are required.	Less Than Significant
Impact 5.5-9: Buildout of the Proposed Project would not involve development of septic tanks or other alternative waste water disposal systems on soils incapable of adequately supporting such systems.	Less Than Significant	No mitigation measures are required.	Less Than Significant
Cumulative Impacts: Geology and Soils	Less Than Significant	No mitigation measures are required.	Less Than Significant
5.6 GREENHOUSE GAS EMISSIONS			
Impact 5.6-1: Buildout of the Proposed Project would generate a substantial increase in GHG emissions compared to existing conditions and would have a significant impact on the environment.	**Potentially Significant**	Mitigation Measures AQ-4 through AQ-6 apply.	**Significant and Unavoidable**
Impact 5.6-2: The Proposed Project would be consistent with plans adopted to reduce GHG emissions.	Less Than Significant	No mitigation measures are required.	Less Than Significant
Cumulative Impacts: Greenhouse Gas Emissions	**Potentially Significant**	Mitigation Measures AQ-4 through AQ-6 apply.	**Significant and Unavoidable**
5.7 HAZARDS AND HAZARDOUS MATERIALS			
Impact 5.7.1: Project construction and operations would involve the transport, use, and/or disposal of hazardous materials.	Less Than Significant	No mitigation measures are required.	Less Than Significant
Impact 5.7-2: Portions of the Specific Plan area are on a list of hazardous materials sites.	**Potentially Significant**	HAZ-1 Before issuance of grading permits or building permits by the City of San Bernardino, a Phase I Environmental Site Assessment would be required for the pertinent development or redevelopment site.	Less Than Significant

Table 1-3 Summary of Environmental Impacts, Mitigation Measures and Levels of Significance After Mitigation

Environmental Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation/Alternatives that Reduce Significant Impacts
		▪ Where a Phase I Assessment identified one or more recognized environmental conditions potentially affecting a property, a Phase II Environmental Site Assessment would be required, consisting of sampling of soil, soil vapor, and/or groundwater and testing samples for contaminants; and a human health hazard assessment for any contaminants identified. ▪ Where a Phase II Assessment identified contaminant concentrations in soil, soil vapor, and/or groundwater that could pose substantial human health hazards, remediation of such contamination to below regulatory action thresholds would be required before disturbance of soil or structures could be permitted on that site.	
Impact 5.7-3: The Specific Plan area is located in the vicinity of the San Bernardino International Airport and within the jurisdiction of the San Bernardino Airport Master Plan and the Comprehensive Land Use Plan.	Less Than Significant	No mitigation measures are required.	Less Than Significant
Impact 5.7-4: Project development could affect the implementation of an emergency responder or evacuation plan.	Less Than Significant	No mitigation measures are required.	Less Than Significant
Impact 5.7-5: The Specific Plan area is not in a designated fire hazard severity zone. Project buildout would not expose people or structures to wildland fire hazards.	No Impact	No mitigation measures are required.	No Impact
Cumulative Impacts: Hazardous Materials	Less Than Significant	No mitigation measures are required.	Less Than Significant
Cumulative Impacts: Airport-Related Hazards	Less Than Significant	No mitigation measures are required.	Less Than Significant
Cumulative Impacts: Emergency Response Planning	Less Than Significant	No mitigation measures are required.	Less Than Significant
Cumulative Impacts: Wildfire Hazards	Less Than Significant	No mitigation measures are required.	Less Than Significant

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Environmental Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation/Alternatives that Reduce Significant Impacts
5.8 HYDROLOGY AND WATER QUALITY			
Impact 5.8-1: Development pursuant to the Proposed Project would increase the amount of impervious surfaces and would therefore increase surface water flows into drainage systems within the watershed.	Less Than Significant	No mitigation measures are required.	Less Than Significant
Impact 5.8-2: Development pursuant to the Proposed Project increases the amount of impervious surfaces in the Specific Plan area and would therefore impact opportunities for groundwater recharge.	Less Than Significant	No mitigation measures are required.	Less Than Significant
Impact 5.8-3: Portions of the Specific Plan area proposed for development are not within a 100-year flood hazard area.	Less Than Significant	No mitigation measures are required.	Less Than Significant
Impact 5.8-4: During the construction phase of the Proposed Project, there is the potential for short-term unquantifiable increases in pollutant concentrations from the Specific Plan area. After Specific Plan development, the quality of storm runoff (sediment, nutrients, metals, pesticides, pathogens, and hydrocarbons) may be altered.	Less Than Significant	No mitigation measures are required.	Less Than Significant
Impact 5.8-5: The southeast quarter of the Specific Plan area, approximately, is within the inundation area of the Seven Oaks Dam.	Less Than Significant	No mitigation measures are required.	Less Than Significant
Impact 5.8-6: The Specific Plan area would not be subject to inundation by seiche, tsunami, or mudflow.	Less Than Significant	No mitigation measures are required.	Less Than Significant
Cumulative Impacts: Hydrology and Drainage	Less Than Significant	No mitigation measures are required.	Less Than Significant

Table 1-3 Summary of Environmental Impacts, Mitigation Measures and Levels of Significance After Mitigation

Environmental Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation/Alternatives that Reduce Significant Impacts
Cumulative Impacts: Water Quality	Less Than Significant	No mitigation measures are required.	Less Than Significant
Cumulative Impacts: Flood Hazards	Less Than Significant	No mitigation measures are required.	Less Than Significant
5.9 LAND USE AND PLANNING			
Impact 5.9-1: Implementation of the Proposed Project would not divide an established community.	Less Than Significant	No mitigation measures are required.	Less Than Significant
Impact 5.9-2: Implementation of the Proposed Project would not conflict with applicable plans adopted for the purpose of avoiding or mitigating an environmental effect.	Less Than Significant	No mitigation measures are required.	Less Than Significant
Impact 5.9-3: The Proposed Project would not conflict with an adopted habitat conservation plan.	Less Than Significant	No mitigation measures are required.	Less Than Significant
Impact 5.9-4: The Specific Plan area is not within the Hillside Management Overlay District.	Less Than Significant	No mitigation measures are required.	Less Than Significant
Impact 5.9-5: The Specific Plan area is not located within fire hazard areas identified by the San Bernardino General Plan.	Less Than Significant	No mitigation measures are required.	Less Than Significant
Impact 5.9-6: The Proposed Project would allow development within the airport influence area of San Bernardino International Airport.	Less Than Significant	No mitigation measures are required.	Less Than Significant
Cumulative Impacts: Land Use and Planning	Less Than Significant	No mitigation measures are required.	Less Than Significant
5.10 MINERAL RESOURCES			
Impact 5.1-1: Implementation of the Proposed Project would not result in the loss of availability of a known mineral resource.	Less Than Significant	No mitigation measures are required.	Less Than Significant

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Environmental Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation/Alternatives that Reduce Significant Impacts
Impact 5.10-2: Project implementation would not result in the loss of availability of a locally important mineral resource recovery site delineated in a local general plan, specific plan, or other land use plan.	Less Than Significant	No mitigation measures are required.	Less Than Significant
Cumulative Impacts: Mineral Resources	Less Than Significant	No mitigation measures are required.	Less Than Significant
5.11 NOISE			
Impact 5.11-1: Construction activities related to the Specific Plan, including pile drilling and other extreme noise generating construction activities would temporarily increase noise levels in the vicinity of the Proposed Project.	**Potentially Significant**	N-1 Prior to issuance of demolition, grading, and/or building permits for development projects accommodated by the Specific Plan, a note shall be provided on development plans indicating that during grading, demolition, and construction, the property owner/developer shall be responsible for requiring contractors to implement the following measures to limit construction-related noise: ▪ The construction contractor shall limit haul truck deliveries to the same hours specified for construction equipment (7:00 AM and 8:00 PM). ▪ To the extent feasible, haul routes shall not pass sensitive land uses or residential dwellings and should avoid using alleyways adjacent to said uses. ▪ The project contractor shall use power construction equipment with state-of-the-art noise shielding and muffling devices. ▪ During all project site excavation and grading on-site, construction contractors shall equip all construction equipment, fixed or mobile, with properly operating and maintained mufflers, consistent with manufacturers' standards. ▪ The construction contractor shall locate equipment staging in areas that will create the greatest distance between construction-related noise sources and noise sensitive receptors nearest the project site during all project construction.	**Significant and Unavoidable**

Table 1-3 Summary of Environmental Impacts, Mitigation Measures and Levels of Significance After Mitigation

Environmental Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation/Alternatives that Reduce Significant Impacts
		▪ The construction contractor shall place all stationary construction equipment so that emitted noise is directed away from the noise sensitive receptors nearest the project site. ▪ The use of vibratory equipment shall be avoided or minimized within 25 feet of existing vibration-sensitive land uses. ▪ If vibratory equipment must be used within 25 feet of an existing structure, vibration monitoring shall be conducted and work shall be halted and re-evaluated if vibratory levels near 0.20 PPV are indicated, which is the standard established to protect structures.	
Impact 5.12-2: Specific Plan implementation would result in long-term operation-related noise exceeding City of San Bernardino standards.	**Potentially Significant**	N-2 Before issuance of any building permits for projects developed pursuant to the Specific Plan, the architects for such projects will add the following specifications to building plans for such projects: New non-residential development shall be constructed with roof-ceiling assemblies that make up the building envelope to have an STC of at least 50 and exterior windows must have minimum STC of 30 where sound levels at the property line regularly exceed 65 decibels. It is recommended that buildings with few or no occupants and where occupants are not likely to be affected by exterior noise, as determined by the enforcement authority, such as factories, stadiums, storage, enclosed parking structures and utility buildings be exempt from this measure. N-3 Prior to issuance of building permits for residential land uses located within a 65 dBA CNEL noise contour as shown in Table 8, a detailed noise assessment shall be prepared to show that noise levels in those areas will not exceed the 65 CNEL outdoor noise criteria and the 45 CNEL indoor noise standard. The noise assessment shall be prepared by a qualified acoustical consultant and shall document the sources of noise impacting the areas and describe any measures required to meet the standard. These measures will be incorporated into the project plans. The report shall be completed and approved by the City prior to issuance of building permits.	Less Than Significant

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Environmental Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation/Alternatives that Reduce Significant Impacts
		N-4 Prior to issuance of building permits for non-residential land uses located adjacent to residential land uses, City staff shall require the preparation of a detailed noise study to ensure that these sources do not exceed noise level limits presented in the City's noise ordinance which are dependent on the type of land use. The assessment shall be prepared by a qualified acoustical engineer and shall document the noise generation characteristics of the proposed equipment and the projected noise levels at the nearest use. Compliance with these levels shall be demonstrated and any measures required to comply with the Noise Ordinance will be included in the project plans. The report shall be completed and approved by the City prior to issuance of building permits.	
Impact 5.12-3: Construction activities could generate excessive ground-borne vibration during the construction period, but that vibration is very unlikely to cause architectural damage. Groundborne vibration from project operation would not cause annoyance or architectural damage.	**Potentially Significant**	No feasible mitigation measures are available.	**Significant and Unavoidable**
Cumulative Impacts: Operational Noise	**Potentially Significant**	Mitigation Measures N-2 through N-4 apply.	**Significant and Unavoidable**
Cumulative Impacts: Construction Noise	**Potentially Significant**	Mitigation Measure N-1 applies.	**Significant and Unavoidable**
5.12 POPULATION AND HOUSING			
Impact 5.12-1: The Proposed Project would directly result in population growth in the Specific Plan area.	Less Than Significant	No mitigation measures are required.	Less Than Significant
Impact 5.12-2: Specific Plan buildout would not displace substantial numbers of housing and residents.	Less Than Significant	No mitigation measures are required.	Less Than Significant

Table 1-3 Summary of Environmental Impacts, Mitigation Measures and Levels of Significance After Mitigation

Environmental Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation/Alternatives that Reduce Significant Impacts
Cumulative Impacts: Population and Housing	Less Than Significant	No mitigation measures are required.	Less Than Significant
5.13 PUBLIC SERVICES			
Impact 5.14-1: The Proposed Project would introduce new structures, residents, and workers into the San Bernardino City Fire Department service boundaries, increasing the requirement for fire protection facilities and personnel.	Less Than Significant	No mitigation measures are required.	Less Than Significant
Impact 5.14-2: Buildout of the Proposed Project would introduce new structures, residents, and workers into the City of San Bernardino Police Department service boundaries, increasing the need for police protection facilities and personnel.	Less Than Significant	No mitigation measures are required.	Less Than Significant
Impact 5.14-3: The Proposed Project would generate new students within the service area of the San Bernardino City Unified School District.	Less Than Significant	No mitigation measures are required.	Less Than Significant
Impact 5.14-4: The Proposed Project would generate additional population increasing the service needs for local libraries.	Less Than Significant	No mitigation measures are required.	Less Than Significant
Cumulative Impacts: Public Services	Less Than Significant	No mitigation measures are required.	Less Than Significant
5.14 RECREATION			
Impact 5.14-1: The Proposed Project would generate 8,359 additional residents that would increase the demand for park and recreational facilities.	Less Than Significant	No mitigation measures are required.	Less Than Significant

1. Executive Summary

Table 1-3 Summary of Environmental Impacts, Mitigation Measures and Levels of Significance After Mitigation

Environmental Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation/Alternatives that Reduce Significant Impacts
Impact 5.14-2: Project implementation would generate a need for new and/or expanded recreational facilities.	Less Than Significant	No mitigation measures are required.	Less Than Significant
Cumulative Impacts: Recreation	Less Than Significant	No mitigation measures are required.	Less Than Significant
5.15 TRANSPORTATION/TRAFFIC			
Impact 5.16-1: Project-related trip generation would impact levels of service for the existing area roadway system.	**Potentially Significant**	T-1 Prior to issuance of the first building permit, the project applicant shall enter into a mitigation agreement with Caltrans for project-related impacts to Caltrans facilities. The agreement shall identify the project's fair-share contribution to the following traffic improvements that result in improved levels of service at the impacted ramp locations, via an agreement mutually acceptable to Caltrans and the City of San Bernardino: ▪ Intersection of I-210 Southbound Ramps & 5th Street: Optimize signal timing ▪ Intersection of I-215 Southbound Ramps & 2nd Street: Optimize signal timing ▪ Intersection of I-215 Northbound Ramps & 2nd Street: Optimize signal timing ▪ Intersection of Waterman Avenue & I-10 Westbound On-Ramp: Signalize the intersection with a protected northbound left-turn phase. T-2 Prior to issuance of the first building permit, the project applicant shall enter into a mitigation agreement with Caltrans for project-related impacts to Caltrans facilities. Due to right-of-way constraints at the two affected intersections listed below, it is unknown whether installation of the specified turn lanes is feasible. The agreement shall identify the project's fair-share contribution to the following traffic improvements, if found to be feasible, that result in improved levels of service at the impacted ramp locations, via an agreement mutually acceptable to Caltrans and the City of San Bernardino:	**Significant and Unavoidable**

Table 1-3 Summary of Environmental Impacts, Mitigation Measures and Levels of Significance After Mitigation

Environmental Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation/Alternatives that Reduce Significant Impacts
		▪ **Waterman Avenue & SR-210 Eastbound Ramps:** ▪ Add two exclusive eastbound right-turn lanes ▪ Add one southbound left-turn lane. ▪ **I-210 Northbound Ramps & 5th Street:** ▪ Add one eastbound left-turn lane ▪ Add one exclusive northbound right-turn lane	
Impact 5.16-2: The proposed Specific Plan would be subject to the County of San Bernardino Regional Transportation Development Mitigation Plan Fee Schedule. Specific Plan buildout would not conflict with the San Bernardino County Congestion Management Program.	Less Than Significant	No mitigation measures are required.	Less Than Significant
Impact 5.16-3: Specific Plan buildout would not change air traffic levels in or out of San Bernardino International Airport (SBIA), and would not require relocation of air traffic patterns to or from SBIA	Less Than Significant	No mitigation measures are required.	Less Than Significant
Impact 5.16-4: Adequate parking would be provided for the Proposed Project.	Less Than Significant	No mitigation measures are required.	Less Than Significant
Impact 5.16-5: Project circulation improvements have been designed to adequately address potentially hazardous conditions (sharp curves, etc.), potential conflicting uses, and emergency access.	Less Than Significant	No mitigation measures are required.	Less Than Significant
Impact 5.16-6: The Proposed Project would comply with adopted policies, plans, and programs for alternative transportation.	Less Than Significant	No mitigation measures are required.	Less Than Significant

Table 1-3 Summary of Environmental Impacts, Mitigation Measures and Levels of Significance After Mitigation

Environmental Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation/Alternatives that Reduce Significant Impacts
Cumulative Impacts: Traffic	**Potentially Significant**	T-3 Prior to issuance of any building permit after 80 percent buildout of the Specific Plan area, the project applicant shall provide fair share funding for the following improvements as determined by the City. ▪ **Waterman Avenue & 30th Street:** ▪ Add one westbound left-turn lane ▪ Add one westbound right-turn lane ▪ Add one eastbound right-turn lane with right-turn overlap phase ▪ Add an overlap phase for the northbound right-turn ▪ Modify signal phasing to split phase in the east/west direction. This requires signal pole modifications in the east/west direction to accommodate new split phase vehicle heads on a longer mast arm The eastbound and westbound 30th Street approaches are wide enough for the additional eastbound and westbound turn lanes to be added through restriping of the affected approaches. The estimated cost for the improvements at this intersection is $125,000 to $200,000. The fair share contribution is 24 percent of the total cost, that is, $30,000 to $48,000. ▪ **Waterman Avenue & Baseline Street:** ▪ Modify the shared through-right lanes to a through lane and an exclusive right-turn lane at the east and west approaches. The eastbound and westbound Baseline Street approaches are wide enough for the lane modifications to be made through restriping of the affected approaches. The estimated cost for the improvement at this intersection is $3,000. The fair share contribution is 57 percent of the total cost, that is, $1,710.	**Significant and Unavoidable**

Table 1-3 Summary of Environmental Impacts, Mitigation Measures and Levels of Significance After Mitigation

Environmental Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation/Alternatives that Reduce Significant Impacts
		▪ **Waterman Avenue & 9th Street:** ▪ Modify the shared through-right lanes to a through lane and an exclusive right-turn lane at the north and south approaches. The northbound and southbound Waterman Avenue approaches are wide enough for the lane modifications to be made through restriping of the affected approaches. The estimated cost for the improvement at this intersection is $3,000. The fair share contribution is 50 percent of the total cost, that is, $1,500. T-4 Prior to issuance of any building permit after 80 percent buildout of the Specific Plan area, the project applicant shall enter into a mitigation agreement with Caltrans for project-related impacts to Caltrans facilities. The agreement shall identify the project's fair-share contribution to the following traffic improvements that result in improved levels of service at the impacted ramp locations, via an agreement mutually acceptable to Caltrans and the City of San Bernardino: ▪ **I-215 Southbound Ramps & 2nd Street:** ▪ Optimize signal timing The fair-share contribution is 4 percent of the total cost. ▪ **I-215 Northbound Ramp & 2nd Street:** ▪ Optimize signal timing The fair-share contribution is 16 percent of the total cost. ▪ **Waterman Ave & I-10 Westbound On-Ramp:** ▪ Optimize signal timing ▪ Install a signal with a protected northbound left-turn phase The estimated cost for the improvements at this intersection is $90,000 to $125,000. The fair share contribution is 31 percent of the total cost, that is, $27,900 to $38,750.	

1. Executive Summary

Table 1-3 Summary of Environmental Impacts, Mitigation Measures and Levels of Significance After Mitigation

Environmental Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation/Alternatives that Reduce Significant Impacts
		T-5 Prior to issuance of any building permit after 80 percent buildout of the Specific Plan area, the project applicant shall enter into a mitigation agreement with Caltrans for project-related impacts to Caltrans facilities. Due to right-of-way constraints at the three affected intersections, it is unknown whether installation of the specified lanes is feasible. The agreement shall identify the project's fair-share contribution to the following traffic improvements, if found to be feasible, that result in improved levels of service at the impacted ramp locations, via an agreement mutually acceptable to Caltrans and the City of San Bernardino: ▪ **Waterman Avenue & SR-210 Eastbound Ramps:** ▪ Add one exclusive eastbound right-turn lane ▪ Add one eastbound left-turn lane ▪ Add one exclusive northbound right-turn lane ▪ Add one southbound left-turn lane The fair-share contribution for improvements at this intersection is 41 percent. ▪ **I-215 Northbound Ramps & 5th Street:** ▪ Add one exclusive westbound right-turn lane ▪ Add one northbound left-turn lane ▪ Add two exclusive northbound right-turn lanes The fair-share contribution for improvements at this intersection is 35 percent. ▪ **I-210 Southbound Ramps & 5th Street:** ▪ Add one eastbound through lane ▪ Add one exclusive southbound right-turn lane ▪ Add two southbound left-turn lanes The fair-share contribution for improvements at this intersection is 34 percent.	

Table 1-3 Summary of Environmental Impacts, Mitigation Measures and Levels of Significance After Mitigation

Environmental Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation/Alternatives that Reduce Significant Impacts
5.16 UTILITIES AND SERVICE SYSTEMS			
Impact 5.17-1: Wastewater generated in the Specific Plan area under the Proposed Project could be adequately treated by the San Bernardino Municipal Water Department.	Less Than Significant	No mitigation measures are required.	Less Than Significant
Impact 5.17-2: Water supply and delivery systems are adequate to meet requirements of land use uses under the Proposed Project.	Less Than Significant	No mitigation measures are required.	Less Than Significant
Impact 5.17-3: Existing and proposed storm drainage systems are adequate to serve the drainage requirements of the Proposed Project.	Less Than Significant	No mitigation measures are required.	Less Than Significant
Impact 5.17-4: Existing and/or proposed facilities would be able to accommodate solid waste generated by the Proposed Project and the Proposed Project would comply with applicable solid waste regulations.	Less Than Significant	No mitigation measures are required.	Less Than Significant
Impact 5.17-5: Existing and/or proposed facilities would be able to accommodate utility demands generated by the Proposed Project.	Less Than Significant	No mitigation measures are required.	Less Than Significant
Cumulative Impacts: Utilities	Less Than Significant	No mitigation measures are required.	Less Than Significant

1. Executive Summary

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2. Introduction

2.1 PURPOSE OF THE ENVIRONMENTAL IMPACT REPORT

The California Environmental Quality Act (CEQA) requires that all state and local governmental agencies consider the environmental consequences of projects over which they have discretionary authority before taking action on those projects. This draft environmental impact report (DEIR) has been prepared to satisfy CEQA and the CEQA Guidelines. The environmental impact report (EIR) is the public document designed to provide decision makers and the public with an analysis of the environmental effects of the Proposed Project, to indicate possible ways to reduce or avoid environmental damage and to identify alternatives to the project. The EIR must also disclose significant environmental impacts that cannot be avoided; growth-inducing impacts; effects not found to be significant; and significant cumulative impacts of all past, present, and reasonably foreseeable future projects.

The lead agency means "the public agency which has the principal responsibility for carrying out or approving a project which may have a significant effect upon the environment" (Guidelines § 21067). The City of San Bernardino has the principal responsibility for approval of the Waterman + Baseline Neighborhood Specific Plan project (Proposed Project). For this reason, the City of San Bernardino is the CEQA lead agency for this project.

The intent of the DEIR is to provide sufficient information on the potential environmental impacts of the Proposed Project to allow the City of San Bernardino to make an informed decision regarding its approval. Specific discretionary actions to be reviewed by the City are described in Section 3.4, *Intended Uses of the EIR*.

This DEIR has been prepared in accordance with requirements of the:

- California Environmental Quality Act (CEQA) of 1970, as amended (Public Resources Code, §§ 21000 et seq.)
- State Guidelines for the Implementation of the CEQA of 1970 (CEQA Guidelines), as amended (California Code of Regulations, §§ 15000 et seq.)

The overall purpose of this DEIR is to inform the lead agency, responsible agencies, decision makers, and the general public about the environmental effects of the development and operation of the Proposed Project. This DEIR addresses effects that may be significant and adverse; evaluates alternatives to the Proposed Project; and identifies mitigation measures to reduce or avoid adverse effects.

2.2 NOTICE OF PREPARATION

The City of San Bernardino determined that an EIR would be required for the Proposed Project and issued a Notice of Preparation (NOP) on August 31, 2015 (see Appendix A). Comments received during the NOP public review period, from August 31, 2015, to September 30, 2015, are in Appendix B. In addition, the City held a public scoping meeting for the Proposed Project on September 10, 2015.

The NOP process helps determine the scope of the environmental issues to be addressed in the DEIR. Based on this process, certain environmental categories were identified as having the potential to result in significant impacts. Issues considered Potentially Significant are addressed in this DEIR. Only one issue, agriculture and forestry resources, was determined to be less than significant and is not addressed in this DEIR. Refer to Chapter 8, *Impacts Found Not to be Significant,* for discussion of how these determinations were made.

2.3 SCOPE OF THIS DEIR

The scope of the DEIR was determined based on the City's NOP, comments received in response to the NOP, and comments received at the scoping meeting conducted by the City. Pursuant to Sections 15126.2 and 15126.4 of the CEQA Guidelines, the DEIR should identify any potentially significant adverse impacts and recommend mitigation that would reduce or eliminate these impacts to levels of insignificance.

The information in Chapter 3, *Project Description*, establishes the basis for analyzing future, project-related environmental impacts. However, further environmental review by the City may be required as more detailed information and plans are submitted on a project-by-project basis.

2.3.1 Impacts Considered Less Than Significant

During preparation of the NOP, the City determined that one environmental impact category was not significantly affected by the Proposed Project. This category is not discussed in detail in this DEIR.

- Agriculture and Forestry Resources

2.3.2 Potentially Significant Adverse Impacts

The City of San Bernardino determined that 16 environmental factors have potentially significant impacts if the Proposed Project is implemented.

- Aesthetics
- Air Quality
- Biological Resources
- Cultural Resources
- Geology and Soils
- Greenhouse Gas Emissions

- Hazards and Hazardous Materials
- Hydrology and Water Quality
- Land Use and Planning
- Mineral Resources
- Noise
- Population and Housing
- Public Services
- Recreation
- Transportation and Traffic
- Utilities and Service Systems

2.3.3 Unavoidable Significant Adverse Impacts

This DEIR identifies four significant and unavoidable adverse impacts, as defined by CEQA, that would result from implementation of the Proposed Project. Unavoidable adverse impacts may be considered significant on a project-specific basis, cumulatively significant, and/or potentially significant. The City must prepare a "statement of overriding considerations" before it can approve the Proposed Project, attesting that the decision-making body has balanced its benefits against its unavoidable significant environmental effects and has determined that the benefits outweigh the adverse effects, and therefore the adverse effects are considered acceptable. The impacts that were found in the DEIR to be significant and unavoidable are:

- Air Quality
- Greenhouse Gas Emissions
- Noise
- Transportation and Traffic

2.4 INCORPORATION BY REFERENCE

Some documents are incorporated by reference into this DEIR, consistent with Section 15150 of the CEQA Guidelines, and they are available for review at the City of San Bernardino Community Development Department, 300 North "D" Street, San Bernardino.

- Waterman + Baseline Neighborhood Specific Plan
- City of San Bernardino General Plan (adopted November 2005)
- County of San Bernardino General Plan (adopted March 2007; available at San Bernardino County libraries and San Bernardino County Land Use Services Department offices)
- City of San Bernardino Municipal Code (adopted 1998, last revised October 7, 2009)

- City of San Bernardino Development Code (adopted May 1991, last revised February 2007).

2.5 FINAL EIR CERTIFICATION

This DEIR is being circulated for public review for 45 days. Interested agencies and members of the public are invited to provide written comments on the DEIR to the City address shown on the title page of this document. Upon completion of the 45-day review period, the City will review all written comments received and prepare written responses for each. A Final EIR (FEIR) will incorporate the received comments, responses to the comments, and any changes to the DEIR that result from comments. The FEIR will be presented to the City for potential certification as the environmental document for the Proposed Project. All persons who comment on the DEIR will be notified of the availability of the FEIR and the date of the public hearing before the City.

The DEIR is available to the general public for review at various locations:

- City of San Bernardino Community Development Department, 300 North "D" Street, San Bernardino, California.

- San Bernardino Public Library, 555 West 6th Street, San Bernardino, California.

An electronic version of the DEIR is also available on the City's website (http://www.ci.san-bernardino.ca.us/).

2.6 MITIGATION MONITORING

Public Resources Code, Section 21081.6, requires that agencies adopt a monitoring or reporting program for any project for which it has made findings pursuant to Public Resources Code 21081 or adopted a Negative Declaration pursuant to 21080(c). Such a program is intended to ensure the implementation of all mitigation measures adopted through the preparation of an EIR or Negative Declaration.

The Mitigation Monitoring Program for the Proposed Project will be completed as part of the Final EIR, prior to consideration of the project by the City of San Bernardino City Council.

3. Project Description

3.1 PROJECT LOCATION

The Waterman + Baseline Neighborhood Specific Plan (Specific Plan) project (Proposed Project) is located in the City of San Bernardino within the County of San Bernardino, as shown in Figure 3-1, *Regional Location*. The Proposed Project is within the southwestern section of the San Bernardino Quadrangle (USGS).

The Specific Plan area includes approximately 710 acres located near the center of San Bernardino around the intersection on Waterman Avenue and Baseline Street. Specifically, the Proposed Project boundaries are formed by Sierra Way to the west, Tippecanoe Avenue and the flood control channel on the east, 3rd Street to the south, and Highland Avenue to the north. The western boundary is approximately 1.1 miles from Interstate 215 (I-215), and the northern boundary is 0.6 mile from the Foothill Freeway (I-210).

3.2 STATEMENT OF OBJECTIVES

The following objectives have been established for the Proposed Project and will aid decision makers in their review of the Project and associated environmental impacts:

1. Facilitate development and redevelopment of the Project Area consistent with City's General Plan through preparation of a specific plan.

2. Foster development that serves to reduce vehicle miles traveled by promoting alternatives to driving, such as walking, biking, and use of mass transit.

3. Provide for a wide-range of housing types consistent with the City's adopted Housing Element.

4. Improve Neighborhood Safety:

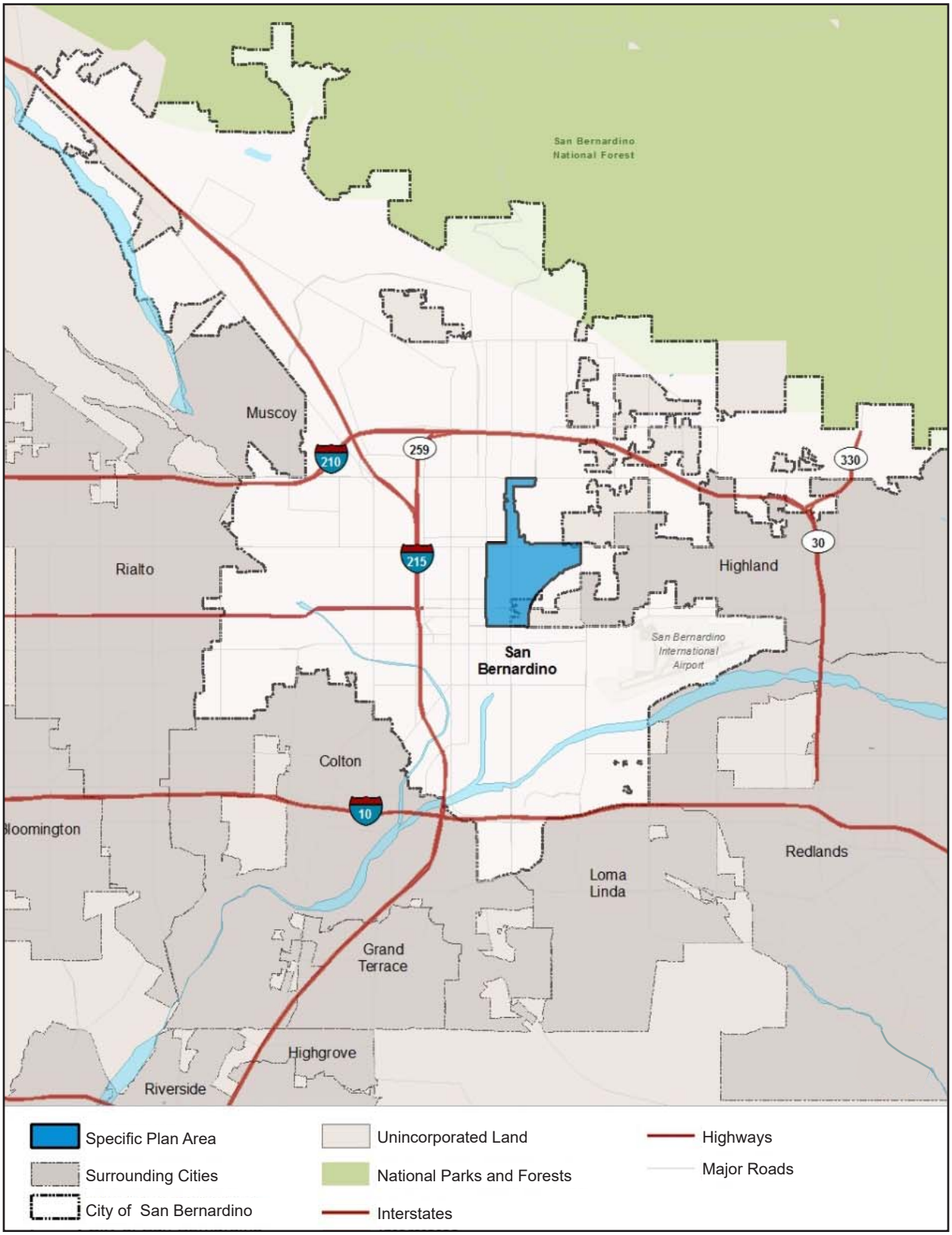
    - Reduce crime, drug activity, and gang activity throughout the Plan area;
    - Implement crime reduction activities and CPTED strategies;
    - Restore underutilized, vacant, and neglected properties;
    - Improve streetscapes through tree trimming and enhanced lighting;
    - Provide a network of "Complete Streets;
    - Improve access and connections to surrounding neighborhoods, city, and region;
    - Revitalize and create neighborhood serving commercial centers;

- Create safe and attractive public places for residents to gather;
- Reduce conflicts between neighborhoods and industrial uses; and
- Improve lighting and street appearance to deter dumping and blight.
- Provide Viable Housing Choices:
- Acquire properties to develop and/or rehabilitate homes;
- Improve the existing housing stock;
- Create new opportunities for home ownership;
- Integrate a broad array of resources to support services for children and families into existing and future housing;
- Continue to implement the Build San Bernardino housing partnership program; and
- Pair housing support with financial literacy and other programs to achieve successful home ownership.

5. Promote Neighborhood Investment:

- Drive neighborhood business growth and investment;
- Attract new businesses focused offering fair wages ;
- Promote infill development on vacant lots;
- Support the formation of a business improvement district;
- Allow for the implementation of community art projects;
- Plan for and prioritize the development of safe, reliable and efficient infrastructure systems to support new development;
- Build community efficacy and promote neighborhood pride; and
- Ensure adequate parking to attract and support development while encouraging alternative travel modes.

Figure 3-1 Regional Location
3. Project Description



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Base Map Source: National Community Renaissance, January 2016

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6. Ensure Economic Prosperity:
   - Attract companies with high-paying, stable employment opportunities;
   - Retain businesses that are compatible with surrounding neighborhoods;
   - Promote school readiness through early child development opportunities;
   - Enhance community partnerships to strengthen student capacity and parent involvement in schools;
   - Prepare students for a postsecondary education and/or skilled job opportunities;
   - Expand services to connect residents to critical employment resources;
   - Establish partnerships with local businesses to prioritize the hiring of qualified residents;
   - Support youth through mentoring and related programs; and
   - Identify and administer services to support social and economic mobility for children and families.
7. Plan For a Healthy and Walkable Community:
   - Create a walkable, mixed-use environment that is pedestrian-focused;
   - Improve access for all residents to green spaces and recreational amenities;
   - Enhance the network of pedestrian and bicycle routes, including a trail along the flood control channel;
   - Employ "green" building practices;
   - Increase access to quality physical and mental health services;
   - Support programs that reduce preventable chronic health problems and financial burdens associated with disease; and
   - Develop community gardens and access to fresh food.

3.3 PROJECT CHARACTERISTICS

"Project," as defined by the CEQA Guidelines, means:

> ... the whole of an action, which has a potential for resulting in either a direct physical change in the environment, or a reasonably foreseeable indirect physical change in the environment, and that is any of the following: (1)…enactment and amendment of zoning ordinances, and the adoption and amendment of local General Plans or elements thereof pursuant to Government Code Sections 65100–65700. (14 Cal. Code of Reg. § 15378[a])

3.3.1 Description of the Project

The proposed Waterman + Baseline Neighborhood Specific Plan would establish a land use and development framework, identify needed transportation and infrastructure improvements, and serve as a marketing tool for attracting developers to key sites and for boosting economic development. The Proposed Project is intended to encourage residential and neighborhood-serving commercial establishments on major corridors such as Baseline Street and Waterman Avenue, direct the creation of employment-generating uses to the southern portion of the Specific Plan area closer to the Civic Center and Downtown, and protect and enhance the existing residential neighborhoods. To implement the Proposed Project, the following actions would be required.

General Plan Amendment

With the adoption of Specific Plan, the land use designation for the Specific Plan area would become Specific Plan. All of the parcels within Plan area will be designated Specific Plan.

Zone Change

The Specific Plan area currently includes a wide range of zoning ranging from Suburban Residential to Light Industrial. A large percentage of the parcels in the Specific Plan area are zoned for low to medium density residential with general commercial uses fronting major corridors. The implementation of the Specific Plan would establish the zoning for the Specific Plan area including the land use districts introduced in Chapter 3, Planning Districts and the Land Use Plan shown in Chapter 4 of the Specific Plan. The land use districts and land use plan, have correlating regulations to implement General Plan goals, policies, and objectives and will provide for superior development by allowing a greater degree of design and land use flexibility within the framework of a site-specific development plan.

Specific Plan

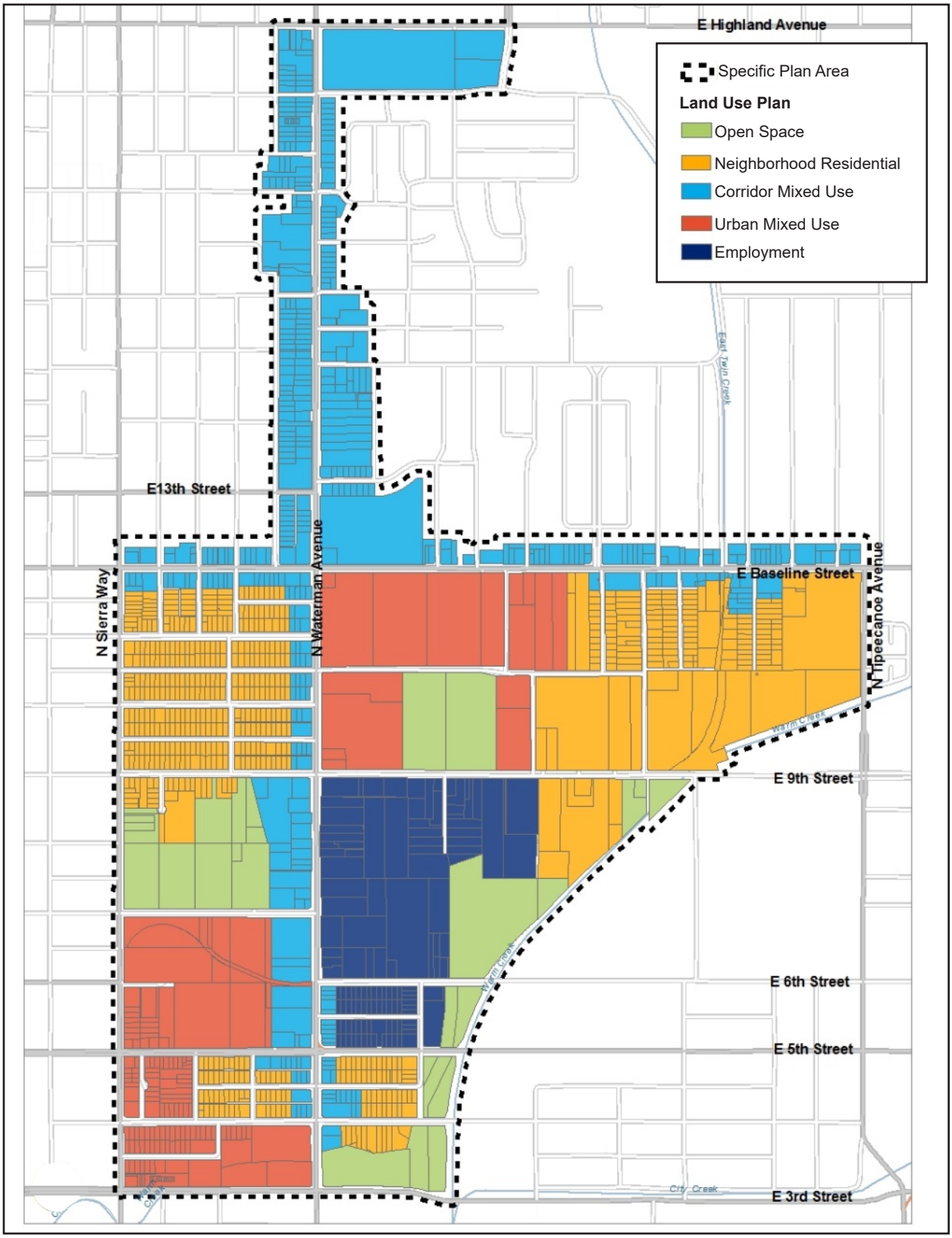
Figure 3-2, *Proposed Land Use Plan,* depicts the proposed land use plan for the Specific Plan area. This is the preferred land use plan for the Proposed Project and accommodates an increase in existing residential uses from an estimated 1,946 units to approximately 4,341 units and an increase in non-residential uses from roughly 2,366,385 square feet to approximately 3,570,448 square feet. It establishes six distinct districts to guide future development of key parcels throughout the Specific Plan area.

Planning Districts

As stated above, the Specific Plan will establish six "districts" that together would implement a mix of residential and non-residential uses. The boundaries for each of the six districts are shown on Figure 3-3, *Proposed Planning Districts*. The six districts included in the Specific Plan are:

Figure 3-2 Proposed Land Use Plan

3. Project Description



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Base Map Source: National Community Renaissance, January 2016

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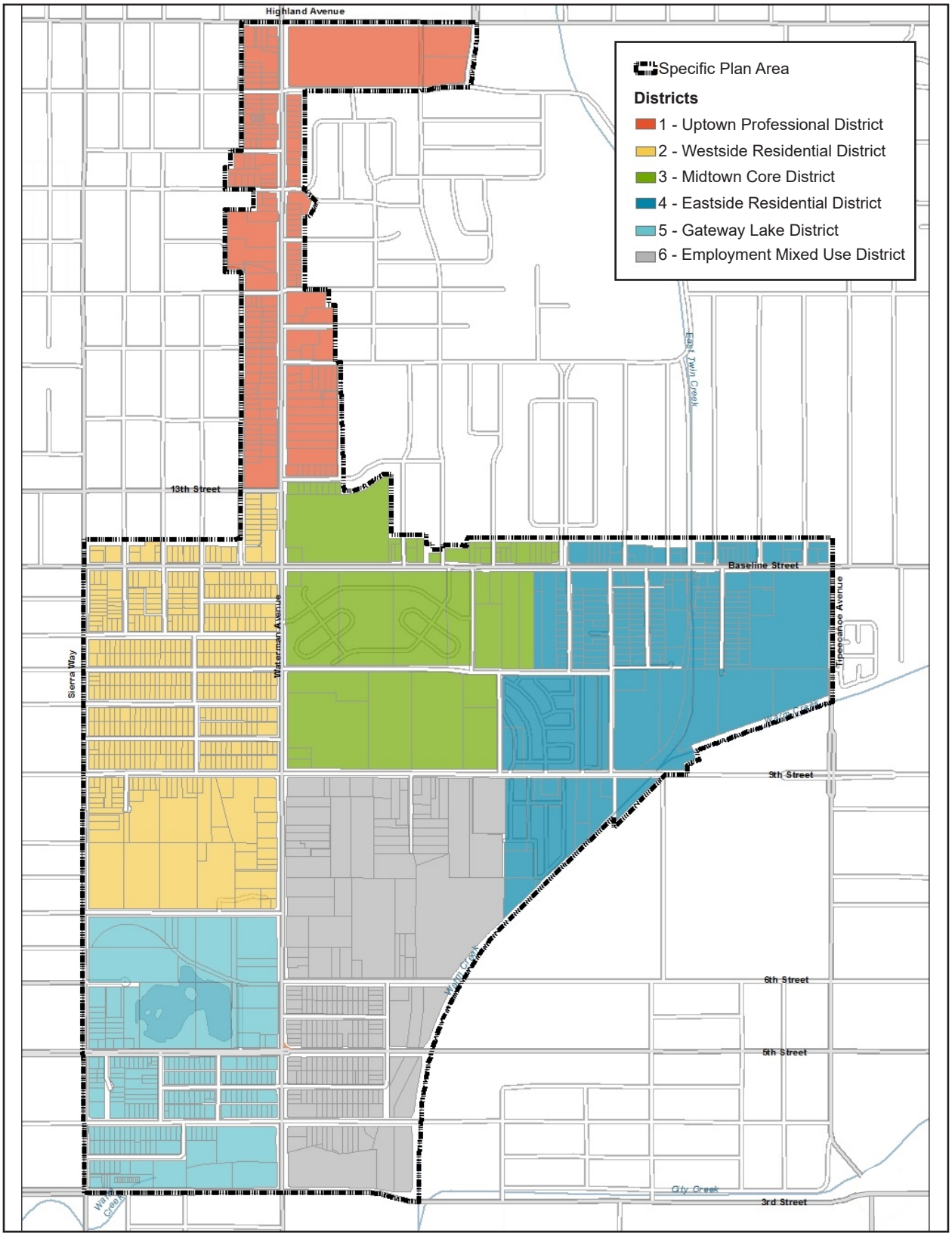
Figure 3-3 Proposed Planning Districts

3. Project Description



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Base Map Source: National Community Renaissance, January 2016

3. Project Description

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- **District 1, Uptown Professional District.** The Uptown Professional District is approximately 82 acres located in the northern portion of the Specific Plan area. It includes all the parcels fronting Waterman Avenue between Highland Avenue and 13th Street. The Specific Plan would consolidate the medical uses scattered along Waterman Avenue into a focused district that leverages the demand generated by St. Bernardine Medical Center. District 1 would be zoned entirely as a mixed-use district accommodating office uses; neighborhood-serving commercial uses; and limited residential uses, up to 20 dwelling units an acre, with a focus on senior housing. The Specific Plan would establish a connection to the Midtown Core District for its employees, patients, and visitors.

- **District 2, Westside Neighborhood District.** The Westside Neighborhood District includes approximately 127 acres at the western end of the Specific Plan area. The boundaries of this district are formed by Sierra Way to the west, Waterman Avenue to the east, and 5th Street on the south. The district also includes the parcels fronting both sides of Baseline Street. The primary intent of this district is to improve and preserve the existing single-family neighborhoods to the west of Waterman Avenue. The district would accommodate mixed-use development, primarily neighborhood-serving commercial uses along Baseline Street and Waterman Avenue.

- **District 3, Midtown Core District.** Located in the center of the Specific Plan area, the Midtown Core District includes 120 acres and would serve as the center of the neighborhood. The boundaries of the district are Waterman Avenue on the west and 9th Street on the south, with no formal roadway boundaries to the north or east. Pivotal to this district is the redevelopment of Waterman Gardens, a 38-acre public housing project. The Proposed Project replaces 252 units of existing public housing with a multifamily, mixed-income housing development, a central park, community center, and other community and recreational resources. Centered on Olive Avenue, this district would be redesigned as a pedestrian-oriented area with a variety of housing options, shops, and eating establishments along Waterman Avenue and Baseline Street—all within walking distance of a repurposed public K-12 school campus. Mixed-use development would be accommodated, including residential uses up to 30 dwelling units an acre.

- **District 4, Eastside Neighborhood District.** The Eastside Neighborhood District includes approximately 144 acres at the eastern end of the Specific Plan area adjacent to the Midtown Core. The boundaries of this district are loosely formed by Tippecanoe Avenue and the flood control channel to the east and south, the parcels fronting Baseline Street to the north, and no formal boundary to the west. This district would accommodate mixed-use development, primarily neighborhood-serving commercial uses along Baseline Street that are consistent with the existing single-family neighborhoods to the south. Portions of this district located along or adjacent to the flood control channel would be included in a linear park or trail system along the southern and eastern edges of the district.

- **District 5, Gateway District.** The Gateway District includes approximately 97 acres located south of 7th Street, east of Sierra Way, north of 3rd Street, and west of Waterman Avenue. This district would introduce streetscape and building design that would create a gateway to the Specific Plan area to connect and distinguish the neighborhood from the Civic Center/Downtown. This district is intended to promote the identity of San Bernardino through enhanced landscaping and signage as well as mixed-use

development at Seccombe Lake. This district accommodates mixed-use development along Waterman Avenue, with a small single-family enhancement area in the center of district. The majority of the district, including Seccombe Lake, would allow for higher density residential development up to 30 dwelling units per acre, with compatible neighborhood-serving commercial uses in the form of vertical or horizontal mixed use.

- **District 6, Employment District.** The Employment District is approximately 140 acres, located south of 9th Street, east of Waterman Avenue, north of 3rd Street, and west of the flood control channel. This district would be an employment-generating and flexible business use district. The Employment District would accommodate office, commercial, and business park uses (mix of business and support services), creating new job opportunities in close proximity to new and existing residential development. The Specific Plan area fronting Waterman Avenue would accommodate the development of mixed-use projects, including residential up to 20 dwelling units per acre. The portion between 5th and 4th Streets would remain a residential neighborhood. Portions of this district located in or adjacent to the flood control channel would be included in a linear park or trail system along the eastern edge of the district.

Table 3-1, *Specific Plan Buildout Projections,* presents information on the existing conditions of each district, including square feet of non-residential uses and numbers of residential units and the proposed buildout of residential units and non-residential square footage allowed by the proposed Specific Plan.

Table 3-1 Specific Plan Buildout Projections

District Name	Area (acres)	Existing Residential (units)	Existing Non-residential (square feet)	Proposed Residential (units)	Proposed Non-residential (square feet)
Uptown Professional	81.7	259 units	1,244,332 SF	277 units	513,363 SF
Westside Neighborhood	127.0	397 units	243,519 SF	808 units	342,852 SF
Midtown Core Mixed Use	119.2	344 units	346,981 SF	1,017 units	610,450 SF
Eastside Neighborhood	144.5	657 units	108,527 SF	1,402 units	206,614 SF
Gateway	97.4	229 units	136,318 SF	675 units	444,896 SF
Mixed Business	140.9	60 units	286,708 SF	162 units	1,452,273 SF
Total	**710.7**	**1,946 units**	**2,366,385 SF**	**4,341 units**	**3,570,448 SF**

Land Use Zones

To guide development and encourage revitalization of the neighborhood, the Specific Plan would establish five new land use zones to achieve a mix of residential uses and commercial uses. The proposed Land Use Plan is shown in Figure 3-2, *Proposed Land Use Plan.* The five zones shown within the Specific Plan Area are:

- **Open Space.** The open space zone is intended to preserve and create recreational and open space opportunities throughout the Specific Plan area. New development is not permitted unless it is tied to

recreational uses and/or enhancement of existing facilities, such as a linear trail, ball parks, pocket parks, tot lots, and other similar uses.

- **Neighborhood Residential.** The neighborhood residential zone is intended to promote the preservation and enhancement of existing single-family neighborhoods while allowing for the development of new residential units up to 14 dwelling units per acre. This zone would buffer existing neighborhoods from higher intensity surrounding uses and provide transitions between residential and non-residential uses.

- **Corridor Mixed Use.** The corridor mixed use zone is intended to encourage the development of a mix of neighborhood serving commercial and residential uses along Baseline Street and Waterman Avenue. The zone would accommodate both vertical and horizontal mixed-use development up to 20 dwelling units per acre and a floor area ratio (FAR) of 0.5. Existing businesses and new construction would incorporate streetscape improvements to encourage walkability along these two major corridors.

- **Urban Mixed Use.** The urban mixed use zone is intended to develop a pedestrian-oriented environment with a variety of housing options, shops, and eating establishments. Mixed-use development will be encouraged, including residential uses up to 30 dwelling units an acre and non-residential uses up to an FAR of 0.75. These zones are intended to create a sense of place and identify the Specific Plan area as a distinct location within the City.

- **Employment.** The employment zone is intended to promote the development of employment-generating uses, including office, commercial, and business park uses (mix of business and support services), to establish new job opportunities in close proximity to new and existing residential development. This zone allows for non-residential uses up to an FAR of 0.75.

Opportunity Areas/Sites

Within each district, two types of opportunity sites have been identified—catalytic sites and redevelopment sites. Catalytic sites are envisioned to be significant development projects that are likely to occur in the near future and to create the momentum for other redevelopment projects on adjacent and nearby parcels. Within the Specific Plan area, seven catalytic sites have been identified that are in the process of being redeveloped or have a high likelihood of being redeveloped in the near future. Catalytic sites are shown in red on Figure 3-4, *Proposed Opportunity and Enhancement Areas*. In contrast, redevelopment sites are parcels throughout the Specific Plan area that are generally vacant or house underutilized properties and/or older facilities that no longer meet current standards and market conditions, and thus have the most potential for change. They are typically smaller in size and may require additional steps to facilitate redevelopment (e.g., lot consolidation, demolition). A large number of parcels throughout the Specific Plan area are identified as redevelopment sites, particularly along Waterman Avenue, 5th Street, and Baseline Street. Redevelopment sites are shown in blue on Figure 3-4.

Enhancement Areas

The proposed Specific Plan includes "enhancement areas," which are predominantly residential neighborhoods that lie outside of opportunity areas/sites. No substantive changes are proposed for these areas. Enhancement areas include established residential neighborhoods outside the corridors and some existing office professional and commercial parcels that are already developed with compatible, economically viable, and job-generating uses. The Specific Plan intends to retain, enhance, and improve these enhancement areas. Enhancement areas are shown in yellow on Figure 3-4.

Vehicular Circulation

To reduce congestion and provide additional capacity, mitigation measures have been proposed at Waterman Avenue / 9th Street and Waterman Avenue / Baseline Street. For both intersections, additional turn lanes will be required to provide an improved level of service. At the intersection of Waterman and Baseline, the Baseline right-of-way in both directions should be restriped to create new left and right designated turn lanes within 200 feet of the intersection. At the intersection of 9th Street and Waterman Avenue, the northbound Waterman Avenue right-of-way should be restriped to provide a dedicated right hand turning lane, and the southbound side to include new left and right designated turning lanes. The additional turn lanes would bring the affected interactions back above the City's acceptable level of service standard. It should be noted that these mitigation measures are only conceptual in nature and require additional analysis prior to implementation.

Proposed Pedestrian Improvements

To improve the pedestrian experience within the Specific Plan area, the San Bernardino Associated Governments (SANBAG) Non-Motorized Transportation Plan recommends the implementation of multi-purpose trails along City Creek and Highland Avenue to connect local communities. Additional recommendations include upgrading pedestrian facilities and crossings, filling in the sidewalk gaps to provide continuous sidewalks, and providing more connections to make walking easier. To create a pedestrian-friendly environment, crosswalks and midblock crossings should incorporate additional treatments (such as hatched crosswalk striping, refugee islands, bulb-outs, flashing beacons, or flashing in-pavement markers). Within the Specific Plan area are two intersections with no marked crosswalks: 9th Street at Pedley Road and Waterman Avenue at 7th Street.

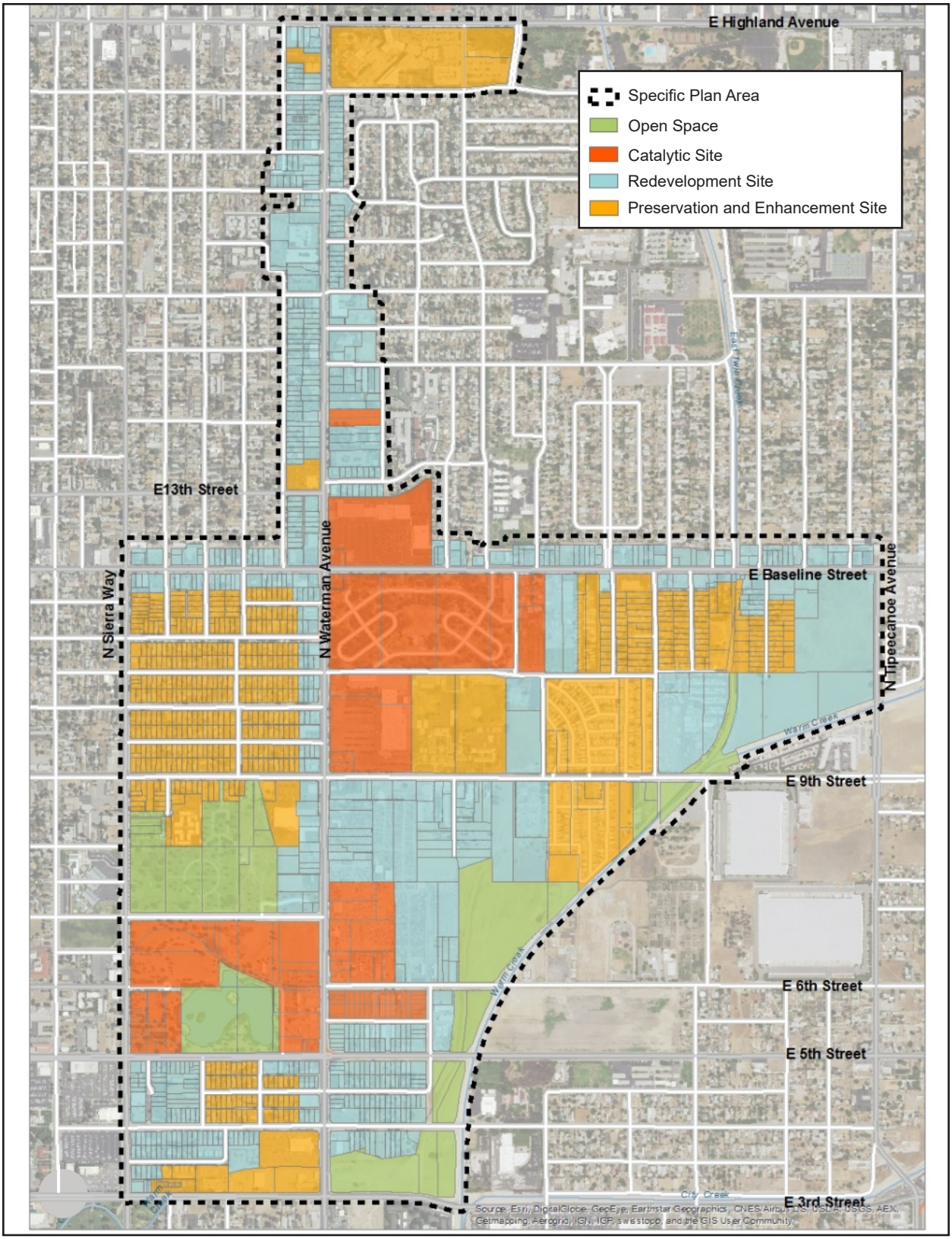
Proposed Bicycle Improvements

To better connect the Specific Plan area to the surrounding job centers and the Downtown, new bicycle paths should be implemented per the SANBAG Non-Motorized Transportation Plan. The SANBAG Plan proposes Class I (off-road) Paths along the City Creek on the eastern edge of the Specific Plan area and Class II (striped on-road) Bike Lanes along 5th Street, Highland Avenue, Waterman Avenue, and Baseline Street.[1]

[1] A Class I Bike Path is a completely separated right-of-way for bicycle and pedestrian use only. A Class II Bike Lane is a striped on-road lane for one-way bicycle travel. A Class III Bike Route is on-road and signed, providing for shared use with pedestrian or motor vehicle traffic (California Streets and Highways Code Section 890.4).

Figure 3-4 Proposed Opportunity and Enhancement Areas

3. Project Description



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Scale (Feet)

Base Map Source: National Community Renaissance, January 2016

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The majority of the proposed bicycle routes are along major thoroughfares, which may present a challenge to implementation. The availability of right-of-way, parking, and other capacity constraints may make it more difficult to implement the infrastructure needed to ensure easy bicycle mobility. As an alternative, a bicycle boulevard along local streets could connect the Specific Plan area to the Downtown while minimizing the use of roads with speeds greater than 40 miles per hour.[2] To achieve this, a Class III (signed on-road) Bike Route originating at Waterman Avenue and 11th Street could be established. This route would head west to D Street, then south to Rialto Avenue, connecting to proposed bike lanes on Rialto Avenue. This scenario provides a direct route to Downtown away from arterial roadways and offers a less intimidating riding environment.

Based on existing geometries and conditions of roadways, two bicycle routes have been prioritized for implementation. These routes would more easily connect the Specific Plan area to local activity centers:

- Proposed Class III Route along 11th Street, D Street, and Rialto Avenue
- Proposed Class I Trails along City Creek Trail

Infrastructure

Adequate infrastructure and utility systems are essential components of the Waterman + Baseline Neighborhood Specific Plan. Identified infrastructure systems will ensure that the Specific Plan area supports anticipated development with essential utilities and services as efficiently as possible. All facilities will be developed to the standards of the service provider and as required by applicable government standards. Chapter 7, *Infrastructure Plan*, of the Specific Plan presents the existing and conceptual improvements related to water, sewage, stormwater drainage, solid waste disposal, energy, and other essential facilities planned within or adjacent to the Specific Plan area.

3.4 INTENDED USES OF THE EIR

This is a program EIR that examines the potential environmental impacts of the proposed Waterman + Baseline Neighborhood Specific Plan. This DEIR also addresses various actions by the City and others to adopt and implement the Specific Plan. It is the intent of the DEIR to evaluate the environmental impacts of the Proposed Project, thereby enabling the City of San Bernardino, other responsible agencies, and interested parties to make informed decisions with respect to the requested entitlements. The anticipated approvals required for this project are:

[2] A bicycle boulevard is a roadway optimized for bicycle traffic. The roads are often closed to through motor-vehicle traffic through means such as bollards; local motor vehicle traffic is permitted.

3. Project Description

Lead Agency	Action
San Bernardino City Council	• Certification of the Environmental Impact Report • Approval of a General Plan Amendment • Approval of a Zone Change • Adopt Waterman + Baseline Neighborhood Specific Plan • Issuance of Building Permits • Issuance of Grading and Improvements Permits • San Bernardino Valley Municipal Water District Approvals
Responsible Agencies	**Action**
South Coast Air Quality Management District	Issue necessary air quality permits to implement the project.
Regional Water Quality Control Board	Issue National Pollutant Discharge Elimination System Permit to implement the project.

4. Environmental Setting

4.1 INTRODUCTION

This section provides a "description of the physical environmental conditions in the vicinity of the project, as they exist at the time the notice of preparation is published, ... from both a local and a regional perspective" (Guidelines § 15125[a]), pursuant to provisions of the California Environmental Quality Act (CEQA) and the CEQA Guidelines The environmental setting provides the baseline physical conditions from which the lead agency will determine the significance of environmental impacts resulting from the Proposed Project.

4.2 REGIONAL ENVIRONMENTAL SETTING

4.2.1 Regional Location

The Waterman + Baseline Neighborhood Specific Plan (Specific Plan) project (Proposed Project) is located in the City of San Bernardino ("City") within the County of San Bernardino, as shown in Figure 3-1, *Regional Location*. The City is bordered by the cities of Colton and Loma Linda to the south; the cities of Redlands and Highland to the east; and the foothills of the San Bernardino Mountains to the north; and the City of Rialto to the west. The San Bernardino National Forest runs along the City's northeast border.

Interstate 10 (I-10) and State Route 210 (SR-210) run east-west through the City, and Interstate 215 (I-215), runs north-south through the central portion of the City.

4.2.2 Regional Planning Considerations

Southern California Association of Governments

San Bernardino County and the City of San Bernardino are in a six-county metropolitan region composed of Imperial, Los Angeles, Orange, Riverside, San Bernardino, and Ventura Counties. The Southern California Association of Governments (SCAG) is the federally recognized metropolitan planning organization (MPO) for the region, which encompasses over 38,000 square miles. SCAG is a regional planning agency and a forum for addressing regional issues concerning transportation, the economy, community development, and the environment. SCAG is also the regional clearinghouse for projects requiring environmental documentation under federal and state law. In this role, SCAG reviews proposed development and infrastructure projects to analyze their impacts on regional planning programs. As the region's MPO, SCAG cooperates with the South Coast Air Quality Management District (SCAQMD), the California Department of Transportation (Caltrans), and other agencies in preparing regional planning documents. San Bernardino County and its local jurisdictions constitute the San Bernardino subregion of the SCAG region. Land use and transportation planning in the San Bernardino subregion is the responsibility of the San Bernardino Associated

Governments (SANBAG), which has developed a variety of plans to achieve specific regional objectives. The plans most applicable to the Proposed Project are discussed below.

Regional Transportation Plan/Sustainable Communities Strategy

On April 7, 2016, SCAG's Regional Council adopted the 2016-2040 Regional Transportation Plan/ Sustainable Communities Strategy (2016 RTP/SCS), a long-range visioning plan that balances future mobility and housing needs with economic, environmental, and public health goals. The 2016 RTP/SCS includes a strong commitment to reduce emissions from transportation sources to comply with Senate Bill 375, improve public health, and meet the National Ambient Air Quality Standards. This long-range plan, required by the state of California and the federal government, is updated by SCAG every four years as demographic, economic, and policy circumstances change. The 2016 RTP/SCS is a living, evolving blueprint for the region's future (SCAG 2016). The Proposed Project's consistency with the applicable 2016 RTP/SCS policies is analyzed in detail in Section 5.9, *Land Use and Planning*, of this DEIR.

South Coast Air Quality Management District

The City of San Bernardino is within the South Coast Air Basin (SoCAB). Land use is subject to the rules and regulations imposed by the SCAQMD as well as the California ambient air quality standards (AAQS) adopted by the California Air Resources Board (CARB) and National AAQS adopted by the United States Environmental Protection Agency (EPA). The SoCAB is designated nonattainment for ozone (O_3) and fine inhalable particulate matter ($PM_{2.5}$) under the California and National AAQS, nonattainment for lead (Los Angeles County only) under the National AAQS, and nonattainment for coarse inhalable particulate matter (PM_{10}) under the California AAQS.[1] SCAQMD is responsible for preparing the air quality management plan (AQMP) for the SoCAB in coordination with SCAG to attain the National AAQS. Since 1979, a number of AQMPs have been prepared. On December 7, 2012, SCAQMD adopted the 2012 AQMP. The 2012 AQMP demonstrates attainment of federal 24-hour $PM_{2.5}$ standard by 2014 and the federal 8-hour O_3 standard by 2023. It includes an update to the revised EPA 8-hour O_3 control plan with new commitments for short-term nitrogen oxides (NO_X) and volatile organic compound (VOC) reductions. The plan also identifies emerging issues—ultrafine ($PM_{1.0}$) particulate matter, near-roadway exposure, and energy supply and demand.

California Air Resources Board

Current State of California guidance and goals for reductions in greenhouse gas (GHG) emissions are generally embodied in Executive Order S-03-05, Executive Order B-30-15, Assembly Bill 32 (AB 32), and Senate Bill 375 (SB 375). AB 32, the Global Warming Solutions Act, was passed by the California state legislature on August 31, 2006, to place the state on a course toward reducing its contribution of GHG emissions. AB 32 follows the first tier of emissions reduction targets established in Executive Order S-3-05, signed on June 1, 2005, which requires the state's global warming emissions to be reduced to 1990 levels by the year 2020. CARB adopted the Scoping Plan in December 2008 that identified the GHG emissions

[1] CARB approved the SCAQMD's request to redesignate the SoCAB from serious nonattainment for PM_{10} to attainment for PM_{10} under the national AAQS on March 25, 2010, because the SoCAB has not violated federal 24-hour PM_{10} standards during the period from 2004 to 2007. In June 2013, the EPA approved the State of California's request to redesignate the South Coast PM_{10} nonattainment area to attainment of the PM_{10} National AAQS, effective on July 26, 2013.

reduction targets and reduction strategies for the various emission sectors within the state. Since release of the 2008 Scoping Plan, CARB has updated the statewide GHG emissions inventory in light of the economic downturn and measures not considered in the 2008 Scoping Plan baseline inventory and prepared a five-year update to the Scoping Plan, which was adopted at the May 22, 2014, board hearing. According to the Update to the Scoping Plan, reducing emissions to 80 percent below 1990 levels will require a fundamental shift to efficient, clean energy in every sector of the economy. Progressing toward California's 2050 climate targets will require significant acceleration of GHG reduction rates. Emissions from 2020 to 2050 will have to decline several times faster than the rate needed to reach the 2020 emissions limit (CARB 2014). The new Executive Order B-30-15 requires CARB to prepare another update to the Scoping Plan to address the 2030 target for the state. It is anticipated that the Scoping Plan will be updated within the next five years to address the new interim target to achieve a 40 percent reduction below 1990 levels by 2030.

Regional Water Quality Control Board, Santa Ana River Basin Region 8

Under the Porter-Cologne Water Quality Act, California's water quality control law, the State Water Resources Control Board (SWRCB) has ultimate control over water quality policy and allocation of state water resources. The SWRCB, through its nine Regional Water Quality Control Boards, 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. The City of San Bernardino is located in the Santa Ana River Basin, Region 8.

Santa Ana River Basin Plan

The Water Quality Control Plan for the Santa Ana River Basin was updated in 2008. 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 standards established in the basin plan.

4.3 LOCAL ENVIRONMENTAL SETTING

4.3.1 Location and Land Use

The Specific Plan area includes approximately 710 acres located near the center of San Bernardino around the intersection on Waterman Avenue and Baseline Street. Specifically, the Proposed Project boundaries are formed by Sierra Way to the west, Tippecanoe Avenue and the flood control channel on the east, 3rd Street to the south, and Highland Avenue to the north, as shown in previous Figure 3-2, *Project Vicinity*. The western boundary is approximately 1.1 miles away from the Interstate 215 (I-215) freeway, and the northern boundary is 0.6 mile from Foothill and Martin A. Matich highways (I-210).

Figure 4-1, *Aerial Photograph*, shows the Specific Plan area and surrounding land uses. The Specific Plan area contains a wide range of existing land uses, including residential, commercial, industrial, office, and public uses, in additional to vacant parcels.

- **Residential.** Residential uses are located throughout the Specific Plan area, consisting of approximately 1,946 units. Most single-family residential homes are located in three neighborhoods: 1) west of Waterman Avenue between 9th Street and Baseline Street; 2) south of Baseline Street between La Junita Street and Tippecanoe Avenue; and 3) east of Waterman Avenue between 3rd Street and 6th Street. Most of these are one-story homes and many have detached garages. Other residential uses include the Waterman Gardens public housing community near the center of Specific Plan area, scattered small apartment buildings, and a cluster of mobile home communities along 9th Street near the eastern edge of the Specific Plan area.

- **Commercial.** Commercial uses in the Specific Plan area are generally located adjacent to Waterman Avenue and Baseline Street and accessed directly from those roadways. These include a variety of small businesses, including restaurants, fast food outlets, gas stations, and other service commercial uses. There are three suburban-scaled shopping centers in the Specific Plan area. The first, at the southwest corner of Waterman Avenue and 9th Street, is anchored by an El Super grocery store. The Waterman Avenue Shopping Center is located at the northeast corner of the same intersection and is anchored by a 99 Cents Only store and the Waterman Discount Mall, an indoor swap meet with multiple vendors selling a variety of goods. The third shopping center is located at the northeast corner of Waterman Avenue and Baseline Street and is anchored by an O'Reilly Auto Parts and Stater Brothers grocery store. There are numerous vacant commercial spaces in the Specific Plan area.

- **Industrial.** Light industrial uses are generally located east of Waterman Avenue between 6th Street and 9th Street. They include auto repair shops, automobile parts salvage yards, and a recycling center. Many of the Specific Plan area's vacant parcels are scattered throughout this area.

- **Medical and Office.** Most office uses in the Specific Plan area are clustered around St. Bernardine Medical Center, which is surrounded by small clinics, pharmacies, and medical labs.

- **Public Uses.** Major public uses in the Specific Plan area include E. Neal Roberts Elementary School, Pioneer Memorial Cemetery, and Seccombe Lake Park.

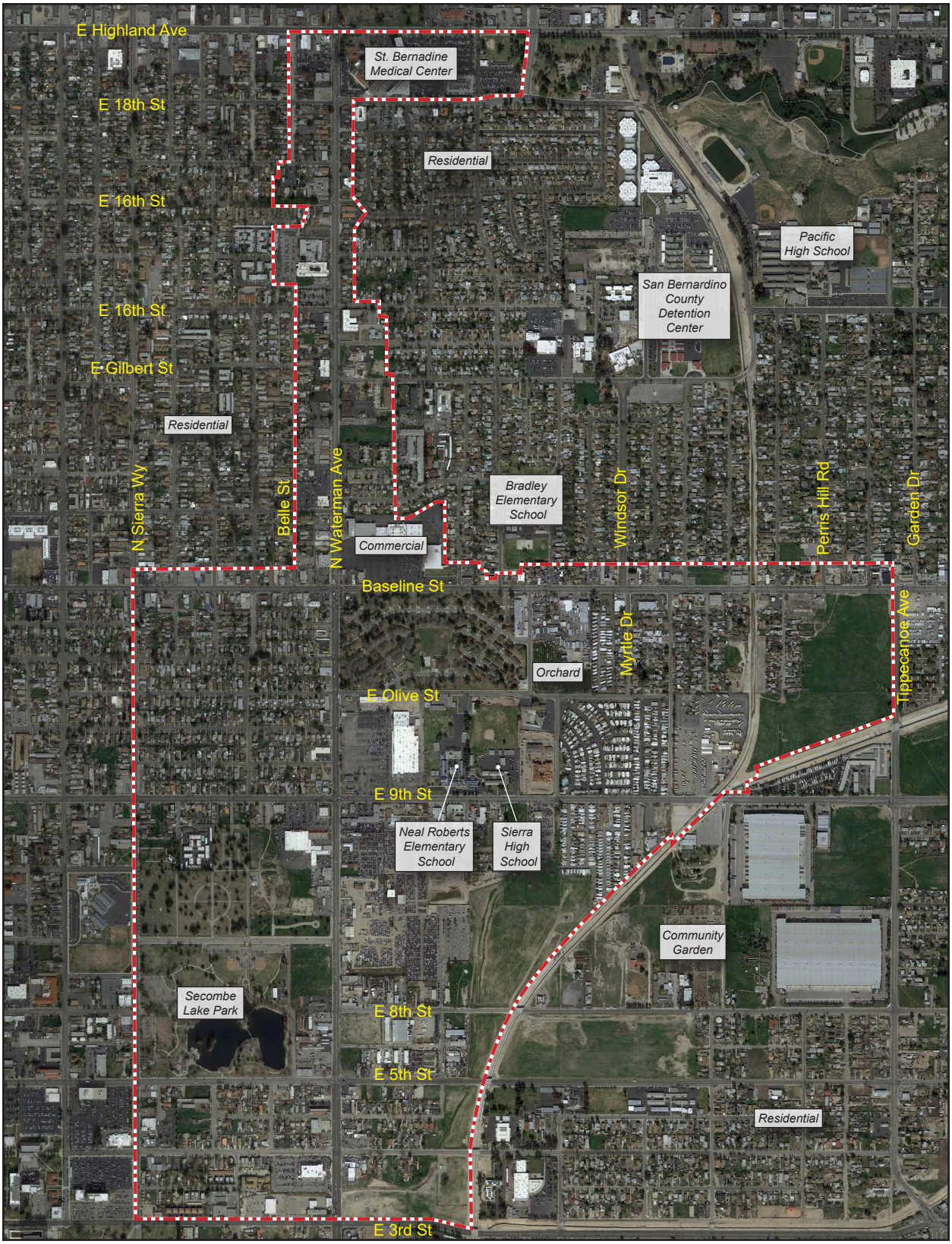
4.3.2 Biological Resources

The Specific Plan area is mostly developed, with land uses including residential, industrial, commercial, public facilities, a public park, roadways, and flood channels for Warm Creek and East Twin Creek. The East Twin Creek channel converges with the Warm Creek channel onsite. Both flood channels are concrete lined and direct water from north and northeast of the site, respectively, through the eastern portion of the site, and south of the site until the Warm Creek flood channel converges with the Santa Ana River approximately 2.2 miles to the south of the site.

The undeveloped portions of the Specific Plan area have been repeatedly disturbed by human activities in the past (some continuing into the present), and these areas predominantly support ruderal vegetation (i.e., non-native plants growing on highly disturbed land). The potential impacts related to biological resources as a result of the Proposed Project are discussed in detail in Section 5.3, *Biological Resources*, of this DEIR.

Figure 4-1 Aerial Photograph

4. Environmental Setting



Specific Plan Area

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Scale (Feet)

Base Map Source: Google Earth Pro, 2016

4. Environmental Setting

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4.3.3 Climate and Air Quality

As noted above, the City of San Bernardino is in the SoCAB, which is managed by SCAQMD. The SoCAB is designated as nonattainment for ozone (O_3), fine inhalable particulate matter ($PM_{2.5}$), and lead (Los Angeles County only) under the California and National AAQS and nonattainment for coarse inhalable particulate matter (PM_{10}) and nitrogen dioxide (NO_2) under the California AAQS. Additional information regarding air quality and climate change regulation affecting the City is provided in Section 4.2.2, *Regional Planning Considerations*, above. Existing climate and air quality conditions in the City are analyzed in Sections 5.2, *Air Quality*, and 5.6, *Greenhouse Gas Emissions*, of this DEIR.

4.3.4 Geology and Landform

The Specific Plan area, on an alluvial fan south of the San Bernardino Mountains, has a nearly uniform south to southwest slope of about 1 percent grade. Elevations onsite range from about 1,019 feet above mean sea level (amsl) at the southwest corner of the site to about 1,173 feet amsl at the northeast corner of the site.

Geologic units onsite consist of Quaternary alluvial fan deposits composed of unconsolidated to moderately consolidated silt, sand, gravel, and boulders of Holocene to late Pleistocene age[2] and Quaternary wash deposits—that is, unconsolidated sand and gravel deposits in active washes and along streams—of late Holocene age (USGS 2006).

The depth to groundwater near the intersection of Arrowhead Avenue and Magnolia Avenue, about 0.25 mile west of the northern part of the Specific Plan area, was about 246 feet below ground surface (bgs) in fall 2015. The depth to groundwater at a point near Richardson Street and I-10, about 2.5 miles southeast of the Specific Plan area, was approximately 212 feet bgs in fall 2015 (DWR 2016).

Refer to Section 5.5, *Geology and Soils*, for additional information on the Specific Plan area's geology.

4.3.5 Hydrology

The East Twin Creek channel passes through the east part of the Specific Plan area, and Warm Creek Channel forms the southeast site boundary. City Creek flows into Warm Creek next to the southeast corner of the site. East Twin Creek, Warm Creek, and City Creek all originate in the San Bernardino Mountains north and east of the site. Downstream of the confluence of East Twin Creek and City Creek, the channel is called Twin Creek. Twin Creek flows into the Santa Ana River about 2.2 miles south of the site.

The Gilbert Street Storm Drain, a 39-inch concrete pipe in Gilbert Street, extends from Waterman Avenue east to East Twin Creek. East Twin Creek is a concrete box channel about 40 feet wide. Warm Creek is a concrete box channel 50 feet wide by 11 feet high next to the eastern site boundary adjacent to Tippecanoe Street (SBCFCD 2016).

[2] The Holocene Epoch extends from about 11,700 years before present (ybp) to the present; the Pleistocene Epoch extends from approximately 2.59 million ybp to 11,700 ybp.

Refer to Section 5.8, *Hydrology and Water Quality*, for additional information on the Specific Plan area's hydrology and water quality characteristics.

4.3.6 Noise

The Specific Plan area is mostly developed and therefore has a number of noise generators, including existing urban land uses and associated activities, traffic, and aircraft associated with the San Bernardino International Airport. The primary source of noise near the Specific Plan area is vehicular traffic, primarily traffic from area roadways (e.g., Waterman Avenue, Baseline Street, Sierra Way, Tippecanoe Avenue, 3rd Street, and Highland Avenue).

Refer to Section 5.11, *Noise*, for additional information concerning the noise environment and an analysis of Project-related noise impacts.

4.3.7 Scenic Features

The 710-acre Specific Plan area is in central San Bernardino. The area is loosely bounded by Sierra Way to the west, Tippecanoe Avenue and a flood channel to the east, 3rd Street to the south, and Highland Avenue to the north. Scenic resources within San Bernardino are primarily associated with views of the San Bernardino Mountains to the north, San Gorgonio Mountains to the east, and vegetation associated with the Santa Ana River and its tributaries to the south and east. The Specific Plan area is a highly urbanized and developed area that features a mix of businesses, industrial buildings, residential structures, office and medical uses, undeveloped parcels, and open space. Large portions of the area are dominated by automobile salvage yards, traditional single-family residential neighborhoods, and mobile home communities. The Specific Plan area's major arterial roadways (e.g., 6th Street, Baseline Street, and Waterman Avenue) are generally wide and create physical and visual separations between the area's individual neighborhoods. Parcels vary widely in size and shape, especially in the eastern portion of the Specific Plan area. As described in the proposed Specific Plan, the Specific Plan area is aesthetically diverse.

Refer to Section 5.1, *Aesthetics*, for additional information concerning the visual characteristics and an analysis of Project-related aesthetics impacts.

4.3.8 Public Services and Utilities

Public services and utilities are supplied to the Specific Plan area by the providers listed in Table 4-1, below. Additional information describing the existing provision of services and utilities in the City is found in Sections 5.13, *Public Services*, and 5.16, *Utilities and Service Systems,* of this DEIR.

Table 4-1 Public Service and Utility Providers

Public Services	
Police	City of San Bernardino Police Department
Fire Protection and Emergency Medical Services	City of San Bernardino Fire Department California Department of Forestry and Fire Protection (CAL FIRE)
Public Schools	San Bernardino City Unified School District
Library	City of San Bernardino Public Libraries
Parks	City of San Bernardino Parks, Recreation, and Community Services Department
Utilities	
Water	City of San Bernardino Municipal Water Department East Valley Water District (EVWD)
Wastewater Treatment	City of San Bernardino Municipal Water Department
Regional Flood Control	San Bernardino County Flood Control District
Solid Waste Collection	City of San Bernardino Public Works Department, Integrated Waste Management Division (IWMD)
Solid Waste Disposal (Landfills)	Jack's Disposal Inc.
Electricity	Southern California Edison
Natural Gas	Southern California Gas Company

4.3.9 General Plan and Zoning

City of San Bernardino General Plan

The current City of San Bernardino General Plan was adopted by the San Bernardino City Council in 2005. Since then, the General Plan has been updated and supplemented periodically. In particular, the housing element has been updated on a schedule prescribed by the California Department of Housing and Community Development. The current housing element was adopted on February 10, 2014.

The current General Plan is organized into 13 elements: land use; housing; economic development; community design; circulation; public facilities and services; parks, recreation, and trails; utilities; safety; historical and archeological resources; natural resources and conservation; energy and water conservation; and noise. These elements encompass the seven state-required General Plan "elements" as well as locally important issues. In addition to providing goals and policies covering the aforementioned topics, the General Plan provides the basis for current land-use designations in the City, which are described below.

General Plan Land Use Designations

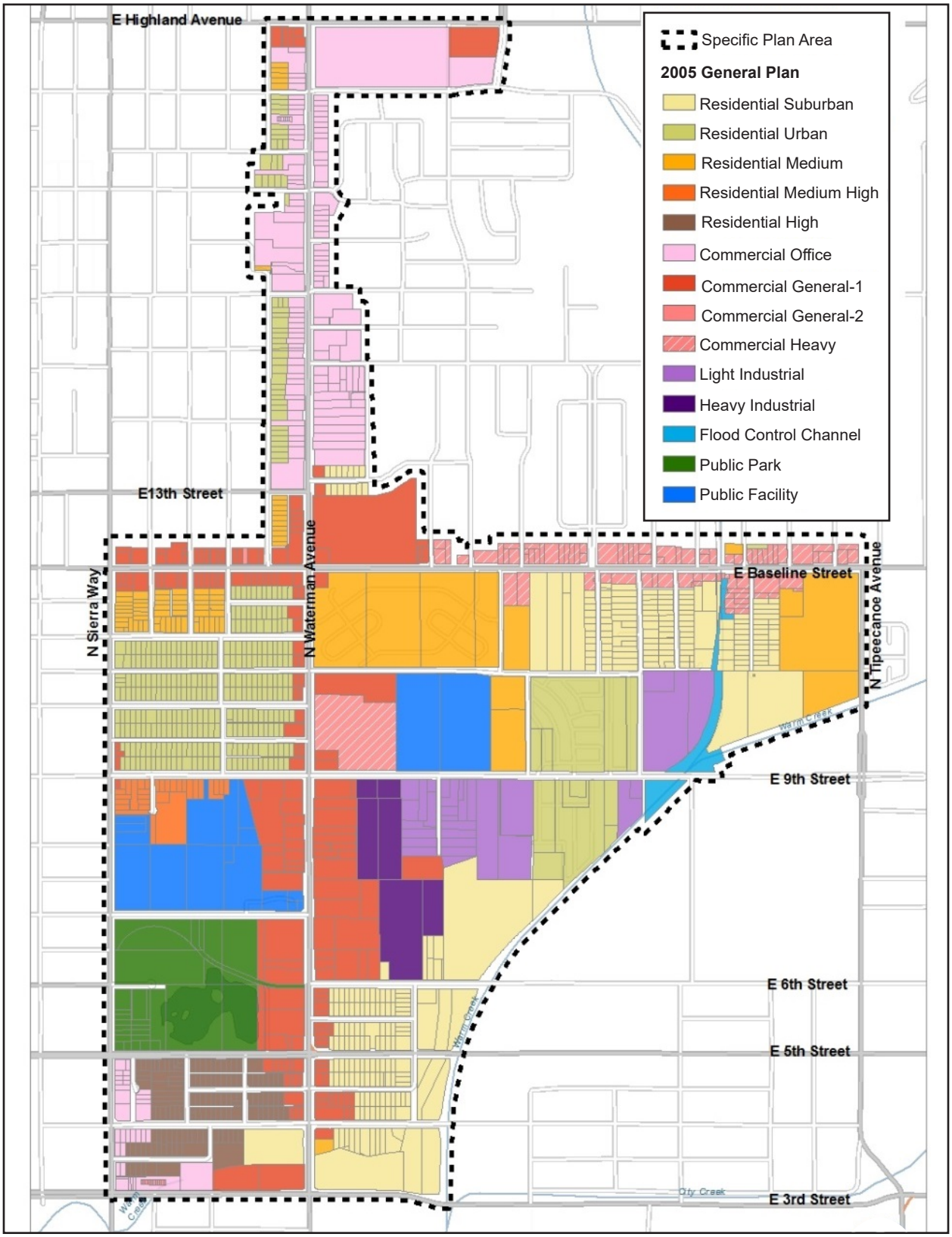
The Specific Plan area is currently designated for residential, commercial, and industrial uses by the City of San Bernardino General Plan. The majority of properties fronting Waterman Avenue are designated Commercial Office north of 13th Street and Commercial General-1 south of 13th to 3rd Street. Along Baseline Street, most of the parcels fronting the corridor from Sierra Way to Pepper Tree Lane are designated Commercial General-1, and parcels from Pepper Tree Lane to Tippecanoe Avenue are designated Commercial Heavy. There are two public facility sites within the Specific Plan area—E. Neal Roberts

Elementary School and the Pioneer Memorial Cemetery—and one Public Park, Seccombe Lake. In the southern portion of the Specific Plan area, east of Waterman Avenue between 9th and 6th Street, a clustering of parcels is designated Light Industrial, and a second, smaller cluster is designated for Heavy Industrial land uses. In the southwestern corner of the Specific Plan area is a small grouping of properties designated for Commercial Office uses. The remaining parcels are designated for residential uses, including: Residential Suburban (4.5 dwelling units per acre), Residential Urban (9 dwelling units per acre), Residential Medium (14 dwelling units per acre), Residential Medium High (24 dwelling units per acre), and Residential High (30 dwelling units per acre). The existing General Plan land use designations for parcels within the Specific Plan area are shown in Figure 4-2, *Current General Plan Land Use Designations*.

Existing Zoning

The San Bernardino Zoning Code (San Bernardino Municipal Code, Title 19, Article II) provides the basis for current zoning in the Specific Plan area. Existing zoning designations in the Specific Plan area largely reflect the land use designations in the General Plan, discussed above. The majority of properties fronting Waterman Avenue are zoned Commercial Office north of 13th Street and Commercial General-1 south of 13th to 3rd Street. Along Baseline Street, most of the parcels fronting the corridor from Sierra Way to Pepper Tree Lane are zoned Commercial General-1, and parcels from Pepper Tree Lane to Tippecanoe Avenue are zoned Commercial Heavy. According to the Zoning Map, E. Neal Roberts Elementary School and the Pioneer Memorial Cemetery are both zoned Public Facilities, and Seccombe Lake is zoned Public Park. In the southern portion of the Specific Plan area, east of Waterman Avenue, a clustering of parcels is zoned Light Industrial fronting the south side of 9th Street, and a smaller grouping of parcels is zoned Heavy Industrial closer to Waterman Avenue and also fronting along 9th Street. In the southwestern corner of the Specific Plan area is a small grouping of parcels zoned Commercial Office fronting Sierra Way between 3rd Street and 5th Street. The remaining parcels in the Specific Plan area are designated for residential uses, including: Residential Suburban (4.5 dwelling units per acre), Residential Urban (8 dwelling units per acre), Residential Medium (12 dwelling units per acre), Residential Medium High (24 dwelling units per acre), and Residential High (31 dwelling units per acre). Existing zoning for parcels within the Specific Plan area is shown in Figure 4-3, *Existing Zoning*.

Figure 4-2 Current General Plan Land Use Designations



Base Map Source: National Community Renaissance, January 2016

4. Environmental Setting

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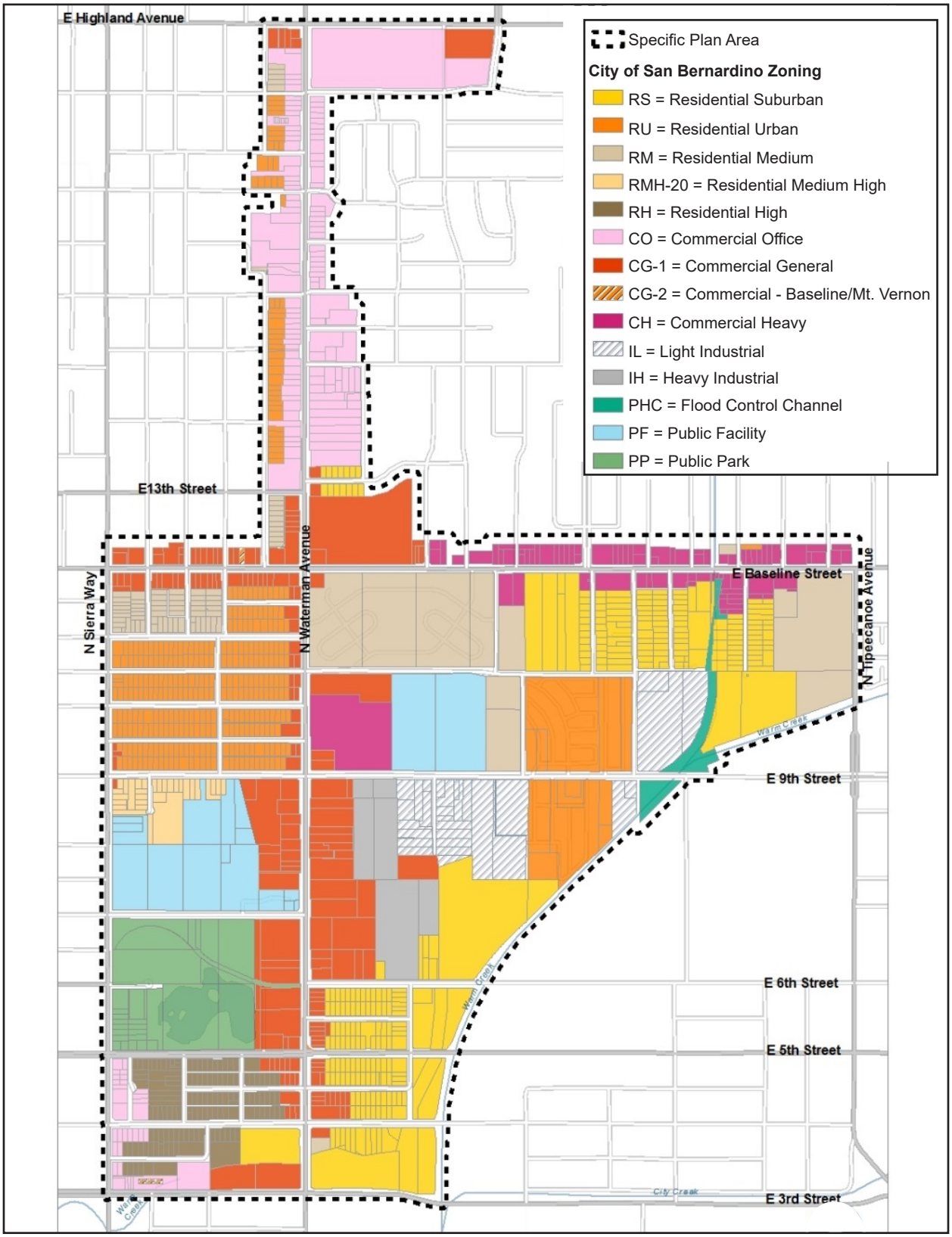
Figure 4-3 Existing Zoning

4. Environmental Setting



Base Map Source: National Community Renaissance, January 2016

4. Environmental Setting

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4.4 ASSUMPTIONS REGARDING CUMULATIVE IMPACTS

Section 15130 of the CEQA Guidelines states that cumulative impacts shall be discussed where they are significant. It further states that this discussion shall reflect the level and severity of the impact and the likelihood of occurrence, but not in as great a level of detail as that necessary for the project alone. Section 15355 of the Guidelines defines cumulative impacts to be "…two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts." Cumulative impacts represent the change caused by the incremental impact of a project when added to other proposed or committed projects in the vicinity.

The CEQA Guidelines (Section 15130 (b)(1)) state that the information utilized in an analysis of cumulative impacts should come from one of two sources:

A. A list of past, present and probable future projects producing related cumulative impacts, including, if necessary, those projects outside the control of the agency; or

B. A summary of projections contained in an adopted general plan or related planning document designed to evaluate regional or area-wide conditions.

For the most part, the cumulative impact analyses in this DEIR use Method B, utilizing the adopted growth projections by SANBAG, which include land use assumptions in the City's adopted General Plan. In some instances, other long-range planning documents were used, such as the Urban Water Master Plan for water supply and SCAG's RTP/SCS for land use and planning impacts. Traffic impacts were analyzed using utilizing the San Bernardino Transportation Analysis Model. The growth projections for the City of San Bernardino are detailed in Table 4-2.

Table 4-2 Growth Projections for the City of San Bernardino

	2012	2040
Population	211,900	257,400
Household	59,300	77,100
Employment	88,900	128,900

Source: SCAG's 2016–2040 RTP Growth Forecast.

4.5 REFERENCES

California Air Resources Board (CARB). 2013, October 23. Proposed 2013 Amendments to Area Designations for State Ambient Air Quality Standards. http://www.arb.ca.gov/regact/2013/area13/area13isor.pdf.

San Bernardino, City of. 2005, November 1. City of San Bernardino General Plan. https://www.ci.san-bernardino.ca.us/cityhall/community_development/planning/planning_documents.asp.

Southern California Association of Governments (SCAG). 2016, April 7. Integrated Growth Forecast. http://scagrtpscs.net/Documents/2016/final/f2016RTPSCS_DemographicsGrowthForecast.pdf.

5. Environmental Analysis

Chapter 5 examines the environmental setting of the Proposed Project, analyzes its effects and the significance of its impacts, and recommends mitigation measures to reduce or avoid impacts. This chapter has a separate section for each environmental issue area that was determined to need further study in the EIR. This scope was determined in the Notice of Preparation (NOP), which was published August 31, 2015 (see Appendix A), as well as through public and agency comments received during the NOP comment period from August 31, 2015, to September 30, 2015 (see Appendix B), and at the scoping meeting held on September 10, 2015. Environmental issues and their corresponding sections are:

- 5.1 Aesthetics
- 5.2 Air Quality
- 5.3 Biological Resources
- 5.4 Cultural Resources
- 5.5 Geology and Soils
- 5.6 Greenhouse Gas Emissions
- 5.7 Hazards and Hazardous Materials
- 5.8 Hydrology and Water Quality
- 5.9 Land Use and Planning
- 5.10 Mineral Resources
- 5.11 Noise
- 5.12 Population and Housing
- 5.13 Public Services
- 5.14 Recreation
- 5.15 Transportation and Planning
- 5.16 Utilities and Service Systems

Sections 5.1 through 5.16 provide detailed discussions of the environmental setting, impacts associated with the Proposed Project, and mitigation measures designed to reduce significant impacts where required and when feasible. The residual impacts following the implementation of any mitigation measure are also discussed.

During the scoping process, it was determined that impacts of the Proposed Project related to the topic of agriculture and forestry resources would not be potentially significant. Chapter 8, *Impacts Found Not to Be Significant*, substantiates this conclusion.

5. Environmental Analysis

Organization of Environmental Analysis

To assist the reader with comparing information between environmental issues, each section is typically organized under nine major headings:

- Environmental Setting
- Thresholds of Significance
- Environmental Impacts
- Cumulative Impacts
- Existing Regulations and Standard Conditions
- Level of Significance Before Mitigation
- Mitigation Measures
- Level of Significance After Mitigation
- References

In addition, Chapter 1, *Executive Summary,* has a table that summarizes all impacts by environmental issue.

Terminology Used in This Draft SEIR

The level of significance is identified for each impact in this DEIR. Although the criteria for determining significance are unique for each topic area, the environmental analysis applies a uniform classification of the impacts based on definitions consistent with CEQA and the CEQA Guidelines:

- **No impact.** The project would not change the environment.

- **Less than significant.** The project would not cause any substantial adverse change in the environment.

- **Less than significant with mitigation incorporated.** The EIR includes mitigation measures that avoid substantial adverse impacts on the environment.

- **Significant and unavoidable.** The project would cause a substantial adverse effect on the environment, and no feasible mitigation measures are available to reduce the impact to a less than significant level.

5.1 AESTHETICS

This section describes the existing aesthetic character of the Specific Plan area and evaluates potential aesthetic impacts associated with implementation of the Waterman + Baseline Neighborhood Specific Plan (Proposed Project).

5.1.1 Environmental Setting

5.1.1.1 REGULATORY SETTING

Local laws, regulations, plans, or guidelines that are potentially applicable to the Proposed Project are summarized below.

California Scenic Highway Program

The California Scenic Highway Program, maintained by the California Department of Transportation (Caltrans), protects scenic state highway corridors from changes which would diminish the aesthetic value of lands adjacent to the highways. According to the California Scenic Highway Program, there are no state-designated scenic highways within the Specific Plan area (Caltrans 2011).

San Bernardino General Plan

The Community Design Element of the City of San Bernardino General Plan includes numerous goals and policies related to urban design and aesthetics. The element's vision is based on the following six community desires:

- Develop unique entry features into the City as a whole and into distinct neighborhoods and districts to help define our boundaries and act as landmarks.
- Develop and enact a cohesive theme for the entire City as well as sub-themes for our neighborhoods to provide identity and create a sense of community.
- Ensure well-designed and coordinated projects, including the site plan, architecture, materials, colors, landscaping, and signage.
- Realize well-maintained properties, roadways, parks, libraries, and community centers.
- Enjoy aesthetic enhancements along our arterial corridors and public rights-of-way, including landscaping and streetscape improvements.
- Preserve the City's historic heritage and incorporate its significant features into the design of new projects.

Specific policies in the element address topics such as the importance of community gateways, preservation and enhancement of neighborhood character, architectural variety, and visual compatibility between uses. Policies related to high quality urban design are also found in the land use element.

City of San Bernardino Development Code

The City of San Bernardino's Municipal Code, Title 19, Land Use/Subdivision Regulations (Development Code), regulates the form and character of development in the San Bernardino.

Property Development Standards (Chapter 19.20)

This chapter of the Development Code contains specific standards to ensure that development would produce an urban environment of desirable character that is harmonious with the existing and future development, consistent with the General Plan. Specific provisions related to aesthetics include regulations related to building design, fences and walls, building height, lighting, screening, and signage.

- **Design Considerations** (Section 19.20.030.04): This subsection outlines overarching design principles for development in the City.
- **Fences and Walls** (Section 19.20.030.08): Detailed development standards for fences and walls are provided in this section, including standards related to height, materials, and safety considerations.
- **Glare** (Section 19.20.030.11): This section of the code prohibits any land use from generating glare that is visible beyond the parcels containing that land use.
- **Lighting** (Section 19.20.030.14): This part of the code requires energy-efficient exterior lighting that is shielded or recessed, doesn't produce glare and reflections beyond the subject property, and is directed away from adjoining properties and public rights-of-way. It requires that all lighting fixtures be appropriate in scale, intensity, and height to the use they are serving. Security lighting is required to be provided at all entrances and exits.
- **Screening** (Section 19.20.030.21): All equipment, including roof equipment, is required to be screened. Methods of screening are required to be architecturally compatible with the primary onsite structures.

Additional regulations and standards related to the design of new development are found in Article II of the Development Code, which outlines standards for each of the City's zoning districts (see Chapters 19.04 through 19.19).

Sign Regulations (Chapter 19.22)

Signage standards have been developed to protect the general public health, safety, welfare, and aesthetics of the community; implement community design standards; promote the community's appearance; and encourage the use of signs which provide direction and aid orientation for businesses and activities. This chapter of the Development Code contains regulations related to the design and location of signs (including

temporary and permanent signs) and prohibited signs. Detailed requirements and standards are provided for each zoning district.

Landscaping Standards (Chapter 19.28)

This chapter of the Development Code contains specific standards to ensure that landscaping would produce an urban environment of desirable character that is harmonious with existing and future development, consistent with the General Plan. Specific provisions related to aesthetics include screening requirements, setback and parkway treatment standards, landscape maintenance requirements, and regulations related to tree removal.

5.1.1.2 VISUAL SETTING

The 710-acre Specific Plan area is in central San Bernardino. The area is loosely bounded by Sierra Way to the west, Tippecanoe Avenue and a flood channel to the east, 3rd Street to the south, and Highland Avenue to the north. Scenic resources within San Bernardino are primarily associated with views of the San Bernardino Mountains to the north, San Gorgonio Mountains to the east, and vegetation associated with the Santa Ana River and its tributaries to the south and east. The Specific Plan area is a highly urbanized and developed area that features a mix of businesses, industrial buildings, residential structures, office and medical uses, undeveloped parcels, and open space. Large portions of the area are dominated by automobile salvage yards, traditional single-family residential neighborhoods, and mobile home communities. The Specific Plan area's major arterial roadways (e.g., 6th Street, Baseline Street, and Waterman Avenue) are generally wide and create physical and visual separations between the area's individual neighborhoods. Parcels vary widely in size and shape, especially in the eastern portion of the Specific Plan area. As described in the proposed Specific Plan and shown in Figure 5.1-1, *Photographs of Existing Visual Character*, the Specific Plan area is aesthetically diverse.

Visual Appearance and Character

Neighborhood character in the Specific Plan area varies widely. In general, existing buildings are low density, and vacant buildings and parcels are located throughout the area. A notable exception is the St. Bernardine Medical Center at the northern edge of the Specific Plan area, which features a dense collection of mid-rise buildings approximately six stories tall. On many parcels, commercial and light industrial buildings show their age and lack of maintenance; many such parcels are underutilized. Fast-food restaurants are generally the newest commercial buildings and are mostly located along Waterman Avenue. There are two large commercial shopping centers located along the east side of Waterman Avenue that are anchored by Walmart, Stater Bros, and a 99 Cents Only. These shopping centers feature expansive parking lots buffering commercial buildings from surrounding roads.

Industrial structures vary in condition depending upon their use; a majority of auto-related businesses are aged and underutilized. However, some manufacturing and distributing centers in the Specific Plan area have been constructed more recently with newer materials and are well maintained. Older auto-oriented uses are located along the western portion of the Specific Plan area near Waterman Avenue and Baseline Street and south of 9th Street. Medical offices are mixed within residential uses throughout the northern end of the

Specific Plan area along Waterman Avenue north of 13th and Wabash Streets. These generally reflect the neighborhood scale of surrounding residential uses.

The neighborhood character of residential neighborhoods in the Specific Plan area varies widely. For example, the neighborhood south of Baseline Street and east of Waterman Avenue is one that reflects other older, mid-century suburban neighborhoods. The area is dominated by single-story cottages and bungalows on a rectilinear grid of streets. Over half of the area's front yards are bounded by fences or low walls, and palm trees are common. Many homes appear neglected due to landscaping, fencing, windows, and roofing that have not been well maintained. The Waterman Gardens neighborhood south of Baseline Street between Waterman Avenue and La Junita Street has a more homogeneous aesthetic due to its history as a public housing project. It contains a curvilinear grid of private drives, mature trees, large expanses of turf, and a consistent scale of visually-similar one- and two-story apartment buildings. Other portions of the Specific Plan area feature mobile homes communities that are low-scale but dense. These areas are largely screened from the public right-of-way.

Overall, the Specific Plan area lacks a cohesive visual appearance or character. In particular, the disjointed land use patterns in the eastern portions of the Specific Plan area lend it a fragmented, transitional character. Furthermore, Waterman Avenue, instead of highlighting a specific land use or neighborhood, provides motorists a cross-section of San Bernardino's diverse urban character.

Landscaping and Signage

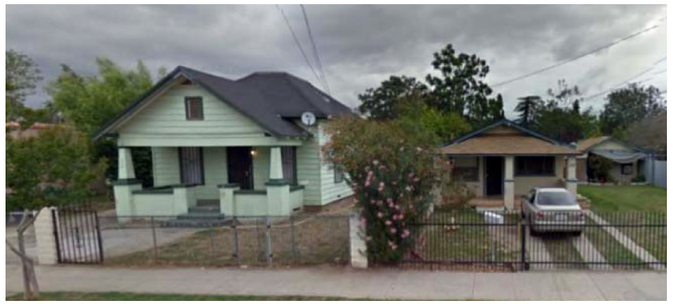
The inconsistency in landscaping throughout the Specific Plan area creates varying levels of aesthetic quality. Existing vegetation includes grass, shrubs, and trees along segments of main streets. This landscaping provides landscaped buffers between sidewalks and buildings. However, vegetation is sporadic and depleted on major pedestrian thoroughfares; Olive Street, 3rd Street at Waterman, residential front yards, and the flood control channel are generally barren. Additionally, there is a significant volume of vegetative debris and trash along the sidewalk areas and street interface. The Waterman Gardens property provides the greatest variety and quantity of tree species for residential uses in the Specific Plan area.

There is generally very little vegetation surrounding outdated commercial and industrial parcels that would enhance the visual character of the buildings. Most of the vegetation surrounding these uses is for streetscaping purposes and is not part of the building parcel. Additionally, there are various vacant lots on the southeast side of the Specific Plan area, generally west of the flood control channel, that are barren and underutilized and can be viewed from adjacent roads. Some parcels also have fencing with locked gates or visible stacks of cars and car parts, further detracting from their visual appeal.

Like the area's landscaping, business signage in the Specific Plan area is inconsistent and often lacks a professional appearance. Many of the area's smaller, privately owned businesses have large advertisements painted on exterior walls or they provide a space for billboard advertisement on large metal poles elsewhere on the property. These commercial buildings can be seen from far away and generally use vibrant colors that are not consistent with surrounding uses. Furthermore, much of the Specific Plan area contains power lines that congest views of the distant mountains.

Figure 5.1-1 - Photos of Existing Visual Character

5. Environmental Analysis



Single-family homes in the western Specific Plan area.

Suburban-scaled retail.

Single-family residential neighborhood in the eastern Specific Plan area.

Laidlaw bus storage lot.

Waterman Discount Mall, an indoor swap meet on Waterman Avenue.

New mixed use development at Waterman Avenue and 5th Street.

Flood control channel.

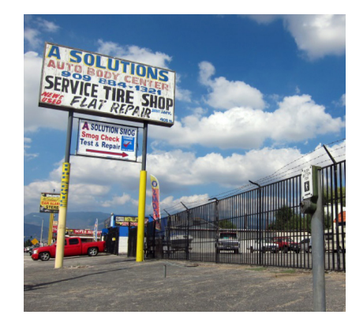
Seccombe Lake Park.

St. Bernardine Medical Center at Highland Avenue.

Automotive parts salvage yard.

Multifamily housing on Wall Avenue.

Medical office building near St. Bernardine Medical Center.



Signage for auto service shops.

5. Environmental Analysis
AESTHETICS

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Unique Visual Resources

The Specific Plan area contains one prominent visual resource: Seccombe Lake Park. The park is a 44-acre open space in the southwestern portion of the Specific Plan area that includes a lake with three man-made islands, picnic areas, pedestrian walkways and bridges, two baseball diamonds, two volleyball courts, and landscaped open space. There is also a concrete gazebo and buffer walls in the southwest corner of the park painted colorfully during the Seccombe Lake Park Mural Park Mural project, a program intended to build and enhance the community and aesthetic character of the area. The lake provides habitat for various wildlife in and along its banks. Although Seccombe Lake Park is intended for use by the entire community, it is home to a large portion of San Bernardino's homeless population and is not well maintained. For this reason, it is underused as a recreational amenity. However, it remains a substantial visual resource as the major source of greenery and open space in central San Bernardino.

Landform

The Specific Plan area is in a flat portion of the San Bernardino Valley, with the San Bernardino Mountains to the north and the San Gorgonio Mountains in the east. There are no major landforms within the Specific Plan area.

Scenic Vistas and Corridors

Scenic vistas in the Specific Plan area are primarily associated with views of the San Bernardino Mountains to the north and vegetation associated with the Santa Ana River and its tributaries to the south and east. According to the City's General Plan EIR, the Specific Plan area is not within a scenic vista view corridor nor does it contain substantial unique scenic resources (The Planning Center 2005). Additionally, the California Scenic Highway Mapping System of the California Department of Transportation also establishes that the Specific Plan area is not on or near a major state-designated scenic highway (Caltrans 2011).

Light and Glare

Sources of light and glare in the Specific Plan area include building lights (interior and exterior), security lights, sign illumination, and parking-area lighting. Other sources of nighttime light and glare include street lights and vehicular traffic along roadways. Additionally, a substantial amount of ambient lighting comes from surrounding communities and roadways.

5.1.2 Thresholds of Significance

According to Appendix G of the CEQA Guidelines, a project would normally have a significant effect on the environment if the project would:

AE-1 Have a substantial adverse effect on a scenic vista.

AE-2 Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway.

AE-3 Substantially degrade the existing visual character or quality of the site and its surroundings.

AE-4 Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area.

5.1.3 Environmental Impacts

The assessment of aesthetic impacts is subjective by nature. Aesthetics generally refer to the identification of visual resources and the quality of what can be seen, as well as an overall visual perception of the environment. This analysis attempts to identify and objectively examine factors that contribute to the perception of aesthetic impacts. Potential aesthetic impacts can be evaluated by considering proposed grade separations, landform alteration, building setbacks, scale, massing, and landscaping features associated with the design of the Proposed Project. It should be noted, however, that there are no locally designated or defined standards or methodologies for the assessment of aesthetic impacts.

The following impact analysis addresses thresholds of significance found in Appendix G of the CEQA Guidelines. The applicable thresholds are identified in brackets after the impact statement.

Impact 5.1-1: Implementation of the Proposed Project would alter the visual appearance and character of the Specific Plan area. [Thresholds AE-1 and AE-3]

Impact Analysis: The Proposed Project is a long-range planning document that would guide development, redevelopment, and public improvements in the Specific Plan area over a period of years. As shown in Table 3-1, *Specific Plan Buildout Projections,* buildout of the Proposed Project would be expected to add approximately 2,395 residential units and 1.2 million square feet of nonresidential building space to the Specific Plan area compared to existing conditions. This additional development, along with other improvements planned by the Specific Plan, would result in changes to the existing visual appearance and character of the Specific Plan area. Because demolition of existing structures, grading activities, and construction of new land uses would be based on approval and implementation of individual projects, aesthetic changes would occur incrementally over a period of years.

Land Use Plan

When a specific plan is implemented in a city or county, the most substantial changes to community character and visual quality are usually the result of changes in allowed land uses and/or increases in additional development capacity. As described in Chapter 3 of this DEIR, the Proposed Project would establish a land use and development framework, identify needed transportation and infrastructure improvements, and serve as a marketing tool for attracting developers to key sites and for boosting economic development.

Planning Districts

The Proposed Project would establish six distinct districts to guide future development of key parcels throughout the Specific Plan area. The boundaries for each of the six districts are shown on Figure 3-4, *Proposed Planning Districts*. The districts were developed through consolidation of existing land use boundaries,

proximity, compatibility, and potential for improved use. The Specific Plan includes standards and guidelines—many designed to improve existing connections between Downtown San Bernardino and the Specific Plan area—that are tailored to each district. The anticipated effects of this land use framework are discussed below.

- **District 1: Uptown Professional District.** The Uptown Professional District is approximately 82 acres located in the northern portion of the Specific Plan area. It includes all the parcels fronting Waterman Avenue between Highland Avenue and 13th Street. The Specific Plan would consolidate the medical uses scattered along Waterman Avenue into a focused district that leverages the demand generated by St. Bernardine Medical Center. District 1 would be zoned entirely as a mixed-use district accommodating office uses, neighborhood serving commercial uses, and limited residential uses up to 20 dwelling units an acre with a focus on senior housing. New development along this corridor, in addition to implementation of development standards and design guidelines in the proposed Specific Plan, would create visual consistency and a more vibrant pedestrian environment along this corridor. Maximum permitted building heights would be 45 feet; or 55 feet for projects providing a clear community benefit and thus eligible for a Base+ incentive allowing increased height and floor area ratio.

- **District 2: Westside Neighborhood District.** The Westside Neighborhood District includes approximately 127 acres at the western end of the Specific Plan area. The boundaries of this district are formed by Sierra Way to the west, Waterman Avenue to the east, and 5th Street on the south. The district also includes the parcels fronting both sides of Baseline Street. The primary intent of this district is to improve and preserve the existing single-family neighborhoods to the west of Waterman Avenue. The District would primarily accommodate mixed-use development, including neighborhood serving commercial uses along Baseline Street and Waterman Avenue. Of the six districts in the Specific Plan area, this area would expected to see the least change in visual appearance and character since it emphasizes preservation of existing single family neighborhoods. Most changes in aesthetic quality would occur along Waterman Avenue, where adherence to proposed development standards and design guidelines would result in more consistent landscaping, pedestrian amenities, and building scale. Maximum permitted building heights would range from 30 feet to 45 feet; and to 55 feet with a Base+ incentive.[1]

- **District 3: Midtown Core District.** Located in the center of the Specific Plan area, the Midtown Core District includes 120 acres and would serve as the center of the neighborhood. The boundaries of the district are Waterman Avenue on the west, 9th Street on the south, and no formal roadway boundaries to the north or east. Pivotal to this district is the redevelopment of Waterman Gardens, a 38-acre public housing project. The Proposed Project replaces 252 units of existing public housing with multifamily, mixed-income housing development; a central park; community center; and other community and recreational resources. Olive Avenue would be redesigned as a pedestrian-oriented avenue with a variety

[1] Development standards in the proposed Specific Plan are defined for Land Use Zones – described following the description of Planning Districts – and not for Planning Districts. The Westside Neighborhood District would consist of areas with three zoning designations: Neighborhood Residential, Corridor Mixed Use, and Open Space. The 30 foot maximum building height mentioned above is for the Neighborhood Residential Zone, and the 45 feet/55 feet building heights are for the Corridor Mixed Use zone.

of housing options, shops, and eating establishments along Waterman Avenue and Baseline Street—all within walking distance of a repurposed public K-12 school campus. Mixed-use development would be accommodated including residential uses up to 30 dwelling units an acre.

Although buildout of the Proposed Project would result in a substantial change in building scale in this district, improvements related to redevelopment of the Waterman Gardens site would create a node of pedestrian activity in the heart of the Specific Plan area that would visually connect the other districts to each other. Any loss of greenery on the Waterman Gardens site would be expected to be offset by adherence to standards and guidelines in the Specific Plan that require provision of open space amenities within mixed-use projects. Maximum permitted building heights would range from 45 feet to 55 feet; and to 67 feet with a Base+ incentive.[2]

- **District 4: Eastside Neighborhood District.** The Eastside Neighborhood District includes approximately 144 acres at the eastern end of the Specific Plan area adjacent to the Midtown Core. The boundaries of this district are loosely formed by Tippecanoe Avenue and the flood control channel to the east and south, the parcels fronting Baseline Street to the north, and no formal boundary to the west. This district would primarily accommodate mixed-use development, including neighborhood serving commercial uses along Baseline Street, that is consistent with the existing single-family neighborhoods to the south. Portions of this district located along or adjacent to the flood control channel would be included in a linear park or trail system along the southern and eastern edges of the district. Aesthetic improvements to the existing neighborhood would enhance compatibility between individual neighborhoods and a more established visual buffer between residential uses and industrial uses east of the drainage channel. Maximum permitted building heights would range from 30 feet to 45 feet; and to 55 feet with a Base+ incentive.[3]

- **District 5: Gateway District.** The Gateway District includes approximately 97 acres located south of 7th Street, east of Sierra Way, north of 3th Street, and west of Waterman Avenue. This district would introduce streetscape and building design indicating a gateway to the Specific Plan area that would connect and distinguish the neighborhood from the Civic Center/Downtown. This district is intended to promote the identity of San Bernardino through enhanced landscaping and signage as well as mixed-use development at Seccombe Lake. This district accommodates mixed-use development along Waterman Avenue, with a small single-family enhancement area in the center of district. The majority of the district, including Seccombe Lake, would allow for higher density residential development up to 30 dwelling units per acre, with compatible neighborhood-serving commercial uses in the form of vertical or horizontal mixed use. Buildout of this district would provide a new opportunity to create a visual link between downtown San Bernardino, Seccombe Lake, and the remainder of the Specific Plan area. New land uses around the perimeter of the Seccombe Lake, in particular, would define that space as a safe and inviting

[2] The Midtown Core District would consist of Urban Mixed Use, Corridor Mixed Use, and Open Space land use zones.
[3] The Eastside Neighborhood District would consist of Neighborhood Residential, Corridor Mixed Use, and Open Space land use zones.

public gathering space rather than a neglected corner of central San Bernardino. Maximum permitted building heights would range from 30 feet to 55 feet; and to 67 feet with a Base+ incentive.[4]

- **District 6: Employment District.** The Employment District is approximately 140 acres, located south of 9th Street, east of Waterman Avenue, north of 3rd Street, and west of the flood control channel. This district would be an employment-generating and flexible business use district. The district would accommodate office, commercial, and business park uses, creating new job opportunities in close proximity to new and existing residential development. The Specific Plan area fronting Waterman Avenue would accommodate the development of mixed-use projects, including residential up to 20 dwelling units per acre. The existing residential neighborhood between 5th and 4th Streets would remain. Portions of this district located in or adjacent to the flood control channel would be included in a linear park or trail system.

  By allowing more intense development than what currently exists, implementation of the Proposed Project would alter the neighborhood scale and visual appearance of this area. However, it would also consolidate and enhance the existing auto-related shops into a mix of business and support services. This would create a more attractive approach into Downtown San Bernardino from the east and would create more visual unity between the area and surrounding urban neighborhoods. Maximum permitted building heights would range from 30 feet to 45 feet; and to 55 feet with a Base+ incentive.[5]

Land Use Zones

The Proposed Project would also create five new Land Use Zones to guide development and encourage revitalization of the neighborhood. Buildout of these zones would be expected to have the following aesthetics impacts:

- **Open Space.** This zone is intended to preserve and create recreational and open space opportunities throughout the Specific Plan area. New development is not permitted in this zone unless it is tied to recreational uses and/or enhancement of existing facilities, such as a linear trail, ball parks, pocket parks, and similar uses. At buildout of the Specific Plan area, this zone would create a substantial visual resource for area residents and would create a visual buffer between the Specific Plan area's neighborhood and industrial uses to the southeast. This would be a beneficial impact.

- **Neighborhood Residential.** This zone is intended to promote the preservation and enhancement of existing single-family neighborhoods while allowing for the development of new residential units up to 14 dwelling units per acre. Maximum permitted building height would be 30 feet. This zone would ensure that existing neighborhoods are buffered from incompatible surrounding uses and that adequate transitions are created between residential and non-residential uses. By preserving neighborhood character in existing single-family residential neighborhoods, implementation of this zone would have a beneficial aesthetic impact. The maximum permitted building height would be 30 feet.

[4] The Gateway District would consist of Urban Mixed Use, Neighborhood Residential, and Open Space land use zones.
[5] The Employment District would consist of Employment, Corridor Mixed Use, Neighborhood Residential, and Open Space zones.

- **Corridor Mixed Use.** This zone would encourage development of a mix of neighborhood-serving commercial and residential uses along Baseline Street and Waterman Avenue. Buildout of this zone would change the current character of these corridors—including more intense development than under existing conditions—but would include streetscape and landscaping improvements that would create visual consistency to areas that currently lack it. Adherence to development standards and design guidelines in the proposed Specific Plan would ensure that new structures would be designed to be compatible with adjacent residential neighborhoods, especially those directly south of Baseline Street. Maximum permitted building heights would be 45 feet; or 55 feet for projects providing a clear community benefit and thus eligible for a Base+ incentive allowing increased height and floor area ratio.

- **Urban Mixed Use.** This zone would encourage the development of a variety of housing options, businesses, and eating establishments. New development would change the existing visual appearance of affected areas. However, new investment would provide new opportunities to create a visual link between downtown San Bernardino, Seccombe Lake, and the remainder of the Specific Plan area. New land uses around the perimeter of the Seccombe Lake, in particular, would redefine that space as a safe and inviting urban public space rather than a neglected corner of central San Bernardino. Maximum permitted building heights would be 55 feet, or 67 feet with a Base+ incentive.

- **Employment.** This zone is intended to promote the development of employment-generating uses—including office, commercial, and business park uses—to create new opportunities in close proximity to new and existing residential development. New development in this zone would change the visual character of the area to be more consistent with surrounding uses. Because the area currently contains numerous salvage yards, neglected vacant lots, and other sources of visual blight, redevelopment in this zone would be expected to generate the greatest beneficial change in visual appearance and character. Maximum permitted building heights would be 45 feet; or 55 feet with a Base+ incentive.

Development Standards and Design Guidelines

The proposed Specific Plan includes a robust set of development standards and design guidelines designed to guide the design of new projects initiated by landowners, developers, tenants, and their consultants. Provisions of the Specific Plan include requirements related to:

- Building height, density, and floor area ratio (FAR)
- Setbacks and "step-backs" (including diagrams)
- Design of gateways, gathering spaces, and corridors
- Parking
- Signage
- Design of building facades
- Lighting and street furniture
- Plant materials and landscaping

Through implementation of the development standards and design guidelines, the Specific Plan emphasizes a "strong sense of place" and walkable, safe neighborhoods. Adherence to these standards and guidelines would create visual cohesiveness throughout the Specific Plan area while ensuring that specific development projects are designed to respond to their precise locations within the Specific Plan area (e.g., adjacent to downtown San Bernardino or at a major intersection).

Walkability and Pedestrian Safety

Proposed improvements for walkability and pedestrian safety are set forth in Chapter 6, *Mobility Plan*, of the Specific Plan; several such improvements are summarized below.

Specific Plan buildout would include building sidewalks to provide continuous sidewalks in the Specific Plan area, and adding crosswalks at intersections where some or all sides of the intersections currently lack crosswalks. Additional treatments would be provided at crosswalks and midblock crossings, such as hatched crosswalk striping, refugee islands, bulb-outs, flashing beacons or flashing in-pavement markers. Street lighting would be installed where needed. Landscape buffers would be provided in places between sidewalks and travel lanes. Street trees would be provided for shade. Underutilized parking lots would be redeveloped into parklets.

Visual cohesiveness

Visual cohesiveness would be achieved through implementation of design standards and guidelines set forth in Chapter 5, *Design Standards and Guidelines*, of the Specific Plan; several design guidelines are summarized below.

- **Building length:** individual buildings should not be over 200 feet long.
- **Parking:** Parking should be behind or under buildings wherever possible; on lots about 150 feet deep or less parking can be beside a building but should not take up more than half the primary site frontag.
- **Facades:** Facades greater than 100 feet long should incorporate wall plane projections/recesses; and should be broken up by other elements including murals, trellises, and/or colonnades.
- **Roof lines:** Vary roof forms and roof lines; and use three-dimensional cornice treatments, parapet wall details, overhanging eaves, etc. to enhance the architectural character of the roof.
- **Mixed Use buildings:** allow vertical and horizontal integration of uses in mixed use development, with uses tied together with appropriate pedestrian linkages.

Conclusion

As discussed above, buildout of the Proposed Project would introduce a substantial amount of new land uses, buildings, structures, and public improvements into the Specific Plan area. In some areas, vacant lots and low-scale development would be replaced with multi-story, urban land uses. However, components of the

proposed Specific Plan have been designed to ensure that these changes are beneficial impacts. Because of the Specific Plan area's numerous neglected and underutilized sites, redevelopment activities and related improvements to public rights-of-way would substantially improve the Specific Plan area's visual appearance. Permitted land uses in existing residential neighborhoods and land use compatibility provisions of the Specific Plan would ensure that the neighborhood character and scale of such areas would be preserved. Adverse impacts related to visual appearance and character would be less than significant.

Impact 5.1-2: Implementation of the Proposed Project would not alter scenic resources within a state scenic highway. [Threshold AE-2]

Impact Analysis: There are no state scenic highways that traverse the Specific Plan area (Caltrans 2011). The nearest eligible route is SR-330, approximately 2.5 miles to the east. Due to topography in the Specific Plan area and the surrounding vicinity, the Specific Plan area is not visible to motorists on that highway. The nearest designated state scenic highway is SR-38 in the San Bernardino National Forest, more than 30 miles to the east. The Specific Plan area is also not located within a scenic vista view corridor. Implementation of the Proposed Project would not alter scenic resources within a state scenic highway and no impact would occur.

Impact 5.1-3: Implementation of the Proposed Project would generate additional light and glare. [Threshold AE-4]

Impact Analysis: Implementation of the Proposed Project would accommodate an increase in existing residential uses from an estimated 1,946 units to approximately 4,341 units, and an increase in commercial uses from approximately 2,366,385 square feet to approximately 3,570,448 square feet. Development and redevelopment in the Specific Plan area would generate new sources of light and glare that could affect day or nighttime views. Sources of light include lighting needed to provide nighttime street and building illumination, security lighting, nighttime traffic, and lighting associated with construction activities. Light-sensitive uses in the vicinity of the Specific Plan area include residential uses and the California State University at San Bernardino observatory, which is approximately three miles northwest of the Specific Plan area. Light pollution generated in the region competes with starlight and interferes with the functions of the observatory, which require atmospheric darkness so the night sky can be viewed clearly.

However, because the Specific Plan area already contains buildings, streets, parking areas, and other light-generating land uses, any additional light and glare resulting from implementation of the Proposed Project would be minimal, generated incrementally over time, and would not expand the geographic range of light pollution in San Bernardino. The Specific Plan area is developed with residential, commercial, office, and public uses, all land uses that generate substantial amounts of light and glare under existing conditions.

Daytime and Nighttime Glare

Glare is the effect of bright direct light or reflected light on one's ability to see in a specific direction. Glare can be an annoyance and/or a safety hazard. Common sources of glare are unshielded light fixtures on buildings, reflective glass, and headlights of cars at night.

Development and redevelopment in the Specific Plan area consistent with the Proposed Project would likely generate new sources of glare. Greater allowable building intensity could result in greater surface areas of buildings and other flat surfaces. However, since much of the Specific Plan area currently features urbanized land uses, changes in building surface area would be negligible. Furthermore, new development or redevelopment would be required to comply with portions of the City's Development Code that address building design. These include Section 19.20.030.07, which regulates materials allowed on exterior walls, and Section 19.20.030.11, which requires that "no glare incidental to any use shall be visible beyond any boundary line of the parcel." Lastly, Section 5.5.1(C), Green Building Practices, of the proposed Specific Plan requires development projects to: "minimize light trespass from site, reduce sky-glow to increase night sky access, improve nighttime visibility through glare reduction, and reduce development impact on the nocturnal environment." Adherence to the Development Code and provisions of the proposed Specific Plan would minimize any sources of glare generated by implementation of the Proposed Project.

Nighttime Light Levels

Existing sources of nighttime light in the Specific Plan area include building lights (interior and exterior), security lights, sign illumination, and parking facility lighting. Other sources of nighttime light include street lights, vehicular traffic along roadways, and athletic field lighting.

Development and redevelopment in the Specific Plan area consistent with the Proposed Project would likely generate new sources of light. Especially where vacant or underutilized parcels are converted to new uses, new sources of light could increase nighttime illumination. However, because the Specific Plan area is largely built out, the lighting associated with improvements and structures of future development projects would not substantially increase nighttime light within the area. Furthermore, projects within the Specific Plan area would be required to comply with General Plan Policy LU 2.2.2, which requires that new development incorporate buffers that control ambient illumination, and provisions of the City's Development Code (see Subsection 5.1.1.1, *Regulatory Setting*, above) that address lighting spillover. The Development Code requires use of energy-efficient lighting that is directed away from adjoining properties and public rights-of-way (San Bernardino 2016). Lastly, the proposed Specific Plan requires development projects to "minimize light trespass, reduce sky-glow to increase night sky access, improve nighttime visibility through glare reduction, and reduce development impact on the nocturnal environment." (Specific Plan, Chapter 5, *Design Standards and Guidelines*, Section 5.5.1.C).

The City does not have a lighting ordinance specifying the maximum amount of lighting that may be generated by new development projects. However, future development projects would be required to comply with California's Building Energy Efficiency Standards for Residential and Nonresidential Buildings, Title 24, Part 6, of the California Code of Regulations, which outlines mandatory provisions for lighting control devices and luminaires. Adherence to these and other regulations would ensure that nighttime light generated by new development and redevelopment projects allowed under the Proposed Project would be minimized.

Conclusion

Development and redevelopment in the Specific Plan area would generate new sources of light and glare. However, adherence to existing regulations and provisions of the proposed Specific Plan would minimize these impacts. Impacts related to light and glare would be less than significant.

5.1.4 Cumulative Impacts

Visual Character and Quality

Aesthetic impacts would be localized to the Specific Plan area and its immediate surroundings. Furthermore, as documented above, implementation of the Proposed Project would result in beneficial aesthetic impacts related to neighborhood appearance and character. These beneficial impacts include the gradual replacement of automobile part salvage yards and underutilized, neglected vacant lots with attractive, neighborhood scale-appropriate mixed-use development. Implementation of standards in the Specific Plan related to urban design, landscaping, lighting, and signage would enhance major gateways to the neighborhoods surrounding the Specific Plan area. Therefore, regardless of the aesthetic qualities of projects built in the Specific Plan area's general vicinity, the Proposed Project would not contribute to an adverse impact related to visual character and quality. In consideration of these factors, the Project's contribution to cumulative aesthetic impacts would be less than considerable and, therefore, less than cumulatively significant.

Scenic Views

Scenic views of the San Bernardino Mountains visible from central San Bernardino, including those visible from large vacant parcels east of the Specific Plan area, are already obscured or partially obscured by buildings, ornamental trees, electrical lines, and other visual obstructions in the vicinity surrounding the Specific Plan area. Therefore, the Proposed Project's contribution to cumulative impacts to scenic views in central San Bernardino would be less than significant.

Light and Glare

Due to the highly developed nature of the Specific Plan area and the existence of light and glare from existing industrial, commercial, and residential uses on surrounding properties, implementation of the Proposed Project would not add significantly to the generation of nighttime light and glare in the vicinity of the Specific Plan area. Infill projects in surrounding neighborhoods would be surrounded by other light and glare-producing land uses. Their impacts would therefore not combine with those of the Proposed Project to generate new adverse impacts to existing or planned sensitive receptors such as single-family homes. Therefore, the Project's contribution to cumulative light and glare impacts would be less than considerable, and therefore less than cumulatively significant.

5.1.5 Existing Regulations and Standard Conditions

City of San Bernardino Development Code

- Property Development Standards (Chapter 19.20)

- Landscaping Standards (19.28)
- Lighting Standards (19.20.14)

5.1.6 Level of Significance Before Mitigation

Upon implementation of regulatory requirements and standard conditions of approval, the following impacts would be less than significant: 5.1-1, 5.1-2, and 5.1-3.

5.1.7 Mitigation Measures

No significant adverse impacts have been identified and no mitigation is required.

5.1.8 Level of Significance After Mitigation

No significant adverse impacts relating to aesthetics were identified.

5.1.9 References

California Department of Transportation (Caltrans). 2011, September. California Scenic Highway Mapping System. http://www.dot.ca.gov/hq/LandArch/16_livability/scenic_highways/index.htm.

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The Planning Center. 2005, July. City of San Bernardino General Plan Update and Associated Specific Plans EIR.

5. Environmental Analysis
AESTHETICS

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5.2 AIR QUALITY

This section of the Draft Environmental Impact Report (DEIR) evaluates the potential for implementation of the Waterman + Baseline Neighborhood Specific Plan (Proposed Project) to impact air quality. This evaluation is based on the methodology recommended by the South Coast Air Quality Management District (SCAQMD). The analysis focuses on air pollution from regional emissions and localized pollutant concentrations. Transportation-sector impacts are based on trip generation and vehicle miles traveled (VMT) provided by Fehr & Peers (see Appendix I of this DEIR). Criteria air pollutant emissions modeling for the Proposed Project is included in Appendix C of this DEIR.

5.2.1 Environmental Setting

5.2.1.1 REGULATORY BACKGROUND

Adopted ambient air quality standards (AAQS) are periodically updated at state and federal levels for criteria air pollutants. In addition, both the state and federal government regulate the release of toxic air contaminants (TACs). The Specific Plan area is within the South Coast Air Basin (SoCAB). Land use is subject to the rules and regulations imposed by SCAQMD, as well as the California AAQS adopted by the California Air Resources Board (CARB) and National AAQS adopted by the United States Environmental Protection Agency (EPA). Federal, state, regional, and local laws, regulations, plans, or guidelines that are potentially applicable to the Proposed Project are summarized below.

Federal and State Laws

Ambient Air Quality Standards

The Clean Air Act (CAA) was passed in 1963 by the U.S. Congress and has been amended several times. The 1970 Clean Air Act amendments strengthened previous legislation and laid the foundation for the regulatory scheme of the 1970s and 1980s. In 1977, Congress again added several provisions, including nonattainment requirements for areas not meeting National AAQS and the Prevention of Significant Deterioration program. The 1990 amendments represent the latest in a series of federal efforts to regulate the protection of air quality in the United States. The CAA allows states to adopt more stringent standards or to include other pollution species. The California Clean Air Act, signed into law in 1988, requires all areas of the state to achieve and maintain the California AAQS by the earliest practical date. The California AAQS tend to be more restrictive than the National AAQS.

The National and California AAQS are the levels of air quality considered to provide a margin of safety in the protection of the public health and welfare. They are designed to protect "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.

5. Environmental Analysis
AIR QUALITY

Both California and the federal government have established health-based AAQS for seven air pollutants, which are shown in Table 5.2-1, *Ambient Air Quality Standards for Criteria Pollutants*. These pollutants are ozone (O_3), nitrogen dioxide (NO_2), carbon monoxide (CO), sulfur dioxide (SO_2), coarse inhalable particulate matter (PM_{10}), fine inhalable particulate matter ($PM_{2.5}$), and lead (Pb). In addition, the state has set standards for sulfates, hydrogen sulfide, vinyl chloride, and visibility-reducing particles. These standards are designed to protect the health and welfare of the populace with a reasonable margin of safety.

Table 5.2-1 Ambient Air Quality Standards for Criteria Pollutants

Pollutant	Averaging Time	California Standard	Federal Primary Standard	Major Pollutant Sources
Ozone (O_3)	1 hour	0.09 ppm	*	Motor vehicles, paints, coatings, and solvents.
	8 hours	0.070 ppm	0.070 ppm	
Carbon Monoxide (CO)	1 hour	20 ppm	35 ppm	Internal combustion engines, primarily gasoline-powered motor vehicles.
	8 hours	9.0 ppm	9 ppm	
Nitrogen Dioxide (NO_2)	Annual Average	0.030 ppm	0.053 ppm	Motor vehicles, petroleum-refining operations, industrial sources, aircraft, ships, and railroads.
	1 hour	0.18 ppm	0.100 ppm[3]	
Sulfur Dioxide (SO_2)	Annual Arithmetic Mean	*	0.030 ppm[2]	Fuel combustion, chemical plants, sulfur recovery plants, and metal processing.
	1 hour	0.25 ppm	0.075 ppm[1,3]	
	24 hours	0.04 ppm	0.014 ppm[2]	
Particulate Matter (PM_{10})	Annual Arithmetic Mean	20 µg/m^3	*	Dust and fume-producing construction, industrial, and agricultural operations, combustion, atmospheric photochemical reactions, and natural activities (e.g. wind-raised dust and ocean sprays).
	24 hours	50 µg/m^3	150 µg/m^3	
Particulate Matter - Fine ($PM_{2.5}$)	Annual Arithmetic Mean	12 µg/m^3	12 µg/m^3	Dust and fume-producing construction, industrial, and agricultural operations, combustion, atmospheric photochemical reactions, and natural activities (e.g. wind-raised dust and ocean sprays).
	24 hours	*	35 µg/m^3	
Lead (Pb)	30-Day Average	1.5 µg/m^3	*	Present source: lead smelters, battery manufacturing & recycling facilities. Past source: combustion of leaded gasoline.
	Calendar Quarterly	*	1.5 µg/m^3	
	Rolling 3-Month Average	*	0.15 µg/m^3	
Sulfates (SO_4)	24 hours	25 µg/m^3	*	Industrial processes.

Table 5.2-1 Ambient Air Quality Standards for Criteria Pollutants

Pollutant	Averaging Time	California Standard	Federal Primary Standard	Major Pollutant Sources
Visibility-Reducing Particles	8 hours	ExCo =0.23/km visibility of 10≥ miles[1]	*	Visibility-reducing particles consist of suspended particulate matter, which is a complex mixture of tiny particles that consists of dry solid fragments, solid cores with liquid coatings, and small droplets of liquid. These particles vary greatly in shape, size and chemical composition, and can be made up of many different materials such as metals, soot, soil, dust, and salt.
Hydrogen Sulfide	1 hour	0.03 ppm	*	Hydrogen sulfide (H_2S) is a colorless gas with the odor of rotten eggs. It is formed during bacterial decomposition of sulfur-containing organic substances. Also, it can be present in sewer gas and some natural gas, and can be emitted as the result of geothermal energy exploitation.
Vinyl Chloride	24 hour	0.01 ppm	*	Vinyl chloride (chloroethene), a chlorinated hydrocarbon, is a colorless gas with a mild, sweet odor. Most vinyl chloride is used to make polyvinyl chloride (PVC) plastic and vinyl products. Vinyl chloride has been detected near landfills, sewage plants, and hazardous waste sites, due to microbial breakdown of chlorinated solvents.

Source: CARB 2015.
Notes: ppm = parts per million; $\mu g/m^3$ = micrograms per cubic meter
* Standard has not been established for this pollutant/duration by this entity.
1 When relative humidity is less than 70 percent.
2 On June 2, 2010, a new 1-hour SO_2 standard was established and the existing 24-hour and annual primary standards were revoked. The 1971 SO_2 national standards (24-hour and annual) remain in effect until one year after an area is designated for the 2010 standard, except that in areas designated nonattainment for the 1971 standards, the 1971 standards remain in effect until implementation plans to attain or maintain the 2010 standards are approved.
3 NO_2 and SO_2 standards are converted from ppb (parts per billion) to ppm for consistency purposes.

California has also adopted a host of other regulations that reduce criteria pollutant emissions, including:

- AB 1493: Pavley Fuel Efficiency Standards
- Title 20 California Code of Regulations (CCR): Appliance Energy Efficiency Standards
- Title 24, Part 6, CCR: Building and Energy Efficiency Standards
- Title 24, Part 11, CCR: Green Building Standards Code

Tanner Air Toxics Act and Air Toxics Hots Information and Assessment Act

Public exposure to 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 reduce exposure to them. The California 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" (17 CCR Section 93000). A substance that is listed as a hazardous air pollutant pursuant to Section 112(b) of the federal Clean Air Act (42 U.S. Code Section 7412[b]) is a toxic air contaminant. Under state law, the California Environmental Protection Agency, acting through CARB, is authorized to identify a substance as a TAC if it is an air pollutant that may cause or contribute to an increase in mortality or serious illness, or may pose a present or potential hazard to human health.

California regulates TACs primarily through AB 1807 (Tanner Air Toxics Act) and AB 2588 (Air Toxics "Hot Spot" Information and Assessment Act of 1987). The Tanner Air Toxics Act set up a formal procedure for CARB to designate substances as TACs. Once a TAC is identified, CARB adopts an "airborne toxics control measure" for sources that emit that TAC. If there is a safe threshold for a substance (i.e., 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. To date, CARB has established formal control measures for 11 TACs that are identified as having no safe threshold.

Under AB 2588, TAC 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 through notices and public meetings.

CARB has promulgated the following specific rules to limit TAC emissions:

- **CARB Rule 2485 (13 CCR Chapter 10, Section 2485),** Airborne Toxic Control Measure to Limit Diesel-Fueled Commercial Motor Vehicle Idling
- **CARB Rule 2480 (13 CCR Chapter 10, Section 2480),** Airborne Toxic Control Measure to Limit School Bus Idling and Idling at Schools
- **CARB Rule 2477 (13 CCR Section 2477 and Article 8),** Airborne Toxic Control Measure for In-Use Diesel-Fueled Transport Refrigeration Units (TRU) and TRU Generator Sets and Facilities Where TRUs Operate

Regional and Local Plans

SANBAG Regional GHG Reduction Plan (Incorporated Cities)

The San Bernardino Association of Governments (SANBAG) led a regional GHG reduction planning initiative in partnership with its 21 partnership cities. The Regional GHG Reduction Plan (2014) includes

2008 and 2020 inventories, individual GHG reduction goals, and a summary of the actions each of the 21 partnership cities has selected to reduce GHG emissions. The SANBAG GHG regional reduction planning effort complements the unincorporated County's GHG Emissions Reduction Plan to ensure a consistent approach is taken for reducing GHG emissions countywide in the incorporated partnership cities. The City of San Bernardino has not formerly adopted the San Bernardino chapter of the Regional GHG Reduction Plan. The GHG reduction measures in the Regional GHG Reduction Plan have air quality co-benefits.

City of San Bernardino General Plan

The City of San Bernardino's General Plan includes a Natural Resource and Conservation Element and an Energy and Water Conservation Element, which provide goals and policies aimed at improving air quality and reducing energy use and water in the City. Additionally, the City's Circulation Element identifies goals and policies to reduce reliance on passenger vehicles and improve congestion in the City.

Air Pollutants of Concern

Criteria Air Pollutants

The pollutants emitted into the ambient air by stationary and mobile sources are categorized as primary and/or secondary pollutants. Primary air pollutants are emitted directly from sources. Carbon monoxide (CO), volatile organic compounds (VOC), nitrogen oxides (NO_x), sulfur dioxide (SO_2), coarse inhalable particulate matter (PM_{10}), fine inhalable particulate matter ($PM_{2.5}$), and lead (Pb) are primary air pollutants. Of these, CO, SO_2, NO_2, PM_{10}, and $PM_{2.5}$ are "criteria air pollutants," which means that AAQS have been established for them. VOC and NO_x are criteria pollutant precursors that form secondary criteria air pollutants through chemical and photochemical reactions in the atmosphere. Ozone (O_3) and nitrogen dioxide (NO_2) are the principal secondary pollutants.

A description of each of the primary and secondary criteria air pollutants and its known health effects is presented below.

- **Carbon Monoxide** is a colorless, odorless gas produced by incomplete combustion of carbon substances, such as gasoline or diesel fuel. CO is a primary criteria air pollutant. CO concentrations tend to be the highest during winter mornings with little to no wind, when surface-based inversions trap the pollutant at ground levels. The highest ambient CO concentrations are generally found near traffic-congested corridors and intersections. 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; USEPA 2015a). The SoCAB is designated under the California and National AAQS as being in attainment of CO criteria levels (CARB 2014).

- **Volatile Organic Compounds** are composed primarily of hydrogen and carbon atoms. Internal combustion associated with motor vehicle usage is the major source of VOCs. Other sources include evaporative emissions from paints and solvents, asphalt paving, and household consumer products such as aerosols (SCAQMD 2005). There are no AAQS for VOCs. However, because they contribute to the formation of O_3, SCAQMD has established a significance threshold.

- **Nitrogen Oxides** are a by-product of fuel combustion and contribute to the formation of ground-level O_3, PM_{10}, and $PM_{2.5}$. The two major forms of NO_X are nitric oxide (NO) and nitrogen dioxide (NO_2). NO is a colorless, odorless gas formed from atmospheric nitrogen and oxygen when combustion takes place under high temperature and/or high pressure. The principal form of NO_X produced by combustion is NO, but NO reacts quickly with oxygen to form NO_2, creating the mixture of NO and NO_2 commonly called NO_X. NO_2 is an acute irritant and more injurious than NO in equal concentrations. At atmospheric concentrations, however, NO_2 is only potentially irritating. NO_2 absorbs blue light; the result is a brownish-red cast to the atmosphere and reduced visibility. NO_2 exposure concentrations near roadways are of particular concern for susceptible individuals, including asthmatics, children, and the elderly. Current scientific evidence links short-term NO_2 exposures, ranging from 30 minutes to 24 hours, with adverse respiratory effects, including airway inflammation in healthy people and increased respiratory symptoms in people with asthma. Also, studies show a connection between elevated short-term NO_2 concentrations and increased visits to emergency departments and hospital admissions for respiratory issues, especially asthma (SCAQMD 2005; USEPA 2015a). The SoCAB is designated an attainment area for NO_2 under the National and California AAQS (CARB 2014).

- **Sulfur Dioxide** a colorless, pungent, irritating gas formed by the combustion of sulfurous fossil fuels. It enters the atmosphere as a result of burning high-sulfur-content fuel oils and coal and chemical processes at plants and refineries. Gasoline and natural gas have very low sulfur content and do not release significant quantities of SO_2. When sulfur dioxide forms sulfates (SO_4) in the atmosphere, together these pollutants are referred to as sulfur oxides (SO_X). Thus, SO_2 is both a primary and secondary criteria air pollutant. At sufficiently high concentrations, SO_2 may irritate the upper respiratory tract. Current scientific evidence links short-term exposures to SO_2, ranging from 5 minutes to 24 hours, with an array of adverse respiratory effects, including bronchoconstriction and increased asthma symptoms. These effects are particularly adverse for asthmatics at elevated ventilation rates (e.g., while exercising or playing.) At lower concentrations and when combined with particulates, SO_2 may do greater harm by injuring lung tissue. Studies also show a connection between short-term exposure and increased visits to emergency facilities and hospital admissions for respiratory illnesses, particularly in at-risk populations such as children, the elderly, and asthmatics (SCAQMD 2005; USEPA 2015a). The SoCAB is designated attainment under the California and National AAQS (CARB 2014).

- **Suspended Particulate Matter** consists of finely divided solids or liquids such as soot, dust, aerosols, fumes, and mists. Two forms of fine particulates are now recognized and regulated. Inhalable coarse particles, or PM_{10}, include particulate matter with an aerodynamic diameter of 10 microns or less (i.e., ≤10 millionths of a meter or 0.0004 inch). Inhalable fine particles, or $PM_{2.5}$, have an aerodynamic diameter of 2.5 microns or less (i.e., ≤2.5 millionths of a meter or 0.0001 inch). Particulate discharge into the atmosphere results primarily from industrial, agricultural, construction, and transportation activities. Both PM_{10} and $PM_{2.5}$ may adversely affect the human respiratory system, especially in people who are naturally sensitive or susceptible to breathing problems. The EPA's scientific review concluded that $PM_{2.5}$, which penetrates deeply into the lungs, is more likely than PM_{10} to contribute to health effects and at far lower concentrations. These health effects include premature death in people with heart or lung disease, nonfatal heart attacks, irregular heartbeat, aggravated asthma, decreased lung function, and increased

respiratory symptoms (e.g., irritation of the airways, coughing, or difficulty breathing) (SCAQMD 2005). There has been emerging evidence that ultrafine particulates, which are even smaller particulates with an aerodynamic diameter of <0.1 microns or less (i.e., ≤0.1 millionths of a meter or <0.000004 inch), have human health implications, because their toxic components may initiate or facilitate biological processes that may lead to adverse effects to the heart, lungs, and other organs (SCAQMD 2013). However, the EPA or CARB has yet to adopt AAQS to regulate these particulates. Diesel particulate matter is classified by CARB as a carcinogen (CARB 1998). Particulate matter can also cause environmental effects such as visibility impairment,[1] environmental damage,[2] and aesthetic damage[3] (SCAQMD 2005; USEPA 2015a). The SoCAB is a nonattainment area for $PM_{2.5}$ under California and National AAQS and a nonattainment area for PM_{10} under the California AAQS (CARB 2014).[4]

- **Ozone** is commonly referred to as "smog" and is a gas that is formed when VOCs and NO_X, both by-products of internal combustion engine exhaust, undergo photochemical reactions in sunlight. O_3 is a secondary criteria air pollutant. O_3 concentrations are generally highest during the summer months when direct sunlight, light winds, and warm temperatures create favorable conditions for its formation. O_3 poses a health threat to those who already suffer from respiratory diseases as well as to healthy people. Breathing O_3 can trigger a variety of health problems, including chest pain, coughing, throat irritation, and congestion. It can worsen bronchitis, emphysema, and asthma. Ground-level O_3 also can reduce lung function and inflame the linings of the lungs. Repeated exposure may permanently scar lung tissue. O_3 also affects sensitive vegetation and ecosystems, including forests, parks, wildlife refuges, and wilderness areas. In particular, O_3 harms sensitive vegetation during the growing season (SCAQMD 2005; USEPA 2015a). The SoCAB is designated extreme nonattainment under the California AAQS (1-hour and 8-hour) and National AAQS (8-hour) (CARB 2014).

- **Lead** is a metal found naturally in the environment as well as in manufactured products. Once taken into the body, lead distributes throughout the body in the blood and accumulates in the bones. Depending on the level of exposure, lead can adversely affect the nervous system, kidney function, immune system, reproductive and developmental systems, and the cardiovascular system. Lead exposure also affects the oxygen-carrying capacity of the blood. The effects of lead most commonly encountered in current populations are neurological effects in children and cardiovascular effects in adults (e.g., high blood pressure and heart disease). Infants and young children are especially sensitive to even low levels of lead, which may contribute to behavioral problems, learning deficits, and lowered IQ (SCAMQD 2005; USEPA 2015a). The major sources of lead emissions have historically been mobile and industrial sources. As a result of the EPA's regulatory efforts to remove lead from gasoline, emissions of lead from the

[1] $PM_{2.5}$ is the main cause of reduced visibility (haze) in parts of the United States.

[2] Particulate matter can be carried over long distances by wind and then settle on ground or water, making lakes and streams acidic; changing the nutrient balance in coastal waters and large river basins; depleting the nutrients in soil; damaging sensitive forests and farm crops; and affecting the diversity of ecosystems.

[3] Particulate matter can stain and damage stone and other materials, including culturally important objects such as statues and monuments.

[4] CARB approved the SCAQMD's request to redesignate the SoCAB from serious nonattainment for PM_{10} to attainment for PM_{10} under the National AAQS on March 25, 2010, because the SoCAB did not violate federal 24-hour PM_{10} standards from 2004 to 2007. The EPA approved the State of California's request to redesignate the South Coast PM_{10} nonattainment area to attainment of the PM_{10} National AAQS, effective on July 26, 2013.

transportation sector dramatically declined by 95 percent between 1980 and 1999, and levels of lead in the air decreased by 94 percent between 1980 and 1999. Today, the highest levels of lead in air are usually found near lead smelters. The major sources of lead emissions today are ore and metals processing and piston-engine aircraft operating on leaded aviation gasoline. However, in 2008 the EPA and CARB adopted more strict lead standards, and special monitoring sites immediately downwind of lead sources recorded very localized violations of the new state and federal standards.[5] As a result of these violations, the Los Angeles County portion of the SoCAB is designated as nonattainment under the National AAQS for lead (SCAQMD 2012; CARB 2014). Because emissions of lead are found only in projects that are permitted by SCAQMD, lead is not a pollutant of concern for the Proposed Project.

Toxic Air Contaminants

By the last update to the TAC list in December 1999, CARB had designated 244 compounds as TACs (CARB 1999). Additionally, CARB 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.

Diesel Particulate Matter

In 1998, CARB identified diesel particulate matter as a TAC. Previously, the individual chemical compounds in diesel exhaust were considered TACs. Almost all diesel exhaust particles are 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 lungs.

Air Quality Management Planning

SCAQMD is the agency responsible for improving air quality in the SoCAB and assuring that the National and California AAQS are attained and maintained. SCAQMD is responsible for preparing the air quality management plan (AQMP) for the SoCAB in coordination with the Southern California Association of Governments (SCAG). Since 1979, a number of AQMPs have been prepared.

2012 AQMP

On December 7, 2012, SCAQMD adopted the 2012 AQMP, which employs the most up-to-date science and analytical tools and incorporates a comprehensive strategy aimed at controlling pollution from all sources, including stationary sources, on- and off-road mobile sources, and area sources. It also addresses several state and federal planning requirements, incorporating new scientific information, primarily in the form of updated emissions inventories, ambient measurements, and new meteorological air quality models. The 2012 AQMP builds upon the approach identified in the 2007 AQMP for attainment of federal PM and ozone standards and highlights the significant amount of reductions needed. It also highlights the urgent need to engage in

[5] Source-oriented monitors record concentrations of lead at lead-related industrial facilities in the SoCAB, which include Exide Technologies in the City of Commerce; Quemetco, Inc., in the City of Industry; Trojan Battery Company in Santa Fe Springs; and Exide Technologies in Vernon. Monitoring conducted between 2004 through 2007 showed that the Trojan Battery Company and Exide Technologies exceed the federal standards (SCAQMD 2012).

interagency coordinated planning to identify additional strategies, especially in the area of mobile sources, to meet all federal criteria air pollutant standards within the time frames allowed under the CAA. The 2012 AQMP demonstrates attainment of federal 24-hour $PM_{2.5}$ standards by 2014 and the federal 8-hour ozone standard by 2023. Preliminary ambient air quality data suggests that meeting the 2016 federal 24-hour $PM_{2.5}$ standards by the end of 2014 is not likely, largely due to the extreme drought conditions in the SoCAB (SCAQMD 2015c). It includes an update to the revised EPA 8-hour ozone control plan with new commitments for short-term NO_X and VOC reductions. The plan also identifies emerging issues—ultrafine particulate matter ($PM_{1.0}$), near-roadway exposure, and energy supply and demand.

2016 Draft AQMP

The SCAQMD is in the process of updating the AQMP. The 2016 AQMP will address strategies and measures to attain the 2008 federal 8-hour ozone standard by 2032 and the 2012 federal annual $PM_{2.5}$ standard by 2021. The 2016 AQMP will also take an initial look at the 2015 federal 8-hour ozone standard and will update previous attainment plans for ozone and $PM_{2.5}$ that have not yet been met (SCAQMD 2015d).

Lead State Implementation Plan

In 2008, the EPA designated the Los Angeles County portion of the SoCAB as a nonattainment area under the federal lead classification due to the addition of source-specific monitoring under the new federal regulation. This designation was based on two source-specific monitors in the City of Vernon and the City of Industry that exceeded the new standard in the 2007-to-2009 period. The remainder of the SoCAB, outside the Los Angeles County nonattainment area, remains in attainment of the new 2008 lead standard. On May 24, 2012, CARB approved the State Implementation Plan (SIP) revision for the federal lead standard, which the EPA revised in 2008. Lead concentrations in this nonattainment area have been below the level of the federal standard since December 2011. The SIP revision was submitted to the EPA for approval.

5.2.1.2 EXISTING CONDITIONS

South Coast Air Basin

The Specific Plan area is in the SoCAB, which includes all of Orange County and the nondesert portions of Los Angeles, Riverside, and San Bernardino counties. The SoCAB is in a coastal plain with connecting broad valleys and low hills and is bounded by the Pacific Ocean in the southwest, with high mountains forming the remainder of the perimeter. The general region lies in the semipermanent high-pressure zone of the eastern Pacific. As a result, the climate is mild, tempered by cool sea breezes. This usually mild weather pattern is interrupted infrequently by periods of extremely hot weather, winter storms, and Santa Ana winds (SCAQMD 2005).

Temperature and Precipitation

The annual average temperature varies little throughout the SoCAB, 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 climatological station

nearest to the Specific Plan area that best represents the climatological conditions of the Specific Plan area is the San Bernardino Monitoring Station (ID 047723). The average low is reported at 38.5°F in January, and the average high is 96.2°F in July and August (WRCC 2016).

In contrast to a very steady pattern of temperature, rainfall is seasonally and annually highly variable. Almost all rain falls from November through May. Rainfall averages 16.12 inches per year in the vicinity of the Specific Plan area (WRCC 2016).

Humidity

Although the SoCAB has a semiarid climate, the air near the earth's surface is typically moist because of a shallow marine layer. This "ocean effect" is dominant except for infrequent periods when dry, continental air is brought into the SoCAB by offshore winds. Periods of heavy fog, especially along the coast, are frequent. Low clouds, often referred to as high fog, are a characteristic climatic feature. Annual average humidity is 70 percent at the coast and 57 percent in the eastern portions of the SoCAB (SCAQMD 2005).

Wind

Wind patterns across the southern coastal region are characterized by westerly or 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 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 SoCAB, 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 to the east inhibit the eastward transport and diffusion of pollutants. Air quality in the SoCAB 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 (SCAQMD 2005).

Inversions

In conjunction with the two characteristic wind patterns that affect the rate and orientation of horizontal pollutant transport, two distinct types of temperature inversions 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 Specific Plan area (SCAQMD 2005).

SoCAB Nonattainment Designations

The AQMP provides the framework for air quality basins to achieve attainment of the California and National AAQS through the SIP. Areas are classified as attainment or nonattainment areas for particular pollutants depending on whether they meet the ambient air quality standards. Severity classifications for ozone nonattainment are marginal, moderate, serious, severe, and extreme. The attainment status for the SoCAB is shown in Table 5.2-2, *Attainment Status of Criteria Pollutants in the South Coast Air Basin*. The SoCAB is designated in attainment of the California AAQS for sulfates and designated a nonattainment area for lead (Los Angeles County only) under the National AAQS.

Table 5.2-2 Attainment Status of Criteria Pollutants in the South Coast Air Basin

Pollutant	State	Federal
Ozone – 1-hour	Extreme Nonattainment	No Federal Standard
Ozone – 8-hour	Extreme Nonattainment	Extreme Nonattainment
PM_{10}	Serious Nonattainment	Attainment/Maintenance
$PM_{2.5}$	Nonattainment	Nonattainment
CO	Attainment	Attainment
NO_2	Attainment	Attainment/Maintenance
SO_2	Attainment	Attainment
Lead	Attainment	Nonattainment (Los Angeles County only)[1]
All others	Attainment/Unclassified	Attainment/Unclassified

Source: CARB 2014.
[1] In 2010, the Los Angeles portion of the SoCAB was designated nonattainment for lead under the new 2008 federal AAQS as a result of large industrial emitters. Remaining areas within the SoCAB are unclassified.

Existing Ambient Air Quality

Existing ambient air quality, historical trends, and projections in the vicinity of the Specific Plan area are best documented by measurements made by SCAQMD. The Specific Plan area lies within Source Receptor Area (SRA) 34 (Central San Bernardino Valley). The air quality monitoring station closest to the Specific Plan area is the San Bernardino 4th Street Monitoring Station. However, this station only monitors O_3, NO_2, CO, PM_{10}, and $PM_{2.5}$, so data for SO_2 was obtained from the Riverside Rubidoux Monitoring Station. Data from these stations are summarized in Table 5.2-3. The data show that the area frequently exceeds the state and federal eight-hour O_3 standard and state 1-hour O_3 standard. The area regularly exceeds the state PM_{10} and the federal $PM_{2.5}$ standards and occasionally exceeds the federal PM_{10} standard. CO, NO_2, and SO_2 standards have not been exceeded in the last five years in the Specific Plan vicinity.

Table 5.2-3 Ambient Air Quality Monitoring Summary[1]

Pollutant/Standard	Number of Days Thresholds Were Exceeded and Maximum Levels during Such Violations				
	2011	2012	2013	2014	2015
Ozone (O_3)					
State 1-Hour ≥ 0.09 ppm	40	41	22	38	52
State 8-hour ≥ 0.070 ppm	66	77	53	76	79
Federal 8-Hour > 0.070 ppm[2]	39	54	36	51	57
Max. 1-Hour Conc. (ppm)	0.135	0.124	0.139	0.121	0.134
Max. 8-Hour Conc. (ppm)	0.121	0.109	0.113	0.100	0.118
Carbon Monoxide (CO)					
State 8-Hour > 9.0 ppm	0	0	NA	NA	NA
Federal 8-Hour ≥ 9.0 ppm	0	0	NA	NA	NA
Max. 8-Hour Conc. (ppm)	1.72	1.69	NA	NA	NA
Nitrogen Dioxide (NO_2)					
State 1-Hour ≥ 0.18 ppm	0	0	0	0	0
Federal 1-Hour ≥ 0.18 ppm	0	0	0	0	0
Max. 1-Hour Conc. (ppb)	61.9	67.0	72.1	72.6	71.4
Sulfur Dioxide (SO_2)					
State 1-Hour ≥ 0.04 ppm	0	0	NA	NA	NA
Max. 1-Hour Conc. (ppm)	0.001	0.001	NA	NA	NA
Coarse Particulates (PM_{10})					
State 24-Hour > 50 µg/m^3	2	1	2	2	1
Federal 24-Hour > 150 µg/m^3	0	0	1	1	0
Max. 24-Hour Conc. (µg/m^3)	128.4	68.1	177.3	157.2	63.8
Fine Particulates ($PM_{2.5}$)					
Federal 24-Hour > 35 µg/m^3	2	0	1	1	2
Max. 24-Hour Conc. (µg/m^3)	65.0	34.8	55.3	73.9	53.5

Sources: CARB 2016.
ppm: parts per million; ppb: parts per billion; µg/m^3: micrograms per cubic meter; NA: not available
1 Data for O_3, CO, NO_2, PM_{10}, and $PM_{2.5}$ obtained from the San Bernardino 4th Street Monitoring Station. Data for SO_2 obtained from the Riverside Rubidoux Monitoring Station.
2 On October 1, 2015, the EPA adopted a new 8-hour National AAQS for ozone of 0.070 ppm (70 ppb).

Existing Criteria Air Pollutant Emissions

Table 5.2-4, *Existing Criteria Air Pollutant Emissions Inventory*, is based on existing land uses in the Specific Plan area. Criteria air pollutant emissions generated in the Project area were estimated using the California Emissions Estimator Model (CalEEMod), version 2013.2.2.

Table 5.2-4 Existing Criteria Air Pollutant Emissions Inventory for the Specific Plan Area

Sector	Criteria Air Pollutant Emissions (pounds per day)					
	VOC	NO_x	CO	SO_2	PM_{10}	$PM_{2.5}$
Community Emissions						
Area	478	4	359	0	29	29
Energy[1]	3	23	14	0	2	2
On-Road Transportation[2]	404	1,284	4,759	10	644	183
Total	885	1,311	5,132	10	674	214

Source: CalEEMod 2013.2.2. for year 2015. Totals may not add to 100 percent due to rounding.
[1] Existing residential and nonresidential building energy use modeled using historical energy demand rates in CalEEMod.
[2] Transportation emissions are based on trip generation and VMT provided by Fehr & Peers.

Existing Health Risk Mapping

SoCAB Multiple Air Toxics Exposure Study

The Multiple Air Toxics Exposure Study (MATES) is a monitoring and evaluation study on ambient concentrations of TACs and the potential health risks from air toxics in the SoCAB. In 2008, SCAQMD conducted its third update to the MATES study (MATES III) based on the Office of Environmental Health Hazards Assessment (OEHHA) 2003 Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments (2003 HRA Guidance Manual). 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 in the SoCAB. The largest contributor to this risk was diesel exhaust, which accounted for 84 percent of the cancer risk (SCAQMD 2008a).

SCAQMD recently released the fourth update (MATES IV), which was also based on OEHHA's 2003 HRA Guidance Manual. The results showed that the overall monitored risk for excess cancer from a lifetime exposure to ambient levels of air toxics decreased to approximately 418 in one million in the SoCAB. Compared to the 2008 MATES III, monitored excess cancer risks decreased by approximately 65 percent. Approximately 90 percent of the risk is attributed to mobile sources, and 10 percent is attributed to TACs from stationary sources, such as refineries, metal processing facilities, gas stations, and chrome plating facilities. The largest contributor to this risk was diesel exhaust, which accounted for approximately 68 percent of the air toxics risk. Compared to MATES III, MATES IV found substantial improvement in air quality and an associated decrease in air toxics exposure. As a result, the estimated basinwide population-weighted risk decreased by approximately 57 percent since MATES III. Based on the results of the MATES°IV analysis, cancer risk within the Specific Plan area ranges from 731.86 to 822.97 per million over a 70-year lifetime (SCAQMD 2016a).

OEHHA updated the guidelines for estimating cancer risks on March 6, 2015. The new method utilizes higher estimates of cancer potency during early life exposures, which result in a higher calculation of risk. There are also differences in the assumptions on breathing rates and length of residential exposures. When combined together, SCAQMD estimates that risks for a given inhalation exposure level will be about 2.7

times higher than the risk identified in MATES IV using the 2015 OEHHA guidance methodology (e.g., 2.7 times higher than 418 in one million overall excess cancer risk) (SCAQMD 2015b).

Sensitive Receptors

Some land uses are considered more sensitive to air pollution than others due to the types of population groups or activities involved. Sensitive population groups include children, the elderly, the acutely ill, and the chronically ill, especially those with cardiorespiratory diseases.

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

5.2.2 Thresholds of Significance

According to Appendix G of the CEQA Guidelines, a project would normally have a significant effect on the environment if the Proposed Project would:

AQ-1 Conflict with or obstruct implementation of the applicable air quality plan.

AQ-2 Violate any air quality standard or contribute substantially to an existing or projected air quality violation.

AQ-3 Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors).

AQ-4 Expose sensitive receptors to substantial pollutant concentrations.

AQ-5 Create objectionable odors affecting a substantial number of people.

South Coast Air Quality Management District

The analysis of the Proposed Project's air quality impacts follows the guidance and methodologies recommended in SCAQMD's *CEQA Air Quality Handbook* and the significance thresholds on SCAQMD's website.[6] CEQA allows the significance criteria established by the applicable air quality management or air

[6] SCAQMD's air quality significance thresholds are current as of March 2011 and can be found at: http://www.aqmd.gov/ceqa/hdbk.html.

pollution control district to be used to assess impacts of a project on air quality. SCAQMD has established regional thresholds of significance. In addition to the regional thresholds, projects are subject to the AAQS.

SCAQMD Regional Significance Thresholds

SCAQMD has adopted regional construction and operational emissions thresholds to determine a project's cumulative impact on air quality in the SoCAB. Table 5.2-5, *SCAQMD Significance Thresholds*, lists thresholds that are applicable for all projects uniformly regardless of size or scope. There is growing evidence that although ultrafine particulates contribute a very small portion of the overall atmospheric mass concentration, they represent a greater proportion of the health risk from PM. However, the EPA or CARB have not yet adopted AAQS to regulate ultrafine particulates; therefore, SCAQMD has not developed thresholds for them.

Table 5.2-5 SCAQMD Significance Thresholds

Air Pollutant	Construction Phase	Operational Phase
Reactive Organic Gases (ROGs)/ Volatile Organic Compounds (VOCs)	75 lbs/day	55 lbs/day
Carbon Monoxide (CO)	550 lbs/day	550 lbs/day
Nitrogen Oxides (NO_x)	100 lbs/day	55 lbs/day
Sulfur Oxides (SO_x)	150 lbs/day	150 lbs/day
Particulates (PM_{10})	150 lbs/day	150 lbs/day
Particulates ($PM_{2.5}$)	55 lbs/day	55 lbs/day

Source: SCAQMD 2015a.

Projects that exceed the regional significance threshold contribute to the nonattainment designation of the SoCAB. The attainment designations are based on the AAQS, which are set at levels of exposure that are determined to not result in adverse health. Exposure to fine particulate pollution and ozone causes myriad health impacts, particularly to the respiratory and cardiovascular systems:

- Linked to increased cancer risk ($PM_{2.5}$, TACs)
- Aggravates respiratory disease (O_3, $PM_{2.5}$)
- Increases bronchitis (O_3, $PM_{2.5}$)
- Causes chest discomfort, throat irritation, and increased effort to take a deep breath (O_3)
- Reduces resistance to infections and increases fatigue (O_3)
- Reduces lung growth in children ($PM_{2.5}$)
- Contributes to heart disease and heart attacks ($PM_{2.5}$)
- Contributes to premature death (O_3, $PM_{2.5}$)
- Linked to lower birth weight in newborns ($PM_{2.5}$) (SCAQMD 2015e)

Exposure to fine particulates and ozone aggravates asthma attacks and can amplify other lung ailments such as emphysema and chronic obstructive pulmonary disease. Exposure to current levels of $PM_{2.5}$ is responsible for an estimated 4,300 cardiopulmonary-related deaths per year in the SoCAB. In addition, University of

Southern California scientists responsible for a landmark children's health study found that lung growth improved as air pollution declined for children aged 11 to 15 in five communities in the SoCAB (SCAQMD 2015f).

Mass emissions in Table 5.2-5 are not correlated with concentrations of air pollutants but contribute to the cumulative air quality impacts in the SoCAB. Therefore, regional emissions from a single project do not single-handedly trigger a regional health impact. SCAQMD is the primary agency responsible for ensuring the health and welfare of sensitive individuals to elevated concentrations of air quality in the SoCAB. To achieve the health-based standards established by the EPA, SCAQMD prepares an AQMP that details regional programs to attain the AAQS.

CO Hotspots

Areas of vehicle congestion have the potential to create pockets of CO called hotspots. These pockets have the potential to exceed the state one-hour standard of 20 ppm or the eight-hour standard of 9 ppm. Because CO is produced in greatest quantities from vehicle combustion and does not readily disperse into the atmosphere, adherence to AAQS is typically demonstrated through an analysis of localized CO concentrations. Hotspots are typically produced at intersections, where traffic congestion is highest because vehicles queue for longer periods and are subject to reduced speeds. With the turnover of older vehicles and introduction of cleaner fuels, as well as implementation of control technology on industrial facilities, CO concentrations in the SoCAB and the state have steadily declined.

Localized Significance Thresholds

SCAQMD identifies localized significance thresholds, shown in Table 5.2-6, *Localized Significance Thresholds*. Emissions of NO_2, CO, PM_{10}, and $PM_{2.5}$ generated at a project site (offsite mobile-source emissions are not included in the LST analysis) could expose sensitive receptors to substantial concentrations of criteria air pollutants. A project that generates emissions that trigger a violation of the AAQS when added to the local background concentrations would generate a significant impact.

Table 5.2-6 Localized Significance Thresholds

Air Pollutant (Relevant AAQS)	Concentration
1-Hour CO Standard (California AAQS)[1]	20 ppm
8-Hour CO Standard (California AAQS/ National AAQS)	9.0 ppm
1-Hour NO_2 Standard (California AAQS)	0.18 ppm
Annual Average NO_2 Standard ((California AAQS)[1]	0.03 ppm
24-Hour PM_{10} Standard – Construction (SCAQMD)[2]	10.4 µg/m^3
24-Hour $PM_{2.5}$ Standard – Construction (SCAQMD)[2]	10.4 µg/m^3
24-Hour PM_{10} Standard – Operation (SCAQMD)[2]	2.5 µg/m^3
24-Hour $PM_{2.5}$ Standard – Operation (SCAQMD)[2]	2.5 µg/m^3
Annual Average PM_{10} Standard (SCAQMD)[2]	1.0 µg/m^3

Sources: SCAQMD 2015a and CARB 2015.
ppm = parts per million; µg/m^3 = micrograms per cubic meter
1 Based on the more restrictive California AAQS for CO and NO_2.
2 Threshold is based on SCAQMD Rule 403. Since the SoCAB is nonattainment for PM_{10} and $PM_{2.5}$, the threshold is the allowable change in concentration. Background concentration is irrelevant.

Health Risk Thresholds

Whenever a project would require use of chemical compounds that have been identified in SCAQMD Rule 1401, placed on CARB's air toxics list pursuant to AB 1807, or placed on the EPA's National Emissions Standards for Hazardous Air Pollutants, a health risk assessment is required by the SCAQMD. Table 5.2 7, *Toxic Air Contaminants Incremental Risk Thresholds*, lists the TAC incremental risk thresholds for operation of a project. The purpose of this EIR is to identify the significant effects of the Proposed Project on the environment, not the significant effects of the environment on the Proposed Project (*California Building Industry Association v. Bay Area Air Quality Management District* (2015) 62 Cal.4th 369 (Case No. S213478)). CEQA does not require an EIR to analyze the environmental effects of attracting development and people to an area. However, the EIR must analyze the impacts of environmental hazards on future users when the Proposed Project exacerbates an existing environmental hazard or condition. Residential, commercial, and office uses do not use substantial quantities of TACs and typically do not exacerbate existing hazards, so these thresholds are typically applied to new industrial projects.

Table 5.2-7 Toxic Air Contaminants Incremental Risk Thresholds

Maximum Incremental Cancer Risk	≥ 10 in 1 million
Cancer Burden (in areas ≥ 1 in 1 million)	> 0.5 excess cancer cases
Hazard Index (project increment)	≥ 1.0

Source: SCAQMD 2015a.

5.2.3 Environmental Impacts

Methodology

This air quality evaluation was prepared in accordance with the requirements of CEQA to determine if significant air quality impacts are likely to occur in conjunction with future development allowed by the proposed Specific Plan. SCAQMD has published guidelines that are intended to provide local governments with guidance for analyzing and mitigating air quality impacts and that were used in this analysis (SCAQMD 1993; SCAMQD 2008; SCAQMD 2015a; SCAQMD 2016). Industrial sources of emissions that require a permit from SCAQMD (permitted sources) are not included in the Specific Plan area community inventory since they have separate emission reduction requirements. Modeling of criteria air pollutants was conducted using the California Emissions Estimator Model (CalEEMod), version 2013.2.2. On-road transportation sources are based on trip generation rates and VMT provided by Fehr & Peers.

The following impact analysis addresses thresholds of significance for which the Initial Study disclosed potentially significant impacts. The applicable thresholds are identified in brackets after the impact statement.

Impact 5.2-1: Buildout of the Proposed Project would generate slightly more growth than the existing general plan; therefore, the Proposed Project would be inconsistent with SCAQMD's air quality management plan. [Threshold AQ-1]

Impact Analysis: CEQA requires that projects be evaluated for consistency with the AQMP. A consistency determination plays an important role in local agency project review by linking local planning and individual projects to the AQMP. It fulfills the CEQA goal of informing decision makers of the environmental effects of a project under consideration at a stage early enough to ensure that air quality concerns are fully addressed. It also provides the local agency with ongoing information as to whether they are contributing to the clean air goals of the AQMP. The regional emissions inventory for the SoCAB is compiled by SCAQMD and SCAG. Regional population, housing, and employment projections developed by SCAG are based, in part, on the local jurisdictions' general plan land use designations. These projections form the foundation for the emissions inventory of the AQMP. These demographic trends are incorporated into the 2016–2040 Regional Transportation Plan/Sustainable Communities Strategy, compiled by SCAG to determine priority transportation projects and vehicle miles traveled within the SCAG region. Projects that are consistent with the local general plan are considered consistent with the air quality–related regional plan. Typically, only new or amended general plan elements, specific plans, and major projects that have the potential to affect the regional population and employment forecasts need to undergo a consistency review.

Waterman + Baseline Neighborhood Specific Plan

Per CEQA Guideline Section 15206, the Proposed Project is considered regionally significant by SCAG. Changes in the population, housing, or employment growth projections associated with the Proposed Project have the potential to substantially affect SCAG's demographic projections; and therefore, the assumptions in SCAQMD's AQMP. The Proposed Project would increase the land use intensity within the Specific Plan area, resulting in an increase in population and employment in that area above what is currently allowed by the San Bernardino General Plan. Because regional transportation modeling is based on underlying general plan land use designations, the Proposed Project could potentially change the assumptions of the AQMP.

The AQMP ensures that the region is on track to attain the California and federal AAQS. A project has the potential to exceed the assumptions of the AQMP when it is more intensive than the underlying land use designation. Because the Proposed Project would result in an increase in land use intensity, an analysis was conducted to determine that, despite the increase in population and employment, whether the Proposed Project would be equally or more efficient that the underlying land use with regard to the regional transportation assumptions in the AQMP. This is because the primary source of emissions in the SoCAB is from an increase in VMT. VMT estimates are sensitive to changes in land use. Generally, land uses that reflect a more balanced jobs-housing ratio result in lower per service-population (SP)[7] VMT. Additionally, the traffic modeling reflects an increased density and other factors that promote use of alternative modes of transportation and reduce VMT (e.g., an increase in mode shift to transit, bicycling). VMT estimates are based on data provided by Fehr & Peers. Projects that reduce VMT per service population would result in a beneficial impact and would be consistent with the intent of SCAG's Regional Transportation

[7] The summation of the residents and employees who live or work in the applicable area.

Plan/Sustainable Communities Strategy (RTP/SCS) and the assumptions of the AQMP. As shown in Table 5.2-8, *Comparison of the Existing and Project Vehicle Miles Traveled per Service Population*, the Proposed Project would result in a substantial decrease in VMT per service population at the project horizon year compared to existing conditions.

Table 5.2-8 Comparison of the Existing and Project Vehicle Miles Traveled per Service Population

	Existing	Project	Change	Percent Change
Population	6,792	15,150	8,359	123%
Employment	3,579	5,250	1,671	47%
Service Population (SP)[1]	10,371	20,400	10,029	97%
Daily VMT[2]	669,787	766,085	96,298	14%
Daily VMT per SP	64.6	37.6	-27	-42%

[1] Service population is the summation of the residents and employees who live or work in the project site.
[2] VMT provided by Fehr & Peers.

The Proposed Project would also be consistent with SCAG's regional goals of providing infill housing and improving the jobs-housing balance. The land use plan creates two mixed-use zones: Corridor Mixed Use and Mixed-Use Village. The Design Standard and Guidelines in the Specific Plan promote a variety of housing types, walkable neighborhoods, opportunities for mixed-use development, and a variety of transportation choices. Building upon the recommendations of the Regional Transportation Plan/Sustainable Communities Strategy, the Specific Plan also includes a mobility-related goal to facilitate infrastructure upgrades by making necessary investments in transportation and infrastructure systems to support and sustain new development. This includes an objective of providing a network of complete streets and enhancing the network of pedestrian and bicycle routes. Pedestrian improvements envisioned in the Specific Plan area include upgrading pedestrian facilities and crossings; filling in the sidewalk gaps to provide continuous sidewalks; and providing more connections to make walking easier (see Figure 5.15-2, *Proposed Pedestrian Improvements*, in Section 5.15, *Transportation and Traffic*). The Specific Plan includes creation of a bicycle boulevard along local streets that would connect the Specific Plan area to the Downtown while minimizing the use of roads with speeds of greater than 40 miles per hour (see Figure 5.15-3, *Proposed Bicycle Facility Improvements*, Section 5.15, *Transportation and Traffic*).

The Proposed Project would further the regional transportation and planning objectives. As a result, the Proposed Project would be consistent with the assumptions in the AQMP. Consequently, impacts would be less than significant.

Impact 5.2-2: Construction activities associated with the Proposed Project would generate a substantial increase in short-term criteria air pollutant emissions that exceeds the threshold criteria and would cumulatively contribute to the nonattainment designations of the SoCAB. [Thresholds AQ-2, AQ-3, and AQ-4]

Impact Analysis: A project would normally have a significant effect on the environment if it violates any air quality standard or contributes substantially to an existing or projected air quality violation. Construction activities produce combustion emissions from various sources, such as onsite heavy-duty construction

vehicles, vehicles hauling materials to and from the site, and motor vehicles transporting the construction crew. Site preparation activities produce fugitive dust emissions (PM_{10} and $PM_{2.5}$) from grading, excavation, and demolition. Exhaust emissions from future construction within the Proposed Project area would vary daily.

Construction activities would temporarily increase PM_{10}, $PM_{2.5}$, VOC, NO_X, SO_X, and CO regional emissions within the SoCAB. Construction activities associated with buildout of the Proposed Project are anticipated to occur sporadically over approximately 20 years or more. Buildout would comprise multiple smaller projects undertaken by individual developers/project applicants, each having its own construction timeline and activities. Development of multiple properties could occur at the same time; however, there is no defined development schedule for these future projects at this time. For this analysis, the maximum daily emissions are based on a very conservative scenario, where several construction projects throughout the Specific Plan area would occur at the same time and all construction phases would overlap. The amount of construction assumed is consistent with the approximately 20-year anticipated buildout of the Specific Plan area. An estimate of maximum daily construction emissions is provided in Table 5.2-9, *Estimate of Regional Construction Emissions in the Proposed Project Area*.

Table 5.2-9 Estimate of Regional Construction Emissions in the Proposed Project Area

Construction Phase[1,2]	Construction-Related Regional Emissions (pounds/day)[3]					
	VOC	NO_X	CO	SO_2	PM_{10}	$PM_{2.5}$
Demolition[3]	5	56	45	0	8	3
Site Preparation	5	52	40	0	11	7
Grading	6	70	48	0	7	5
Building Construction	5	44	50	0	5	3
Paving	2	20	17	0	2	1
Architectural Coatings	125	6	47	0	9	3
Worst-Case Day[4]	149	248	248	0	42	21
SCAQMD Standard	75	100	550	150	150	55
Significant?	**Yes**	**Yes**	No	No	No	No

Source: CalEEMod Version 2013.2.2.
1 Construction equipment mix is based on CalEEMod default construction mix. See Appendix C for a list of assumptions on emissions generated on a worst-case day.
2 Grading includes compliance with SCAQMD Rule 403 fugitive dust control measures. Measures include requiring an application of water at least twice per day to at least 80 percent of the unstabilized disturbed onsite surface areas, replacing disturbed ground cover quickly, and restricting speeds on unpaved roads to less than 15 miles per hour. Modeling also assumes a VOC of 50 g/L for interior and 100 g/L for exterior paints pursuant to SCAQMD Rule 1113.
3 Approximately 5,520,827 building square feet of the existing structures would be demolished.
4 Based on overlap of the all phases.

As shown in the table, construction activities associated with the Proposed Project could potentially exceed the SCAQMD regional thresholds for VOC and NO_X. The primary source of NO_X emissions is exhaust from vehicles and construction equipment. NO_X is a precursor to the formation of both O_3 and particulate matter (PM_{10} and $PM_{2.5}$). VOC is produced by equipment exhaust and off-gas of architectural coatings and paving. VOC is a precursor to the formation of O_3. Project-related emissions of VOC and NO_X would contribute to the O_3, NO_2, PM_{10}, and $PM_{2.5}$ nonattainment designations of the SoCAB. Therefore, Project-related construction activities would result in significant regional air quality impacts. Because cumulative development within the Specific Plan area would exceed the regional significance thresholds, construction of

the Proposed Project could contribute to an increase in health effects in the basin until such time as the attainment standards are met.

Impact 5.2-3: Long-term operation of the Proposed Project would generate a substantial increase in criteria air pollutant emissions that exceed the threshold criteria and would cumulatively contribute to the nonattainment designations of the SoCAB. [Thresholds AQ-2 and AQ-3]

Impact Analysis: Buildout of the Proposed Project would result in direct and indirect criteria air pollutant emissions from transportation, energy (natural gas use), and area sources (e.g., natural gas fireplaces, aerosols, landscaping equipment). Transportation sources of criteria air pollutant emission are based on the traffic impact analysis conducted by Fehr & Peers (see Appendix I of this DEIR). Development that would be accommodated by the Proposed Project would generate a net increase of 12,024 weekday average daily trips, resulting in 96,298 additional daily VMT at Specific Plan buildout. The results of the CalEEMod modeling are included in Table 5.2-10, *Maximum Daily Specific Plan Operational Phase Regional Emissions*.

Table 5.2-10 Maximum Daily Specific Plan Operational Phase Regional Emissions

Phase	Operation-Related Regional Emissions (pounds/day)					
	VOC	NO_X	CO	SO_2	PM_{10}	$PM_{2.5}$
Existing						
Area	478	4	356	0	29	29
Energy	3	23	14	0	2	2
Transportation	193	501	2,280	10	641	180
Total	673	528	2,649	10	671	210
Proposed Project[1]						
Area	521	6	553	0	33	33
Energy	3	24	12	0	2	2
Transportation	211	545	2,478	11	694	195
Total	734	575	3,044	11	729	230
Net Change						
Project Less Existing Emissions Area	43	2	198	0	4	4
Project Less Existing Energy	0	1	-2	0	0	0
Project Less Existing Transportation	18	43	199	1	53	15
Total Net Change	**61**	47	395	1	58	19
SCAQMD Regional Threshold	55	55	550	150	150	55
Significant?	**Yes**	No	No	No	No	No
Combined Construction + Operation						
Combined Construction + Operation	**210**	**295**	**643**	<1	100	41
SCAQMD Regional Threshold	55	55	550	150	150	55
Significant?	**Yes**	**Yes**	**Yes**	No	No	No

Source: CalEEMod Version 2013.2.2. Based on highest winter or summer emissions using 2035 emission rates. Totals may not equal 100 percent due to rounding.

As shown in the table, the operation phase of the Proposed Project at buildout would generate air pollutant emissions that exceed SCAQMD's regional significance thresholds for VOC. Construction of residential and

nonresidential uses would be based on market demand and would be constructed over the approximately 20-year Specific Plan buildout; therefore, emissions from construction activities could add to the total emissions during early phases (see Table 5.2-9). Table 5.2-10 shows maximum daily emissions at buildout once construction is complete. Emissions of VOC and NO_x that exceed the SCAQMD regional threshold would cumulatively contribute to the O_3 nonattainment designation of the SoCAB. Therefore, implementation of the Proposed Project would result in a significant impact because it would significantly contribute to the nonattainment designations of the SoCAB. Because cumulative development within the Specific Plan area would exceed the regional significance thresholds, operation of the Proposed Project could contribute to an increase in health effects in the basin.

Impact 5.2-4: Construction activities related to buildout of the Proposed Project could expose sensitive receptors to substantial pollutant concentrations. [Threshold AQ-4]

Impact Analysis: Development allowed by the Proposed Project could expose sensitive receptors to elevated pollutant concentrations during construction activities if it would cause or contribute significantly to elevating those levels. Unlike the mass of construction emissions shown in Table 5.2-9, described in pounds per day, localized concentrations refer to an amount of pollutant in a volume of air (ppm or $\mu g/m^3$) and can be correlated to potential health effects. LSTs are the amount of project-related emissions at which localized concentrations would exceed the AAQS for criteria air pollutants for which the SoCAB is designated a nonattainment area.

Table 5.2-9 provides an estimate of the magnitude of criteria air pollutant emissions generated by the development allowed by the Proposed Project for each construction subphase. Buildout of the Proposed Project would occur over a period of approximately 20 years or longer and would comprise several smaller projects with their own construction time frames and construction equipment. Concentrations of criteria air pollutants generated by a development project depend on the emissions generated onsite and the distance to the nearest sensitive receptor. Therefore, an LST analysis can only be conducted at a project level, and quantification of LSTs is not applicable for this program-level environmental analysis. Because potential redevelopment could occur close to existing sensitive receptors, future development that would be accommodated by the Proposed Project has the potential to expose sensitive receptors to substantial pollutant concentrations. Construction equipment exhaust combined with fugitive particulate matter emissions have the potential to expose sensitive receptors to substantial concentrations of criteria air pollutant emissions and result in a significant impact.

Impact 5.2-5: Buildout of the Proposed Project could result in new source sources of criteria air pollutant emissions and/or toxic air contaminants near existing or planned sensitive receptors. [Threshold AQ-4]

Impact Analysis: Operation of new land uses consistent with the land use plan of the Proposed Project would generate new sources of criteria air pollutants and TACs. The following describes potential localized operational air quality impacts from the implementation of the Proposed Project.

Onsite Stationary and Area Sources Emissions

Residential, Commercial, Retail, Office

Operation of residential and nonresidential structures in the Specific Plan area would include occasional use of landscaping equipment, natural gas consumption for heating, and nominal truck idling for vendor deliveries. The Proposed Project would permit residential, commercial, and office land uses and would not involve warehousing or similar uses where substantial truck idling could occur onsite. Onsite emissions from residential and nonresidential uses (natural gas used for cooking and water heating) and other sources (e.g., landscaping fuel, aerosols) would not generate substantial concentrations of emissions or exacerbate existing health risk in the area.

Industrial and Other Land Uses Requiring a SCAQMD Permit

Certain types of land uses have the potential to generate substantial stationary and area sources of emissions, necessitating a permit from SCAQMD. These include industrial land uses, such as chemical processing facilities, dry cleaners, and gasoline-dispensing facilities. Operators of certain types of facilities must submit emissions inventories. The Air Toxics Program categorizes each facility as being high, intermediate, or low priority based on the potency, toxicity, quantity, and volume of its emissions. If the risks are above established levels, facilities are required to notify surrounding populations and to develop and implement a risk reduction plan. In addition to stationary/area sources of TACs, warehousing and trucking facilities could generate a substantial amount of diesel particulate matter emissions from off-road equipment use and truck idling. The Employment District within the Specific Plan conditionally permits new light industrial or warehousing. The exact nature of new industrial uses is speculative for this broad-based Specific Plan. Additionally, industrial operations are subject to further CEQA review. Because the Proposed Project could conditionally permit light industrial land uses in the Employment Zone, there is a potential for new industrial uses to generate stationary sources of emissions that could impact nearby sensitive receptors.

Stationary sources of emissions would be controlled by SCAQMD through permitting and would be subject to further study and health risk assessment prior to the issuance of any necessary air quality permits under SCAQMD's New Source Review. Because the nature of those emissions cannot be determined at this time and they are subject to further regulation and permitting, they will not be addressed further in this analysis but are considered a potentially significant impact of the Proposed Project.

Mobile Source Emissions: CO Hotspots

Areas of vehicle congestion have the potential to create pockets of CO called hotspots. These pockets have the potential to exceed the state one-hour standard of 20 ppm or the eight-hour standard of 9.0 ppm. At the time of the 1993 SCAQMD Handbook, the SoCAB was designated nonattainment under the California AAQS and National AAQS for CO. With the turnover of older vehicles, introduction of cleaner fuels, and implementation of control technology on industrial facilities, CO concentrations in the SoCAB and in the state have steadily declined. In 2007, the SCAQMD was designated in attainment for CO under both the

California AAQS and National AAQS.[8] Furthermore, under existing and future vehicle emission rates, a project would have to increase traffic volumes at a single intersection by more than 44,000 vehicles per hour—or 24,000 vehicles per hour where vertical and/or horizontal air does not mix—in order to generate a significant CO impact (BAAQMD 2011). Buildout of the Proposed Project would not produce the volume of traffic required to generate a CO hotspot (Fehr & Peers 2016).[9] Therefore, impacts from CO hotspots are considered less than significant.

Impact 5.2-6 Industrial land uses associated with the Proposed Project could create objectionable odors. [Threshold AQ-5]

Impact Analysis: Implementation of the Proposed Project could generate new sources of odors and place sensitive receptors near existing sources of odors. Nuisance odors from land uses in the SoCAB are regulated under SCAQMD Rule 402, Nuisance. SCAQMD has identified the following facilities as having the potential to generate major sources of odors: wastewater treatment plants, chemical manufacturing facilities, food processing facilities, agricultural operations, and waste facilities (e.g., landfills, transfer stations, compost facilities).

This analysis addresses potential impacts from siting new sources of nuisance odors near sensitive receptors. The Specific Plan designates residential areas and industrial areas to prevent potential mixing of incompatible land use types.

- Future nonindustrial development would involve minor odor-generating activities, such as lawn mower exhaust and application of exterior paints for building improvement. Restaurants can generate odors, but these are not typically considered nuisance odors, since restaurants typically do not generate significant odors that affect a substantial number of people.

- Industrial uses, including food processing facilities, have the potential to generate substantial odors. Individual projects allowed by the Specific Plan, including commercial, industrial, and office, are also required to comply with SCAQMD's Rule 402 to prevent public nuisances. While these odors would need to be controlled, additional measures may be warranted to prevent a nuisance, depending on the nature of the proposed use. Consequently, industrial land uses associated with the buildout of the Proposed Project may generate odors that affect a substantial number of people.

- Construction activities would require the operation of equipment that would generate exhaust from either gasoline or diesel fuel. Construction and development would also require the application of paints and the paving of roads, which could generate odors. These types and concentrations of odors are typical of developments and are not considered significant air quality impacts.

[8] As identified in SCAQMD's 2003 AQMP and the 1992 Federal Attainment Plan for Carbon Monoxide, peak carbon monoxide concentrations in the SoCAB were the result of unusual meteorological and topographical conditions and not of congestion at a particular intersection.

[9] The highest intersection volumes in the Proposed Project area at buildout were identified at Waterman Avenue at Baseline Road vehicles of 6,875 vehicles during the PM peak hour, which is substantially below 44,000 vehicles per hour necessary to elevate CO concentrations above the AAQS.

SCAQMD Rule 402 requires abatement of any nuisance generating an odor complaint. Typical abatement includes passing air through a drying agent followed by two successive beds of activated carbon to generate odor-free air. Facilities listed in Rule 402 would need to consider measures to reduce odors as part of their CEQA review. Odor impacts could be significant for new industrial projects, like food processing facilities, because they have the potential to generate odors proximate to sensitive land uses.

5.2.4 Cumulative Impacts

In accordance with the SCAQMD methodology, any project that produces a significant project-level regional air quality impact in an area that is in nonattainment contributes to the cumulative impact. Cumulative projects in the local area include new development and general growth within the SoCAB. The greatest source of emissions within the SoCAB is mobile sources. Due to the extent of the area potentially impacted from cumulative emissions, SCAQMD considers a project cumulatively significant when Project-related emissions exceed the SCAQMD regional emissions thresholds shown in Table 5.2-5, *SCAQMD Significance Thresholds*.

Construction

The SoCAB is designated nonattainment for O_3, $PM_{2.5}$, and lead (Los Angeles County only) under the California and National AAQS and nonattainment for PM_{10} under the California AAQS.[10] Construction of cumulative projects would further degrade the regional and local air quality. Air quality would be temporarily impacted during construction activities. Implementation of mitigation measures for related projects would reduce cumulative impacts. However, Project-related construction emissions could still potentially exceed the SCAQMD significance thresholds on a project and cumulative basis. Consequently, the Proposed Project's contribution to cumulative air quality impacts would be cumulatively considerable and therefore would be significant.

Operation

For operational air quality emissions, any project that does not exceed or can be mitigated to less than the daily regional threshold values is not considered by SCAQMD to be a substantial source of air pollution and does not add significantly to a cumulative impact. Operation of the Proposed Project would result in emissions in excess of the SCAQMD regional emissions thresholds for VOC for long-term operation and VOC and NO_x during overlap of construction and operation and would cumulatively contribute to the O_3 nonattainment designations. Additionally, the Proposed Project would generate TACs that could contribute to elevated levels of risk in the SoCAB. Based on the results of the MATES IV analysis, cancer risk in the Proposed Project area ranges from 731.86 to 822.97 per million over a 70-year lifetime (SCAQMD 2016a). Therefore, the Proposed Project's air pollutant emissions would be cumulatively considerable and therefore significant.

[10] CARB approved SCAQMD's request to redesignate the SoCAB from serious nonattainment for PM_{10} to attainment for PM_{10} under the national AAQS on March 25, 2010, because the SoCAB has not violated federal 24-hour PM_{10} standards during the period from 2004 to 2007. In June 2013, the EPA approved the State of California's request to redesignate the South Coast PM_{10} nonattainment area to attainment of the PM_{10} National AAQS, effective on July 26, 2013.

5.2.5 Existing Regulations

State

- Clean Car Standards – Pavley (AB 1493)
- California Advanced Clean Cars CARB (Title 13 CCR)
- California Advanced Clean Cars – LEV III (Title 13 CCR)
- Statewide Retail Provider Emissions Performance Standards (SB 1368).
- Clean Energy and Pollution Reduction Act of 2015 (SB 350)
- Airborne Toxics Control Measure to Limit School Bus Idling and Idling at Schools (13 CCR 2480)
- Airborne Toxic Control Measure to Limit Diesel-Fuel Commercial Vehicle Idling (13 CCR 2485)
- In-Use Off-Road Diesel Idling Restriction (13 CCR 2449)
- Building Energy Efficiency Standards (Title 24, Part 6)
- California Green Building Code (Title 24, Part 11)
- Appliance Energy Efficiency Standards (Title 20)

SCAQMD

- SCAQMD Rule 201: Permit to Construct
- SCAQMD Rule 402: Nuisance Odors
- SCAQMD Rule 403: Fugitive Dust
- SCAQMD Rule 1113: Architectural Coatings
- SCAQMD Rule 1403: Asbestos Emissions from Demolition/Renovation Activities
- SCAQMD Rule 1186: Street Sweeping

5.2.6 Level of Significance Before Mitigation

Upon implementation of regulatory requirements and standard conditions of approval, Impacts 5.2-1 and Impact 5.2-6 would be less than significant.

Without mitigation, the following impacts would be **potentially significant**:

- **Impact 5.2-2** The Proposed Project would generate short-term emissions that exceed the South Coast Air Quality Management District's regional construction significance thresholds and would cumulatively contribute to the nonattainment designations of the South Coast Air Basin.

- **Impact 5.2-3** The Proposed Project would generate long-term emissions that exceed the South Coast Air Quality Management District's regional operational significance thresholds

and would cumulatively contribute to the nonattainment designations of the South Coast Air Basin.

- **Impact 5.2-4** Construction activities related to the buildout of the Proposed Project could expose sensitive receptors to substantial pollutant concentrations NO_X, CO, PM_{10}, and $PM_{2.5}$.

- **Impact 5.2-5** Stationary sources of emissions generated by future industrial uses associated with the Proposed Project could generate substantial pollutant concentrations near sensitive land uses.

- **Impact 5.2-6** Industrial land uses associated with the Proposed Project could create objectionable odors.

5.2.7 Mitigation Measures

Impact 5.2-2

AQ-1 Applicants for new development projects within the Waterman + Baseline Neighborhood Specific Plan area shall require the construction contractor to use equipment that meets the US Environmental Protection Agency (EPA) Tier 4 emissions standards for off-road diesel-powered construction equipment with more than 50 horsepower, unless it can be demonstrated to the City of San Bernardino that such equipment is not available. Any emissions control device used by the contractor shall achieve emissions reductions that are no less than what could be achieved by a Level 4 diesel emissions control strategy for a similarly sized engine, as defined by the California Air Resources Board's regulations.

Prior to construction, the project engineer shall ensure that all demolition and grading plans clearly show the requirement for EPA Tier 4 or higher emissions standards for construction equipment over 50 horsepower. During construction, the construction contractor shall maintain a list of all operating equipment in use on the construction site for verification by the City of San Bernardino. The construction equipment list shall state the makes, models, and numbers of construction equipment onsite. Equipment shall be properly serviced and maintained in accordance with the manufacturer's recommendations. Construction contractors shall also ensure that all nonessential idling of construction equipment is restricted to five minutes or less in compliance with California Air Resources Board's Rule 2449.

AQ-2 Applicants for new development projects within the Waterman + Baseline Neighborhood Specific Plan shall require the construction contractor to prepare a dust control plan and implement the following measures during ground-disturbing activities—in addition to the existing requirements for fugitive dust control under South Coast Air Quality Management District (SCAQMD) Rule 403—to further reduce PM_{10} and $PM_{2.5}$ emissions. The City of

San Bernardino shall verify that these measures have been implemented during normal construction site inspections.

- Following all grading activities, the construction contractor shall establish/reestablish ground cover on the construction site through seeding and watering.
- During all construction activities, the construction contractor shall sweep streets with SCAQMD Rule 1186–compliant, PM_{10}-efficient vacuum units on a daily basis if silt is carried over to adjacent public thoroughfares or occurs as a result of hauling.
- During all construction activities, the construction contractor shall maintain a minimum 24-inch freeboard on trucks hauling dirt, sand, soil, or other loose materials and shall tarp materials with a fabric cover or other cover that achieves the same amount of protection.
- During all construction activities, the construction contractor shall water exposed ground surfaces and disturbed areas a minimum of every three hours on the construction site and a minimum of three times per day.
- During all construction activities, the construction contractor shall limit onsite vehicle speeds on unpaved roads to no more than 15 miles per hour.

AQ-3 Applicants for new development projects within the Waterman + Baseline Neighborhood Specific Plan area shall require the construction contractor to use coatings and solvents with a volatile organic compound (VOC) content lower than required under South Coast Air Quality Management District Rule 1113 (i.e., super compliant paints). The construction contractor shall also use precoated/natural-colored building materials, where feasible. Use of low-VOC paints and spray method shall be included as a note on architectural building plans and verified by the City of San Bernardino during construction.

Impact 5.2-3

Stationary Source

AQ-4 Prior to issuance of building permits for new development projects within the Waterman + Baseline Neighborhood Specific Plan area, the property owner/developer shall show on the building plans that all major appliances (dishwashers, refrigerators, clothes washers, and dryers) to be provided/installed are Energy Star appliances. Installation of Energy Star appliances shall be verified by the City of San Bernardino prior to issuance of a certificate of occupancy.

Transportation and Motor Vehicles

AQ-5 Prior to issuance of building permits for residential development projects within the Waterman + Baseline Neighborhood Specific Plan area the property owner/developer shall indicate on the building plans that the following features have been incorporated into the

design of the building(s). Proper installation of these features shall be verified by the City of San Bernardino prior to issuance of a certificate of occupancy.

- For multifamily dwellings, electric vehicle charging shall be provided as specified in Section A4.106.8.2 (Residential Voluntary Measures) of the CALGreen Code.
- Bicycle parking shall be provided as specified in Section A4.106.9 (Residential Voluntary Measures) of the CALGreen Code.

AQ-6 Prior to issuance of building permits for nonresidential development projects within the Waterman + Baseline Neighborhood Specific Plan area, the property owner/developer shall indicate on the building plans that the following features have been incorporated into the design of the building(s). Proper installation of these features shall be verified by the City of San Bernardino prior to issuance of a certificate of occupancy.

- For buildings with more than 50 tenant-occupants, changing/shower facilities shall be provided as specified in Section A5.106.4.3 (Nonresidential Voluntary Measures) of the CALGreen Code. Alternatively, buildings with more than 50 tenant-occupants can document a memorandum of understanding with an adjacent facility that provides changing/shower facilities that meet those listed in Section A5.2016.4.3 of the CALGreen Code.
- Designated parking for low-emitting, fuel-efficient, and carpool/van vehicles, or combination thereof, shall be provided as specified in Section A5.106.5.1 (Nonresidential Voluntary Measures) of the CALGreen Code.
- Facilities shall be installed to support future electric vehicle charging at each nonresidential building with 30 or more parking spaces. Installation shall be consistent with Section A5.106.5.3 (Nonresidential Voluntary Measures) of the CALGreen Code.

Impact 5.2-4

Mitigation measures applied for Impact 5.2-2 would also reduce the Proposed Project's localized construction-related criteria air pollutant emissions to the extent feasible.

Impact 5.2-5

AQ-7 New industrial land uses that have industrial equipment which requires a permit to operate from the South Coast Air Quality Management District or have the potential to generate 40 or more diesel trucks per day and are located within 1,000 feet of a sensitive land use (e.g. residential, schools, hospitals, nursing homes), as measured from the property line of the project to the property line of the nearest sensitive use, shall submit a health risk assessment (HRA) to the City of San Bernardino prior to future discretionary project approval. The HRA shall be prepared in accordance with policies and procedures of the state Office of Environmental Health Hazard Assessment and the applicable air quality management

district. If the HRA shows that the incremental cancer risk exceeds ten in one million (I0E-06), that particulate matter concentrations would exceed 2.5 $\mu g/m^3$, or that the appropriate noncancer hazard index exceeds 1.0, the applicant will be required to identify and demonstrate that best available control technologies for toxics (T-BACTs) are capable of reducing potential cancer and noncancer risks to an acceptable level, including appropriate enforcement mechanisms. T-BACTs may include, but are not limited to, restricting idling onsite, electrifying warehousing docks to reduce diesel particulate matter, and requiring use of newer equipment and/or vehicles. T-BACTs identified in the HRA shall be identified as mitigation measures in the environmental document and/or incorporated into the site development plan as a component of the project.

Impact 5.2-6

AQ-8 If it is determined during project-level environmental review that a development project has the potential to emit nuisance odors beyond the property line, an odor management plan may be required, subject to County's regulations. Facilities within the Specific Plan that have the potential to generate nuisance odors include but are not limited to food-processing facilities. If an odor management plan is determined to be required through CEQA review, the County of San Bernardino shall require the project applicant to submit the plan prior to approval to ensure compliance with the South Coast Air Quality Management District's Rule 402, for nuisance odors. If applicable, the odor management plan shall identify the best available control technologies for toxics (T-BACTs) that will be utilized to reduce potential odors to acceptable levels, including appropriate enforcement mechanisms. T-BACTs may include, but are not limited to, scrubbers (e.g., air pollution control devices) at the industrial facility. T-BACTs identified in the odor management plan shall be identified as mitigation measures in the environmental document and/or incorporated into the site plan.

5.2.8 Level of Significance After Mitigation

Impact 5.2-2

Construction activities associated with the buildout of the Proposed Project would generate criteria air pollutant emissions that would exceed SCAQMD's regional significance thresholds, contribute to the nonattainment designations of the SoCAB, and contribute to known health effects from poor air quality—including worsening of bronchitis, asthma, and emphysema; a decrease in lung function; premature death of people with heart or lung disease; nonfatal heart attacks; irregular heartbeat; decreased lung function; and increased respiratory symptoms. Mitigation Measures AQ-1 through AQ-3 would reduce criteria air pollutants generated from Project-related construction activities. Buildout of the Proposed Project would occur over a period of approximately 20 years or longer. Construction time frames and equipment for individual site-specific projects are not available at this time. There is a potential for multiple developments to be constructed at any one time, resulting in significant construction-related emissions. Therefore, despite adherence to Mitigation Measures AQ-1 through AQ-3, project-level and cumulative impacts under Impact 5.2-2 would remain **significant and unavoidable**.

Impact 5.2-3

Buildout of the proposed land use plan would generate additional vehicle trips and area sources of criteria air pollutant emissions that exceed SCAQMD's regional significance thresholds and would contribute to the nonattainment designations of the SoCAB and known health effects from poor air quality—including worsening of bronchitis, asthma, and emphysema; a decrease in lung function; premature death of people with heart or lung disease; nonfatal heart attacks; irregular heartbeat; decreased lung function; and increased respiratory symptoms. Incorporation of Mitigation Measures AQ-4 through AQ-6 would reduce operation-related criteria air pollutants generated from stationary and mobile sources. Mitigation Measures AQ-5 and AQ-6 would encourage and accommodate use of alternative-fueled vehicles and nonmotorized transportation. However, despite adherence to Mitigation Measures AQ-4 through AQ-6, project-level and cumulative impacts identified under Impact 5.2-3 would remain **significant and unavoidable** due to the magnitude of land use development associated with the Proposed Project.

Impact 5.2-4

Mitigation Measures AQ-1 and AQ-2 (applied for Impact 5.2-2) would reduce the Proposed Project's regional construction emissions and therefore also reduce the Proposed Project's localized construction-related criteria air pollutant emissions to the extent feasible. However, because existing sensitive receptors may be close to project-related construction activities, construction emissions generated by individual development projects have the potential to exceed SCAMQD's LSTs. Because of the scale of development activity associated with buildout of the Proposed Project, for this broad-based Specific Plan it is not possible to determine whether the scale and phasing of individual projects would result in the exceedance of the localized emissions thresholds and contribute to known health effects. Therefore, project-level and cumulative impacts under Impact 5.2-3 would remain **significant and unavoidable**.

Impact 5.2-5

Buildout of the Proposed Project could result in new sources of air pollutant emissions near existing or planned sensitive receptors. Review of projects by SCAQMD for permitted sources of air emissions (e.g., industrial facilities, dry cleaners, and gasoline dispensing facilities) would ensure health risks are minimized. Mitigation Measure AQ-7 would ensure that mobile sources of emissions not covered under SCAQMD permits are considered during subsequent project-level environmental review. Development of individual projects would be required to achieve the thresholds established by SCAQMD. However, the Proposed Project is in an area with elevated risk. Therefore, although individual projects may achieve the project-level risk thresholds, they would contribute to the high levels of risk in the SoCAB. Therefore, the Proposed Project's cumulative contribution to health risk is **significant and unavoidable**.

Impact 5.2-6

Mitigation Measure AQ-8 would ensure that odor impacts are minimized and facilities would comply with SCAQMD Rule 402. Impact 5.2-6 would be less than significant.

5.2.9 References

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5.3 BIOLOGICAL RESOURCES

The analysis in this section is based in part on the following technical report(s):

- *Biological Technical Report for the Waterman + Baseline Neighborhood Specific Plan Project*, Alden Environmental, Inc., May 12, 2016.

A complete copy of this study is included in Appendix D to this Draft Environmental Impact Report (DEIR).

5.3.1 Environmental Setting

The biological technical report consisted of a literature survey including a review of the California Natural Diversity Database, and a general biological survey including recording all the species of animal and plant species observed or detected. The survey was conducted in August, outside of the blooming season for most annual plant species. Thus, the list of plant species identified (provided in the biological technical report; see Appendix D of this DEIR) may not be comprehensive. The biological technical report identified 13 sensitive plant species documented in the project region and determined that none of those species has the potential to occur within the Specific Plan area due to lack of suitable habitat (see Appendix D).

5.3.1.1 REGULATORY SETTING

Federal and State Regulations

Endangered Species Act

The Federal Endangered Species Act (FESA) of 1973, as amended, protects and conserves any species of plant or animal that is endangered or threatened with extinction, as well as the habitats where these species are found. "Take" of endangered species is prohibited under Section 9 of the FESA. "Take" means to "harass, harm, pursue, hunt, wound, kill, trap, capture, collect, or attempt to engage in any such conduct." Section 7 of the FESA requires federal agencies to consult with the US 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. Section 4(a) of the FESA 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." This provides guidance for planners/managers and biologists by indicating locations of suitable habitat and where preservation of a particular species has high priority. Section 10 of the FESA provides the regulatory mechanism for incidental take of a listed species by private interests and nonfederal government agencies during lawful activities. Habitat conservation plans for the impacted species must be developed in support of incidental take permits to minimize impacts to the species and formulate viable mitigation measures.

Migratory Bird Treaty Act

The Migratory Bird Treaty Act of 1918 (MBTA) affirms and implements the United States' commitment to four international conventions—with Canada, Japan, Mexico, and Russia—to protect shared migratory bird

resources. The MBTA governs the take, killing, possession, transportation, and importation of migratory birds, their eggs, parts, and nests. It prohibits the take, possession, import, export, transport, sale, purchase, barter, or offering of these items, except under a valid permit or as permitted in the implementing regulations. USFWS administers permits to take migratory birds in accordance with the MBTA.

Clean Water Act, Section 404

The United States Army Corps of Engineers (Corps) regulates discharge of dredged or fill material into "waters of the United States."[1] Any filling or dredging within waters of the United States requires a permit, which entails assessment of potential adverse impacts to Corps wetlands and jurisdictional waters and any mitigation measures that the Corps requires. Section 7 consultation with USFWS may be required for impacts to a federally listed species. If cultural resources may be present, Section 106 review may also be required. When a Section 404 permit is required, a Section 401 Water Quality Certification is also required from the Regional Water Quality Control Board (RWQCB).

Clean Water Act, Section 401and 402

Section 401(a)(1) of the CWA 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 with 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 Corps Section 404 permits and National Pollutant Discharge Elimination System (NPDES) permits issued by the US Environmental Protection Agency (EPA) under Section 402 of the CWA. NPDES permits are issued by the applicable RWQCB. The City of San Bernardino is in the jurisdiction of the Santa Ana RWQCB (Region 8).

California Fish and Game Code, Section 1600

Section 1600 of the California Fish and Game Code requires a project proponent to notify the California Department of Fish and Wildlife (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 and place conditions on the project, as part of a Streambed Alteration Agreement, that address potentially significant adverse impacts within CDFW's jurisdictional limits.

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

1 "Waters of the United States," as applied to the jurisdictional limits of the Corps under the Clean Water Act, includes all waters that are currently used, were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters that are subject to the tide; all interstate waters, including interstate wetlands; and all other waters, such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds whose use, degradation, or destruction could affect interstate or foreign commerce; water impoundments; tributaries of waters; territorial seas; and wetlands adjacent to waters. The terminology used by Section 404 of the Clean Water Act includes "navigable waters," which is defined at Section 502(7) of the act as "waters of the United States, including the territorial seas."

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. This list is primarily a working document for the CDFW's California Natural Diversity Database (CNDDB), which maintains a record of known and recorded occurrences of sensitive species. Informally listed taxa are not protected per se, but warrant consideration in the preparation of biological resources assessments.

California Fish and Game Code Sections 3503 et seq.

California Fish and Game Code Section 3503 prohibits the take, possession, or needless destruction of the nest or eggs of any bird, except as otherwise provided by this code or any pursuant regulation. Section 3503.5 provides similar protections specifically for birds of prey; that is, birds of the orders Falconiformes (falcons), Accipitriformes (eagles, hawks, vultures, and ospreys), and Strigiformes (owls).[2]

Existing Conservation Plans and Areas

Habitat Conservation Plans

The Specific Plan area is not in the plan area of any habitat conservation plans or natural community conservation plans.

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.

There is no critical habitat in the Specific Plan area. The nearest critical habitat mapped on the Critical Habitat Mapper maintained by the USFWS is for San Bernardino pocket mouse, *Dipodomys merriami parvus*, about 1.2 miles southeast of the project site (USFWS 2016). San Bernardino pocket mouse is typically found on alluvial fans, in floodplains, along washes, in adjacent upland areas, and in areas with historical braided channels. Approximately 33,295 acres in San Bernardino and Riverside counties have been designated critical habitat for the species.

[2] California Fish and Game Code Section 3503.5 mentions two orders of birds of prey, Falconiformes and Strigiformes; most ornithologists now classify birds of prey into the three orders mentioned above.

City of San Bernardino

City of San Bernardino Municipal Code Chapter 12.40 protects trees on City property, including street trees. Injuring trees on public property is prohibited, and removal of a tree from public property requires approval of the City Director of Public Services.

Biological Resource Management Areas

The City of San Bernardino General Plan designates Biological Resource Management Areas (BRMs). Proposed developments in BRMs are subject to review by the City Environmental Review Committee. No BRMs are designated in the Specific Plan area. The nearest BRM is a percolation basin (Lynwood Basin) about 0.4 mile to the north (San Bernardino 2005).

Warm Creek and East Twin Creek within the Specific Plan area are mapped as channels on the General Plan BRM map; however, those channels within the Specific Plan area are engineered with concrete beds and banks and do not provide valuable habitat for plants or wildlife.

5.3.1.2 EXISTING SETTING

The Specific Plan area is mostly developed, with land uses including residential, industrial, commercial, public facilities, a public park, roadways, and flood channels for Warm Creek and East Twin Creek. The East Twin Creek channel converges with the Warm Creek channel onsite. Both flood channels are concrete lined and direct water from north and northeast of the site, respectively, through the eastern portion of the site, and south of the site until the Warm Creek flood channel converges with the Santa Ana River approximately 2.2 miles to the south of the site.

The undeveloped portions of the Specific Plan area have been repeatedly disturbed by human activities in the past (some continuing into the present), and these areas predominantly support ruderal vegetation (i.e., non-native plants growing on highly disturbed land).

Elevations onsite range from a high of approximately 1,180 feet above mean sea level (amsl) in the north to a low of approximately 1,030 amsl in the south.

Vegetation Communities and Land Cover Types

Four vegetation communities and two land cover types occur in the Specific Plan area, as shown in Table 5.3-1 and on Figure 5.3-1. The vegetation communities are described following the table. The 850 acres total identified in Table 5.3-1 is the gross area of the Specific Plan area including roadways. The net area—that is, the total area of the parcels comprising the Specific Plan area—is about 710 acres.

Table 5.3-1 Vegetation Communities/Land Cover Types Onsite

	Acreage
Vegetation Communities	
Nonnative grassland	14.2
Ornamental	4.1
Ruderal	48.1
Ruderal/Disked	47.5
Land Cover Types	
Concrete-lined flood channel	4.1
Developed	732.0
TOTAL	**850**

Nonnative Grassland

Nonnative grassland occurs as a dense to sparse cover of nonnative grasses, sometimes associated with species of showy-flowered, native, annual forbs.[3] This community characteristically occurs on gradual slopes with deep, fine-textured, usually clay soils. Typical species in nonnative grassland onsite include slender wild oat (*Avena barbata*), red brome (*Bromus madritensis* ssp. *rubens*), ripgut grass (*Bromus diandrus*), and Bermuda grass (*Cynodon dactylon*). Most of the introduced species originated from the Mediterranean region. Grasslands can provide valuable raptor foraging habitat. Nonnative grassland is located in the east-central portion of the Specific Plan area adjacent to Tippecanoe Avenue.

Ornamental

Ornamental refers to areas that have been landscaped, usually for decorative purposes and with nonnative plant species. Ornamental plantings are in scattered patches in the southeastern portion of the Specific Plan area as well as in a large area in the north associated with the San Bernardino Medical Center. Ornamental species include Canary Island date palm (*Phoenix canariensis*) and New Mexican locust (*Robinia neomexicana*).

Ruderal

Ruderal vegetation consists mostly of nonnative plant species in a highly disturbed setting. Some of the nonnative species in this community onsite include Australian tumbleweed (*Salsola australis*), prostrate pigweed (*Amaranthus albus*), bur-clover (*Medicago polymorpha*), sweet clover (*Melilotus albus* and *M. indicus*), and tree tobacco (*Nicotiana glauca*). Ruderal vegetation occurs in patches throughout the central and southern portions of the Specific Plan area.

Ruderal/Disked

Ruderal/disked land is land that supports ruderal vegetation and that has been recently disked. Ruderal/disked land occurs along the southeastern border of the Specific Plan area.

[3] Forbs are flowering plants lacking woody stems, other than grasses.

Plants

Thirty-six species of plants were observed in the Specific Plan area and are listed in the biological technical report included as Appendix D of this DEIR. Twenty-seven of these species are not native to California.

Wildlife

Seven common species of animals observed in the Specific Plan area are listed below.

Birds

- Black phoebe (Sayornis nigricans)
- Eurasian collared dove (Streptopelia decaocto)
- Killdeer (Charadrius vociferus)
- Mourning dove (Zenaida macroura)
- Northern mockingbird (Mimus polyglottos)
- Western kingbird (*Tyrannus verticalis*)

Mammal

- California ground squirrel (*Otospermophilus beecheyi*)

Sensitive Resources

Sensitive Vegetation Communities

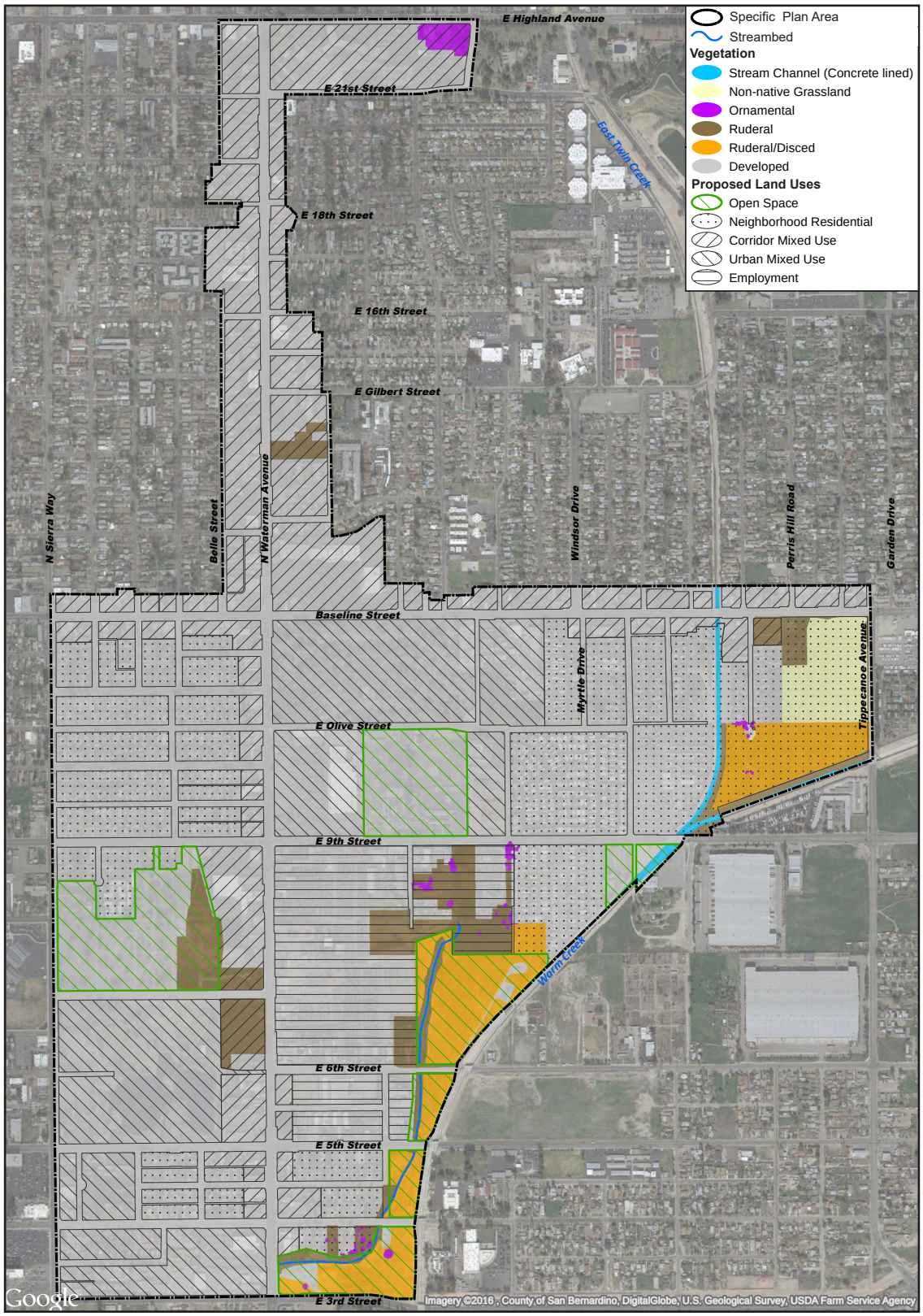
Sensitive vegetation communities are vegetation assemblages, associations, or subassociations that have cumulative losses throughout the region, have relatively limited distribution, support or potentially support sensitive plant or wildlife species, or have particular value to other wildlife. Typically, sensitive vegetation communities are considered as such whether or not they have been disturbed. Sensitive vegetation communities are regulated by various local, state, and federal resource agencies. No sensitive vegetation communities occur in the Specific Plan area.

Sensitive Plants

Thirteen sensitive plant species have been reported within, or within the vicinity of, the Specific Plan area to the CNDDB and/or to the California Native Plant Society's Inventory of Rare and Endangered Plants in the US Geological Survey San Bernardino North and South quadrangles. The habitat preferences of each species are listed in Table 2 of the biological technical report (Appendix D of this DEIR); none has potential to occur in the Specific Plan area due to the absence of suitable habitat.

Figure 5.3-1 Vegetation Communities and Land Covers

5. Environmental Analysis



0 1,500
Scale (Feet)

Base Map Source: Alden Environmental, Inc., 2016

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Sensitive Wildlife

Sensitive animal species include:

- Species listed or proposed for listing as Threatened or Endangered by USFWS or CDFW
- Species designated as Fully Protected by CDFW
- Federal Birds of Conservation Concern
- State Species of Special Concern
- State Watch List birds
- Nesting birds

Eleven sensitive animal species have been reported in the vicinity of the Specific Plan area to the CNDDB and/or the USFWS Species Database. The potential for each of those species to occur onsite, based on habitat preference, was evaluated in Table 3 of the biological technical report. Three of those sensitive species were assessed has having some potential to occur in the Specific Plan area:

- **Burrowing owl (*Athene cunicularia*),** a State Species of Special Concern, inhabits drier, open areas that can include prairies, grasslands, and savannas. The burrowing owl can also be found living in deserts, farmlands, pastures, cemeteries, airports, vacant lots, university campuses, golf courses, and other urban areas. Burrowing owls are dependent on the presence of burrowing mammals, whose burrows they use for nesting and roosting. In southern California, the most commonly used rodent burrow is that of the California ground squirrel. Burrowing owl could use nonnative grassland and ruderal communities onsite. The California ground squirrel was observed in the Specific Plan area.

- **California horned lark (*Eremophila alpestris actia*)** inhabits sandy beaches, agricultural fields, grasslands, and open areas on coastal slopes and in lowlands from Sonoma County to northern Baja California, Mexico. California horned lark could use nonnative grassland, ruderal, and ruderal/disked communities.

- **Swainson's hawk (*Buteo swainsoni):*** Breeding populations occur in desert, shrub steppe, grassland, and agricultural habitats. However, the overwhelming majority of the species' breeding territories are in the Great Basin and Central Valley. Swainson's hawk winters in South America. Potential habitats in the Specific Plan area include nonnative grassland, ruderal, and ruderal/disked communities. However, these communities occur within a highly developed setting and are not in the Great Basin and Central Valley areas of California. A very old CNDDB record for the Swainson's hawk includes a museum specimen collected from the San Bernardino City Center area shown on an 1896 US Geological Survey topographic map.

The remaining eight species were found to have no potential to occur in the Specific Plan area due to lack of suitable habitat (see Table 3 of Appendix D of this DEIR).

Wildlife Movement Corridors

Wildlife corridors connect otherwise isolated pieces of habitat and allow movement or dispersal of plants and animals. Local wildlife corridors allow access to resources such as food, water, and shelter within the framework of their daily routine. Regional corridors provide these functions over a larger scale and link two or more large habitat areas, allowing the dispersal of organisms and the consequent mixing of genes between populations. A corridor is a specific route that is used for the movement and migration of species, and may be different from a linkage in that it represents a smaller or narrower avenue for movement. A linkage is an area of land that supports or contributes to the long-term movement of animals and genetic exchange by providing live-in habitat that connects to other habitat areas. While common animal species that tolerate nearby development (such as those observed onsite) likely use undeveloped portions of the site as part of live-in habitat, these species tend to be ubiquitous and not reliant on particular corridors or linkages. The Specific Plan area is almost completely developed and is surrounded by development. It does not provide habitat that connects otherwise isolated pieces of habitat, nor does it provide habitat for movement or dispersal of plants and animals. While the two creeks onsite may have formerly provided corridors for wildlife movement through the site—prior to being channelized and lined with concrete—they no longer do so.

Wildlife nursery sites are specific, established locations used repeatedly by some wildlife species for breeding purposes. Examples of nursery sites include heron rookeries and bat maternal colony roosts. No such wildlife nursery sites are expected to occur in the Specific Plan area based on its developed and disturbed nature.

Jurisdictional Waters and Wetlands

Generally, wetlands are lands where saturation with water is the dominant factor determining the nature of soil development and the types of plant and animal communities living in the soil and on its surface. Wetlands vary widely because of regional and local differences in soils, topography, climate, hydrology, water chemistry, vegetation, and other factors (USEPA 2013). Waters of the United States and Waters of the State encompass wetlands, but also may include nonwetland ephemeral and intermittent streams that may or may not be vegetated. Ephemeral streams flow only after precipitation. Runoff from rainfall is the primary source of water for these ephemeral streams. Intermittent streams flow when smaller upstream waters are flowing and when groundwater provides enough water for stream flow. Runoff from rainfall supplements the flow of intermittent streams. Waters of the United States and Waters of the State are sensitive because they are regulated by the Corps under the Clean Water Act and CDFW under California Fish and Game Code and the Porter-Cologne Water Quality Control Act of 1970.

There are no wetlands onsite, but there is an ephemeral stream in the southern portion of the Specific Plan area that is nonwetland Waters of the United States and nonwetland Waters of the State. The stream averages about 25 feet wide, and the streambed occupies about 2.2 acres in the Specific Plan area (see Figure 5.3-1, *Vegetation Communities and Land Covers*). There is no riparian vegetation next to the streambed except for one western cottonwood tree (*Populus fremontii* ssp. *fremontii*).

The flood channels for Warm Creek and East Twin Creek onsite are not anticipated to be regulated by the Corps, but may be regulated by the CDFW, and therefore should be considered sensitive. Jurisdictional

determination would be made during consultation with the agencies if/when impacts are proposed by a specific project.

5.3.2 Thresholds of Significance

According to Appendix G of the CEQA Guidelines, a project would normally have a significant effect on the environment if the project would:

B-1 Have a substantial effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service.

B-2 Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service.

B-3 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.

B-4 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.

B-5 Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.

B-6 Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

5.3.3 Environmental Impacts

The proposed Specific Plan would permit development of net increases of 2,395 residential units and 1,204,063 square feet of commercial uses. Specific Plan buildout could involve redevelopment of all of the redevelopment sites, and development of all the catalytic sites identified in the Specific Plan (see Figure 3-5, *Proposed Opportunity and Enhancement Areas*). Redevelopment sites comprise about 267 acres, or approximately 38 percent of the Specific Plan area, and catalytic sites total approximately 121 acres, or about 17 percent of the Specific Plan area. Current land uses in most of the Enhancement Areas—which total about 209 acres, or 29 percent of the Specific Plan area) would be retained. Development in the Open Space Zone (66 acres, about 9 percent of the Specific Plan area) would be limited to new recreational uses and enhancements of existing recreational uses.

In the following impact analysis, thresholds of significance are listed after each impact statement.

Impact 5.3-1: Buildout of the proposed Specific Plan could impact burrowing owl (*Athene cunicularia*), California horned lark (*Eremophila alpestris actia*), and Swainson's hawk (*Buteo swainsoni*). [Threshold B-1]

Impact Analysis:

Burrowing Owl

Burrowing owl is a state species of special concern with low to moderate potential to occur in nonnative grassland and ruderal communities in the Specific Plan area.

The following types of activities have potential to impact the burrowing owl, its nests or eggs, and destroy or degrade its potential habitat in the Specific Plan area: grading, disking, cultivation, earthmoving, burrow blockage, heavy equipment compacting and crushing burrow tunnels, flooding, burning, and mowing. If burrowing owls have been documented to occupy burrows on a project site in the Specific Plan area, or within 500 feet of a project site in the past three years, the habitat should be considered occupied and mitigation would be required.

Therefore, if burrowing owl occupy a project site in the Specific Plan area, or habitat within 500 feet of a project site, construction of the project could have a significant impact on this species.

California Horned Lark

California horned lark is a State Watch List species with low to moderate potential to occur in nonnative grassland, ruderal, and ruderal/disked communities in the Specific Plan area. As a State Watch List species, the California horned lark is not a Species of Special Concern, is not state or federal listed, and is not State Fully Protected. Its level of sensitivity is low. Impacts to this species from habitat loss would, therefore, be less than significant, and no mitigation would be required. Direct impacts to the species (i.e., direct mortality) from future development projects in the Specific Plan area are not anticipated because the birds would be expected to fly away; no mitigation would be required. Impacts to nesting horned larks are addressed under Impact 5.3-4, below.

Swainson's Hawk

Swainson's hawk is a federal Bird of Conservation Concern and State Threatened species with very low potential to use nonnative grassland, ruderal, and ruderal/disked communities in the Specific Plan area. Since these communities occur within a highly developed setting and are not within the current breeding distribution for the species (the species winters in South America), impacts to the Swainson's hawk from future development projects in the Specific Plan area are be anticipated, and no mitigation would be required.

Impact 5.3-2: There are no sensitive natural communities or riparian habitats in the Specific Plan area, and Specific Plan buildout would not impact such communities or habitats. [Threshold B-2]

Impact Analysis: There are no sensitive natural communities in the Specific Plan area. No riparian habitat was identified in the Specific Plan area; the only riparian vegetation identified was one western cottonwood tree next to the streambed in the southeast part of the Specific Plan area. Western cottonwood is not listed as a sensitive species on the California Natural Diversity Database maintained by the CDFW. Proposed Project buildout would not impact sensitive natural communities or riparian habitats.

Impact 5.3-3: The Proposed Project could impact approximately 2.2 acres of ephemeral streambed. [Threshold B-3]

Impact Analysis: There are approximately 2.2 acres of ephemeral streambed in the southeast part of the Specific Plan area. The stream originates east of the south end of Preston Street in the east-central part of the Specific Plan area, extends south to between 3rd and 4th streets near the southeast corner of the Specific Plan area, then extends west to Waterman Avenue. The ephemeral streambed is labeled Warm Creek on the San Bernardino County Stormwater Facility Mapping Tool. Warm Creek is also the name of the engineered concrete channel forming the southeast site boundary (San Bernardino County 2016).

Impact 5.3-4: There are no wildlife movement corridors in the Specific Plan area, and Specific Plan buildout would not impact any such corridors. Vegetation clearance or construction by projects developed pursuant to the Specific Plan could impact nesting birds protected under federal and state laws. [Threshold B-4]

Impact Analysis:

Overland Wildlife Movement Corridors

The project site is almost completely developed and is surrounded by development. It does not provide habitat that connects otherwise isolated pieces of habitat, nor does it provide habitat for movement or dispersal of plants and animals. The two creeks onsite are engineered with concrete beds and banks, and thus do not serve as corridors for wildlife movement. Specific Plan buildout would not impact wildlife movement corridors.

Nesting Birds

Five bird species were observed in the Specific Plan area that are protected under the California Fish and Game Code and protected while nesting under the MBTA (the Eurasian collared dove is not protected); it is likely that more protected species are present.

Potential impacts to nesting birds could result if vegetation clearing or construction occur during the nesting season (generally February through August; January through August for raptors and owls). Vegetation clearing or construction could cause destruction or abandonment of active nests or death of adults, young, or eggs. Construction of a project during this period could have a significant impact on nesting birds protected by the

California Fish and Game Code and the MBTA, and mitigation would be required. If vegetation clearing and construction occurs outside the nesting season(s), no mitigation would be required.

Impact 5.3-5: Proposed Project buildout would not impact local ordinances or policies protecting biological resources or habitat conservation plans. [Thresholds B-5 and B-6]

Impact Analysis:

Local Ordinances

Trees on City property, including street trees, are protected under Municipal Code Chapter 12.40. The proposed land use changes under the Specific Plan are on parcels and would not affect City street or parkway trees. No impact would occur.

Biological Resource Management Areas

There are no Biological Resource Management (BRM) Areas in the Specific Plan area, and Proposed Project buildout would not impact BRMs.

Habitat Conservation Plans

The Specific Plan area is not in the plan area of any habitat conservation plans or natural community conservation plans, and no impact would occur.

5.3.4 Cumulative Impacts

The area considered for cumulative impacts is the Upper Santa Ana River Valley and the San Jacinto Basin. The Upper Santa Ana River Valley is in parts of eastern Los Angeles County, southwest San Bernardino County, and west Riverside County. The San Jacinto Basin comprises most of the remainder of western Riverside County. The region is slightly drier and subject to somewhat more temperature variation than the Los Angeles Basin to the west. Vegetation historically included coastal sage scrub, chaparral, valley grasslands, and some riparian woodlands (Griffith 2016). Much of the region is now urbanized. The part of the region in Riverside County is in the Western Riverside County Multiple Species Habitat Conservation Plan, a regional conservation plan protecting 146 covered species and 14 natural communities. Most of the Riverside County part of the region is also in a habitat conservation plan for the Stephens' kangaroo rat.

Other projects in the region may impact habitats used by sensitive species. Proponents of other projects would be required to conduct biological resources assessments for their respective project sites using qualified biologists. Such assessments would include biological resources surveys and habitat assessments for sensitive species. Where sensitive species are observed on project sites or determined to be potentially present due to the presence of suitable habitat, the biological resources assessments would evaluate impacts and recommend mitigation measures to reduce those impacts.

Such biological resources assessments would also include impact evaluations and mitigation measures, where necessary, for sensitive natural communities, jurisdictional waters and wetlands, wildlife movement corridors, and habitat conservation plans.

Therefore, cumulative impacts to biological resources would be less than significant, and project impacts would not be cumulatively considerable.

5.3.5 Existing Regulations and Standard Conditions

Federal

- United States Code, Title 16, Sections 1531 et seq.: Endangered Species Act
- United States Code, Title 16, Sections 703–712: Migratory Bird Treaty Act
- United States Code, Title 33, Sections 1251 et seq.: Clean Water Act

State

- California Fish and Game Code, Section 2080: Endangered Species Act
- California Fish and Game Code, Section 1600: Lakes and Streambeds
- California Fish and Game Code, Sections 3503 et seq.: Protections for birds

5.3.6 Level of Significance Before Mitigation

Upon implementation of regulatory requirements and standard conditions of approval, some impacts would be less than significant: 5.3-2 and 5.3-5.

Without mitigation, these impacts would be **potentially significant**:

- **Impact 5.3-1** Specific Plan buildout could impact burrowing owl, a California Species of Special Concern.
- **Impact 5.3-3** Specific Plan buildout would impact an ephemeral streambed in the southeast part of the Specific Plan area that is Waters of the United States and Waters of the State.
- **Impact 5.3-4** Removal of trees and other vegetation by projects developed pursuant to the Specific Plan could impact nesting birds protected under federal and state laws.

5.3.7 Mitigation Measures

Impact 5.3-1

Impacts to Burrowing Owl

BIO-1 Prior to issuance of grading permits for future projects containing nonnative grassland and/or ruderal communities identified on Figure 3 of the biological technical report: A pre-construction, take-avoidance survey shall be conducted in accordance with the California Department of Fish and Wildlife (CDFW) Staff Report on Burrowing Owl Mitigation (2012). If there is no sign of burrowing owl occupation ("occupied" is defined in the CDFW Staff Report), no further mitigation would be required. If sign of occupation is present, the following mitigation shall be implemented.

Direct impacts to occupied burrowing owl burrows shall be avoided during the breeding period from February 1 through August 31 and during the nonbreeding season as described in the CDFW Staff Report.

Mitigation for direct, permanent impacts to nesting, occupied, and satellite burrows and/or burrowing owl habitat shall be required based on the burrowing owl life history information in Appendix A of the CDFW Staff Report, site-specific analysis, and consultation with the CDFW. A Burrowing Owl Mitigation Plan shall be prepared and submitted to the City and CDFW for approval prior to impacts to the burrowing owl and/or its habitat.

Impact 5.3-3

BIO-2 Prior to issuance of grading permits, future project applicants for any project adjacent to the ephemeral streambed shown on Figure 5.3-1 of this DEIR shall provide evidence from a qualified biologist to the City that nonwetland Waters of the United States and Waters of the State have been avoided to the extent feasible. Where avoidance is not feasible, mitigation will be required in accordance with federal and state regulations. The types of mitigation would include onsite protection, enhancement, and/or restoration. Mitigation is typically required at a 1:1 ratio and in close proximity to the impacts, or at least in the same watershed. The final mitigation requirements and locations for the mitigation, however, are subject to the permit processes with the US Army Corps of Engineers and the California Department of Fish and Wildlife. If avoidance is not feasible, the project applicant shall provide evidence to the City that all required federal and state permits have been obtained prior to issuance of grading permits.

Impact 5.3-4

Impacts to Nesting Birds

BIO-3 The mature trees within the Specific Plan area could be used for nesting by migratory birds protected under the federal Migratory Bird Treaty Act (MBTA) (United States Code, Title

16, §§ 703–712). The MBTA prohibits direct impacts to nesting birds and their nests. Also, the California Fish and Game Code (§ 3503.5) prohibits activities that take, possess, or destroy the nest or eggs of any such bird. Future project applicants are required to comply with the MBTA. Prior to the start of grading activities between January 15 to September 1 (bird nesting season), future project applicants are required to conduct a site survey for nesting birds by a qualified biologist before commencement of grading activities. If nesting birds are found, the applicant is required to consult with the US Fish and Wildlife Service regarding means to avoid or minimize impacts to nesting birds in accordance with MBTA requirements.

If nests are not observed and the City approves the results of the preconstruction survey, vegetation clearing and tree removal/trimming may proceed. If nests are found, work may proceed provided that activity is: 1) at least 500 feet from raptor/owl nests; 2) at least 300 feet from federal- or state-listed bird species' nests; and 3) at least 100 feet from nonlisted bird species' nests. A qualified biologist shall conspicuously mark the buffer so that vegetation clearing and tree removal/trimming does not encroach into the buffer until the nest is no longer active (i.e., the nestlings fledge, the nest fails, or the nest is abandoned, as determined by a qualified biologist).

5.3.8 Level of Significance After Mitigation

The mitigation measures would reduce potential impacts to biological resources to a level that is less than significant. No significant unavoidable adverse impacts to biological resources have been identified.

5.3.9 References

California Department of Fish and Wildlife (CDFW). 2016, May 17. California Natural Diversity Database. https://map.dfg.ca.gov/rarefind/Login.aspx?ReturnUrl=%2frarefind%2fview%2fRareFind.aspx.

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San Bernardino, City of. 2005, November 1. General Plan Chapter 12, *Natural Resources and Conservation*, and Figure NRC-2, *Biological Resource Areas*. https://www.ci.san-bernardino.ca.us/pdf/DevSvcs/General%20Plan%20Document.pdf.

San Bernardino County. 2016, May 13. Stormwater Facility Mapping Tool. http://permitrack.sbcounty.gov/wap/.

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5.4 CULTURAL RESOURCES

Cultural resources comprise paleontological, archaeological, and historical resources. Paleontological resources are the fossilized remains of plants and animals. Archaeology is the branch of paleontology that studies human artifacts, such as places, objects, and settlements that reflect group or individual religious, cultural, or everyday activities. Historical resources include sites, structures, objects, or places that are at least 50 years old and are significant for their engineering, architecture, cultural use or association, etc. In California, historic resources cover human activities over the past 12,000 years. Cultural resources provide information on scientific progress, environmental adaptations, group ideology, or other human advancements. This section of the Draft Environmental Impact Report (DEIR) evaluates the potential for implementation of the Waterman + Baseline Neighborhood Specific Plan to impact cultural resources in the City of San Bernardino. The analysis in this section is based, in part, upon information in the following study:

- *A Cultural Resources Overview and Investigation for the Waterman & Baseline Neighborhood Specific Plan Project Area, San Bernardino, County Of San Bernardino County, California*, McKenna et al., May 23, 2016.

A complete copy of this study is included in Appendix E to this DEIR.

The cultural resources investigation consisted of:

- An archaeological records check at the South Central Coastal Information Center at California State University, Fullerton.
- Native American consultation: requests for input regarding Native American cultural resources in and near the Specific Plan area were sent to local tribal representatives identified by the Native American Heritage Commission.
- A paleontological overview of the Specific Plan area was conducted by the Natural History Museum of Los Angeles County.
- Background research: Review of previous research, historical maps and aerial photographs, and data from the County Assessor's Office and County Surveyor's Office.
- Reconnaissance field survey, including driving streets in the Specific Plan area and pedestrian surveys of vacant lots and open land.
- Analysis and report preparation.

5.4.1 Environmental Setting

5.4.1.1 REGULATORY BACKGROUND

Regulations that apply to cultural resources impacts are the federal and state regulations described here. No regional or local laws or regulations apply.

National Historic Preservation Act

The National Historic Preservation Act of 1966 coordinates public and private efforts to identify, evaluate, and protect the nation's historic and archaeological resources. The act authorized the National Register of Historic Places, which lists districts, sites, buildings, structures, and objects that are significant in American history, architecture, archaeology, engineering, and culture.

Section 106 (Protection of Historic Properties) of the act requires federal agencies to take into account the effects of their undertakings on historic properties. Section 106 review ensures that historic properties are considered during federal project planning and implementation. The Advisory Council on Historic Preservation, an independent federal agency, administers the review process with assistance from state historic preservation offices.

Archaeological Resources Protection Act

The Archaeological Resources Protection Act of 1979 regulates the protection of archaeological resources and sites on federal and Indian lands.

Native American Graves Protection and Repatriation Act

The Native American Graves Protection and Repatriation Act is a federal law passed in 1990 that mandates museums and federal agencies to return certain Native American cultural items—such as human remains, funerary objects, sacred objects, or objects of cultural patrimony—to lineal descendants or culturally affiliated Indian tribes.

California Public Resources Code

Archaeological, paleontological, and historical sites are protected under a wide variety of state policies and regulations in the California Public Resources Code (PRC). In addition, cultural and paleontological resources are recognized as nonrenewable resources and receive protection under the PRC and CEQA.

PRC Sections 5020 to 5029.5 continued the former Historical Landmarks Advisory Committee as the State Historical Resources Commission. The commission oversees the administration of the California Register of Historical Resources and is responsible for designating State Historical Landmarks and Historical Points of Interest.

PRC Sections 5079 to 5079.65 define the functions and duties of the Office of Historic Preservation, which administers federal- and state-mandated historic preservation programs as well as the California Heritage Fund.

PRC Sections 5097.9 to 5097.991 provide protection to Native American historical and cultural resources and sacred sites; identify the powers and duties of the Native American Heritage Commission (NAHC); require that descendants be notified when Native American human remains are discovered; and provide for treatment and disposition of human remains and associated grave goods.

California Senate Bill 18

Senate Bill (SB) 18, the Traditional Tribal Cultural Places (TTCPs) law, requires local jurisdictions to provide opportunities for involvement of NAHC and any appropriate California Native Americans tribes in the land planning process for the purpose of preserving TTCPs. A city or county, when proposing to adopt, amend, revise, or update a general plan or specific plan, must send a written request to NAHC asking for a list of tribes to consult. NAHC is required to provide this list within 30 days of receiving the request. The city or county must send a Tribal Consultation Request letter to each tribal representative on the list; tribes then have 90 days in which to respond to the Consultation Request if they want to consult with the local government to determine whether the project would have an adverse impact on the TTCP.

SB 18 provides a new definition of TTCP requiring a traditional association of the site with Native American traditional beliefs, cultural practices, or ceremonies or the site must be shown to actually have been used for activities related to traditional beliefs, cultural practices, or ceremonies. Previously, the site was defined to require only an association with traditional beliefs, practices, lifeways, and ceremonial activities. In addition, SB 18 also amended California Civil Code Section 815.3 and adds California Native American tribes to the list of entities that can acquire and hold conservation easements for the purpose of protecting their cultural places.

Assembly Bill 52

The Native American Historic Resource Protection Act (AB 52) took effect July 1, 2015 and incorporates tribal consultation and analysis of impacts to tribal cultural resources (TCR) into the CEQA process. It requires TCRs to be analyzed like any other CEQA topic and establishes a consultation process for lead agencies and California tribes. Projects that require a Notice of Preparation of an EIR or Notice of Intent to adopt a ND or MND on or after July 1st are subject to AB 52. A significant impact on a TCR is considered a significant environmental impact, requiring feasible mitigation measures.

TCRs must have certain characteristics:

1) Sites, features, places, cultural landscapes (must be geographically defined), sacred places, and objects with cultural value to a California Native American tribe that are either included or determined to be eligible for inclusion in the California Register of Historic Resources or included in a local register of historical resources. (PRC § 21074(a)(1))

2) The lead agency, supported by substantial evidence, chooses to treat the resource as a TCR. (PRC § 21074(a)(2))

The first category requires that the TCR qualify as a historical resource according to PRC Section 5024.1. The second category gives the lead agency discretion to qualify that resource—under the conditions that it support its determination with substantial evidence and consider the resource's significance to a California tribe. The following is a brief outline of the process (PRC §§ 21080.3.1–3.3).

1) A California Native American tribe asks agencies in the geographic area with which it is traditionally and culturally affiliated to be notified about projects. Tribes must ask in writing.

2) Within 14 days of deciding to undertake a project or determining that a project application is complete, the lead agency must provide formal written notification to all tribes who have requested it.

3) A tribe must respond within 30 days of receiving the notification if it wishes to engage in consultation.

4) The lead agency must initiate consultation within 30 days of receiving the request from the tribe.

5) Consultation concludes when both parties have agreed on measures to mitigate or avoid a significant effect to a TCR, OR a party, after a reasonable effort in good faith, decides that mutual agreement cannot be reached.

6) Regardless of the outcome of consultation, the CEQA document must disclose significant impacts on TCRs and discuss feasible alternatives or mitigation that avoid or lessen the impact.

5.4.1.2 EXISTING CONDITIONS

The Specific Plan area is generally associated with Lytle Creek floodplain (from north/northwest of the Specific Plan area), but also associated Warm Creek, originating from the northeast. The area is part of the Peninsular Range geologic province, with granitic outcrops and occasional pools of standing water. The native soils are decomposing granite and are relatively shallow.

Some outcrops of basalt—that is, lava rock—are also present in the region; the rock shows thermal cracking from local brush fires, some of which appear to have occurred recently. No basalt outcrops are mapped in the Specific Plan area on a geologic map showing the Specific Plan area and vicinity (Dibblee 2004).

Cultural Setting

Prehistoric

The Specific Plan area is in an ethnographic area associated with both the Gabrieliño (or Tongva) and the Serrano. However, it is essentially a crossroads where all four Native American populations overlap—Gabrieliño, Serrano, Luiseno, and Cahuilla. And there is little evidence to separate the Gabrielino/Tongva from their surrounding relatives (i.e., the Serrano or Luiseno), except by geographical association with the various Missions. The term "Gabrielino" is derived from the Spanish Mission Period and reflects association with Mission San Gabriel, not kinship or social structures.

The Gabrieliño utilized numerous plants and animals for food, shelter, and medicines. They used seeds most often, followed by foliage, shoots, fruits, and berries. Mountain shrubs, ash, elder, and willow were used for shelters and tool materials (e.g., bows). Over 20 plants were used regularly for medicinal purposes. Food sources also included deer, rabbits, wood rats, squirrels, quail, and ducks.

The Gabrieliño developed bow styles, bedrock mortars, portable mortars, pipes, chisels, metates, manos, and various forms of chipped stone tools.[1] Prior to the establishment of the Mission system, populations tended to live in larger villages with a series of satellite sites (limited activity areas) with lesser populations.

Seasonal migration was practiced for the exploitation of resources and protection from seasonal weather conditions. Habitation structures were constructed of branches, grasses, and mud, and interior hearths were used for heat. Cooking was generally conducted outdoors on exterior hearths.

Cultural Chronology

The chronology generally accepted for the South Coast Region of California is:[2]

- **Early Man Horizon:** Predating 6,000 B.C.; characterized by the presence of large projectile points and scrapers, suggesting a reliance on hunting rather than gathering.
- **Milling Stone Horizon:** 6,000 to 1,000 B.C.; characterized by the presence of hand stones, milling stones, choppers, and scraper planes; tools associated with seed gathering and shellfish processing with limited hunting activities; evidence of a major shift in the exploitation of natural resources.
- **Intermediate Horizon:** 1,000 B.C to A.D. 750; reflects the transitional period between the Milling Stone and the Late Prehistoric Horizons; little is known of this period, but evidence suggests interactions with outside groups and a shift in material culture reflecting this contact.
- **Late Prehistoric Horizon:** A.D. 750 to European contact; 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.

Historic Period

The earliest known records of European contact with Southern California Native Americans date to the mid-1500s during early explorations by the Spanish. These explorations resulted in the identification of populations from ships but did not include direct contact. Personal contact was not made until the 1770s, when Father Garces traversed the Mojave Desert and entered coastal Southern California.

In the 1770s, the Spanish padres, under the direction of Junipero Serra, began establishing a series of missions throughout Alta California, as California was then known. The Specific Plan area is within the boundaries of lands historically held by the Mission San Gabriel de Archangel. There was no mission in the San Bernardino Valley. The area was under the general jurisdiction of the Mission San Gabriel de Archangel, which serviced the local population (Native American and others) through the establishment of the *Asistencia* —a Mission outpost supporting cattle grazing—in present-day Redlands.

[1] Metates and manos are grinding stones; a metate is a slab, and a mano is slid against a metate (compare to a pestle rotated by hand inside a bowl-shaped mortar).
[2] The South Coast Region includes the coast, coastal plains, and ocean-facing slopes of mountain ranges, and extends from approximately the Ventura/Santa Barbara County border to the Mexican Border (CAL FIRE 2002).

The Mission continued to hold these large tracts until Mexico declared its independence from Spain and ordered the secularization of the missions (ca. 1824).

By 1833–34, the majority of mission lands were taken from the Catholic Church and granted to individuals who had served as Spanish or Mexican soldiers, settlers, financiers, etc. The Mexican government hoped to initiate a pattern of settlement in Alta California by relocating populations from Mexican settlements to California settlements.

The City of San Bernardino is within the historic boundaries of the Rancho San Bernardino, which spanned 72 square miles—or slightly over 46,000 acres—in San Bernardino County and was granted in June 1842 by Governor Juan Alvarado to Jose del Carmen Lugo, his brothers Jose Maria and Vicente Lugo, and to Diego Sepulveda.

The Lugos continued to occupy and run the Rancho San Bernardino until and shortly after the acquisition of California by the United States. During the late 1840s, the Mormon Church in Utah was actively establishing settlements throughout the Southwest (Utah, Nevada, northern Arizona, and California). The Mormon Church purchased the rancho in 1851, establishing the first predominantly Anglo-American community in Southern California.

The Mormon Fort was established in the area of present-day 3rd Street and "C" Street. The Mormon colony at San Bernardino eventually extended well outside the boundaries of the fort. In 1857, however, most of the settlers returned to Utah; approximately one-third of the settlers opted to stay in San Bernardino and continue developing a community. The community of San Bernardino became the county seat in 1853. The ranch was subdivided into 88 "blocks" to allow sale of properties. Shortly after this, in 1857, 25,000 acres of Rancho San Bernardino lands were sold by Ebenezer Hanks to four buyers. People who owned their own properties prior to the sale maintained such ownership.

Population estimates in the late 1850s and 1860s ranged from 1,500 to 3,000. Following the Civil War, settlers (mostly from Texas) began arriving in the area, and San Bernardino's population began to rise again, but not with the strong agricultural discipline indicative of the Mormon settlers.

The future subdivisions of the San Bernardino Rancho were based primarily on the 1857 subdivision map, but also subdivisions after the 1880s. Many of the individual lots were sold prior to 1900, but not necessarily improved. The Specific Plan area is within historic rancho blocks (see Figure 5.4-1, *Historic Map of a Portion of the Rancho San Bernardino*). The Atchison, Topeka, and Santa Fe Railway reached San Bernardino in 1886.

Figure 5.4-1 Historic Map of a Portion of the Rancho San Bernardino

5. Environmental Analysis

The Specific Plan Area is within the red circle.

NOT TO SCALE

Base Map Source: McKenna, 2016

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Much of the land was used for agricultural purposes, with only sporadic residential development prior to the 1880s. Aerial photographs confirm that the majority of land east of Waterman Avenue was still open agricultural land well into the 1940s. Lands to the west of Waterman Avenue were developed as residential properties (with some commercial and other uses) after about 1887. The densely populated residential blocks date primarily to the 1910s through about 1940. Cemeteries and residential uses are also shown on Sanborn maps after 1906. The beginnings of Seccombe Park can be seen as well as the alignment of the Pacific Electric railroad. Pioneer Memorial Cemetery and the Home of Eternity Cemetery of Congregation Emanuel are evident.

St. Bernardine's Hospital is shown on a 1938 map, but much smaller than the current facility.

There is no significant evidence of commercial properties prior to World War II, suggesting all (or most) of the existing commercial structures are 1940s or later.

The later residential developments east of Waterman Avenue are predominantly post-WWII, and many were built after the 1950s.

Commercial developments began to be developed in the Specific Plan area after World War II. Many of the early commercial developments were gasoline stations and automotive service businesses.

Restaurants (eventually fast-food businesses) followed. In the vicinity of St. Bernardine's Hospital, medical support facilities (doctor offices, outpatient care facilities, insurance offices, rest homes, etc.) appear on or near Waterman Avenue, south of Highland Avenue. Schools were established, churches were opened, and at least one mortuary was established. The Warm Creek and East Twin Creek channels were built.

The current project area is now completely built out and exhibits a mixture of early residential, late historic, and modern residential improvements; late historic commercial developments; and a considerable amount of modern improvements nearer Highland Avenue and St. Bernardine's Hospital. The residential neighborhoods range from well-maintained private residences to multifamily rental properties (including courtyards and apartments) to other, less-well-maintained neighborhoods and areas with vacant lots.

Numerous subdivisions in or overlapping the Specific Plan area are listed and described in the cultural resources report (see Appendix E of this DEIR).

Cultural Resources

Historical Resources

At least 39 historical resources have been identified in or within one mile of the Specific Plan area, including 10 resources within the Specific Plan area described in Table 5.4-1. For further descriptions see the cultural resources investigation in Appendix E of this DEIR.

Table 5.4-1 Historical Resources Identified within Specific Plan area

Primary No.	Resource	Location [Planning District]	Description
36-004130	Home of Eternity Cemetery of Congregation Emanuel	8th Street and Sierra Way [2, Westside Residential District]	Established in 1861; the oldest Jewish burial ground in continuous use in Southern California. California Point of Historical Interest SBR-44.
36-005554	Martin Adobe (former)	On the northeast corner of 5th Street and Sierra Way in Seccombe Park; has been demolished. [5, Gateway District]	One of the oldest buildings in the City of San Bernardino. Built in the late 1850s, it was one of only two homes left from San Bernardino's original Mormon settlement. The building was designated California Point of Historical Interest SBR-111. The building collapsed during a restoration project in 1986; the debris was later removed from the site. No evidence of the Adobe remains and the area has since been redeveloped as part of Seccombe Lake Park.
36-006796	Unmarked Historic Cemetery	South of 7th Street and west of Waterman Avenue in Seccombe Park [5, Gateway District]	Unmarked burials of 11 persons in wooden coffins and some personal items were discovered in 1989. Some early 20th century refuse was also found. These burials are thought to be either a "potter's field" next to Pioneer Memorial Cemetery or burials before Pioneer Memorial Cemetery was established in 1857. The remains were recovered and reburied in Pioneer Memorial Cemetery.
36-010820	Railroad Alignment	Crossed Seccombe Lake Park and extended down Sierra Way. [5, Gateway District]	Owned and built by the San Bernardino & Redlands Railroad Company, formerly known as the East San Bernardino Railroad, which was established in 1888. This line was probably better known as part of the San Bernardino, Arrowhead & Waterman Railroad Company's Harlem Motor Road to the Harlem Hot Springs. Southern Pacific Railway bought the track in 1901; the track was abandoned in 1904.
36-012916	U.S. Army Reserve Center	Northwestern corner of 3rd Street and Waterman Avenue [5, Gateway District]	Constructed in 1951 with some indications of additional construction in 1972. The facility was designed to provide a location for reserve training following World War II. The complex reflects "simple construction"; was determined to not be historically significant.
36-013922	Lee Carlson's Service Building	270 Baseline Street [2, Westside Residential District]	The property was tentatively associated with the location of the E.J. Lyons residence before Carlson owned it. The property has since been redeveloped as a modern fast-food restaurant.
36-015497	Baseline Street	Baseline Street [2, Westside Residential District; 3, Midtown Core District; and 4, Eastside Residential District]	Named for the Base Line running established in 1853 when the U.S. Surveyor, Col. Henry Washington, established the San Bernardino Base and Meridian coordinates. The roadway connects the San Bernardino Valley and San Gabriel Valley. California Point of Historical Interest CPHI-SBR-12.
36-020673	Historic Refuse	Within the Warm Creek Channel, just north of the U.S. Army Reserve Center [6, Employment District]	Artifacts from at least two periods of deposition—pre-1930 and post-1940. Two military-issued gun shells were also recovered. All identified artifacts were recovered, and the site was deemed clear of any significant remains.
36-023399	Waterman Gardens	On the south side of Baseline Street, east of Waterman Avenue [6, Employment District]	Constructed in 1943 to provide low-income housing supporting World War II–period war–effort workers, the complex is still used as low-income housing. The complex was evaluated as maintaining its architectural integrity and as eligible for listing on both the National Register of Historic Places and the California Register of Historical Resources.

Table 5.4-1 Historical Resources Identified within Specific Plan area

Primary No.	Resource	Location [Planning District]	Description
36-026988	Keller-Graham Ranch	Northwestern corner of 9th Street and Valencia Avenue [3, Midtown Core District]	Represents the original 6 acres identified as the eastern half of Lot 7, Block 42. The property was vacant in 2014; all evidence of early agricultural uses and/or structures had been removed. The 1901 USGS San Bernardino Quadrangle topographic map shows structures near this property.

Source: McKenna 2014.

District 1: Uptown Professional District

St. Bernardine's Hospital and many supporting facilities along Waterman Avenue are in this District. Overall, this area is dominated by modern or late-historic buildings housing medical offices and other medical support facilities (e.g., administration offices).

Most of the structures would be characterized as standard office complexes with minimal architectural or design elements. However, a small number of early residences have been reused as medical offices and retain much of their original exterior designs.

St. Bernardine's Hospital still exhibits its original core hospital (pre-1938) within the larger and more modern complex (see Figure 6 in the cultural resources investigation, Appendix E of this DEIR). The exact date of the establishment of St. Bernardine's Hospital has not been confirmed. While the Hospital has not been formally evaluated, it does retain much of the original architectural features and as a large and relatively early medical facility in the area, and thus would likely qualify for local recognition. Similarly, the various properties fronting Waterman Avenue have not been evaluated, suggesting most were developed prior to 1976 and the CEQA requirements for evaluation. Waterman Avenue and Highland Avenue are historic roadways; however, neither has been recorded as such; the roadways should be considered features within the larger City of San Bernardino. Subdivisions in this area began as early as 1922 and continued well into the 1980s.

District 2: Westside Residential District

This area includes the Pioneer Memorial Cemetery, Home of Eternity Cemetery of Congregation Emanuel, commercial developments along Baseline Street and Waterman Avenue, and residential properties between 8th Street and Baseline Street. Research showed minimal evidence of previous studies in this area. Baseline Street was addressed in ca. 1972-1973 as California Point of Historical Interest (CPHI-12) and Primary No. 36-015497.

The Home of Eternity Cemetery of Congregation Emanuel is identified as a California Point of Historical Interest (SBR-44) and subsequently recorded as CA-SBR-4130H, but there has been no formal record prepared (see Figure 7 in Appendix E). The designation was based on map data, not field work or detailed research.

The Pioneer Memorial Cemetery is the earliest formal cemetery in San Bernardino but has not been formally recorded or assessed. Likewise, the residential community between the cemeteries and Baseline Street has not

been investigated for historic resources, although the area was developed prior to World War II. The frontages along Baseline Street and Waterman Avenue are dominated by commercial buildings interspersed with residences, some of which have been altered for use as commercial buildings.

This area of San Bernardino has very early subdivisions (1887), with some additional subdivisions dating as late as 1978 and including condominium developments. Most of the residences in this area are single-family properties, with additional developments resulting in multifamily properties. There are many bungalows dating to the 1900s to 1930s, some courtyards (see Figure 8 in the cultural resources investigation), more modern (1960s+) apartment complexes, and a few vacant lots. None of the properties within this district have been formally evaluated.

District 3: Midtown Core District

This area includes many commercial properties along Waterman Avenue and Baseline Street as well as the large Waterman Gardens complex and the Lyman School. With the exception of Waterman Gardens, there are fewer residences in this area. Those present, however, are early, dating to about the 1910s–20s.

Unlike Districts 1 and 2, the majority of District 3 has been surveyed for cultural resources—specifically, the Waterman Gardens complex, an area west of the trailer park, and portions of roadways extending north of Baseline Street. Waterman Gardens and the Keller-Graham ranch are described in Table 5.4-1.

The Keller-Graham ranch was recorded by McKenna in 2014 and determined to lack integrity and to be ineligible for recognition as a historical resource. The trailer court is not an eligible resource (although not formally evaluated), and the Lyman School is a modern addition to the area.

In assessing this district, McKenna et al. has concluded the area of Baseline Street is sensitive for commercial developments from the 1940s onward that require site-specific evaluations, and the area east of Waterman Gardens requires survey and evaluation. Otherwise, the area has been covered.

District 4: Eastside Residential District

The area south of 9th Street is dominated by a trailer park from the 1970s or later and some open field areas and/or modern commercial properties. To the north of 9th Street, the district is dominated by a trailer park, a large school-bus yard, and a low-income residential community. There are also pre– and post–World War II commercial developments along Baseline Street, some of which are vacant and in poor condition (see Figure 9 in Appendix E). The residential component of this district is concentrated in the eastern portions of the area and includes a small Catholic church.

This area has not been investigated for significant historic resources except for a small area along Baseline Street. The survey of the area showed the residential components to be fairly early (mainly 1920s and 1930s), with both single- and multifamily properties. There are small cottages, some modest sized residences, and courtyards (see Figure 10 in Appendix E).

East Twin Creek Channel bisects this district, and Warm Creek bounds the area. Neither of these drainage channels has been evaluated or recorded. Overall, the entire Eastside Residential District requires evaluation

and recordation. It is likely this neighborhood would qualify as an "ethnic resource" and a cultural district. Only full evaluation would confirm or negate this potential.

District 5: Gateway Lake District

Seccombe Park, completed in the 1980s, encompasses the northern half of this district except for a few lots on Waterman Avenue. Prior to development of the park, this area was associated with the Martin Adobe (described in Table 5.4-1) and ranch/agricultural land. An unmarked "cemetery" consisting of 11 graves in the northeastern quarter of the Park is also described in Table 5.4-1.

Old Victory Village, also within Seccombe Lake Park, is a small area of Native American artifacts tentatively dated to the Late Prehistoric period. Other resources within the district include a concentration of historic refuse at 4th Street and Waterman, the Harlem Motor Road/San Bernardino and Redlands Railroad alignment, and the U.S. Army Reserve Center (3rd Street and Waterman Avenue). The latter three resources are described in Table 5.4-1. The remainder of the district—south of 3rd Street—is dominated by residential properties. The only resource in this district that has been recorded is the U.S. Army Reserve Center (see Figure 11 in Appendix E).

The earliest subdivisions in this area date to 1887; development has continued well into the 21st century. This district was infilled with single-family residences between 1900 and the 1930s; many of the structures predate 1906.

This district also includes a modern fire station, a large, modern office complex, and some sporadic modern redeveloped residential lots. It is dominated by smaller cottages and bungalows, courtyards (see Figure 12 in Appendix E), and a few vacant lots.

Overall, this part of the Specific Plan area exhibits some of the earliest single-family residential properties east of the original City core. The area has not been formally evaluated for significant cultural resources, but would likely qualify as a small cultural district with local significance.

District 6: Employment District

The majority of this area is dominated by commercial/industrial uses such as auto parts salvage yards, a waste management complex, and auto service businesses. Small, single-family residential properties are interspersed among these industrial and commercial properties. South of 6th Street are residential blocks with some areas of open space along the Warm Creek Channel. The lack of subdivisions in this area is partially due to the use of this area as agricultural lands well into the 1940s and the subsequent establishment of post–World War II large industrial/commercial uses such as car part salvaging. The small residential area north of 3rd Street and south of 5th Street consists of very small, early residences consistent with late 1800s and early 1900s improvements (see Figure 13 in Appendix E). Some lots remain vacant or have become vacant.

Overall, the Employment District has not been previously surveyed or inventoried for cultural resources. Therefore, there are no identified resources within the area, save this summary. The area may qualify as a locally significant district, but this preliminary conclusion must be verified through a formal investigation.

Summary

Only about 20 percent of the Specific Plan area has been addressed and/or inventoried by previous cultural investigations. There are major data gaps for this area, including, but not limited to the need for the following:

- Research and inventory of historic roadways
- Research and inventory of public facilities (cemeteries, public buildings, parks, and public parking spaces)
- Property-specific investigations of pre-1965 buildings (both residential and other land uses)
- Research and documentation of St. Bernardine's Hospital

Identified resources determined to be significant or potentially significant must be protected until or unless the resource(s) is determined to be insignificant. Areas requiring protection, regardless, include the noted cemeteries, the sensitive areas in Seccombe Lake Park, St. Bernardine's Hospital, and the early residential neighborhoods.

Archaeological Resources

Old Victory Village, also within Seccombe Lake Park, is a small area of Native American artifacts tentatively dated to the Late Prehistoric period. No other prehistoric archaeological resources were identified on or within one mile of the Specific Plan area. The Specific Plan area is not considered sensitive for buried archaeological resources.

Paleontological Resources

The Specific Plan area is within an area generally comprised of younger Quaternary alluvial deposits and Holocene top soils.[3] Thus, the potential for the identification of paleontological (fossil) specimens is considered quite low. The Specific Plan area is not considered sensitive for fossils; however, paleontological monitoring is recommended for ground disturbances in the project region to depths of 10 feet or more below ground surface.

5.4.2 Thresholds of Significance

CEQA Guidelines Section 15064.5 provides direction on determining significance of impacts to archaeological and historical resources. Generally, a resource is considered "historically significant" if it meets one of the criteria for listing on the California Register of Historical Resources:

- Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage.
- Is associated the with lives of persons important in our past.

[3] The Quaternary Period extends from about 2.59 million years ago to the present, and the Holocene Epoch extends from about 11,700 years ago to the present.

- 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.
- Has yielded, or may be likely to yield, information important in prehistory or history. (PRC § 5024.1; 14 CCR § 4852)

The fact that a resource is not listed in the California Register of Historical Resources, not determined to be eligible for listing, or not included in a local register of historical resources does not preclude a lead agency from determining that it may be a historical resource.

According to Appendix G of the CEQA Guidelines, a project would normally have a significant effect on the environment if the project would:

C-1 Cause a substantial adverse change in the significance of an historical resource pursuant to Section 15064.5.

C-2 Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5.

C-3 Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature.

C-4 Disturb any human remains, including those interred outside of formal cemeteries.

C-5 Cause a substantial adverse change in the significance of a tribal cultural resource as defined in Public Resources Code Section 21074. (Interim checklist question for AB 52 compliance.)

5.4.3 Environmental Impacts

The following impact analysis addresses thresholds of significance found in Appendix G of the CEQA Guidelines. The applicable thresholds are identified in brackets after the impact statement. The applicable thresholds are identified in brackets after the impact statement.

Impact 5.4-1: Specific Plan buildout could impact historic resources. [Threshold C-1]

Impact Analysis: Ten historical resources in the Specific Plan area were identified in the cultural resources investigation and are described in Table 5.4-1, above. One of the resources, Waterman Gardens, was evaluated as eligible for listing on both the National Register of Historic Places and the California Register of Historical Resources. Three of the other resources have been designated California Points of Historical Interest: the Home of Eternity Cemetery of Congregation Emanuel, the Martin Adobe, and Baseline Street (now Baseline Street); one of these resources, the Martin Adobe, collapsed, and the debris has been removed from the site.

However, very few of the properties onsite have been evaluated for historical significance; a number of those that have been investigated and recorded were determined significant on the federal, state, and/or local level. Others were evaluated as not being historically significant.

Future development, redevelopment, and/or adaptive reuse projects pursuant to the Specific Plan could change the historical significance of resources in and near the Specific Plan area in any combination of the following ways:

- Demolition and removal
- Relocation
- Exterior modifications
- Interior modifications
- Modifications to structures required by laws or regulations (e.g., seismic retrofitting or compliance with the Americans with Disabilities Act) carried out simultaneously with modifications pursuant to a project conforming with the Specific Plan.
- Changes to the surroundings of resources that may be historically significant.

Due to the potential destruction of historic resources, this impact would be significant.

Impact 5.4-2: Development of the Proposed Project could impact archaeological resources. [Threshold C-2]

Impact Analysis: The Specific Plan area is not considered sensitive for prehistoric archaeological resources. Many development and redevelopment projects conforming with the Specific Plan would involve ground disturbance for site clearance, grading, utilities trenching, and/or construction. There is some possibility that such ground disturbance could damage buried archaeological resources. This impact would be significant.

Impact 5.4-3: The Proposed Project could destroy paleontological resources. [Threshold C-3]

Impact Analysis:

Paleontological Resources

The Specific Plan area is not considered sensitive for fossil resources. Many development and redevelopment projects conforming with the Specific Plan would involve ground disturbance. There is some possibility that such ground disturbance could damage paleontological resources. This impact would be significant.

Unique Geologic Features

The Specific Plan area is flat with a nearly uniform southwest slope of about 1 percent grade. The cultural resources investigation mentions some basalt (volcanic rock) outcrops in the Specific Plan area. However, the locations of these outcrops are not identified, and no basalt outcrops are mapped in or next to the Specific

Plan area (Dibblee and Minch 2004). There are no unique geological features onsite, and no impact would occur.

Impact 5.4-4: Grading activities could disturb human remains. [Threshold C-4]

Impact Analysis: Two formal cemeteries—Pioneer Memorial Cemetery and Home of Eternity Cemetery of Congregation Emanuel—are in the Specific Plan area, and 11 unmarked burials were discovered in Seccombe Park in 1989. The unmarked burials are thought to be either a "potter's field" next to Pioneer Memorial Cemetery or burials before Pioneer Memorial Cemetery was established in 1857.

Many projects developed pursuant to the Specific Plan would involve ground disturbance. Considering the previous discovery of unmarked burials in the Specific Plan area, there is some possibility that ground disturbance during the course of Specific Plan buildout would disturb human remains.

California Health and Safety Code Section 7050.5 requires that if human remains are discovered on a project site, disturbance of the site shall halt and remain halted until the coroner has conducted an investigation into the circumstances, manner, and cause of any death, and made recommendations concerning the treatment and disposition of the remains to the person responsible for the excavation, or to his or her authorized representative. If the coroner determines that the remains are not subject to his or her authority and if the coroner has reason to believe the human remains to be those of a Native American, he or she shall contact, by telephone within 24 hours, the Native American Heritage Commission. The Proposed Project would comply with existing law, and potential impacts to human remains would be less than significant.

Impact 5.4-5: No tribal cultural resources within the Specific Plan area were identified during consultation with Native American tribal representatives. Specific Plan buildout would not impact known tribal cultural resources. [Threshold C-5]

Impact Analysis: Requests for concerns, issues, and comments were sent by the City of San Bernardino to 14 tribal representatives on December 3, 2015 as part of the cultural resources investigation for the Proposed Project. Two responses were received: one from Anthony Morales, Chairperson of the Gabrielino/Tongva San Gabriel Band of Mission Indians, and one from Daniel McCarthy, Director, Cultural Resources Management Department of the San Manuel Band of Mission Indians. While both respondents mentioned that the Specific Plan area is within the traditional tribal territory of their tribe, neither respondent mentioned any specific tribal cultural resources within or next to the Specific Plan area.

Therefore, Specific Plan buildout would not damage a known tribal cultural resource identified during Native American consultation. This impact would be less than significant.

5.4.4 Cumulative Impacts

The area considered for cumulative impacts to cultural resources is the Upper Santa Ana River Valley, which spans part of western San Bernardino County, the far west end of Riverside County, and a small area of eastern Los Angeles County.

Implementation of the Proposed Project in conjunction with other planned projects in the region could result in cumulative impacts to cultural resources. Development or redevelopment activities could unearth unknown significant cultural resources. The potential for impacts to cultural resources from other cumulative projects is less than significant and likely similar to those of the Proposed Project. Destruction of significant cultural resources from one or more of the cumulative projects could constitute a significant cumulative impact.

Additionally, other development projects would be required to undergo additional discretionary review and would be subject to the same resource protection requirements and CEQA review as the Proposed Project. For example, other development projects would require some degree of ground-disturbance monitoring, which would minimize the potential to disturb significant cultural resources. If cultural resources were found, they would be addressed through the necessary testing, archiving, and recovery prior to development of the site. Neither the Proposed Project nor other cumulative development are expected to result in significant impacts to cultural resources provided that site-specific surveys and test-and-evaluation excavations are conducted, as necessary, to determine whether the resources are unique cultural resources, and appropriate mitigation is implemented, including but not limited to compliance with existing requirements. Additionally, the Proposed Project has incorporated mitigation that would reduce the potential for an individual project to contribute to cumulative impacts to cultural resources.

In consideration of the preceding factors, the Proposed Project's contribution to cumulative cultural resource impacts would be rendered less than significant, and therefore, project impacts would not be cumulatively considerable.

5.4.5 Existing Regulations and Standard Conditions

Federal

- United States Code, Title 16, Sections 470 et seq.: National Historic Preservation Act
- United States Code, Title 16, Sections 470aa et seq.: Archaeological Resources Protection Act
- United States Code, Title 25, Sections 3001 et seq.: Native American Graves Protection and Repatriation Act

State

- California Public Resources Code Sections 5020–5029.5
- California Public Resources Code Sections 5079–5079.65
- California Public Resources Code Sections 5097.9–5097.99
- California Government Code Sections 65352.3 et seq. (SB 18)
- California Public Resources Code Sections 21073 et seq. (AB 52)

5.4.6 Level of Significance Before Mitigation

Upon implementation of regulatory requirements and standard conditions of approval, some impacts would be less than significant: Impact 5.4-3 (Unique Geological Features only), Impact 5.4-4, and Impact 5.4-5.

Without mitigation, these impacts would be **potentially significant**:

- **Impact 5.4-1** Development or redevelopment projects pursuant to the Specific Plan could damage historic resources.
- **Impact 5.4-2** Ground disturbance during the course of Specific Plan buildout could damage buried archaeological resources.
- **Impact 5.4-3** Ground disturbance during the course of Specific Plan buildout could damage buried fossils.

5.4.7 Mitigation Measures

Impact 5.4-1

CUL-1 Future development or redevelopment projects on any of the properties listed in Table 5.4-1 (Historical Resources Identified within Specific Plan area) of this DEIR shall require that an intensive-level historical evaluation of the property be conducted by the property owner or project applicant/developer; the evaluation shall be conducted in accordance with all applicable federal, state and local guidelines for evaluating historical resources. If based on the evaluation of the property it is determined that the proposed development or redevelopment project will have a substantial adverse effect on a historical resource (i.e. it would reduce its integrity to the point that it would no longer be eligible for inclusion in the California Register of Historical Resources or in the list of San Bernardino Landmarks), then the provisions of Mitigation Measure CUL-2 shall be implemented by the property owner or project applicant/developer to eliminate or reduce the project's impact on historical resources.

CUL-2 If based on the intensive-level historical evaluation of a property listed in 5.4-1 (Historical Resources Identified within Specific Plan area) of this DEIR, as required under Mitigation Measure CUL-1, it is determined that the proposed development or redevelopment project will have a substantial adverse effect on a historical resource, the City of San Bernardino shall require the property owner or project applicant/developer to implement the following measures:

A. Rehabilitation According to the Secretary of the Interior's Standards

1. If the Proposed Project includes renovation, alteration, or an addition to an historical resource (not including total demolition), then the property owner or

project applicant/developer shall first seek to design all proposed renovation, alterations or additions to the historical resource in a manner that is consistent with the Secretary of the Interior's Standards for Rehabilitation (Standards) found at: http://www.nps.gov/tps/standards/rehabilitation/rehab/stand.htm.

a. Plans for rehabilitation shall be created under the supervision of a professional meeting the Department of Interior's Professional Qualifications Standards in Architectural History or Historic Architecture and be designed by a licensed architect with demonstrated historic preservation experience.

b. Plans shall be reviewed in the schematic design phase prior to any construction work, as well as in the 60 and 90 percent construction documents phases for compliance with the Standards by a historic preservation professional meeting the Secretary of the Interior's Professional Qualifications Standards with demonstrated experience with the Standards compliance reviews.

c. The qualified historic preservation professional reviewing the plans shall create a technical memo at each phase and submit the memo to the City of San Bernardino Community Development Department for concurrence.

d. At the discretion of the City, a detailed character-defining features analysis and/or historical resource treatment plan may need to be prepared for select historical resources by a historic preservation professional meeting the Secretary of the Interior's Professional Qualifications Standards if the nature of the project or the significance of the property warrants such detailed analysis.

e. A qualified historic preservation professional shall monitor construction activities at key milestones to ensure the work to be conducted complies with the Standards. The milestones shall be agreed upon in advance by the City and property owner or project applicant/developer.

f. City staff and the qualified historic preservation professional shall review the finished rehabilitation/renovation in person upon completion.

g. In the event that any historical resource(s) are leased to third-party tenants and tenant improvements will be made, all of the terms of this stipulation shall be disclosed in the lease agreements, agreed upon in writing, and mutually enforced by the property owner or project applicant/developer and the City. The tenants shall not be permitted to conduct work that does not comply with the Standards.

B. Retention/On-Site Relocation- For Proposed Demolition

1. If the Proposed Project includes total demolition of a historical resource, the property owner or project applicant/developer shall first consider an alternative that

retains the historical resource and incorporates it into the overall project development as an adaptive re-use of the building, as determined feasible.

2. If the project site permits, the historical resource should be relocated to another location on the site and the resource should be re-incorporated into the overall project, as determined feasible.

3. If the City determines that retention/onsite relocation of the historical resource is not feasible through a credible feasibility study, then the City shall elect to allow the property owner or project applicant/developer to move forward with the development/redevelopment project; however, all other requirements outlined in this mitigation measure shall apply.

C. Third Party Sale

1. If the City determines that retention or onsite relocation of the historical resource is not feasible, then the property owner or project applicant/developer shall offer any historical resources scheduled for demolition to the public for sale and offsite relocation by a third party:

   a. The historic resource(s) shall be advertised by the property owner or project applicant/developer at a minimum in the following locations: project applicant's/developer's website (if applicable); City of San Bernardino website; Los Angeles Times website and print editions; San Bernardino County Sun Newspaper.

   b. The bidding period shall remain open for 60 days after the date of advertisement to allow adequate response time from interested parties.

   c. Qualified parties shall meet the following minimum qualifications to be considered a realistic buyer: possess adequate financial resources to relocate and rehabilitate the historical resource(s); possess an available location for the historical resource(s); and provide for a new use for the historical resource(s).

   d. The City shall approve the qualified buyer. If no such buyer comes forward within the allotted time frame, the City shall elect to issue a demolition permit for the historical resource. However, all other requirements outlined in this mitigation measure shall apply.

D. Recordation

1. The property owner or project applicant/developer shall create HABS-like Level II documentation prepared in accordance with the Secretary of the Interior's Standards and Guidelines for Architectural and Engineering Documentation. Information on the Standards and Guidelines is available at the following links:

http://www.nps.gov/history/local-law/arch_stnds_6.htm.
http://www.nps.gov/history/hdp/standards/index.htm.

a. Photographs with large-format (4 inches by 5 inches or larger), black and white negatives of the property as a whole shall be provided; photocopies with large format negatives of select existing drawings, site plans, or historic views where available. A minimum of 12 views showing context and relationship of historical resources to each other shall be provided; aerial views showing the whole property shall also be provided.

b. Written historical descriptive data, index to photographs, and photo key plan shall be provided.

c. The above items shall be created by a historic preservation professional meeting the Secretary of the Interior's Professional Qualifications Standards with demonstrated experience in creating HABS Level II documentation.

d. The above items shall be created prior to any demolition or relocation work.

e. The above items shall be distributed to the following repositories for use by future researchers and educators. Before submitting any documents, each of the following repositories shall be contacted to ensure that they are willing and able to accept the items: City of San Bernardino Public Library; City Of San Bernardino Historical and Pioneer Society; California State University, San Bernardino Department of Anthropology; and City of San Bernardino Community Development Department (building files).

E. Salvage and Reuse

1. If offsite relocation of the historical resource by a third party is not accomplished, the property owner or project applicant/developer shall create a salvage and reuse plan identifying elements and materials of the resource that can be saved prior to any demolition work.

a. The salvage and reuse plan shall be included in bid documents prepared for the site and shall be created by a historic preservation professional meeting the Secretary of the Interior's Professional Qualifications Standards with demonstrated experience in creating salvage and reuse plans.

b. Elements and materials that may be salvageable include windows; doors; roof tiles; decorative elements; bricks, foundation materials, and/or paving materials; framing members; furniture; lighting; and flooring materials, such as tiles and hardwood.

2. The property owner or project applicant/developer shall identify individuals, organizations, or businesses interested in receiving the salvaged items; these may include Habitat for Humanity Restore; other affordable housing organizations; or salvage yards. The following steps shall be taken by the property owner or project applicant/developer:

    a. Identification of the individuals, organizations, or businesses interested in receiving the salvaged items shall be completed in consultation with the City.

    b. Identification of the individuals, organizations, or businesses interested in receiving the salvaged items shall be accomplished by contacting potentially interested parties directly first.

    c. Items to be salvaged shall be advertised in the following locations for a period of 60 days if none of the contacted parties are able to receive the items: Los Angeles Times and San Bernardino County Sun.

3. The property owner or project applicant/developer shall remove salvageable items in the gentlest, least destructive manner possible. Historic materials and features shall be protected by storing salvaged items in indoor, climate- and weather-controlled conditions until recipients can retrieve them. The removal of salvageable items shall be performed by a licensed contractor with demonstrated experience with implementing salvage and reuse plans.

F. Other Optional Interpretive, Commemorative, or Educational Measures

The City may also elect to require additional (optional) mitigation measures crafted in response to a specific historical resource's property type or significance, association with a specific historic person, or overall value to the community, as practical, so long as the measure is commensurate with the significance of the property and the level of impact to that resource. Such measures may include educational or interpretive programming; signage; incorporation of historical features into new developments or public art; contribution to a mitigation fund for future historic preservation efforts; written histories or contexts important to the public's understanding of the lost resource (presuming no other extant resource can interpret such significance); etc. The need for these additional measures shall be determined by the City on a case by case basis and incorporated into the conditions of approval for the project. Some measures may be made available to the public through museum displays, written reports at research repositories or made available through on- or offsite signage or existing online multi-media sites.

Impact 5.4-2

CUL-3 If, at any time during ground-disturbing activities during the course of Specific Plan buildout, evidence of Native American resources is uncovered, the construction contractor for the affected project shall halt work within 50 feet of the find until a qualified archaeologist assesses the nature and significance of the find. The archaeologist shall notify the City of San Bernardino Planning Division of the discovery immediately. No further disturbance within 50 feet of the find shall occur until the archaeologist has cleared the area. A Native American tribe with traditional tribal territory on or near the Specific Plan area, who agrees to accept such resources without fees, may take possession of such resources after the archaeologist has assessed and recorded them. If no Native American tribe seeks possession of the resources or if multiple tribes cannot agree on disposition of the resources, the resources shall be curated at the facilities of the Western Science Center in Hemet in Riverside County.

CUL-4 If, at any time, evidence of Native American resources is uncovered, local representatives of the Serrano and Gabrieliño must be notified within 24 hours and, depending on the location and nature of the find, a determination as to the need for an archaeological monitoring program shall be revisited. If an archaeological monitoring program is justified, the archaeological consultant will work with the Native American representatives to ensure adequate coverage and protection of the identified resource(s).

Impact 5.4-3

CUL-5 All excavations more than ten feet below ground surface shall be periodically monitored for paleontological resources. This monitoring should include the preparation of a Paleontological Resources Impact Mitigation Plan (PRIMP) document and adherence to all standard protocols of the San Bernardino County Museum Earth Science Department.

a. The paleontological monitor shall be empowered to temporarily halt or redirect excavation construction efforts if paleontological resources are discovered.

b. In the event of a paleontological discovery, the monitor shall flag the area and notify the construction crew immediately. No further disturbance in the flagged area shall occur until the qualified paleontologist has cleared the area.

c. The paleontological monitor shall quickly assess the nature and significance of the find. If the specimen is not significant, it shall be quickly removed and the area shall be cleared.

d. If the discovery is significant, the qualified paleontologist shall notify the applicant and the City immediately.

e. In consultation with the applicant and the City, the qualified paleontologist shall develop a plan of mitigation that will likely include salvage excavation and removal of the find,

removal of sediment from around the specimen (in the laboratory), research to identify and categorize the find, and preparation of a report summarizing the find. All recovered specimens shall be curated at the San Bernardino County Museum in Redlands.

5.4.8 Level of Significance After Mitigation

The foregoing mitigation measures would reduce potential impacts to cultural resources to a level that is less than significant. Therefore, no significant unavoidable adverse impacts to cultural resources have been identified.

5.4.9 References

California Department of Forestry and Fire Prevention (CAL FIRE). 2002, May 13. Bioregions. http://frap.fire.ca.gov/data/frapgismaps/pdfs/inacregmap.pdf.

Dibblee, T. W., and J. A. Minch. 2004. Geologic map of the San Bernardino North/north 1/2 of San Bernardino South quadrangles, San Bernardino and Riverside County, California. Accessed via United States Geological Survey National Geologic Map Database. http://ngmdb.usgs.gov/Prodesc/proddesc_71760.htm.

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5.5 GEOLOGY AND SOILS

This section of the Draft Environmental Impact Report (DEIR) evaluates the potential for implementation of the Waterman + Baseline Neighborhood Specific Plan (Proposed Project) to impact geological and soil resources in the City of San Bernardino.

5.5.1 Environmental Setting

5.5.1.1 REGULATORY SETTING

Laws, regulations, and plans that are potentially applicable to the proposed project are summarized below.

Federal

Clean Water Act

The federal Water Pollution Control Act (also known as the Clean Water Act [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 US Environmental Protection Agency the authority to implement pollution control programs, such as setting wastewater standards for industry. The statute's goal is to end all discharges entirely and to restore, maintain, and preserve the integrity of the nation's waters. The CWA regulates both direct and indirect discharge of pollutants into the nation's waters. It sets water quality standards for all contaminants in surface waters and makes it unlawful 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 and requires states to establish site-specific water quality standards for navigable bodies of water. The CWA also recognizes the need for planning to address nonpoint sources of pollution.

State

California Alquist-Priolo Earthquake Fault Zoning Act

The Alquist-Priolo Earthquake Fault Zoning Act was signed into state law in 1972, and its primary purpose is to mitigate the hazard of fault rupture by prohibiting 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 in 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.

Seismic Hazard Mapping Act

The Seismic Hazard Mapping Act was adopted by the state in 1990 to protect 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 maps of seismic hazard zones that identify areas susceptible to amplified shaking, liquefaction, earthquake-induced landslides, and other ground failures.

California Building Code

Current law states that every local agency enforcing building regulations, such as cities and counties, must adopt the provisions of the California Building Code (CBC) within 180 days of its publication. The publication date of the CBC is established by the California Building Standards Commission, and the code is also known as Title 24, Part 2, of the California Code of Regulations. Local jurisdictions often adopt local, more restrictive amendments that are based on local geographic, topographic, or climatic conditions. These codes provide minimum standards to protect property and public safety by regulating the design and construction of excavations, foundations, building frames, retaining walls, and other building elements to mitigate the effects of seismic shaking and adverse soil conditions. The CBC contains provisions for earthquake safety based on factors including occupancy type, the types of soil and rock onsite, and the strength of ground shaking with a specified probability at a site. The 2013 CBC took effect on January 1, 2014.

Requirements for Geotechnical Investigations

Requirements for geotechnical investigations for subdivisions requiring tentative and final maps and for other types of structures are in California Health and Safety Code, Sections 17953 to 17955, and in Section 1802 of the CBC. Testing of samples from subsurface investigations is required, such as from borings or test pits. Studies must be done as needed to evaluate slope stability, soil strength, position and adequacy of load-bearing soils, the effect of moisture variation on load-bearing capacity, compressibility, liquefaction, differential settlement, and expansiveness.

Storm Water Pollution Prevention Plans

Pursuant to the CWA, in 2012 the State Water Resources Control Board issued a statewide general NPDES Permit for stormwater discharges from construction sites (National Pollutant Discharge Elimination System No. CAS000002). Under this Statewide General Construction Activity permit, discharges of stormwater from construction sites with a disturbed area of one or more acres are required to either obtain individual NPDES permits for stormwater discharges or be covered by the General Permit. Coverage by the General Permit is accomplished by completing and filing a Notice of Intent with the State Water Resources Control Board 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 best management practices (BMPs) implemented on the construction site to protect stormwater runoff and must contain a visual monitoring program; a chemical monitoring program for "non-visible" 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.

5.5.1.2 REGIONAL SETTING

Geologic Setting

The Specific Plan area is in the Peninsular Ranges Geomorphic Province, a series of mountain ranges separated by northwest-trending valleys.

The Specific Plan area is in the Upper Santa Ana River Valley, which is bounded by the San Bernardino Mountains to the northeast, the San Gabriel Mountains to the northwest, and several ranges of hills to the west, southwest, and southeast. The Upper Santa Ana River Valley overlies all of the Upper Santa Ana Groundwater Basin except some northern extensions of the groundwater basin in the eastern San Gabriel Mountains (see Figure 5.8-2, *Upper Santa Ana Groundwater Basin*).

Faulting and Seismicity

Numerous faults have been mapped in the Upper Santa Ana River Valley and the San Bernardino and San Gabriel Mountains; several are described below and mapped on Figure 5.5-1, *Fault Map*. Active faults are those showing evidence of surface displacement within approximately the last 11,000 years.

San Andreas Fault. The San Andreas Fault, which passes about 2.4 miles northeast of the Specific Plan area, extends 800 miles from the Salton Sea in the south and extends offshore from Mendocino County in northern California. Approximately three miles northeast of the Specific Plan area the San Andreas Fault splits into two branches as it continues southeast: the North Branch of the San Andreas Fault, also known as the Mission Creek Fault; and the South Branch of the San Andreas Fault. The San Andreas Fault is considered active, and an Alquist-Priolo Earthquake Fault Zone is mapped along the fault.

San Jacinto Fault Zone. The San Jacinto Fault Zone passes about 1.8 miles southwest of the Specific Plan area. One of the faults comprising the San Jacinto Fault Zone extends slightly eastward of the main alignment of the fault zone, and the north end of the branch is about two miles south of the site. The San Jacinto Fault Zone is considered active, and an Alquist-Priolo Earthquake Fault Zone is mapped along the fault.

Banning Fault. An approximate or inferred location of the Banning Fault is mapped about 3.3 miles southeast of the Specific Plan area; the Banning Fault is not mapped as active. A 2004 geologic map shows an uncertain location of the Banning Fault passing through the southern part of the Specific Plan area (Dibblee and Minch 2004); however, that fault is not shown on California Geological Survey or US Geological Survey fault maps (CGS 2016; USGS 2016).

Cucamonga Fault. The Cucamonga Fault—about 10.5 miles west of the Specific Plan area—extends east-west along the southern base of the east part of the San Gabriel Mountains and is mapped as active. An Alquist-Priolo Earthquake Fault Zone is mapped along the fault.

Elsinore Fault Zone. The Elsinore Fault Zone, about 27 miles southwest of the Specific Plan area, is mapped as active. An Alquist-Priolo Earthquake Fault Zone is mapped along the fault.

Earthquakes

The energy released by an earthquake is measured as moment magnitude (Mw). The moment magnitude scale is logarithmic; that is, each one-point increase in magnitude represents a tenfold increase in amplitude of the waves as measured at a specific location and a 32-fold increase in energy. Therefore, a magnitude 7 earthquake produces 100 times (10 x 10) the ground motion amplitude of a magnitude 5 earthquake.

Historic Earthquakes

Since 1900, several notable historic earthquakes have been recorded within 50 miles of the Specific Plan area and are described in Table 5.5-1. One additional historic earthquake in the region, the Wrightwood Earthquake of 1812—which probably occurred on the San Andreas Fault and had an estimated magnitude of 7.5—killed 40 people at the San Juan Capistrano Mission when a church collapsed (SCEDC 2016).

Table 5.5-1 Selected Historic Earthquakes in the Region

Earthquake	Fault	Year	Magnitude	Notable Effects
Landers	Multiple	1992	7.3	3 fatalities
Big Bear	Unknown	1992	6.4	Substantial structural damage in Big Bear area
North San Jacinto Fault	San Jacinto	1923	6.3	Structural damage
San Jacinto	San Jacinto	1918	6.8	One fatality; structural damage
Elsinore	Elsinore	1910	6.0	Structural damage

Source: SCEDC 2016.

Hazardous Buildings

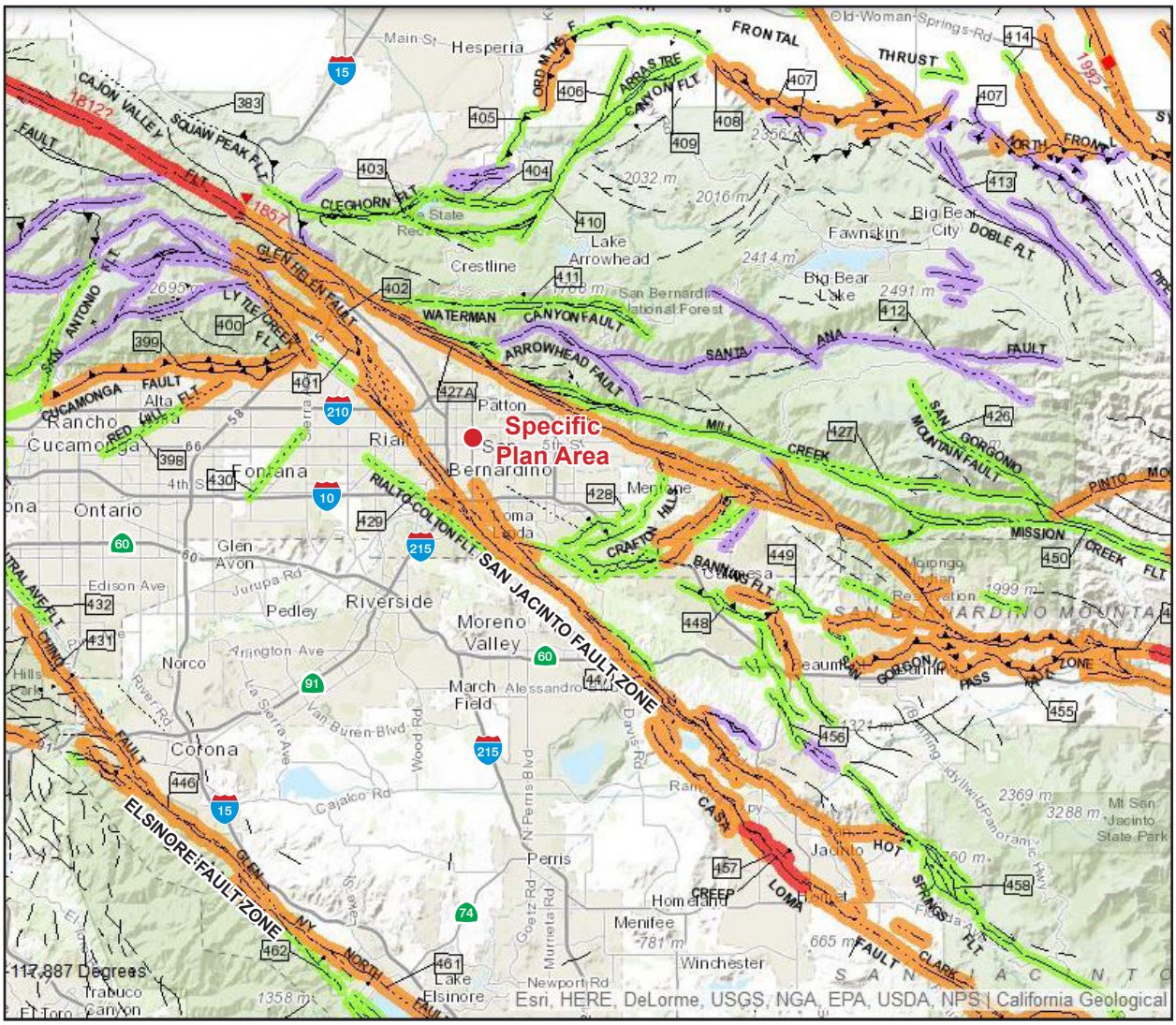
The principal threat in an earthquake is the damage it causes to buildings that house people or an essential function. Over the past decade, advances in engineering design and building code standards have greatly reduced the potential for most new buildings to collapse during an earthquake. However, several specific types of older building are particularly subject to collapse.

- **Unreinforced Masonry.** In the late 1800s and early 1900s, unreinforced masonry was the most common type of construction for large downtown commercial structures and multistory apartments and hotels. These buildings were a collapse hazard in the 1906 San Francisco earthquake, the 1925 Santa Barbara earthquake, and the aftermath of the 1933 Long Beach earthquake. They are the most hazardous buildings in an earthquake.

  In 1986, California passed the Unreinforced Masonry Building Law (SB 547), which requires local jurisdictions to inventory pre-1943 unreinforced masonry buildings and develop mitigation programs to correct structural hazards.

Figure 5.5-1 Fault Map

5. Environmental Analysis



Fault along which historic (last 200 years) displacement has occurred

Holocene fault displacement (during past 11,700 years) without historic record

Late Quaternary fault displacement

Quaternary fault (age undifferentiated; Quaternary Period extends from the present to 1.6 million years before present)

Pre-Quaternary

NOTE: Fault traces on land are indicated by solid lines where well located, by dashed lines where approximately located or inferred, and by dotted lines where concealed by younger rocks or by lakes or bays.

0 10
Scale (Miles)

Base Map Source: ESRI, HERE, DeLorme, USGS, NGA, EPA, USDA, NPS

5. Environmental Analysis
GOLOGY AND SOILS

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- **Precast Concrete Tilt-up.** Introduced after World War II, this building type was popular for light industrial buildings during the late 1950s and 1960s. The 1971 San Fernando earthquake caused extensive damage to concrete tilt-up buildings—the concrete wall panels fell outward and the roof collapsed. Walls needed to be more firmly anchored to the roof, floor, and foundation, and the roof diaphragm needed to be much stronger.[1]

- **Soft-Story.** Soft-story buildings have at least one floor (commonly the ground floor) with significantly less rigidity and/or strength than the rest. It needs special design features to give the building adequate structural integrity. Typical examples of soft-story construction are buildings with glass curtain walls on the first floor only, or buildings on stilts or columns that leave the first story open for landscaping, building entry, parking, etc. From the early 1950s to the early 1970s, soft-story buildings were popular for low- and midrise concrete-frame structures.

- **Nonductile Concrete Frame.** Nonductile concrete can suffer major damage and even collapse under strong ground shaking. This type of building generally lacks masonry shear walls, was common in the early days of reinforced concrete buildings, and continued to be built until 1973, when the codes were changed to require ductility.

Thousands of these buildings were constructed for commercial and light industrial use in California's older, densely populated cities. Many have four to eight stories, although many are also in the lower height range. This category includes one-story parking garages with heavy concrete roof systems supported by nonductile concrete columns.

5.5.1.3 SPECIFIC PLAN AREA

Topography

The Specific Plan area, on an alluvial fan south of the San Bernardino Mountains, has a nearly uniform south to southwest slope of about 1 percent grade. Elevations onsite range from about 1,019 feet above mean sea level (amsl) at the southwest corner of the Specific Plan area to about 1,173 feet amsl at the northeast corner of the Specific Plan area.

Geologic Units

Geologic units onsite consist of:

- Quaternary alluvial fan deposits composed of unconsolidated to moderately consolidated silt, sand, gravel, and boulders of Holocene to late Pleistocene age.[2]

[1] A roof diaphragm is a structural roof deck that is capable of resisting shear that is produced by lateral forces, such as wind or seismic loads.
[2] The Holocene Epoch extends from about 11,700 years before present (ybp) to the present; the Pleistocene Epoch extends from approximately 2.59 million ybp to 11,700 ybp.

- Quaternary wash deposits, that is, unconsolidated sand and gravel deposits in active washes and along streams, of late Holocene age (USGS 2006).

Groundwater

The depth to groundwater near the intersection of Arrowhead Avenue and Magnolia Avenue, about 0.25 mile west of the northern part of the Specific Plan area, was about 246 feet below ground surface (bgs) in the fall of 2015. The depth to groundwater at a point near Richardson Street and Interstate 10, about 2.5 miles southeast of the Specific Plan area, was approximately 212 feet bgs in Fall 2015 (DWR 2016).

Seismic Hazards

Surface Rupture of a Fault

No active faults, and no Alquist-Priolo Earthquake Fault Zones, are mapped within the Specific Plan area. Thus, there is no hazard of surface rupture of a known active fault within the site.

Strong Ground Shaking

The peak ground acceleration with a 2 percent chance of exceedance in 50 years—that is, an average recurrence interval of 2,475 years—is about 1.07g (where g is the acceleration of gravity) at the south end of the Specific Plan area near Waterman Avenue at 3rd Street, and about 1.12g at the north end of the Specific Plan area near Waterman Avenue at Highland Avenue (CGS 2016).

Ground acceleration of 1.12g correlates with intensity IX on the Modified Mercalli Intensity (MMI) Scale (Wald 1999), a subjective scale of how earthquakes are felt by people and the effects of earthquakes on buildings. The MMI Scale is a 12-point scale ranging from Intensity I earthquakes, which are generally not felt by people, to Intensity XII earthquakes, in which damage is total and objects are thrown into the air (USGS 2012).

In an intensity IX earthquake, damage is considerable in specially designed structures, and well-designed frame structures are thrown out of plumb. Damage is great in substantial buildings, with partial collapse, and buildings are shifted off foundations (USGS 2012).

Liquefaction and Other Seismic Ground Failure

Liquefaction refers to loose, saturated sand or silt deposits that behave as a liquid and lose their load-supporting capability when strongly shaken. Loose granular soils and silts that are saturated by relatively shallow groundwater are susceptible to liquefaction.

The portion of the Specific Plan area south of Baseline Street is mapped in the City of San Bernardino General Plan as having high susceptibility for liquefaction. The portion of the Specific Plan area north of Baseline Street is not mapped as a liquefaction susceptibility area (San Bernardino 2005).

Geologic Hazards

Subsidence

The major causes of ground subsidence are excessive withdrawal of groundwater and extraction of oil. The Specific Plan area is above the Bunker Hill Subbasin of the Upper Santa Ana Valley Groundwater Basin. Current groundwater levels in the Bunker Hill Subbasin do not indicate any significant land subsidence (SBVWCD 2014).

Landslides and Slope Stability

The Specific Plan area is nearly flat, with a south slope of about 1 percent grade. There is no landslide hazard in or surrounding the Specific Plan area.

Collapsible Soils

Collapsible soils shrink upon being wetted and/or being subject to a load. Sediments onsite range from unconsolidated to moderately consolidated; therefore, site soils may be collapsible.

Expansive Soils

Expansive soils shrink or swell as the moisture content decreases or increases; the shrinking or swelling can shift, crack, or break structures built on such soils. An engineering geology investigation for a separate 38-acre project at the southeast corner of Waterman Avenue and Baseline Street—also called the Waterman Gardens Project—completed in 2010 by C. H. J. Incorporated noted that previous geotechnical investigations on adjacent properties did not encounter expansive soils. That engineering geology investigation did not involve subsurface soil sampling or testing.

5.5.2 Thresholds of Significance

According to Appendix G of the CEQA Guidelines, a project would normally have a significant effect on the environment if the project would:

G-1 Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:

- i) 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.)
- ii) Strong seismic ground shaking.
- iii) Seismic-related ground failure, including liquefaction.
- iv) Landslides.

G-2 Result in substantial soil erosion or the loss of topsoil.

G-3 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.

G-4 Be located on expansive soil, as defined in Table 18-1B of the Uniform building Code (1994), creating substantial risks to life or property.

G-5 Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water.

5.5.3 Environmental Impacts

The Proposed Project would permit development of net increases of 2,395 residential units and approximately 1.2 million square feet of nonresidential uses. Proposed land uses are shown in Figure 3-2, *Proposed Land Use Plan*).

The following impact analysis addresses thresholds of significance found in Appendix G of the CEQA Guidelines. The applicable thresholds are identified in brackets after the impact statement.

Impact 5.5-1: Buildout of the Proposed Project would not subject people or structures to substantial hazards from surface rupture of a known active fault. [Threshold G-1.i]

Impact Analysis: No active faults or Alquist-Priolo Earthquake Fault Zones are mapped within the Specific Plan area. The nearest mapped active fault to the Specific Plan area is the San Jacinto Fault Zone, about 1.8 miles southwest of the Specific Plan area; the nearest Alquist-Priolo Earthquake Fault zone is along the San Jacinto Fault Zone, about 1.7 miles southwest of the Specific Plan area (CGS 2016; CGS 1977). Specific Plan buildout would not subject people or structures to substantial hazards from surface rupture of a known active fault, and no impact would occur.

Impact 5.5-2 Implementation of the Proposed Project could subject people or structures to hazards from strong ground shaking. [Threshold G-1.ii]

Impact Analysis: The Specific Plan area is in a seismically active region, and strong ground shaking onsite is likely during the design lifetimes of structures that would be developed in accordance with the Specific Plan. The peak ground acceleration with a 2 percent chance of exceedance in 50 years—that is, an average recurrence interval of 2,475 years—is about 1.07g (where g is the acceleration of gravity) at the south end of the Specific Plan area near Waterman Avenue at 3rd Street, and about 1.12g at the north end of the Specific Plan area near Waterman Avenue at Highland Avenue (CGS 2016).

Ground acceleration of 1.12g correlates with intensity IX on the MMI Scale (Wald 1999). In an intensity IX earthquake, damage is considerable in specially designed structures, and well-designed frame structures are

thrown out of plumb. Damage is great in substantial buildings, with partial collapse, and buildings are shifted off foundations (USGS 2012).

Certain categories and sizes of projects developed or redeveloped pursuant to the Specific Plan would be required to have geotechnical investigations conducted on their respective project sites. Structures for human occupancy must be designed to meet or exceed CBC standards for earthquake resistance.[3] The CBC contains provisions for earthquake safety based on factors including occupancy type, the types of soil and rock onsite, and the strength of ground motion with a specified probability at the site. The geotechnical investigation for a project under the Specific Plan would calculate seismic design parameters, pursuant to CBC requirements, that must be used in the design of the proposed building. Impacts would be less than significant.

Impact 5.5-3 Implementation of the Proposed Project could subject people or structures to substantial hazards from liquefaction or lateral spreading. [Thresholds G-1.iii and G-3 (part)]

Impact Analysis:

Liquefaction

Most of the Specific Plan area—that is, the part of the site south of Baseline Street—is mapped as highly susceptible to liquefaction in the City of San Bernardino General Plan. Most of the catalytic sites and many of the redevelopment sites are south of Baseline Street; therefore, large fractions of the net increases of 2,395 residential units and 1.2 million square feet of nonresidential uses would be permitted in the area highly susceptible to liquefaction. Geotechnical investigations for projects developed in conformance with the Specific Plan would assess liquefaction potential on their specific site and recommend measures, including foundation designs, for minimizing liquefaction hazards. Compliance with recommendations in geotechnical reports is required. Impacts would be less than significant.

Lateral Spreading

Lateral spreading is the downslope movement of surface sediment due to liquefaction in a subsurface layer. The part of the Specific Plan area south of Baseline Street is considered susceptible to lateral spreading due to the susceptibility of underlying sediments to liquefaction. Project-specific geotechnical investigations would assess the potential for seismic ground failure, such as lateral spreading, and provide recommendations for minimizing hazards from such ground failure. Compliance with recommendations in geotechnical reports is required. Impacts would be less than significant.

Impact 5.5-4 Buildout of the Proposed Project would not cause substantial landslide hazards. [Threshold G-1.iv]

Impact Analysis: The Specific Plan area is nearly flat, with a south slope of about 1 percent grade. Buildout of the Proposed Project would not subject people or structures to landslide hazards, and no impact would occur.

[3] The CBC is updated on a three-year cycle. The 2016 CBC is scheduled to take effect on January 1, 2017.

Impact 5.5-5: Implementation of the Proposed Project could cause increased soil erosion. [Threshold G-2]

Impact Analysis: The young alluvial sediment underlying the project is generally poorly consolidated and susceptible to erosion. Grading temporarily increases the potential for erosion by removing protective vegetation, changing natural drainage patterns, and constructing slopes. Common means of soil erosion from construction sites include water, wind, and being tracked offsite by vehicles.

Compliance with the CBC and review of grading plans for individual projects by the Building Division would ensure that no significant impact would occur. In addition, construction activities on project sites larger than one acre would be subject to NPDES requirements. Under the NPDES, a SWPPP would be required in conjunction with use of BMPs designed to prevent erosion and siltation during a project's construction phase. Individual project applicants would also be required to adhere to the applicable provisions outlined in Article 5 Section 8.80.501, Storm Water Quality Management Plan, of the City's Municipal Code. Adherence to NPDES requirements, the SWPPP and related BMPs, and the City's stormwater and urban runoff pollution regulations would ensure that no significant impacts would occur.

Impact 5.5-6: Buildout of the Proposed Project would not cause or accelerate substantial ground subsidence. [Threshold G-3 (part)]

Impact Analysis: Current groundwater levels in the Bunker Hill Subbasin do not indicate any significant land subsidence (SBVWCD 2014). Most of the water demand that would be generated by net increases in development intensity that could be built pursuant to the Specific Plan would be supplied by groundwater. The water suppliers for the Specific Plan area—which rely largely on groundwater—estimate that they will have sufficient water supplies for Proposed Project buildout (see Section 5.17, *Utilities and Service Systems*, of this DEIR), and Proposed Project water demands would not cause substantial ground subsidence. Impacts would be less than significant.

Impact 5.5-7: Buildout of the Proposed Project would not expose people or structures to substantial hazards from collapsible soils. [Threshold G-3 (part)]

Impact Analysis: Collapsible soils shrink upon being wetted and/or being subject to a load. Sediments onsite range from unconsolidated to moderately consolidated; therefore, site soils may be collapsible. Project-specific geotechnical investigations for projects developed pursuant to the Specific Plan would assess subsurface soils on the affected sites for compressibility and collapsibility and provide recommendations as needed for removal of soils unsuitable for supporting proposed structures, such as replacement with engineered, compacted, and moistened soils. Compliance with recommendations in geotechnical reports is required. Impacts would be less than significant.

Impact 5.5-8 Implementation of the Proposed Project would not cause substantial hazards from expansive soils. [Threshold G-4]

Impact Analysis: Expansive soils shrink or swell as the moisture content decreases or increases; the shrinking or swelling can shift, crack, or break structures built on such soils. Expansive soils were not

encountered by previous geotechnical investigations for other projects near the intersection of Waterman Avenue and Baseline Street. Project-specific geotechnical investigations for projects developed pursuant to the Specific Plan would assess subsurface soils on the affected project sites for expansion potential and provide recommendations as needed for foundation design and drainage measures to limit infiltration of stormwater into soils. Compliance with recommendations in geotechnical reports is required. Impacts would be less than significant.

Impact 5.5-9 Buildout of the Proposed Project would not involve development of septic tanks or other alternative waste water disposal systems on soils incapable of adequately supporting such systems. [Threshold G-5]

Impact Analysis: Buildout of the Proposed Project would include installation of new sewer mains (see Section 5.17, *Utilities and Service Systems*, of this DEIR). The new sewer mains, along with existing sewer mains, would convey wastewater from future developments to existing wastewater treatment facilities. Specific Plan implementation would not involve installation of septic tanks, and no impact would occur.

5.5.4 Cumulative Impacts

Geology and soils impacts are site specific and generally do not combine to result in significant cumulative impacts. Other development projects in the Upper Santa Ana River Valley would be required to have site-specific geotechnical investigations prepared by licensed professional geologists or geotechnical engineers, and to comply with recommendations in the respective geotechnical investigation reports and with the provisions of the CBC. Therefore, cumulative geology and soils impacts would be less than significant, and project impacts would not be cumulatively considerable.

5.5.5 Existing Regulations and Standard Conditions

State

- 2013 California Building Code (Title 24, California Code of Regulations, Part 2)

City of San Bernardino Municipal Code

- Article 5 Section 8.80.501 Storm Water Quality Management Plan
- Section 13.32.710 (Connection Requirements)
- Section 15.04 (Building Code)

5.5.6 Level of Significance Before Mitigation

Upon implementation of regulatory requirements and standard conditions of approval, Impacts 5.5-1 through 5.5-9 would be less than significant.

5.5.7 Mitigation Measures

No mitigation measures are required.

5.5.8 Level of Significance After Mitigation

No mitigation is required because the existing regulations and standards conditions identified above would reduce potential project-level and cumulative impacts associated with geology and soils to a level that is less than significant. Therefore, no significant unavoidable adverse impacts relating to geology and soils have been identified.

5.5.9 References

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5.6 GREENHOUSE GAS EMISSIONS

This section of the Draft Environmental Impact Report (DEIR) evaluates the potential for implementation of the Waterman + Baseline Neighborhood Specific Plan (Proposed Project) to cumulatively contribute to greenhouse gas (GHG) emissions impacts. Because no single project is large enough to result in a measurable increase in global concentrations of GHG emissions, climate change impacts of a project are considered on a cumulative basis. This evaluation is based on the methodology recommended by the South Coast Air Quality Management District (SCAQMD). Transportation-sector impacts are based on trip generation and vehicle miles traveled provided by Fehr & Peers (see Appendix I of this DEIR) and water and wastewater demand rates provided by the Water Supply Assessment prepared for the Proposed Project (see Appendix K of this DEIR). Emissions modeling for the Proposed Project is included in Appendix C of this DEIR.

5.6.1 Environmental Setting

Scientists have concluded that human activities are contributing to global climate change by adding large amounts of heat-trapping gases, known as GHGs, to the atmosphere. The primary source of these GHGs is fossil fuel use. The Intergovernmental Panel on Climate Change (IPCC) has identified four major GHGs—water vapor, carbon dioxide (CO_2), methane (CH_4), and ozone (O_3)—that are the likely cause of an increase in global average temperatures observed within the 20th and 21st centuries. Other GHGs identified by the IPCC that contribute to global warming to a lesser extent are nitrous oxide (N_2O), sulfur hexafluoride (SF_6), hydrofluorocarbons, perfluorocarbons, and chlorofluorocarbons (IPCC 2001).[1,2] The major GHGs are briefly described below.

- **Carbon dioxide (CO_2)** enters the atmosphere through the burning of fossil fuels (oil, natural gas, and coal), solid waste, trees and wood products, and respiration, and also as a result of other chemical reactions (e.g., manufacture of cement). Carbon dioxide is removed from the atmosphere (sequestered) when it is absorbed by plants as part of the biological carbon cycle.

- **Methane (CH_4)** is emitted during the production and transport of coal, natural gas, and oil. Methane emissions also result from livestock and other agricultural practices and from the decay of organic waste in municipal landfills and water treatment facilities.

- **Nitrous oxide (N_2O)** is emitted during agricultural and industrial activities as well as during the combustion of fossil fuels and solid waste.

[1] Water vapor (H_2O) is the strongest GHG and the most variable in its phases (vapor, cloud droplets, ice crystals). However, water vapor is not considered a pollutant, because it is considered part of the feedback loop rather than a primary cause of change.

[2] Black carbon contributes to climate change both directly, by absorbing sunlight, and indirectly, by depositing on snow (making it melt faster) and by interacting with clouds and affecting cloud formation. Black carbon is the most strongly light-absorbing component of particulate matter (PM) emitted from burning fuels such as coal, diesel, and biomass. Reducing black carbon emissions globally can have immediate economic, climate, and public health benefits. California has been an international leader in reducing emissions of black carbon, with close to 95 percent control expected by 2020 due to existing programs that target reducing PM from diesel engines and burning activities (CARB 2014). However, state and national GHG inventories do not include black carbon due to ongoing work resolving the precise global warming potential of black carbon. Guidance for CEQA documents does not yet include black carbon.

- **Fluorinated gases** are synthetic, strong GHGs that are emitted from a variety of industrial processes. Fluorinated gases are sometimes used as substitutes for ozone-depleting substances. These gases are typically emitted in smaller quantities, but because they are potent GHGs, they are sometimes referred to as high global-warming-potential (GWP) gases.
    - ***Chlorofluorocarbons (CFCs)*** are GHGs covered under the 1987 Montreal Protocol and used for refrigeration, air conditioning, packaging, insulation, solvents, or aerosol propellants. Since they are not destroyed in the lower atmosphere (troposphere, stratosphere), CFCs drift into the upper atmosphere where, given suitable conditions, they break down the ozone layer. These gases are therefore being replaced by other compounds that are GHGs covered under the Kyoto Protocol.
    - ***Perfluorocarbons (PFCs)*** are a group of human-made chemicals composed of carbon and fluorine only. These chemicals (predominantly perfluoromethane [CF_4] and perfluoroethane [C_2F_6]) were introduced as alternatives, along with HFCs, to ozone-depleting substances. In addition, PFCs are emitted as by-products of industrial processes and are used in manufacturing. PFCs do not harm the stratospheric ozone layer, but they have a high GWP.
    - ***Sulfur Hexafluoride (SF_6)*** is a colorless gas soluble in alcohol and ether, and slightly soluble in water. SF_6 is a strong GHG used primarily in electrical transmission and distribution systems as an insulator.
    - ***Hydrochlorofluorocarbons (HCFCs)*** contain hydrogen, fluorine, chlorine, and carbon atoms. Although they are ozone-depleting substances, they are less potent than CFCs. They have been introduced as temporary replacements for CFCs.
    - ***Hydrofluorocarbons (HFCs)*** contain only hydrogen, fluorine, and carbon atoms. They were introduced as alternatives to ozone-depleting substances to serve many industrial, commercial, and personal needs. HFCs are emitted as by-products of industrial processes and are also used in manufacturing. They do not significantly deplete the stratospheric ozone layer, but they are strong GHGs. (IPCC 2001; EPA 2014)

GHGs are dependent on the lifetime, or persistence, of the gas molecule in the atmosphere. Some GHGs have a stronger greenhouse effect than others. These are referred to as high GWP gases. The GWP of GHG emissions are shown in Table 5.6-1, *GHG Emissions and their Relative Global Warming Potential Compared to CO_2*. The GWP is used to convert GHGs to CO_2-equivalence (CO_2e) to show the relative potential that different GHGs have to retain infrared radiation in the atmosphere and contribute to the greenhouse effect. For example, under IPCC's Second Assessment Report GWP values for CH_4, a project that generates 10 metric tons (MT) of CH_4 would be equivalent to 210 MT of CO_2. [3]

[3] CO_2-equivalence is used to show the relative potential that different GHGs have to retain infrared radiation in the atmosphere and contribute to the greenhouse effect. The global warming potential of a GHG is also dependent on the lifetime, or persistence, of the gas molecule in the atmosphere.

Table 5.6-1 GHG Emissions and Their Relative Global Warming Potential Compared to CO_2

GHGs	Second Assessment Report Atmospheric Lifetime (Years)	Fourth Assessment Report Atmospheric Lifetime (Years)	Second Assessment Report Global Warming Potential Relative to CO_2[1]	Fourth Assessment Report Global Warming Potential Relative to CO_2[1]
Carbon Dioxide (CO_2)	50 to 200	50 to 200	1	1
Methane[2] (CH_4)	12 (±3)	12	21	25
Nitrous Oxide (N_2O)	120	114	310	298
Hydrofluorocarbons:	—	—	—	—
HFC-23	264	270	11,700	14,800
HFC-32	5.6	4.9	650	675
HFC-125	32.6	29	2,800	3,500
HFC-134a	14.6	14	1,300	1,430
HFC-143a	48.3	52	3,800	4,470
HFC-152a	1.5	1.4	140	124
HFC-227ea	36.5	34.2	2,900	3,220
HFC-236fa	209	240	6,300	9,810
HFC-4310mee	17.1	15.9	1,300	1,030
Perfluoromethane: CF_4	50,000	50,000	6,500	7,390
Perfluoroethane: C_2F_6	10,000	10,000	9,200	12,200
Perfluorobutane: C_4F_{10}	2,600	NA	7,000	8,860
Perfluoro-2-methylpentane: C_6F_{14}	3,200	NA	7,400	9,300
Sulfur Hexafluoride (SF_6)	3,200	NA	23,900	22,800

Source: IPCC 1995; IPCC 2007.

Note: The IPCC has published updated global warming potential (GWP) values in its Fifth Assessment Report (2013) that reflect new information on atmospheric lifetimes of GHGs and an improved calculation of the radiative forcing of CO_2 (radiative forcing is the difference of energy from sunlight received by the earth and radiated back into space). However, GWP values identified in the Second Assessment Report are still used by SCAQMD to maintain consistency in GHG emissions modeling. In addition, the 2008 Scoping Plan was based on the GWP values in the Second Assessment Report.

1 Based on 100-year time horizon of the GWP of the air pollutant relative to CO_2.

2 The methane GWP includes direct effects and indirect effects due to the production of tropospheric ozone and stratospheric water vapor. The indirect effect due to the production of CO_2 is not included.

California's Greenhouse Gas Sources and Relative Contribution

California is the tenth largest GHG emitter in the world and the second largest emitter of GHG emissions in the United States, surpassed only by Texas (CEC 2005). However, California also has over 12 million more people than Texas. Because of more stringent air emission regulations, in 2001, California ranked fourth lowest in carbon emissions per capita and fifth lowest among states in CO_2 emissions from fossil fuel consumption per unit of Gross State Product (total economic output of goods and services)(CEC 2006a).

The California Air Resources Board's (CARB) last update to the statewide GHG emissions inventory was in 2012 for year 2009 emissions and used the Second Assessment Report GWPs.[4] In 2009, California produced 457 million metric tons (MMT) of CO_2e GHG emissions. California's transportation sector is the single largest generator of GHG emissions, producing 37.9 percent of the state's total emissions. Electricity

[4] Methodology for determining the statewide GHG inventory is not the same as the methodology used to determine statewide GHG emissions under Assembly Bill 32 (2006).

consumption is the second largest source, producing 22.7 percent. Industrial activities are California's third largest source of GHG emissions at 17.8 percent. (CARB 2011).

In 2015, the statewide GHG emissions inventory was updated for 2000 to 2013 emissions using the GWPs in IPCC's Fourth Assessment Report. Based on these GWPs, California produced 459 $MMTCO_2e$ GHG emissions in 2013. California's transportation sector remains the single largest generator of GHG emissions, producing 36.8 percent of the state's total emissions. Electricity consumption made up 19.7 percent, and industrial activities produced 20.2 percent. Other major sectors of GHG emissions include commercial and residential, recycling and waste, high global warming potential GHGs, and agriculture (CARB 2015a).

Human Influence on Climate Change

For approximately 1,000 years before the Industrial Revolution, the amount of GHGs in the atmosphere remained relatively constant. During the 20th century, however, scientists observed a rapid change in the climate and the quantity of climate change pollutants in the Earth's atmosphere that is attributable to human activities. The amount of CO_2 in the atmosphere has increased by more than 35 percent since preindustrial times and has increased at an average rate of 1.4 parts per million per year since 1960, mainly due to combustion of fossil fuels and deforestation (IPCC 2007). These recent changes in the quantity and concentration of climate change pollutants far exceed the extremes of the ice ages, and the global mean temperature is warming at a rate that cannot be explained by natural causes alone. Human activities are directly altering the chemical composition of the atmosphere through the buildup of climate change pollutants (CAT 2006). In the past, gradual changes in the earth's temperature changed the distribution of species, availability of water, etc. However, human activities are accelerating this process so that environmental impacts associated with climate change no longer occur in a geologic time frame but within a human lifetime (IPCC 2007).

Like the variability in the projections of the expected increase in global surface temperatures, the environmental consequences of gradual changes in the Earth's temperature are also hard to predict. Projections of climate change depend heavily upon future human activity. Therefore, climate models are based on different emission scenarios that account for historic trends in emissions and on observations of the climate record that assess the human influence of the trend and projections for extreme weather events. Climate-change scenarios are affected by varying degrees of uncertainty. For example, there are varying degrees of certainty on the magnitude of the trends for:

- Warmer and fewer cold days and nights over most land areas.
- Warmer and more frequent hot days and nights over most land areas.
- An increase in frequency of warm spells/heat waves over most land areas.
- An increase in frequency of heavy precipitation events (or proportion of total rainfall from heavy falls) over most areas.
- Areas affected by drought increases.
- Intense tropical cyclone activity increases.
- Increased incidence of extreme high sea level (excluding tsunamis).

Potential Climate Change Impacts for California

Observed changes over the last several decades across the western United States reveal clear signals of climate change. Statewide average temperatures increased by about 1.7°F from 1895 to 2011, and warming has been greatest in the Sierra Nevada. By 2050, California is projected to warm by approximately 2.7°F above 2000 averages, a threefold increase in the rate of warming over the last century. By 2100, average temperatures could increase by 4.1–8.6°F, depending on emissions levels (California Climate Change Center 2012).

In California and western North America, observations of the climate have shown: 1) a trend toward warmer winter and spring temperatures; 2) a smaller fraction of precipitation falling as snow; 3) a decrease in the amount of spring snow accumulation in the lower and middle elevation mountain zones; 4) a shift in the timing of snowmelt of 5 to 30 days earlier in the spring; and 5) a similar shift (5 to 30 days earlier) in the timing of spring flower blooms (CAT 2006). According to the California Climate Action Team—a committee of state agency secretaries and the heads of agencies, boards, and departments, led by the Secretary of the California Environmental Protection Agency—even if actions could be taken to immediately curtail climate change emissions, the potency of emissions that have already built up, their long atmospheric lifetimes (see Table 5.6-1), and the inertia of the Earth's climate system could produce as much as 0.6°C (1.1°F) of additional warming. Consequently, some impacts from climate change are now considered unavoidable. Global climate change risks to California are shown in Table 5.6-2, *Summary of GHG Emissions Risks to California*, and include public health impacts, water resources impacts, agriculture impacts, coastal sea level impacts, forest and biological resources impacts, and energy impacts.

Specific climate change impacts that could affect the Proposed Project include:

Water Resources Impacts. By late-century, all projections show drying, and half of the projections suggest 30-year average precipitation will decline by more than 10 percent below the historical average. This drying trend is caused by an apparent decline in the frequency of rain and snowfall. Even in projections with relatively small or no declines in precipitation, central and southern parts of the state can be expected to be drier from the warming effects alone—the spring snowpack will melt sooner, and the moisture contained in soils will evaporate during long dry summer months (California Climate Change Center 2012).

Wildfire Risks. Earlier snowmelt, higher temperatures, and longer dry periods over a longer fire season will directly increase wildfire risk. Indirectly, wildfire risk will also be influenced by potential climate-related changes in vegetation and ignition potential from lightning. Human activities will continue to be the biggest factor in ignition risk. The number of large fires statewide are estimated to increase from 58 percent to 128 percent above historical levels by 2085. Under the same emissions scenario, estimated burned area will increase by 57 percent to 169 percent, depending on location (California Climate Change Center 2012).

Table 5.6-2 Summary of GHG Emissions Risks to California

Impact Category	Potential Risk
Public Health Impacts	Heat waves will be more frequent, hotter, and longer Fewer extremely cold nights Poor air quality made worse Higher temperatures increase ground-level ozone levels
Water Resources Impacts	Decreasing Sierra Nevada snow pack Challenges in securing adequate water supply Potential reduction in hydropower Loss of winter recreation
Agricultural Impacts	Increasing temperature Increasing threats from pests and pathogens Expanded ranges of agricultural weeds Declining productivity Irregular blooms and harvests
Sea Level Rise and Storm Surge Impacts	Accelerated sea level rise Increasing coastal floods Shrinking beaches Worsened impacts on infrastructure
Forest and Biological Resource Impacts	Increased risk and severity of wildfires Lengthening of the wildfire season Movement of forest areas Conversion of forest to grassland Declining forest productivity Increasing threats from pest and pathogens Shifting vegetation and species distribution Altered timing of migration and mating habits Loss of sensitive or slow-moving species
Energy Demand Impacts	Potential reduction in hydropower Increased energy demand

Sources: CEC 2006b; CEC 2009; California Climate Change Center 2012; California Natural Resource Agency 2014.

Health Impacts. Many of the gravest threats to public health in California stem from the increase of extreme conditions, principally more frequent, more intense, and longer heat waves. Particular concern centers on the increasing tendency for multiple hot days in succession, and heat waves occurring simultaneously in several regions throughout the state. Public health could also be affected by climate change impacts on air quality, food production, the amount and quality of water supplies, energy pricing and availability, and the spread of infectious diseases. Higher temperatures also increase ground-level ozone levels. Furthermore, wildfires can increase particulate air pollution in the major air basins of California (California Climate Change Center 2012).

Increased Energy Demand. Increases in average temperature and higher frequency of extreme heat events combined with new residential development across the state will drive up the demand for cooling in the increasingly hot and longer summer season and decrease demand for heating in the cooler season. Warmer, drier summers also increase system losses at natural gas plants (reduced efficiency in the electricity generation

process at higher temperatures) and hydropower plants (lower reservoir levels). Transmission of electricity will also be affected by climate change. Transmission lines lose 7 percent to 8 percent of transmitting capacity in high temperatures while needing to transport greater loads. This means that more electricity needs to be produced to make up for the loss in capacity and the growing demand (California Climate Change Center 2012).

5.6.1.1 REGULATORY BACKGROUND

This section describes the federal, state, and local regulations applicable to GHG emissions.

Federal Laws

The US Environmental Protection Agency (EPA) announced on December 7, 2009, that GHG emissions threaten the public health and welfare of the American people and that GHG emissions from on-road vehicles contribute to that threat. The EPA's final findings respond to the 2007 US Supreme Court decision that GHG emissions fit within the Clean Air Act definition of air pollutants. The findings did not themselves impose any emission reduction requirements, but allowed the EPA to finalize the GHG standards proposed in 2009 for new light-duty vehicles as part of the joint rulemaking with the Department of Transportation (EPA 2009).

The EPA's endangerment finding covers emissions of six key GHGs—CO_2, CH_4, N_2O, hydrofluorocarbons, perfluorocarbons, and SF_6—that have been the subject of scrutiny and intense analysis for decades by scientists in the United States and around the world. The first three are applicable to the Proposed Project's GHG emissions inventory because they constitute the majority of GHG emissions, and per SCAQMD guidance are the GHG emissions that should be evaluated as part of a project's GHG emissions inventory.

US Mandatory Report Rule for GHGs (2009)

In response to the endangerment finding, the EPA issued the Mandatory Reporting of GHG Rule that requires substantial emitters of GHG emissions (large stationary sources, etc.) to report GHG emissions data. Facilities that emit 25,000 $MTCO_2e$ or more per year to submit an annual report.

Update to Corporate Average Fuel Economy Standards (2010/2012)

The current Corporate Average Fuel Economy standards (for model years 2011 to 2016) incorporate stricter fuel economy requirements promulgated by the federal government and California into one uniform standard. Additionally, automakers are required to cut GHG emissions in new vehicles by roughly 25 percent by 2016 (resulting in a 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 2012 for model years 2017–2025, which will require a fleet average of 54.5 mpg in 2025.

EPA Regulation of Stationary Sources under the Clean Air Act (Ongoing)

Pursuant to its authority under the Clean Air Act, the EPA has been developing regulations for new stationary sources such as power plants, refineries, and other large sources of emissions. Pursuant to the President's 2013 Climate Action Plan, the EPA will be directed to also develop regulations for existing stationary sources.

State Laws

Current State of California guidance and goals for reductions in GHG emissions are generally embodied in Executive Order S-03-05, Executive Order B-30-15, Assembly Bill 32 (AB 32), and Senate Bill 375 (SB 375).

Executive Order S-03-05

Executive Order S-03-05, signed June 1, 2005, set the following GHG reduction targets for the state:

- 2000 levels by 2010
- 1990 levels by 2020
- 80 percent below 1990 levels by 2050

Executive Order B-30-15

Executive Order B-30-15, signed April 29, 2015, sets a goal of reducing GHG emissions within the state to 40 percent of 1990 levels by year 2030. Executive Order B-30-15 also directs CARB to update the Scoping Plan to quantify the 2030 GHG reduction goal for the state and requires state agencies to implement measures to meet the interim 2030 goal as well as the long-term goal for 2050 in Executive Order S-03-05. It also requires the Natural Resources Agency to conduct triennial updates of the California adaption strategy, Safeguarding California, in order to ensure climate change is accounted for in state planning and investment decisions.

Assembly Bill 32, the Global Warming Solutions Act (2006)

Current State of California guidance and goals for reductions in GHG emissions are generally embodied in AB 32, the Global Warming Solutions Act. AB 32 was passed by the California state legislature on August 31, 2006, to place the state on a course toward reducing its contribution of GHG emissions. AB 32 follows the 2020 tier of emissions reduction targets established in Executive Order S-03-05.

CARB 2008 Scoping Plan

The final Scoping Plan was adopted by CARB on December 11, 2008. AB 32 directed CARB to adopt discrete early action measures to reduce GHG emissions and outline additional reduction measures to meet the 2020 target. In order to effectively implement the emissions cap, AB 32 directed CARB to establish a mandatory reporting system to track and monitor GHG emissions levels for large stationary sources that generate more than 25,000 MT of CO_2e per year, prepare a plan demonstrating how the 2020 deadline can be met, and develop appropriate regulations and programs to implement the plan by 2012.

The 2008 Scoping Plan identified that GHG emissions in California are anticipated to be approximately 596 $MMTCO_2e$ in 2020. In December 2007, CARB approved a 2020 emissions limit of 427 $MMTCO_2e$ (471 million tons) for the state. The 2020 target requires a total emissions reduction of 169 $MMTCO_2e$, 28.5 percent from the projected emissions of the business-as-usual (BAU) scenario for the year 2020 (i.e., 28.5 percent of 596 $MMTCO_2e$) (CARB 2008).[5]

Key elements of CARB's GHG reduction plan that may be applicable to the Proposed Project include:

- Expanding and strengthening existing energy efficiency programs as well as building and appliance standards (adopted and cycle updates in progress).
- Achieving a mix of 33 percent for energy generation from renewable sources (anticipated by 2020).
- A California cap-and-trade program that links with other Western Climate Initiative partner programs to create a regional market system for large stationary sources (adopted 2011).
- Establishing targets for transportation-related GHG emissions for regions throughout California, and pursuing policies and incentives to achieve those targets (several sustainable communities strategies have been adopted).
- Adopting and implementing measures pursuant to state laws and policies, including California's clean car standards (amendments to the Pavley Standards adopted 2009; Advanced Clean Car standard adopted 2012), goods movement measures, and the Low Carbon Fuel Standard (adopted 2009).
- Creating target fees, including a public goods charge on water use, fees on high GWP gases, and a fee to fund the administrative costs of the state's long-term commitment to AB 32 implementation (in progress).

Table 5.6-3, *Scoping Plan GHG Reduction Measures and Reductions toward 2020 Target*, shows the proposed reductions from regulations and programs outlined in the 2008 Scoping Plan. In recognition of the critical role that local governments play in the successful implementation of AB 32, CARB is recommending GHG reduction goals of 15 percent of baseline 2005–2008 levels by 2020 to ensure that municipal and community-wide emissions match the state's reduction target.[6] Measures that local governments take to support shifts in land use patterns are anticipated to emphasize compact, low-impact growth over development in greenfields, resulting in fewer vehicle miles traveled (VMT) (CARB 2008).

[5] CARB defines BAU in its Scoping Plan as emissions levels that would occur if California continued to grow and add new GHG emissions but did not adopt any measures to reduce emissions. Projections for each emission-generating sector were compiled and used to estimate emissions for 2020 based on 2002–2004 emissions intensities. Under CARB's definition of BAU, new growth is assumed to have the same carbon intensities as was typical from 2002 through 2004.

[6] The Scoping Plan references a goal for local governments to reduce community GHG emissions by 15 percent from current (interpreted as 2008) levels by 2020, but it does not rely on local GHG reduction targets established by local governments to meet the state's GHG reduction target of AB 32.

Table 5.6-3 Scoping Plan GHG Reduction Measures and Reductions toward 2020 Target

Recommended Reduction Measures	Reductions Counted toward 2020 Target of 169 MMT CO2e	Percentage of Statewide 2020 Target
Cap and Trade Program and Associated Measures		
California Light-Duty Vehicle GHG Standards	31.7	19%
Energy Efficiency	26.3	16%
Renewable Portfolio Standard (33 percent by 2020)	21.3	13%
Low Carbon Fuel Standard	15	9%
Regional Transportation-Related GHG Targets[1]	5	3%
Vehicle Efficiency Measures	4.5	3%
Goods Movement	3.7	2%
Million Solar Roofs	2.1	1%
Medium/Heavy Duty Vehicles	1.4	1%
High Speed Rail	1.0	1%
Industrial Measures	0.3	0%
Additional Reduction Necessary to Achieve Cap	34.4	20%
Total Cap and Trade Program Reductions	**146.7**	**87%**
Uncapped Sources/Sectors Measures		
High Global Warming Potential Gas Measures	20.2	12%
Sustainable Forests	5	3%
Industrial Measures (for sources not covered under cap and trade program)	1.1	1%
Recycling and Waste (landfill methane capture)	1	1%
Total Uncapped Sources/Sectors Reductions	**27.3**	**16%**
Total Reductions Counted toward 2020 Target	**174**	**100%**
Other Recommended Measures – Not Counted toward 2020 Target		
State Government Operations	1.0 to 2.0	1%
Local Government Operations[2]	To Be Determined	NA
Green Buildings	26	15%
Recycling and Waste	9	5%
Water Sector Measures	4.8	3%
Methane Capture at Large Dairies	1	1%
Total Other Recommended Measures – Not Counted toward 2020 Target	**42.8**	**NA**

Source: CARB 2008.
Notes: The percentages in the right-hand column add up to more than 100 percent because the emissions reduction goal is 169 $MMTCO_2e$ and the Scoping Plan identifies 174 $MTCO_2e$ of emissions reductions strategies. Based on the Second Assessment Report GWPs.
$MMTCO_2e$: million metric tons of CO_2e
[1] Reductions represent an estimate of what may be achieved from local land use changes. It is not the SB 375 regional target.
[2] According to the Measure Documentation Supplement to the Scoping Plan, local government actions and targets are anticipated to reduce vehicle miles by approximately 2 percent through land use planning, resulting in a potential GHG reduction of 2 million metric tons of CO_2e (or approximately 1.2 percent of the GHG reduction target). However, these reductions were not included in the Scoping Plan reductions to achieve the 2020 target.

First Update to the Scoping Plan

CARB recently completed a five-year update to the 2008 Scoping Plan, as required by AB 32. The First Update to the Scoping Plan was adopted at the May 22, 2014 board hearing. The update defines CARB's climate change priorities for the next five years and lays the groundwork to reach post-2020 goals in

Executive Orders S-03-05 and B-16-2012. The update includes the latest scientific findings related to climate change and its impacts, including short-lived climate pollutants. The GHG target identified in the 2008 Scoping Plan is based on IPCC's GWPs identified in the Second and Third Assessment Reports (see Table 5.6-1).[7] CARB projected that statewide BAU emissions in 2020 would be approximately 509 million $MTCO_2e$.[8] Therefore, to achieve the AB 32 target of 431 million $MTCO_2e$ (i.e., 1990 emissions levels) by 2020, the state would need to reduce emissions by 78 million $MTCO_2e$ compared to BAU conditions, a reduction of 15.3 percent from BAU in 2020 (CARB 2014).[9] Therefore, to achieve the AB 32 target of 431 $MMTCO_2e$ (i.e., 1990 emissions levels) by 2020, the state would need to reduce emissions by 78 $MMTCO_2e$ compared to BAU conditions, a reduction of 15.3 percent from BAU in 2020. The data from the First Update to the Scoping Plan regarding GHG emissions and reductions needed to achieve the 1990 emissions target are shown in Table 5.6-4, *State BAU Forecast in the First Update to the Scoping Plan*.

Table 5.6-4 State BAU Forecast in the First Update to the Scoping Plan

Recommended Reduction Measures	2020 $MMTCO_2e$: Fourth Assessment Report GWPs
AB 32 Baseline 2020 Forecast Emissions (2020 BAU) with Pavley I and the Renewable Electricity Standard (RPS)	539
AB 32 Baseline 2020 Forecast Emissions (2020 BAU)[1]	509
Expected Reductions from Sector-Based Measures	
Energy	25
Transportation	23
High-GWPs	5
Waste	2
Cap-and-Trade Reductions[2]	23
2020 Limit	431
Percent Reduction from BAU with Pavley I and RPS	20.0%
Percent Reduction from BAU without Pavley and RPS	15.3%

Sources: CARB 2014a.
1 The total projected emissions in the 2020 BAU scenario accounts for reductions anticipated from Pavley I and the Renewable Electricity Standard (30 million MTCO2e total).
2 The cap-and-trade reductions depend on the emissions forecast.

The update highlights California's progress toward meeting the near-term 2020 GHG emission reduction goals defined in the original 2008 Scoping Plan. As identified in the Update to the Scoping Plan, California is on track to meeting the goals of AB 32. However, the update also addresses the state's longer-term GHG goals within a post-2020 element. The post-2020 element provides a high level view of a long-term strategy for meeting the 2050 GHG goals, including a recommendation for the state to adopt a midterm target.

[7] IPCC's Fourth and Fifth Assessment Reports identified more recent GWP values based on the latest available science. CARB recalculated the 1990 GHG emission levels with the updated GWPs in the Fourth Assessment Report, and the 427 $MMTCO_2e$ 1990 emissions level and 2020 GHG emissions limit, established in response to AB 32, is slightly higher at 431 $MMTCO_2e$ (CARB 2014).

[8] The BAU forecast includes GHG reductions from Pavley and the 33% Renewable Portfolio Standard.

[9] If the GHG emissions reductions from Pavley I and the Renewable Electricity Standard are accounted for as part of the BAU scenario (30 million $MTCO_2e$ total), then the state would need to reduce emissions by 108 million $MTCO_2e$, which is a 20 percent reduction from BAU.

According to the Update to the Scoping Plan, local government reduction targets should chart a reduction trajectory that is consistent with or exceeds the trajectory created by statewide goals (CARB 2014).

According to the Update to the Scoping Plan, reducing emissions to 80 percent below 1990 levels will require a fundamental shift to efficient, clean energy in every sector of the economy. Progressing toward California's 2050 climate targets will require significant acceleration of GHG reduction rates. Emissions from 2020 to 2050 will have to decline several times faster than the rate needed to reach the 2020 emissions limit (CARB 2014).

Second Update to the Scoping Plan

The new Executive Order B-30-15 requires CARB to prepare another update to the Scoping Plan to address the 2030 target for the state. According to CARB, the Scoping Plan will be updated by late 2016 to address the new 2030 interim target to achieve a 40 percent reduction below 1990 levels by 2030 (CARB 2015b).

Senate Bill 375

In 2008, Senate Bill 375 (SB 375), the Sustainable Communities and Climate Protection Act, was adopted to connect the GHG emissions reductions targets established in the 2008 Scoping Plan for the transportation sector to local land use decisions that affect travel behavior. Its intent is to reduce GHG emissions from light-duty trucks and automobiles (excludes emissions associated with goods movement) by aligning regional long-range transportation plans, investments, and housing allocations to local land use planning to reduce VMT and vehicle trips. Specifically, SB 375 required CARB to establish GHG emissions reduction targets for each of the 18 metropolitan planning organizations (MPOs). The Southern California Association of Governments (SCAG) is the MPO for the Southern California region, which includes the counties of Los Angeles, Orange, San Bernardino, Riverside, Ventura, and Imperial.

Pursuant to the recommendations of the Regional Transportation Advisory Committee, CARB adopted per capita reduction targets for each of the MPOs rather than a total magnitude reduction target. SCAG's targets are an 8 percent per capita reduction from 2005 GHG emission levels by 2020 and a 13 percent per capita reduction from 2005 GHG emission levels by 2035 (CARB 2010). SB 375 requires CARB to periodically update the targets, no later than every eight years. CARB plans to propose updated targets for consideration in 2016, with the intent to make them effective in 2018. Sustainable communities strategies (SCSs) adopted in 2018 would be subject to the updated targets (CARB 2015c).

The 2020 targets are smaller than the 2035 targets because a significant portion of the built environment in 2020 has been defined by decisions that have already been made. In general, the 2020 scenarios reflect that more time is needed for large land use and transportation infrastructure changes. Most of the reductions in the interim are anticipated to come from improving the efficiency of the region's transportation network. The targets would result in 3 $MMTCO_2e$ of reductions by 2020 and 15 $MMTCO_2e$ of reductions by 2035. Based on these reductions, the passenger vehicle target in CARB's Scoping Plan (for AB 32) would be met (CARB 2010).

CARB is currently in the process of updating the next round of targets and methodology to comply with the requirement for updates every eight years. Considerations for the next round of targets include whether to

change the nature or magnitude of the emissions reduction targets for each of the MPOs, and whether the target-setting methodology should account for advances in technologies that reduce emissions. Such changes in methodology would permit cities to account for emissions reductions from advances in cleaner fuels and vehicles and not only from land use and transportation planning strategies.

SCAG's 2016 RTP/SCS

SB 375 requires the MPOs to prepare a sustainable communities strategy in their regional transportation plan. For the SCAG region, the 2016-2040 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) was adopted in April 2016 (SCAG 2016). The SCS outlines a development pattern for the region, which, when integrated with the transportation network and other transportation measures and policies, would reduce GHG emissions from transportation (excluding goods movement). The SCS is meant to provide growth strategies that will achieve the regional GHG emissions reduction targets. However, the SCS does not require that local general plans, specific plans, or zoning be consistent with the SCS. Instead, it provides incentives to governments and developers for consistency. Through implementation of the strategies in the RTP/SCS, SCAG anticipates lowering GHG emissions below 2005 levels by 8 percent by 2020, 18 percent by 2035, and 22 percent by 2040. Land use strategies to achieve the region's targets include planning for new growth around high quality transit areas and "livable corridors," and creating neighborhood mobility areas to integrate land use and transportation and plan for more active lifestyles (SCAG 2016).

Assembly Bill 1493

California vehicle GHG emission standards were enacted under AB 1493 (Pavley I). Pavley I is a clean-car standard that reduces GHG emissions from new passenger vehicles (light-duty auto to medium-duty vehicles) from 2009 through 2016 and is anticipated to reduce GHG emissions from new passenger vehicles by 30 percent in 2016. California implements the Pavley I standards through a waiver granted to California by the EPA. In 2012, the EPA issued a Final Rulemaking that sets even more stringent fuel economy and GHG emissions standards for model year 2017 through 2025 light-duty vehicles (see also the discussion on the update to the Corporate Average Fuel Economy standards under *Federal Laws*, above). In January 2012, CARB approved the Advanced Clean Cars program (formerly known as Pavley II) for model years 2017 through 2025. The program combines the control of smog, soot, and global warming gases and requirements for greater numbers of zero-emission vehicles into a single package of standards. Under California's Advanced Clean Car program, by 2025, new automobiles will emit 34 percent fewer global warming gases and 75 percent fewer smog-forming emissions.

Executive Order S-01-07

On January 18, 2007, the state set a new low carbon fuel standard (LCFS) for transportation fuels sold within the state. Executive Order S-01-07 sets a declining standard for GHG emissions measured in carbon dioxide equivalent gram per unit of fuel energy sold in California. The LCFS requires a reduction of 2.5 percent in the carbon intensity of California's transportation fuels by 2015 and a reduction of at least 10 percent by 2020. The standard applies to refiners, blenders, producers, and importers of transportation fuels, and would use market-based mechanisms to allow these providers to choose how they reduce emissions during the "fuel cycle" using the most economically feasible methods.

Senate Bills 1078 and 107, and Executive Order S-14-08

A major component of California's Renewable Energy Program is the renewable portfolio standard (RPS) established under Senate Bills 1078 (Sher) and 107 (Simitian). Under the RPS, certain retail sellers of electricity were required to increase the amount of renewable energy each year by at least 1 percent in order to reach at least 20 percent by December 30, 2010. Executive Order S-14-08 was signed in November 2008, which expands the state's renewable energy standard to 33 percent renewable power by 2020. This standard was adopted by the legislature in 2011 (SBX1-2). Renewable sources of electricity include wind, small hydropower, solar, geothermal, biomass, and biogas. The increase in renewable sources for electricity production will decrease indirect GHG emissions from development projects, because electricity production from renewable sources is generally considered carbon neutral.

Senate Bill 350

Senate Bill 350 (de Leon), was signed into law September 2015 and establishes tiered increases to the RPS—40 percent by 2024, 45 percent by 2027, and 50 percent by 2030. SB 350 also set a new goal to double the energy-efficiency savings in electricity and natural gas through energy efficiency and conservation measures.

Executive Order B-16-2012

On March 23, 2012, the state identified that CARB, the California Energy Commission (CEC), the Public Utilities Commission, and other relevant agencies worked with the Plug-in Electric Vehicle Collaborative and the California Fuel Cell Partnership to establish benchmarks to accommodate zero-emissions vehicles in major metropolitan areas, including infrastructure to support them (e.g., electric vehicle charging stations). The executive order also directs the number of zero-emission vehicles in California's state vehicle fleet to increase through the normal course of fleet replacement so that at least 10 percent of fleet purchases of light-duty vehicles are zero-emission by 2015 and at least 25 percent by 2020. The executive order also establishes a target for the transportation sector of reducing GHG emissions from the transportation sector 80 percent below 1990 levels.

California Building Code: Building and Energy Efficiency Standards

Energy conservation standards for new residential and non-residential buildings were adopted by the California Energy Resources Conservation and Development Commission (now the CEC) in June 1977 and most recently revised in 2013 (Title 24, Part 6, of the California Code of Regulations [CCR]). Title 24 requires the design of building shells and building components to conserve energy. The standards are updated periodically to allow for consideration and possible incorporation of new energy efficiency technologies and methods. On May 31, 2012, the CEC adopted the 2013 Building and Energy Efficiency Standards, which went into effect on July 1, 2014. Buildings that are constructed in accordance with the 2013 Building and Energy Efficiency Standards are 25 percent (residential) to 30 percent (nonresidential) more energy efficient than the 2008 standards as a result of better windows, insulation, lighting, ventilation systems, and other features.

Most recently, the CEC adopted the 2016 Building and Energy Efficiency Standards. The 2016 Standards will continue to improve upon the current 2013 Standards for new construction of, and additions and alterations to, residential and nonresidential buildings. These standards will go into effect on January 1, 2017. Under the 2016 Standards, residential buildings are 28 percent more energy efficient than the 2013 Standards, and nonresidential buildings are 5 percent more energy efficient than the 2013 Standards (CEC 2015a).

The 2016 standards will not achieve zero net energy. However, they do get very close to the state's goal and make important steps toward changing residential building practices in California. The 2019 standards will take the final step to achieve zero net energy for newly constructed residential buildings throughout California (CEC 2015b).

California Building Code: CALGreen

On July 17, 2008, the California Building Standards Commission adopted the nation's first green building standards. The California Green Building Standards Code (24 CCR, Part 11, known as "CALGreen") was adopted as part of the California Building Standards Code. CALGreen established planning and design standards for sustainable site development, energy efficiency (in excess of the California Energy Code requirements), water conservation, material conservation, and internal air contaminants.[10] The mandatory provisions of the California Green Building Code Standards became effective January 1, 2011, and were last updated in 2013.

2006 Appliance Efficiency Regulations

The 2006 Appliance Efficiency Regulations (20 CCR §§ 1601–1608) were adopted by the CEC on October 11, 2006, and approved by the California Office of Administrative Law on December 14, 2006. The regulations include standards for both federally regulated appliances and non-federally regulated appliances. Though these regulations are now often viewed as "business as usual," they exceed the standards imposed by all other states, and they reduce GHG emissions by reducing energy demand.

Solid Waste Regulations

California's Integrated Waste Management Act of 1989 (AB 939, Public Resources Code 40050 et seq.) set a requirement for cities and counties throughout the state to divert 50 percent of all solid waste from landfills by January 1, 2000, through source reduction, recycling, and composting. In 2008, the requirements were modified to reflect a per capita requirement rather than tonnage. To help achieve this, the act requires that each city and county prepare and submit a source reduction and recycling element. AB 939 also established the goal for all California counties to provide at least 15 years of ongoing landfill capacity.

AB 341 (Chapter 476, Statutes of 2011) increased the statewide goal for waste diversion to 75 percent by 2020 and requires recycling of waste from commercial and multifamily residential land uses.

The California Solid Waste Reuse and Recycling Access Act (AB 1327, California Public Resources Code §§ 42900 et seq.) requires areas to be set aside for collecting and loading recyclable materials in development

[10] The green building standards became mandatory in the 2010 edition of the code.

projects. The act required the California Integrated Waste Management Board to develop a model ordinance for adoption by any local agency requiring adequate areas for collection and loading of recyclable materials as part of development projects. Local agencies are required to adopt the model or an ordinance of their own.

Section 5.408 of the 2013 California Green Building Standards Code also requires that at least 50 percent of the nonhazardous construction and demolition waste from nonresidential construction operations be recycled and/or salvaged for reuse.

In October of 2014 Governor Brown signed AB 1826 requiring businesses to recycle their organic waste on and after April 1, 2016, depending on the amount of waste they generate per week. This law also requires that on and after January 1, 2016, local jurisdictions across the state implement an organic waste recycling program to divert organic waste generated by businesses, including multifamily residential dwellings that consist of five or more units. Organic waste means food waste, green waste, landscape and pruning waste, nonhazardous wood waste, and food-soiled paper waste that is mixed in with food waste.

Water Efficiency Regulations

The 20x2020 Water Conservation Plan was issued by the Department of Water Resources (DWR) in 2010 pursuant to Senate Bill 7, which was adopted during the 7th Extraordinary Session of 2009–2010 and therefore dubbed "SBX7-7." SBX7-7 mandated urban water conservation and authorized the DWR to prepare a plan implementing urban water conservation requirements (20x2020 Water Conservation Plan). In addition, it required agricultural water providers to prepare agricultural water management plans, measure water deliveries to customers, and implement other efficiency measures. SBX7-7 requires urban water providers to adopt a water conservation target of 20 percent reduction in urban per capita water use by 2020 compared to 2005 baseline use.

The Water Conservation in Landscaping Act of 2006 (AB 1881) requires local agencies to adopt the updated DWR model ordinance or equivalent. AB 1881 also requires the CEC to consult with the DWR to adopt, by regulation, performance standards and labeling requirements for landscape irrigation equipment, including irrigation controllers, moisture sensors, emission devices, and valves to reduce the wasteful, uneconomic, inefficient, or unnecessary consumption of energy or water.

Local Policies and Plans

SANBAG Regional GHG Reduction Plan (Incorporated Cities)

The San Bernardino Association of Governments (SANBAG) led a regional GHG reduction planning initiative in partnership with its 21 partnership cities. The Regional GHG Reduction Plan (2014) includes 2008 and 2020 inventories, individual GHG reduction goals, and a summary of the actions each of the 21 partnership cities has selected to reduce GHG emissions. The SANBAG GHG regional reduction planning effort complements the unincorporated County's GHG Emissions Reduction Plan to ensure a consistent approach is taken for reducing GHG emissions countywide in the incorporated partnership cities. The City of San Bernardino has not formerly adopted the San Bernardino chapter of the Regional GHG Reduction Plan.

City of San Bernardino Sustainability Master Plan

The City of San Bernardino is in the process of creating a Sustainability Master Plan (SMP). The SMP includes measures that, when implemented, would enable the City to reduce its GHG emissions from City operations and the community. The strategies within the SMP cover a variety of sectors: land use, transportation, waste, water, and green infrastructure.

5.6.1.2 EXISTING CONDITIONS

Existing Emissions

Table 5.6-5, *Existing GHG Emissions Inventory*, identifies the existing community GHG emissions inventory for the Specific Plan area. GHG emissions were estimated using the California Emissions Estimator Model (CalEEmod), version 2013.2.2.

Table 5.6-5 Existing GHG Emissions Inventory

Sector	GHG Emissions $MTCO_2e$/Year	Percent of Emissions
Community Emissions		
Area	220	<1%
Energy[1]	19,245	15%
On-Road Transportation[2]	103,764	81%
Water/Wastewater[3]	2,623	2%
Solid Waste Disposal	2,836	2%
Total	128,688	100%
Service Population (SP)	10,353	NA
$MTCO_2e$/SP	12.4	—

Source: CalEEMod 2013.2.2. Based on IPCC's SAR GWPs.
[1] Existing residential and nonresidential building energy use modeled using historical energy demand rates in CalEEMod.
[2] Transportation emissions are based on trip generation and VMT provided by Fehr & Peers.
[3] Water use is based on the water demand rates provided in the WSA

5.6.2 Thresholds of Significance

The City notes that the purpose of this EIR is to identify the significant effects of the Proposed Project on the environment, not the significant effects of the environment on the Proposed Project. (*California Building Industry Association v. Bay Area Air Quality Management District* (2015) 62 Cal.4th 369 (Case No. S213478)). CEQA does not require an EIR to analyze the environmental effects of attracting development and people to an area. According to Appendix G of the CEQA Guidelines, the Proposed Project would have a significant effect on the environment with respect to GHG emissions if it would:

GHG-1 Generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment.

GHG-2 Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs.

SCAQMD GHG Significance Thresholds

SCAQMD has adopted a significance threshold of 10,000 $MTCO_2e$ per year for permitted (stationary) sources of GHG emissions for which SCAQMD is the designated lead agency. To provide guidance to local lead agencies on determining significance for GHG emissions in their CEQA documents, SCAQMD convened a GHG CEQA Significance Threshold Working Group (Working Group). Based on the last Working Group meeting held in September 2010 (Meeting No. 15), the SCAQMD Working Group identified a tiered approach for evaluating GHG emissions for development projects where SCAQMD is not the lead agency:

- **Tier 1.** If a project is exempt from CEQA, project-level and cumulative GHG emissions are less than significant.

- **Tier 2.** If the project complies with a GHG emissions reduction plan or mitigation program that avoids or substantially reduces GHG emissions in the project's geographic area (i.e., city or county), project-level and cumulative GHG emissions are less than significant.

For projects that are not exempt or where no qualifying GHG reduction plans are directly applicable, SCAQMD requires an assessment of GHG emissions. SCAQMD has identified a "bright-line" screening-level threshold of 3,000 $MTCO_2e$ annually for all land use types or the following land-use-specific thresholds: 1,400 $MTCO_2e$ for commercial projects, 3,500 $MTCO_2e$ for residential projects, or 3,000 $MTCO_2e$ for projects. This bright-line threshold is based on a review of the Governor's Office of Planning and Research database of CEQA projects. Based on their review of 711 CEQA projects, 90 percent of CEQA projects would exceed the bright-line thresholds identified above. Therefore, projects that do not exceed the bright-line threshold would have a nominal, and therefore less than cumulatively considerable, impact on GHG emissions:

- **Tier 3.** If GHG emissions are less than the screening-level threshold, project-level and cumulative GHG emissions are less than significant.

- **Tier 4.** If emissions exceed the screening threshold, a more detailed review of the project's GHG emissions is warranted.

The SCAQMD Working Group has identified an efficiency target for projects that exceed the bright-line threshold: a 2020 efficiency target of 4.8 $MTCO_2e$ per year per service population ($MTCO_2e$/year/SP) for project-level analyses and 6.6 $MTCO_2e$/year/SP for plan-level analyses (e.g., general plans). Service population is defined as the sum of the residential and employment population of a project. The per capita

efficiency targets are based on the AB 32 GHG reduction target and 2020 GHG emissions inventory prepared for CARB's 2008 Scoping Plan.[11]

Proposed Project emissions are compared to the SCAQMD's project-level efficiency threshold because individual projects may use the Specific Plan EIR for CEQA streamlining, and the SCAQMD plan-level thresholds are more appropriately utilized for general plan–level analyses. However, the Proposed Project buildout goes beyond year 2020, and for the purposes of this EIR is estimated to be built out by 2035. Since the SCAQMD efficiency targets identified by the Working Group are based on the GHG reduction goals of AB 32 for year 2020, SCAQMD's efficiency targets have been adjusted based on the long-term GHG reduction targets of Executive Order B-30-15, which set a goal of 40 percent below 1990 levels by 2030, and Executive Order S-03-05, which set a goal of 80 percent below 1990 levels by 2050, as shown in Table 5.6-6, *Forecasting the Post-2020 GHG Reduction Targets*.

Table 5.6-6 Forecasting the Post-2020 GHG Reduction Targets

1990 Emissions Sector[1]	GHG Emissions $MTCO_2e$/Year	Tailoring the CARB Land Use Inventory
Electricity	96,100,000	Removed Industrial energy use
Transportation	137,990,000	Includes the on-road transportation sector emissions only
Landfills	6,260,000	Landfill extracted from the Industrial sector
Wastewater	3,170,000	Wastewater treatment extracted from the Industrial sector
Commercial	13,860,000	Removed National Security emissions
Residential	29,660,000	Includes all emissions from this sector
1990 Land Use Sector Total	**287,040,000**	—
2035 Land Use Sector GHG Target[2]	**147,765,000**	Trend-line: 50 Percent Reduction from 1990 Levels by 2035.
2035 Population and Employment Forecasts	**Demographics**	**Notes**
Population[3]	**45,747,645**	Based the California Department of Finance forecasts
Employment[4]	**20,062,090**	Based on Caltrans socio-economic forecasts
Service Population	**65,809,735**	—
2035 Efficiency Target	**2.2 $MTCO_2e$/SP{**	—

Sources:
1 CARB. 2007.
2 Based on the 2030 target of 40 percent below 1990 levels by 2030 under Executive Order B-30-15 and the target of 80 percent below 1990 levels by 2050 under Executive Order S-03-05.
3 CDOF 2014.
4 California Department of Transportation, Long-Term Socio-Economic Forecasts by County, http://www.dot.ca.gov/hq/tpp/offices/eab/socio_economic.html.

Based on these long-term targets, Proposed Project emissions are compared to the SCAQMD's project-level efficiency threshold of 2.2 $MTCO_2e$/year/SP for year 2035.

[11] SCAQMD took the 2020 statewide GHG reduction target for land use only GHG emissions sectors and divided it by the 2020 statewide employment for the land use sectors to derive a per capita GHG efficiency metric that coincides with the GHG reduction targets of AB 32 for year 2020.

If the Proposed Project exceeds this per capita efficiency target, GHG emissions would be considered potentially significant in the absence of mitigation measures. It should be noted that at this time, there is no statewide GHG reduction plan for post-2020 targets to achieve either the Executive Order S-03-05 or the new Executive Order B-30-15 long-term GHG goals; therefore, use of the long-term target for the significance criteria is conservative.

5.6.3 Environmental Impacts

Methodology

This GHG emissions evaluation was prepared in accordance with the requirements of CEQA to determine if significant GHG emissions impacts are likely to occur in conjunction with future development that would be accommodated by the proposed Specific Plan. SCAQMD has published guidelines that are intended to provide local governments with guidance for analyzing and mitigating environmental impacts and were used in this analysis. Modeling of criteria air pollutants was conducted using CalEEMod, version 2013.2.2. Life cycle (consumption-based) emissions are also not included in this analysis because not enough information is available for the Proposed Project, and therefore life cycle GHG emissions would be speculative.[12] Transportation-sector impacts are based on trip generation and vehicle miles traveled (VMT) provided by Fehr & Peers (see Appendix I of this DEIR) and water and wastewater demand rates provided in the Water Supply Assessment (see Appendix K of this DEIR). Emissions modeling for the Proposed Project is included in Appendix C of this DEIR.

The following impact analysis addresses thresholds of significance for which the Initial Study disclosed potentially significant impacts. The applicable thresholds are identified in brackets after the impact statement.

Impact 5.6-1	**Buildout of the Proposed Project would generate a substantial increase in GHG emissions compared to existing conditions and would have a significant impact on the environment. [GHG-1]**

Impact Analysis: Development under the Proposed Project would contribute to global climate change through direct and indirect emissions of GHG from land uses within the Specific Plan area. Buildout of the Proposed Project is not linked to a specific development time frame. For the purpose of this EIR, buildout is assumed over a 20-year horizon. GHG emissions from construction activities are amortized into the operational phase GHG emissions inventory to account for one-time emissions from construction in accordance with SCAQMD methodology. The community GHG emissions inventory for the Proposed Project at buildout compared to existing conditions is in Table 5.6-7, *Waterman + Baseline Neighborhood Specific Plan GHG Emissions Inventory*.

[12] Life cycle emissions include indirect emissions associated with materials manufacture. However, these indirect emissions involve numerous parties, each of which is responsible for GHG emissions of their particular activity. The California Resources Agency, in adopting the CEQA Guidelines Amendments on GHG emissions, found that life-cycle analyses were not warranted for project-specific CEQA analysis in most situations, for a variety of reasons, including lack of control over some sources and the possibility of double-counting emissions (see Final Statement of Reasons for Regulatory Action, December 2009). Because the amount of materials consumed during the operation or construction of the Proposed Project is not known, the origin of the raw materials purchased is not known, and manufacturing information for those raw materials are also not known, calculation of life cycle emissions would be speculative. A life-cycle analysis is not warranted (OPR 2008).

Table 5.6-7 Waterman + Baseline Neighborhood Specific Plan GHG Emissions Inventory

Sector	GHG Emissions $MTCO_2e$/Year			
	Existing	Specific Plan Buildout	Percent	Change from Existing
Area	220	851	1%	631
Energy[1]	19,245	25,351	18%	6,106
On-Road Transportation[2]	103,764	102,059	74%	-1,706
Solid Waste Disposal	2,623	4,359	3%	1,735
Water/Wastewater[3]	2,836	5,279	4%	2,444
Amortized Construction[4]	—	886	1%	886
Total	**128,688**	**138,785**	**100%**	**10,097**
Service Population (SP)[6]	10,353	20,400	—	10,047
$MTCO_2e$/SP	12.4	6.8	—	-5.6
2035 Per Capita Threshold[7]	—	2.2	—	—
Exceed Threshold?	—	**Yes**	—	—

Source: CalEEMod 2013.2.2. Based on IPCC's SAR GWPs.
Notes: Totals may not add to 100 percent due to rounding. TDM = Transportation Demand Management; $MTCO_2e$ = Metric Tons of Carbon Dioxide-Equivalent.
1 Existing residential and nonresidential building energy use modeled using historical energy demand rates in CalEEMod. New buildings would achieve the 2016 Building and Energy Efficiency Standards.
2 Transportation emissions are based on trip generation and VMT provided by Fehr & Peers.
3 Water use is based on the water demand rates provided in the Water Supply Assessment.
4 Short-term (one time) total construction emissions during the 20-year buildout are amortized over a 30-year project lifetime in accordance with SCAQMD guidance and incorporated into the operational emissions analysis.
5 Existing based on a service population of 6,774 people and 3,579 employees. Proposed Project buildout based on a service population of 15,150 people and 5,250 employees.
6 Based on the SCAQMD 2020 per capita target of 4.8 $MTCO_2e$ per service population and extrapolating it for the long term GHG reduction goals of Executive Order S-03-05 for 2050 and Executive Order B-30-15 for 2030.

As shown in Table 5.6-7, the net increase in GHG emissions of 10,097 $MTCO_2e$ annually from operational activities related to the Proposed Project would exceed SCAQMD's draft bright-line screening threshold of 3,000 $MTCO_2e$ for all land use types. The increase in overall land use intensity and associated population and employment growth within the Specific Plan area is the primary factor for the increase in overall GHG emissions. Under the Proposed Project, increase in land use development would result in a 95 percent increase in the total service population. Although the Proposed Project would result in a substantial increase in GHG emissions, it would also result in a 45 percent decrease in GHG emissions per person. As shown in Table 5.6-7, the GHG emissions per capita rate would decrease from 12.4 $MTCO_2e$/year/SP to 6.8 $MTCO_2e$/year/SP. However, GHG emissions would still exceed the 2035 target of 2.2 $MTCO_2e$/SP.

The improvement in per capita efficiency would be attributable to the overall land use plan and development standards of the proposed Specific Plan. Placement of land uses that complement each other in addition to improvements in access to alternative transportation options contribute to reducing per capita VMT. Aside from the policies and strategies to reduce per capita VMT, new buildings under the proposed Specific Plan would be more energy efficient than existing buildings throughout the Specific Plan area. Likewise, plumbing fixtures and landscaping installed would result in a decrease in water use on a per capita basis. These aspects of the Proposed Project would contribute to the overall reduction of per capita GHG emissions.

However, although implementation of the Proposed Project would result in a decrease in GHG emissions per capita, it would not meet the SCAQMD Year 2035 target efficiency metric of 2.2 $MTCO_2e$/year/SP based on the long-term GHG reduction goals of Executive Order S-03-05 and Executive Order B-30-15. Additional state and local actions are necessary to achieve the post-2020 GHG reduction goals for the state. CARB has released the 2014 Scoping Plan Update to identify a path for the date to achieve additional GHG reductions. The new Executive Order B-30-15 requires CARB to prepare another update to the Scoping Plan to address the 2030 target for the state. However, at this time, no additional GHG reductions programs have been outlined that get the state to the post-2020 targets identified in Executive Order S-03-05, which are an 80 percent reduction in 1990 emissions by 2050, or the Executive Order B-30-15, which are a 40 percent reduction in 1990 emissions by 2035. As identified by the California Council on Science and Technology, the state cannot meet the 2050 goal without major advances in technology (CCST 2012). Therefore, the Proposed Project's cumulative contribution to the long-term GHG emissions in the state would be considered potentially significant.

Impact 5.6-2 The Proposed Project would be consistent with plans adopted to reduce GHG emissions. [GHG-2]

Impact Analysis: The following state, regional, and local plans have been adopted and may be applicable for development in the Specific Plan area.

CARB Scoping Plan

The CARB Scoping Plan is applicable to state agencies but is not directly applicable to cities/counties and individual projects (i.e., the Scoping Plan does not require the City to adopt policies, programs, or regulations to reduce GHG emissions). However, new regulations adopted by the state agencies outlined in the Scoping Plan result in GHG emissions reductions at the local level. As a result, local jurisdictions benefit from reductions in transportation emissions rates, increases in water efficiency in the building and landscape codes, and other statewide actions that would affect a local jurisdictions' emissions inventory from the top down. Statewide strategies to reduce GHG emissions include the LCFS and changes in the corporate average fuel economy standards (e.g., Pavley I and California Advanced Clean Cars program). Future projects in the Specific Plan area would be required to adhere to the programs and regulations identified by the Scoping Plan and implemented by state, regional, and local agencies to achieve the statewide GHG reduction goals of AB 32. However, the Scoping Plan itself is not directly applicable to the Proposed Project. The Proposed Project would not conflict with the statewide programs adopted to achieve the statewide GHG reduction targets outlined in the Scoping Plan.

SCAG's 2016 RTP/SCS

SCAG adopted the 2016-2040 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) in April 2016 pursuant to the requirements of SB 375. SCAG's RTP/SCS identifies that land use strategies that focus on new housing and job growth in areas served by high quality transit and other opportunity areas would be consistent with a land use development pattern that supports and complements the proposed transportation network. The overarching strategy in the 2016 RTP/SCS is to provide for a plan that allows the southern California region to grow in more compact communities in existing urban areas; provide

neighborhoods with efficient and plentiful public transit and abundant and safe opportunities to walk, bike, and pursue other forms of active transportation; and preserve more of the region's remaining natural lands (SCAG 2016). The 2016 RTP/SCS contains transportation projects to help more efficiently distribute population, housing, and employment growth, as well as a forecast development that is generally consistent with regional-level general plan data. The projected regional development pattern, when integrated with the proposed regional transportation network identified in the RTP/SCS, would reduce per capita vehicular travel–related GHG emissions and achieve the GHG reduction per capita targets for the SCAG region. The RTP/SCS does not require that local general plans, specific plans, or zoning be consistent with the RTP/SCS, but provides incentives for consistency for governments and developers. The 2016 RTP/SCS SCAG anticipates lowering GHG emissions below 2005 levels by 8 percent by 2020, 18 percent by 2035, and 22 percent by 2040 (SCAG 2016). Key strategies in the SCAG's RPT/SCS are identified in Table 5.9-1, *Consistency with SCAG's 2016-2040 RTP/SCS Goals,* in Section 5.9, *Land Use and Planning.*

The Proposed Project would be consistent with SCAG's regional goals of providing infill housing and improving the jobs-housing balance. The land use plan creates two mixed-use zones: Corridor Mixed Use and Mixed-Use Village. The Design Standard and Guidelines in the Specific Plan promote a variety of housing types, walkable neighborhoods, opportunities for mixed-use development, and a variety of transportation choices. As identified previously in Section 5.2, *Air Quality*, Table 5.2-8, *Comparison of the Existing and Project Vehicle Miles Traveled per Service Population*, the Proposed Project would result in a substantial decrease in VMT per service population at the project horizon year compared to existing conditions. Building upon the recommendations of the RTP/SCS, the Specific Plan also includes a mobility-related goal to facilitate infrastructure upgrades by making necessary investments in transportation and infrastructure systems to support and sustain new development (Goal 4 in Specific Plan Chapter 2, *Community Visioning*). This includes an objective of providing a network of complete streets and enhancing the network of pedestrian and bicycle routes. Pedestrian improvements envisioned for the Specific Plan area include upgrading pedestrian facilities and crossings, filling in the sidewalk gaps to provide continuous sidewalks, and providing more connections to make walking easier (see Figure 5.15-2, *Proposed Pedestrian Improvements*, in Section 5.15, *Transportation and Traffic*). The Proposed Project includes creation of a bicycle boulevard along local streets that would connect the Specific Plan area to Downtown while minimizing the use of roads with speeds of greater than 40 miles per hour (see Figure 5.15-3, *Proposed Bicycle Facility Improvements*, Section 5.15, *Transportation and Traffic*). Therefore, the Proposed Project would not interfere with SCAG's ability to implement the regional strategies outlined in the 2016-2040 RTP/SCS. No impact would occur and no mitigation measures are required.

5.6.4 Cumulative Impacts

Climate change is a global phenomenon that is cumulative by nature, the result of combined worldwide contributions of GHGs to the atmosphere over many years. Therefore, significant direct impacts associated with the Proposed Project, as discussed above, also serve as the Proposed Project's cumulative impact.

The recommended mitigation measures would ensure that GHG emissions from buildout of the Proposed Project would be minimized. However, additional federal, state, and local measures would be necessary to reduce GHG emissions under the Proposed Project to meet the long-term GHG reduction goals under Executive Order S-03-05 and Executive Order B-30-15. Based on SCAQMD's 2020 efficiency target, this

would equate to 2.2 $MTCO_2e$/SP at the proposed Specific Plan's buildout year. The buildout GHG emissions inventory for the Proposed Project would generate 6.8 $MTCO_2e$/SP and would exceed the efficiency target of 2.2 $MTCO_2e$/SP. At this time, there is no plan past 2020 that achieves the long-term GHG reduction goals; however, CARB is currently updating the Scoping Plan to identify state strategies to achieve the new 2030 target established under Executive Order B-30-15. Since no additional statewide measures are currently available, cumulative GHG emissions impacts would remain significant and unavoidable.

5.6.5 Existing Regulations and Standard Conditions

State

- California Global Warming Solutions Act (AB 32)
- Sustainable Communities and Climate Protection Act (SB 375)
- Greenhouse Gas Emission Reduction Targets (Executive Order S-03-05)
- Greenhouse Gas Emission Reduction Target for 2030 (Executive Order B-30-15)
- Clean Car Standards – Pavley (AB 1493)
- Renewable Portfolio Standards (SB 1078)
- Statewide Retail Provider Emissions Performance Standards (SB 1368)
- Clean Energy and Pollution Reduction Act of 2015 (SB 350)
- California Integrated Waste Management Act of 1989 (AB 939)
- California Mandatory Commercial Recycling Law (AB 341)
- California Advanced Clean Cars – LEV III (Title 13 CCR)
- Heavy-Duty Vehicle Greenhouse Gas Emissions Reduction Measure (Title 17 CCR)
- Low Carbon Fuel Standard (Title 17 CCR)
- California Water Conservation in Landscaping Act of 2006 (AB 1881)
- California Water Conservation Act of 2009 (SBX7-7)
- Airborne Toxics Control Measure to Limit School Bus Idling and Idling at Schools (13 CCR 2480)
- Airborne Toxic Control Measure to Limit Diesel-Fuel Commercial Vehicle Idling (13 CCR 2485)
- In-Use Off-Road Diesel Idling Restriction (13 CCR 2449)
- Building Energy Efficiency Standards (Title 24, Part 6)
- California Green Building Code (Title 24, Part 11)
- Appliance Energy Efficiency Standards (Title 20)

5.6.6 Level of Significance Before Mitigation

Upon implementation of regulatory requirements, the following impact would be less than significant: 5.6-2.

Without mitigation, the following impacts would be **potentially significant**:

- **Impact 5.6-1** Buildout of the Proposed Project would generate a substantial increase in GHG emissions compared to existing conditions and would have a significant impact on the environment.

5.6.7 Mitigation Measures

Impact 5.6-1

Mitigation Measures AQ-4 through AQ-6 from Section 5.2, *Air Quality*, apply here and would reduce GHG emissions of the Proposed Project.

Stationary Source

AQ-4 Prior to issuance of a building permit for new development projects within the Waterman + Baseline Neighborhood Specific Plan area, the property owner/developer shall show on the building plans that all major appliances (dishwashers, refrigerators, clothes washers, and dryers) to be provided/installed are Energy Star appliances. Installation of Energy Star appliances shall be verified by the City of San Bernardino prior to issuance of a certificate of occupancy.

Transportation and Motor Vehicles

AQ-5 Prior to issuance of building permits for residential development projects within the Waterman + Baseline Neighborhood Specific Plan area, the property owner/developer shall indicate on the building plans that the following features have been incorporated into the design of the building(s). Proper installation of these features shall be verified by the City of San Bernardino prior to issuance of a certificate of occupancy.

- For multifamily dwellings, electric vehicle charging shall be provided as specified in Section A4.106.8.2 (Residential Voluntary Measures) of the CALGreen Code.
- Bicycle parking shall be provided as specified in Section A4.106.9 (Residential Voluntary Measures) of the CALGreen Code.

AQ-6 Prior to issuance of building permits for nonresidential development projects within the Waterman + Baseline Neighborhood Specific Plan area, the property owner/developer shall indicate on the building plans that the following features have been incorporated into the design of the building(s). Proper installation of these features shall be verified by the City of San Bernardino prior to issuance of a certificate of occupancy.

- For buildings with more than 50 tenant-occupants, changing/shower facilities shall be provided as specified in Section A5.106.4.3 (Nonresidential Voluntary Measures) of the CALGreen Code. Alternatively, buildings with more than 50 tenant-occupants can document a memorandum of understanding with an adjacent facility that provides

changing/shower facilities that meet those listed in Section A5.2016.4.3 of the CALGreen Code.

- Designated parking for low-emitting, fuel-efficient, and carpool/van vehicles, or combination thereof, shall be provided as specified in Section A5.106.5.1 (Nonresidential Voluntary Measures) of the CALGreen Code.
- Facilities shall be installed to support future electric vehicle charging at each nonresidential building with 30 or more parking spaces. Installation shall be consistent with Section A5.106.5.3 (Nonresidential Voluntary Measures) of the CALGreen Code.

5.6.8 Level of Significance After Mitigation

Impact 5.6-1

Mitigation Measures AQ-4 through AQ-6 would encourage and accommodate use of alternative-fueled vehicles and nonmotorized transportation and ensure that GHG emissions from the buildout of the Proposed Project would be minimized. However, additional federal, state, and local measures would be necessary to reduce GHG emissions under the Proposed Project to meet the long-term GHG reduction goals under Executive Order S-03-05 and Executive Order B-30-15. Based on SCAQMD's 2020 efficiency target, this would equate to 2.2 $MTCO_2e$/SP at the proposed Specific Plan's buildout year. The buildout GHG emissions inventory for the Proposed Project would generate 6.8 $MTCO_2e$/SP and would exceed the efficiency target of 2.2 $MTCO_2e$/SP. The new Executive Order B-30-15 requires CARB to prepare another update to the Scoping Plan to address the 2030 target for the state. At this time, there is no plan past 2020 that achieves the long-term GHG reduction goal established under Executive Order S-03-05 or the new Executive Order B-30-15. As identified by the California Council on Science and Technology, the state cannot meet the 2050 goal without major advancements in technology (CCST 2012). Since no additional statewide measures are currently available, Impact 5.6-1 would remain significant and unavoidable.

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5.7 HAZARDS AND HAZARDOUS MATERIALS

This section of the Draft Environmental Impact Report (DEIR) evaluates the potential impacts of the Proposed Project on human health and the environment due to exposure to hazardous materials or conditions associated with the Project area, construction, and operations. Potential impacts and appropriate mitigation measures or standard conditions are included as necessary. The analysis in this section is based, in part, upon the following source(s):

- *Phase I Environmental Site Assessment Waterman Garden Transformation Plan Project*, LSA, December 2010.
- *Waterman Gardens Specific Plan EDR Report*, Environmental Data Resources Inc., March 11, 2016.

Complete copies of these studies are included in Appendix F of this Draft EIR.

5.7.1 Environmental Setting

5.7.1.1 REGULATORY BACKGROUND

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 have a variety of causes, including highway incidents, warehouse fires, train derailments, shipping accidents, and industrial incidents.

Hazardous Materials and Waste Regulation

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

Resource Conservation and Recovery Act

The Resource Conservation and Recovery Act (RCRA) of 1976 is the principal federal law that regulates the generation, management, and transportation of waste. Hazardous waste management includes the treatment, storage, or disposal of hazardous waste. Treatment is any process that changes the physical, chemical, or biological character of the waste to reduce its potential as an environmental threat. Treatment can include neutralizing the waste, recovering energy or material resources from the waste, rendering the waste less hazardous, or making the waste safer to transport, dispose of, or store.

The RCRA gave the US Environmental Protection Agency (EPA) the authority to control hazardous waste from "cradle to grave," that is, from generation to transportation, treatment, storage, and disposal. The RCRA also set up a framework for the management of nonhazardous wastes. The 1986 amendments to RCRA enabled the EPA to address environmental problems that could result from underground tanks storing petroleum and other hazardous substances. It should be noted that RCRA focuses only on active and future facilities and does not address abandoned or historical sites. The federal Hazardous and Solid Waste Amendments are the 1984 amendments to RCRA that required phasing out land disposal of hazardous waste. Some of the other mandates of this strict law include increased enforcement authority for the EPA, more stringent hazardous waste management standards, and a comprehensive underground storage tank program.

Comprehensive Environmental Response, Compensation, and Liability Act

The Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) of 1980, 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 EPA was given power to seek out the parties responsible for any release and ensure their cooperation in the cleanup. This federal law created a tax on the chemical and petroleum industries that went to a trust fund for cleaning up abandoned or uncontrolled hazardous waste sites. CERCLA also enabled the revision of the National Contingency Plan, which provided the guidelines and procedures needed to respond to releases and threatened releases of hazardous substances, pollutants, or contaminants. The National Contingency Plan established the National Priority List of sites, known as Superfund sites. CERCLA was amended by the Superfund Amendments and Reauthorization Act on October 17, 1986.

Superfunds Amendments and Reauthorization Act

The Superfund Amendments and Reauthorization Act (SARA) reauthorized CERCLA to continue cleanup activities around the country. Several site-specific amendments, clarifications, and technical requirements were added to the legislation, including additional enforcement authorities. Title III of SARA authorized the Emergency Planning and Community Right-to-Know Act.

Emergency Planning and Community Right to Know Act

The Emergency Planning and Community Right to Know Act (EPCRA) was enacted by Congress as the national legislation on community safety. This law was designated to help local communities protect public health, safety, and the environment from chemical hazards. The primary purpose of EPCRA is to inform communities and citizens of chemical hazards in their areas by requiring businesses to report the locations and quantities of chemicals stored onsite to state and local agencies. These reports help communities prepare to respond to chemical spills and similar emergencies. Section 3131 of EPCRA requires manufacturers to report releases to the environment (air, soil, and water) of more than 600 designated toxic chemicals; report offsite transfers of waste for treatment or disposal at separate facilities; implement pollution prevention measures and activities; and participate in chemical recycling. These annual reports are submitted to the EPA and state agencies. The EPA maintains and publishes a database that contains information on toxic chemical releases and other waste management activities by certain industry groups and federal facilities. This online,

publicly available, national digital database is called the Toxics Release Inventory and was expanded by the Pollution Prevention Act of 1990.

To implement EPCRA, Congress required each state to appoint a State Emergency Response Commission (SERC) to coordinate planning and implementation activities associated with hazardous materials. The SERCs were required to divide their states into emergency planning districts and to name a local emergency planning committee (LEPC) for each district. The federal EPCRA program is implemented and administered in California by the California Emergency Management Agency (CalEMA), a SERC, 6 LEPCs, and 83 certified unified program agencies (CUPAs). CalEMA provides staff support to the SERC and the LEPCs. The Governor's Office of Emergency Services coordinates and provides staff support for the SERC and LEPCs. Broad representation by fire fighters, health officials, government and media representatives, community groups, industrial facilities, and emergency managers ensures that all necessary elements of the planning process are represented.

Toxic Substances Control Act

The Toxic Substances Control Act of 1976 was enacted by Congress to give the EPA the ability to track the 75,000 industrial chemicals currently produced or imported into the United States. The EPA repeatedly screens these chemicals and can require reporting or testing of any that may pose an environmental or human health hazard. It can ban the manufacture and import of chemicals that pose an unreasonable risk. Also, the EPA has mechanisms in place to track the thousands of new chemicals that industry develops each year with either unknown or dangerous characteristics. It then can control these chemicals as necessary to protect human health and the environment. The act supplements other federal statutes, including the Clean Air Act and the Toxics Release Inventory under EPCRA.

Regulatory Agencies

U.S. EPA

The EPA is the primary federal agency that regulates hazardous materials and waste. In general, the EPA works to develop and enforce regulations that implement environmental laws enacted by Congress. The agency 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. EPA programs promote handling hazardous wastes safely, cleaning up contaminated land, and reducing trash. Under the authority of the RCRA and in cooperation with state and tribal partners, the Waste Management Division manages a hazardous waste program, an underground storage tank program, and a solid waste program that includes development of waste reduction strategies such as recycling.

California EPA

Cal/EPA was created in 1991 by Governor's Executive Order. The six boards, departments, and office were placed under the Cal/EPA umbrella to create a cabinet-level voice for the protection of human health and the environment and to ensure the coordinated deployment of state resources. Cal/EPA oversees the unified

hazardous waste and hazardous materials management regulatory program. Currently, there are 83 CUPAs in California that implement standards set by five different state agencies.

The Unified Program consolidates, coordinates, and makes consistent the following six programs:

- Underground Storage Tank
- Aboveground Petroleum Storage Tank
- Hazardous Waste
- Hazardous Materials Disclosure
- Business Emergency Plan
- California Accidental Release Prevention

California Department of Toxic Substances Control

The DTSC is a department of Cal/EPA, which authorizes DTSC to carry out the RCRA program in California to protect people from exposure to hazardous wastes. The department 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 (Title 22, California Code of Regulations, Divisions 4 and 4.5). Permitting, inspection, compliance, and corrective action programs ensure that people who manage hazardous waste follow state and federal requirements and other laws that affect hazardous waste specific to handling, storage, transportation, disposal, treatment, reduction, cleanup, and emergency planning. San Bernardino County, including the City of San Bernardino, is in DTSC's Southern California region.

Certified Unified Program Agency

A CUPA is a local agency that has been certified by Cal/EPA to implement the local Unified Program. The CUPA can be a county, city, or joint powers authority. A participating agency is a local agency that has been designated by the local CUPA to administer one or more Unified Programs within their jurisdiction on behalf of the CUPA. A designated agency is a local agency that has not been certified by Cal/EPA to become a CUPA but is the responsible local agency that would implement the six Unified Programs until they are certified.

The Hazardous Materials Division of the San Bernardino County Fire Department is designated by the State Secretary for Environmental Protection as the CUPA for the County of San Bernardino. This organization focuses on the management of specific environmental programs at the local government level, and conducts compliance inspections for over 7,000 regulated facilities in San Bernardino County. The Hazardous Materials Division manages six hazardous material and hazardous waste programs for San Bernardino County:

- Hazardous Materials Release Response Plans and Inventory (Business Plan)
- California Accidental Release Program
- Underground Storage Tanks

- Aboveground Petroleum Storage Act /Spill Prevention, Control, and Countermeasure Plan (SPCC)
- Hazardous Waste Generation and Onsite Treatment
- Hazardous Materials Management Plans and Inventory Statements under Uniform Fire Code Article 80

Regulatory Programs

Underground Storage Program

Releases of petroleum and other products from underground storage tanks (USTs) are the leading source of groundwater contamination in the United States. The RCRA Subtitle I established regulations governing the storage of petroleum products and hazardous substances in USTs and the prevention and cleanup of leaks. In EPA Region 9 (California, Arizona, Hawaii, Nevada, Pacific Islands, and over 140 tribal nations), the UST program operates primarily through state agency programs with EPA oversight. In California, the State Water Resources Control Board (SWRCB), under the umbrella of Cal/EPA, provides assistance to local agencies enforcing UST requirements. The purpose of the UST program is to protect public health and safety and the environment from releases of petroleum and other hazardous substances. The SWRCB's Geotracker system currently has information submitted by responsible parties for leaking UST (LUST) sites statewide and has been extended to include all SWRCB groundwater cleanup programs, including the LUST, non-LUST (Spill, Leaks, Investigation, and Cleanup), Department of Defense, and landfill programs. The Hazardous Materials Division (HMD) is tasked with implementing and enforcing the underground storage tank codes. To this end, the HMD inspect underground storage tanks, and monitor equipment and compliance documents of UST systems to ensure that these systems are in compliance with the applicable laws and regulations. The HMD also serves to educate and assist tank owners and operators with regulatory requirements (San Bernardino County Fire 2015).

Above Ground Storage Act

On September 25, 2012, Assembly Bill 1566 appointed the Office of the State Fire Marshal as the state oversight agency for implementation of the Aboveground Petroleum Storage Act (APSA). A Cal/EPA Unified Program surcharge of $26.00 will be assessed annually on each tank facility regulated under the APSA program. The San Bernardino County CUPA is required to collect these state surcharges in order to cover statewide costs incurred by the Office of the State Fire Marshal to implement, maintain, and oversee the APSA program.

Facilities that have an aggregate aboveground petroleum storage capacity of 1,320 gallons or more are subject to the provisions of this law. However, this law does not apply to the actual volume of petroleum stored but rather the capacity. Even if a facility may not be subject to APSA, the federal EPA's SPCC rule regulates facilities with aboveground storage tanks that contain oil of any kind, including mineral, synthetic, animal, and vegetable oils in addition to petroleum. Therefore, some facilities which are not captured under APSA may be subject to federal regulation and US EPA oversight (SBCF 2015).

Hazardous Materials Disclosure Programs

Both the federal government (Code of Federal Regulations, EPA, SARA and Title III) and the State of California (California State Health and Safety Code, Division 20, Chapter 6.95, §§ 25500–25547.8; California Code of Regulations, Title 19, Chapter 2, Sub-chapter 3, Article 4, §§ 2729–2734) require all businesses that handle more than a specified amount of hazardous materials or extremely hazardous materials, termed a reporting quantity, to submit a Hazardous Materials Business Plan to their local CUPA.

According to the San Bernardino County Fire Department HMD guidelines, the preparation, submittal, and implementation of a business plan is required by any business that handles a hazardous material or mixture containing a hazardous material in quantities equal to, or greater than, those outlined below:

- Any business that uses, generates, processes, produces, treats, stores, emits, or discharges a hazardous material in quantities at or exceeding 55 gallons, 500 pounds, or 200 cubic feet (compressed gas) at any one time in the course of a year.
- All hazardous waste generators, regardless of quantity generated.
- Any business that handles, stores, or uses Category I or II pesticides, as defined by the Federal Insecticide, Fungicide, and Rodenticide Act, regardless of amount.
- Any business that handles Department of Transportation Hazard Class 1 (explosives, found in Title 49 Code of Regulations), regardless of amount.
- Any business that handles extremely hazardous substances (EHSs) in quantities exceeding the "Threshold Planning Quantity." Extremely Hazardous Substances are designated pursuant to the Emergency Planning and community Right to Know Act Section 302, and are listed in 40 CFR Part 355.

Businesses are required to update their business plan with the San Bernardino County Fire Department HMD by March 1 of every year. The entire business plan must be reviewed and recertified every 3 years. In addition, the plan must be revised within 30 days of change of: owner, business address, business name, emergency contact information, inventory, or other site conditions which may significantly impact emergency response. Any midyear revision must at minimum include a letter of explanation, the cover sheet, the activities page, the business owner/operator identification page, and any other information that has changed.

Business plans must include an inventory to certify all hazardous materials at the facility. Any changes in inventory must be submitted to the San Bernardino County Fire Department HMD. These plans also must identify the procedures to follow for immediate notification to all appropriate agencies and personnel of a release, identification of local emergency medical assistance appropriate for potential accident scenarios, contact information for all company emergency coordinators of the business, a listing and location of emergency equipment at the business, an evacuation plan, and a training program for business personnel.

Business plans are to be used by responding agencies, such as the San Bernardino County Fire Department HMD, during a release to allow for a quick and accurate evaluation of each situation for appropriate response.

The San Bernardino County Fire Department HMD currently reviews submitted business plans and updates. Businesses that handle hazardous materials are required by law to provide an immediate verbal report of any release or threatened release of hazardous materials if there is a reasonable belief that the release or threatened release poses a significant present or potential hazard to human health and safety, property, or the environment.

The City of San Bernardino County Fire Department HMD is required to conduct compliance inspections of regulated facilities in San Bernardino County. Regulated facilities include those that handle hazardous materials, generate or treat a hazardous waste, and/or operate an underground storage tank. Specialists are assigned countywide to address the complex issues associated with hazardous substances.

Emergency Preparedness

City of San Bernardino Emergency Response Plan

The City of San Bernardino operates their emergency response to disasters through the Disaster Preparedness Office, which serves as a division of the fire department and is managed by the Disaster Preparedness Coordinator. Under direction of the fire chief, emergency response plans for the City of San Bernardino are developed in cooperation with other local, state, and federal agencies.

Objectives of the Disaster Preparedness Office include:

- Ensure that emergency preparedness is given a high priority within local government and the community at large
- Promote community awareness and self-sufficiency
- Maintain a functional City emergency response plan which addresses all hazards
- Foster and participate in ongoing emergency preparedness and response training programs
- Identify existing resources and develop new resources to support response and recovery efforts
- Interact cooperatively with State and Federal government

The City of San Bernardino works in conjunction with the County of San Bernardino to define functions of plans, assign responsibilities, specify policies and general procedures, and provide coordination of planning efforts of various emergency staff and service elements utilizing the Standardized Emergency Management System (SEMS) and the National Incident Management System standards. The City of San Bernardino operates under an emergency management plan that provides guidance for the City's planned response to emergency situations associated with natural disasters—including earthquakes, geologic hazards, floods and fires—and human-related disasters such as terrorism, technological incidents, and nuclear defense operations that pose major threats to life, the environment, and property.

In response to the events of the 1991 East Bay Hills Fire, SB 1841 (effective January 1, 1993, as Government Code § 8607) directs the Governor's Office of Emergency Services—in coordination with all interested state agencies with designated response roles in the state emergency plan and interested local emergency management agencies—to establish the SEMS by regulation. The framework of SEMS includes:

- Incident Command System
- Multiagency or interagency coordination
- Master Mutual Aid Agreement and System
- Operational Care concept

The SEMS program is operational throughout California to assist with emergency management in the response to multiagency and multijurisdictional emergencies and disasters.

Community Emergency Response Team

The City of San Bernardino has implemented a Community Emergency Response Team program that educates people about disaster preparedness and trains them in response skills, such as fire safety, light search and rescue, and basic medical operations. Individuals are trained by the San Bernardino County Fire Department and can use their training to help others in their neighborhood or workplace take on a larger role in ensuring their community is prepared for emergency situations in a disaster.

Fire Plans

National Fire Plan

In 2000, the National Fire Plan was created as a cooperative, long-term effort of the United States Forest Service, Department of the Interior, and the National Association of State Foresters to protect communities and restore ecological health on federal lands. A major component of the National Fire Plan was funding for projects designed to reduce fire risks to people and their property. A fundamental step in realizing this goal was the identification of areas that are at high risk of damage from wildfire, especially areas in wildland-urban interface zones. Federal fire managers authorized state foresters to determine which communities were under significant risk for wildlife on federal lands. CAL FIRE undertook the task of generating the state's list of communities at risk. With California's extensive wildland-urban interface situation, the list of communities extends beyond just those on federal lands. The California Fire Authority identified 1,327 fire-threatened communities in California, including the City of San Bernardino (CAL FIRE 2013).

California Fire Plan

In 1996, the State Board of Forestry and Fire Protection and CAL FIRE undertook a cooperative effort to create the California Fire Plan (CAL FIRE 2006). Through this effort, CAL FIRE and the state board created a system that ranks the fire hazard of wildland areas using four main criteria: fuels, weather, assets at risk, and level of service (which is a measure of a fire department's success in initial-attack fire suppression). Fire hazard severity zone maps and adopted state responsibility area fire hazard severity zone maps rank fire hazards as moderate, high, or very high. The Specific Plan area is not located within a category of fire hazard

severity; however, high and very high fire hazard severity zones are north of the Specific Plan area past Interstate 210 (San Bernardino 2005). The City of San Bernardino Fire Department has an automatic aid agreement with the San Bernardino County Fire Department and is a participating agency in the California Master Mutual Aid Agreement, in which participating local and state agencies agree to provide mutual aid in dealing with disasters including wildfire.

5.7.1.2 EXISTING CONDITIONS

The Specific Plan area is developed with a mix of residential, commercial, office, industrial, park, and cemetery uses and vacant land (see Figure 4-1, *Aerial Photograph*). Existing residential development totals 1,946 units, consisting of multifamily and single-family units. Existing office development includes a variety of medical and real estate offices and is concentrated in the northern portion of the Specific Plan area along Baseline Street and along Waterman Avenue north of Baseline Street. Most retail uses are in three commercial centers along Waterman Avenue—one at the corner of Waterman Avenue and Baseline Street and two at the northeast and southwest corners of Waterman Avenue and 9th Street. The park and cemetery uses are in the southwest part of the Specific Plan area. Auto-oriented commercial uses are concentrated along Baseline Street and in the southern half of the Specific Plan area along Waterman Avenue. Most of the vacant land is near the southeast Specific Plan area boundary, which extends along Warm Creek and Sand Creek.

Past Uses of the Specific Plan Area

Historical Aerial Photographs

- **1938.** Much of the site is developed with agricultural uses interspersed with urban development; much of the areas currently developed with residential uses were developed then. Pioneer Cemetery is shown.

- **1958.** Much of the site has been developed with residential, commercial, and/or industrial land uses. Agricultural uses are much reduced compared to the 1938 photograph; most of the remaining agricultural uses are concentrated in the east part of the site. Improvements including a baseball diamond are shown on the site of Seccombe Lake Recreation Area.

- **1980.** Much of the site appears similar to current conditions; however, there have been some noticeable changes in the parts of the site developed with commercial and industrial uses such as additions to and replacements of buildings (NETR 2016).

Historical Topographic Maps

- **1901 (San Bernardino Quadrangle).** There are scattered structures along roadways now named Waterman Avenue, Ninth Street, and Baseline Street. Several other roadways are shown in the Specific Plan area (although not named), including 6th, 5th, and 4th Streets in the southwest. A railway—the Highlands Motor Line—passes through the southern part of the site along what is now 6th Street. Warm Creek is shown in the southern and eastern parts of the site. The remainder of the site is vacant.

- **1938 (Colton Quadrangle) and 1936 (Arrowhead Quadrangle).** Local streets appear in several parts of the Specific Plan area, especially west of Waterman Avenue. Greater numbers of buildings are shown compared to the 1901 map, especially on Waterman Avenue and west of Waterman Avenue; 4th and 5th Streets in the southwest; and present-day Bobbett Drive and Myrtle Drive in the east.

  The Highland Motor Line shown in the 1901 map is now named the Pacific Electric Railway. One large unnamed building is shown at the southeast corner of Waterman Avenue and Highland Avenue on the site of the present-day St. Bernardine Medical Center. Most of the Specific Plan area east of Waterman Avenue, and parts of it west of Waterman Avenue, are shown as vacant.

- **1954 (San Bernardino South and San Bernardino North quadrangles).** Most of the Specific Plan area north of 9th Street and almost all of it west of Waterman Avenue are shown as urbanized. Inland Lake Park, Pioneer Memorial Cemetery, and Home of Peace Cemetery are shown in the southwest. The Pacific Electric Railroad track shown in the 1938 map now extends from the western site boundary to just east of Waterman Avenue rather than crossing the Specific Plan area. St. Bernardine Hospital occupies the northeast corner of the site northeast of Waterman Avenue and 21st Street. Perris Hill Park is just east of the northeastern site boundary, and Mountain View Cemetery is opposite Highland Avenue from the northern site boundary. The southeast quadrant of the Specific Plan area is largely vacant. Norton Air Force Base boundary is about 0.5 mile southeast of the Specific Plan area's southeast corner.

- **1967, photo revised 1980 (San Bernardino South and San Bernardino North quadrangles).** Almost the entire Specific Plan area except for the southeast quadrant is urbanized, similar to the 1954 map. Thus, the description here focuses on the differences from the 1954 map. A Navy and Marine Corps Training Center is shown at the southwest corner of Waterman Avenue and 4th Street. A water tower is shown in Pioneer Memorial Cemetery. The Lyman School and a trailer park are shown in the central part of the site. Warm Creek and East Twin Creek have been channelized. Two large buildings are shown next to the northeast corner of Waterman Avenue and Baseline Street. A fire station is shown at the intersection of Waterman Street and Gilbert Street. Additional buildings are shown on the St. Bernardine Hospital campus. The School of Hope is shown just southeast of the southeast site boundary. The Pacific Electric Railroad track is absent.[1]

Environmental Database Review

An environmental database review was conducted for the Proposed Project. The results are shown on Table 5.7-1.

[1] The names, dates, and scales of the topographic maps referenced are:
1901: San Bernardino Quadrangle: 1:62,500
1936: Arrowhead Quadrangle: 1:31,680
1938: Colton Quadrangle: 1:31,680
1954: San Bernardino North Quadrangle: 1:24,000
1954: San Bernardino South Quadrangle: 1:24,000
1980: San Bernardino North Quadrangle: 1:24,000
1980: San Bernardino South Quadrangle: 1:24,000

Table 5.7-1 Environmental Databases Listings

Listing	Onsite Listings	Offsite Listings
CERCLIS: Comprehensive Environmental Response, Compensation and Liability Information System	1: Newmark Groundwater Contamination site (treatment underway; see description in text below)	1: Norton Air Force Base (0.5 mile southeast of Project site): Case closed by Santa Ana Regional Water Quality Control Board in 2011.
NPL: National Priorities List ("Superfund"): a subset of CERCLIS: priority cleanup sites	Newmark Groundwater Contamination site	Norton Air Force Base
CERCLIS-NFRAP: CERCLIS- No Further Remedial Action Planned	1	0
LIENS 2: Lien pursuant to the federal Comprehensive Environmental Response, Compensation and Liability Act (CERCLA)	1	0
CORRACTS: Hazardous waste handlers with Corrective Action activity	0	1
RCRA-LQG: Large Quantity Generators [hazardous waste] on Resource Conservation and Recovery Act (RCRA) database	1	0
RCRA-SQG: Small Quantity Generators [hazardous waste]	18	7
RCRA-CESQG: Conditionally Exempt SQGs [hazardous waste]	1	0
RCRA-NonGen: Sites listed on RCRA database that do not currently generate hazardous wastes	3	4
US ENG CONTROLS: Site with engineering controls in place	1	1
US ISNT CONTROL: Site with institutional controls in place, such as restrictions on land use, groundwater use, and/or construction	1	1
ERNS: Emergency Response Notification System: Reported releases of oil and hazardous substances	2	0
HMIRS: Hazardous Materials Incident Reporting System	1	
US CDL: Clandestine drug labs	1	0
ROD: Record of Decision: mandate a permanent remedy at an NPL site	1	1
FTTS: Tracks cases related to the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) and Toxic Substances Control Act (TSCA)	1	0
HIST FTTS: Historic FTTS database	1	0
ICIS: Integrated Compliance Information System: national enforcement and compliance program	1	0
RMP: Risk Management Program	1	0
US AIRS: Aerometric Information Retrieval Program: air pollution compliance data	1	0
PRP: Potentially Responsible Parties:	2	1
ECHO: Enforcement and Compliance History Information	31	8
SCH: School site investigations	2	7
WDS: Waste Discharge System	8	0
NPDES: National Pollution Discharge Elimination System:	16	4

Water Quality Permits		
HIST Cortese: Historic database: underground storage tanks, solid waste facilities, and cleanup sites	11	12
SWRCY: Recycling Facilities	3	0
RGA LF: Historical solid waste disposal facilities including tire disposal	5	0
LUST: Leaking Underground Storage Tanks	26	40
Registered Storage Tanks	7	1
HIST UST: Historical Underground Storage Tanks	20	21
CA FID UST: Historic underground storage tanks	27	29
SWEEPS UST: Historical underground storage tanks	28	23
RGA LUST: Historical underground storage tanks	23	0
SLIC: Spills Leaks Investigations and Cleanup	1	2
LIENS: Property with environmental liens held by DTSC	0	1
CHMIRS: California Hazardous Materials Reporting System	14	2
AST: Aboveground Storage Tanks	2	1
DEED: Recorded land use restrictions	0	3
VCP: Voluntary Cleanup Program	0	4
DRYCLEANERS	2	0
CDL: Clandestine drug lab	26	0
RESPONSE: Remediation on confirmed release sites	0	1
Landfills and Solid Waste Disposal Sites		
HAZNET: Hazardous waste shipment manifests	184	5
EMI: Emissions Inventory Data: Toxic and criteria pollutant emissions data	12	4
ENVIROSTOR: Sites with known contamination or reason for further investigation	1	17
HAULERS: Registered waste tire haulers	3	0
HWP: hazardous waste facilities and cleanups	0	1
EDR MGP: Manufactured gas plants	0	2
EDR Hist Auto: Historical auto service businesses	130	0
EDR Hist Cleaner: Historical dry-cleaners	28	0

Source: EDR 2016.

Selected Hazardous Materials Sites On and Near the Specific Plan Area

Newmark Groundwater Contamination

Portions of the northern and northwestern parts of the Specific Plan area are above the Newmark Groundwater Contamination Superfund site, which underlies eight square miles of the City of San Bernardino. The major contaminants are two solvents, trichloroethylene (TCE) and perchloroethylene (PCE). Potential sources of the contamination include Camp Ono, a World War II-era US Army base in northwest San Bernardino on or near the present-day Littlefield-Shultis Memorial Park west of California State University San Bernardino; subsequent industrial activities on the site of Camp Ono; and the former Cajon Landfill south of the intersection of State Street and Cajon Boulevard in the Community of Muscoy in unincorporated San Bernardino County (USEPA 1995). Three contaminant plumes have been identified

within the Specific Plan area—the Newmark, Muscoy, and Northwest Source Area plumes. Four domestic supply wells have been closed. There is evidence that the contamination is moving toward other well fields that serve the majority of the population of San Bernardino and Riverside. Treatment of the Newmark Groundwater Contamination site began in 1988; treatment currently uses two granular activated carbon facilities with total capacity of 41.6 million gallons per day. Treated water is used to supplement San Bernardino Municipal Water Department's water supply. It appears that cleanup efforts will be sufficient to protect 32 down-gradient wells (Kennedy-Jenks 2012; DTSC 2016). One of the two treatment facilities is near the intersection of 16th Street and Sierra Way about 0.3 mile west of the northern part of the Specific Plan area; the second facility is about 1.1 miles north of the Specific Plan area (SBMWD 2014).

Former Norton Air Force Base Groundwater Contamination

A plume of contaminants consisting mainly of TCE and PCE was identified in groundwater in and southwest of the former Norton Air Force Base (now San Bernardino International Airport). SBIA is listed by the Department of Defense and CERCLIS (Superfund sites); the nearest extent of the Superfund site to the Specific Plan area is about 0.5 mile to the southeast. Past hazardous material management practices at Norton Air Force Base included burial of drums and other unspecified materials; disposal of waste oils, solvents, and paint residues into landfills, unlined pits, ponds, and drying beds; storage of contaminants in leaking underground tanks and; spills of gas, oils, solvents, polychlorinated biphenyls (PCBs), and acids (USEPA 2016). The US Air Force began cleanup work on the plume in 1994; the case was closed by the Santa Ana Regional Water Quality Control Board in 2011 (Kennedy-Jenks 2012).

Leaking Underground Storage Tanks: Open Cases

Two of the 26 LUST sites in the Specific Plan area are open cases under the Santa Ana Regional Water Quality Control Board.

- Fame Liquors, 108 Baseline Street: gasoline release affected soil; case status: pollution characterization.
- Arco # 5266, 794 Baseline Street: gasoline release affected soil; leak being confirmed.

Asbestos-Containing Materials

ACMs were commonly used in a wide variety of building products prior to 1980, such as roofing shingles, composite siding, linoleum flooring, acoustic ceiling tiles, furnace and water heater exhaust piping and insulation, glues and mastics, stucco, joint compounds, and composite wallboards. ACMs can be divided into material considered friable (easily crumbled or reduced to powder) and nonfriable. Friable ACMs are regulated as hazardous materials due to the elevated long-term risk of developing lung cancer upon respiratory exposure and must be properly removed prior to renovation or demolition of any structure containing these materials. In addition to structures, ACMs have been historically used as "transite" irrigation piping within many agricultural parcels throughout California and as asbestos-coated pipelines associated with oil production.

Inhaling asbestos fibers has been shown to cause lung disease (asbestosis) and lung cancer (mesothelioma (DTSC 2010). Beginning in the early 1970s, a series of bans on the use of certain ACMs in construction were

established by the EPA and the Consumer Product Safety Commission. Most US manufacturers voluntarily discontinued the use of asbestos in certain building products during the 1980s. Requirements for limiting asbestos emissions from building demolition and renovation activities are specified in South Coast Air Quality Management District Rule 1403 (Asbestos Emissions from Demolition/Renovation Activities). Because there were buildings in the Specific Plan area by 1901 and much of residential uses were developed by the late 1930s, structures in the Specific Plan area predating the 1980s have a high potential for containing ACMs.

Lead-Based Paint

Lead was formerly used as an ingredient in paint (before 1978) and as a gasoline additive; both of these uses have been banned. Lead is listed as a reproductive toxin and a cancer-causing substance; it also impairs the development of the nervous system and blood cells in children (DTSC 2010). Those demolishing pre-1978 structures may presume the buildings contain lead-based paint (LBP) without having an inspection for LBP. Due to the age of many of the buildings in the Specific Plan area, they have a high potential for containing LBP.

Airport-Related Hazards

SBIA is about 1.25 miles southeast of the Specific Plan area. SBIA Runway 6/24 is 10,000 feet long and classified a "long general aviation runway"; it is aligned east-northeast to west-southwest. The Specific Plan area is northwest of the airport, almost perpendicular to the runway alignment. No SBIA flight tracks pass over the Specific Plan area; aircraft flight tracks pass over I-215 about one mile to the west (Coffman 2010).

Land Use Compatibility

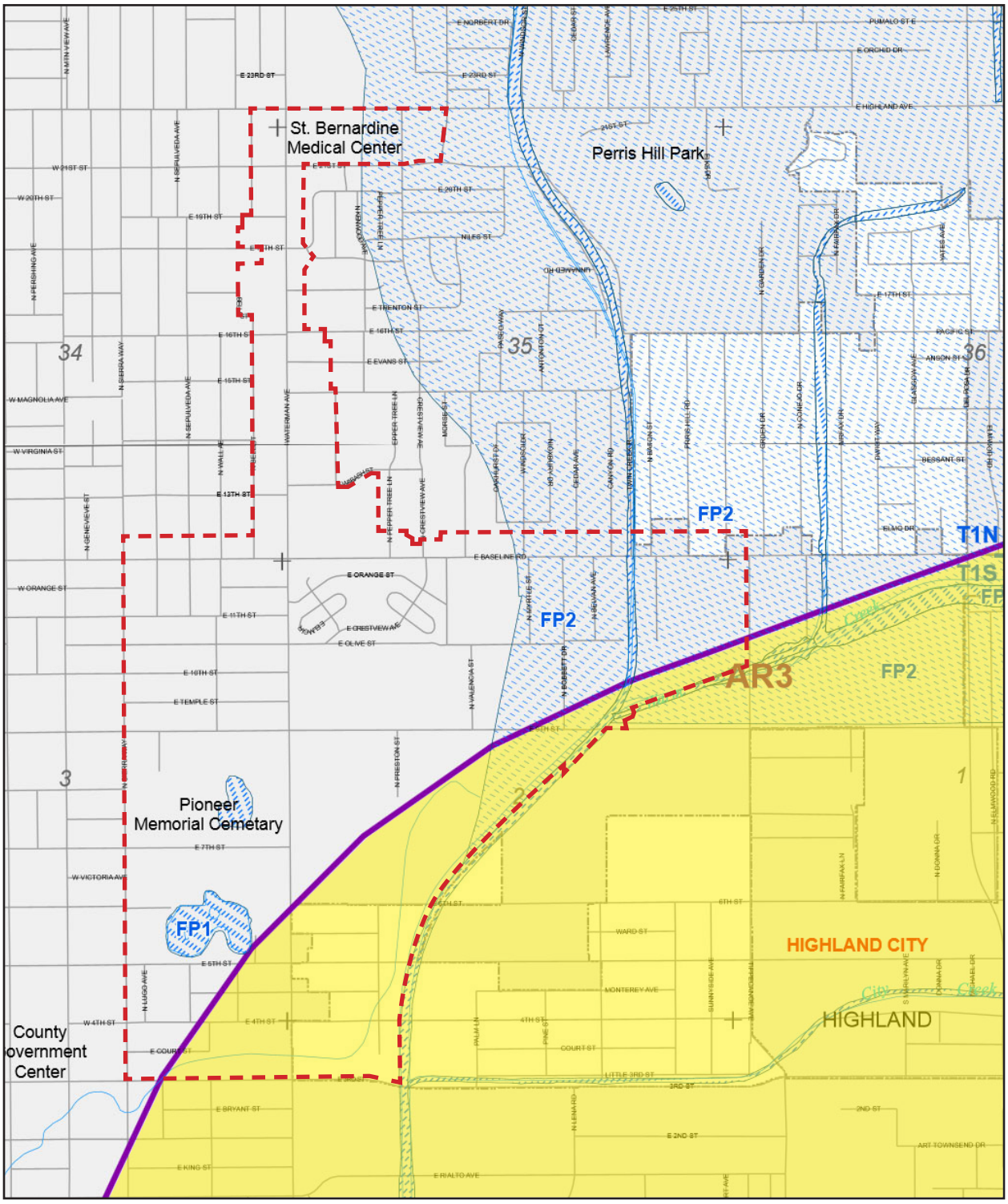
The southern and eastern parts of the Specific Plan area are within Airport Safety Review Area 3 (AR3) designated in the San Bernardino County General Plan (see Figure 5.7-1, *Airport Safety Review Area*). No land use categories are prohibited in AR3 areas, and no limits for residential density or capacity for places of assembly are set forth for AR3 areas, in the County General Plan. Airport safety reviews by the San Bernardino International Airport Authority are required for projects within AR3 areas.

Heights of Structures

The Specific Plan area is in the area surrounding SBIA where heights of structures are regulated pursuant to Federal Aviation Administration (FAA) Part 77 Regulations to prevent obstructions to air navigation. Permitted structure heights in the Specific Plan area range from 1,314 feet above mean sea level (amsl) in parts of the south and southeast to 1,514 feet amsl along the east-central site boundary near Wabash Street (see Figure 5.7-2, *Airport Height Limits*). Ground elevations within the regulated area range from about 1,019 feet amsl at the southwest corner of the Specific Plan area to 1,107 feet amsl on the eastern boundary near Wabash Street.

Figure 5.7-1 Airport Safety Review Area

5. Environmental Analysis



Specific Plan Area

Airport Safety Review Area 3 (AR3)

Flood Zones: Please See Figure 5.7-3, *Flood Hazard Zones Map*

0 1,750
Scale (Feet)

Base Map Source: San Bernardino County Land Use Services Department, 2010

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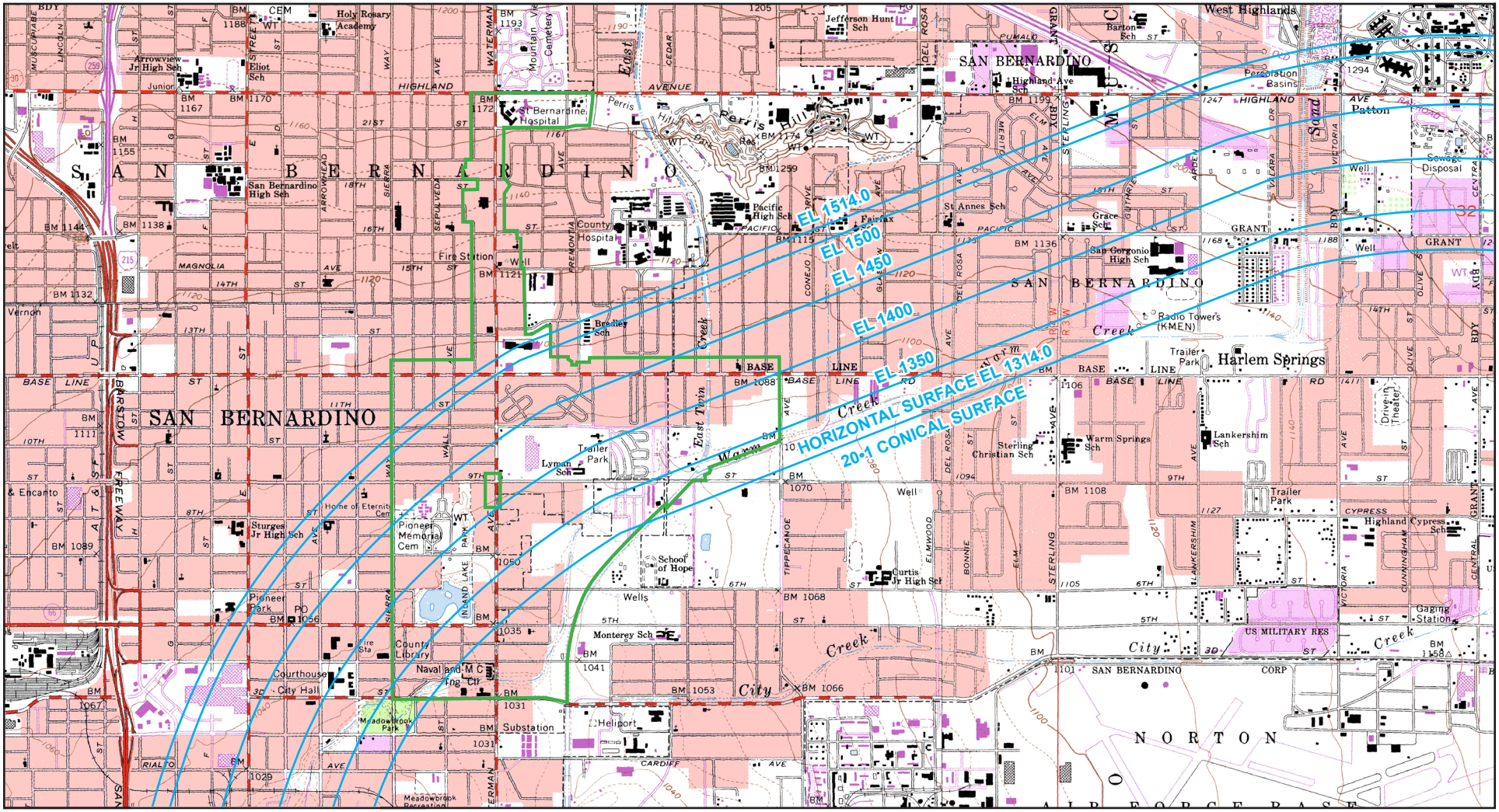
Figure 5.7-2 - Airport Height Limits

5. Environmental Analysis



Base Map Source: USGS Topographic Map, 7.5 Minute Series San Bernardino North/South/Harrison Mountain/Redlands, 1967. Photorevised 1980, 1988.

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Heliport

The nearest heliport to the Specific Plan area is the San Bernardino County Sheriff's Department Heliport at 655 East 3rd Street in San Bernardino, about 890 feet southeast of the southeast corner of the Specific Plan area.

Wildfire Hazards

No fire hazard severity zones are mapped in or near the Specific Plan area by the California Department of Forestry and Fire Prevention (CAL FIRE 2008).

5.7.2 Thresholds of Significance

According to Appendix G of the CEQA Guidelines, a project would normally have a significant effect on the environment if the project would:

H-1 Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials.

H-2 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.

H-3 Emit hazardous emissions or handle hazardous or acutely hazardous materials, substance, or waste within one-quarter mile of an existing or proposed school.

H-4 Be located on a site which is included on a list of hazardous materials compiled pursuant to Government Code Section 65962.5 and, as a result, would create a significant hazard to the public or the environment.

H-5 For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would result in a safety hazard for people residing or working in the project area.

H-6 For a project in the vicinity of a private airstrip, result in a safety hazard for people residing or working in the project area.

H-7 Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.

H-8 Expose people or structures to a significant risk of loss, injury, or death involving wildland fires, including where wildlands are adjacent to the urbanized areas or where residences are intermixed with wildlands.

5.7.3 Environmental Impacts

The following impact analysis addresses thresholds of significance for potentially significant impacts. The applicable thresholds are identified in brackets after the impact statement.

Impact 5.7.1: Project construction and operations would involve the transport, use, and/or disposal of hazardous materials. [Thresholds H-1, H-2, and H-3]

Impact Analysis: Specific Plan buildout would result in increases in residential units and commercial square footage allocated according to the Specific Plan land use plan. Specific Plan buildout is expected to involve redevelopment and development of portions of the Specific Plan area, including demolition of existing structures. Demolition and site clearance of redevelopment sites would likely involve disturbance, handling, and transport of hazardous materials, including asbestos-containing materials and lead-based paint. However, the Proposed Project does not anticipate transportation of hazardous materials in sufficient quantities to warrant a significant impact.

Routine Use

The routine transport, use, or disposal of hazardous materials is associated with industrial land uses more than with residential, commercial, or office land uses. The Specific Plan would permit mostly residential and commercial uses, but would also incorporate industrial (business park) uses. Specific types of residential, commercial, industrial, and office uses that would be developed are currently unknown; therefore, specific types and amounts of hazardous materials and hazardous wastes that would be used, transported, and/or disposed of are also unknown. Many office and retail uses use only small amounts of hazardous materials, mainly for cleaning and maintenance purposes, such as cleansers, solvents, fertilizers, pesticides, and paints.

Construction

Construction of residential and commercial structures would include the use of hazardous substances such as paints, solvents, finishes, and cleaners, but would not be used in quantities that would be considered harmful to the environment. Since there would not be a substantial amount of hazardous materials present on the Specific Plan area for a significant amount of time during project construction or operation, there would not be any foreseeable upset or release of hazardous materials.

Specific Plan buildout would result in infill development and intensification of land uses onsite. During construction, new development pursuant to the Specific Plan would involve the use of hazardous materials, such as fuels, lubricants, paints, solvents, and greases in construction equipment and coatings used in construction. However, the materials used would not be in such quantities or stored in such a manner as to pose a significant safety hazard. These activities would also be short-term in nature.

Grading and excavation in infill areas may expose construction workers and the public to known or potentially unknown hazardous materials in the soil or groundwater. Hazards related to known hazardous materials sites in and near the Specific Plan area are addressed in Impact 5.7-2 below.

Development under the Specific Plan may involve demolition of older buildings that contain asbestos-containing materials or lead-based paint, resulting in potential exposure to these hazardous materials of workers or persons living in the area. There are various regulations pertaining to the exposure, abatement, and protection from exposure to ACM and LBP. Future development requiring demolition would be required to comply with the California Health and Safety Code, Occupational Safety and Health Administration (OSHA), and South Coast Air Quality Management District Rule 1403 related to removal of ACM and LBP. Compliance would require the preparation of LBP and ACM surveys for any building demolitions and appropriate remediation measures for removal of LBP and ACM during demolition activities. Asbestos and lead abatement is required to be performed and monitored by certified contractors. OSHA regulations require proper labeling, safety training, hazardous materials exposure warnings, and emergency action and fire prevention plan preparation. Compliance with the existing regulations would ensure impacts are less than significant.

Additionally, as with project operation (see *Accidental Release*, below), the use, transport, and disposal of construction-related hazardous materials would be required to conform to existing laws and regulations. Compliance with applicable laws and regulations governing the use, storage, and transportation of hazardous materials would ensure that all potentially hazardous materials are used and handled in an appropriate manner and would minimize the potential for safety impacts to occur. For example, all spills or leakage of petroleum products during construction activities are required to be immediately contained, the hazardous material identified, and the material remediated in compliance with applicable state and local regulations. All contaminated waste would be required to be collected and disposed of at an appropriately licensed disposal or treatment facility.

Accidental Release

Workers demolishing existing structures onsite and building structures developed in accordance with the Specific Plan would be trained in containment and cleanup of hazardous materials. Projects developed pursuant to the Specific Plan would maintain supplies for containing and cleaning up hazardous materials spills onsite. Workers in project construction or project operation would notify the appropriate authorities immediately in the event of a hazardous materials release. Releases must be reported to the San Bernardino County Fire Department, the CalEMA, and/or the National Response Center depending on the substance and amount released.

Facilities using and handling hazardous materials in amounts over certain thresholds would be regulated under the California Accidental Release Program, which requires regulated business to develop a risk management plan to prevent or mitigate releases of regulated substances that could have offsite consequences. Threshold quantities of hazardous materials regulated under this program vary by substance and by the level of risk a facility poses to the public. With adherence to existing regulations, construction and operation of projects pursuant to the Specific Plan would not expose the public or the environment to substantial hazards through accidental release of hazardous materials.

Emissions with a Quarter Mile of Schools

The following K-12 schools are within 0.25 mile of the Specific Plan area:

- San Bernardino Adult School, 1200 N E St.
- San Bernardino High School, 1850 N E St.
- Indian Springs High School, 650 N Del Rosa Dr.
- Abraham Lincoln Elementary, 255 W 13th St.
- Juanita Blakely Jones Elementary School, 700 N F St.
- Bradley Elementary School, 1300 Valencia Ave
- Anderson Elementary School, 24302 4th St.
- Fairfax Elementary School, 1362 Pacific St.
- Tri-City County Community Day School, 244 S D St.

The Specific Plan would permit development of residential, office, and commercial uses that would use relatively small amounts of hazardous materials. Emissions from Project-generated traffic would not result in carbon monoxide hotspots that could be hazardous to persons at nearby schools. Hazards resulting from routine use of hazardous materials and accidental releases of hazardous materials through Specific Plan buildout would be less than significant.

Impact 5.7-2: Portions of the Specific Plan area are on a list of hazardous materials sites. [Threshold H-4]

Impact Analysis: Hazardous materials sites within the Specific Plan area and within one mile of it are listed by database in Table 5.7-1. Disturbances of soil or structures by development and redevelopment projects in conformance with the Specific Plan could expose people or the environment to hazardous materials from hazardous materials sites known to regulatory agencies. Contamination in new development or redevelopment sites would be required to be remediated prior to construction activities. Additionally, any unknown contamination discovered during excavation would require halting of all construction activities and remediation. Remediation would be required to occur to the satisfaction of the appropriate responsible agency—DTSC, the Santa Ana Regional Water Quality Control Board, or San Bernardino County Fire Department.

Phase I Environmental Site Assessments are required for land purchasers to qualify for the Innocent Landowner Defense under CERCLA, minimize environmental liability under other laws such as RCRA, and as a lender prerequisite to extend a loan for purchase of land. The Phase I would include a literature review, including an environmental database search; review of historical aerial photographs and topographic maps; a site visit; interviews with owners or other persons knowledgeable about current and past uses of the site; and an assessment as to whether recognized environmental conditions (RECs) affecting the site are present.[2] This

[2] An REC is the presence or likely presence of any hazardous substance or petroleum products in, on, or at a property: due to release to the environment; under conditions indicative of a release to the environment; or under conditions that pose a material threat of a future release to the environment.

impact would be significant. Mitigation in Section 5.7.7, below, requires Phase I Environmental Site Assessments to determine whether RECs affecting a project site are present. When RECs are identified, sampling and testing must be conducted to determine contaminant concentrations, and human health hazard assessments must be conducted to determine whether such contaminants and concentrations pose substantial human health risks. When such substantial risks are identified, the mitigation measure requires remediation of such contaminants to below regulatory agency action levels.

Impact 5.7-3: The Specific Plan area is located in the vicinity of the San Bernardino International Airport and within the jurisdiction of the San Bernardino Airport Master Plan and the Comprehensive Land Use Plan. [Thresholds H-5 and H-6]

Impact Analysis: The San Bernardino International Airport and Trade Center (SBIA) is located in the southeastern portion of the City and is a significant contributor to the City's economy. The 1,350 acres of airport are managed by the SBIA Authority, which is a joint powers authority made up of representatives from San Bernardino County and the cities of San Bernardino, Highland, Loma Linda, and Colton. The City has no direct authority over SBIA, and thus, plans created by the airport in conjunction with federal or state regulation of aircraft activity have significant influence over land use planning by the City of San Bernardino.

Land Use Compatibility

The Proposed Project area is currently developed. A portion of the Project area is located within the Airport Influence Area as adopted by the SBIA Authority. However, the Proposed Project would comply with provisions of the Airport Master Plan and the Comprehensive Land Use Plan (CLUP) of the SBIA. The proposed land use plan and development standards for the Specific Plan would consider noise and safety zones during design review for site-specific projects within the Specific Plan area. Additionally, the Airport CLUP would be analyzed for relative information on a project-specific basis. General Plan policies 2.9.1, 2.9.5, and 2.9.6 would ensure that any future development within the Project area would be consistent with the Airport Master Plan and the CLUP.

- **Goal 2.9.** Protect the Airspace of the San Bernardino International Airport and minimize related noise and safety impacts on our citizens and businesses
  - **Policy 2.9.1.** New development would be required to be consistent with the adopted CLUP of the SBIA and the City would ensure that no structures or activities encroach upon or adversely affect the use of navigable airspace.
  - **Policy 2.9.2.** Any amendment of the General Plan, specific plans, zoning ordinance changes, or building regulations within the planning boundary of the Airport Master Plan would be referred to the airport authority as provided by Airport Land Use Law.
  - **Policy 2.9.6.** As required by State Law for real estate transactions within the Airport Influence Area, the city would require notification/disclosure statements to alert potential buyers and tenants of the presence of an potential impacts from the San Bernardino International Airport.

The Proposed Project does not anticipate development of structures that would be significantly inconsistent with the current development such that construction of new structures/features would impact air traffic patterns. New development standards consistent with the land use plan would ensure consistency between uses. The Project area is within airport noise and safety zones; future site-specific development would be required to conform to the provisions of the General Plan listed above. Compliance with applicable policies and regulations would result in less than significant impacts.

Structure Heights

The Specific Plan area is in the area surrounding SBIA where heights of structures are regulated pursuant to Federal Aviation Administration (FAA) Part 77 Regulations to prevent obstructions to air navigation. Permitted structure heights in the Specific Plan area range from 1,314 feet amsl in parts of the southern and southeastern portions to 1,514 feet amsl along the east-central site boundary near Wabash Street (see Figure 5.7-2, *Airport Height Limits*). Ground elevations within the regulated area range from about 1,019 feet amsl at the southwest corner to 1,107 feet amsl on the east site boundary near Wabash Street.

Specific maximum allowable heights for structures would be determined for each development or redevelopment application submitted to the City of San Bernardino. The analysis here is general and approximate. Maximum allowable heights for structures within the regulated area range from approximately 307 feet above ground level (agl) at the southwest corner of the Specific Plan area to about 407 feet agl on the eastern boundary near Wabash Street. The maximum permitted building height under the Specific Plan would be 67 feet (base plus maximum height in the Mixed Use Village land use district). The Specific Plan would not permit development of structures exceeding height limits per FAA Part 77 Regulations, and impacts would be less than significant.

Impact 5.7-4: Project development could affect the implementation of an emergency responder or evacuation plan. [Threshold H-7]

Impact Analysis: The San Bernardino Fire Department is responsible for planning emergency response for the City; maintaining the emergency operations plan (EOP); and operating the City's Emergency Operations Center. The City's EOP anticipates that all major streets within the City would serve as evacuation routes. Highways and arterial streets that connect to the major freeways, including CA-210 and I-215, would serve as potential evacuation routes in the event of an unusual emergency situation. The Proposed Project would ensure that the minimum right-of-way widths on City streets would be maintained, which would continue to ensure that various evacuation routes are accessible to residents. Individual project review of subsequent projects within the Specific Plan area by the City including the City of San Bernardino Fire Department would also be required. The project would incorporate all applicable design and safety requirements in the California Building and Fire Codes.

The Proposed Project does not anticipate closure of main roads that would impact the EOP. There is potential for arterial and residential neighborhood streets to be restructured so that level of service would be improved (see section 5.15, *Traffic and Transportation*). Existing emergency service vehicle access roads and service response times would not be impeded or affected by the closure or reconfiguration of road within the

Specific Plan area. Adequate emergency evacuation routes would remain for the Specific Plan area and surrounding neighborhoods. Impacts would be less than significant.

Impact 5.7-5: The Specific Plan area is not in a designated fire hazard severity zone. Project buildout would not expose people or structures to wildland fire hazards. [Threshold H-8]

Impact Analysis:

No fire hazard severity zones are mapped in or near the Specific Plan area by the California Department of Forestry and Fire Prevention (CAL FIRE 2008). Specific Plan buildout would not expose people or structures to wildfire hazards, and no impact would occur.

5.7.4 Cumulative Impacts

Hazardous Materials

The area for which cumulative hazards and hazardous materials impacts are considered is the Specific Plan vicinity. Other projects in the City would use hazardous materials during operation and construction activities. Use, transport, storage, and disposal of hazardous materials by other projects in the City would be governed by the same regulations and agencies governing such use by the Proposed Project. Implementation of existing regulations would minimize potential hazards from accidental release of hazardous materials. Other projects would be subject to independent CEQA review; projects that could expose persons at schools within 0.25 mile of a project's site to substantial hazards through emissions of hazardous substances would be required to implement feasible mitigation measures to reduce those hazards.

Other projects may be proposed on sites listed on environmental databases. CEQA review for such projects would include environmental site assessments. Where contaminated soil, soil vapor, or water were discovered on a site, cleanup to appropriate regulatory levels would be required before proposed land uses could be approved where people could come into contact with the contaminated material.

Other projects would not interfere with implementation of emergency response plans by the Emergency Management Division or other emergency response agencies. Project impacts would not combine with impacts of other projects to result in substantial cumulative impacts.

Airport-Related Hazards

The area considered for cumulative airport-related hazard impacts is the AR3 area surrounding San Bernardino International Airport, which covers about 25 square miles encompassing parts of the cities of San Bernardino, Loma Linda, Redlands, and Highland. Other projects within the AR3 area would increase the numbers of residents and workers and increase land use intensity in the area, and thus, could expose people and structures to hazards related to aviation crashes.

Projects proposed within the AR3 area would be submitted to the SBIA Authority for airport safety review. The AR3 area places minimal limitations on types or densities of land uses. Projects proposing development of structures over certain heights would be required to file a Notice of Proposed Construction or Alteration

with the FAA. The FAA would then conduct an aeronautical study to determine whether such structures would constitute hazards to air navigation. If the FAA determined that a structure would pose a hazard to air navigation, the SBIA Authority would take appropriate action to maintain safe airspace surrounding SBIA. Therefore, cumulative airport-related hazard impacts would be less than significant, and Project impacts would not be cumulatively considerable.

Emergency Response Planning

The area considered for cumulative impacts to emergency response planning is the City of San Bernardino, the area covered by the City's EOP. Other projects may propose changes to the layout of major streets designated as emergency evacuation routes in the EOP. Such proposals would be reviewed by several City departments, including the fire, police, and public works departments. If City staff in any of the reviewing departments concluded that the proposed modification would adversely affect emergency response, they would convey that conclusion to the fire department and the planning division. Emergency response planning by local jurisdictions in California must comply with state and federal laws, including the California Emergency Services Act (California Government Code §§ 8550 et seq.) and the federal Disaster Assistance Act (Public Law 106–390). The City would maintain adequate emergency evacuation routes as needed. Thus, cumulative impacts to emergency response planning would be less than significant, and Project impacts would not be cumulatively considerable.

Wildfire Hazards

Specific Plan buildout would not cause wildfire hazard impacts and thus would not contribute to cumulative wildfire hazard impacts.

5.7.5 Existing Regulations and Standard Conditions

Federal

- United States Code Title 42 Section 9601 et seq.: Comprehensive Environmental Response, Compensation and Liability Act and Superfund Amendments and Reauthorization Act
- United States Code Title 42, Sections 6901 et seq.: Resource Conservation and Recovery Act
- United States Code Title 42, Sections 11001 et seq.: Emergency Planning and Community Right to Know Act
- Toxic Substances Control Act 1976

5.7.6 Level of Significance Before Mitigation

Upon implementation of regulatory requirements and standard conditions of approval, some impacts would be less than significant: 5.7-1, 5.7-3, 5.7-4 and 5.7-5.

Without mitigation, these impacts would be **potentially significant**:

- **Impact 5.7-2** The Specific Plan area contains multiple hazardous materials sites according to the hazardous materials databases examined for the Proposed Project.

5.7.7 Mitigation Measures

Impact 5.7-2

HAZ-1 Before issuance of grading permits or building permits by the City of San Bernardino, a Phase I Environmental Site Assessment would be required for the pertinent development or redevelopment site.

- Where a Phase I Assessment identified one or more recognized environmental conditions potentially affecting a property, a Phase II Environmental Site Assessment would be required, consisting of sampling of soil, soil vapor, and/or groundwater and testing samples for contaminants; and a human health hazard assessment for any contaminants identified.
- Where a Phase II Assessment identified contaminant concentrations in soil, soil vapor, and/or groundwater that could pose substantial human health hazards, remediation of such contamination to below regulatory action thresholds would be required before disturbance of soil or structures could be permitted on that site.

5.7.8 Level of Significance After Mitigation

The mitigation measures would reduce potential impacts of hazards and hazardous materials to less than significant. No significant unavoidable adverse impacts relating hazards have been identified.

5.7.9 References

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5.8 HYDROLOGY AND WATER QUALITY

This section of the Draft Environmental Impact Report (DEIR) evaluates the potential impacts of the Proposed Project to hydrology and water quality conditions in the City of San Bernardino. Hydrology deals with the distribution and circulation of water, both on land and underground. Water quality deals with the quality of surface and groundwater. Surface water includes lakes, rivers, streams, and creeks; groundwater is under the earth's surface.

The analysis in this section is based in part on the following technical report:

- Infrastructure Analysis Report *for the Waterman + Baseline Neighborhood Specific Plan Project*. Parsons Brinkerhoff. November 11, 2015.

A complete copy of this study is included in Appendix J to this DEIR.

5.8.1 Environmental Setting

5.8.1.1 REGULATORY FRAMEWORK

Safe Drinking Water Act

The federal Safe Drinking Water Act (SDWA) regulates drinking water quality nationwide and gives the US Environmental Protection Agency (EPA) the authority to set drinking water standards, such as the National Primary Drinking Water regulations (NPDWRs or primary standards). The NPDWRs protect drinking water by limiting the levels of specific contaminants that can adversely affect public health. All public water systems that provide service to 25 or more individuals must meet these standards. Water purveyors must monitor for contaminants on fixed schedules and report to the EPA when a maximum contaminant level (MCL) is exceeded. MCL is the maximum permissible level of a contaminant in water that is delivered to any user of a public water system. Contaminants include 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 E. coli). The MCL list typically changes every three years as the EPA adds new contaminants or revises MCLs. The California Department of Public Health's Division of Drinking Water and Environmental Management is responsible for implementation of the SDWA in California.

Clean Water Act

The federal Water Pollution Control Act (or Clean Water Act [CWA]) is the principal statute governing water quality. It establishes the basic structure for regulating discharges of pollutants into the waters of the United States and gives the EPA authority to implement pollution control programs, such as setting wastewater standards for industry. The statute's goal is to completely end all discharges and to restore, maintain, and preserve the integrity of the nation's waters. The CWA regulates direct and indirect discharge of pollutants; sets water quality standards for all contaminants in surface waters; and makes it 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 for navigable bodies of water; and regulates other activities that affect water quality, such as dredging and the filling of wetlands. The CWA funds the construction of sewage treatment plants and recognizes the need for planning to address nonpoint sources of pollution. Section 402 of the CWA requires a permit for all point source (a discernible, confined, and discrete conveyance, such as a pipe, ditch, or channel) discharges of any pollutant (except dredge or fill material) into waters of the United States.

National Pollutant Discharge Elimination System

Under the National Pollutant Discharge Elimination System (NPDES) program (under Section 402 of the CWA), all facilities that discharge pollutants from any point source into waters of the United States must have a NPDES permit. The term "pollutant" broadly applies to any type of industrial, municipal, and agricultural waste discharged into water. Point sources can be publicly owned treatment works (POTWs), industrial facilities, and urban runoff. (The NPDES program addresses certain agricultural activities, but the majority are considered nonpoint sources and are exempt from NPDES regulation.) Direct sources discharge directly to receiving waters, and indirect sources discharge to POTWs, which in turn discharge to receiving waters. Under the national program, NPDES permits are issued only for 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 two basic permit types: individual and general. Also, the EPA has recently focused on integrating the NPDES program further into watershed planning and permitting (USEPA 2012).

The NPDES has a variety of measures designed to minimize and reduce pollutant discharges. All counties with storm drain systems that serve a population of 50,000 or more, as well as construction sites one acre or more in size, must file for and obtain an NPDES permit. Another measure for minimizing and reducing 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) is the EPA'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 one acre. The City of San Bernardino Public Works Department is the local enforcing agency of the MS4 NPDES permit.

Porter-Cologne Water Quality Act

The Porter-Cologne Water Quality Act (Water Code §§ 13000 et seq.) is the basic water quality control law for California. Under this Act, the State Water Resources Control Board (SWRCB) has ultimate control over state water rights and water quality policy. In California, the EPA 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 Regional Water Quality Control Boards (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 San Bernardino is located in the Santa Ana River Basin, Region 8, in the Upper Santa Ana Watershed. The Water Quality Control Plan for the Santa Ana River Basin (SARWQCB 2011) was updated in 2008 with minor revisions completed in 2011. 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 standards established in the Basin Plan.

MS4 Permit

Waste discharge requirements for discharges to municipal storm drainage systems in the part of San Bernardino County within the Santa Ana Watershed are set forth in Order No. R8-2010-0036 ("MS4 Permit") issued by the Santa Ana Regional Water Quality Control Board in 2010. The City of San Bernardino is a co-permittee on the MS4 Permit. Development and redevelopment projects within the area subject to the aforementioned MS4 Permit disturbing one acre or more area must prepare and implement Water Quality Management Plans specifying BMPs for minimizing water pollution. Requirements for Water Quality Management Plans are set forth by the San Bernardino County Stormwater Program.

5.8.1.2 APPLICABLE PLANS AND PROGRAMS

Storm Water Pollution Prevention Plans

Pursuant to the CWA, in 2001, the SWRCB issued a statewide general NPDES Permit for storm water discharges from construction sites (NPDES No. CAS000002). Under this Statewide General Construction Activity permit, discharges of storm water from construction sites with a disturbed area of one or more acres are required to either obtain individual NPDES permits for storm water 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 storm water runoff, and must contain a visual monitoring program; a chemical monitoring program for "non-visible" 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.

Water Quality Management Plans

A Technical Guidance Document (TGD) for Water Quality Management Plans issued by the San Bernardino County Stormwater Program took effect in September 2013. The TGD provides guidance on developing water quality management plans for projects; and selecting BMPs for a project, including Low-Impact Development (LID) BMPs, alternatives to LID BMPs in case LID BMPs are impracticable on a site, and source control BMPs.

Low-Impact Development is defined in the TGD as a stormwater management and land development strategy that combines a hydrologically functional site design with pollution prevention measures to compensate for land development impacts on hydrology and water quality. LID techniques mimic the site pre-development site hydrology by using site design techniques that store, infiltrate, evapotranspire, bio-filter, or detain runoff close to its source. LID BMPs are grouped in two general categories:

- **Preventive measures** are site planning, design and construction practices that focus on minimizing the amount of land disturbed and retaining the natural drainage characteristics of the site to the maximum extent practicable. Preventive measures include:
    - Preserve natural infiltration capacity
    - Preserve existing drainage patterns
    - Protect existing vegetation and sensitive areas
    - Minimize impervious areas
    - Disconnect impervious areas
    - Minimize construction footprint
    - Minimize unnecessary compaction
    - Minimize removal of native vegetation
- **Mitigative measures**, if required, are structural BMPs that manage impacts from stormwater runoff and provide pollutant reduction. Mitigative measures include:
    - Infiltration
    - Stormwater harvest and use
    - Bioretention and biofiltration (CDM Smith 2013)

Alternatives to LID BMPs include onsite and off-site treatment BMPs.

Priority projects are required to infiltrate stormwater to the maximum extent practicable and to use biotreatment and harvest-and-use BMPs for the remainder of the design capture volume—that is, approximately the stormwater volume from a 24-hour, 85th percentile (or two-year) storm.[1, 2]

[1] A 24-hour, 85th percentile storm is a storm of 24 hours duration where 85 percent of the storms in that area are less severe than the referenced storm; it is approximately equivalent to a two-year storm.

Priority projects include the following categories:

- Redevelopment projects adding or replacing 5,000 square feet or more of impervious area
- New development projects creating 10,000 square feet or more of impervious area
- New development or redevelopment of auto repair shops of 5,000 or more square feet
- New development or redevelopment of restaurants of 5,000 or more square feet
- Developments of 5,000 square feet or more on hillsides of 25 percent or more natural slope
- Parking lots of 5,000 square feet or more exposed to stormwater
- New development or redevelopment of gas stations of 5,000 square feet or more (CDM Smith 2013)

Source control BMPs reduce the potential for pollutants to enter runoff. Source control BMPs are classified in two categories: Structural source control BMPs have a physical or structural component—such as inlet trash racks, trash bin covers, and an efficient irrigation system—to prevent pollutants from contacting stormwater runoff. Nonstructural source control BMPs are procedures or practices used in project operation, such as stormwater training or trash management and litter control practices.

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 referred to as Flood Insurance Studies (FISs). The most recent FIS and FIRM was completed and published for City on August 28, 2008. Using information gathered in these studies, FEMA engineers and cartographers delineate Special Flood Hazard Areas (SFHAs) on FIRMs.

The Flood Disaster Protection Act (FDPA) requires owners of all structures in identified SFHAs 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 within designated areas are able to participate in the National Flood Insurance Program (NFIP) afforded by FEMA. The NFIP 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 NFIP by providing a grant program for state and community flood mitigation projects. The act also established the Community Rating System (CRS), 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 San Bernardino, under NFIP, 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, cooperation with

[2] Harvest and use BMPs are above-ground and underground cisterns or vaults that temporarily store runoff for later non-potable uses such as irrigation, toilet flushing, and industrial uses (RCFCWCD 2011).

the U.S. Army Corps of Engineers and the San Bernardino County Flood Control District for updating, and method consistency with the RWQCB and proposed BMPs.

5.8.1.3 EXISTING CONDITIONS

Regional Drainage

The Specific Plan area is in the Upper Santa Ana River Hydrologic Unit of the Santa Ana Watershed (see Figure 5.8-1, *Santa Ana Watershed*).[3] The Santa Ana Watershed spans nearly 2,800 square miles from the San Gabriel and San Bernardino mountains on the north, to the San Jacinto Mountains on the east, to the Pacific Ocean on the southwest. The Santa Ana River extends 96 miles from the San Bernardino Mountains in San Bernardino County to the Pacific Ocean at the boundary between the cities of Huntington Beach and Newport Beach. The Santa Ana River passes 2.6 miles southeast of the Specific Plan area.

The Upper Santa Ana River Hydrologic Unit spans 254 square miles, encompassing much of the east part of the Upper Santa Ana River Valley and much of the southwest slopes of the San Bernardino Mountains (see Figure 5.8-1). The Santa Ana River extends northeast-southwest through the central part of the Hydrologic Unit.

Local Surface Waters and Drainage

The East Twin Creek channel passes through the east part of the Specific Plan area, and Warm Creek Channel forms the area's southeast boundary. City Creek flows into Warm Creek next to the southeast corner of the Specific Plan area. East Twin Creek, Warm Creek, and City Creek all originate in the San Bernardino Mountains—north and east of the Specific Plan area. Downstream of the confluence of East Twin Creek and City Creek the channel is called Twin Creek. Twin Creek flows into the Santa Ana River about 2.5 miles south of the Specific Plan area.

The Gilbert Street Storm Drain, a 39-inch concrete pipe, extends in Gilbert Street from Waterman Avenue east to East Twin Creek.

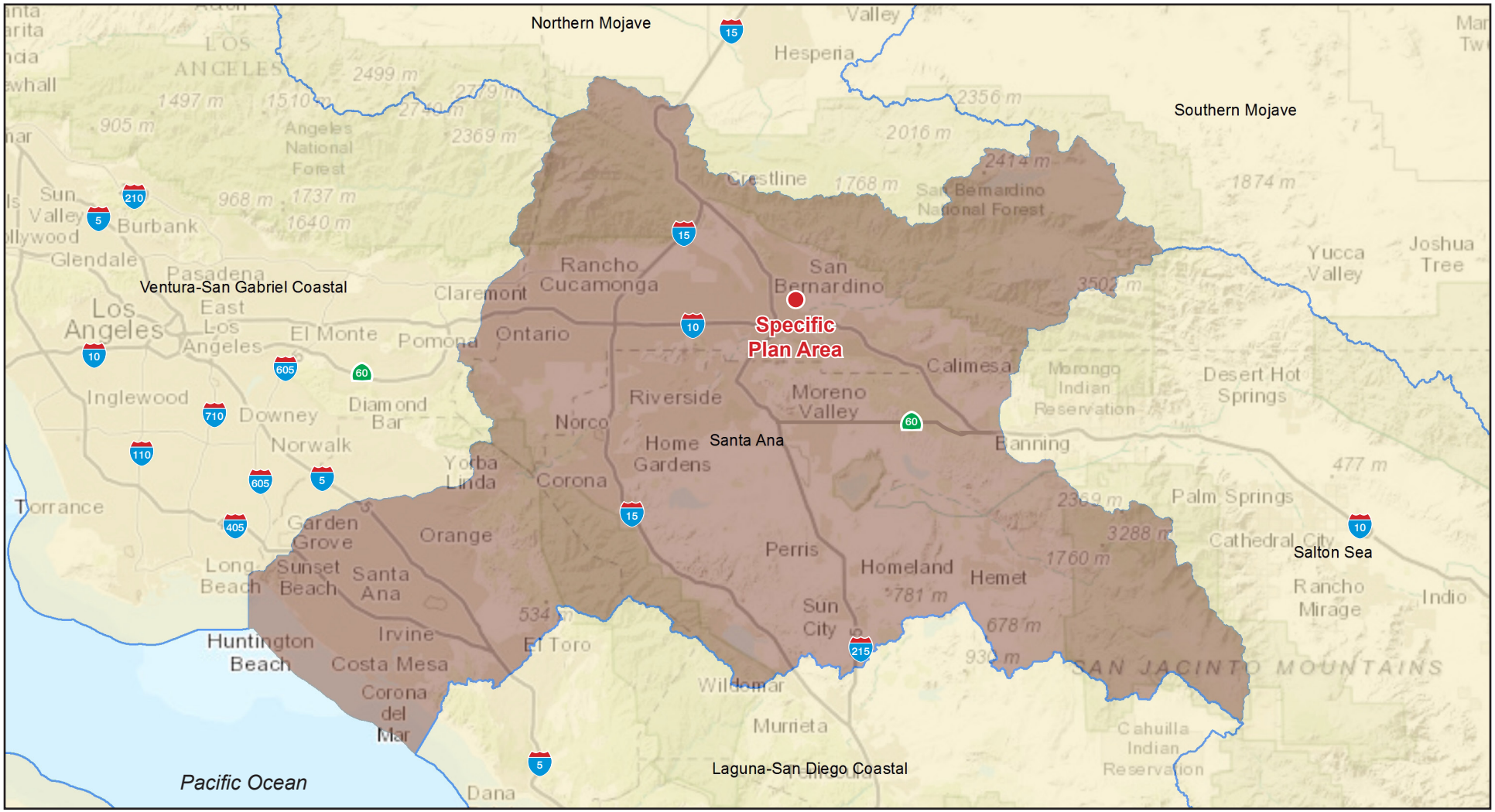
East Twin Creek is a concrete box channel about 40 feet wide.

Warm Creek is a concrete box channel 50 feet wide by 11 feet deep next to the Specific Plan area's east boundary adjacent to Tippecanoe Street (SBCFCD 2016).

[3] The Upper Santa Ana River Valley—a geographical feature mentioned in several sections of this DEIR—is much larger than the Upper Santa Ana River Hydrologic Unit, extending west to the edge of the San Jose Hills in eastern Los Angeles County (see Figure 5.8-2, *Upper Santa Ana Groundwater Basin*).

Figure 5.8-1 - Santa Ana Watershed

5. Environmental Analysis



Base Map Source: ESRI, 2015

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Surface Water Quality

The nearest water body downstream from the Specific Plan area that is listed on the Clean Water Act Section 303(d) List of Water Quality Limited Segments is Reach 4 of the Santa Ana River, which extends from the confluence of Warm Creek and the Santa Ana River (near the I-10/I-215 interchange in the City of San Bernardino) to just southwest of the SR-60 freeway in the City of Riverside. Reach 4 is listed for contamination with pathogens, and completion of a Total Maximum Daily Load for pathogens in Reach 4 is planned for 2019 (SWRCB 2013). Warm Creek and East Twin Creek are not listed on the Section 303(d) list.

Groundwater

The Proposed Project area is within the Bunker Hill Groundwater Basin, which underlies about 80,972 acres of the northeast part of the Upper Santa Ana River Valley (see Figure 5.8-2, *Upper Santa Ana Groundwater Basin*). In total, the Bunker Hill Basin stores about 5 million acre-feet of water, 1.2 million of which is immediately accessible. The Basin is recharged by rain, imported water, and runoff from the surrounding mountains and built environment. The nearest area to the Specific Plan area used for intentional groundwater recharge is the Lynwood Basins about 0.4 mile to the north (USGS 2016).

Groundwater Quality

Portions of the north and northwestern parts of the Specific Plan area are above the Newmark Groundwater Contamination Superfund site, which underlies eight square miles of the City of San Bernardino. The major contaminants are two solvents, trichloroethylene (TCE) and perchloroethylene (PCE). Three contaminant plumes have been identified in the Specific Plan area—the Newmark, Muscoy, and Northwest Source Area plumes. Four domestic supply wells have been closed. There is evidence that suggests that the contamination is moving in the direction of other well fields, which serve the majority of the population of the cities of San Bernardino and Riverside. Treatment of the Newmark Groundwater Contamination site began in 1988 and currently uses two granular activated carbon facilities with total capacity of 41.6 million gallons per day. Treated water is used to supplement the San Bernardino Municipal Water Department's water supply. It appears that cleanup efforts will be sufficient to protect 32 down-gradient wells (WSC 2016; DTSC 2016). One of the two treatment facilities is near the intersection of 16th Street and Sierra Way about 0.3 mile west of the north part of the Specific Plan area; the second facility is about 1.1 miles north of the Specific Plan area (SBMWD 2014).

A plume of contaminants consisting mainly of TCE and PCE was identified in groundwater in and southwest of the former Norton Air Force Base (now San Bernardino International Airport). The US Air Force began cleanup work on the plume in 1994; the case was closed by the Santa Ana RWQCB in 2011 (WSC 2016).

5.8.1.4 FLOOD HAZARDS

Designated Flood Zones

The southern and western parts of the Specific Plan area are in Flood Zone X, meaning that they are outside of 100-year and 500-year flood zones. Part of the east-central portion and the northeast corner of the

Specific Plan area are in Shaded Zone X, that is, a 500-year flood zone. The part of the Specific Plan area east of East Twin Creek is in an area protected from 100-year floods by levees. The East Twin Creek and Warm Creek channels are in Zone A, that is, 100-year flood zones (see Figure 5.8-3, *Flood Hazard Zones Map*).

Seismically Induced Dam Inundation

The southeast quarter of the Specific Plan area—from Sierra Avenue to the east edge of the Specific Plan area just north of Baseline Street—is in the inundation area for Seven Oaks Dam, a flood control dam on the Santa Ana River 13 miles to the east (Corps 2006).

Inundation from Aboveground Water Storage Reservoirs

The San Bernardino Municipal Water Department currently has 35 storage facilities within their service area, with a total storage area of 109 million gallons (MG). Individual reservoir capacity ranges from 4,000 gallons to 12 MG. Most of the storage facilities are above ground and are constructed out of welded steel. Large reservoirs with capacity of 5 MG or more are constructed from reinforced concrete and are buried or partially buried.

Seiche

A seiche is a surface wave created when an inland water body is shaken, usually by an earthquake. There are no water bodies near enough to the Specific Plan area to pose a flood hazard to the area due to a seiche.

Tsunami

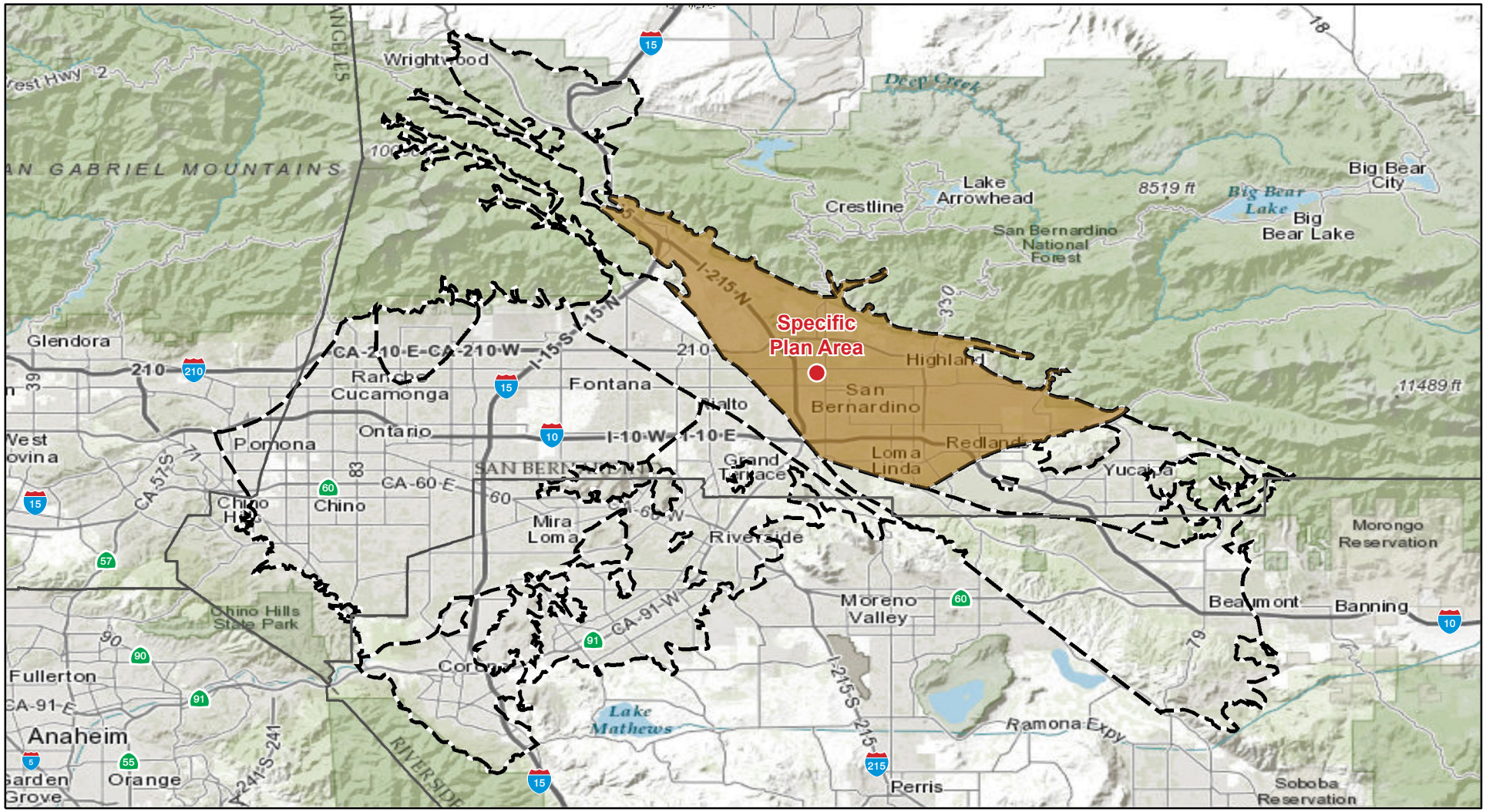
A tsunami is a sea wave caused by a sudden displacement of the ocean floor, most often due to earthquakes. The Specific Plan area is at elevation ranging from 1,019 feet above mean sea level at the southwest corner of the area to 1,173 feet above mean sea level at the northeast corner of the site; thus, there is no tsunami flood hazard in the Specific Plan area.

Mudflows

A mudflow is a landslide composed of saturated rock debris and soil with a consistency of wet cement. The Specific Plan area is flat, with a south to southwest slope of about 1 percent grade. There is no mudflow hazard in the Specific Plan area.

Figure 5.8-2 - Upper Santa Ana Groundwater Basin

5. Environmental Analysis



Bunker Hill Watershed

0 10
Scale (Miles)

Base Map Source: ESRI, 2016

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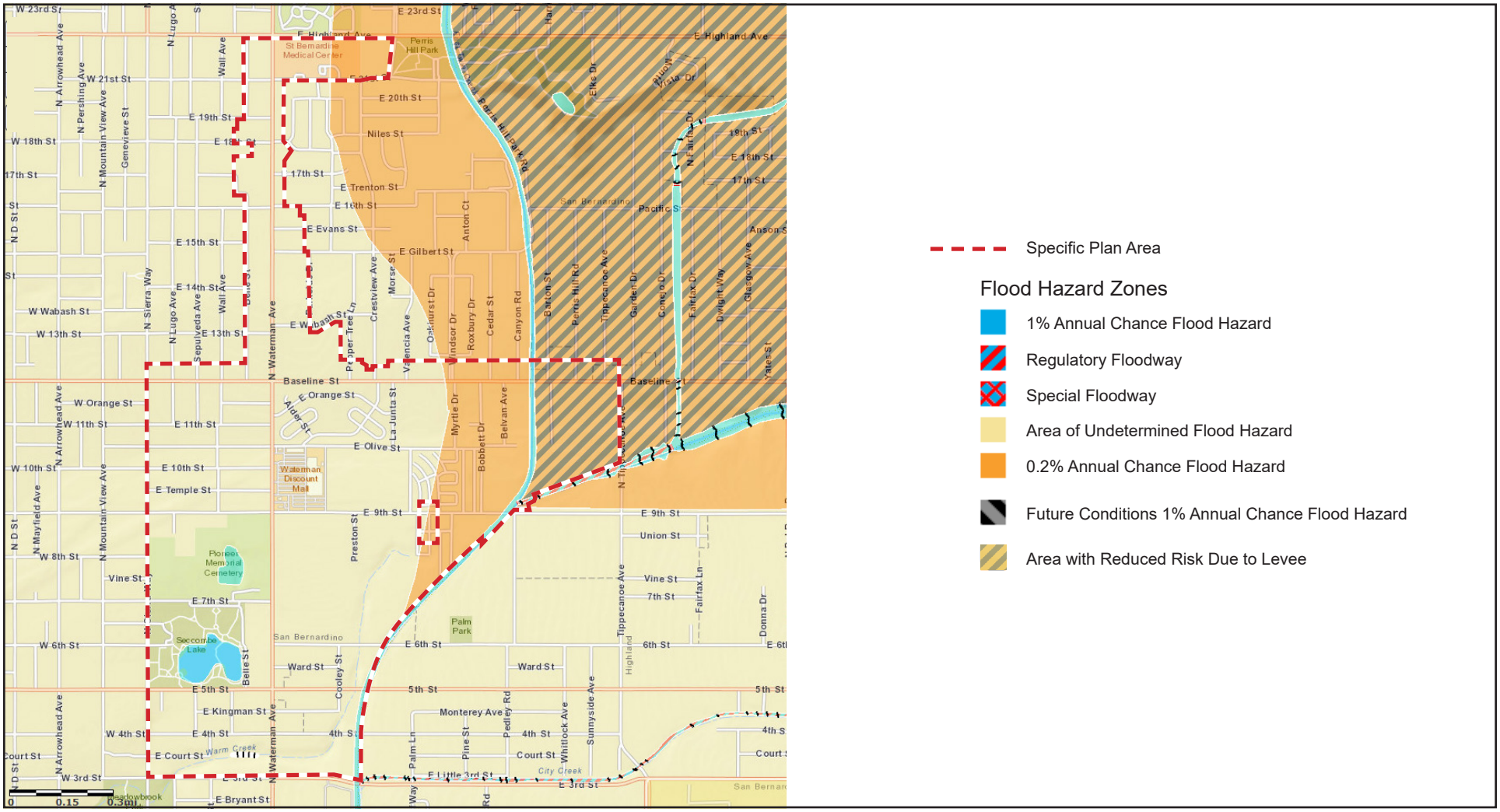
Figure 5.8-3 Flood Hazard Zones Map

5. Environmental Analysis



Base Map Source: FEMA, 2016

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5.8.2 Thresholds of Significance

According to Appendix G of the CEQA Guidelines, a project would normally have a significant effect on the environment if the project would:

HYD-1 Violate any water quality standards or waste discharge requirements.

HYD-2 Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted.

HYD-3 Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in a substantial erosion or siltation on- or off-site.

HYD-4 Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site.

HYD-5 Create or contribute runoff water which would exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff.

HYD-6 Otherwise substantially degrade water quality.

HYD-7 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.

HYD-8 Place within a 100-year flood hazard area structures which would impede or redirect flood flows.

HYD-9 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.

HYD-10 Be subject to inundation by seiche, tsunami, or mudflow.

5.8.3 Environmental Impacts

The proposed Specific Plan would permit development of net increases of 2,395 residential units and 1,204,063 square feet of commercial uses.

In the following impact analysis, thresholds of significance are listed after each impact statement.

Impact 5.8-1: Development pursuant to the Proposed Project would increase the amount of impervious surfaces and would therefore increase surface water flows into drainage systems within the watershed. [Thresholds HYD-3, HYD-4 and HYD-5]

Impact Analysis: Developments conforming with the Proposed Project would increase the total amount of impervious surfaces in the Specific Plan area. Projects would be required to prepare and implement water quality management plans (WQMPs) subject to approval and enforcement by the San Bernardino County Stormwater Program.

Project WQMPs would specify BMPs that the affected projects would be required to implement to minimize water pollution. Many projects would be required to implement LID BMPs that mimic pre-development site hydrology using techniques that store, infiltrate, evapotranspire, bio-filter, or detain runoff close to its source. Priority projects are required to infiltrate stormwater to the maximum extent practicable and to use biotreatment and harvest-and-use BMPs for the remainder of the design capture volume—that is, approximately the stormwater volume from a two-year storm. Categories of priority projects are listed above in Section 5.8.1.2, *Applicable Plans and Programs*.

Thus, Specific Plan buildout is not expected to result in substantial increases in flows into drainage systems in the Upper Santa Ana Hydrologic Unit. Impacts would be less than significant.

Impact 5.8-2: Development pursuant to the Proposed Project increases the amount of impervious surfaces in the Specific Plan area and would therefore impact opportunities for groundwater recharge. [Threshold HYD-2]

Impact Analysis: Developments pursuant to the Specific Plan would increase the total amount of impervious areas in the Specific Plan area, as explained above under Impact 5.8-1. The San Bernardino County Stormwater Program requires that priority projects infiltrate stormwater to the maximum extent practicable and use biotreatment and harvest-and-use BMPs for the remainder of the design capture volume—that is, approximately the stormwater volume from a two-year storm. Therefore, Specific Plan buildout would not substantially reduce groundwater recharge into the Bunker Hill Groundwater Basin, and impacts would be less than significant.

Impact 5.8-3: Portions of the Specific Plan area proposed for development are not within a 100-year flood hazard area. [Thresholds HYD-7 and HYD-8]

Impact Analysis: The only portions of the Specific Plan area in 100-year flood zones are the East Twin Creek and Warm Creek channels, which are drainage channels owned by the San Bernardino County Flood Control District and are required for public safety. Specific Plan buildout would not involve developments within 100-year flood zones, and no impact would occur.

Impact 5.8-4: During the construction phase of the Proposed Project, there is the potential for short-term unquantifiable increases in pollutant concentrations from the Specific Plan area. After Specific Plan development, the quality of storm runoff (sediment, nutrients, metals, pesticides, pathogens, and hydrocarbons) may be altered. [Thresholds HYD-1 and HYD-6]

Impact Analysis:

Construction

Pollutants of Concern

Bacteria and Viruses

Bacteria and viruses are microorganisms that thrive under certain environmental conditions. Water contamination by animal or human fecal wastes and excess organic wastes are common causes of proliferation of these microorganisms. Water containing excessive bacteria and viruses can alter the aquatic habitat and harm humans and aquatic life.

Metals

Metals of concern as water contaminants include cadmium, chromium, copper, lead, mercury, and zinc. Lead and chromium have been used as corrosion inhibitors; metals are also raw materials used in nonmetal products such as fuels, adhesives, and paints. At the low concentrations naturally occurring in soil, metals may not be toxic. However, certain metals at higher concentrations can be harmful to aquatic life and to humans. Humans can be impacted from groundwater contaminated with metals. Metals can become concentrated in fish and shellfish and can subsequently harm humans who consume those animals. Environmental concerns have already led to restrictions on some uses of metals.

Nutrients

Nutrients are inorganic substances such as nitrogen and phosphorous; the primary sources of these substances in urban runoff are fertilizers and eroded soils. Excessive discharge of nutrients to water bodies and streams causes overgrowth of aquatic plants and algae, which can lead to excessive decay of organic matter in the water, loss of oxygen in the water, and eventual death of aquatic organisms.

Pesticides

Relatively low concentrations of the active ingredients in pesticides can be toxic in water. Excessive or improper use of pesticides can cause toxic contamination in runoff.

Organic Compounds

Organic compounds are carbon based. Commercially available or naturally occurring organic compounds are found in pesticides, solvents, and hydrocarbons. Organic compounds at certain concentrations can be hazardous to life or health. Toxic levels of solvents and cleaning compounds can be discharged to storm drains during cleaning and rinsing operations.

Sediments

Sediments are solid materials that erode from the land surface. Sediments can increase the turbidity (cloudiness) of water, clog fish gills, reduce spawning habitat, lower survival rates of young aquatic organisms, smother bottom-dwelling organisms, and suppress aquatic vegetation growth.

Trash and Debris

Trash and debris, such as paper, plastic, polystyrene foam, and aluminum, and biodegradable organic matter such as leaves, grass cuttings, and food waste, may significantly impair aquatic habitat and the recreational value of a water body. In addition, trash impacts water quality by increasing biochemical oxygen demand.

Oxygen-Demanding Substances

Microbial biodegradation of organic compounds such as proteins, carbohydrates, and fats causes increased oxygen demand in water. A second category of oxygen-demanding substances is chemicals, such as ammonia and hydrogen sulfide, that react with dissolved oxygen in water to form other compounds. The oxygen demand of a substance can deplete dissolved oxygen in a water body and possibly cause septic conditions. A reduction of dissolved oxygen is harmful to aquatic life and can generate hazardous compounds such as hydrogen sulfides.

Oil and Grease

Oil and grease in water bodies decreases their aesthetic value as well as water quality; one of the most important sources of oil and grease is leakage from motor vehicles.

Stormwater Pollution Prevention Plans

Each project involving construction of one acre or more in area would prepare and implement a SWPPP estimating sediment risk from construction activities to receiving waters, and specifying construction BMPs to be implemented to minimize stormwater pollution. Construction BMPs are summarized in Table 5.8-1 below.

Table 5.8-1 Construction Best Management Practices

Category	Purpose	Examples
Erosion Controls and Wind Erosion Controls	Cover and/or bind soil surface, to prevent soil particles from being detached and transported by water or wind	Mulch, geotextiles, mats, hydroseeding, earth dikes, swales
Sediment Controls	Filter out soil particles that have been detached and transported in water.	Barriers such as straw bales, sandbags, fiber rolls, and gravel bag berms; desilting basin; cleaning measures such as street sweeping
Tracking Controls	Minimize the tracking of soil offsite by vehicles	Stabilized construction roadways and construction entrances/exits; entrance/outlet tire wash.
Non-Storm Water Management Controls	Prohibit discharge of materials other than stormwater, such as discharges from the cleaning, maintenance, and fueling of vehicles and equipment. Conduct various construction operations, including paving, grinding, and concrete curing and finishing, in ways that minimize non-stormwater discharges and contamination of any such discharges.	BMPs specifying methods for: paving and grinding operations; cleaning, fueling, and maintenance of vehicles and equipment; concrete curing; concrete finishing.
Waste Management and Controls (i.e., good housekeeping practices)	Management of materials and wastes to avoid contamination of stormwater.	Spill prevention and control, stockpile management, and management of solid wastes and hazardous wastes.

Source: CASQA 2003.

Construction impacts on stormwater quality would be less than significant after preparation and implementation of project-specific SWPPPs.

Operation

Pollutants of Concern

The categories of pollutants of concern from operation of projects developed pursuant to the Specific Plan would be the same as the categories of pollutants of concern from construction activities described above.

Low-Impact Development BMPs

Developments pursuant to the Specific Plan that may discharge urban runoff to the Santa Ana River watershed must comply with the requirements established by the MS4 Permit. Priority projects must implement LID BMPs to the maximum extent practicable in order to reduce the discharge of pollutants to receiving waters. The benefits of implementing LID may also include groundwater recharge through infiltration of runoff, reduced downstream drainage facilities, lowered maintenance and operation costs, and improved aesthetic appeal.

Soils within the Specific Plan area consist mostly of sand and gravel and are well drained; thus, infiltration is expected to be feasible within the area. Priority projects would use bio-filtration and/or bio-retention as needed for any remainder of the design capture volume for each individual project under the Specific Plan.

Several examples of preventive and mitigative LID BMPs are listed above in Section 5.8.1.2, *Applicable Plans and Programs*.

Source Control BMPs

Several structural and nonstructural source control BMPs are listed below.

Structural Source Control BMPs

- Roof runoff controls
- Protection of slopes and channels
- Efficient irrigation
- Storm drain system signage

Nonstructural Source Control BMPs

- Education of owners and employees
- Activity restrictions, such as requiring that trash can lids be closed at all times and prohibiting outdoor cooking.
- Periodic inspections of water quality features such as catch basins and filters.
- Scheduled street sweeping

Implementation of project-specific WQMPs for projects developed or redeveloped pursuant to the Specific Plan would reduce operational water quality impacts to less than significant.

Impact 5.8-5: The southeast quarter of the Specific Plan area, approximately, is within the inundation area of the Seven Oaks Dam. [Threshold HYD-9]

Impact Analysis: Approximately one-quarter of the Specific Plan area, including much of the area's southeast quadrant—from Sierra Avenue just north of 5th Street to the east edge of the Specific Plan area just north of Baseline Street—is in the dam inundation area for Seven Oaks Dam. The Seven Oaks Dam is a flood control dam that operates in tandem with the Prado Dam on the Santa Ana River about 25 miles southwest of the Specific Plan area. During a flood, Seven Oaks 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 Dam will begin to release its stored flood water at a rate that does not exceed the downstream channel capacity. Thus, Seven Oaks Dam only impounds substantial reservoirs during and shortly after flood flows on the Santa Ana River. Seven Oaks Dam is designed to resist a magnitude 8.0 earthquake (OCPW 2016) (see Section 5.6, *Geology and Soils*, of this DEIR for a discussion of earthquake magnitudes). Therefore, there is little likelihood that an earthquake strong enough to threaten failure of the Seven Oaks Dam would occur while the dam was impounding a substantial reservoir of water. Developments

and redevelopments pursuant to the Specific Plan would not place people and structures at substantial risk of flooding from dam failure, and impacts would be less than significant.

Impact 5.8-6: The Specific Plan area would not be subject to inundation by seiche, tsunami, or mudflow. [Threshold HYD-10]

Impact Analysis:

Seiche

There are no aboveground water bodies near enough to the Specific Plan area to pose a seiche flood hazard to the Specific Plan area. Specific Plan implementation would not place people or structures at risk of flooding due to a seiche.

Tsunami

Specific Plan buildout would not subject people or structures to tsunami flood hazards.

Mudflow

The Specific Plan area is not subject to flooding due to mudflow, and Specific Plan implementation would not place people or structures at risk from mudflows. No impact would occur.

5.8.4 Cumulative Impacts

Hydrology and Drainage

The area considered for cumulative hydrology and drainage impacts is the Santa Ana Watershed, nearly 2,800 square miles in southwest California. Other projects in the watershed would increase impervious areas. Other projects would be required to comply with water quality mandates of the Santa Ana RWQCB, such as the WQMP requirements described above. Other projects would be required to implement BMPs infiltrating some fraction of the rainwater falling on a site (details of water quality requirements vary somewhat by county; the Santa Ana Watershed spans parts of four counties). Thus, other projects would not substantially increase stormwater flows into drainage systems and would not substantially decrease groundwater recharge. Cumulative hydrology and drainage impacts would be less than significant.

Water Quality

The area considered for cumulative water quality impacts to the part of the Santa Ana Watershed in San Bernardino County, approximately 780 square miles, subject to San Bernardino County Stormwater Program requirements. Other projects in the region would generate pollutants that could contaminate stormwater. Other projects would be required to prepare and implement WQMPs and SWPPPs specifying BMPs to be used to minimize stormwater pollution. Thus, cumulative water quality impacts would be less than significant.

Flood Hazards

Specific Plan buildout would not contribute to cumulative flood hazards in 100-year flood zones, since the only parts of the Specific Plan area in such zones are two drainage channels. The analysis of dam inundation hazards from Seven Oaks Dam in Impact 5.8-5 above applies to cumulative impacts as well as direct impacts. Cumulative flood hazard impacts would be less than significant.

5.8.5 Existing Regulations and Standard Conditions

Federal

- United States Code, Title 33, Sections 1251 et seq.: Clean Water Act
- Code of Federal Regulations Title 40 Parts 122 et seq.: National Pollutant Discharge Elimination System (NPDES)
- Code of Federal Regulations Title 33 Parts 320-332: Regulatory Program Regulations

State

- California Water Code Sections 13000 et seq.: Porter-Cologne Water Quality Act
- Order No. 2012-0006-DWQ, Statewide General Construction Permit, State Water Resources Control Board

Regional

- County of San Bernardino Areawide Stormwater Program: Technical Guidance Document for Water Quality Management Plans.

5.8.6 Level of Significance Before Mitigation

Upon implementation of regulatory requirements and standard conditions of approval, Impacts 5.8-1 through 5.8-6 would be less than significant.

5.8.7 Mitigation Measures

No mitigation measures are required.

5.8.8 Level of Significance After Mitigation

Impacts would be less than significant, and no significant and unavoidable impacts would occur.

5.8.9 References

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5.9 LAND USE AND PLANNING

This section of the Draft Environmental Impact Report (DEIR) evaluates the potential impacts to land use in the Specific Plan area from implementation of the Waterman + Baseline Neighborhood Specific Plan (Proposed Project). This section is based on the proposed Specific Plan, described in detail in Chapter 3, *Project Description*, and shown in Figure 3-2, *Proposed Land Use Plan*. The Proposed Project has been evaluated to determine its consistency with relevant goals and policies of the City of San Bernardino General Plan, the City's Zoning Code, and the Southern California Association of Governments' (SCAG) Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS).

Land use impacts can be either direct or indirect. Direct impacts are those that result in land use incompatibilities, division of neighborhoods or communities, or interference with other land use plans, including habitat and wildlife conservation plans. This section focuses on direct land use impacts. Indirect impacts are secondary effects resulting from land use policy implementation, such as an increase in demand for public utilities or services, or increased traffic on roadways. Indirect impacts are addressed in other sections of this DEIR.

5.9.1 Environmental Setting

5.9.1.1 REGULATORY BACKGROUND

Laws, regulations, and plans that are potentially applicable to the Proposed Project are summarized below.

Regional

Southern California Association of Governments

SCAG is a council of governments representing Imperial, Los Angeles, Orange, Riverside, San Bernardino, and Ventura counties. SCAG is the federally recognized metropolitan planning organization (MPO) for this region, which encompasses over 38,000 square miles. SCAG is a regional planning agency and a forum for addressing regional issues concerning transportation, the economy, community development, and the environment. SCAG is also the regional clearinghouse for projects requiring environmental documentation under federal and state law. In this role, SCAG reviews proposed development and infrastructure projects to analyze their impacts on regional planning programs. As the southern California region's designated MPO, SCAG cooperates with the South Coast Air Quality Management District, the California Department of Transportation (Caltrans), and other agencies in preparing regional planning documents. SCAG has developed regional plans to achieve specific regional objectives. The plans most applicable to the Proposed Project are discussed below.

The Proposed Project is considered a project of regionwide significance pursuant to the criteria outlined in SCAG's Intergovernmental Review Procedures Handbook (November 1995) and Section 15206 of the CEQA Guidelines. Therefore, this section addresses the Proposed Project's consistency with the applicable SCAG regional planning guidelines and policies.

Regional Transportation Plan/Sustainable Communities Strategy

On April 7, 2016, SCAG adopted the 2016-2040 RTP/SCS: A Plan for Mobility, Accessibility, Sustainability and a High Quality of Life, which places a greater emphasis than ever on sustainability and integrated planning. The 2016-2040 RTP/SCS includes a strong commitment to reduce emissions from transportation sources to comply with Senate Bill 375 (SB 375), improve public health, and meet the National Ambient Air Quality Standards set by the federal Clean Air Act. The 2016-2040 RTP/SCS provides a blueprint for improving quality of life for residents by providing more choices for where they will live, work, and play and how they will move around (SCAG 2016).

High Quality Transit Areas

Starting with the adoption of the 2012 RTP/SCS, the areas previously known as 2% Strategy Opportunity Areas were updated by SCAG and renamed "high quality transit areas" (HQTAs), which are a part of and integrated into the SCS portion of the 2016-2040 RTP/SCS. An HQTA is generally a walkable transit village or corridor that is within a half mile of a well-serviced transit stop or a transit corridor with a service frequency of 15 minutes or less during peak commute hours. The overall land use pattern of the 2016-2040 RTP/SCS focuses jobs and housing in the region's designated HQTAs. Because of central San Bernardino's high density of Omnitrans bus routes, the entire Specific Plan area is identified as a HQTA in the 2016–2040 RTP/SCS (SCAG 2016).

Local

City of San Bernardino General Plan

The current City of San Bernardino General Plan was adopted by the San Bernardino City Council in 2005. Since then, the General Plan has been updated and supplemented periodically. In particular, the housing element has been updated on a schedule prescribed by the California Department of Housing and Community Development. The current housing element was adopted on February 10, 2014.

The current General Plan is organized into 13 elements: land use; housing; economic development; community design; circulation; public facilities and services; parks, recreation, and trails; utilities; safety; historical and archeological resources; natural resources and conservation; energy and water conservation; and noise. These elements encompass the seven state-required General Plan "elements" as well as locally important issues. In addition to providing goals and policies covering the aforementioned topics, the General Plan provides the basis for current land-use designations in the City, which are described below.

General Plan Land Use Designations

The Specific Plan area is currently designated for residential, commercial, and industrial uses by the City of San Bernardino General Plan. The majority of properties fronting Waterman Avenue are designated Commercial Office north of 13th Street and Commercial General-1 south of 13th to 3rd Street. Along Baseline Street, most of the parcels fronting the corridor from Sierra Way to Pepper Tree Lane are designated Commercial General-1, and parcels from Pepper Tree Lane to Tippecanoe Avenue are designated Commercial Heavy. There are two public facility sites within the Specific Plan area—E. Neal Roberts Elementary School and the Pioneer Memorial Cemetery—and one Public Park, Seccombe Lake. In the

southern portion of the Specific Plan area, east of Waterman Avenue between 9th and 6th Street, a clustering of parcels is designated Light Industrial, and a second, smaller cluster is designated for Heavy Industrial land uses. In the southwestern corner of the Specific Plan area is a small grouping of properties designated for Commercial Office uses. The remaining parcels are designated for residential uses, including: Residential Suburban (4.5 dwelling units per acre), Residential Urban (9 dwelling units per acre), Residential Medium (14 dwelling units per acre), Residential Medium High (24 dwelling units per acre), and Residential High (30 dwelling units per acre). The existing General Specific Plan land use designations for parcels within the Specific Plan area are shown in Figure 4-2, *Current General Plan Land Use Designations*.

Existing Zoning

The San Bernardino Zoning Code (San Bernardino Municipal Code, Title 19, Article II) provides the basis for current zoning in the Specific Plan area. Existing zoning designations in the Specific Plan area largely reflect the land use designations in the General Plan, discussed above. The majority of properties fronting Waterman Avenue are zoned Commercial Office north of 13th Street and Commercial General-1 south of 13th to 3rd Street. Along Baseline Street, most of the parcels fronting the corridor from Sierra Way to Pepper Tree Lane are zoned Commercial General-1, and parcels from Pepper Tree Lane to Tippecanoe Avenue are zoned Commercial Heavy. According to the Zoning Map, E. Neal Roberts Elementary School and the Pioneer Memorial Cemetery are both zoned as Public Facilities, and Seccombe Lake is zoned as a Public Park. In the southern portion of the Specific Plan area, east of Waterman Avenue, a clustering of parcels zoned Light Industrial fronts the south side of 9th Street, and a smaller grouping of parcels is zoned Heavy Industrial closer to Waterman Avenue and also fronting along 9th Street. In the southwestern corner of the Specific Plan area is a small grouping of parcels zoned Commercial Office fronting Sierra Way between 3rd Street and 5th Street. The remaining parcels in the Specific Plan area are designated for residential uses, including: Residential Suburban (4.5 dwelling units per acre), Residential Urban (8 dwelling units per acre), Residential Medium (12 dwelling units per acre), Residential Medium High (24 dwelling units per acre), and Residential High (31 dwelling units per acre). Existing zoning for parcels within the Specific Plan area is shown in Figure 4-3, *Existing Zoning*.

5.9.1.2 EXISTING CONDITIONS

Existing Land Uses

Figure 4-1, *Aerial Photograph*, shows the Specific Plan area and surrounding land uses. The Specific Plan area contains a wide range of existing land uses, including residential, commercial, industrial, office, and public uses, in additional to vacant parcels.

- **Residential.** Residential uses are located throughout the Specific Plan area. Most single-family residential homes are located in three neighborhoods: 1) west of Waterman Avenue between 9th Street and Baseline Street; 2) south of Baseline Street between La Junita Street and Tippecanoe Avenue; and 3) east of Waterman Avenue between 3rd Street and 6th Street. Most of these are one-story homes and many have detached garages. Other residential uses include the Waterman Gardens public housing community near the center of Specific Plan area, scattered small apartment buildings, and three mobile home communities along 9th Street near the eastern edge of the Specific Plan area.

- **Commercial.** Commercial uses in the Specific Plan area are generally located adjacent to Waterman Avenue and Baseline Street and accessed directly from those roadways. These include a variety of small businesses, including restaurants, fast food outlets, gas stations, and other service commercial uses. There are three suburban-scaled shopping centers in the Specific Plan area. The first, at the southwest corner of Waterman Avenue and 9th Street, is anchored by an El Super grocery store. The Waterman Avenue Shopping Center is located at the northeast corner of the same intersection and is anchored by a 99 Cents Only store and the Waterman Discount Mall, an indoor swap meet with multiple vendors selling a variety of goods. The third shopping center is located at the northeast corner of Waterman Avenue and Baseline Street and is anchored by an O'Reilly Auto Parts and Stater Brothers grocery store. There are numerous vacant commercial spaces in the Specific Plan area.

- **Industrial.** Light industrial uses are generally located east of Waterman Avenue between 6th Street and 9th Street. They include auto repair shops, automobile part salvage yards, and a recycling center. Many of the Specific plan area's vacant parcels are scattered throughout this area.

- **Medical and Office.** Most office uses in the Specific Plan area are clustered around St. Bernardine Medical Center, which is surrounded by small clinics, pharmacies, and medical labs.

- **Public Uses.** Major public uses in the Specific Plan area include E. Neal Roberts Elementary School, Pioneer Memorial Cemetery, and Seccombe Lake Park.

Existing Surrounding Land Uses

The Specific Plan area is surrounded by a broad mix of residential, commercial, industrial, and public uses. Downtown San Bernardino, southwest of the Specific Plan, contains numerous urban land uses including a large concentration of government buildings and low- to mid-rise office buildings. Neighborhoods to the northeast and northwest are generally dominated by single-family residential uses except where commercial uses are organized along major arterial roadways (i.e., Baseline Street and Highland Avenue). To the southeast of the Specific Plan area is a transitional area that is not characterized by any single land use. The area contains single-family residential neighborhoods, large warehouses and distributions centers, numerous vacant lots, and San Bernardino International Airport.

5.9.2 Thresholds of Significance

According to Appendix G of the CEQA Guidelines and the City of San Bernardino's adopted CEQA thresholds, a project would normally have a significant effect on the environment if the project would:

LU-1 Physically divide an established community.

LU-2 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.

LU-3 Conflict with any applicable habitat conservation plan or natural community conservation plan.

LU-4 Be developed within the Hillside Management Overlay District.

LU-5 Be developed within Foothill Fire Zones A, B, or C as identified in the City's General Plan.

LU-6 Be developed within the Airport Influence Area as adopted by the San Bernardino International Airport Authority.

5.9.3 Environmental Impacts

The following impact analysis addresses thresholds of significance found in Appendix G of the CEQA Guidelines. The applicable thresholds are identified in brackets after the impact statement.

Impact 5.-1: Implementation of the Proposed Project would not divide an established community. [Threshold LU-1]

Impact Analysis: Buildout of the Proposed Project would be expected to add approximately 2,395 residential units and approximately 1.2 million square feet of nonresidential building space to the Specific Plan area compared to existing conditions. New growth and development in the Specific Plan area would alter the land use pattern of central San Bernardino and the character of the Specific Plan area's constituent neighborhoods. However, for the following reasons, the Proposed Project would not divide an established community:

- **Street Network.** Implementation of the Proposed Project would not involve the closure or relocation of any major streets. Residents would still be able to use 5th Street, 9th Street, Baseline Street, Highland Avenue, Waterman Avenue, and other roadways to access land uses and travel through the Specific Plan area. Furthermore, no other component of the Specific Plan proposes a built element that would create a physical barrier within the community.

- **Mixed Use.** Construction of new mixed use development, which would be allowed in a substantial amount of the Specific Plan area, would add streets, pedestrian paths, and visual connections between areas of the Specific Plan area where there are currently are no such connections. In particular, the transitioning of parcels in the Midtown Core District and Employment Mixed Use District from auto part salvage yards and vacant lots to mixed use development would create new physical connections within what are now large "superblocks" without interior paths of travel. These new paths of pedestrian, bicycle, and automobile travel would expand local access and mobility in the community.

- **Streetscape Improvements.** Implementation of development standards and design guidelines in the proposed Specific Plan, including those related to landscaping, lighting design, setbacks, and building facades, would create a more unified streetscape along major roadways. This increased physical and visual continuity would better tie the community's components together than under existing conditions.

- **Existing Residential Neighborhoods.** In order to preserve the character, scale, and land use pattern of existing residential neighborhoods, the Proposed Project focuses new development intensity into major corridors and underutilized nonresidential areas. Accordingly, existing single-family residential neighborhoods are designated Neighborhood Residential under the proposed Specific Plan (see Figure 3-3, *Proposed Land Use Plan*). Implementation of this zone would preserve and enhance existing single family neighborhoods and would prevent incompatible land uses and building types from being introduced into these neighborhoods.

Overall, the Proposed Project would enhance and revitalize a community that is currently divided by a haphazard land use pattern and ill-defined streetscapes. As discussed above, provisions of the Proposed Project would increase physical and visual connections in the Specific Plan area. Adverse impacts related to division of established neighborhoods would be less than significant and no mitigation is necessary.

Impact 5.9-2: Implementation of the Proposed Project would not conflict with applicable plans adopted for the purpose of avoiding or mitigating an environmental effect. [Threshold LU-2]

Impact Analysis: Below is an evaluation of the Proposed Project's consistency with applicable plans and policies that have been adopted for the purpose of avoiding or mitigating an environmental effect.

San Bernardino General Plan Consistency

Current land use designations for parcels in the Specific Plan area include: Residential (Suburban, Urban, Medium, Medium High, and High), Commercial (Office, General, and Heavy), Industrial (Light and Heavy), Flood Control Channel, Public Park, and Public Facility. The Proposed Project requires a General Plan amendment to reflect the proposed land use designations of the Specific Plan. Some of the current General Plan land use designations within the Project area do not permit the mix and intensity of uses proposed under the Specific Plan. Specifically, the existing single-use designations (i.e., commercial and industrial designations) do not permit the mixed uses and higher density residential uses that would be allowed in the Specific Plan. Upon approval of the General Plan amendment by the City of San Bernardino City Council, the Proposed Project would become compatible with the City's land use designations and impacts would be less than significant.

A detailed analysis of the Proposed Project's consistency with citywide goals in the General Plan is provided in Table 5.9-1. Because CEQA Threshold LU-2 emphasizes consistency with land use goals "adopted for the purpose of avoiding or mitigating an environmental effect," Table 5.9-1 focuses on consistency with the City's land use element and natural resources and conservation element. The Proposed Project's consistency with other General Plan elements that address more indirect environmental issues (e.g., housing, community design, circulation, and utilities elements) is analyzed in the respective sections of this DEIR that cover those topics.

Table 5.9-1 Consistency with the San Bernardino General Plan

General Plan Goal	Compliance with Goal
Land Use Element	
Goal 2.1: Preserve and enhance San Bernardino's unique neighborhoods.	***Consistent:*** Chapter 5 of the proposed Specific Plan includes development standards, parking standards, and design guidelines (including lighting and signage guidelines) that, when implemented by individual project applicants, would preserve and enhance the character of the Specific Plan area. These provisions would be applicable to the entirety of the area and emphasize walkability, land use compatibility, and high quality public space.
Goal 2.2: Promote development that integrates with and minimizes impacts on surrounding land uses.	***Consistent:*** As stated under Goal 1, *Transform the Neighborhood*, of the proposed Specific Plan, objectives of the Proposed Project include promoting "the environmental health of the community through new development" and "reducing conflicts between neighborhoods and industrial uses. By promoting the gradual replacement of industrial uses with infill residential uses, mixed uses, and meaningful open space, the Proposed Project would create a greater sense of the place in the Specific Plan area and would remove environmental hazards. This revitalization process would also result in beneficial aesthetic impacts (see Section 5.1, *Aesthetics*, of this DEIR) by establishing development standards and design guidelines to be consistently applied in the Specific Plan area.
Goal 2.3: Create and enhance dynamic, recognizable places for San Bernardino's residents, employees, and visitors.	
Goal 2.4: Enhance the quality of life and economic vitality in San Bernardino by strategic infill of new development and revitalization of existing development.	
Goal 2.5: Enhance the aesthetic quality of land uses and structures in San Bernardino.	
Goal 2.6: Control development and the use of land to minimize adverse impacts on significant natural, historic, cultural, habitat, and hillside resources.	***Consistent:*** See Sections 5.3, *Biological Resources*, and 5.4, *Cultural Resources*, of this DEIR. The Specific Plan area does not contain substantial areas of wildlife habitat, notable cultural resources, notable topography, or hillside areas (see Impact 5.9-4, below).
Goal 2.7: Provide for the development and maintenance of public infrastructure and services to support existing and future residents, businesses, recreation, and other uses	***Consistent:*** Chapter 7, *Infrastructure Plan*, of the proposed Specific Plan identifies infrastructure and services (including water, sewer, storm drainage, fire, police, and school services) required to serve the Specific Plan area at buildout. For more information, see Section 5.13, *Public Services*, and 5.16, *Utilities and Service Systems*, of this DEIR.
Goal 2.8: Protect the life and property of residents, businesses, and visitors to the City of San Bernardino from crime and the hazards of flood, fire, seismic risk, and liquefaction.	***Consistent:*** See Section 5.7, *Hazards and Hazardous Materials*, of this DEIR.
Goal 2.9: Protect the airspace of the San Bernardino International Airport and minimize related noise and safety impacts on our citizens and businesses.	***Consistent:*** See Impact 5.9-6, below.
Goal 2.10: Actively apply, enforce, and utilize the General Plan in the day-to-day activities of the City.	***Not Applicable:*** As discussed in the paragraphs preceding this table, the Proposed Project would require amendments to the General Plan. Upon adoption of the proposed Specific Plan, the General Plan would be updated to reflect components of the Specific Plan, and the two documents would be consistent. As in other parts of the City, project applicants within the Specific Plan area would be required to demonstrate to the City of San Bernardino consistency with the General Plan and other applicable local regulations.

Table 5.9-1 Consistency with the San Bernardino General Plan

General Plan Goal	Compliance with Goal
Natural Resources and Conservation Element	
Goal 12.1: Conserve and enhance San Bernardino's biological resources. **Goal 12.2:** Protect riparian corridors to provide habitat for fish and wildlife.	***Consistent:*** See Section 5.3, *Biological Resources*, of this DEIR.
Goal 12.3: Establish open space corridors between and to protected wildlands.	***Consistent:*** There are no protected wetlands in the Specific Plan area. However, the Specific Plan acknowledges that the eastern edge of Specific Plan area offers a unique opportunity for the creation of an open space corridor. As shown in Figure 4.3 of the Specific Plan, the plan aims to leverage the undeveloped nature of sites along an existing drainage channel into a recreational amenity. Chapter 9 of the Specific Plan identifies a Community Benefits Program that would offer incentives for landowners and project applicants to create the Specific Plan's vision for this open space corridor.
Goal 12.4: Properly manage designated areas for mineral extraction to meet the needs of the area.	***Consistent:*** As discussed in Section 5.10, *Mineral Resources,* of this DEIR, the Specific Plan area contains areas where mineral resources are known to exist. However, implementation of the Proposed Project would not cause a loss of availability of mineral resources.
Goal 12.5: Promote air quality that is compatible with the health, wellbeing, and enjoyment of life. **Goal 12.6:** Reduce the amount of vehicular emissions in San Bernardino. **Goal 12.7:** Participate in regional initiatives and programs to improve the South Coast Basin's air quality.	***Consistent:*** See Sections 5.2, *Air Quality*, and 5.4, *Greenhouse Gas Emissions,* of this DEIR. The Proposed Project encourages the type of walkable, mixed use urban development that would reduce local reliance on automobile travel, reducing mobile sources of local air pollution. Furthermore, the Proposed Project encourages the transition of existing industrial land uses in the Specific Plan area to land uses that produce less hazardous emissions and are more compatible with adjacent residential uses.
Goal 12.8: Preserve natural features that are characteristic of San Bernardino's image.	***Not Applicable:*** The Specific Plan area is heavily urbanized and does not contain any notable natural features.

Source: City of San Bernardino 2005.

The above analysis concludes that the Proposed Project would be consistent with the applicable goals and policies of the City's General Plan. Therefore, implementation of the Proposed Project would not result in significant land use impacts to relevant General Plan policy.

San Bernardino Zoning Code Consistency

Implementation of the Proposed Project would require an amendment to the City's Zoning Regulations (Title 19, Article II of the City's Municipal Code) and zoning map. More specifically, the City's Zoning Regulations and zoning map would be amended to replace existing zoning designations with those identified in the proposed Specific Plan. Additionally, the changes to the City's zoning regulations would state that the regulating code within the proposed Specific Plan would serve as the zoning, development, and design standards for all development projects within the Specific Plan area.

A specific plan acts as a bridge between the general plan and individual development proposals. Local jurisdictions may adopt specific plans by resolution or ordinance. The proposed Specific Plan would be adopted by ordinance and would serve as the zoning for the Specific Plan area. The provisions in the Specific Plan would control the use and development of property in the Specific Plan area to the same extent as if set forth in the City's zoning regulations. The Specific Plan would act as the regulatory document that the City of San Bernardino would use to guide development within the Specific Plan area; systematically implement the City's General Plan; and help maintain consistency with and carry out the goals, objectives, and policies of the General Plan.

The proposed Specific Plan would establish the necessary plans, development standards (parking requirements, setbacks, building heights, etc.), design guidelines (architectural styles, building form and massing, landscaping, signage, etc.), regulations, infrastructure requirements, financing methods, and implementation programs for subsequent project-related development activities. It is intended that local public works projects, design review plans, detailed site plans, grading and building permits, or any other action requiring ministerial or discretionary approval applicable to the Specific Plan area be consistent with the Specific Plan.

Based on the preceding analysis, the Proposed Project would be consistent with the City's zoning regulations and therefore would not result in any significant land use impact

SCAG 2016–2040 RTP/SCS Consistency

Table 5.9-2 provides an assessment of the Proposed Project's relationship to pertinent 2016-2040 SCAG RTP/SCS goals. The analysis in this table concludes that the Proposed Project would be consistent with the applicable RTP/SCS goals.

Table 5.9-2 Consistency with SCAG's 2016–2040 RTP/SCS Goals

RTP/SCS Goal	Project Compliance with Goal
RTP/SCS G1: Align the plan investments and policies with improving regional economic development and competitiveness.	***Not Applicable:*** This is not a project-specific goal and is therefore not applicable.
RTP/SCS G2: Maximize mobility and accessibility for all people and goods in the region. **RTP/SCS G3:** Ensure travel safety and reliability for all people and goods in the region. **RTP/SCS G4:** Preserve and ensure a sustainable regional transportation system.	***Consistent:*** Implementation of the Proposed Project would maximize mobility, accessibility, travel safety, and reliability for people and goods. The vehicular and pedestrian circulation improvements called for in the Specific Plan would be designed, developed, and maintained to meet the needs of local and regional transportation and to ensure efficient mobility and accessibility. A number of regional and local plans and programs (e.g., San Bernardino County Congestion Management Program, Caltrans Traffic Impact Studies Guidelines, and the California Complete Streets Act) would be used to guide development and maintenance of traffic and circulation improvements in the Specific Plan area and the surrounding roadway network.
RTP/SCS G5: Maximize the productivity of our transportation system.	All modes of public and commercial transit throughout the Specific Plan area would be required to follow safety standards set by corresponding state, regional, and local regulatory documents. For example, pedestrian walkways and bicycle routes must follow safety precautions and standards established by local (e.g., City of San Bernardino, County of San Bernardino) and regional (e.g., SCAG, Caltrans) agencies. Roadways for motorists would be required to follow safety standards established for the local and regional plans noted above.

Table 5.9-2 Consistency with SCAG's 2016–2040 RTP/SCS Goals

RTP/SCS Goal	Project Compliance with Goal
	All improvements to the existing transportation networks in the Specific Plan area would be assessed with some level of traffic analysis (e.g., traffic assessments, traffic impact studies) to determine how individual development projects accommodated by the Proposed Project would impact existing traffic capacities and to determine the need for improving future traffic capacities. Additionally, the regional plans mentioned above would be applicable to the design and development of any proposed roadway improvements. The Proposed Project would also help ensure a sustainable transportation system and help maximize the productivity of the transportation system. For example, implementation of the Proposed Project would lead to the development of an improved bicycle and pedestrian circulation system in the Specific Plan area. Furthermore, Chapter 6, *Mobility Plan*, of the proposed Specific Plan supports the San Bernardino General Plan circulation element's approach to creating a multimodal street network. Proposed improvements include new and enhanced sidewalks, bike routes, and wayfinding (e.g., signage) for users of these travel modes. Improvements to major arterial roadways in the Specific Plan area are proposed to accommodate pedestrians and bicyclists while continuing to serve automobiles and bus service.
RTP/SCS G6: Protect the environment and health of our residents by improving air quality and encouraging active transportation (e.g., bicycling and walking).	***Consistent:*** The CEQA process ensures that plans at all levels of government consider environmental impacts. Various sections of this DEIR appropriately address the potential environmental impacts related to development of the Proposed Project. For example, Sections 5.2, *Air Quality*, and 5.6, *Greenhouse Gas Emissions*, address air quality, energy, and global climate change impacts that would occur as a result of implementation of the Proposed Project, and apply mitigation measures and regulatory requirements to reduce any impacts, as applicable and feasible. The reduction of energy use, improvement of air quality, and promotion of more environmentally sustainable development would be encouraged through the development of alternative transportation methods, green design techniques for buildings, and other energy-reducing techniques. For example, individual development projects accommodated by the Proposed Project would be required to comply with the provisions of the 2013 Building and Energy Efficiency Standards and the 2013 Green Building Standards Code. Compliance with these provisions would be ensured through the City's processes for reviewing development and checking building plans. Project implementation would also strive to maximize the protection of the environment and improvement of air quality by encouraging and improving the use of the region's public transportation system (i.e., bus and bicycle) for residents and workers who would be generated by the Proposed Project. As noted above under RTP Goals G2 through G5, the Proposed Project calls for the enhancement of the existing pedestrian and bicycle circulation system. The Specific Plan area is also served by six bus routes operated by OmniTrans (Routes 1, 3/4, 5, 7, and 8). Lastly, the mixed uses proposed for the Specific Plan area under the Proposed Project would reduce vehicle miles traveled by locating new jobs near existing and proposed housing, thereby reducing air quality and traffic impacts and greenhouse gas emissions.
RTP/SCS G7: Actively encourage and create incentives for energy efficiency, where possible.	***Not Applicable:*** This is not a project-specific goal and is therefore not applicable.

Table 5.9-2 Consistency with SCAG's 2016–2040 RTP/SCS Goals

RTP/SCS Goal	Project Compliance with Goal
RTP/SCS G8: Encourage land use and growth patterns that facilitate transit and active transportation.	***Consistent:*** See response to RTP/SCS Goals G2 through G5.
RTP/SCS G9: Maximize the security of our transportation system through improved system monitoring, rapid recovery planning, and coordination with other security agencies.	***Not Applicable:*** This is not a project-specific goal and is therefore not applicable.

Source: 2016-2040 SCAG Regional Transportation Plan/Sustainable Communities Strategy.

As demonstrated in Table 5.9-2, the Proposed Project would be consistent with SCAG's RTP/SCS goals. Impacts relating to consistency with adopted plans would be less than significant.

Impact 5.9-3: The Proposed Project would not conflict with an adopted habitat conservation plan. [Threshold LU-3]

Impact Analysis: The Specific Plan area is not in the plan area of any habitat conservation plan or natural community conservation plan. Therefore, implementation of the Proposed Project would not conflict with an adopted conservation plan; no impact would occur.

Impact 5.9-4: The Specific Plan area is not within the Hillside Management Overlay District. [Threshold LU-4]

Impact Analysis: Chapter 19.17 of the City's Development Code establishes local land use regulations related to the City's hillside areas. The Hillside Management District is generally located in the foothills of the San Bernardino Mountains along the northern edge of the City. The district applies to areas of 15 percent or greater slope as shown on the General Plan land use plan.

The Specific Plan area is located on a flat portion of central San Bernardino that contains no steep topography. The nearest area within the Hillside Management District is the eastern Shandin Hills, approximately 1.5 miles to the northwest of St. Bernardine Medical Center. No impact would occur.

Impact 5.9-5: The Specific Plan area is not located within fire hazard areas identified by the San Bernardino General Plan. [Threshold LU-5]

Impact Analysis: Figure S-9 of the safety element of the San Bernardino General Plan identifies fire hazard areas in San Bernardino. Areas identified as susceptible to "extreme" fire hazards are located in the foothills of the San Bernardino Mountains at the northern edge of the City and in the Shandin Hills. Areas identified as facing "moderate" fire hazards generally consist of the urban-wildland interface at the edge of the foothills where they meet the City's urbanized neighborhoods. The Specific Plan area is not within fire hazards areas identified by the General Plan. Therefore, no impact would occur.

Impact 5.9-6: The Proposed Project would allow development within the airport influence area of San Bernardino International Airport. [Threshold LU-6]

Impact Analysis: San Bernardino International Airport (SBIA) is about 1.25 miles southeast of the Specific Plan area. SBIA Runway 6/24 is 10,000 feet long and classified as a "long general aviation runway." It is aligned east-northeast to west-southwest. No SBIA flight paths pass directly over the Specific Plan area since the airport's runway is entirely south of the Specific Plan area and roughly perpendicular to the orientation of the Specific Plan area.

The southern and eastern parts of the Specific Plan area are within Airport Safety Review Area 3 (AR3) designated in the San Bernardino County General Plan (see Figure 5.7-1, *Airport Safety Review Area*). No land use categories are prohibited in AR3 areas, and no limits for residential density (or capacity for places of assembly) are identified for AR3 areas in the county's general plan. Airport safety reviews by the San Bernardino International Airport Authority are required for projects within AR3 areas. The Specific Plan area is also in the area surrounding SBIA where heights of structures are regulated pursuant to Federal Aviation Administration (FAA) Part 77 Regulations to prevent obstructions to air navigation. Permitted structure heights in the Specific Plan area range from 1,314 feet above mean sea level (amsl) in the southern and southeastern portions of the Specific Plan area to 1,514 feet amsl along the area's east-central boundary near Wabash Street. Ground elevations within the regulated area range from about 1,019 feet amsl at the southwest corner of the Specific Plan area to 1,107 feet amsl on its eastern boundary near Wabash Street.

Consistency with maximum building height standards established for the Specific Plan area for (see Table 5-2 in the proposed Specific Plan) would be evaluated by the City of San Bernardino for each development or redevelopment application submitted to the City. As described in Section 5.7, *Hazards and Hazardous Materials,* of this DEIR, the Specific Plan would not permit development of structures exceeding height limits per FAA Part 77 Regulations. Furthermore, because the AR3 zone has no prohibitions on the types of land uses allowed in the southern and eastern portions of the Specific Plan area under the Proposed Project, implementation of the Proposed Project would not conflict with regulations related to the SBIA's airport influence area. Impacts would be less than significant.

5.9.4 Cumulative Impacts

The Proposed Project involves amendments to the San Bernardino General Plan and Zoning Regulations. However, these changes to local land use regulations and policies are specific to the Specific Plan area, and their effects would not be magnified by new development elsewhere in the City.

From a land use and planning perspective, the cumulative population and economic growth resulting from the Proposed Project in combination with buildout of the San Bernardino General Plan is a desired and intended impact of the policies outlined in the General Plan and 2016–2040 RTP/SCS. Those documents advocate for targeted, context-sensitive infill development and redevelopment that contributes to the establishment of mixed-use, multimodal neighborhoods. As demonstrated by the tables above, implementation of the Proposed Project would be consistent with those goals. Furthermore, as with the Proposed Project, other development projects and plans in San Bernardino would be subject to compliance

with the regional and local plans discussed in this section. Therefore, implementation of cumulative development would not combine with the Proposed Project to result in cumulatively considerable land use impacts. Cumulative impacts of the Proposed Project would be less than significant.

5.9.5 Existing Regulations and Standard Conditions

Regional

- SCAG 2016–2040 RTP/SCS

Local

- City of San Bernardino General Plan
- City of San Bernardino Zoning Regulations

5.9.6 Level of Significance Before Mitigation

Upon implementation of regulatory requirements and standard conditions of approval, Impacts 5.9-1 through 5.9-6 would be less than significant.

5.9.7 Mitigation Measures

No significant adverse impacts related to land use and planning were identified and no mitigation is necessary.

5.9.8 Level of Significance After Mitigation

No significant adverse impacts related to land use and planning were identified.

5.9.9 References

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5.10 MINERAL RESOURCES

This section of the Draft Environmental Impact Report (DEIR) evaluates the potential for implementation of the Waterman + Baseline Neighborhood Specific Plan (Proposed Project) to impact mineral resources in the City of San Bernardino. Mineral resources have been identified within the City of San Bernardino, and more specifically, within the Specific Plan area, and therefore are evaluated to determine the potential effects of Project implementation.

5.10.1 Environmental Setting

Minerals are defined as any naturally occurring chemical elements or compounds, formed from inorganic processes and organic substances. Minable 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 mine site. The conservation, extraction, and processing of mineral resources are an integral part of development and economy of the City.

5.10.1.1 REGULATORY SETTING

State

Surface Mining and Reclamation Act

The Surface Mining and Reclamation Act (SMARA) was established in 1975 as a response to conflicts between mining and other urban preemption of prime deposits in California. The SMARA requires all cities and counties to incorporate in their general plans the mapped designations approved by the State Mining and Geology Board. SMARA establishes the importance of mineral extraction as a contributor to economic welfare and identifies surface mining regulations to mitigate health and safety hazards and adverse environmental impacts. SMARA requires a State Geologist to identify and map nonfuel mineral resources of the state to illustrate the location of economically significant mineral deposits. SMARA also requires cities and counties to incorporate in their general plans mapped designations approved by the State Mining and Geology Board.

Mineral Resources and Mineral Hazards Mapping Program

The Mineral Resources and Mineral Hazards Mapping Program of the California Geological Survey provides data about nonfuel mineral resources, naturally occurring mineral hazards, and historical mining activities throughout the state. The Mapping Program distributes its function across two projects: the Mineral Resources Project, providing information on nonfuel resources; and the Mineral Hazards Project, providing maps of minerals related to public health and safety concerns.

Mineral Resource Classification

The California Geological Survey Mineral Resources Project provides information about California's nonfuel mineral resources. The Mineral Resources Project classifies lands throughout the state that contain regionally significant mineral resources, as mandated by SMARA. Nonfuel mineral resources include metals such as

gold, silver, iron, and copper; industrial metals such as boron compounds, rare-earth elements, clays, limestone, gypsum, salt, and dimension stone; and construction aggregate including sand, gravel, and crushed stone. Development generally results in a demand for minerals, especially construction aggregate. Urban preemption of prime deposits and conflicts between mining and other uses throughout California led to passage of the SMARA which requires all cities and counties to incorporate the mapped designations approved by the State Mining and Geology Board into their general plans.

The classification process involves the determination of Production-Consumption (P-C) Region boundaries based on identification of active aggregate operations (Production) and the market area served (Consumption). The P-C regional boundaries are modified to include only the portions of the region that are urbanized or urbanizing and are classified for their aggregate content. An aggregate appraisal further evaluates the presence or absence of significant sand, gravel, or stone deposits that are suitable sources of aggregate. The classification of these mineral resources is a joint effort of the state and the local governments. It is based on geologic factors and requires that the State Geologist classify the mineral resources area as one of four Mineral Resource Zones (MRZs), a Scientific Resource Zone (SZ), or an Identified Resource Area (IRA), described below.

- **MRZ-1:** A Mineral Resource Zone where adequate information indicates that no significant mineral deposits are present or likely to be present.
- **MRZ-2:** A Mineral Resource Zone where adequate information indicates that significant mineral deposits are present, or a likelihood of their presence and development should be controlled.
- **MRZ-3:** A Mineral Resource Zone where the significance of mineral deposits cannot be determined from the available data.
- **MRZ-4:** A Mineral Resource Zone where there is insufficient data to assign any other MRZ designation.
- **SZ Areas:** Containing unique or rare occurrences of rocks, minerals, or fossils that are of outstanding scientific significance shall be classified in this zone.
- **IRA Areas:** County or State Division of Mines and Geology Identified Areas where adequate production and information indicates that significant minerals are present.

As part of the classification process, an analysis of site-specific conditions is utilized to calculate the total volume of aggregates within individually identified Resource Sectors. Resource Sectors are MRZ-2 areas that are identified as having regional or statewide significance. Anticipated aggregate demand in the P-C Regions for the next 50 years is estimated and compared to the total volume of aggregate reserves identified within the P-C Region.

City of San Bernardino

The City of San Bernardino General Plan designates two areas of the northwest and west part of the City as Industrial Extractive (IE), which permits mineral, sand, and gravel extraction (2005a). General Plan Policy 12-

4.4 requires that that any applications to permit uses other than mineral extraction or the interim uses defined in areas designated IE include finding "outlining the reasons why mining is not a feasible use and how the deletion of the area as a potential mineral resource supply impacts the regional supply of aggregate resources" (2005b).

5.10.1.2 EXISTING CONDITIONS

Regional

The Specific Plan area is in the San Bernardino P-C Region, which encompasses most of the Upper Santa Ana River Valley, the San Gorgonio Pass area, and most of the San Jacinto Basin in parts of southwest San Bernardino County and of west Riverside County.

Aggregate Resources

Three major areas of the Upper Santa Ana River Valley within the San Bernardino P-C Region are mapped MRZ-2: one along the Santa Ana River, one along Cajon Creek and Lytle Creek, and the third spanning a broad area of the western part of the Upper Santa Ana River Valley (CGS 2008).

Aggregate production in the San Bernardino P-C Region in 2006, the latest year for which data are available, was about 19.7 million tons. In 2007, the Portland Cement-Concrete–grade aggregate reserves in the San Bernardino P-C Region, 287 million tons, were projected to last 17 years, that is, to 2024 (CGS 2008).[1]

The largest concentrations of mines in the P-C Region are along the Santa Ana River, along Cajon Wash, and near Lake Elsinore (CGS 2008).

Oil and Gas

There are only scattered oil and/or gas wells in most of the San Bernardino P-C Region (DOGGR 2016).

Specific Plan Area

The southern part of the Specific Plan area—approximately 173 acres extending from its southern boundary of 3rd Street to the middle of Seccombe Lake Recreation Area on the west, and to just north of 9th Street on its eastern boundary—is mapped as MRZ-2. Most of the rest of the Specific Plan area is mapped MRZ-3. There are two areas mapped MRZ-1 in the northern part of the Specific Plan area, north of 14th Street, totaling about 53 acres (CGS 2008; see Figure 5.10-1, *Mineral Resource Zones*). The MRZ-2 area within the Specific Plan boundary is on the northern edge of the large MRZ-2 area along the Santa Ana River mentioned above.

No mineral resource sectors are mapped within the Specific Plan area. The nearest sectors are Sector F-12, about 0.2 mile to the south, and Sector F-9, about 500 feet southeast of the east Specific Plan area boundary (see Figure 5.10-2, *Mineral Resource Sectors*).

[1] Aggregate reserves are deposits in land owned or controlled by an aggregate producer and permitted for mining (CGS 2008).

Mines

No mines are mapped on the Specific Plan area by the Office of Mine Reclamation. The nearest mapped mine is the Vern Anthony Gunite sand and gravel mine, about 2.3 miles to the south (OML 2016).

Oil and Natural Gas

No oil or natural gas wells are mapped on or next to the Specific Plan area on the Well Finder maintained by the Division of Oil, Gas, and Geothermal Resources (DOGGR 2016).

5.10.2 Thresholds of Significance

According to Appendix G of the CEQA Guidelines, a project would normally have a significant effect on the environment if the project would:

M-1 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.

M-2 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.

5.10.3 Environmental Impacts

Buildout of the Proposed Project would result in net increases of 2,395 residential units and approximately 1.2 million square feet of nonresidential uses in the Specific Plan area. Proposed Land Uses are shown in Figure 3-2, *Proposed Land Use Plan*.

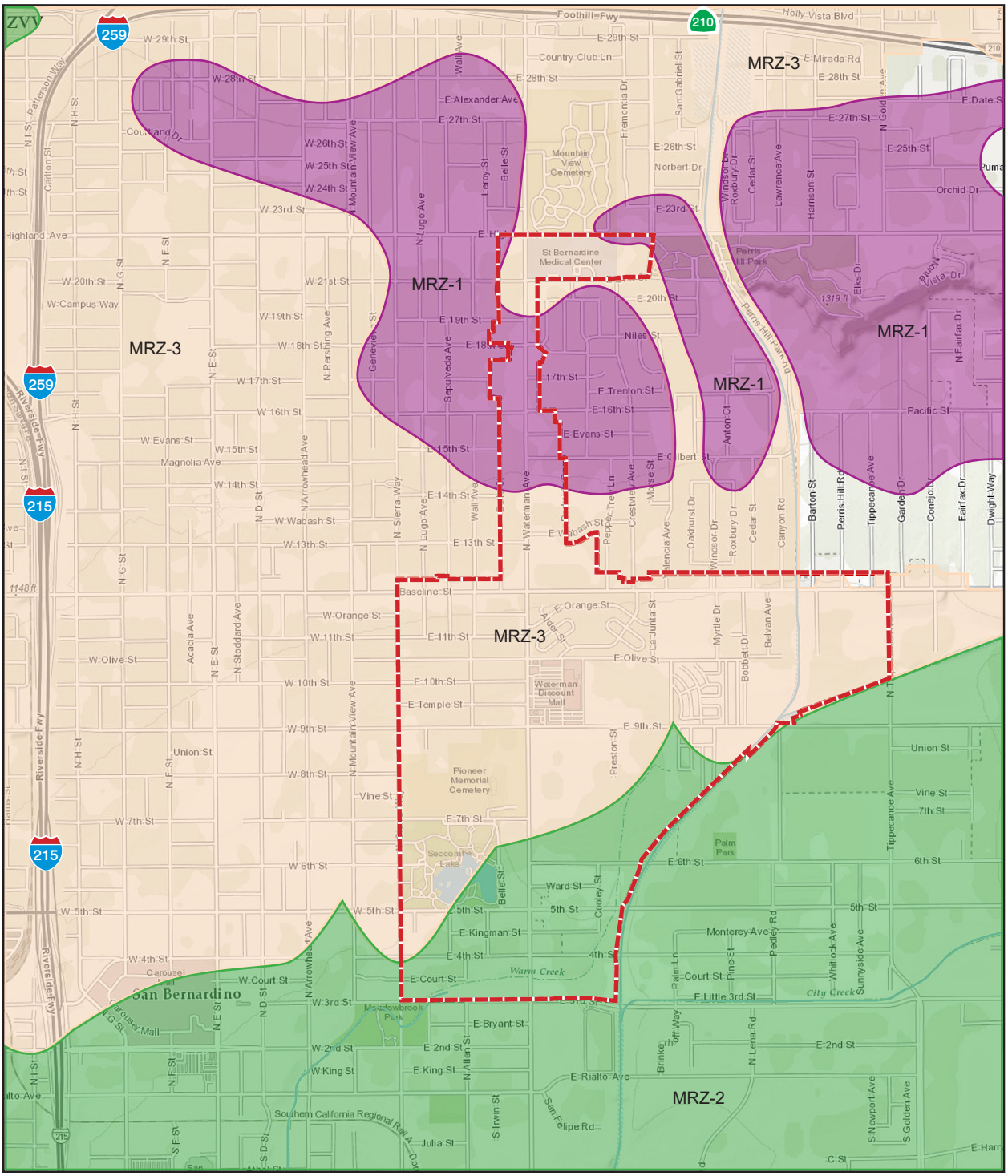
The following impact analysis addresses thresholds of potentially significant impacts. The applicable thresholds are identified in brackets after the impact statement.

Impact 5.10-1: Buildout of the Proposed Project would not result in the loss of availability of a known mineral resource. [Thresholds M-1]

Impact Analysis: The MRZ-2 area in the southern part of the Specific Plan area comprises parts of the proposed Gateway, Employment, and Eastside Neighborhood Planning Districts. As shown in Figure 3-2, *Proposed Land Use Plan*, this area would contain residential uses, nonresidential uses (including commercial and mixed uses), and open space at buildout of the proposed Specific Plan. However, areas planned for urban development are generally urbanized under existing conditions and therefore already unavailable as mineral extraction sites. Furthermore, the 47-acre open space corridor proposed for the southeastern portion of the Specific Plan area—which substantially overlaps with the northern edge of the applicable MRZ-2 area and contains some vacant parcels—would be designated for recreation and open space purposes. Development would be limited to recreational uses and enhancement of existing amenities. While this open space area would not permit mining, land maintained as open space is typically considered to be compatible with potential future mining. Thus, implementation of the Proposed Project would not cause a loss of mineral resources availability on the proposed open space area within the MRZ-2 area.

Figure 5.10-1 Mineral Resource Zones

5. Environmental Analysis



Specific Plan Area

MRZ-1 (Mineral Resource Zone 1): Areas where available geologic information indicates that significant mineral resources are unlikely to be present

MRZ-2: Areas where geologic data indicate that significant PCC [Portland Cement concrete]-grade aggregate resources are present

MRZ-3: Areas containing known or inferred mineral occurrences of undetermined mineral resource significance

0 0.5
Scale (Miles)

Base Map Source: ESRI, HERE, USG, FAO; Data: CGS, 2008a

5. Environmental Analysis
MINERAL RESOURCES

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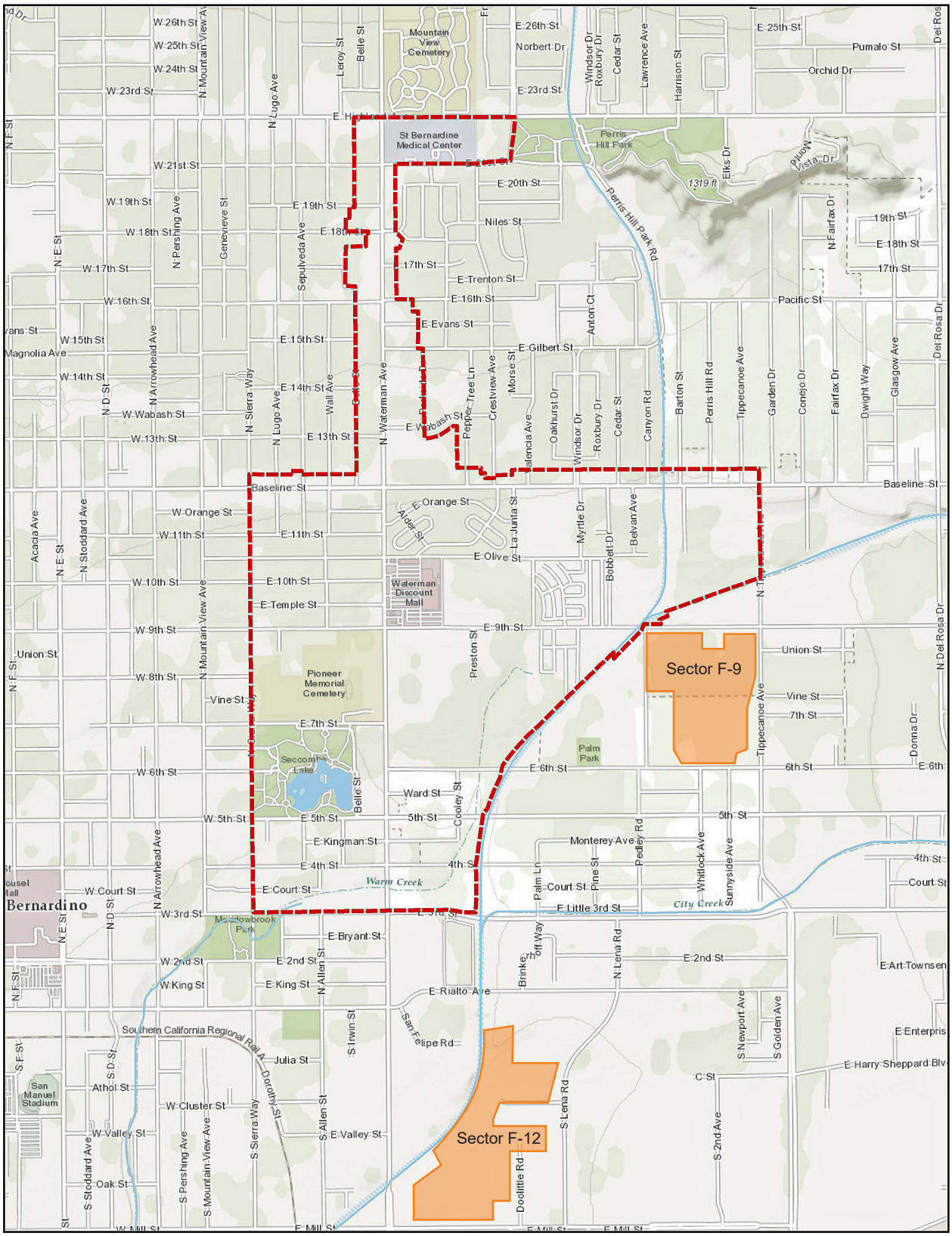
Figure 5.10-2 Mineral Resource Sectors

5. Environmental Analysis



Base Map Source: ESRI, HERE, USG, FAO; Data: CGS, 2008b

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Impact 5.10-2: Project implementation would not result in the loss of availability of a locally important mineral resource recovery site delineated in a local general plan, specific plan, or other land use plan. [Thresholds M-2]

Impact Analysis: There are no mineral resource recovery sites in or near the Specific Plan area that are designated in the City of San Bernardino General Plan (2005a). Additionally, there are no existing mineral resource recovery operations in or adjacent to the Specific Plan area. Implementation of the Proposed Project would not result in the loss of availability of a locally important mineral resource recovery site delineated on the City of San Bernardino General Plan, specific plans, or any other land use plan. Therefore, no impacts would occur.

5.10.4 Cumulative Impacts

The area considered for cumulative impacts to mineral resources is the San Bernardino P-C Region spanning parts of southwest San Bernardino County and of west Riverside County. In 2007 the aggregate reserves in the San Bernardino P-C Region—287 million tons—were projected to last until 2024 (CGS 2008). Some other projects would be developed in areas mapped MRZ-2, where significant mineral resources are considered present or likely to be present, and MRZ-3, where the significance of mineral deposits cannot be determined with available data. Various jurisdictions in the San Bernardino P-C Region have attempted to limit adverse impacts of development on the availability of mineral resources: for instance, the City of San Bernardino created the Industrial Extractive General Plan designation and General Plan Policy 12-4.4, mentioned above in Section 5-10.1. These ongoing efforts are anticipated to ensure that regional access to mineral resources is generally preserved. Cumulative impacts from implementation of the Proposed Project would be less than significant, and impacts would not be cumulatively considerable.

5.10.5 Existing Regulations and Standard Conditions

State

- Surface Mining and Reclamation Act (SMARA)
- Mineral Resources and Mineral Hazards Mapping Program

Local

- City of San Bernardino General Plan
- City of San Bernardino Development Code

5.10.6 Level of Significance Before Mitigation

Upon implementation of regulatory requirements and standard conditions of approval, the following impacts would be less than significant: 5.10-1, 5.10-2.

5.10.7 Mitigation Measures

Impacts are less than significant, and mitigation measures are not necessary.

5.10.8 Level of Significance After Mitigation

No significant impacts have been identified and no mitigation is required.

5.10.9 References

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5.11 NOISE

This section discusses the fundamentals of sound; examines federal, state, and local noise guidelines, policies, and standards; reviews noise levels at existing receptor locations; and evaluates potential noise impacts associated with the Waterman + Baseline Neighborhood Specific Plan (Proposed Project); and provides mitigation to reduce noise impacts at sensitive residential locations. This evaluation uses procedures and methodologies as specified by the California Department of Transportation and the Federal Highway Administration.

This section of the Draft Environmental Impact Report (DEIR) evaluates the potential for implementation of the Proposed Project to result in noise impacts in the City of San Bernardino and its sphere of influence (SOI).

The analysis in this section is based in part on the following technical report:

- *Waterman Gardens Noise Study Report*, Kunzman Associates, Inc., May 17, 2016.

A complete copy of this study is included in Appendix G to this DEIR.

5.11.1 Environmental Setting

5.11.1.1 SOUND FUNDAMENTALS

Sound is a pressure wave transmitted through the air. It is described in terms of loudness or amplitude (measured in decibels), frequency or pitch (measured in Hertz [Hz] or cycles per second), and duration (measured in seconds or minutes). The standard unit of measurement of the loudness of sound is the decibel (dB). Changes of 1 to 3 dB are detectable under quiet, controlled conditions and changes of less than 1 dBA are usually indiscernible. A 3 dB change in noise levels is considered the minimum change that is detectable with human hearing in outside environments. A change of 5 dB is readily discernable to most people in an exterior environment whereas a 10 dBA change is perceived as a doubling (or halving) of the sound.

The human ear is not equally sensitive to all frequencies. Sound waves below 16 Hz are not heard at all and are "felt" more as a vibration. Similarly, while people with extremely sensitive hearing can hear sounds as high as 20,000 Hz, most people cannot hear above 15,000 Hz. In all cases, hearing acuity falls off rapidly above about 10,000 Hz and below about 200 Hz. Since the human ear is not equally sensitive to sound at all frequencies, a special frequency dependent rating scale is usually used to relate noise to human sensitivity. The A-weighted decibel scale (dBA) performs this compensation by discriminating against frequencies in a manner approximating the sensitivity of the human ear.

Noise is defined as unwanted sound, and is known to have several adverse effects on people, including hearing loss, speech and sleep interference, physiological responses, and annoyance. Based on these known adverse effects of noise, the federal government, the State of California, and many local governments have established criteria to protect public health and safety and to prevent disruption of certain human activities.

Sound Measurement and Noise Descriptors

Sound intensity is measured through the A-weighted measure to correct for the relative frequency response of the human ear. That is, an A-weighted noise level de-emphasizes low and very high frequencies of sound similar to the human ear's de-emphasis of these frequencies.

Decibels

Unlike linear units such as inches or pounds, decibels are measured on a logarithmic scale, representing points on a sharply rising curve. On a logarithmic scale, an increase of 10 dB is 10 times more intense than 1 dB, while 20 dB is 100 times more intense, and 30 dB is 1,000 times more intense. A sound as soft as human breathing is about 10 times greater than 0 dB. The decibel system of measuring sound gives a rough connection between the physical intensity of sound and its perceived loudness to the human ear. Ambient sounds generally range from 30 dBA (very quiet) to 100 dBA (very loud).

Spreading Loss

Sound levels are generated from a source and their decibel level decreases as the distance from that source increases. Sound dissipates exponentially with distance from the noise source. This phenomenon is known as "spreading loss." For a single point source, sound levels decrease by approximately 6 dB for each doubling of distance from the source. This drop-off rate is appropriate for noise generated by on-site operations from stationary equipment or activity at a project site. If noise is produced by a line source, such as highway traffic, the sound decreases by 3 dB for each doubling of distance in a hard site environment. Line source noise in a relatively flat environment with absorptive vegetation decreases by 4.5 dB for each doubling of distance.

Measuring Varying Noise Levels over Time

Time variation in noise exposure is typically expressed in terms of a steady-state energy level equal to the energy content of the time varying period (called L_{eq}), or alternately, as a statistical description of the sound level that is exceeded over some fraction of a given observation period. For example, the L_{50} noise level represents the noise level that is exceeded 50 percent of the time. Half the time the noise level exceeds this level and half the time the noise level is less than this level. This level is also representative of the level that is exceeded 30 minutes in an hour. Similarly, the L_2, L_8 and L_{25} values represent the noise levels that are exceeded 2, 8, and 25 percent of the time or 1, 5, and 15 minutes per hour. These "L" values are typically used to demonstrate compliance for stationary noise sources with a city's noise ordinance, as discussed below. Other values typically noted during a noise survey are the L_{min} and L_{max}. These values represent the minimum and maximum root-mean-square noise levels obtained over the measurement period.

Because community receptors are more sensitive to unwanted noise intrusion during the evening and at night, state law and the City of San Bernardino require that, for planning purposes, an artificial dB increment be added to quiet time noise levels in a 24-hour noise descriptor called the Community Noise Equivalent Level (CNEL) or Day-Night Noise Level (L_{dn}). The CNEL descriptor requires that an artificial increment of 5 dBA be added to the actual noise level for the hours from 7:00 PM to 10:00 PM and 10 dBA for the hours from 10:00 PM to 7:00 AM. The L_{dn} descriptor uses the same methodology except that there is no artificial

increment added to the hours between 7:00 PM and 10:00 PM. Both descriptors give roughly the same 24-hour level, with the CNEL being only slightly more restrictive (i.e., higher).

Psychological and Physiological Effects of Noise

Physical damage to human hearing begins at prolonged exposure to noise levels higher than 85 dBA. Exposure to high noise levels affects our entire system, with prolonged noise exposure in excess of 75 dBA increasing body tensions, and thereby affecting blood pressure, functions of the heart and the nervous system. In comparison, extended periods of noise exposure above 90 dBA could result in permanent hearing damage. When the noise level reaches 120 dBA, a tickling sensation occurs in the human ear even with short-term exposure. This level of noise is called the threshold of feeling. As the sound reaches 140 dBA, the tickling sensation is replaced by the feeling of pain in the ear. This is called the threshold of pain. A sound level of 190 dBA will rupture the eardrum and permanently damage the inner ear.

5.11.1.2 VIBRATION FUNDAMENTALS

Vibration is a trembling, quivering, or oscillating motion of the earth. Like noise, vibration is transmitted in waves, but in this case through the earth or solid objects. Unlike noise, vibration is typically of a frequency that is felt rather than heard.

Vibration can be either natural as in the form of earthquakes, volcanic eruptions, sea waves, landslides, or man-made as from explosions, the action of heavy machinery or heavy vehicles such as trains. Both natural and man-made vibration may be continuous such as from operating machinery, or transient as from an explosion.

As with noise, vibration can be described by both its amplitude and frequency. Amplitude may be characterized in three ways including displacement, velocity, and acceleration. Particle displacement is a measure of the distance that a vibrated particle travels from its original position and for the purposes of soil displacement is typically measured in inches or millimeters. Particle velocity is the rate of speed at which soil particles move in inches per second or millimeters per second. Particle acceleration is the rate of change in velocity with respect to time and is measured in inches per second or millimeters per second. Typically, particle velocity (measured in inches or millimeters per second) and/or acceleration (measured in gravities) are used to describe vibration. Table 5.11-1 presents the human reaction to various levels of peak particle velocity.

Table 5.11-1 Human Reaction to Typical Vibration Levels

Vibration Level Peak Particle Velocity (in/sec)	Human Reaction	Effect on Buildings
0.006–0.019	Threshold of perception, possibility of intrusion	Vibrations unlikely to cause damage of any type
0.08	Vibrations readily perceptible	Recommended upper level of vibration to which ruins and ancient monuments should be subjected
0.10	Level at which continuous vibration begins to annoy people	Virtually no risk of "architectural" (i.e., not structural) damage to normal buildings
0.20	Vibrations annoying to people in buildings	Threshold at which there is a risk to "architectural" damage to normal dwelling – houses with plastered walls and ceilings
0.4–0.6	Vibrations considered unpleasant by people subjected to continuous vibrations and unacceptable to some people walking on bridges	Vibrations at a greater level than normally expected from traffic, but would cause "architectural" damage and possibly minor structural damage

Source: Caltrans 2002.

Vibrations also vary in frequency and this affects perception. Typical construction vibrations fall in the 10 to 30 Hz range and usually occur around 15 Hz. Traffic vibrations exhibit a similar range of frequencies; however, due to their suspension systems, buses often generate frequencies around 3 Hz at high vehicle speeds. It is less common, but possible, to measure traffic frequencies above 30 Hz.

The way in which vibration is transmitted through the earth is called propagation. Propagation of earthborn vibrations is complicated and difficult to predict because of the endless variations in the soil through which waves travel. There are three main types of vibration propagation: surface, compression and shear waves. Surface waves, or Raleigh waves, travel along the ground's surface. These waves carry most of their energy along an expanding circular wave front, similar to ripples produced by throwing a rock into a pool of water. P-waves, or compression waves, are body waves that carry their energy along an expanding spherical wave front. The particle motion in these waves is longitudinal (i.e., in a "push-pull" fashion). P-waves are analogous to airborne sound waves. S-waves, or shear waves, are also body waves that carry energy along an expanding spherical wave front. However, unlike P-waves, the particle motion is transverse or "side-to-side and perpendicular to the direction of propagation."

As vibration waves propagate from a source, the energy is spread over an ever-increasing area such that the energy level striking a given point is reduced with the distance from the energy source. This geometric spreading loss is inversely proportional to the square of the distance. Wave energy is also reduced with distance as a result of material damping in the form of internal friction, soil layering, and void spaces. The amount of attenuation provided by material damping varies with soil type and condition as well as the frequency of the wave.

5.11.1.3 REGULATORY FRAMEWORK

To limit population exposure to physically and/or psychologically damaging as well as intrusive noise levels, the federal government, the State of California, various county governments, and most municipalities in the state have established standards and ordinances to control noise.

Federal Regulations

Federal Highway Administration

The Federal Highway Administration (FHWA) sets maximum desirable traffic noise levels by land use type and area based on a "trade-off" of what is desirable and what is reasonably feasible. These values recognize that in many cases lower noise exposures would result in greater community benefits. The FHWA design noise levels are included in Table 5.11-2.

Table 5.11-2 FHWA Design Noise Levels

Activity Category	Design Noise Levels [1]		Description of Activity Category
	L_{eq} (dBA)	L_{10} (dBA)	
A	57 (exterior)	60 (exterior)	Lands on which serenity and quiet are of extraordinary significance and serve an important public need and where the preservation of those qualities is essential if the area is to continue to serve its intended purpose.
B	67 (exterior)	70 (exterior)	Picnic areas, recreation areas, playgrounds, active sports areas, parks, residences, motels, hotels, schools, churches, libraries, and hospitals.
C	72 (exterior)	75 (exterior)	Developed lands, properties, or activities not included in Categories A or B, above
D	–	–	Undeveloped lands.
E	52 (interior)	55 (interior)	Residences, motels, hotels, public meeting rooms, schools, churches, libraries, hospitals, and auditoriums.

Source: FHWA 1978.
[1] Either L_{eq} or L_{10} (but not both) design noise levels may be used on a project.

US Environmental Protection Agency

In addition to FHWA standards, the United States Environmental Protection Agency (EPA) has identified the relationship between noise levels and human response. The EPA has determined that over a 24-hour period, a L_{eq} of 70 dBA will result in some hearing loss. Interference with activity and annoyance will not occur if exterior levels are maintained at an L_{eq} of 55 dBA and interior levels at or below 45 dBA. While these levels are relevant for planning and design and useful for informational purposes, they are not land use planning criteria because they do not consider economic cost, technical feasibility, or the needs of the community.

The EPA also set 55 dBA L_{dn} as the basic goal for exterior residential noise intrusion. However, other federal agencies, in consideration of their own program requirements and goals, as well as difficulty of actually achieving a goal of 55 dBA L_{dn}, have settled on the 65 dBA L_{dn} level as their standard. At 65 dBA L_{dn}, activity interference is kept to a minimum, and annoyance levels are still low. It is also a level that can realistically be achieved.

Occupational Health and Safety Administration

The federal government regulates occupational noise exposure common in the workplace through the Occupational Health and Safety Administration (OSHA) under the EPA. Such limitations would apply to the operation of construction equipment and could also apply to any proposed industrial land uses. Noise exposure of this type is dependent on work conditions and is addressed through a facility's health and safety plan, as required under OSHA, and is therefore not addressed further in this analysis.

US Department of Housing and Urban Development

The US Department of Housing and Urban Development (HUD) has set a goal of 65 dBA L_{dn} as a desirable maximum exterior standard for residential units developed under HUD funding. (This level is also generally accepted within the State of California.) While HUD does not specify acceptable interior noise levels, standard construction of residential dwellings constructed under Title 24 standards typically provides in excess of 20 dBA of attenuation with the windows closed. Based on this premise, the interior L_{dn} should not exceed 45 dBA.

Aircraft Noise Standards

The Federal Aviation Administration's (FAA) Advisory Circular Number 150 5020 2, "Noise Assessment Guidelines for New Helicopters (FAA 2012)," recommends the use of a cumulative noise measure, the 24-hour equivalent sound level ($L_{eq(24)}$), so that the relative contributions of the heliport and other sound sources within the community may be compared. The $L_{eq(24)}$ is similar to the L_{dn} used in assessing the impacts of fixed wing aircraft. The helicopter $L_{eq(24)}$ values are obtained by logarithmically adding the single-event sound energy level values over a 24-hour period.

Public Law 96 193 also directs the FAA to identify land uses which are "normally compatible" with various levels of noise from aircraft operations. Because of the size and complexity of many major hub airports and their operations, FAR Part 150 identifies a large number of land uses and their attendant noise levels. However, since the operations of most heliports and helistops tend to be much simpler and the impacts more restricted in area, Part 150 does not apply to heliports/helistops not located on airport property. Instead, the FAA recommends exterior noise criteria for individual heliports based on the types of surrounding land uses. These recommended noise levels are included in Table 5.11-3.

The maximum recommended cumulative sound level ($L_{eq(24)}$) from the operations of helicopters at any new site should not exceed the ambient noise already in the community at that site or the sound levels in Table 5.11-3, whichever is lower.

The San Bernardino International Airport and Trade Center (SBIA) is located approximately two miles southeast of the Specific Plan area. The SBIA includes two distinct components: 1) the airport portions (and related facilities) of the former Norton Air Force Base, and 2) the Trade Center, which encompasses the non-airport related portions of the former base. The State Aeronautics Act of the California Public Utilities Code establishes statewide requirements for the conduct of airport land use compatibility planning and requires every county to create an Airport Land Use Commission (ALUC) or other alternative. San Bernardino County opted for an alternative to the ALUC and delegated responsibility to prepare an Airport Land Use Compatibility Plan with each airport proprietor. In accordance with Federal Aviation Regulations, restrictions

may apply to some types of development proposed within the Airport's identified safety and noise zones. These restrictions are addressed in the General Plan Land Use, Circulation, and Noise Elements. A small portion of the Specific Plan area is located in the Airport Influence Area for SBIA.

Table 5.11-3 Normally Compatible Community Sound Levels

Type of Area	$L_{eq(24)}$
Residential	
Suburban	57
Urban	67
City	72
Commercial	72
Industrial	77

Source: FAA Advisory Circular Number 150-5020-2, 1983.

California Regulations

The California Department of Health Services' Office of Noise Control has studied noise levels and their effects on various land uses. The State of California interior and exterior noise standards are shown in Table 5.11-4.

Table 5.11-4 State of California Interior and Exterior Noise Standards

Land Use		CNEL (dBA)	
Categories	Uses	Interior[1]	Exterior[2]
Residential	Single and multifamily, duplex	45[3]	65
	Mobile homes	–	65[4]
Commercial	Hotel, motel, transient housing	45	–
	Commercial retail, bank, restaurant	55	–
	Office building, research and development, professional offices	50	–
	Amphitheater, concert hall, auditorium, movie theater	45	–
	Gymnasium (Multipurpose)	50	–
	Sports Club	55	–
	Manufacturing, warehouse, wholesale, utilities	65	–
	Movie Theaters	45	–
Institutional/ Public	Hospital, school classrooms/playground	45	65
	Church, library	45	–
Open Space	Parks	–	65

Source: Kunzman 2016 (see Appendix G to this DEIR).
1 Indoor environment excluding: bathrooms, kitchens, toilets, closets, and corridors
2 Outdoor environment limited to:
- Private yard of single-family dwellings • Multifamily private patios or balconies accessed from within the dwelling (balconies 6 feet deep or less are exempt) • Mobile home parks • Park picnic areas • School playgrounds • Hospital patios

3 Noise level requirement with closed windows, mechanical ventilation, or other means of natural ventilation shall be provided per Chapter 12, Section 1205, of the Uniform Building Code.
4 Exterior noise levels should be such that interior noise levels will not exceed 45 dBA CNEL.

Table 5.11-5 presents a land use compatibility chart for community noise prepared by the California Office of Noise Control. This table provides urban planners with a tool to gauge the compatibility of land uses relative to existing and future noise levels.

Table 5.11-5 identifies normally acceptable, conditionally acceptable, and clearly unacceptable noise levels for various land uses. A conditionally acceptable designation implies new construction or development should be undertaken only after a detailed analysis of the noise reduction requirements for each land use is made and needed noise insulation features are incorporated in the design. By comparison, a normally acceptable designation indicates that standard construction can occur with no special noise reduction requirements.

City of San Bernardino Noise Standards

Selected City of San Bernardino noise control ordinance, which are found in Chapter 8.54, Noise Control, of the Municipal Code, are excerpted below. City interior and exterior noise standards are summarized in Table 5.11-6.

8.54.020 Prohibited Acts.

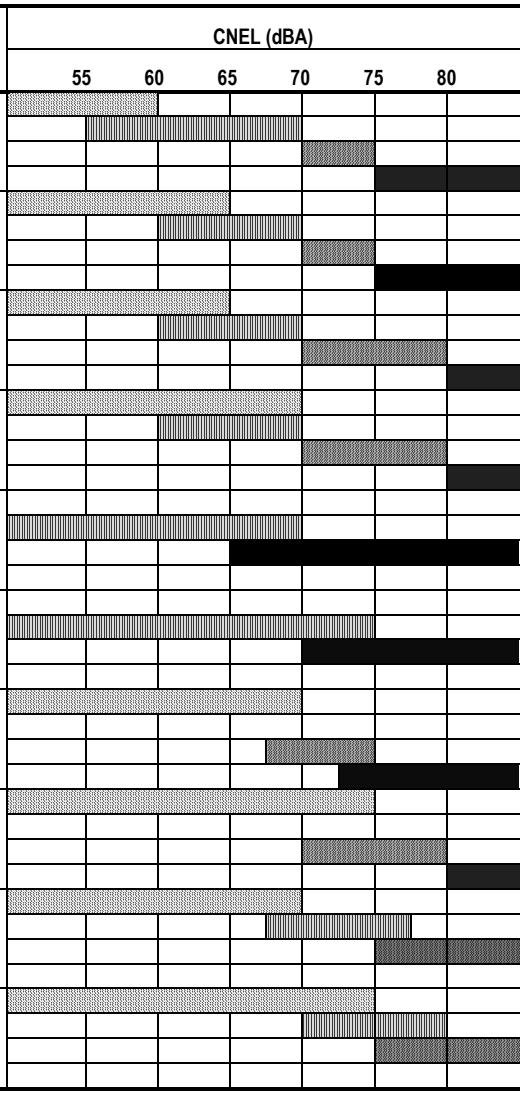
It shall be unlawful for any person to engage in the following activities:

I. The creation of loud and excessive noise in connection with the loading or unloading of motor trucks and other vehicles.

L. The operation or use between the hours of 10:00 PM and 8:00 AM of any pile driver, steam shovel, pneumatic hammers, derrick, steam or electric hoist, power drive saw, or any other tool or apparatus, the use of which is attended by loud and excessive noise, except with the approval of the City.

M. Creating excessive noise adjacent to any school, church, court, or library while the same is in use, or adjacent to any hospital or care facility, which unreasonably interferes with the workings of such institution, or which disturbs or unduly annoys patients in the hospital, provided conspicuous signs are displayed in such streets indicating the presence of a school, institution of learning, church, court, or hospital.

Table 5.11-5 Community Noise and Land Use Compatibility



Explanatory Notes

Normally Acceptable:
With no special noise reduction requirements assuming standard construction.

Conditionally Acceptable:
New construction or development should be undertaken only after a detailed analysis of the noise reduction requirement is made and needed noise insulation features included in the design.

Normally Unacceptable:
New construction is discouraged. If new construction does not proceed, a detailed analysis of the noise reduction requirements must be made and needed noise insulation features included in the design.

Clearly Unacceptable:
New construction or development should generally not be undertaken.

Source: California Office of Noise Control. *Guidelines for the Preparation and Content of Noise Elements of the General Plan.* February 1976. Adapted from the US EPA Office of Noise Abatement Control, Washington D.C. Community Noise. Prepared by Wyle Laboratories. December 1971.

N. Making or knowingly and unreasonably permitting to be made any unreasonably loud, unnecessary, or unusual noise that disturbs the comfort, repose, health, peace, and quiet, or which causes discomfort or annoyance to any reasonable person of normal sensitivity. The characteristics and conditions that may be considered in determining whether this section has been violated include, but are not limited to, the following:

1. The level of noise;
2. The level of background noise;
3. The proximity of the noise to sleeping facilities;
4. The nature and zoning of the areas within which the noise emanates;
5. The density of the inhabitation of the area within which the noise emanates;
6. The time of day or night the noise occurs;
7. The duration of the noise;
8. Whether the noise is recurrent, intermittent, or constant; and
9. Whether the noise is produced by a commercial or noncommercial activity.

8.54.050 Controlled Hours of Operation.

It shall be unlawful for any person to engage in the following activities other than between the hours of 8:00 AM and 8:00 PM in residential zones and between the hours of 7:00 AM and 8:00 PM in all other zones:

A. Operate or permit the use of powered model vehicles and planes.

B. Load or unload any vehicle, or operate or permit the use of dollies, carts, forklifts, or other wheeled equipment that causes any impulsive sound, raucous, or unnecessary noise within a thousand (1,000) feet of a residence.

C. Operate or permit the use of domestic power tools, or machinery or any other equipment or tool in any garage, workshop, house, or any other structure.

D. Operate or permit the use of gasoline or electric powered leaf blowers, such as commonly used by gardeners and other persons for cleaning lawns, yards, driveways, gutters, and other property.

E. Operate or permit the use of privately operated street/parking lot sweepers or vacuums, except that emergency work and/or work necessitated by unusual conditions may be performed with the written consent of the City Manager.

F. Operate or permit the use of electrically operated compressor, fan, and other similar devices.

G. Operate or permit the use of any motor vehicle with a gross vehicle weight rating in excess of ten thousand (10,000) pounds, or of any auxiliary equipment attached to such a vehicle, including, but not limited to, refrigerated truck compressors for a period longer than fifteen (15) minutes in any hour while the vehicle is stationary and on a public right-of-way or public space except when movement of said vehicle is restricted by other traffic.

H. Repair, rebuild, reconstruct, or dismantle any motor vehicle or other mechanical equipment or devices in a manner so as to be plainly audible across property lines.

8.54.060 Exemptions.

The following activities and noise sources shall be exempt from the provisions of this chapter:

A. The use of horns, sirens, or other signaling or warning devices by persons vested with legal authority to use the same, and in pursuit of their lawful duties, such as on ambulances, fire, police, or other governmental or official equipment.

B. Such noises as are an accompaniment and effect of a lawful business, commercial or industrial enterprise carried on in an area zoned for that purpose, except where there is evidence that such noise is a nuisance and that such a nuisance is a result of the employment of unnecessary and injurious methods of operation.

C. Activities conducted on the grounds of any public or private school during regular hours of operation.

D. Outdoor gatherings, public dances, shows, and sporting and entertainment events provided said events are authorized by the City.

E. Activities conducted at public spaces during regular hours of operation.

F. Any mechanical devices, apparatus, or equipment used, related to, or connected with emergency machinery, vehicle, or work.

G. Construction, repair, or excavation necessary for the immediate preservation of life or property.

H. Construction, operation, maintenance, and repairs of equipment, apparatus, or facilities of park and recreation departments, public work projects, or essential public services and facilities, including, but not limited to, trash collection and those of public utilities subject to the regulatory jurisdiction of the California Public Utilities Commission.

I. Construction, repair, or excavation work performed pursuant to a valid written agreement with the City, or any of its political subdivisions, which provides for noise mitigation measures.

J. Any activity to the extent that regulation thereof has been preempted by State and Federal law.

K. Sounds generated in connection with speech or communication protected by the United States Constitution or the California Constitution, except to the extent such sounds are subject to permissible time, place, and manner restrictions.

8.54.070 Disturbances from Construction Activity.

No person shall be engaged or employed, or cause any other person to be engaged or employed, in any work of construction, erection, alteration, repair, addition, movement, demolition, or improvement to any building or structure except within the hours of 7:00 AM and 8:00 PM.

Table 5.11-6 City of San Bernardino Interior and Exterior Noise Standards

Land Use Categories	Land Uses	CNEL (dBA)	
		Interior[2]	Exterior[3]
Residential	Single and Multiple-Family, Duplex	45[4]	65
	Mobile Homes	---	65[5]
Commercial	Hotel, Motel, Transient Housing	45	---
	Commercial Retail, Bank, Restaurant	55	---
	Office Building, Research and Development, Professional Offices	50	---
	Amphitheatre, Concert Hall, Auditorium, Meeting Hall	45	---
	Gymnasium (Multipurpose)	50	---
	Sports Club	55	---
	Manufacturing, Warehousing, Wholesale, Utilities	65	---
	Movie Theaters	45	---
Institutional/ Public	Hospital, School Classrooms/Playgrounds	45	65
	Church, Library	45	---
Open Space	Parks	---	65

Source: Kunzman 2016 (see Appendix G to this DEIR).

Vibration Standards

The City of San Bernardino does not have specific limits or thresholds for vibration. The United States Department of Transportation Federal Transit Administration (FTA) provides criteria for acceptable levels of

ground-borne vibration for various types of special buildings that are sensitive to vibration. The FTA criteria were used for this analysis. The human reaction to various levels of vibration is highly subjective and varies from person to person. The upper end of the range shown for the threshold of perception, or roughly 65 VdB, may be considered annoying by some people. Vibration below 65 VdB may also cause secondary audible effects such as a slight rattling of doors, suspended ceilings/fixtures, windows, and dishes; any of which may result in additional annoyance. Table 5.11-7 shows the FTA ground-borne vibration and noise impact criteria.

Table 5.11-7 Groundborne Vibration and Noise Impact Criteria

	Groundborne Vibration Impact Levels (VdB re 1 microinch/sec)		Groundborne Noise Impact Levels (dB re 20 micro Pascals)	
Land Use Category	Frequent Events[1]	Infrequent Events[2]	Frequent Events[1]	Infrequent Events[2]
Category 1: Buildings where low ambient vibration is essential for interior operations.	65 VdB[3]	65 VdB[3]	NA[4]	NA[4]
Category 2: Residences and buildings where people normally sleep.	72 VdB	80 VdB	35 dBA	43 dBA
Category 3: Institutional land uses with primarily daytime use.	75 VdB	83 VdB	40 dBA	48 dBA

Source: FTA 1995.
1 Frequent Events is defined as more than 70 vibration events per day.
2 Infrequent Events is defined as fewer than 70 vibration events per day.
3 This criterion limit is based on levels that are acceptable for most moderately sensitive equipment such as optical microscopes. Vibration-sensitive manufacturing or research will require detailed evaluation to define the acceptable vibration levels.
4 Vibration-sensitive equipment is not sensitive to groundborne noise.

5.11.1.4 EXISTING NOISE ENVIRONMENT

Ambient Noise Measurements

An American National Standards Institute (ANSI Section SI4 1979, Type 1) Larson Davis model LxT sound level meter was used to document existing ambient noise levels. Twenty-two 10-minute representative noise measurements were taken between 2:24 PM and 6:09 PM on April 27, 2016, and between 8:05 AM and 7:25 PM on April 28, 2016. Noise measurement locations, shown on Figure 5.11-1, were chosen to represent a variety of existing land uses and sensitive receptors near the six proposed Specific Plan districts. As shown in Table 5.11-8, measured ambient noise levels ranged between 50.9 dBA L_{eq} and 73.5 dBA L_{eq}. Noise measurement data are included in the Noise Study Report, included as Appendix G of this DEIR.

Table 5.11-8 Measured Existing Noise Levels

Location No.	Measurement Period	Duration	Noise Description	Existing Ambient Noise Levels (dBA)					
				L_{eq}	L_{max}	L_2	L_8	L_{25}	L_{50}
NM 1	2:24 PM to 2:34 PM	10 min	Traffic & Community Noise	63.0	76.1	71.4	67.6	63.1	58.3
NM 2	2:57 PM to 3:07 PM	10 min	Traffic Noise	54.9	69.4	63.9	55.9	53.9	52.5
NM 3	3:33 PM to 3:43 PM	10 min	Traffic Noise	57.5	67.1	62.7	60.8	58.5	51.8
NM 4	4:08 PM to 4:18 PM	10 min	Traffic Noise	56.0	68.2	64.8	61.0	55.0	51.0
NM 5	4:43 PM to 4:53 PM	10 min	Community Noise	63.7	81.8	75.5	64.6	54.6	52.2
NM 6	5:21 PM to 5:31 PM	10 min	Community Noise	53.3	63.5	59.3	55.4	53.1	52.3
NM 7	5:59 PM to 6:09 PM	10 min	Traffic Noise	59.4	72.3	65.8	63.2	59.3	57.0
NM 8	8:05 AM to 8:15 AM	10 min	Traffic Noise	68.7	80.2	76.0	73.1	70.0	65.0
NM 9	8:43 AM to 8:53 AM	10 min	Traffic Noise	59.5	72.7	66.5	63.6	60.1	56.5
NM 10	9:19 AM to 9:29 AM	10 min	Traffic Noise	56.8	69.4	63.8	60.4	57.7	54.6
NM 11	10:21 AM to 10:31 AM	10 min	Traffic Noise	69.8	82.5	76.8	74.4	70.9	67.0
NM 12	10:57 AM to 11:07 AM	10 min	Community Noise	54.0	70.4	60.5	57.4	53.5	50.3
NM 13	11:40 AM to 11:50 AM	10 min	Traffic Noise	65.0	76.4	73.2	70.5	65.5	59.4
NM 14	12:46 PM to 12:56 PM	10 min	Traffic Noise	61.7	77.6	72.4	66.6	57.3	47.5
NM 15	1:26 PM to 1:36 PM	10 min	Community Noise	50.9	60.3	57.4	54.3	51.4	49.0
NM 16	2:10 PM to 2:20 PM	10 min	Community Noise	61.4	76.7	70.4	66.4	60.5	55.7
NM 17	2:52 PM to 3:02 PM	10 min	Traffic & Community Noise	62.2	81.4	71.1	66.1	59.5	54.1
NM 18	4:19 PM to 4:29 PM	10 min	Traffic & Community Noise	64.4	77.5	72.5	69.9	64.9	57.1
NM 19	5:00 PM to 5:10 PM	10 min	Traffic Noise	73.5	81.9	79.6	77.9	75.3	70.7
NM 20	5:34 PM to 5:44 PM	10 min	Traffic Noise	58.3	74.5	64.8	60.5	58.8	56.4
NM 21	6:32 PM to 6:42 PM	10 min	Traffic Noise	56.7	71.4	65.0	61.4	55.2	52.2
NM 22	7:15 PM to 7:25 PM	10 min	Traffic Noise	58.3	72.2	63.1	61.2	58.9	56.5

Source: Kunzman 2016.

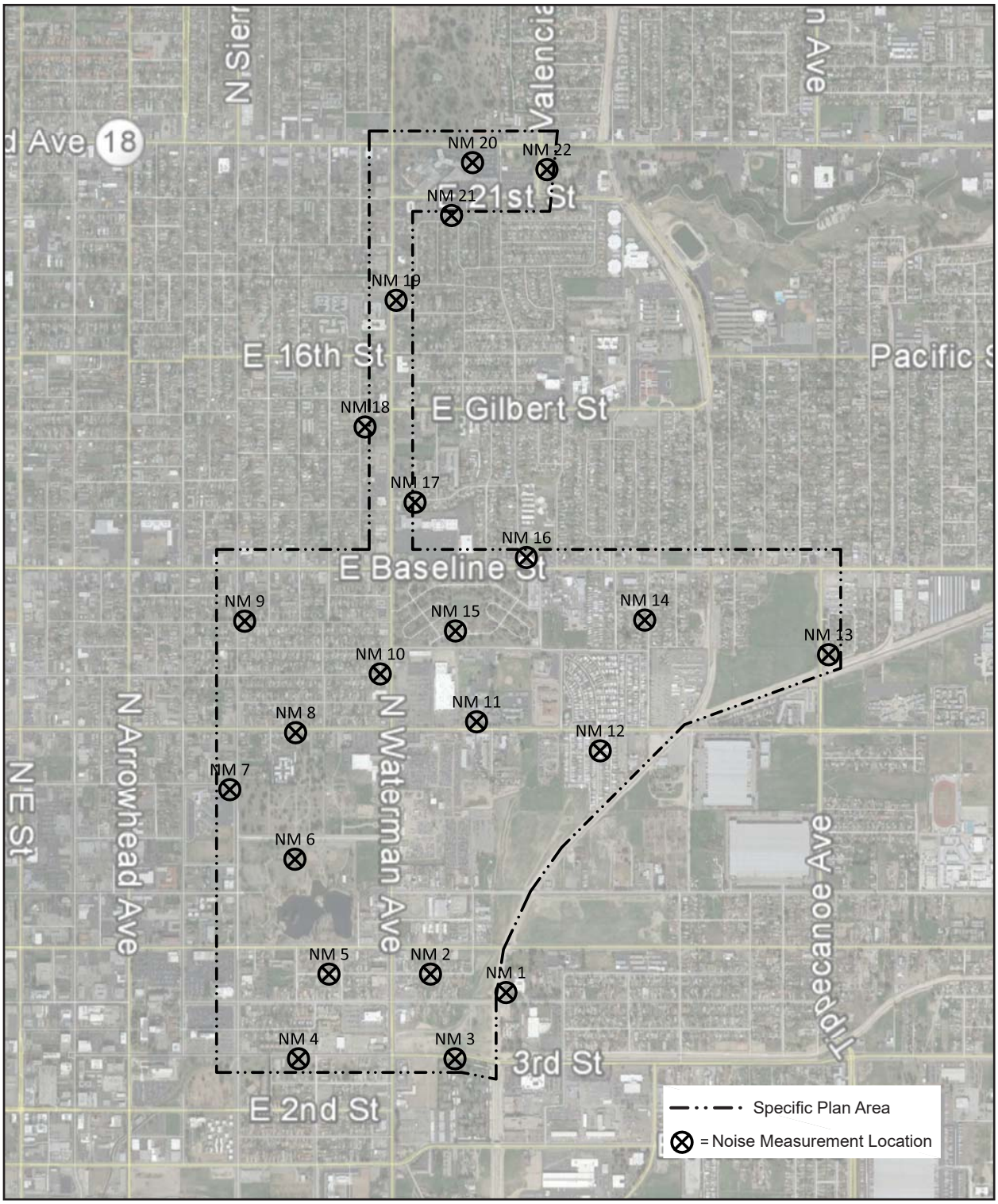
Existing Land Uses and Sensitive Receptors

Sensitive Receptors

Noise can become a problem when noise sources and noise sensitive land uses are located in adjacent areas. Residential uses are generally the most sensitive to noise. Other noise-sensitive land uses include schools, libraries, offices, hospitals, churches, hotels, motels, and outdoor recreational areas. Most noise impacts can be avoided when noise sources, sensitive land uses, and information about the future noise environment are considered in planning and development decisions.

Figure 5.11-1 Existing Noise Measurement Locations

5. Environmental Analysis



0 1,750
Scale (Feet)

Base Map Source: Kunzman, 2016

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Existing Land Use

Land uses in the Specific Plan area include residential, commercial, and mixed-use development. There are also several places of worship and medical offices, primarily along Waterman Avenue. Sierra Continuation High School is centrally located within the Specific Plan area.

Existing Noise Sources

Transportation-Related Noise

Motor Vehicles

The major source of noise in the Specific Plan area is vehicle noise from Waterman Avenue and other major arterial roadways. Existing traffic noise levels from road segments in the Specific Plan area were modeled utilizing the Highway Noise Model published by the Federal Highway Administration (1978). The FHWA model uses traffic volume, vehicle mix, vehicle speed, and roadway geometry to compute the "equivalent noise level." Existing traffic volumes were obtained from forecast traffic data provided by Fehr & Peers (2016; see Appendix I to this DEIR). These volumes—and the speeds that were used to calculate the noise levels from existing vehicle traffic—are presented in the Noise Study Report, included as Appendix G of this DEIR. Because the City of San Bernardino does not have a published vehicle mix or day/evening/night (D/E/N) split for use in acoustical studies, road segments were assigned D/E/N splits recommended by the Riverside County Department of Industrial Hygiene for noise modeling. Land uses within 1,200 feet of Waterman Avenue, 581 feet of Baseline Street, or 586 feet of 5th Street are currently exposed to noise levels that exceed the applicable noise/land use compatibility criteria standards shown in Table 5.11-8.

Aircraft Noise

San Bernardino International Airport

San Bernardino International Airport (SBIA) is approximately 1.7 miles southeast of the Specific Plan area. SBIA can accommodate heavy aircraft maintenance, air cargo, passenger flights, and corporate and general aviation flights. SBIA is publicly owned by the San Bernardino International Airport Authority, a joint powers authority composed of the County of San Bernardino and the cities of San Bernardino, Colton, Loma Linda, and Highland. SBIA has been converted to a commercial airport from its previous use as Norton Air Force Base and is seeking to establish itself as a destination for both passenger and cargo carriers.

Although aircraft approaching and departing SBIA fly directly over the Specific Plan area (confirmed during noise measurements), the Specific Plan area is not within the airport's 65 dBA CNEL Ultimate Noise Contour (see Figure 5.11-2).

Most flyovers cause only minor brief changes to the average ambient noise level due to the short duration of the flyovers, the altitude of overflying aircraft, and the low intensity of the noise energy emitted by most aircraft approaching and departing SBIA.

San Bernardino County Sheriff's Department Heliport

The nearest heliport to the Specific Plan area is the San Bernardino County Sheriff's Department Heliport at 655 East 3rd Street in San Bernardino, about 890 feet southeast of the southeast corner of the Specific Plan area (AirNav, LLC 2016).

Stationary Noise Sources

Stationary noise sources can include commercial and industrial activities, loudspeakers, car alarms, loud music, and noise generated from large gatherings and typical residential neighborhood sounds such as lawnmowers, children at play, and barking dogs. In the Specific Plan area, the noise impacts from these sources are mostly outweighed by vehicle noise.

5.11.2 Thresholds of Significance

According to Appendix G of the CEQA Guidelines, a project would normally have a significant effect on the environment if the project would result in:

N-1 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.

N-2 Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels.

N-3 A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project.

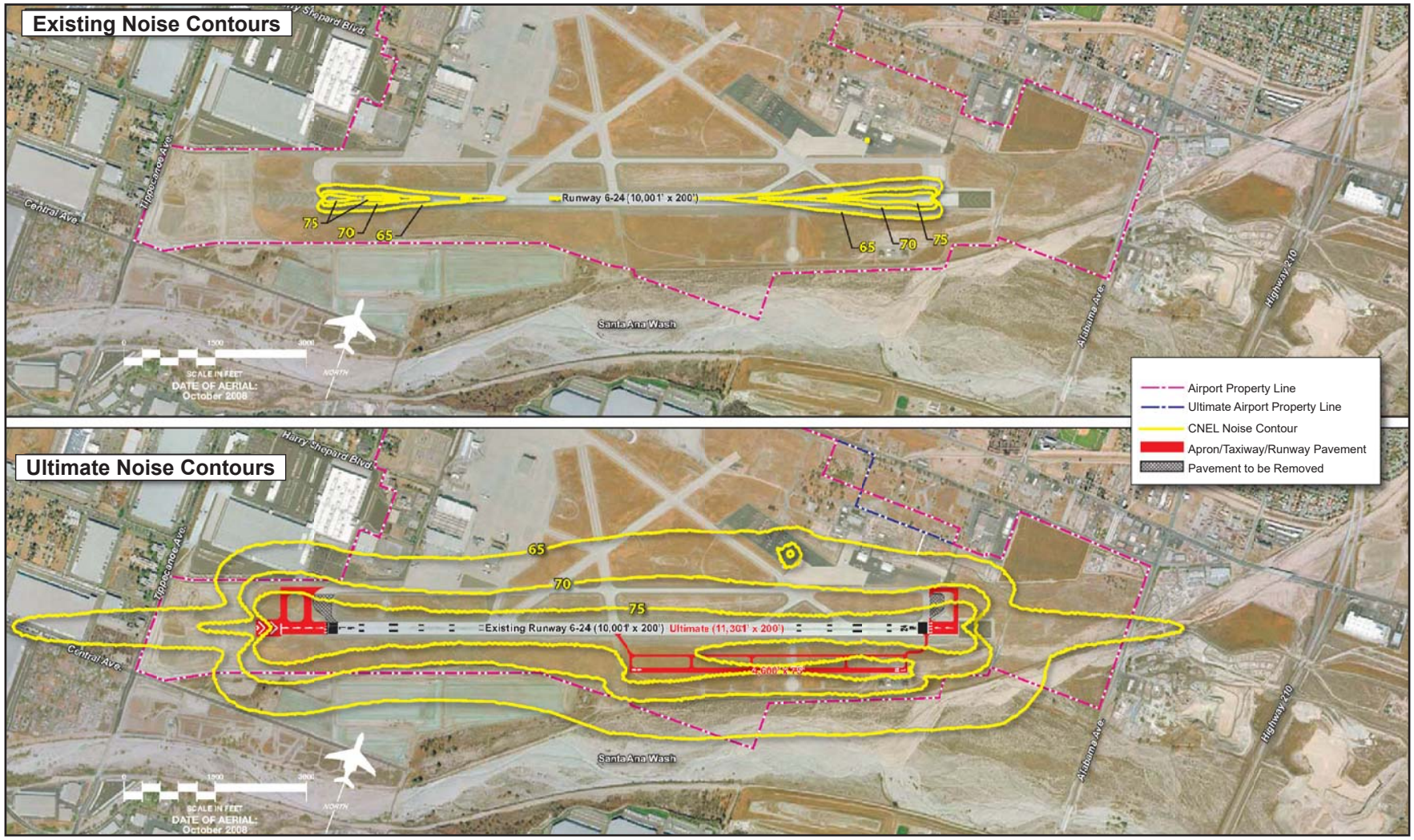
N-4 A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project.

N-5 For a project located within an airport land use plan or where such a plan has not been adopted, within two miles of a public airport or public use airport, expose people residing or working in the project area to excessive noise levels.

N-6 For a project within the vicinity of a private airstrip, expose people residing or working the project area to excessive noise levels.

Figure 5.11-2 - San Bernardino International Airport Noise Contours

5. Environmental Analysis



0 3,000
Scale (Feet)

Base Map Source: Kunzman, 2016

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Note that thresholds N-5 and N-6 ask about impacts of the existing environment (noise from aircraft approaching and departing an airport or private airstrip, respectively) on people who would be onsite due to project development. That is, the thresholds ask about impacts of the environment on the project. The California Supreme Court decided in *California Building Industry Association vs. Bay Area Air Quality Management District* (2015; Case No. S213478) that analysis of the impacts of the environment on a project is generally outside the scope of CEQA. Whether a project would increase the numbers of people exposed to an existing hazard—as with these two airport-related thresholds—is in the category of analysis of impacts of the environment on a project, invalidated by *CBIA vs. BAAQMD*. Therefore, these thresholds are not analyzed in the following impact analysis.

5.11.3 Environmental Impacts

The applicable thresholds are identified in brackets after the impact statement.

Potential noise impacts are commonly divided into two categories, temporary and long term. Temporary impacts consist of noise generated by construction activities. Long-term impacts are further divided into transportation-related noise impacts and stationary noise impacts.

Impact 5.11-1: Construction activities related to the Specific Plan, including pile drilling and other extreme noise-generating construction activities, would temporarily increase noise levels in the vicinity of the Proposed Project. [Thresholds N-2 and N-4]

Impact Analysis:

Demolition and Construction Noise

Construction noise is a short-term impact on ambient noise levels. Noise generated by construction equipment, including trucks, graders, bulldozers, concrete mixers, and portable generators can reach high levels. Demolition and grading activities have similar noise levels.

Examples of construction noise at 50 feet are presented in Table 5.11-9. The maximum noise level for most of the equipment that would be used during construction is 70 to 95 dBA at a distance of 50 feet. Stationary noise typically attenuates by 6 dB for every doubling of distance from the receiver. At 100 feet, the maximum construction noise levels can be expected to range between 64 and 89 dBA L_{max}; at 200 feet, the maximum construction noise levels range from 58 to 83 dBA L_{max}. Note that these noise levels are based upon worst-case conditions. Typical construction noise levels shown in Table 5.11-9 were used as the basis for the estimates presented here and represent a worst-case estimate. A summary of the potential construction noise impacts to each proposed district is presented below. It should be noted that municipal code Section 8.54.070 prohibits any person from engaging in or causing any other person to be engaged or employed in any work of construction, erection, alteration, repair, addition, movement, demolition, or improvement to any building or structure except between the hours of 7:00 AM and 8:00 PM. In addition, Section 8.54.060 exempts noise resulting from construction, repair, or excavation work performed pursuant to a valid written agreement with the City or any of its political subdivisions, which provides for noise mitigation measures from the standards in Section 8.54 of the municipal code.

Table 5.11-9 Typical Construction Equipment Noise Levels

Type of Equipment	Sound Levels Measured (dBA at 50 feet)	Suggested Maximum Sound Levels for Analysis (dBA at 50 feet)
Rock Drills	83–99	96
Jack Hammers	75–85	82
Pneumatic Tools	78–88	85
Pumps	74–84	80
Dozers	77–90	85
Scrapers	83–91	87
Haul Trucks	83–94	88
Cranes	79–86	82
Portable Generators	71–87	80
Rollers	75–82	80
Tractors	77–82	80
Front-End Loaders	77–90	86
Hydraulic Backhoe	81–90	86
Hydraulic Excavators	81–90	86
Graders	79–89	86
Air Compressors	76–89	86
Trucks	81–87	86

Source: Kunzman 2016.

District 1, Uptown Professional District

The Uptown Professional District is approximately 82 acres with the purpose of consolidating the medical uses scattered along Waterman Avenue into a focused district to assist the demand generated by St. Bernardine Medical Center. In addition, this mixed-use district would accommodate office uses; neighborhood-serving commercial uses; and limited residential uses focused on senior housing, with up to 20 dwelling units an acre. Existing residential land uses to the east and west of this district as well as those along Waterman Avenue may be subjected to short-term construction noise impacts during the development of this district. As stated above, construction noise may range between 70 to 95 dBA at a distance of 50 feet. Existing medical offices may be subject to short-term construction noise impacts during the development of this district.

District 2, Westside Neighborhood District

The Westside Neighborhood District encompasses approximately 127 acres. The primary intent of this district is to improve and preserve the existing single-family neighborhoods west of Waterman Avenue. The district would accommodate mixed-use development—mainly neighborhood-serving commercial uses—along Baseline Street and Waterman Avenue. Existing land uses in this district close to Baseline Street,

Waterman Avenue, and 9th Street may be subject to short-term construction noise impacts during development of the district. Construction noise may range between 70 to 95 dBA at a distance of 50 feet. Specific noise levels generated by construction would depend on the type of equipment and the proximity of the equipment to sensitive receptors.

District 3, Midtown Core District

The Midtown Core District is in the center of the Specific Plan area and covers approximately 120 acres. This district would replace 252 units of existing public housing with mixed-income, mixed-use housing; a central park; community center; and other community and recreational resources, with residential densities up to 30 dwelling units an acre. Olive Avenue would be redesigned as a pedestrian-oriented avenue. Since the majority of this district is to be redesigned and existing uses replaced, short-term construction impacts would be minimal. However, existing residential and school uses could be subject to potential noise impacts during the renovation process. Measures to reduce potential impacts are listed in Section 5.11.7, below.

District 4, Eastside Neighborhood District

The Eastside Neighborhood District covers approximately 144 acres and would primarily accommodate mixed-use development with neighborhood-serving commercial uses along Baseline Street, consistent with the existing single-family neighborhoods to the south. Portions of this district would be included in a linear park or trail system. Existing single-family detached residences close to Baseline Street may be impacted by short-term noise impacts from the development of this area. Construction noise may range between 70 to 95 dBA at a distance of 50 feet and between 64 and 89 dBA L_{max} at a distance of 100 feet. Specific noise levels generated by construction would depend on the type of equipment and the proximity of the equipment to the sensitive receptors.

District 5, Gateway District

The Gateway District is approximately 97 acres and is intended to promote the identity of Central San Bernardino through enhanced landscaping and signage as well as mixed-use development at Seccombe Lake. This district would accommodate mixed-use development along Waterman Avenue, with a small single-family enhancement area in the center of district. The majority of the district would allow for higher density residential development up to 30 dwelling units per acre with compatible neighborhood-serving commercial uses in vertical or horizontal mixed use.[1] Any existing residential dwelling units close to roadways in this district could be affected by short-term construction noise. Construction noise may range between 70 to 95 dBA at a distance of 50 feet and 89 dBA L_{max} at a distance of 100 feet. Specific noise levels generated by construction would depend on the type of equipment and the proximity of the equipment to the sensitive receptors.

District 6, Employment District

The Employment District covers approximately 140 acres and has been designed as an employment-generating and flexible business use district accommodating office, commercial, and Business Park uses (mix

[1] Horizontal mixed use combines single-use buildings with a range of land uses on separate parcels within one block.

of business and support services). The portion between 5th and 4th Streets would remain a residential neighborhood. The district would include residential uses at up to 20 dwelling units per acre, and portions of the district are to be included in a linear park or trail system. The existing residences between 5th and 4th Streets may be impacted by short-term noise from development of this area. Construction noise may range between 70 to 95 dBA at a distance of 100 feet and from 58 to 83 dBA L_{max} at a distance of 200 feet. Specific noise levels generated by construction would depend on the type of equipment and the proximity of the equipment to the sensitive receptors.

Conclusion

Construction activities related to the Specific Plan, including pile drilling and other extreme noise-generating construction activities, would temporarily increase noise levels within each of the six land uses districts and in the vicinity of the Specific Plan area boundaries.

Impact 5.11-2 Specific Plan implementation would result in long-term operation-related noise exceeding City of San Bernardino standards. [Thresholds N-1 and N-3]

Impact Analysis:

Increased traffic associated with buildout of the Specific Plan would result in increased traffic noise levels along the roadways in the vicinity of the Specific Plan area. This section examines noise impacts from the Proposed Project on surrounding land uses. Specifically, traffic noise increases based on Specific Plan buildout are examined.

Project-Generated Traffic Noise Impacts

Table 5.11-10 shows existing and existing plus project traffic noise levels on affected road segments in the Specific Plan area. The noise level increases were calculated using forecast traffic volumes provided by Fehr & Peers (2016). The City of San Bernardino does not have published vehicle/truck mixes or D/E/N splits for use in acoustical studies. Vehicle/truck mixes and D/E/N splits for use in acoustical studies published by the Riverside County Department of Industrial Hygiene were used for noise modeling. FHWA traffic modeling output is presented in the Noise Study Report included as Appendix G of this DEIR.

Modeled Existing traffic noise levels range from 62.04 to 78.80 dBA CNEL, and modeled Existing Plus Project traffic noise levels range from 62.04 to 78.95 dBA CNEL at 50 feet from the centerline of the affected road segments. As shown under "Substantial Increase" in Table 5.11-10, project-generated traffic noise would not result in noise increases of 3 dB or greater along road segments acoustically affected by the Proposed Project. Specific Plan buildout would not result in substantial increases in ambient noise levels due to project-generated vehicle traffic, and impacts would be less than significant.

Table 5.11-10 Comparison of Existing and Existing Plus Project Traffic Noise Levels

Roadway	Segment	Distance from roadway centerline to receiver (feet)	Modeled Noise Levels (dBA CNEL)				
			Existing	Existing Plus Project	Change in Noise Level		Substantial Increase
Waterman Avenue	North of 30th Street	50	73.62	73.58		-0.04	NO
	30th Street to I-210 Freeway EB Ramps	50	74.14	74.25	+	0.11	NO
	I-210 Freeway EB Ramps to Highland Avenue	50	73.23	73.52	+	0.29	NO
	Highland Avenue to Baseline Street	50	72.99	73.37	+	0.38	NO
	Baseline Street to 9th Street	50	73.42	74.13	+	0.71	NO
	9th Street to 5th Street	50	73.72	74.48	+	0.76	NO
	5th Street to 2nd Street	50	73.72	74.07	+	0.35	NO
	South of 2nd Street	50	68.86	68.92	+	0.06	NO
	North of I-10 Freeway WB On-Ramp	50	78.80	78.95	+	0.15	NO
	South of I-10 Freeway WB On-Ramp	50	78.80	78.91	+	0.11	NO
Baseline Street	I-215 Freeway SB Ramps to I-215 Freeway NB Ramps	50	75.25	75.42	+	0.17	NO
	I-215 Freeway NB Ramps to E Street	50	75.65	75.95	+	0.30	NO
	E Street to Sierra Way	50	74.92	75.28	+	0.36	NO
	Sierra Way to Waterman Avenue	50	74.23	74.63	+	0.40	NO
	Waterman Avenue to Tippecanoe Avenue	50	73.61	74.09	+	0.48	NO
5th Street	I-215 Freeway SB Ramps to I-215 Freeway NB Ramps	50	74.99	75.18	+	0.19	NO
	I-215 Freeway NB Ramps to Sierra Way	50	74.61	75.05	+	0.44	NO
	Sierra Way to Waterman Avenue	50	71.89	72.73	+	0.84	NO
	Waterman Avenue to Tippecanoe Avenue	50	70.33	71.21	+	0.88	NO
	East of Tippecanoe Avenue	50	69.82	70.97	+	1.15	NO
	West of I-210 Freeway SB Ramps	50	74.39	74.83	+	0.44	NO
	I-210 Freeway SB Ramps and I-210 Freeway NB Ramps	50	74.70	74.93	+	0.23	NO
	East of I-210 Freeway NB Ramps	50	75.69	75.73		0.04	NO

Table 5.11-10 Comparison of Existing and Existing Plus Project Traffic Noise Levels

Roadway	Segment	Distance from roadway centerline to receiver (feet)	Modeled Noise Levels (dBA CNEL)				
			Existing	Existing Plus Project	Change in Noise Level		Substantial Increase
3rd Street	West of I-215 Freeway SB Ramps	50	62.04	62.04		0.00	NO
	I-215 Freeway SB Ramps to I-215 Freeway NB Ramps	50	63.85	64.15	+	0.30	NO
	East of I-215 Freeway NB Ramps	50	65.48	65.88	+	0.40	NO
2nd Street	West of I-215 Freeway SB Ramps	50	71.77	71.77		0.00	NO
	I-215 Freeway SB Ramps to I-215 Freeway NB Ramps	50	73.82	73.83		0.01	NO
	I-215 Freeway NB Ramps to Waterman Avenue	50	72.85	72.88		0.03	NO

Source: Kunzman 2016.

Future Traffic Noise Exposure to the Proposed Project

There are several busy arterial roadways in the Specific Plan area that would accommodate most of the vehicle traffic generated by the Proposed Project. As discussed previously, the FHWA Noise Model was used to calculate buildout with- and without-project noise levels from vehicle traffic travelling on roads in the Specific Plan area. The distances from the centerline to the 60, 65, and 70 dBA CNEL contours were calculated for each of the acoustically significant roadways in the Specific Plan area and are shown in Table 5.11-11. Note that the contours do not include the shielding effects of buildings, topography, or sound barriers that would lower the noise levels, and therefore the table represents worst-case estimates. FHWA spreadsheets that calculated the locations of noise contours are included in the noise study report in Appendix G of this DEIR.

As shown in Table 5.11-11, future noise levels are expected to exceed 65 dBA CNEL at the existing and proposed land uses along Waterman Avenue, Baseline Street, and 5th Street. The majority of the affected land uses adjacent to Waterman Avenue and Baseline Street are and would be commercial land uses. The existing and proposed land uses adjacent to 5th Street include residential uses as well as commercial uses.

Table 5.11-11 Modeled Future Traffic Noise Levels (CNEL)

Roadway	Segment	Future Year (2035) Average Daily Traffic[1]	Future Year (2035) CNEL Contours (feet from centerline)			Future Year (2035) With-Project Average Daily Traffic[1]	Future Year (2035) With-Project CNEL Contours (feet from centerline)		
			70 dBA	65 dBA	60 dBA		70 dBA	65 dBA	60 dBA
Waterman Avenue	North of 30th Street	18,840	129	409	1,294	18,430	126	400	1,294
	30th Street to State Route 210 EB Ramps	22,275	153	483	1,530	23,615	162	513	1,620
	State Route 210 EB Ramps to Highland Avenue	18,910	129	410	1,299	21,840	150	474	1,500
	Highland Avenue to Baseline Street	15,985	110	347	1,098	19,665	135	427	1,350
	Baseline Street to 9th Street	19,615	134	426	1,345	27,565	189	598	1,893
	9th Street to 5th Street	19,820	136	430	1,360	28,870	198	626	1,982
	5th Street to 2nd Street	21,030	144	456	1,442	25,005	171	543	1716
	South of 2nd Street	8,890	61	193	610	9,130	63	198	627
	North of I-10 Freeway WB On-Ramp	37,700	432	1367	4,318	40,180	460	1456	4,600
	South of I-10 Freeway WB On-Ramp	34,670	397	1257	3,976	36,540	419	1324	4,192
Baseline Street	I-215 Freeway SB Ramps to I-215 Freeway NB Ramps	20,590	169	537	1,698	22,680	187	591	1,870
	I-215 Freeway NB Ramps to E Street	20,645	170	538	1,700	24,745	204	645	2,038
	E Street to Sierra Way	17,755	146	463	1,462	21,850	180	569	1,800
	Sierra Way to Waterman Avenue	17,545	144	457	1,446	21,470	177	559	1,770
	Waterman Avenue to Tippecanoe Avenue	16,290	134	424	1,343	20,390	168	531	1,680
5th Street	I-215 Freeway SB Ramps to I-215 Freeway NB Ramps	17,290	142	450	1,424	19,500	160	508	1,608
	I-215 Freeway NB Ramps to Sierra Way	16,680	137	435	1,373	21,380	176	557	1,762
	Sierra Way to Waterman Avenue	13,115	108	342	1,080	18,180	149	474	1,499
	Waterman Avenue to Tippecanoe Avenue	11,170	92	291	920	14,870	122	387	1,225
	East of Tippecanoe Avenue	9,450	78	246	779	13,890	114	362	1,145
	West of I-210 Freeway SB Ramps	18,250	150	475	1,505	22,690	187	591	1,868
	I-210 Freeway SB Ramps and I-210 Freeway NB Ramps	19,610	161	511	1,614	22,110	182	576	1,823
	East of I-210 Freeway NB Ramps	28,100	231	732	2,315	28,660	236	747	2,362
3rd Street	West of I-215 Freeway SB Ramps	4,520	11	35	110	4,520	11	35	110
	I-215 Freeway SB Ramps to I-215 Freeway NB Ramps	6,635	16	51	161	6,995	17	54	170
	East of I-215 Freeway NB Ramps	9,100	22	70	221	9,800	24	75	238

Table 5.11-11 Modeled Future Traffic Noise Levels (CNEL)

Roadway	Segment	Future Year (2035) Average Daily Traffic[1]	Future Year (2035) CNEL Contours (feet from centerline)			Future Year (2035) With-Project Average Daily Traffic[1]	Future Year (2035) With-Project CNEL Contours (feet from centerline)		
			70 dBA	65 dBA	60 dBA		70 dBA	65 dBA	60 dBA
2nd Street	West of I-215 Freeway SB Ramps	13,740	94	298	942	13,740	94	298	942
	I-215 Freeway SB Ramps to I-215 Freeway NB Ramps	21,035	144	456	1445	21,125	145	458	1449
	I-215 Freeway NB Ramps to Waterman Avenue	15,735	108	341	1,080	15,970	109	346	1,096

Source: Kunzman 2016.

As shown in Table 5.11-6, the City has not adopted exterior noise level limits for commercial land uses. Interior noise level standards for commercial land uses range between 45 and 65 dBA CNEL, depending on the type of commercial use. Residential land uses in the Specific Plan area along Waterman Avenue, Baseline Street, and 5th Street would be exposed to noise levels of up to 70 dBA CNEL and may exceed the 65 dB CNEL exterior noise level limit for residential land uses or the 45 dBA CNEL interior noise level limit depending on the distance of the receptor from the roadway. Outdoor use areas (i.e., backyards) should be shielded from vehicle noise whenever possible. This impact would be significant.

This impact would be due partly to project-generated traffic and partly to traffic generated by future regional growth traveling on arterial roadways through or next to the Specific Plan area. Thus, this would be a cumulative impact.

Operational Noise Impacts from Proposed Land Uses

In addition to roadway traffic noise impacts discussed above, on-site activities at existing residential and commercial uses and the proposed uses in the six Specific Plan districts could impact both on- and off-site sensitive receptors—specifically, the activities associated with commercial establishments, such as parking lot noise, air conditioning units, delivery trucks, and loading and unloading.

Instantaneous sound events generated by vehicle door slamming, engine start-up, alarm activation, and vehicle pass-bys in parking lots would not be of sufficient volume to exceed community noise standards that are based on a time-averaged scale such as the CNEL scale. Estimates of the maximum noise levels associated with some parking lot activities are presented in Table 5.9-12. These noise levels, which are based on measurements conducted at a distance of 50 feet from the source, are the maximum noise levels generated. A range is given to reflect the variability of noise generated by various automobile types and driving styles. The exact locations of all future parking lots within each property are not yet known. For the purposes of determining worst-case noise impacts to residences due to parking-lot-related activities, it will be assumed that a parking lot could be anywhere on a property where parking is required.

Table 5.11-12 Parking Lot Noise Sources

Source	Level (dBA)	
	50 feet	100 feet
Autos at 14 mph	50	44
Sweepers	72	66
Car Alarm Signal	69	63
Car Alarm Chirp	54	48
Car Horns	69	63
Door Slams	64	58
Talking	36	30
Radios	64	58
Tire Squeals	66	60

Source: Kunzman 2016.
Note: Estimates are based on actual noise measurements taken at various parking lots by Kunzman Associates, Inc.

Truck deliveries, loading dock activities, and air conditioning noise can only generally be assessed at this stage of the Proposed Project. Loading dock noise includes the movement of the goods into a store and possibly forklift operations. Truck delivery noise is generated when a truck drives to or from the loading dock. Formerly, delivery truck drivers could also leave the truck idling during unloading operations. However, trucks are now prohibited from idling in any one location for more than five minutes by South Coast Air Quality Management District regulations. The number of truck deliveries and the time of day that unloading would occur are not known. Nighttime operations can be particularly annoying to residences. However, noise levels could be loud enough that they would be disturbing at the residences during daytime as well.

Mechanical equipment noise associated with HVAC systems often accompanies several of the land use types being proposed as part of the Specific Plan. HVAC equipment is sometimes located on the ground and sometimes on the roof. The type, size, and number of mechanical equipment are not known at this time. If equipment is on the roof, parapet walls are often used to control the noise from the equipment. Similarly, sound walls can be built around HVAC equipment on the ground. Operational noise impacts from stationary sources could be significant without mitigation.

Impact 5.11-3: Construction activities could generate groundborne vibration during construction, but that vibration is very unlikely to cause architectural damage. Groundborne vibration from project operation would not cause annoyance or architectural damage. [Threshold N-2]

Impact Analysis:

Construction Vibration

Groundborne vibration levels rarely affect human health. Instead, most people consider groundborne vibration an annoyance that may affect concentration or disturb sleep. Construction activity can result in varying degrees of ground vibration, depending on the equipment and methods employed. Operation of

construction equipment causes vibrations that spread through the ground and diminish in strength with distance. Ground vibrations from future construction activities (other than pile driving) rarely reach levels that can damage structures. Table 5.11-13 gives approximate vibration levels for particular construction activities in a wide range of soil conditions.

Table 5.11-13 Construction Equipment Vibration Source Levels

Equipment	Community Noise Equivalent Level (CNEL) or Day-Night Level (Ldn), dB		
	at 25 feet	at 50 feet	at 100 feet
Clam Shovel Drop (slurry wall)	**0.202**	0.071	0.025
Vibratory Roller	**0.210**	0.074	0.026
Hoe Ram	**0.089**	0.031	0.011
Large Bulldozer	**0.089**	0.031	0.011
Caisson Drilling	**0.089**	0.031	0.011
Loaded Trucks	0.076	0.027	0.010
Jackhammer	0.035	0.012	0.004
Small Bulldozer	0.003	0.001	0.0004

Note: Boldface values are considered annoying to people.

A vibratory roller, loaded trucks, a hoe ram, and jackhammers could be utilized to demolish, renovate, and build new structures. The vibratory roller would primarily be used during the laying of asphalt, and a jackhammer may be utilized during utility relocation or installation. As shown in Table 5.11-13, a vibratory roller could produce a peak particle velocity (PPV) of up to 0.21 inch per second at 25 feet. Use of vibratory equipment within 70 feet of a sensitive receptor could be perceptible but is expected to be short term. Damage to buildings of normal construction is possible if vibratory equipment is utilized within 25 feet of a sensitive receptor.

Use of vibration-generating construction equipment and trucks would be limited to the hours of 7:00 AM to 8:00 PM, conforming with City of San Bernardino Municipal Code Section 8.54.070. Implementation of Section 8.54.070 provides reasonable regulation of the hours of construction. With required implementation of the City's municipal code, construction vibration impacts would be less than significant.

Operational Vibration

Medium- and heavy-duty delivery trucks would be expected to visit the Specific Plan area on a regular basis. Heavy trucks would not be anticipated to exceed 0.10 in/sec PPV at 10 feet (Caltrans 2002). Predicted operation-related vibration levels at the nearest on- and offsite structures, which are more than 10 feet from the traveled roadway segments, would not be anticipated to exceed even the most conservative threshold of 0.2 in/sec PPV. Impacts would be less than significant.

5.11.4 Cumulative Impacts

The above analysis of the Proposed Project addresses cumulative impacts with regard to operational and construction noise, as well as groundborne noise and vibration in the Specific Plan area. Although multiple simultaneous nearby noise sources may, in combination, result in higher overall noise levels, this effect is captured and accounted for by the ambient noise level metrics that form the basis of the standards of significance for noise analysis. Any measurement of sound or ambient noise—whether for the purpose of evaluating land use compatibility, establishing compliance with noise standards, or determining point-source violations of a noise ordinance—will necessarily incorporate noise from all other nearby, perceptible sources.

Operational Noise

To specifically estimate the Proposed Project's contribution to traffic noise, existing noise levels were compared to those projected with buildout of the Proposed Project. As demonstrated above, the Proposed Project's contribution to increases in ambient noise levels and vibration would be less than significant, even when accounting for traffic increases forecast in the San Bernardino Transportation Analysis Model. Noise impacts from traffic at land uses along certain arterial roadways in the Specific Plan area in future conditions were found to be significant. It is assumed here that such noise impacts along some arterial roadways in the cities of San Bernardino and Highland outside of the Specific Plan area would also be significant.

Construction Noise

Construction activities may occur simultaneously and in close proximity to noise-sensitive receptors, resulting in significant impacts. Since details of individual development projects in the Specific Plan area are currently unknown, it cannot be determined whether Mitigation Measure N-1 listed below would reduce the potentially significant impacts to less than significant. However, all cumulative development projects, including the Proposed Project, would be required to comply with the City's noise ordinance. Therefore, no significant cumulative impacts related to construction are anticipated.

5.11.5 Existing Regulations and Standard Conditions

Federal

- Federal Highway Administration Design Noise Standards

State

- California Code of Regulations, Title 24, Part 11, California Green Building Standards Code.
- California Code of Regulations, Title 21, Part 1, Public Utilities Code (Regulation of Airports)

City of San Bernardino

- Municipal Code Section 8.54.070: Disturbances from Construction Activity

5.11.6 Level of Significance Before Mitigation

Upon implementation of regulatory requirements and standard conditions of approval, Impacts 5.11-3 and 5.11-4 would be less than significant.

Without mitigation, the following impacts would be **potentially significant**:

- **Impact 5.11-1:** Construction projects conforming with the Specific Plan would cause temporary noise increases in and near the Specific Plan area.
- **Impact 5.11-2:** Traffic noise at land uses along Waterman Avenue, Baseline Street, and 5th Street in the Specific Plan area in future conditions would exceed the 65 dBA CNEL outdoor noise standard for several types of land uses. Operational noise impacts from stationary sources would also be significant.
- **Impact 5.11-3:** Construction activities could generate excessive groundborne vibration during the construction, but that vibration is very unlikely to cause architectural damage. Groundborne vibration from project operation would not cause annoyance or architectural damage.

5.11.7 Mitigation Measures

Impact 5.11-1

Demolition and Construction Noise

N-1 Prior to issuance of demolition, grading, and/or building permits for development projects accommodated by the Specific Plan, a note shall be provided on development plans indicating that ongoing during grading, demolition, and construction, the property owner/developer shall be responsible for requiring contractors to implement the following measures to limit construction-related noise:

- The construction contractor shall limit haul truck deliveries to the same hours specified for construction equipment (7:00 AM to 8:00 PM).
- To the extent feasible, haul routes shall not pass sensitive land uses or residential dwellings and should avoid using alleyways adjacent to those uses.
- The project contractor shall use power construction equipment with state-of-the-art noise shielding and muffling devices.
- During all site excavation and grading onsite, construction contractors shall equip all construction equipment, fixed or mobile, with properly operating and maintained mufflers, consistent with manufacturers' standards.

- The construction contractor shall locate equipment staging in areas that will create the greatest distance between construction-related noise sources and the nearest noise-sensitive receptors during all project construction.
- The construction contractor shall place all stationary construction equipment so that emitted noise is directed away from the nearest noise-sensitive receptors.
- The use of vibratory equipment shall be avoided or minimized within 25 feet of existing vibration-sensitive land uses.
- If vibratory equipment must be used within 25 feet of an existing structure, vibration monitoring shall be conducted, and work shall be halted and reevaluated for vibratory levels near 0.20 PPV, which is the standard established to protect structures.

Impact 5.11-2

Traffic Noise Impacts to Proposed Land Uses

N-2 Before issuance of any building permits for projects developed pursuant to the Specific Plan, the architects for such projects will add the following specifications to building plans for such projects:

New nonresidential development shall be constructed with roof-ceiling assemblies that have a sound transmission class (STC) of at least 50, and exterior windows must have minimum STC of 30 where sound levels at the property line regularly exceed 65 decibels.

It is recommended that buildings with few or no occupants and where occupants are not likely to be affected by exterior noise, as determined by the enforcement authority—such as factories, stadiums, storage, enclosed parking structures, and utility buildings—be exempt from this measure.

N-3 Prior to issuance of building permits for residential land uses within a 65 dBA CNEL noise contour as shown in Table 5.11-11 in the Draft EIR, a detailed noise assessment shall be prepared to show that noise levels in those areas will not exceed the 65 dBA CNEL outdoor and the 45 CNEL indoor noise standards. The noise assessment shall be prepared by a qualified acoustical consultant, document the sources of noise impacting the areas, and describe any measures required to meet the standard. These measures will be incorporated into the project plans. The report shall be completed and approved by the City prior to issuance of building permits.

Stationary Noise Sources

N-4 Prior to issuance of building permits for nonresidential land uses adjacent to residential land uses, City staff shall require the preparation of a detailed noise study to ensure that these sources do not exceed noise level limits in the City's noise ordinance. The assessment shall

be prepared by a qualified acoustical engineer and shall document the noise generation characteristics of the proposed equipment and the projected noise levels at the nearest use. Compliance with these levels shall be demonstrated, and any measures required to comply with the noise ordinance will be included in the project plans. The report shall be completed and approved by the City prior to issuance of building permits.

5.11.8 Level of Significance After Mitigation

Impact 5.11-1

Construction activities related to the Proposed Project would temporarily increase noise levels in the vicinity of individual future projects for the duration of construction. There would be variations in construction noise levels on a day-to-day basis, depending on the actual activities at the construction site. Noise levels and potential annoyance also depend on the number and condition of equipment, the type of operation, its duration and the time of day, the distance between noise source and receptor, and the presence or absence of barriers between the noise source and receptor. Significant noise impacts do not normally result when standard construction noise control measures are enforced and when the duration of the noise-generating construction period (when community noise levels would be elevated) is limited to one construction season, typically one year or less. With implementation of Mitigation Measure N-1 and City of San Bernardino noise regulations, construction noise construction noise would not violate the City of San Bernardino noise ordinance or the City of San Bernardino nuisance standards regarding persistent construction-related noise, and construction noise impacts would be less than significant. Therefore, Impact 5.11-1 would be less significant.

Impact 5.11-2

Traffic Noise Impacts at Future Land Uses

Implementation of Mitigation Measures N-2 and N-3 would reduce traffic noise impacts at noise-sensitive land uses near arterial roadways in the Specific Plan area to less than significant levels. No significant and unavoidable impacts would occur.

Cumulative Impacts

Operational Noise

As demonstrated above, the Proposed Project's contribution to increases in ambient noise levels and vibration would be less than significant, even when accounting for traffic increases forecast in the San Bernardino Transportation Analysis Model. However, cumulative noise impacts from traffic at land uses along certain arterial roadways in the Specific Plan area in future conditions were found to be significant. It is assumed here that such noise impacts along some arterial roadways in the cities of San Bernardino and Highland outside of the Specific Plan area would also be significant and unavoidable.

5.11.9 References

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5.12 POPULATION AND HOUSING

This section of the Draft Environmental Impact Report (DEIR) examines the potential for socioeconomic impacts of the proposed Waterman + Baseline Neighborhood Specific Plan (Proposed Project) on the City of San Bernardino and its sphere of influence, including changes in population, employment, and demand for housing, particularly housing cost/rent ranges defined as "affordable."

The analysis in this section is based, in part, upon the following source:

- *2016–2040 Regional Transportation Plan/Sustainable Communities Strategy*, Southern California Association of Governments (SCAG), 2016.

5.12.1 Environmental Setting

5.12.1.1 REGULATORY BACKGROUND

State, regional, and local laws, regulations, plans, or guidelines that are potentially applicable to the Proposed Project are summarized below.

State Regulations

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 § 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 (HCD) estimates the relative share of California's projected population growth that would occur in each county based on California Department of Finance (CDF) population projections and historical growth trends. These figures are compiled by HCD in a Regional Housing Needs Assessment (RHNA) for each region of California. Where there is a regional council of governments, the HCD provides the RHNA to the council. The council then assigns a share of the regional housing need to each of its cities and counties. The process of assigning shares gives cities and counties the opportunity to comment on the proposed allocations. The HCD oversees the process to ensure that the council of governments distributes its share of the state's projected housing need.

State law recognizes the vital role local governments play in the supply and affordability of housing. To that end, California Government Code requires that the housing element achieve legislative goals to:

- Identify adequate sites to facilitate and encourage the development, maintenance, and improvement of housing for households of all economic levels, including persons with disabilities.

- Remove, as legally feasible and appropriate, governmental constraints to the production, maintenance, and improvement of housing for persons of all incomes, including those with disabilities.

- Assist in the development of adequate housing to meet the needs of low and moderate income households.
- Conserve and improve the condition of housing and neighborhoods, including existing affordable housing. Promote housing opportunities for all persons regardless of race, religion, sex, marital status, ancestry, national origin, color, familial status, or disability.
- Preserve for lower income households the publicly assisted multifamily housing developments in each community.

The State of California housing element laws (California Government Code §§ 65580–65589) require 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.

Regional Planning

San Bernardino Association of Governments and Southern California Association of Governments

The City of San Bernardino belongs to the San Bernardino Association of Governments (SANBAG), which focuses on regional and subregional transportation matters for San Bernardino County. SANBAG is one jurisdiction under SCAG; members of the SANBAG Board of Directors serve under various SCAG committees and on the Regional Council, the governing board of SCAG. SCAG is a council of governments representing Imperial, Los Angeles, Orange, Riverside, San Bernardino, and Ventura counties. SCAG is the federally recognized metropolitan planning organization for this region, which encompasses over 38,000 square miles.

Regional Transportation Plan/Sustainable Communities Strategy

SCAG is responsible for the development of the Regional Transportation Plan every four years and the Regional Transportation Improvement Plan every two years. SCAG uses regional transportation plans to focuses on the relationship between jobs and housing and how it impacts mobility, minimizes congestion, and protects quality of life.

On April 7, 2016, SCAG's Regional Council adopted the 2016-2040 Regional Transportation Plan/ Sustainable Communities Strategy (2016 RTP/SCS). This long-range visioning plan balances future mobility and housing needs with economic, environmental, and public health goals. The 2016 RTP/SCS includes a strong commitment to reduce emissions from transportation sources to comply with Senate Bill 375, improve public health, and meet the National Ambient Air Quality Standards. It balances the region's future mobility and housing needs with economic, environmental, and public health goals. The RTP/SCS is required by the state of California and the federal government and is updated by SCAG every four years as demographic, economic, and policy circumstances change. The 2016 RTP/SCS is a living, evolving blueprint for the region's future (SCAG 2016).

Local Planning

City of San Bernardino General Plan

California planning and zoning law requires that every city and county prepare and adopt a long-term comprehensive general plan for future development. The general plan is used to guide physical development in a manner consistent with the jurisdiction's physical, social, economic, and environmental goals. The general plan provides a framework of policies, goals, strategies, and programs with which local decision makers can direct growth of the community. The housing element is the only general plan element that is subject to approval or disapproval by the state and the only element that has a specific timeline for updates (generally every five years).

The 2013–2021 housing element was revised and adopted by the City Council in 2014 and describes the City of San Bernardino's projected future housing needs and proposed actions to ensure that housing needs will be met for all income levels. The housing element includes current and projected housing needs and establishes a series of carefully developed policies, goals, strategies, and programs. The housing element is required to meet state law and ensure that adequate housing opportunities are identified to accommodate the City's RHNA allocation as assigned by SANBAG. The revised 2013–2021 housing element also includes updated information on community concerns regarding housing availability as well as changes in development of the community that may affect the production of housing during the housing element planning period.

5.12.1.2 EXISTING CONDITIONS

Population

The population in the County of San Bernardino in 2015 was estimated as 2,104,291. The population of the City of San Bernardino was 213,933 for 2015 (CDF 2015).

Population Forecasts

Population forecasts for the County indicate a significant increase in population by the year 2040. According to SCAG, the County's population is estimated to increase to 2,731,000 by 2040, an increase of 663,000 people (about 32 percent) from 2012 estimates (SCAG 2016). According to SCAG, the City of San Bernardino is projected to increase its population to 257,400 by 2040, an increase of 45,500 people (about 21 percent) from 2012 estimates (SCAG 2016). Table 5.12-1, *SCAG Population Projections 2040,* provides SCAG's recent population trends and future population projections into the year 2040.

Table 5.12-1 SCAG Population Projections 2040

	2012	2040	Change 2015–2035	
			Total	Percent
County of San Bernardino	2,068,000	2,731,000	663,000	32%
City of San Bernardino	211,900	257,400	45,500	21%

Source: SCAG's 2016 RTP Growth Forecast.
Note: City numbers were rounded to the nearest 10 for jurisdictions with small numbers or to the nearest 100 for all others, and County numbers were rounded to the nearest 1,000.

The population in the Specific Plan area is estimated to be 8,421.

Housing

In 2015 an estimated 65,440 housing units were in the City of San Bernardino and 709,385 units were in San Bernardino County.

Unit Types

As shown in Table 5.12-2, about 60 percent of the housing units in the City are single-family detached units. The corresponding percentage for San Bernardino County is higher, about 71 percent.

Table 5.12-2 Housing Units in Unincorporated San Bernardino County by Unit Type, 2015 Estimates

	City of San Bernardino		San Bernardino County	
	Number of Units	Percent of Units	Number of Units	Percent of Units
Single-Family Detached	39,385	60.2	504,642	71.1
Single-Family Attached	1,908	2.9	24,873	3.5
Multifamily (2 to 4 Units)	5,072	7.8	45,579	6.4
Multifamily (5+ units)	14,870	22.7	90,624	12.8
Mobile Homes	4,205	6.4	43,667	6.2
Total Units	**65,440**	**100%**	**709,385**	**100%**

Source: CDF 2015a.

Occupancy

In 2015 there were 59,364 occupied housing units in the City of San Bernardino, and the vacancy rate in the City was estimated as 9.3 percent. There were 620,812 occupied units in San Bernardino County, and the vacancy rate countywide was estimated as 12.5 percent (CDF 2015a). A household is equivalent to one occupied housing unit.

Housing Tenure

Tenure refers to whether a household owns or rents a home. As of the 2010 Census, 50.3 percent (29,838) of households in the City of San Bernardino owned a home and 49.7 percent (29,445) rented a home. In comparison, San Bernardino County's homeownership rate was 62.7 percent in 2010 (U.S. Census 2016a).

Household Size

The average household size in the City of San Bernardino in 2015 was estimated as 3.49 persons, and the average size in the County was 3.33 persons (CDF 2015a).

Households Forecasts

The number of households in the City of San Bernardino is forecast to increase by about 29 percent between 2015 and 2035, with a corresponding forecast increase of about 41 percent in San Bernardino County, as shown in Table 5.12-3.

Table 5.12-3 Households Forecast

	2012 (SCAG)	2040 (SCAG)	Increase, 2012–2040	Percent Increase, 2012–2040
County of San Bernardino	615,300	854,300	239,000	38.8%
City of San Bernardino	59,300	77,100	17,800	30.0%

Sources: CDF 2015; SCAG 2012.

Housing in the Specific Plan Area

Existing residential development in the Specific Plan area consists of 1,946 residential units of single-family units, multifamily units, and mobile homes.

Regional Housing Needs Assessment

The RHNA is mandated by state housing law as part of the periodic process of updating housing elements of local general plans. State law requires that housing elements identify RHNA targets set by California's Department of Housing and Community Development to encourage each jurisdiction in the state to provide its "fair share" of very low, low, moderate, and upper income housing during the housing element planning period. As required by law, the City must show that adequate sites are available to accommodate the construction of new housing units consistent with the RHNA in the housing element. Although market conditions, environment, and other political factors can impede development, the City must designate and zone land for residential use at appropriate densities. The RHNA accommodates growth, providing a long-term outline for housing within the context of local and regional trends and housing production goals.

SCAG determines total housing need for each community in southern California based on three general factors: 1) the number of housing units needed to accommodate future population and employment growth; 2) the number of additional units needed to allow for housing vacancies; and 3) the number of very low, low, moderate, and above moderate income households needed in the community. Additional factors used to determine the RHNA include tenure, the average rate of units needed to replace housing units demolished, and other factors.

The City of San Bernardino's RHNA allocation for the 2013–2021 planning period, approved in 2014, is shown in Table 5.12-4, *City of San Bernardino RHNA 2014–2021*. The City is required to ensure that sufficient

sites planned and zoned for housing are available to accommodate its need and to implement proactive programs that facilitate and encourage the production of housing commensurate with its housing needs.

Table 5.12-4 City of San Bernardino RHNA 2014–2021

	% of City Median Household Income					
	Extremely Low (<30%)	Very Low (31–50%)	Low (51–80%)	Moderate (81–120%)	Above Moderate (>120%)	Total
Number	490	490	696	808	1,900	**4,384**
Percent	11%	11%	16%	19%	43%	100%

Source: City of San Bernardino 2014.

Employment

In 2014 there were 97,941 jobs in the City, and City residents held 69,442 jobs. Employment by industrial sector for jobs in San Bernardino and jobs of San Bernardino residents is listed below in Table 5.12-5.

Table 5.12-5 Employment by Industrial Sector, City of San Bernardino (2014)

	Jobs in San Bernardino		Jobs of San Bernardino Residents	
Industrial Sector	Jobs	Percent of Total Jobs	Jobs	Percent of Total Jobs
Agriculture, Mining, Oil and Gas Extraction	271	0.3%	830	1.2%
Manufacturing, Construction, and Utilities	5,924	6.0%	9,540	13.7%
Wholesale Trade, Retail Trade, Transportation and Warehousing	18,829	19.2%	16,223	23.4%
Information, Finance and Insurance, and Real Estate	4,741	4.8%	3,115	4.5%
Professional, Scientific, and Technical Services	2,138	2.2%	2,240	3.2%
Management of Companies; and Administration & Support, Waste Management and Remediation	6,502	6.6%	6,906	9.9%
Educational Services, Health Care, and Social Assistance	28,330	28.9%	17,037	24.5%
Arts, Entertainment, and Recreation; Accommodation and Food Services; and Other Services	10,191	10.4%	9.758	14.1%
Public Administration	21,015	21.5%	3,793	5.5%
Total	**97,941**	**100%**	**69,442**	**100%**

Source: USCB 2014b.

Employment Forecast

Employment in the City is forecast to increase by 45 percent over the 2012–2040 period, and employment in San Bernardino County is forecast to increase by almost 56 percent over the same period, as shown in Table 5.12-6 (SCAG 2016).

Table 5.12-6 Employment Forecast

	2012 (SCAG)	2040 (SCAG)	Increase, 2012–2040	Percent Increase, 2012–2040
County of San Bernardino	659,500	1,028,100	368,600	55.9%
City of San Bernardino	88,900	128,900	40,000	45.0%

Sources: CDF 2015; SCAG 2012.

Unemployment

The preliminary unemployment rate for the City of San Bernardino in January 2016 was 7.3 percent, substantially higher than the preliminary unemployment rate for San Bernardino County of 5.6 percent in February 2016 (EDD 2016a; EDD 2016b).

Employment in the Specific Plan Area

The Specific Plan area currently includes several employment-generating land uses, including three neighborhood commercial centers, the St. Bernardine Medical Center, and medical and business offices. Employment is estimated as 3,579, as shown in Table 5.12-7.

Table 5.12-7 Estimated Project Net Employment Generation by Land Use District

Land Use District	Proposed Employment-Generating Land Uses	Nonresidential Land Uses, Square Feet	Employment Density (square feet per employee)[1]	Estimated Employees
Uptown Professional	Office and neighborhood- serving commercial	1,244,332	600[2]	2,074
Westside Neighborhood	Neighborhood- serving commercial	243,519	813[3]	300
Midtown Core Mixed Use	Retail, restaurants, community center	346,981	813[3]	427
Eastside Neighborhood	Neighborhood- serving commercial	108,527	813[3]	133
Gateway	Neighborhood serving commercial	136,318	813[3]	168
Employment	Office, commercial, and business park	286,708	600[2]	478
	Total	—	—	**3,579**

[1] Source: Natelson 2001. Employment density factors are for a five-county region (San Bernardino, Riverside, Los Angeles, Orange, and Ventura) and used as a conservative estimate. Employment density factors for San Bernardino County are lower, that is, more square feet per employee.
[2] The employment density factor used is for low-rise office use.
[3] The employment density factor used is for services and retail other than regional retail.

Jobs-Housing Balance

The jobs-housing ratio is a general measure of the total number of jobs and number of housing units in a defined geographic area, without regard to economic constraints or individual preferences. The balance of jobs and housing in an area, in terms of the total number of jobs and housing units as well as the type of jobs versus the price of housing, has implications for mobility, air quality, and the distribution of tax revenues. The jobs-housing ratio is one indicator of a project's effect on growth and quality of life in the Specific Plan area.

SCAG applies the jobs-housing ratio at the regional and subregional levels to analyze the fit between jobs, housing, and infrastructure. A major focus of SCAG's regional planning efforts has been to improve this balance. No ideal jobs-housing ratio has been adopted in state, regional, or city policies; jobs-housing goals and ratios are advisory only. SCAG applies the jobs-housing ratio at the regional and subregional level as a tool for analyzing the fit between jobs, housing, and infrastructure. The American Planning Association (APA) is an authoritative resource for community planning best practices, including recommendations for assessing jobs-housing ratios. Although the APA recognizes that an ideal jobs-housing ratio will vary from jurisdiction to jurisdiction, its recommended target for an appropriate jobs-housing ratio is 1.5, with a recommended range of 1.3 to 1.7 (Weltz 2003). The existing and projected future jobs/household ratio is provided in Table 5.12-8, *Jobs/Housing Balance for City of San Bernardino*.

Table 5.12-8 Jobs/Housing Balance for the City of San Bernardino

	2012	2040
Population	211,900	257,400
Households	59,300	77,100
Employment	88,900	128,900
Jobs-to-Household Ratio	1.50	1.67

Source: SCAG's 2016 RTP/SCS Growth Forecast.
Note: City numbers were rounded to the nearest 10 for jurisdictions with small numbers, or to the nearest 100 for all others, while county numbers were rounded to the nearest 1,000.

As shown, the jobs-housing balance in San Bernardino in 2012 was 1.50, indicating a balance between jobs and housing. This balance is forecast to increase to 1.67 by 2040, within the recommended range for jobs-housing.

5.12.2 Thresholds of Significance

According to Appendix G of the CEQA Guidelines, a project would normally have a significant effect on the environment if the project would:

P-1 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).

P-2 Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere.

P-3 Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?

5.12.3 Environmental Impacts

The following impact analysis addresses thresholds of significance for which the Proposed Project may have potentially significant impacts. Population impacts are considered potentially significant if growth associated with the Proposed Project would exceed projections for the area and if such exceedance would have the potential to create a significant physical change to the environment. The applicable thresholds are identified in brackets after the impact statement.

The Proposed Project would result in redevelopment and reuse of existing vacant and occupied facilities into new office and commercial space, development of a variety of housing options, enhanced linkages between the Specific Plan area and downtown, and new commercial uses in the Specific Plan area.

Impact 5.12-1: The Proposed Project would directly result in population growth in the Specific Plan area. [Threshold P-1]

Impact Analysis:

Population

Specific Plan buildout would cause a net population increase of about 8,359 in the City of San Bernardino based on the net increase of 2,395 residential units at 100 percent occupancy and the average household size in the City of San Bernardino of 3.49 persons per household in 2015. As shown in Table 5.12-9, nearly three-fifths of the net population increase would occur in two land use districts, Midtown Core Mixed Use and Eastside Neighborhood. The estimated population growth due to project buildout is well below the forecast population increase in the City of 42,110 between 2015 and 2035; thus, Specific Plan buildout would not cause an adverse population growth impact.

Table 5.12-9 Estimated Population Growth by Land Use District

Proposed Land Use District	Residential Units			Population, Net Increase	Population, Net Increase, Percent of Total
	Existing	Proposed	Net Increase		
Uptown Professional	259	277	18	63	0.8
Westside Neighborhood	397	808	411	1,434	17.2
Midtown Core Mixed Use	344	1,017	673	2,349	28.1
Eastside Neighborhood	657	1,402	745	2,600	31.1
Gateway	229	675	446	1,557	18.6
Mixed Business	60	162	102	356	4.3
Total	**1,946**	**4,341**	**2,395**	**8,359**	**100%**

Note: The estimated average household size in the City of San Bernardino in 2015 was 3.49 persons.

Housing

Using an assumption of 100 percent occupancy, the estimated net increase of 2,395 housing units is well below the forecast increase of 17,800 households in the City of San Bernardino between 2012 and 2040 (see Table 5.12-3 above). Because housing growth generated by implementation of the Proposed Project would be well within planned growth in the City, buildout of the Proposed Project does not represent a substantial adverse impact related to housing growth.

Employment

Specific Plan buildout is estimated to generate a net increase of about 1,671 jobs onsite, as shown in Table 5.12-10. Approximately two-thirds of the employment generation by project buildout would be in the Employment land use designation.

Table 5.12-10 Estimated Project Net Employment Generation by Land Use District

Land Use District	Proposed Employment-Generating Land Uses	Nonresidential Land Uses, Square Feet			Employment Density (square feet per employee)[1]	Employees, Net Increase
		Existing	Proposed	Net Increase		
Uptown Professional	Office and neighborhood-serving commercial	1,244,332	513,363	-730,969	600[2]	-1,218
Westside Neighborhood	Neighborhood-serving commercial	243,519	342,852	99,333	813[3]	122
Midtown Core Mixed Use	Retail, restaurants, community center	346,981	610,450	263,469	813[3]	324
Eastside Neighborhood	Neighborhood-serving commercial	108,527	206,614	98,087	813[3]	121
Gateway	neighborhood serving commercial	136,318	444,896	308,578	813[3]	380
Employment	office, commercial, and business park	286,708	1,452,273	1,165,565	600[2]	1,943
	Total	—	—	—	—	**1,671**

1 Source: Natelson 2001. Employment density factors are for a five-county region (San Bernardino, Riverside, Los Angeles, Orange, and Ventura) and used as a conservative estimate. Employment density factors for San Bernardino County are lower, that is, more square feet per employee.
2 The employment density factor used is for low-rise office use.
3 The employment density factor used is for services and retail other than regional retail.

Jobs-Housing Balance

As shown in Table 5.12-11, buildout of the Specific Plan would slightly reduce a nearly balanced jobs-housing balance in the City of San Bernardino from 1.67 to 1.64 in 2040. Both figures are within the target range for appropriate jobs-housing balance, and this slight difference is considered neutral. Note that jobs-housing balance only applies to regions; thus, no estimate of the jobs-housing balance in the Specific Plan area is made.

Table 5.12-11 Jobs/Housing Balance for City of San Bernardino

		2012	2040
Existing	Household	59,300	77,100
	Employment	88,900	128,900
	Jobs-Housing Ratio	1.50	1.67
Proposed Project (2035 only)	Household	Not estimated	2,395
	Employment	Not estimated	1,671
Existing Plus Project (2040 only)	Household	Not applicable	79,495
	Employment	Not applicable	130,571
	Jobs-Housing Ratio	Not applicable	1.64

Source: SCAG's 2012–2040 RTP Growth Forecast.
Note: City numbers were rounded to the nearest 10 for jurisdictions with small numbers, or to the nearest 100 for all others; county numbers were rounded to the nearest 1,000.

Impact 5.12-2 Specific Plan buildout would not displace substantial numbers of housing and residents. [Thresholds PH-2 and PH-3]

Impact Analysis: Most of the existing residential neighborhoods onsite are within enhancement areas where no substantive land use changes are proposed. The Specific Plan intends to retain, enhance, and improve these areas. Specific Plan buildout would result in development of a net increase of 2,395 housing units that are forecast to house a net increase of 8,359 residents at full occupancy. Although Specific Plan implementation could displace a small number of housing units—especially outside of designated enhancement areas (see Figure 3-4)—the net increase in housing development pursuant to Specific Plan buildout would be far larger than any number displaced. Therefore, project buildout would not cause a substantial adverse impact on displacement of housing or residents. Impacts would be less than significant.

5.12.4 Cumulative Impacts

Cumulative impact analysis for the Proposed Project includes the cities of San Bernardino and Highland—the west boundary of Highland is on Tippecanoe Avenue about 750 feet south of the east end of the Specific Plan area. Implementation of the Proposed Project would contribute to the growth of both cities. Other projects would add population, housing, and employment in the two cities (see the forecasts from SCAG in Table 5.12-12, below). As shown in Table 5.12-12, the jobs-housing balance for the two cities combined is forecast to be 1.26—that is, slightly housing-rich—in 2012 and 1.42 (approximately balanced) in 2040. After adding household and employment growth resulting from the Proposed Project, the jobs-housing balance for the two cities combined in 2040 would be nearly the same at 1.41. Therefore, Specific Plan buildout would not contribute to significant adverse cumulative impacts on population and housing growth or on jobs-housing balance, and impacts would be less than significant.

Table 5.12-12 Population, Households, Employment, and Jobs-Housing Balance: Cities of San Bernardino and Highland, 2012 and 2040

	2012			2040		
	San Bernardino	Highland	Total	San Bernardino	Highland	Total
Existing and Forecast						
Population	211,900	53,700	265,600	257,400	66,900	324,300
Households	59,300	15,500	74,800	77,100	20,600	97,700
Employment	88,900	5,500	94,400	128,900	10,200	139,100
Jobs-Housing Balance	1.5	0.44	1.26	1.67	0.50	1.42
Proposed Project						
Population	Not estimated			8,359[1]	—	8,359[1]
Household	Not estimated			2,395	—	2,395
Employment	Not estimated			1,671	—	1,671
Existing Forecast plus Proposed Project						
Population	Not estimated			265,759	66,900	332,659
Households	Not estimated			79,495	20,600	100,095
Employment	Not estimated			130,571	10,200	140,771
Jobs-Housing Balance	Not estimated			1.64	0.5	1.41

Source: SCAG 2016 (existing forecasts for 2012 and 2040).
[1] Population increase resulting from Proposed Project buildout is estimated using the net increase of 2,395 housing units and the average household size in the City of San Bernardino of 3.49 persons in 2015 and assuming that the units would be fully occupied.

5.12.5 Existing Regulations and Standard Conditions

State

- California Government Code Sections 65580 et seq.: Housing Element Law

Regional

Southern California Association of Governments

- 2016–2040 Regional Transportation Plan/Sustainable Communities Strategy
- Regional Housing Needs Assessment for City of San Bernardino, 2014-2021

5.12.6 Level of Significance Before Mitigation

Upon implementation of regulatory requirements and standard conditions of approval, impacts to population and housing would be less than significant.

5.12.7 Mitigation Measures

No significant project-level or cumulative impacts to population and housing were identified and no mitigation measures are necessary.

5.12.8 Level of Significance After Mitigation

Impacts would be less than significant, and no significant and unavoidable impact would occur.

5.12.9 References

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5.13 PUBLIC SERVICES

This section describes the existing public services provided to the Specific Plan area—including fire protection and emergency services, police protection, school services, and library services—and evaluates potential impacts to these services associated with implementation of the Waterman + Baseline Neighborhood Specific Plan (Proposed Project). Parks are addressed in Section 5.14, *Recreation*. Public and private utilities and service systems, including water, wastewater, and solid waste services and systems, are addressed in Section 5.16, *Utilities and Service Systems*.

5.13.1 Fire Protection and Emergency Services

5.13.1.1 ENVIRONMENTAL SETTING

Regulatory Setting

State and local laws, regulations, plans, or guidelines that are potentially applicable to the Proposed Project are summarized below.

State

California Code of Regulations Title 24, Part 2 and Part 9

Part 2 of Title 24, the California Building Code (CBC), sets complete regulations and general construction building standards, including administrative, fire and life safety, and field inspection provisions. The CBC was updated in 2008 to reflect the change in the foundation document from the Uniform Building Code to the International Building Code. Part 9 of Title 24 is the California Fire Code (CFC), with building standards related to fire safety that are referenced in other parts of Title 24. The CFC was preassembled from the 2000 Uniform Fire Code of the Western Fire Chiefs Association. It was revised in January 2008 because the base model/consensus code changed from the Uniform Fire Code to the International Fire Code. The current CBC and CFC are the 2013 codes that took effect on January 1, 2014; these codes are updated on a three-year cycle. The CBC and CFC are issued by the California Building Standards Commission, which is authorized under California Health and Safety Code Sections 18901 et seq. Fire-flow requirements are in CFC Appendix B, Table B105.1. Fire hydrant location and distribution requirements are in CFC Appendix C.

The 2013 CBC is adopted by reference in Chapter 15.04, Building Codes, of the City's municipal code. The 2013 CFC is adopted by reference in Chapter 15.16, Uniform Fire Code.

California Health and Safety Code

Sections 13000 et seq. of the California Health and Safety Code include requirements for building standards (also found in the California Building Code), fire protection and notification systems, fire protection devices such as extinguishers and smoke alarms, high-rise building and child-care facility standards, and fire suppression training.

Local

City of San Bernardino Municipal Code

Section 3.27.040, Fire Suppression Facilities, Vehicles, and Equipment Impact Fee, of the City of San Bernardino municipal code requires new residential, commercial, and industrial development to pay a fee that supports fire-suppression facilities and equipment; the amount of the fee is set by resolution of the mayor and common council.

Existing Conditions

The City of San Bernardino Fire Department (SBFD) provides fire protection and emergency medical services to the Specific Plan area. SBFD provides emergency medical care (with emergency medical team personnel and paramedics), "HazMat" (hazardous materials) teams and resources, and aircraft rescue and firefighting services. American Medical Response provides ambulance transport. SBFD also conducts fire safety inspections of businesses and educates the public about safety measures through school and disaster preparedness programs. Additionally, SBFD participates in the Statewide Master Mutual Aid Plan. This system is designed to facilitate the rendering of aid to multiple agencies/jurisdictions stricken by an emergency. SBFD has automatic aid agreements with the cities of Colton, Loma Linda, Redlands, and Rialto and the County of San Bernardino.[1]

The City and San Bernardino County have held negotiations about contracting the City's fire protection service to the County fire department. Such potential contracting is currently on hold pending court proceedings.

SBFD has an internal training program that covers topics such as emergency medical services for trauma victims, hazardous materials, structural firefighting, the wildland-urban interface, and high-rise firefighting.

Fire Department Programs

SBFD provides various programs designed to encourage community engagement in public safety and support future fire protection efforts. The San Bernardino City Fire Explorer program is an official department function designed to offer young adults real life experiences, training, and exposure to career opportunities in the fire service. Fire Explorer activities are based around five emphasis areas: career, character, service, life skills, and leadership experience. Additionally, SBFD provides a public education program that heightens awareness of fire safety. The public education program allows members to tour the station, see demonstrations of apparatus, participate in school life-safety programs, and learn about neighborhood/community groups.

Furthermore, SBFD provides a community emergency response team to educate and train people in basic disaster response skills, such as fire safety, light search and rescue, team organization, and disaster medical operations. After training, people can be certified to assist others in their neighborhood in the event that professional responders are not immediately available on scene during an emergency.

[1] Automatic aid is assistance dispatched automatically by contractual agreement between two communities or fire districts. By comparison, mutual aid or assistance is arranged on a case-by-case basis.

Fire Stations, Staffing, and Equipment

SBFD provides fire protection services from 10 fire stations. The five stations within a two-mile radius of the Specific Plan area are listed in Table 5.13-1. Figure 5-13.1, *Existing Public Facilities,* shows the locations of these stations.

Table 5.13-1 SBFD Fire Stations Serving the Specific Plan Area

Address	Approximate Distance from Specific Plan Area	Equipment	Daily Staffing
Station No. 221 200 E. 3rd Street	In Specific Plan Area	Type I Engine; Truck Company	6
Station No. 222 1201 W. 9th Street	1.6 miles to the west	Type 1 Engine	3
Station No. 224 2641 N. E Street	0.9 miles to the west	Type 1 Engine, Truck Company	6
Station No. 226 1920 N. Del Rosa Ave.	1.2 miles to the east	Type 1 Engine, Type III Engine	3 (cross-staffed)
Station No. 227 282 W. 40th Street	2.0 miles to the north	Type 1 Engine, Type III Engine	3 (cross-staffed)

Source: Harker 2015.
[1] Type 1 engines are designed for fighting structural fires; Type II engines are designed for fighting wildland fires.

As of 2015, SBFD staffs 148 full-time department personnel that are divided into three platoons—a fire chief, deputy fire chief, and fire marshal; 6 battalion chiefs; 36 fire captains; 36 fire engineers; 36 firefighters; 2 administrative clerical assistants; and various plan check, fire prevention, hazardous materials, and environmental compliance specialists. The current "on-duty" strength per shift—the total number of personnel available to respond to emergencies, including two battalion chief officers—is 53 employees.

Emergency Response Times and Service Standards

SBFD uses standards from the National Fire Protection Association and Insurance Services Office (ISO) to determine adequate response time and staffing to serve the population. The National Fire Protection Association sets a response-time goal of 5 minutes. SBFD has a response-time goal of 8 minutes or less, 90 percent of the time. Two of the department's stations closed in 2015, increasing the average response time to approximately 9.30 minutes, 90 percent of the time. ISO rates fire departments based on adequate staffing and equipment (including communication systems, water systems, dispatch, etc.) according to the Fire Suppression Rating System. Currently, SBFD is rated 3 out of 10, with 1 being the best fire protection rating and 10 not meeting minimum ISO criteria. Thus, SBFD meets the rating system's standards and is adequately serving the City.

Funding

Funding for SBFD operations and maintenance comes primarily from the City's general fund. Other revenue sources are Proposition 172 sales tax (allocated for public safety services), paramedic fees, fire building plan

and building checks, records and site requests, building permitting, new business fire clearance fees, various state and federal grants, and private donations.

5.13.1.2 THRESHOLDS OF SIGNIFICANCE

According to Appendix G of the CEQA Guidelines, a project would normally have a significant effect on the environment if the project would:

FP-1 Result in a substantial adverse physical impact associated with the provisions of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for fire protection services.

5.13.1.3 ENVIRONMENTAL IMPACTS

The following impact analysis addresses thresholds of significance found in Appendix G of the CEQA Guidelines. The applicable thresholds are identified in brackets after the impact statement.

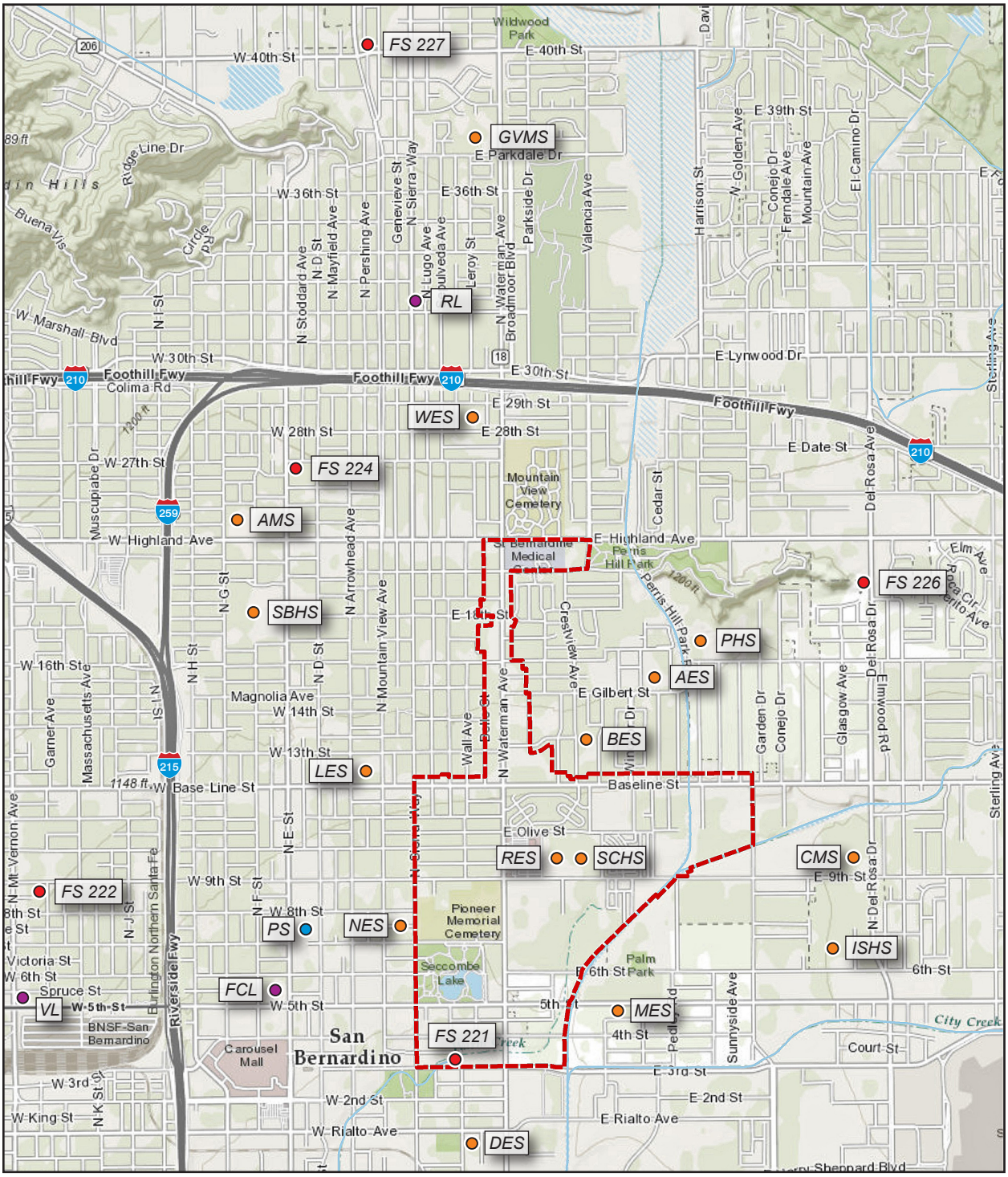
Impact 5.13-1: The Proposed Project would introduce new structures, residents, and workers into the San Bernardino City Fire Department service boundaries, increasing the requirement for fire protection facilities and personnel. [Threshold FP-1]

Impact Analysis: Buildout of the Proposed Project would be expected to add approximately 2,395 residential units and 1.2 million square feet of nonresidential building space to the Specific Plan area compared to existing conditions. This growth is expected to generate 8,359 new residents, who would generate additional demands on fire protection services provided by SBFD.

Section 3.27.040 of the City of San Bernardino Municipal Code establishes the City's fire suppression facilities fee that is imposed on new residential, commercial, and industrial development. The amount of the fee is set by resolution of the mayor and common council. Owners and/or occupants of new developments would also be required to pay property taxes and sales taxes that would contribute to the City's general fund, which is SBFD's main source of funding. The money generated from new growth in the Specific Plan area would go toward improvements, maintenance, and addition of fire stations and resources as fire service demands increase. Buildout would occur gradually over a number of years, and the need for fire protection services would increase concurrently with development. Therefore, revenue generated by the facilities fees, property taxes, and sales taxes would be expected to grow in rough proportion to any increase in residential units and businesses. Furthermore, SBFD would continue monitoring deployment times, response times, and call loads to estimate future needs for personnel and equipment in anticipation of new development.

Figure 5.13-1 Existing Public Facilities

5. Environmental Analysis



Specific Plan Area

FS 221, 222, 224 226, 227 Fire Stations

PS Police Station

AES Anton Elementary School

BES Bradley Elementary School

DES Dominguez Elementary School

LES Lincoln Elementary School

MES Monterey Elementary School

NES Norton Elementary School

RES Roberts Elementary School

WES Wilson Elementary School

AMS Arrowview Middle School

CMS Curtis Middle School

GVMS Golden Valley Middle School

ISHS Indian Springs High School

PHS Pacific High School

SBHS San Bernardino High School

SCHS Sierra Continuation High School

FCL Norman Feldheym Central Library

RL Howard Rowe Library

VL Paul Villasenor Branch Library

0 3,000
Scale (Feet)

Base Map Source: ESRI, 2016

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Project-specific development could impact emergency service vehicle access roads and service response times. However, prior to construction, all development projects would be required to develop a construction traffic management plan that would delineate new service roads in the event of road closure. This would minimize traffic impacts throughout project design and development. Furthermore, new development related to the Proposed Project would be required to adhere to building and fire codes. Individual project plans would be reviewed by SBFD to ensure compliance with all requirements, including emergency vehicle access and fire sprinklers and extinguishers.

For the reasons listed above, impacts of the Proposed Project related to the provision of fire protection and emergency services would be less than significant.

5.13.1.4 CUMULATIVE IMPACTS

The area considered for cumulative impacts on fire protection services is the City of San Bernardino. The City's population is projected to increase by about 45,500, or 21.5 percent, between 2012 and 2040. Employment in the City is forecast to increase by about 40,000 jobs, or 45.0 percent, during the same period (SCAG 2016). Growth of population, development intensity, and employment in the City will increase demands for fire protection and emergency medical services. Projects in the City outside of the Specific Plan area would pay fire suppression facilities impact fees and would generate increased sales taxes and property taxes, some of which would be used to fund fire protection. Therefore, cumulative impacts would be less than significant, and project impacts would not be cumulatively considerable.

5.13.1.5 EXISTING REGULATIONS AND STANDARD CONDITIONS

- California Code of Regulations Title 24, Part 2: 2013 California Building Code
- California Code of Regulations Title 24, Part 9: 2013 California Fire Code
- City of San Bernardino Municipal Code Section 3.27.040, Fire Suppression Facilities, Vehicles, and Equipment Impact Fee

5.13.1.6 LEVEL OF SIGNIFICANCE BEFORE MITIGATION

Upon implementation of regulatory requirements and standard conditions of approval, the following impact would be less than significant: 5.13-1.

5.13.1.7 MITIGATION MEASURES

Impacts are less than significant and mitigation measures are not required.

5.13.1.8 LEVEL OF SIGNIFICANCE AFTER MITIGATION

No mitigation measures are required and impacts remain less than significant.

5.13.2 Police Protection

5.13.2.1 ENVIRONMENTAL SETTING

Regulatory Setting

Local laws, regulations, plans, or guidelines that are potentially applicable to the Proposed Project are summarized below.

City of San Bernardino Municipal Code

Section 3.27.030 of the municipal code allows the City to charge applicants of development projects a law enforcement facilities impact fee.

Existing Conditions

The City of San Bernardino Police Department (SBPD) provides law enforcement services within the City limits, which has an area of 59.65 square miles and a population of 219,290 (CDF 2015). The police station nearest the Specific Plan area is the main police station at 710 North D Street. SBPD is generally organized into three divisions:

- **Patrol Division.** This division is responsible for providing general law enforcement service. Uniformed officers and community service officers respond to about 1,000 service calls every day. Specialized law enforcement personnel such as canine officers, traffic officers, and bicycle-mounted enforcement officers are part of this division. The City is divided into four patrol districts. The northernmost part of the Specific Plan area is in the Northeast Patrol District, and the balance of the Specific Plan area is in the Southeast Patrol District, as shown on Figure 5.13-2, *San Bernardino Police Department Patrol Districts*.

- **Investigations Division.** This division is divided into two bureaus: the Detective Bureau and the Special Enforcement Bureau. The Detective Bureau handles specialized crimes, property crimes, robbery, and homicide. The Special Enforcement Bureau consists of the Vice Unit, Narcotics Unit, Gangs Unit, Multiple Enforcement Team, Hostage Negotiations Team, and SWAT.

- **Administrative Services Division:** This division provides support required to manage the entire police department staff. This division consists of the Personnel and Training Unit, Communications Center, Records Bureau, Financial Services Unit, and the Information Technology Division's Public Safety Systems Group.

Staffing and Funding

SBPD is staffed by over 350 sworn officers and about 150 civilian support personnel. Staffing for SBPD is not determined by a particular number of "officers per thousand," but by its ability to conduct proactive community-oriented policing and problem solving. The SBPD reviews staffing needs on a yearly basis and adjusts service levels as needed to maintain an adequate level of public protection.

Funding for staff, facilities, and equipment come primarily from the City's general fund. Additional revenue sources include Proposition 172 sales tax (allocated for public safety services), asset seizure funds, police alarm permits, miscellaneous licenses and permits, motor vehicle fines, court fines, and various state and federal grants. However, there are no existing plans to expand facilities or hire additional personnel.

Crime Statistics

Central San Bernardino, and the Specific Plan area specifically, are known to have serious issues with crime. Crime statistics for the City in 2014 and 2015 are summarized in Table 5.13-2. Overall, the listed types of crimes increased by 16 percent between 2014 and 2015.

Table 5.13-2 Crime Statistics for the City of San Bernardino, 2015

Crime Type	2014	2015	Increase (Percent)
Criminal Homicide	4	2	-50.0
Forcible Rape	6	10	66.7
Robbery	87	58	-33.3
Aggravated Assault	87	140	60.9
Burglary	210	287	36.7
Theft	392	404	3.1
Vehicle Theft	215	261	21.4
Total	**1,001**	**1,162**	**16.2%**

Source: San Bernardino 2015a.

Performance Standards

The types of service calls generated in the Specific Plan area range from violent crime to traffic-related issues. SBPD's performance standards are not standard per call type, and the type and circumstances dictate the response level and times. The average response times (for calendar year 2015 to date) are:

- Emergency: 6.80 minutes
- In-progress: 30.69 minutes[2]
- Report: 125.33 minutes

Response times vary depending on the severity of the emergency or on the proximity of an on-duty officer. The response times listed above are averages; they do not indicate special circumstances or provide information about specific types of calls in each call category.

5.13.2.2 THRESHOLDS OF SIGNIFICANCE

According to Appendix G of the CEQA Guidelines, a project would normally have a significant effect on the environment if the project would:

[2] In-progress calls are for nonemergency service, such as complaints about noise, trespassing, or loitering.

PP-1 Result in a substantial adverse physical impact associated with the provisions of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for police protection services.

5.13.2.3 ENVIRONMENTAL IMPACTS

The following impact analysis addresses thresholds of significance found in Appendix G of the CEQA Guidelines. The applicable thresholds are identified in brackets after the impact statement.

Impact 5.13-2: Buildout of the Proposed Project would introduce new structures, residents, and workers into the City of San Bernardino Police Department service boundaries, increasing the need for police protection facilities and personnel. [Threshold PP-1]

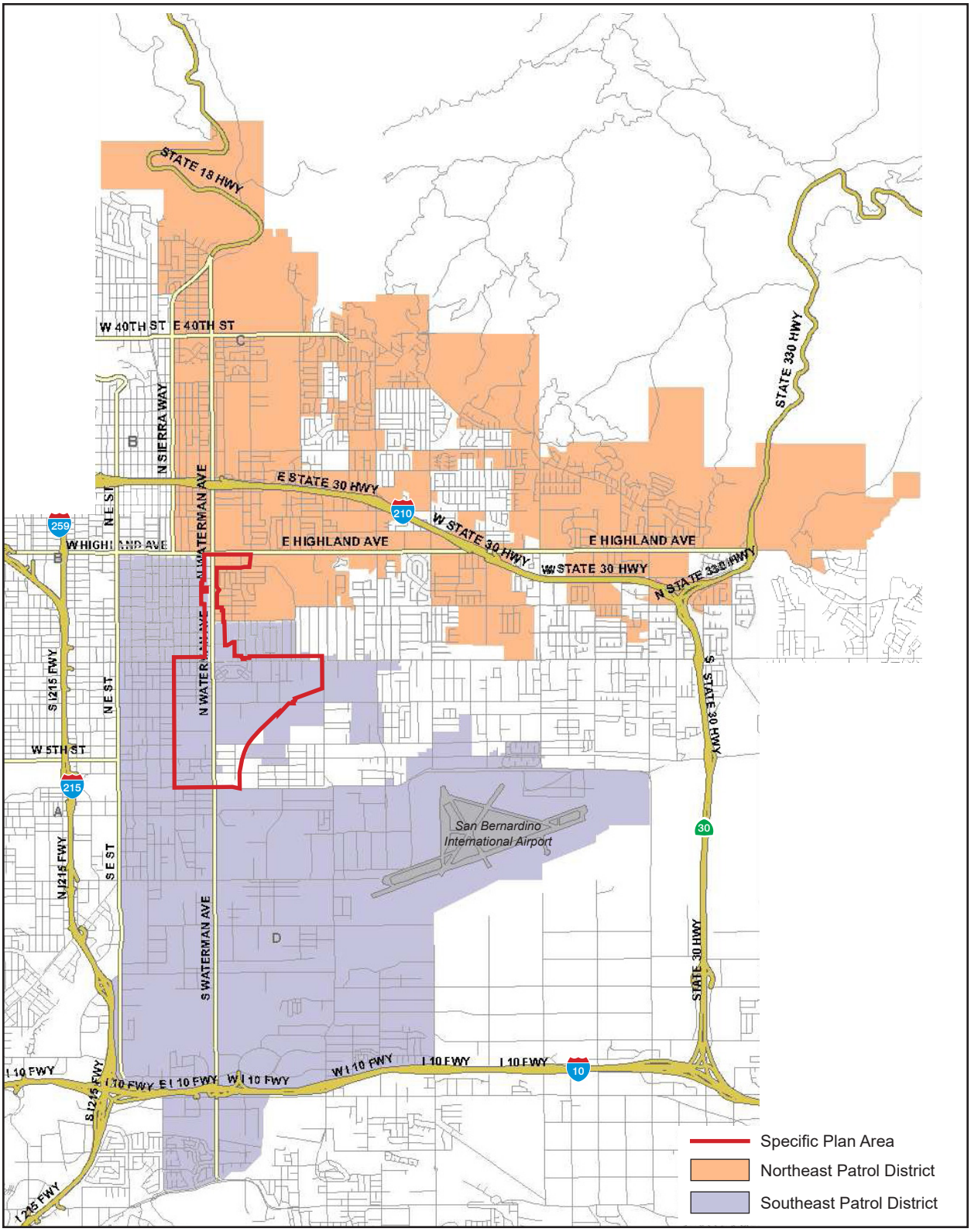
Impact Analysis: Buildout of the Proposed Project would be expected to add approximately 2,395 residential units and 1.2 million square feet of nonresidential building space to the Specific Plan area compared to existing conditions. This growth is expected to generate 8,359 new residents, who would make additional demands for police protection services provided by SBPD. In addition to police protection services typically required by the operation of new land uses, service calls relating to theft (materials, copper wire and tubing, trespass and loitering) would be anticipated during the construction phase of individual development projects.

Under the Proposed Project, the Specific Plan area would continue to be served by officers based at the main SBPD police station at 710 North D Street, about 0.5 mile west of the Specific Plan area. The industry standard recommends 1 police officer per 1,000 residents, but this is frequently not attainable. If SBPD maintained this ratio as the population and City funding increased, SBPD would require eight additional officers at buildout of the Proposed Project. Public safety in the Specific Plan area, including police protection services provided by SBPD, is paid for with tax revenues and law enforcement facilities impact fees. Although there is no direct fiscal mechanism that ensures that tax revenues would grow exactly proportional to an increased need for services resulting from population growth in the Specific Plan area, property taxes would be expected to grow roughly proportionate to any increase in residential units and/or businesses in the Specific Plan area. Such funds, along with impact fees revenue, would allow SBPD to maintain appropriate staffing to maintain existing response times and coverage, as discussed above.

According to SBPD, there are no existing plans to expand facilities or hire additional personnel (Williams 2015). However, SBPD states that although staffing levels are not at the desired level, services will continue to be provided. Because of the level of activity throughout the City, the SBPD will not be able to have an officer assigned exclusively to the Specific Plan area. SBPD recommends that during construction and operation of projects pursuant to the proposed Specific Plan, security measures be taken by construction contractors and management organizations such as homeowners' associations. Measures include onsite 24-hour security guards, camera systems for monitoring the perimeter and interior areas, fencing, ample exterior lighting, and, if possible, secured parking lots.

Figure 5.13-2 San Bernardino Police Department Patrol Districts

5. Environmental Analysis



0 1
Scale (Miles)

Base Map Source: City of San Bernardino, 2009

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Chapter 6 of the Specific Plan, Urban Design Guidelines, encourages the use of Crime Prevention through Environmental Design (CPTED) strategies and design guidelines that would help to ensure the safety of residents living in the Specific Plan area. These include outdoor lighting design standards that regulate roadway and sidewalk illumination and pedestrian-scale lighting for building entryways, bicycle parking areas, seating areas, transit stops, parking lots, open space areas, and pedestrian paths to ensure overall nighttime visibility and safety. For all the above reasons, impacts to police services resulting from implementation of the Proposed Project would be less than significant.

5.13.2.4 CUMULATIVE IMPACTS

The area considered for cumulative impacts to police services is the City of San Bernardino. The City's population is projected to increase by about 45,500, or about 21.5 percent, between 2012 and 2040; employment in the City is forecast to increase by about 40,000 jobs, or 45.0 percent, during the same period (SCAG 2016). Growth of population, development intensity, and employment in the City will increase demands for police services. However, development projects would pay law enforcement facilities impact fees and would generate increased sales taxes and property taxes, some of which would be used to fund police protection. Therefore, cumulative impacts would be less than significant, and project impacts would not be cumulatively considerable.

Service providers would continue to evaluate levels of service and potential funding sources to meet demand. Long-range planning for the provisions of public services and facilities is typically based on general-plan growth projections. Through assessments of the City's capital improvement needs and annual budget review process, police department needs would be assessed, and budget allocations would be revised accordingly to ensure that adequate levels of police services, including police protection facilities, equipment, and/or personnel, are maintained throughout the City. No significant cumulative impacts related to police services are anticipated, and project impacts to police services and facilities would not be cumulatively considerable.

5.13.2.5 EXISTING REGULATIONS AND STANDARD CONDITIONS

City of San Bernardino Municipal Code

- Section 3.27.030: law enforcement facilities impact fee

5.13.2.6 LEVEL OF SIGNIFICANCE BEFORE MITIGATION

Upon implementation of regulatory requirements and standard conditions of approval, the following impact would be less than significant: 5.13-2.

5.13.2.7 MITIGATION MEASURES

Impacts are less than significant and no mitigation is required.

5.13.2.8 LEVEL OF SIGNIFICANCE AFTER MITIGATION

No mitigation measures are required, and impacts would remain less than significant.

5.13.3 School Services

5.13.3.1 ENVIRONMENTAL SETTING

Regulatory Setting

State and local laws, regulations, plans, or guidelines that are potentially applicable to the Proposed Project are summarized below.

State

California State Assembly Bill 2926: School Facilities Act of 1986

To assist in providing school facilities to serve students generated by new development, Assembly Bill (AB) 2926 enacted in 1986 (Chapter 887, Statutes of 1986) authorizes a levy of impact fees on new residential and commercial/industrial development. The bill was expanded and revised in 1987 through the passage of AB 1600, which added Sections 66000 et seq. to the Government Code. Under AB 1600, payment of impact fees by developers serves as CEQA mitigation to satisfy the impact of development on school facilities. The ability of local governments to collect fees was limited by California Senate Bill 50, the Leroy F. Greene School Facilities Act of 1998.

California Senate Bill 50

Senate Bill (SB) 50, passed in 1998, provides a comprehensive school facilities financing and reform program and enables a statewide bond issue to be placed on the ballot. Under the provisions of SB 50, school districts are authorized to collect fees to offset the costs associated with increasing school capacity as a result of development and related population increases. The funding goes to acquiring school sites, constructing new school facilities, and modernizing existing school facilities. SB 50 establishes a process for determining the amount of fees developers would be charged to mitigate the impact of development on school districts from increased enrollment. According to Section 65996 of the California Government Code, development fees authorized by SB 50 are deemed to be "full and complete school facilities mitigation."

Under this legislation, there are three levels of developer fees that may be imposed upon new development by the governing school district. Level I fees are assessed based upon the proposed square footage of residential, commercial/industrial, and/or parking structure uses. Level II fees require the developer to provide one-half of the costs of accommodating students in new schools, and the state provides the remaining half. To qualify for Level II fees, the governing board of the school district must adopt a school facilities needs analysis and meet other prerequisites in accordance with Section 65995.6 of the California Government Code. Level III fees apply if the state runs out of bond funds, allowing the governing school district to impose 100 percent of the cost of school facility or mitigation on the developer, minus any local dedicated school monies.

Existing Conditions

Public education is provided to students in the Specific Plan area by the San Bernardino City Unified School District (SBCUSD). SBCUSD is the eighth largest school district in California: districtwide K-12 enrollment in the 2014–15 school year was 53,365 students, and the district also serves over 11,000 adult education

students. SBCUSD operates 49 elementary schools, 10 middle schools, 7 senior high schools, 1 middle college high school, 3 special education school sites, and 1 adult education site (SBCUSD 2016).[3]

SBCUSD adopted an open enrollment policy on October 16, 2007, which allows students to attend their school of choice provided it has sufficient capacity.

Schools Serving Specific Plan Area

Figure 5.13-1, *Existing Public Facilities*, shows the locations of SBCUSD schools that serve the Specific Plan area. Two SBCUSD schools are in the Specific Plan area: Roberts Elementary School at 494 East 9th Street and Sierra Continuation High School at 570 East 9th Street. The attendance boundaries of 13 other SBCUSD schools overlap parts of the Specific Plan area, as shown on Figure 5.13-3, *School Attendance Boundaries*. The capacities and enrollments of schools serving the Specific Plan area are listed in Table 5.13-3. The capacity and enrollment of Sierra Continuation High School are counted separately because it is open to students from throughout the district.

Table 5.13-3 SBCUSD Schools Serving Specific Plan Area, 2014–2015

School, Address, and Distance from Specific Plan Area Boundary	Capacity				Enrollment	Remaining Capacity (totals by school level)
	Number of Classrooms			Students[1]		
	Permanent	Portable	Total			
Elementary (Grades K-6)						
Dominguez 135 South Allen Street (about 1,400 feet south)	19	0	19	529	409	—
Monterey 794 Monterey Avenue (next to east boundary)	24	7	31	864	556	—
Norton 747 North Mountain View Avenue (next to west boundary)	34	0	31	947	537	—
Roberts Elementary 494 E 9th Street (onsite)	20	7	27	752	509	—
Lincoln 255 West 13th Street (about 720 feet west of west boundary)	33	7	40	1,114	767	—
Bradley 1300 Valencia Ave (next to north boundary)	32	6	38	1,059	584	—
Anton 1501 Anton Court (about 0.4 mile north)	29	0	29	808	726	—
Wilson 2894 Belle Street (about 0.5 mile north)	25	1	26	724	507	—
Total	**216**	**28**	**244**	**6,797**	**4,186**	**2,611**

[3] Middle college high school combines high school and college courses on a small campus.

Table 5.13-3 SBCUSD Schools Serving Specific Plan Area, 2014–2015

School, Address, and Distance from Specific Plan Area Boundary	Capacity				Enrollment	Remaining Capacity (totals by school level)
	Number of Classrooms			Students[1]		
	Permanent	Portable	Total			
Middle (Grades 6–8)						
Curtis 1050 North Del Rosa Drive (about 0.3 mile east)	48	0	48	1,728	823	—
Arrowview 2299 North G Street (about 0.5 mile west)	50	10	60	2,160	1,110	—
Golden Valley 3800 North Waterman Ave (about 1.7 miles north)	41	7	48	1,728	810	—
Total	**139**	**17**	**156**	**5,616**	**2,743**	**2,873**
High (Grades 9–12)						
Indian Springs 650 North Del Rosa Drive (about 0.3 mile southeast)	100	0	100	3,600	1,781	—
Pacific 1020 Pacific Street (about 0.5 mile north)	72	21	93	3,348	1,339	—
San Bernardino 1850 North E Street (about 0.8 mile west)	76	16	92	3,312	1,612	—
Total	**248**	**37**	**285**	**10,260**	**4,732**	**5,528**
Sierra Continuation High[2] 570 E 9th Street (onsite)	13	8	21	756	420	336

Sources: Alzubaidi 2016; Deland 2016.

1 The loading factors (students per classroom) used by SBCUSD are: Grades K-3: 24; Grades 4-6: 33; Grades 7-12: 36. Elementary school student capacities are calculated by prorating the total number of classrooms by 4/7 (grades K-3) and 3/7 (grades 4-6), then multiplying the estimated number of classrooms for K-3 students by 24 and the estimated classrooms for 4-6 students by 33.

2 Sierra Continuation High School counted separately because it is open to students from throughout the district.

As shown in Table 5.13-3, schools serving the Specific Plan area had remaining capacities of 2,611 (elementary schools), 2,873 (middle schools), and 5,528 students (high schools) in 2015.

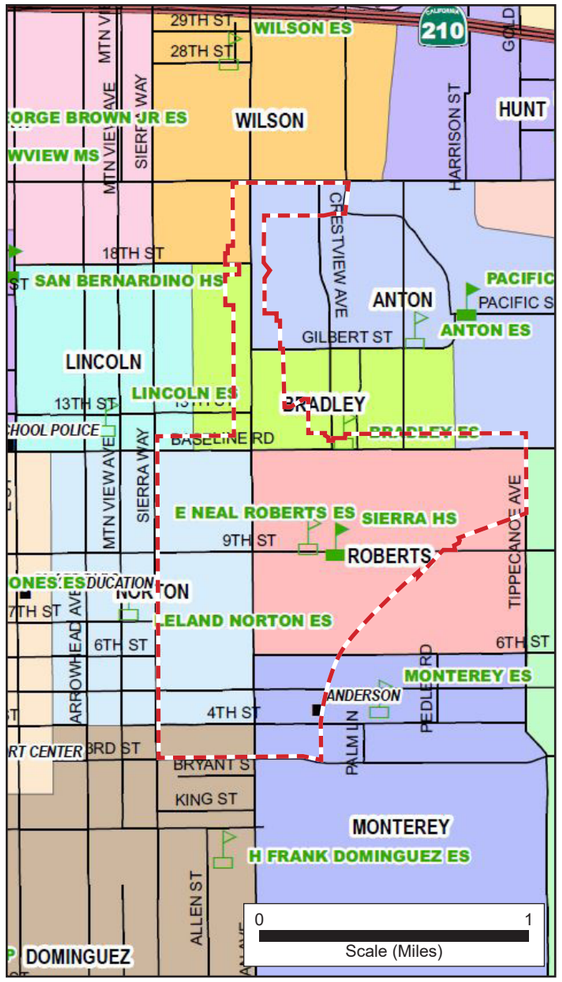
Schools Funding

Operating Funding

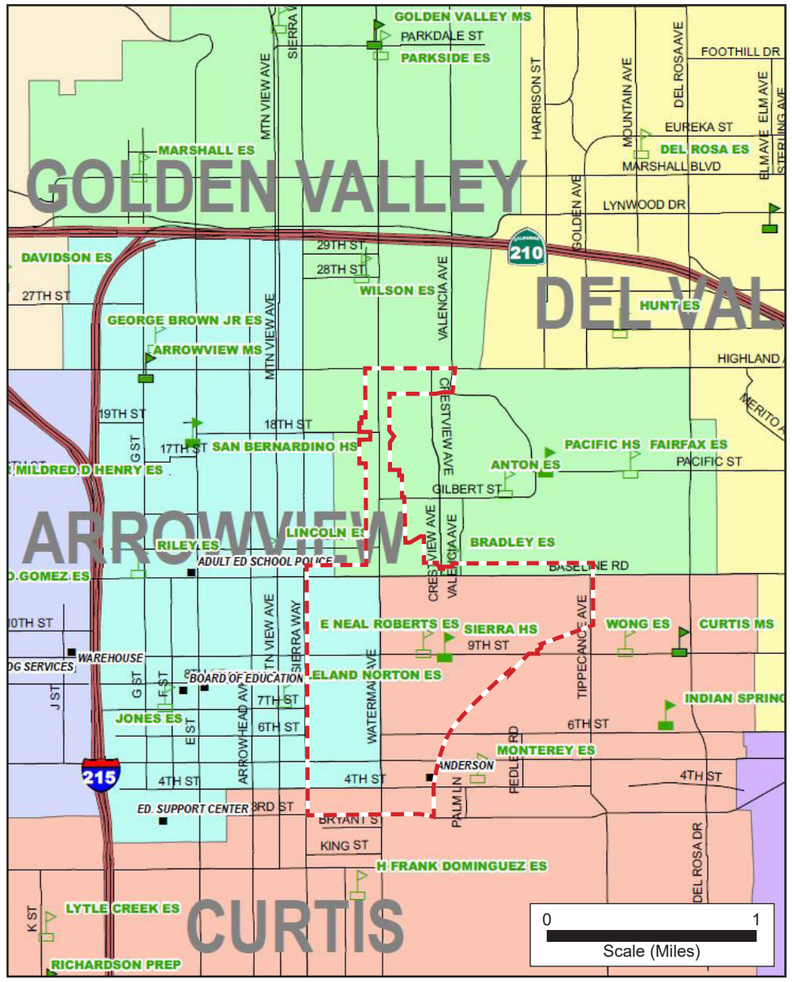
During the 2014–2015 school year, 60 percent of operating funding for California public schools was from the State General Fund; 29 percent from local sources, including 19 percent local property taxes; 10 percent from federal funds; and 1.4 percent from the State Lottery (CDE 2015). The State General Fund, in turn, was financed during the 2013-14 fiscal year by 65 percent from personal income taxes; 22 percent from sales and use taxes; 8 percent from corporate taxes; and 5 percent from other sources (Controller 2016).

Figure 5.13-3 - School Attendance Boundaries

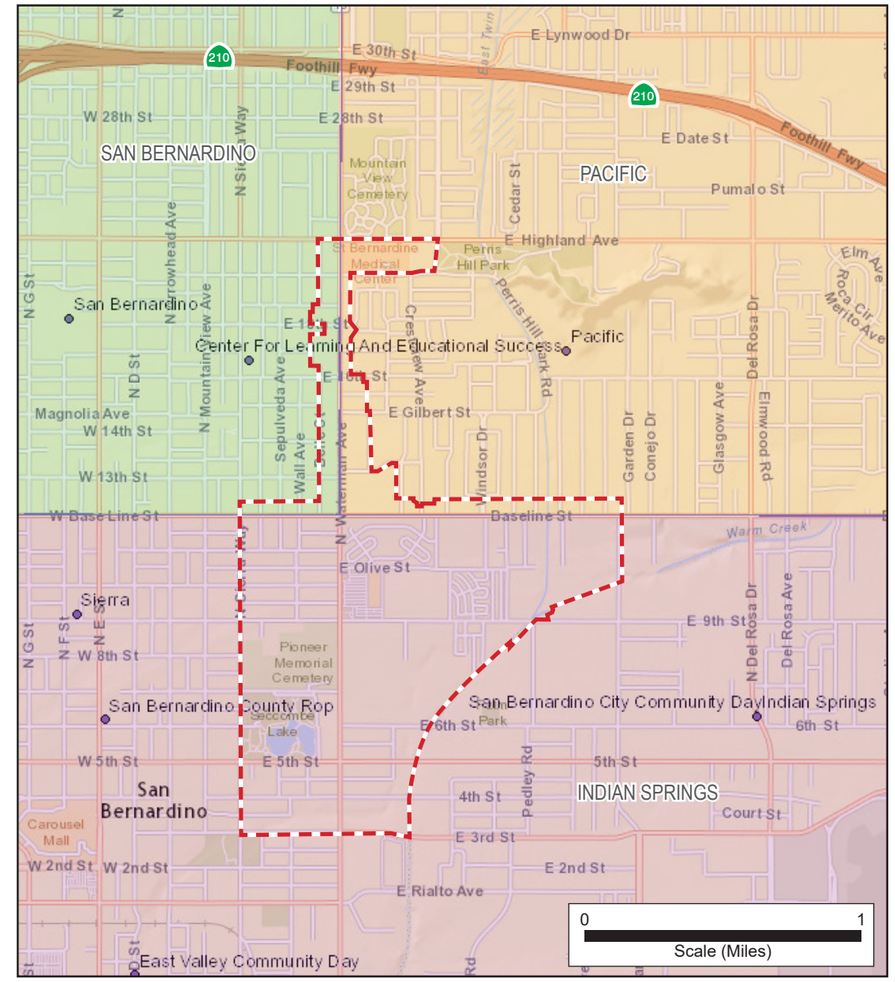
5. Environmental Analysis



Elementary School



Middle School



High School

Specific Plan Area

Base Map Source: SBCUSD, 2015 (Elementary & Middle School); NCES, 2016 (High School)

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Facilities Construction Funding

Construction of SBCUSD facilities is financed partly by Measure N—a $250 million bond measure passed by voters in 2012 and financed through property taxes—and partly by State school facilities bonds.

5.13.3.2 THRESHOLDS OF SIGNIFICANCE

According to Appendix G of the CEQA Guidelines, a project would normally have a significant effect on the environment if the project would:

SS-1 Result in a substantial adverse physical impact associated with the provisions of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for school services.

5.13.3.3 ENVIRONMENTAL IMPACTS

The following impact analysis addresses thresholds of significance found in Appendix G of the CEQA Guidelines. The applicable thresholds are identified in brackets after the impact statement.

Impact 5.13-3: The Proposed Project would generate new students in the service area of the San Bernardino City Unified School District. [Threshold SS-1]

Impact Analysis: Student generation is estimated per household. Buildout of the Proposed Project would allow for a net increase of 2,395 residential units and 2,167 households (at the occupancy rate of 90.3 percent in the City of San Bernardino in 2015). Project buildout is estimated to generate approximately 891 elementary school students, 442 middle school students, and 446 high school students, for a total of 1,779 students, as shown in Table 5.13-4.

Table 5.13-4 Estimate of Proposed Project's Net Increase in Student Generation

Proposed Residential Unit Types	Households[1]			Net Increase, Student Generation[2,3]						
				Elementary School		Middle School		High School		
	Proposed	Existing	Net Increase	Per Unit	Total	Per Unit	Total	Per Unit	Total	Total
Single-Family	1,149	1,329	181	0.2971	54	0.1464	26	0.2134	39	**119**
Multifamily	604	2,591	1,987	0.4216	838	0.209	415	0.2052	408	**1,660**
Total	**1,753**	**3,920**	**2,167**	—	**891**	—	**442**	—	**446**	**1,779**

1 All household data are based on residential unit data adjusted by the occupancy rate in the City of San Bernardino of 90.3 percent in 2015.
2 Student generation rates are from Alzubaidi 2016.
3 The generation factor for attached single-family units, which is higher than the factor for detached single-family units, is used where units could be either.

The eight elementary schools serving the Specific Plan area have total remaining capacity of 2,611 students; the three middle schools have total remaining capacity of 2,873 students; and the three high schools have

total remaining capacity of 5,528 students, as shown in Table 5.13-3. There is sufficient remaining capacity in schools serving the Specific Plan area for students that would be generated by implementation of the Proposed Project, and buildout would not require construction of new or expanded schools.

5.13.3.4 CUMULATIVE IMPACTS

The area considered for cumulative schools impacts is the area served by SBCUSD. Demographic forecasts for the SBCUSD for future years are not available. Districtwide future (2040) enrollment is estimated as 69,284 by prorating districtwide 2014–15 enrollment by the estimated numbers of households in the district in 2014 and 2040 (see Table 5.13-5).

Development constructed elsewhere in the SBCUSD attendance boundaries would increase the number of households in the district, and thus generate more students. However, development projects would pay development impact fees to the district pursuant to SB 50, and operation of other projects would generate property taxes, sales taxes, and income taxes that would help provide funding for both school operations and school facilities construction. Cumulative impacts would be less than significant, and project impacts would not be cumulatively considerable.

Table 5.13-5 Estimated SBCUSD Districtwide Enrollment, 2040

	Households		K–12 Enrollment	
	2014–2015	2040	2014–15	2040
City of San Bernardino	59,364[1]	77,100	N/A	N/A
San Bernardino City Unified School District	69,100[2]	89,745	53,365	69,284

Source: SCAG 2016.
Note: Districtwide enrollment in 2040 was estimated by:
A. Estimating the number of households in the district in 2040 by prorating the forecast number of households in the City in 2040 (as estimated by SCAG) by the ratio of the estimated number of households in the City in 2015 to the estimated number of households in the district in 2014; and
B. Prorating districtwide enrollment in 2014–15 by the ratio of the estimated number of households in the District in 2014 to the estimated number of households in the district in 2040.
[1] 2015 estimate, California Department of Finance (CDF 2015).
[2] 2014 estimate, US Census Bureau American Community Survey 5-year estimate (USCB 2016).

5.13.3.5 EXISTING REGULATIONS AND STANDARD CONDITIONS

- Assembly Bill 2926 (Chapter 887, Statutes of 1986)
- Senate Bill 50 (Chapter 407, Statutes of 1998)

5.13.3.6 LEVEL OF SIGNIFICANCE BEFORE MITIGATION

Upon implementation of regulatory requirements and standard conditions of approval, Impact 5.13-3 would be less than significant.

5.13.3.7 MITIGATION MEASURES

No mitigation measures are required.

5.13.3.8 LEVEL OF SIGNIFICANCE AFTER MITIGATION

Impacts would be less than significant.

5.13.4 Library Services

5.13.4.1 ENVIRONMENTAL SETTING

Regulatory Setting

Local laws, regulations, plans, or guidelines that are potentially applicable to the Proposed Project are summarized below.

Local

City of San Bernardino Municipal Code

Section 3.27.080 of the municipal code, Library Facility and Collection Impact Fee, establishes a fee program for the funding of library facilities and resources. The program requires applicants for residential development projects to pay development impact fees.

Existing Conditions

The City of San Bernardino's public library system (SBPL) has four library facilities: Norman F. Feldheym Central Library at 555 West 6th Street; Dorothy Inghram Branch Library at 1505 West Highland Avenue; Howard M. Rowe Branch Library at 108 E. Marshall Boulevard; and Paul Villasenor Branch Library at 525 North Mt. Vernon (San Bernardino 2015b). The closest libraries to the Specific Plan area are the Norman F. Feldheym Central Library, 0.5 mile to the west; Howard M. Rowe Library, about a mile to the north; and Paul Villasenor Branch Library, 1.7 miles to the west. The Norman F. Feldhym Central Library has over 64,000 square feet with a 200-seat auditorium, a computer lab, a reference and literacy center, and meeting rooms to accommodate assemblies of up to 100 people. Howard M. Rowe Library includes a computer room with eight computers; two early literacy stations; and a collection of young adult books, magazines, and paperback books. The 7,500-square-foot Paul Villasenor branch library holds more than 22,000 titles, of which over 3,500 are in Spanish for both adults and children. This library also provides a computer room with 12 computers, and nearly all the staff is bilingual.

SBPL is not known to have any plans to expand library service and/or facilities in its service area. However, public library members can access many of the titles through E-books and audiobooks online through their home computer, as well as use the library's online resources. Other in-house library amenities—such as literacy stations, computer classes, meeting rooms, non-check-out items, and hard copy resources—are available to the public according to their respective availability at each library facility.

Funding for SBPL facilities, maintenance, and support comes from the City's general fund. SBPL was allocated approximately $1.68 million of the $128.3 million general fund for the 2015–2016 fiscal year (San Bernardino 2015c). It also generates revenue through library fines, room rentals, private donations, and

grants. This revenue is designated "library fund" pursuant to the City's municipal code Article VIII, Section 148, Library Funds, and all funds are used exclusively for library purposes.

5.13.4.2 THRESHOLDS OF SIGNIFICANCE

According to Appendix G of the CEQA Guidelines, a project would normally have a significant effect on the environment if the project would:

LS-1 Result in a substantial adverse physical impact associated with the provisions of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for library services.

5.13.4.3 ENVIRONMENTAL IMPACTS

The following impact analysis addresses thresholds of significance found in Appendix G of the CEQA Guidelines. The applicable thresholds are identified in brackets after the impact statement.

Impact 5.13-4: The Proposed Project would generate additional population, increasing the service needs for local libraries. [Threshold LS-1]

Impact Analysis: Specific Plan buildout would allow for a net increase of 2,395 residential units, which would increase the population by approximately 8,359 residents and would thus increase demands for library services. Individual development projects developed pursuant to the Proposed Project would pay library facility and collection impact fees per Section 3.27.080 of the City's municipal code. New land uses would also generate sales tax and property tax revenue that would be deposited into the City's general fund, some of which would be available to SBPL. Increased funding available to the SBPL from Specific Plan buildout would help reduce impacts to library services through funding construction of new and/or expanded library facilities; expanding collections; and increasing staffing. Impacts would be less than significant.

5.13.4.4 CUMULATIVE IMPACTS

The construction of development projects elsewhere in SBPL's service area would increase population in the City, generating increased demands for library services. The area considered for cumulative impacts on library services is the City of San Bernardino. The City's population is projected to increase by about 45,500, or about 21.5 percent, between 2012 and 2040; employment in the City is forecast to increase by about 40,000 jobs, or 45.0 percent, during the same period (SCAG 2016). Development projects would pay library facility and collection impact fees to the City. Operation of projects would also generate sales taxes and property taxes, some of which the City would appropriate for library services. Therefore, cumulative impacts would be less than significant, and project impacts would not be cumulatively considerable.

5.13.4.5 EXISTING REGULATIONS AND STANDARD CONDITIONS

- Municipal Code Section 3.27.080 (Library Facility and Collection Impact Fee)

5.13.4.6 LEVEL OF SIGNIFICANCE BEFORE MITIGATION

Upon implementation of regulatory requirements and standard conditions of approval, the following impact would be less than significant: 5.13-4.

5.13.4.7 MITIGATION MEASURES

Impacts would be less than significant, and mitigation measures are not required.

5.13.4.8 LEVEL OF SIGNIFICANCE AFTER MITIGATION

Project-level and cumulative impacts would be less than significant.

5.13.5 References

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5.14 RECREATION

This section of the Draft Environmental Impact Report (DEIR) evaluates the potential for implementation of the Waterman + Baseline Neighborhood Specific Plan (Proposed Project) to impact public parks and recreational facilities.

5.14.1 Environmental Setting

5.14.1.1 REGULATORY BACKGROUND

State Regulations

Mitigation Fee Act

The California Mitigation Fee Act, Government Code sections 66000 et seq., allows cities to establish fees that will be imposed on development projects to mitigate the impact of the development projects on the City's ability to provide specified public facilities. In order to comply with the Mitigation Fee Act, the City must follow four primary requirements: 1) Make certain determinations regarding the purpose and use of a fee and establish a nexus or connection between a development project or class of project and the public improvement being financed with the fee; 2) Segregate fee revenue from the General Fund in order to avoid commingling of capital facilities fees and general funds; 3) For fees that have been in the possession of the City for five years or more and for which the dollars have not been spent or committed to a project, the City must make findings each fiscal year describing the continuing need for the money; and 4) Refund any fees with interest for which the findings noted above cannot be made.

California Public Park Preservation Act

The primary instrument for protecting and preserving parkland is California's Public Park Preservation Act of 1971. Under the Public Resources Code, cities and counties may not acquire any real property that is in use as a public park for any nonpark use unless compensation, land, or both are provided to replace the parkland acquired. This provides no net loss of parkland and facilities.

Local Regulations

City of San Bernardino Municipal Code

Chapter 3.27 (Development Impact Fees) of the municipal code establishes a parkland and open space fee to implement the goals and policies of the City's parks and recreation element of the General Plan. The goal of the City is to improve the quality of life for the City's residents, enhance community image, and attract business. The City determined that as the number of dwelling units and associated population increase, the demand for open space, parks, and recreational facilities would increase proportionally.

City of San Bernardino Parks, Recreation, and Trails Element

Although not regulatory, the Parks, Recreation, and Trails Element of the City of San Bernardino General Plan provides guidelines on the acquisition, maintenance, and development of parks, trails, and recreational

facilities throughout the City. The goal of the element is to create a system of recreational opportunities that improves the quality of life of its citizens by providing a variety of healthy activities and develop a vibrant, multipurpose system of parks and trails. Examples of policies and programs that support the parks, recreation, and trails element include:

- **Policy 8.1.1.** Establish a comprehensive parks master plan, which accomplishes the following:
  a. Establishes the standard of 5 acres of parkland for every 1,000 residents.
  b. Establishes guidelines for the types and amounts of recreational facilities and services necessary to adequately serve future residents.
  c. Defines park development standards based on types and sizes of parks (mini, neighborhood, community, regional) and their service area (e.g., mini- ¼ to ½ mile service radius).
  d. Describes the steps necessary to achieve the park standards and guidelines.
  e. Defines existing and anticipated recreational needs (based on population size, density, demographics, and types of facilities).
  f. Identifies areas in need of new or expanded recreational facilities and the types of facilities needed.
  g. Disperses park facilities and equipment throughout the City to prevent an undue concentration at any location; including sports fields, basketball courts, tennis courts, swimming pools, picnic areas, and other facilities.
  h. Identifies appropriate park fees.
  i. Identifies potential locations and types of new or expanded facilities.
  j. Identifies potential funding sources.
- **Policy 8.1.2.** Provide a variety of park "experiences," including those developed for intense recreational activity, passive open space enjoyment, and a mixture of active and passive activities.
- **Policy 8.1.6.** Accommodate the recreational needs of the City's residents reflecting their unique social, cultural, ethnic, and physical limitations in the design and programming of recreational spaces and facilities.
- **Policy 8.1.7.** Continue to evaluate the community's recreational needs and the adequacy of the City's recreational facilities and programs in meeting these needs.

5.14.1.2 EXISTING CONDITIONS

The City of San Bernardino Parks, Recreation, and Community Services Department operates 26 parks, 31 playground areas, and over 3 miles of walking track for recreation activities. The City also provides a variety of fields for public use and enjoyment. Aside from public parks, the City has a network of multiuse trails that run through the City, joint-use athletic fields, public golf courses, recreational programs, and other facilities for its residents.

Parks

As shown in Table 5.14.1, the City of San Bernardino provides approximately 540 acres of public parks, including parks and athletic facilities for use by the community (San Bernardino 2005). The City has four categories of parks based upon acreage: regional parks (50 acres or greater), community parks (15 to 30 acres), neighborhood parks (5 to 15 acres), and mini parks (less than 5 acres).

Table 5.14-1 Existing City Parks and Recreational Facilities

Public Park or Recreation Facility and Address	Size (Acres)	Type
Al Guhn/Verdemont Park—3650 Little League	28.00	C
Littlefield/Shultis Park—Buckboard and Kendall Drive	15.00	N
Hudson Park—4365 Park Drive	10.10	N
Blair Park—1466 W. Marshall Blvd.	34.00	C
Newberry Park—560 Hill Drive	1.53	M
Tom Gould Park—240 W. 40th Street	0.51	M
Newark Field (Karl Karper)—3898 Pershing	5.02	N
Sierra Park—3800 Sierra Way	1.13	M
Wildwood Park—536 E. 40th Street	24.20	C
Horine Park—3150 Waterman	5.67	N
Harrison Canyon Park—39th and Golden	6.00	N
Sonora Tot Lot—1286 Sonora Street	0.17	M
Del Vallejo School Field—Sterling and Lynwood	6.00	N
Speicher Park/Patton South—1535 N. Arden	28.00	C
Perris Hill Park—607 E. Highland	64.40	R
Palm Field—888 E. 6th Street	22.30	C
North Norton Community Center—24424 Monterey	1.00	S
Center for Individual Development—8088 Palm Lane	5.00	M
Mill Park—503 Central	14.30	C
Campo Santo Memorial Park—2651 D Street	5.50	M
Seccombe Lake Park—160 E. 5th Street	44.00	R
Meadowbrook Park/Hernandez Center—2nd and Sierra	14.12	N
Meadowbrook Field House and Park—179 E. Rialto	4.96	M
Colony Park—Weir Road and Heritage Drive	6.40	N

5. Environmental Analysis
RECREATION

Table 5.14-1 Existing City Parks and Recreational Facilities

Public Park or Recreation Facility and Address	Size (Acres)	Type
Del Rosa School Field—3395 N. Mountain Ave.	0.50	M
Pioneer Park—565 F Street	5.00	N
Fifth Street Senior Center—600 W. 5th Street	0.50	S
Delmann Heights Community Center—2969 Flores	19.70	C
Norton Gym/Galaxy Ballroom—1554 Art Townsend Drive	3.72	C
Anne Shirrells Park—1367 N. California	12.00	N
Gutierrez Field—14th and Mt. Vernon	1.98	M
Golden Valley School Field—3800 N. Waterman Ave.	1.00	M
Encanto Park—1180 W. 9th Street	8.90	N
Ninth Street Park—2931 Garner	3.62	M
Guadalupe Field—780 Roberds	2.25	M
La Plaza Park—685 Mt. Vernon Avenue	2.04	M
Nunez Park—1717 W. 5th Street	22.04	C
Nicholson Park—2750 W. 2nd Street	9.52	N
Lytle Creek Park—380 S. K Street	17.90	C
Richardson School Field—455 S. K Street	1.00	M
Perris Hill Senior Center—780 W. 21st Street	1.00	S
San Bernardino Soccer Complex—2500 East Pacific	50.00	R
Unnamed park in new development—SEC Northpark Blvd. & Campus Prkwy	2.4	N
Unnamed park in new development—SEC Northpark Blvd. & Campus Parkway	3.5	N
Unnamed Park—NWC Palm Ave. and Irvington Ave.	5.4	N
Unnamed Park—SWC Pine Ave. and Belmont Ave	3.4	N
Unnamed Park—NWC Kendall Dr. and Campus Parkway	1.6	M
Unnamed Park—NW of Pine Ave. and Ohio Ave.	4.8	N
Unnamed Park—S of Brenda Dr. and Norma Ln.	3.4	N
Total Existing Public Parks	**539.98**	

Source: City of San Bernardino General Plan, Chapter 8: Parks, Recreation, and Trails.
Legend for "Type" column:
R=Regional
C=Community
N=Neighborhood
M=Mini
S=Special Facility (Community Center, Senior Center)

Parks in or near the Specific Plan area are shown in Figure 5.14-1, *Existing Park and Recreation Facilities*.

Figure 5.14-1 Existing Park and Recreation Facilities

5. Environmental Analysis

Base Map Source: National Community Renaissance, January 2016

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To estimate existing parkland and future need of parkland based upon growth and population projections, the City uses a standard of five acres per 1,000 residents provided by National Recreation and Park Association (NRPA). The NRPA standards for specific park types are 2 to 3 acres per 1,000 residents for community parks; 1 to 2 acres per 1,000 residents for neighborhood parks; and 0.25 to 0.50 acre per 1,000 residents for mini-parks. Table 5.14-2 shows parkland needs at General Plan buildout (San Bernardino 2005).

Table 5.14-2 Parkland Needs

Types of Parks	Incorporated City (Acres)	Sphere of Influence (Acres)	Total Planning Area (Acres)
Parkland Needed Based on Projected Population at General Plan Buildout			
Mini Parks	138.1	21.5	159.6
Neighborhood Parks	552.5	86.0	638.5
Community Parks	828.8	128.9	957.7
Total Needed	1,519.5	236.4	1,755.8
Existing Parks[1]			
Mini Parks	34.59	—	34.59
Neighborhood Parks	130.33	8.7	139.03
Community Parks	214.16	—	214.16
Total Existing	379.08	8.7	387.78
Shortfall			
Mini Parks	-103.5	-21.5	-125.0
Neighborhood Parks	-422.2	-77.3	-499.5
Community Parks	-614.6	-128.9	-743.6
Total Shortfall	-1,140.4	-227.7	-1,368.0

Source: City of San Bernardino General Plan Chapter 8: Parks, Recreation, and Trails.
1 Existing parks are defined as those designated as such on the City's general plan land use map.

According to estimations using the NRPA standard of five acres of parkland per 1000 residents, the City provides significantly less parkland than necessary to satisfy the projected population at buildout. However, buildout of the proposed Specific Plan would incorporate new parkland to accommodate proposed development of residential uses, which would decrease the shortfall between existing park use and anticipated need for parkland based upon projected population at buildout of the Proposed Project.

Other Facilities

Recreational and Athletic Facilities

The City of San Bernardino has 52 developed parks and various recreational facilities, including 19 neighborhood, 10 community, 17 mini, and 3 regional parks and 3 special facilities. These parks provide a variety of uses and diverse facilities, including playground equipment, tennis courts, volleyball courts, and various athletic fields.

Additionally, there are special regional facilities such as Shandin Hills Golf Course, Arrowhead Country Club, and the San Bernardino Golf Club. These are 18-hole, full-facility golf courses. The City also provides the Western Regional Little League Headquarters/Complex on land owned by the City, but it is generally used by

the local Little League. Recreational services are also provided by the schools during daytime hours after school for students and the surrounding community.

The City owns seven community centers, which are used for a variety of social activities for all age demographics. These centers act as focal points for collaboration with other organizations and recreational entities to create programs such as the HeartSmart Program and teen pregnancy prevention programs, and to create new programs related to personal and social health.

Recreational Trails

The City of San Bernardino categorizes multipurpose trails and bikeways under several labels: primary regional multipurpose trails (serve entire region for hiking, equestrian, and bike use); regional multipurpose trails (bicycle and pedestrian uses with regional connections); local multipurpose trails (provide connections within San Bernardino); Class I, II, and III bikeways; and pedestrian facilities.

Facility Funding

Funding for parks and recreational facilities for the City comes primarily through property tax revenues. Municipal Code Sections 3.27.070 and 3.27.075 of Chapter 3.27, Development Impact Fees, outline the fees imposed on development projects based upon the evidence that there is a relationship between the need for public facilities and the needs created by the specific types of development. Additionally, costs and fees associated with the park, recreation, and open space facilities funded by this chapter are apportioned relative to anticipated impacts caused by development and the anticipated need generated by each dwelling unit.

5.14.2 Thresholds of Significance

According to Appendix G of the CEQA Guidelines, a project would normally have a significant effect on the environment if the project:

R-1 Would 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.

R-2 Includes recreational facilities or requires the construction or expansion of recreational facilities which might have an adverse physical effect on the environment.

5.14.3 Environmental Impacts

Specific Plan Goals, Objectives, and Policy Pertaining to Parks and Recreation

Chapter 2, *Community Visioning*, of the Specific Plan sets forth the following goals and objectives pertaining to parks and recreation:

Goal 1- Transform the Neighborhood: Promote the revitalization of the Neighborhood from an area of crime and poverty into a viable, mixed income, service enriched community.

- Improve access for seniors, youth, and families to recreational facilities;
- Create safe and attractive public places where people will want to gather and participate in their community;

The proposed **Open Space Zone** is intended to preserve and create recreational and open space opportunities throughout the Specific Plan area. New development is not permitted unless it is tied to recreational uses and/or enhancement of existing facilities, such as a linear trail, ball parks, pocket parks, tot lots, and other similar uses.

The following impact analysis addresses thresholds of significance for which the Initial Study disclosed potentially significant impacts. The applicable thresholds are identified in brackets after the impact statement.

Impact 5.14-1: The Proposed Project would generate 8,359 additional residents that would increase the demand for park and recreational facilities. [Threshold R-1]

Impact Analysis: Buildout in accordance to the Specific Plan would increase housing by 2,395 residential units and 1.2 million square feet of nonresidential building space. The additional housing units, at full occupancy, are expected to generate approximately 8,359 additional residents. These additional residents would increase the demand of existing park and recreational facilities. Based on the City minimum parkland standards of 5 acres per 1,000 residents, the projected population increase would generate a demand for 41.8 acres of additional parkland. Based on NRPA standards for specific park types, there is a minimum need for 16.8 acres of land for community parks, 8.4 acres of land for neighborhood parks, and 2.1 acres of land for mini-parks. In total the need for local parks amounts to a minimum of 27.3 acres.

The Specific Plan area's population would be primarily served by parkland within the vicinity of the project area. The Proposed Project would add to the existing 539.98 acres of parkland and facilities by introducing a 2 to 3 acre central park into the Midtown Core District as well as an approximately 7 acre linear park and trail system along the flood channel at the southern and eastern edges of that district. The Midtown Core District would also replace the existing 252 residential units with a new mixed income housing development, a community center, and various other community and recreational resources. Figure 5.14-2, *Park and Recreation Opportunity Areas*, shows park and recreation opportunity areas identified by the proposed Specific Plan.

Additionally, pursuant to the Mitigation Fee Act and the City's Municipal Code Sections 3.27.070 and 3.27.075, the City of San Bernardino would either require dedicated parkland or public open space and/or would collect park impact fees (price determined upon dwelling unit and construction conditions) to be used for the acquisition, development, improvement, and maintenance of public parks and recreational facilities in the City.

Thus, the City would increase the amount of available parkland and recreational facilities and generate sufficient monies from development fees to adequately meet the increased demand for parks and recreational facilities associated with implementation of the Proposed Project. In this regard, impacts would be less than significant.

Impact 5.14-2: Project implementation would generate a need for new and/or expanded recreational facilities. [Threshold R-2]

Impact Analysis: The proposed Specific Plan guides growth and development within the Specific Plan area and is not itself a development project. Parks and recreational facilities within the Specific Plan area would develop in accordance to the Specific Plan requirements for each planning district and zone.

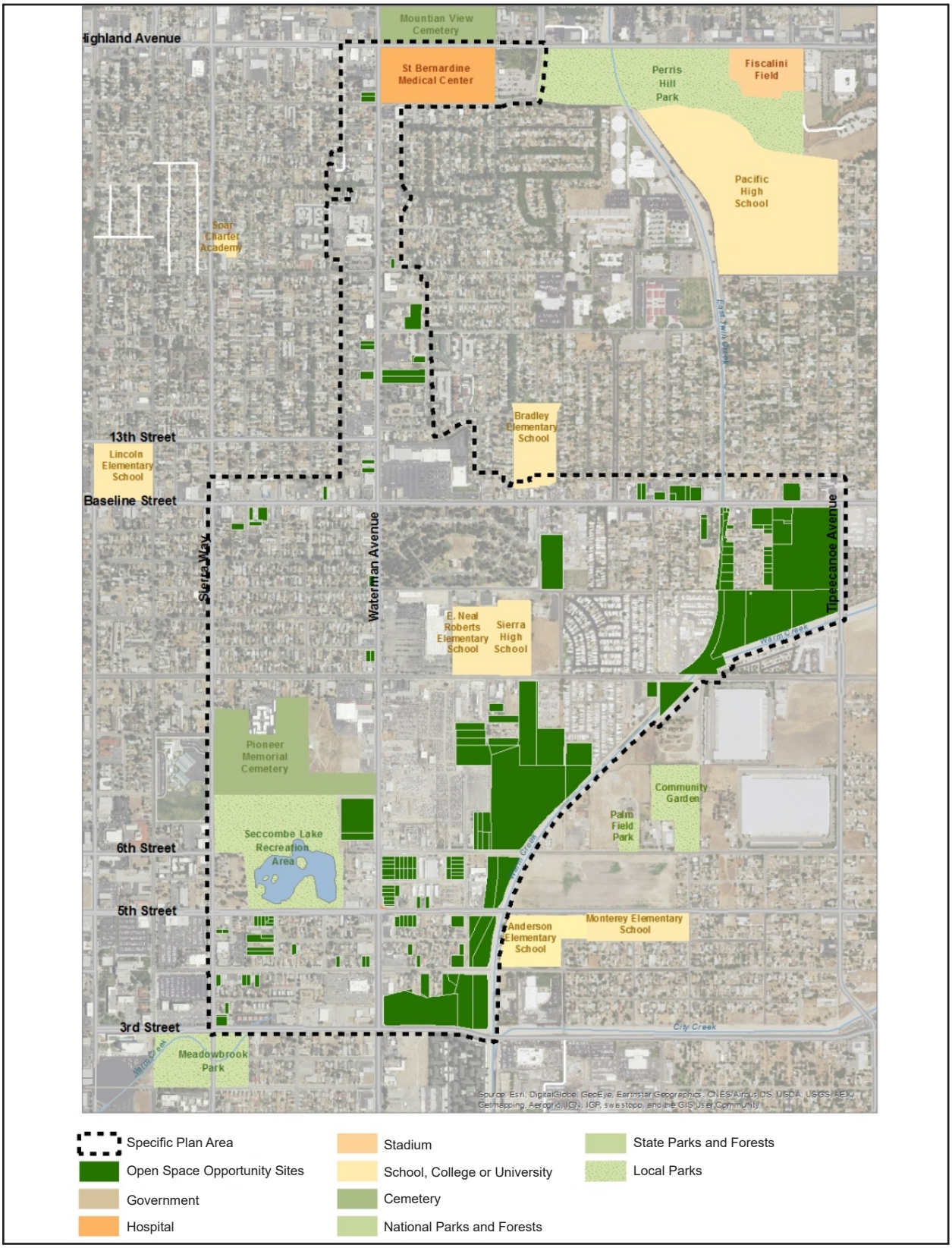
Development and operation of new or expanded parks and recreational facilities may have an adverse physical effect on the environment, including impacts relating to air quality, biological resources, lighting, noise, and traffic. Environmental impacts associated with the construction of new and/or expansion of existing recreational facilities in accordance with the proposed Specific Plan are addressed separately in environmental topic areas in Chapter 5, *Environmental Analysis,* of this DEIR. However, it is speculative to determine impacts arising from development of individual park projects. Potentially adverse impacts to the environment that may result from the expansion of parks, recreational facilities, and multiuse trails pursuant to buildout of the proposed land use plan have been addressed throughout this DEIR and mitigation measures identified where necessary. Furthermore, subsequent City review would be required for approval and development of future park projects. Consequently, implementation of the Proposed Project would not result in significant impacts relating to new or expanded recreational facilities.

5.14.4 Cumulative Impacts

At project buildout, a total of 4,341 residential units are projected for the Specific Plan area (including the existing 1,946 residential units), generating an additional 8,359 new residents. Based on the City's parkland standard of 5 acres per 1,000 residents, the buildout would generate a need for 41.8 more acres of parkland. The City of San Bernardino General Plan permits development of 95,664 total housing units, including 82,714 dwelling units in the City and 12,950 dwelling units in the City's sphere of influence. Based on a factor of 3.49 persons per household, the projected population at buildout for the entire planning area would be approximately 333,867 people—288,672 people in the City and 45,196 people in the City's sphere of influence. Based on the parkland standard, the City of San Bernardino would need to provide 1,669.3 acres of parkland to meet the need of the projected buildout population. Therefore, recreational needs of future residents of the Proposed Project, in conjunction with cumulative development in accordance with the City of San Bernardino General Plan, would add to citywide and regional demand for parks and recreational facilities.

Each project within the City of San Bernardino is required to comply with the City's parkland dedication requirements in the City's municipal codes. As a result, new parklands and trails are developed as residential development occurs. Thus, implementation of the proposed Specific Plan as well as other cumulative development would increase development impact fees that would be used to provide and/or improve neighborhood and community parks available within the Specific Plan area and City. Therefore, cumulative impacts would be less than significant, and project impacts would not be cumulatively considerable.

Figure 5.14-2 Park and Recreation Opportunity Areas



Base Map Source: National Community Renaissance, January 2016

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5.14.5 Existing Regulations

- Mitigation Fee Act (California Government Code §§ 66000, et seq.)
- California Public Park Preservation Act
- City of San Bernardino Municipal Code Sections 3.27.070 and 3.27.075

5.14.6 Level of Significance Before Mitigation

Upon implementation of regulatory requirements and standard conditions of approval, Impacts 5.14-1 and 5.14-2 would be less than significant.

5.14.7 Mitigation Measures

Plan-level and cumulative impacts are less than significant, and no mitigation measures are required.

5.14.8 Level of Significance After Mitigation

No mitigation measures are identified and impacts remain less than significant.

5.14.9 References

San Bernardino, City of. 2005, November 1. City of San Bernardino General Plan. http://www.sbcity.org/pdf/DevSvcs/General%20Plan%20Document.pdf.

5.15 TRANSPORTATION AND TRAFFIC

This section of the draft environmental impact report (DEIR) evaluates the potential for implementation of the Waterman + Baseline Neighborhood Specific Plan (Proposed Project) to result in transportation and traffic impacts in the City of San Bernardino and its sphere of influence. The analysis in this section is based in part on the following technical report:

- *Waterman Gardens Transportation Impact Analysis Report*, Fehr & Peers, May 2016.

A complete copy of this study is included in Appendix I to this DEIR.

5.15.1 Environmental Setting

5.15.1.1 EXISTING ROADWAY NETWORK

Existing study area roadways are mapped on Figure 5.15-1, *Traffic Study Area*, and described below.

Regional Roads

Interstate 215 (I-215) San Bernardino Freeway: I-215 is a ten-lane uninterrupted highway oriented north–south and is west of the Specific Plan area. I-215 southbound passes through downtown San Bernardino and terminates in Temecula. I-215 northbound intersects with I-15 for access through the San Bernardino Mountains. The Specific Plan area can be accessed by going east after taking the 2nd Street, 3rd Street, 5th Street, or Baseline Street exits.

State Route 210 (SR-210) Martin A. Matich Highway: SR–210 is an east-west connector between Highland and San Dimas and has three lanes in each direction. Toward the west in San Dimas, it turns into Interstate 210 and continues to Pasadena. Toward the east, it terminates at Interstate 10 in Redlands. The Specific Plan area can be accessed via SR-210 by exiting on Waterman Avenue and going south or by exiting Baseline and going west.

Interstate 10 (I-10) Christopher Columbus Transcontinental Freeway: I-10 is a ten-lane uninterrupted highway oriented east-west and is south of the Specific Plan area. The western terminus of I-10 is at State Route 1 (SR 1) in Santa Monica, California, and the eastern terminus is at I-95 in Jacksonville, Florida. I-10 intersects with I-215 southwest of the project site and intersects with SR-210 southeast of the project site.

State Route 18 (SR-18) Rim of the World Highway: SR-18 is a four-lane highway oriented north-south and is directly north of the Specific Plan area. SR-18 begins at Waterman Avenue and State Route 210 in San Bernardino and ends at State Route 138 near Adelanto.

Local Roads

2nd Street: 2nd Street, classified as a secondary arterial, extends east-west south of the Specific Plan area. 2nd Street is 62 feet wide, consists of two lanes of traffic in the east- and westbound directions, and a two-way left turn lane allowing left turns for both traffic directions. On-street parking is allowed on both sides of

2nd Street. Access to 2nd Street is provided by signalized and stop-controlled intersections. The posted speed limit is 35 miles per hour.

3rd Street: 3rd Street, extending east-west along the south Specific Plan area boundary, is classified as a major arterial in the City of San Bernardino between the eastern Specific Plan boundary at the City Creek and Waterman Avenue. Between Waterman Avenue and Sierra Way, 3rd Street is classified as a local street. 3rd Street is 54 feet wide and allows for two lanes of traffic in both the east- and westbound directions with no median in the Specific Plan area. East of Waterman Avenue, 3rd Street has a two-way left turn lane and an additional right turn lane for traffic in the westbound direction. This segment of 3rd Street includes signalized intersections, stop-controlled intersections, and uncontrolled access. The posted speed limit is 40 miles per hour.

5th Street: 5th Street is classified as a major arterial oriented east–west from Sierra Way to the City Creek crossing on the east Specific Plan boundary. This segment of 5th Street is 64 feet wide, consists of two lanes of traffic in each direction, and has a two-way left turn lane. On-street parking is allowed on both sides of 5th Street between Waterman Avenue and Sierra Way. Access to 5th Street is controlled by signalized intersections, stop-controlled intersections, and uncontrolled access points. The posted speed limit is 40 miles per hour.

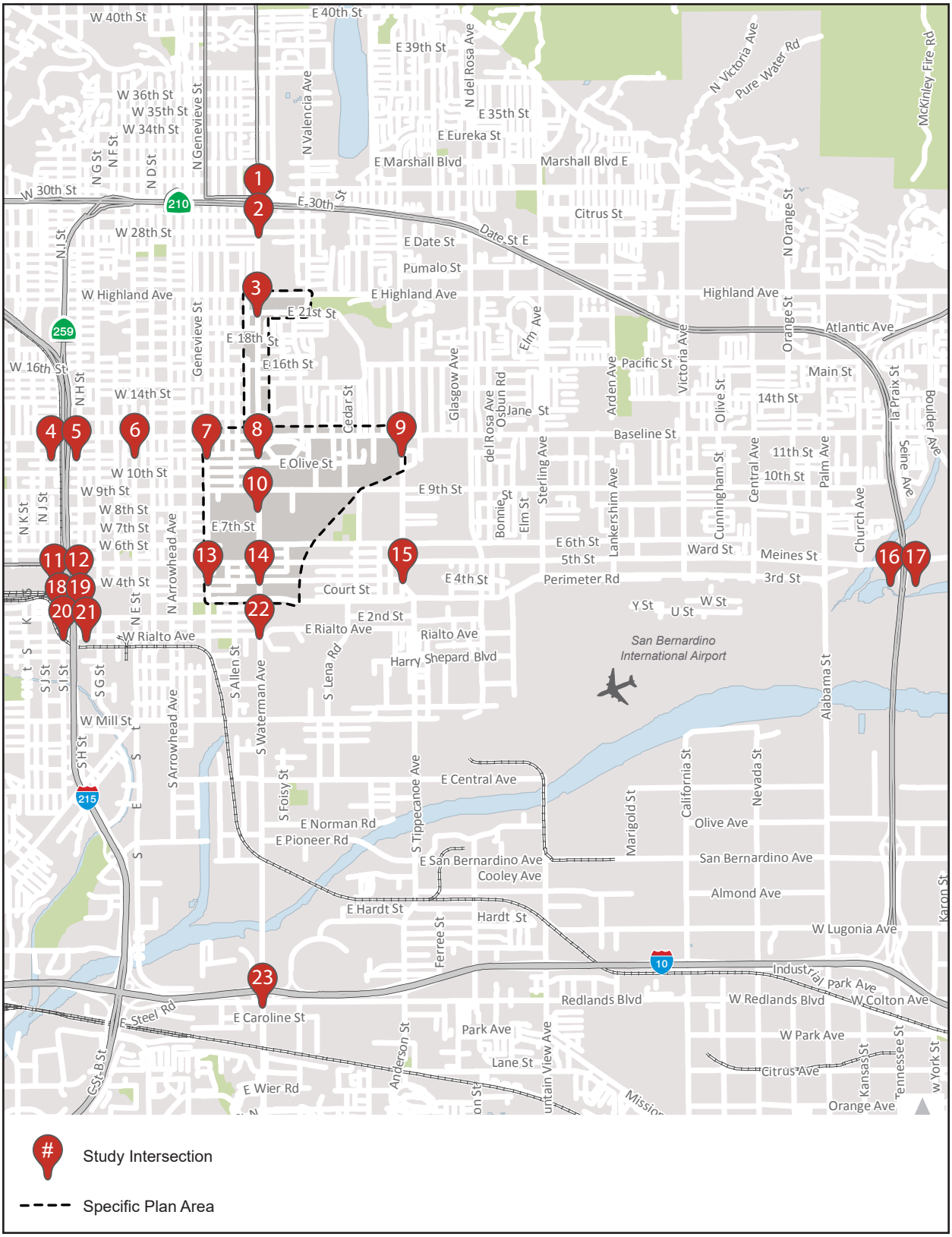
9th Street: 9th Street is classified as a secondary arterial oriented east-west for the entirety of the Specific Plan area. 9th Street is 66 feet wide, consists of two lanes for traffic in the east- and westbound directions, and has a two-way left turn lane. On-street parking is allowed on 9th Street. Access to 9th Street is controlled by signalized and stop-controlled intersections, as well as uncontrolled access points. The posted speed limit is 30 miles per hour.

Baseline Street: Baseline Street is classified as a major arterial with access to Waterman Avenue and runs the entire length of the Specific Plan boundary in the east-west direction from Sierra Way to Tippecanoe Avenue. Baseline Street is 66 feet wide, consists of two lanes of traffic in each direction, and has a two-way left turn lane. On-street parking is allowed. Access to Baseline Street is controlled by signalized intersections and stop-controlled access roads. The posted speed limit is 40 miles per hour.

21st Street: 21st Street is classified as a secondary arterial oriented east-west between Waterman Avenue and Valencia Avenue and as a collector street west of Waterman Avenue. Between Waterman Avenue and Valencia Avenue, 21st Street is 54 feet wide, has on-street parking, consists of two lanes of traffic in both directions, and has a two-way left turn lane that allows for eastbound left turns into a medical center parking lot and eastbound and westbound left turns onto Crestview Road. East of Waterman Avenue, 21st Street has one lane of traffic in both directions, and on-street parking is allowed on the south side of the street. There are stop-controlled and uncontrolled access points as well as signalized intersections on 21st Street in the Specific Plan area. The posted speed limit is 35 miles per hour.

Figure 5.15-1 Traffic Study Area

5. Environmental Analysis



Base Map Source: Fehr & Peers, 2016

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Highland Avenue: Highland Avenue is classified as a major arterial oriented east-west and is the northern Specific Plan area boundary from Belle Street to Valencia Avenue. Highland Avenue is 65 feet wide, has two lanes of traffic in each direction, and has a two-way left turn lane. There is also an additional right turn lane for eastbound traffic at the Waterman Avenue intersection. Highland Avenue has stop-controlled and uncontrolled access, as well as signalized intersections. The posted speed limit is 35 miles per hour.

Sierra Way: Sierra Way is classified as a secondary arterial road with two lanes for traffic in the north- and southbound directions and is the western boundary of the Specific Plan area. Sierra Way is 60 feet wide and has an additional lane for left turns in both directions at the 3rd and 5th Street intersections. On-street parking is allowed in a majority of the Specific Plan area on Sierra Way. The posted speed limit in this area is 40 miles per hour.

Waterman Avenue: Waterman Avenue is classified as a major arterial with three lanes of traffic in both the north- and southbound directions. Waterman Avenue is 66 feet wide and has a two-way left turn lane allowing for left turns from both directions. There are signalized intersections and stop-controlled access to Waterman Avenue in the Specific Plan area. On-street parking is only allowed north of Evans Street. The posted speed limit is 35 miles per hour.

Tippecanoe Avenue: Tippecanoe Avenue is classified as a secondary arterial oriented north-south and acts as the east border of the Specific Plan area. Tippecanoe is 68 feet wide and consists of two lanes for traffic in each direction. There are signalized access and uncontrolled access points. No on-street parking is allowed along Tippecanoe Avenue in the Specific Plan area. The posted speed limit is 40 miles per hour.

Intersections

The transportation impact analysis (TIA) studied 23 intersections, listed in Table 5.15-1.

Table 5.15-1 Intersections

Intersection	Traffic Control	Jurisdiction
1. Waterman Avenue & 30th Street	Signalized	City of San Bernardino
2. Waterman Avenue & SR-210 Eastbound Ramps	Signalized	Caltrans
3. Waterman Avenue & Highland Avenue	Signalized	City of San Bernardino
4. I-215 Southbound Ramps & Baseline Street	Signalized	Caltrans
5. I-215 Northbound Ramps & Baseline Street	Signalized	Caltrans
6. E Street & Baseline Street	Signalized	City of San Bernardino
7. Sierra Way & Baseline Street	Signalized	City of San Bernardino
8. Waterman Avenue & Baseline Street	Signalized	City of San Bernardino
9. Tippecanoe Avenue & Baseline Street	Signalized	City of San Bernardino
10. Waterman Avenue & 9th Street	Signalized	City of San Bernardino
11. I-215 Southbound Ramps & 5th Street	Signalized	Caltrans
12. I-215 Northbound Ramps & 5th Street	Signalized	Caltrans
13. Sierra Way & 5th Street	Signalized	City of San Bernardino
14. Waterman Avenue & 5th Street	Signalized	City of San Bernardino
15. Tippecanoe Avenue & 5th Street	Signalized	City of San Bernardino
16. I-210 Southbound Ramps & 5th Street	Signalized	Caltrans
17. I-210 Northbound Ramps & 5th Street	Signalized	Caltrans
18. I-215 Southbound Off-Ramp & 3rd Street	Signalized	Caltrans
19. I-215 Northbound On-Ramp & 3rd Street	Signalized	Caltrans
20. I-215 Southbound On-Ramp & 2nd Street	Signalized	Caltrans
21. I-215 Northbound Off-Ramp & 2nd Street	Signalized	Caltrans
22. Waterman Avenue & 2nd Street	Signalized	City of San Bernardino
23. Waterman Avenue & I-10 Westbound On-Ramp	None	Caltrans

Source: Fehr & Peers 2015.
Caltrans = California Department of Transportation

Bicycle Facilities

The City of San Bernardino designates Multi-Purpose Trails and Bikeways that are available for use by bicyclists. The City designates three types of Multi-Purpose Trails—Primary, Regional, and Local. Primary Multi-Purpose Trails serve an entire region, Regional Multi-Purpose Trails provide regional connections, and Local Multi-Purpose Trails provide connections within San Bernardino. The City also designates three types of Bikeways—Class I, Class II, and Class III.

Class I: Bike Path or Shared Use Path

Class I bikeways are bikeways physically separated from any street or highway. Shared Use Paths may also be used by pedestrians, skaters, wheelchair users, joggers, and other nonmotorized users.

Class II: Bike Lane

Class II bike lanes are a portion of roadway that has been designated by striping, signaling, and pavement markings for the preferential or exclusive use of bicyclists.

Class III: Bike Route

Class III bike routes are any road, street, path, or way that in some manner is specifically designated for bicycle travel regardless of whether such facilities are designated for the exclusive use of bicycles or are to be shared with other transportation modes. Under California Department of Transportation (Caltrans) Design Standards, signed shared roadways and signed bike routes are considered Class III facilities. They are a shared roadway that has been designated by signing as a preferred route for bicycle use.

Within the Specific Plan area, there are Class II Bikeways along 5th Street east of Waterman Avenue. Bicyclists commonly use the sidewalks for local circulation, which indicates a lack of bicycle infrastructure.

According to the San Bernardino Associated Governments (SANBAG) Non-Motorized Transportation Plan (revised May 2015), there are plans to add Class I Bike Paths along the City Creek on the eastern edge of the Specific Plan area. Class II Bike Lanes are also planned along 5th Street, Highland Avenue, Waterman Avenue, and Baseline Road. According to the General Plan, the Mid-City Connector, a Regional Multi-Purpose Trail along City Creek, is proposed within the Specific Plan area. There is also a Local Multi-Purpose Trail proposed along Highland Avenue in the Specific Plan area.

Pedestrian Facilities

A majority of the roadway system in the Specific Plan area does not provide adequate infrastructure for pedestrians. There are areas throughout the Specific Plan area where the sidewalk is missing on one or both sides of the roadway. The roadways in the Specific Plan area that have no sidewalk on one or both sides are:

- Tippecanoe Avenue
- 5th Street east of Waterman Avenue
- Waterman Avenue between 6th Street and 5th Street
- N. Canyon Road
- Barton Street
- 16th Street
- Monterey Avenue
- Perris Hill Road

The streets where the sidewalks terminate are:

- Gilbert Street
- Wabash Street
- Olive Street between Wall Avenue and Waterman Avenue and between N. La Junita Street and the Specific Plan boundary
- 7th Street west of Waterman Avenue
- Waterman Avenue between 4th Street and 3rd Street
- 10th Street west of Waterman Avenue
- Cedar Street
- 3rd Street east of Waterman Avenue
- Baseline west of Barton Road

Unmarked crosswalks can also inhibit pedestrian activity. These intersections limit pedestrian capability to safely access all sides of the intersection and may force them to cross unsafely. The addition of crosswalks on all sides of the identified intersections is recommended to improve pedestrian access and safety. Within the Specific Plan area, there are five major intersections that provide only partial crossing marks:

- 21st Street & N. Kenwood Avenue
- Baseline Street & N. Myrtle Drive
- Waterman Avenue & Olive Street
- Waterman Avenue & 6th Street
- 21st Street & Crestview Avenue

Many of the local streets along Waterman Avenue and Baseline Road do not have crosswalks. This limits pedestrian access along these major roadways.

Transit Services and Facilities

Omnitrans provides public transit bus services in the Specific Plan area. Omnitrans routes serving the Specific Plan area are described in Table 5.15-2. Routes 1, 3, 4, 7, 8, and 15 all serve the San Bernardino Transit Center at Rialto Avenue and E Street in San Bernardino, about 0.5 mile southwest of the Specific Plan area.

Table 5.15-2 Omnitrans Bus Transit Routes Serving the Specific Plan Area

Route	General Direction of Travel	Operation		
		Roadways in Specific Plan Area	Days per Week	Weekday Peak Hour Frequency
1	Northeast-southwest between Highland and Colton	5th Street, Waterman Avenue, 21st Street, Valencia Avenue, and Highland Avenue.	7 days	15 minutes
3/4	East-west circulators in north-central San Bernardino and in Highland	Baseline Street and Highland Avenue	7 days	15 minutes
5	North-south in San Bernardino	Gilbert Street and Waterman Avenue	7 days	30 minutes
7	North-south in San Bernardino	Sierra Way	7 days	30 minutes
8	East-west between San Bernardino and Yucaipa	3rd Street	7 days	30 minutes
15	East-west between Redlands and Fontana	Waterman Avenue and 4th Street	7 days	30 minutes

Source: Fehr & Peers 2015.

The San Bernardino Amtrak/Metrolink Station is at 1204 West 3rd Street in San Bernardino, about 1.4 miles west of the Specific Plan area. Three passenger rail routes serve the station:

- **Metrolink San Bernardino Line:** Commuter rail service between Los Angeles and San Bernardino; operates seven days per week.
- **Metrolink Inland Empire-Orange County Line:** Commuter rail service between San Bernardino and Oceanside in San Diego County via Riverside and Orange Counties; operates seven days per week.
- **Amtrak Southwest Chief:** Long-distance service between Los Angeles and Chicago; one train daily in each direction.

Improvements allowing extension of the two Metrolink routes serving San Bernardino to extend one mile eastward to the San Bernardino Transit Center—about 0.5 mile southwest of the Specific Plan area boundary—are under construction, with completion scheduled for the summer of 2016 (SANBAG 2014).

SANBAG is planning a passenger rail service between San Bernardino and the University of Redlands in the City of Redlands nine miles to the east. The service would operate on a Metrolink-owned track that passes about 0.3 mile south of the southwest corner of the Specific Plan area. The service would use diesel-powered light rail vehicles ("diesel multiple units"). The nearest planned station to the Specific Plan area is the San Bernardino Transit Center about 0.5 mile to the southwest. The EIR and Environmental Impact Statement (EIR/EIS) for the project was certified in March 2015. Service is scheduled to start in 2020 (SANBAG 2015).

5.15.1.2 ANALYSIS METHODOLOGY

Level of Service

Signalized and unsignalized intersection operations were evaluated using the Highway Capacity Manual (HCM) 2010 method developed by the Transportation Research Board, consistent with the Congestion Management Program (2007) requirements for San Bernardino County and City guidelines.

The HCM 2010 methodology for signalized and all-way stop-controlled intersections estimates the average control delay for the vehicle at the intersection. For side-street stop-controlled intersections, the methodology estimates the control delays for each turning movement and identifies the delay for the longest delayed approach (if there is a shared lane, delay is averaged for all turning movements from that lane). After the quantitative delay estimates are complete, the methodology assigns a qualitative letter grade that represents the operations of the intersection. These grades range from level of service (LOS) A (minimal delay) to LOS F (excessive congestion). LOS E represents at-capacity operations. Descriptions of the LOS letter grades for signalized and unsignalized intersections are provided in Table 5.15-3.

The Synchro 8 software package was used to facilitate the HCM 2010 calculations.

To develop the future year volumes, the San Bernardino Transportation Analysis Model (SBTAM) was used. SBTAM is a travel demand model for San Bernardino County. This tool is used throughout the entire county to ensure consistency in future forecast volumes. Intersection turning movement volumes in 2035 were forecast based on the growth between the base and future year models distributed proportionately to the data from traffic counts taken in September 2015.

Table 5.15-3 Intersection Levels of Service

Level of Service	Description	Signalized Delay (seconds)	Unsignalized Delay (seconds)
A	Progression is extremely favorable and most vehicles arrive during the green phase. Most vehicles do not stop at all. Short cycle lengths may also contribute to low delay.	< 10.0	< 10.0
B	Progression is good, cycle lengths are short, or both. More vehicles stop than with LOS A, causing higher levels of average delay.	> 10.0 to 20.0	> 10.0 to 15.0
C	Higher congestion may result from fair progression, longer cycle lengths, or both. Individual cycle failures may begin to appear at this level, though many still pass through the intersection without stopping.	> 20.0 to 35.0	> 15.0 to 25.0
D	The influence of congestion becomes more noticeable. Longer delays may result from some combination of unfavorable progression, long cycle lengths, or high V/C ratios. Many vehicles stop, and the proportion of vehicles not stopping declines. Individual cycle failures are noticeable.	> 35.0 to 55.0	> 25.0 to 35.0
E	This level is considered by many agencies to be the limit of acceptable delay. These high delay values generally indicate poor progression, long cycle lengths, and high V/C ratios. Individual cycle failures are frequent occurrences.	> 55.0 to 80.0	> 35.0 to 50.0
F	This level is considered unacceptable with oversaturation, which is when arrival flow rates exceed the capacity of the intersection. This level may also occur at high V/C ratios below 1.0 with many individual cycle failures. Poor progression and long cycle lengths may also be contributing factors to such delay levels.	> 80.0	> 50.0

Source: Fehr & Peers 2015.

Performance Criteria

The minimum acceptable intersection level of service in the City of San Bernardino General Plan Circulation Element is LOS D. Mitigation measures are required for roadway corridors/locations where traffic conditions show an LOS worse than the minimum acceptable LOS.

Caltrans endeavors to maintain a target LOS at the transition between LOS C and LOS D on state highway facilities; however, Caltrans acknowledges that this may not always be feasible and recommends that the lead agency consult with Caltrans to determine the appropriate target LOS.

Significance Thresholds

For intersections under the City of San Bernardino's jurisdiction, traffic impacts at an intersection are considered significant when any of the following changes in the volume-to-capacity (V/C) ratios occur between the "without project" and the "with-project" conditions:

LOS Without Project	V/C Difference
C	>0.04
D	>0.02
E, F	>0.01

Mitigation Requirements

Once level of service problems under existing conditions and future scenarios are identified, measures that will provide an acceptable LOS are necessary. These measures shall be assumed to be in place for subsequent analyses. Mitigation measures must be identified for intersections that show a significant project impact, and operate at LOS E or worse. The LOS with mitigation must be improved to LOS D or better for intersections. Mitigation measures for both opening year and future buildout year conditions must be identified. Mitigation measures may need to be identified for other conditions, depending on the project phasing and timing.

The percentage of fair-share costs for the Proposed Project is calculated at each impacted location using the total trips generated by the project divided by the total "new" traffic, which is the net increase in traffic volume from all proposed projects (Other Projects plus Project) and growth. The cost of mitigation shall be estimated using verifiable cost estimates from reliable and recognized sources such as the Congestion Management Program guidelines. Fair-share cost of mitigation shall be calculated using the fair-share percentage of the project volumes multiplied by total estimated cost of mitigation.

5.15.1.3 EXISTING PEAK HOUR TRAFFIC VOLUMES AND INTERSECTION LEVELS OF SERVICE

Peak-hour traffic volumes at study area intersections are shown on Figure 4-1 of the TIA (see Appendix I of this DEIR).

Existing intersection levels of service are shown in Table 5.15-4. As shown, 9 of the 23 study area intersections currently operate at unacceptable LOS during the AM peak hour and/or the PM peak hour (LOS E and F are unacceptable for intersections under the City's jurisdiction, and LOS D, E, and F are unacceptable for intersections under Caltrans jurisdiction).

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Table 5.15-4 Existing Intersection Levels of Service

Intersection	Traffic Control	Jurisdiction	AM Peak Hour		PM Peak Hour	
			Delay	LOS	Delay	LOS
1. Waterman Avenue & 30th Street	Signalized	City of San Bernardino	43.1	D	**64.1**	**E**
2. Waterman Avenue & SR-210 Eastbound Ramps	Signalized	Caltrans	**>80.0**	**F**	**>80.0**	**F**
3. Waterman Avenue & Highland Avenue	Signalized	City of San Bernardino	43.5	D	42.3	D
4. I-215 Southbound Ramps & Baseline Street	Signalized	Caltrans	14.9	B	14.5	B
5. I-215 Northbound Ramps & Baseline Street	Signalized	Caltrans	10.7	B	12.4	B
6. E Street & Baseline Street	Signalized	City of San Bernardino	12.0	B	19.9	B
7. Sierra Way & Baseline Street	Signalized	City of San Bernardino	15.5	B	27.6	C
8. Waterman Avenue & Baseline Street	Signalized	City of San Bernardino	35.1	D	**>80.0**	**F**
9. Tippecanoe Avenue & Baseline Street	Signalized	City of San Bernardino	16.5	B	17.7	B
10. Waterman Avenue & 9th Street	Signalized	City of San Bernardino	24.4	C	**67.7**	**E**
11. I-215 Southbound Ramps & 5th Street	Signalized	Caltrans	17.1	B	13.7	B
12. I-215 Northbound Ramps & 5th Street	Signalized	Caltrans	10.7	B	12.7	B
13. Sierra Way & 5th Street	Signalized	City of San Bernardino	21.1	C	17.3	B
14. Waterman Avenue & 5th Street	Signalized	City of San Bernardino	18.0	B	25.0	C
15. Tippecanoe Avenue & 5th Street	Signalized	City of San Bernardino	14.4	B	22.8	C
16. I-210 Southbound Ramps & 5th Street	Signalized	Caltrans	28.9	C	**44.4**	**D**
17. I-210 Northbound Ramps & 5th Street	Signalized	Caltrans	24.4	C	**>80.0**	**F**
18. I-215 Southbound Off-Ramp & 3rd Street	Signalized	Caltrans	16.4	B	15.6	B
19. I-215 Northbound On-Ramp & 3rd Street	Signalized	Caltrans	7.7	A	9.7	A
20. I-215 Southbound On-Ramp & 2nd Street	Signalized	Caltrans	18.7	B	**61.0**	**E**
21. I-215 Northbound Off-Ramp & 2nd Street	Signalized	Caltrans	**>80.0**	**F**	16.9	B
22. Waterman Avenue & 2nd Street	Signalized	City of San Bernardino	9.8	A	11.0	B
23. Waterman Avenue & I-10 Westbound On-Ramp	None	Caltrans	1.8	A	**>50.0**	**F**

Source: Fehr & Peers 2015.

5.15.2 Thresholds of Significance

According to Appendix G of the CEQA Guidelines, a project would normally have a significant effect on the environment if the project could:

T-1 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 non-motorized 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.

T-2 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.

T-3 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.

T-4 Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment).

T-5 Result in inadequate emergency access.

T-6 Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities.

T-7 Result in inadequate parking capacity.

5.15.3 Environmental Impacts

Permitted Development

Specific Plan buildout would involve net increases of 2,395 residential units and about 1.2 million square feet of nonresidential land uses onsite, as shown in Table 5.15-5.

Table 5.15-5 Waterman Gardens Specific Plan Development Statistics

Land Use District	Area, acres	Residential, Units			Commercial Land Uses, square feet		
		Existing	Proposed	Net Increase	Existing	Proposed	Net Change
Uptown Professional	81.7	259	277	18	1,244,332	513,363	-730,969
Westside Neighborhood	127.0	397	808	411	243,519	342,852	99,333
Midtown Core	119.2	344	1,017	673	346,981	610,450	263,469
Eastside Neighborhood	144.5	657	1,402	745	108,527	206,614	98,087
The Gateway	97.4	229	675	446	136,318	444,896	308,578
Employment Mixed Use	140.9	60	162	102	286,708	1,452,273	1,165,565
Total	**710.7**	**1,946**	**4,341**	**2,395**	**2,366,385**	**3,570,448**	**1,204,063**

In the following impact analysis, the applicable thresholds are identified in brackets after the impact statement.

Impact 5.15-1: Project-related trip generation would impact levels of service for the existing area roadway system. [Threshold T-1]

Impact Analysis:

Project Trip Generation

The methods most commonly used by traffic engineers (the ITE Trip Generation Manual) to estimate the trip generation of proposed developments exaggerate the impacts of "smart growth" projects. This misrepresentation escalates development costs, skews public perception, and raises resistance to the types of development that actually generate the least environmental impacts. For this project, project trip generation was estimated using MainStreet (MXD+)—a tool based on Environmental Protection Agency and National Cooperative Highway Research Program (NCHRP) research—which reduces the bias and more accurately portrays the traffic impacts of mixed-use, compact, infill, and transit-oriented development proposals. It is one of the most accurate estimation tools available.

Variables used in the MXD model include general site information such as geographic factors, the land use of the surrounding area, and site/surrounding area demographics. Geographic factors, such as the site of the developed area and intersection density, influence internalization from a spatial standpoint—the denser the area, the more likely certain types of trips can be completed within the mixed-use development and without the need to travel externally. Land use factors and demographics, such as employment, average household size, and vehicle ownership, influence how people in the mixed-used development might decide to travel.

To develop trip estimates that would be generated by the changes in land use proposed by the Waterman + Baseline Neighborhood Specific Plan, Fehr & Peers developed trip estimates for the existing land use and the proposed land use. The difference in trips between the two scenarios is considered the "project only" trip generation estimates, shown in Table 5.15-6.

Table 5.15-6 Estimated Project Trip Generation, Net Increase

Daily Total	AM In	AM Out	AM Total	PM In	PM Out	PM Total
12,024	1,226	1,088	2,314	1,046	1,002	2,048

Source: Fehr & Peers 2015.

The Proposed Project trip distribution was determined using the San Bernardino Transportation Analysis Model (SBTAM).

Existing (2015) Plus Project Conditions

Traffic Volumes

Existing Plus Project traffic volumes, forecast by adding existing traffic volumes to project traffic volumes, are shown on Figure 5-1 in the TIA in Appendix I of this DEIR.

Intersection Levels of Service

Intersection levels of service in Existing Plus Project conditions are shown in Table 5.15-7. The following six intersections already operate at unacceptable LOS and would continue to operate at unacceptable LOS in Existing Plus Project conditions:

2. Waterman Avenue & SR-210 Eastbound Ramps (The Proposed Project adds traffic to the intersection already operating at LOS F in the AM & PM Peak Hour.)

16. I-210 Southbound Ramps & 5th Street (The Proposed Project adds traffic to the intersection already operating at LOS D in the PM Peak Hour.)

17. I-210 Northbound Ramps & 5th Street (AM Peak Hour is LOS D; the Proposed Project adds traffic to the intersection already operating at LOS F in the PM Peak Hour.)

20. I-215 Southbound On-Ramp & 2nd Street (The Proposed Project decreases traffic to the intersection operating at LOS E, resulting in LOS D in the PM Peak Hour.)

21. I-215 Northbound Off-Ramp & 2nd Street (AM Peak Hour LOS F)

23. Waterman Avenue & I-10 Westbound On-Ramp (The Proposed Project adds traffic to the intersection already operating at LOS F in the PM Peak Hour.)

Delay would decrease at some intersections with the addition of Proposed Project traffic; these intersections would operate at acceptable LOS in the Existing Plus Project condition. These intersections are:

1. Waterman Avenue & 30th Street (PM Peak Hour LOS D)

8. Waterman Avenue & Baseline Street (PM Peak Hour LOS D)

10. Waterman Avenue & 9th Street (PM Peak Hour LOS D)

The decrease in delay is attributed to multiple factors. The proposed changes in land use increase trips in most parts of the study area but decrease trips from some parcels. In some cases at the above three locations, turning movements were reduced due to the Proposed Project's trip assignment. In all cases of the above noted intersections, the intersection as a whole increased in traffic volumes. Typically, the new traffic volumes were assigned to the freeways in the form of additional through-movements. As long as there is through-movement capacity available, when through-movements are added to an intersection, the average delay at the intersection can improve since these vehicles are experiencing low delay.

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Table 5.15-7 Intersection Levels of Service, Existing Plus Project Conditions

Intersection	Control	AM Peak Hour		PM Peak Hour	
		Delay	LOS	Delay	LOS
1. Waterman Avenue & 30th Street	Signalized	48.2	D	53.9	D
2. Waterman Avenue & SR-210 Eastbound Ramps	Signalized	**>80.0**	**F**	**>80.0**	**F**
3. Waterman Avenue & Highland Avenue	Signalized	44.7	D	43.6	D
4. I-215 Southbound Ramps & Baseline Street	Signalized	20.5	C	14.5	B
5. I-215 Northbound Ramps & Baseline Street	Signalized	13.3	B	16.6	B
6. E Street & Baseline Street	Signalized	11.7	B	14.1	B
7. Sierra Way & Baseline Street	Signalized	19.7	B	33.7	C
8. Waterman Avenue & Baseline Street	Signalized	41.0	D	54.2	D
9. Tippecanoe Avenue & Baseline Street	Signalized	16.1	B	18.8	B
10. Waterman Avenue & 9th Street	Signalized	30.4	C	42.4	D
11. I-215 Southbound Ramps & 5th Street	Signalized	20.3	C	15.1	B
12. I-215 Northbound Ramps & 5th Street	Signalized	12.6	B	23.2	C
13. Sierra Way & 5th Street	Signalized	20.5	C	16.8	B
14. Waterman Avenue & 5th Street	Signalized	22.6	C	24.2	C
15. Tippecanoe Avenue & 5th Street	Signalized	19.4	B	25.6	C
16. I-210 Southbound Ramps & 5th Street	Signalized	30.6	C	**45.2**	**D**
17. I-210 Northbound Ramps & 5th Street	Signalized	**37.9**	**D**	**>80.0**	**F**
18. I-215 Southbound Off-Ramp & 3rd Street	Signalized	17.3	B	14.1	B
19. I-215 Northbound On-Ramp & 3rd Street	Signalized	7.8	A	10.8	B
20. I-215 Southbound On-Ramp & 2nd Street	Signalized	18.9	B	**52.5**	**D**
21. I-215 Northbound Off-Ramp & 2nd Street	Signalized	**>80.0**	**F**	17.9	B
22. Waterman Avenue & 2nd Street	Signalized	9.2	A	10.2	B
23. Waterman Avenue & I-10 Westbound On-Ramp	Unsignalized	2.7	A	**>50.0**	**F**

Source: Fehr & Peers 2015.

Signal Warrant Analysis

A peak hour traffic signal warrant assessment for the unsignalized intersection at Waterman Avenue and the I-10 Westbound ramp determined that installation of a traffic signal would be warranted in the Existing Plus Project (2015) scenario. Technical calculations are provided in the TIA (Appendix I of this DEIR).

Impact Assessment

Table 5.15-8 shows the changes in V/C ratio from Existing Conditions to Existing Plus Project Conditions for intersections operating below acceptable LOS.

Table 5.15-8 Intersection Impacts, Existing Plus Project Conditions

Intersection	Jurisdiction	Peak Hour	Existing Conditions		Existing Plus Project Conditions		Change in V/C	Result
			LOS	V/C	LOS	V/C		
2. Waterman Avenue & SR- 210 Eastbound Ramps	Caltrans	AM PM	F F	0.82 1.03	F F	1.02 0.94	**0.02** -0.09	**Impact**
16. I-210 Southbound Ramps & 5th Street	Caltrans	PM	D	0.85	D	0.7	-0.15	**Impact**
17. I-210 Northbound Ramps & 5th Street	Caltrans	PM	F	1.12	F	0.91	-0.21	**Impact**
20. I-215 Southbound On- Ramp & 2nd Street	Caltrans	PM	E	0.57	D	0.68	**0.11**	**Impact**
21. I-215 Northbound Off- Ramp & 2nd Street	Caltrans	AM	F	0.79	F	0.78	-0.01	**Impact**
23. Waterman Avenue & I-10 Westbound On-Ramp	Caltrans	PM	F	-	F	-	-	**Impact**

Source: Fehr & Peers 2015.

An increase in project traffic can still result in a decrease in overall intersection delay or V/C ratio. In the case of a V/C ratio, as long as traffic is not added to the critical movements, the intersection total V/C ratio can improve. Based on the performance criteria and thresholds of significance provided in Section 5.15.1.2, the Proposed Project impacts the following intersections:

2. Waterman Avenue & SR-210 Eastbound Ramps

16. I-210 Southbound Ramps & 5th Street

17. I-210 Northbound Ramps & 5th Street

20. 20. I-215 Southbound On-Ramp & 2nd Street

21. I-215 Northbound Off-Ramp & 2nd Street

23. Waterman Avenue & I-10 Westbound On-Ramp

All of the intersection impacts in the Existing Plus Project scenario are considered direct impacts.

Pedestrian and Bicycle Impacts

The Proposed Project includes an extensive proposed network of pedestrian trails and sidewalks connecting all areas of the Proposed Project, including areas within the Specific Plan area boundaries (see Figure 5.15-2, *Proposed Pedestrian Improvements*).

Striped on-road (Class II) bicycle lanes in both directions of travel at the Specific Plan boundaries are proposed on Waterman Avenue and Baseline Street. Off-road (Class I) bicycle paths are proposed along Warm Creek and East Twin Creek within the Specific Plan area, and a third proposed Class I bicycle path would extend eastward along City Creek from the confluence of City Creek and East Twin Creek at the southeast corner of the Specific Plan area (see Figure 5.15-3, *Proposed Bicycle Facility Improvements*). No adverse impact to pedestrian or bicycle facilities would occur.

Buildout (2035) Without-Project Conditions

Traffic volumes in 2035 Without-Project conditions were estimated using the SBTAM Model. The SBTAM Model estimates growth over a 27-year period from the 2008 base year to 2035; growth was adjusted in proportion to the 20-year period estimated for the proposed Specific Plan (2015 to 2035).

Traffic Volumes

Traffic volumes at study area intersections in 2035 Without Project conditions are shown on Figure 6-1 of the TIA (Appendix I of this DEIR).

Intersection Levels of Service

The following six intersections currently operate at unacceptable LOS and would continue to operate at unacceptable LOS in 2035 Without Project conditions, as shown in Table 5.15-9.

1. Waterman Avenue & 30th Street (AM & PM Peak Hour LOS E)
2. Waterman Avenue & SR-210 Eastbound Ramps (AM & PM Peak Hour LOS F)
17. I-210 Northbound Ramps & 5th Street (AM Peak Hour LOS D & PM Peak Hour LOS F)
20. I-215 Southbound On-Ramp & 2nd Street (PM Peak Hour LOS E)
21. I-215 NB Off-Ramp/I-215 NB Ramp & 2nd St (AM Peak Hour LOS E)
23. Waterman Avenue & I-10 Westbound On-Ramp (PM Peak Hour LOS F)

The following intersection would operate at unacceptable LOS in 2035 Without Project conditions:

16. I-210 Southbound Ramps & 5th Street (AM Peak Hour LOS E & PM Peak Hour LOS F)

Table 5.15-9 Intersection Levels of Service, 2035 Without Project Conditions

Intersection	Control	AM Peak Hour		PM Peak Hour	
		Delay	LOS	Delay	LOS
1. Waterman Avenue & 30th Street	Signalized	**74.2**	**E**	**59.9**	**E**
2. Waterman Avenue & SR-210 Eastbound Ramps	Signalized	**>80.0**	**F**	**>80.0**	**F**
3. Waterman Avenue & Highland Avenue	Signalized	46.8	D	48.1	D
4. I-215 Southbound Ramps & Baseline Street	Signalized	16.1	B	11	B
5. I-215 Northbound Ramps & Baseline Street	Signalized	9.7	A	13.1	B
6. E Street & Baseline Street	Signalized	16.6	B	20.3	C
7. Sierra Way & Baseline Street	Signalized	15.8	B	19.5	B
8. Waterman Avenue & Baseline Street	Signalized	40.3	D	50.6	D
9. Tippecanoe Avenue & Baseline Street	Signalized	17.4	B	19.5	B
10. Waterman Avenue & 9th Street	Signalized	31.2	C	35.2	D
11. I-215 Southbound Ramps & 5th Street	Signalized	17.6	B	13.6	B
12. I-215 Northbound Ramps & 5th Street	Signalized	12.9	B	27.4	C
13. Sierra Way & 5th Street	Signalized	19.5	B	17.3	B
14. Waterman Avenue & 5th Street	Signalized	22.8	C	27.5	C
15. Tippecanoe Avenue & 5th Street	Signalized	15.9	B	18.3	B
16. I-210 Southbound Ramps & 5th Street	Signalized	**73.9**	**E**	**>80.0**	**F**
17. I-210 Northbound Ramps & 5th Street	Signalized	**41.2**	**D**	**>80.0**	**F**
18. I-215 Southbound Off-Ramp & 3rd Street	Signalized	17.9	B	13.3	B
19. I-215 Northbound On-Ramp & 3rd Street	Signalized	8.3	A	11	B
20. I-215 Southbound On-Ramp & 2nd Street	Signalized	18.3	B	**70.4**	**E**
21. I-215 Northbound Off-Ramp & 2nd Street	Signalized	**72.5**	**E**	19.3	B
22. Waterman Avenue & 2nd Street	Signalized	12.2	B	11.5	B
23. Waterman Avenue & I-10 Westbound On-Ramp	Side-street stop	2.7	A	**>50.0**	F

Source: Fehr & Peers 2015.

2035 With Project Conditions

Traffic volumes in 2035 With-Project conditions were estimated by adding project-generated traffic to estimated 2035 Without-Project conditions.

Trip Generation and Distribution

The trip distribution for the Proposed Project in the 2035 study year remains the same as the 2015 base year. Traffic volumes in 2035 With-Project conditions at study area intersections are shown in Figure 7-1 in Appendix I of this DEIR.

Intersection Levels of Service

Ten study area intersections would operate at unacceptable LOS in 2035 With-Project conditions, as shown in Table 5.15-10.

Table 5.15-10 Intersection Levels of Service, 2035 With-Project Conditions

Intersection	Control	AM Peak Hour		PM Peak Hour	
		Delay	LOS	Delay	LOS
1. Waterman Avenue & 30th Street	Signalized	**>80.0**	**F**	**72.3**	**E**
2. Waterman Avenue & SR-210 Eastbound Ramps	Signalized	**>80.0**	**F**	**>80.0**	**F**
3. Waterman Avenue & Highland Avenue	Signalized	44.7	D	43.9	D
4. I-215 Southbound Ramps & Baseline Street	Signalized	21.3	C	13.3	B
5. I-215 Northbound Ramps & Baseline Street	Signalized	11.3	B	15.2	B
6. E Street & Baseline Street	Signalized	16.9	B	21.9	C
7. Sierra Way & Baseline Street	Signalized	19.6	B	28	C
8. Waterman Avenue & Baseline Street	Signalized	**69.3**	**E**	**88.4**	**F**
9. Tippecanoe Avenue & Baseline Street	Signalized	16.8	B	19.9	B
10. Waterman Avenue & 9th Street	Signalized	37.3	D	**75.8**	**E**
11. I-215 Southbound Ramps & 5th Street	Signalized	20.9	C	16.1	B
12. I-215 Northbound Ramps & 5th Street	Signalized	16.1	B	**54.6**	**D**
13. Sierra Way & 5th Street	Signalized	18.7	B	18.8	B
14. Waterman Avenue & 5th Street	Signalized	26.4	C	25.6	C
15. Tippecanoe Avenue & 5th Street	Signalized	19.4	B	23.1	C
16. I-210 Southbound Ramps & 5th Street	Signalized	**>80.0**	**F**	**>80.0**	**F**
17. I-210 Northbound Ramps & 5th Street	Signalized	**63.6**	**E**	**>80.0**	**F**
18. I-215 Southbound Off-Ramp & 3rd Street	Signalized	18.4	B	13.4	B
19. I-215 Northbound On-Ramp & 3rd Street	Signalized	8.4	A	11.3	B
20. I-215 Southbound On-Ramp & 2nd Street	Signalized	18.5	B	**72.2**	**E**
21. I-215 Northbound Off-Ramp & 2nd Street	Signalized	**77**	**E**	19.5	B
22. Waterman Avenue & 2nd Street	Signalized	11.5	B	11.4	B
23. Waterman Avenue & I-10 Westbound On-Ramp	Side-street stop	3.3	A	**>80.0**	**F**

Source: Fehr & Peers 2015.

The ten intersections that would operate at unacceptable LOS in 2035 With-Project conditions are:

1. Waterman Avenue & 30th Street (In the AM Peak Hour the LOS degrades from E to F & in the PM Peak Hour the project adds traffic to the intersection already operating at LOS E.)

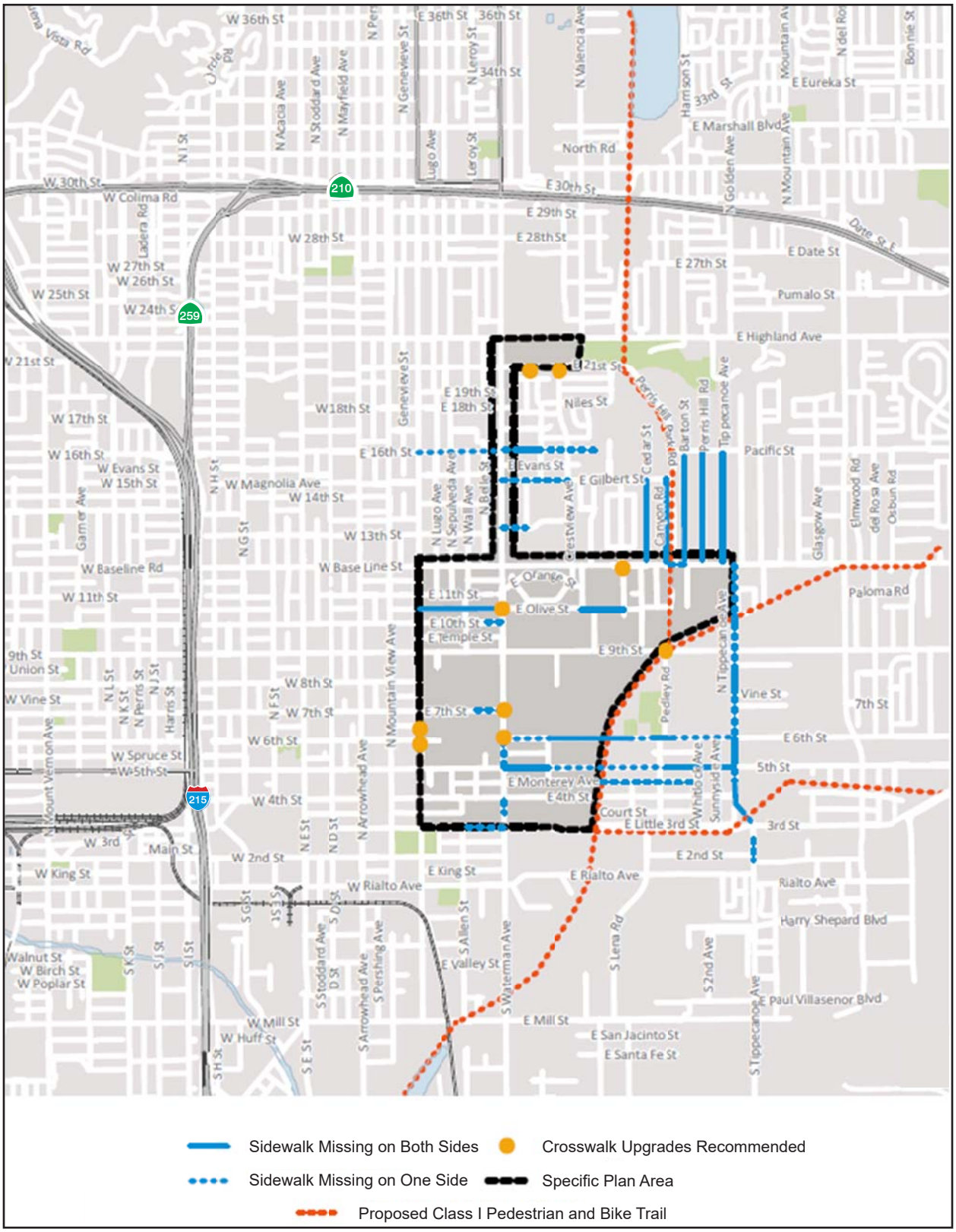
2. Waterman Avenue & SR-210 Eastbound Ramps (The Proposed Project add traffics to the intersection already operating at LOS F in the AM & PM Peak Hours.)

8. Waterman Avenue & Baseline Street (In the AM Peak Hour the LOS degrades from D to E & in the PM Peak Hour the LOS degrades from D to F.)

10. Waterman Avenue & 9th Street (In the PM Peak Hour the LOS degrades from D to E.)

Figure 5.15-2 Proposed Pedestrian Improvements

5. Environmental Analysis



Base Map Source: Unknown, 2016

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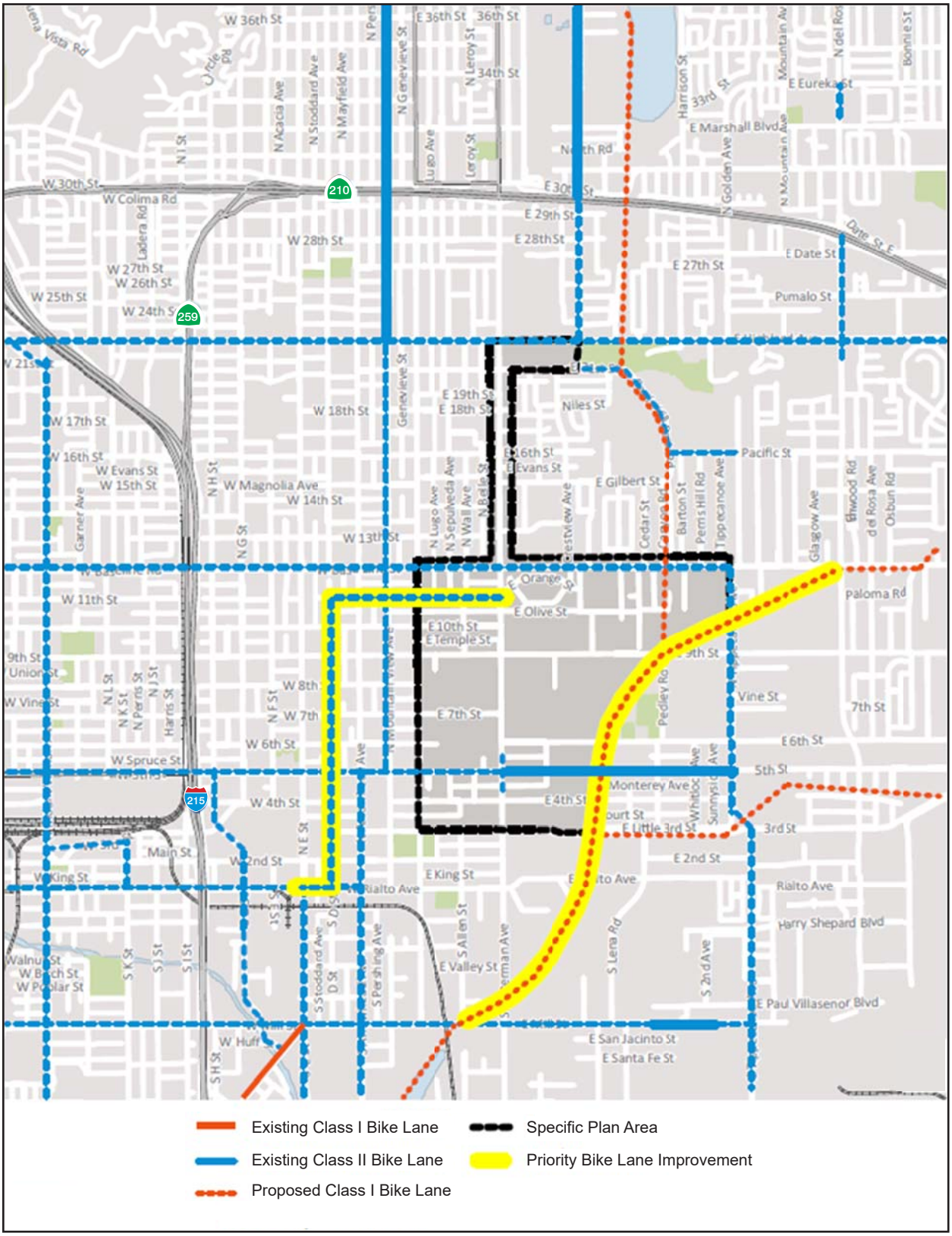
Figure 5.15-3 Proposed Bicycle Facility Improvements

5. Environmental Analysis



Base Map Source: Unknown, 2016

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12. I-215 Northbound Ramps & 5th Street (In the PM Peak Hour the LOS degrades from C to D.)

16. I-210 Southbound Ramps & 5th Street (In the AM Peak Hour the LOS degrades from E to F & the Proposed Project adds traffic to the intersection already operating at LOS F in the PM Peak Hour.)

17. I-210 Northbound Ramps & 5th Street (In the AM Peak Hour the LOS degrades from D to E & the Proposed Project adds traffic to the intersection already operating at LOS in the PM Peak Hour.)

20. I-215 Southbound On-Ramp & 2nd Street (The Proposed Project adds traffic to the intersection already operating at LOS E in the PM Peak Hour.)

21. I-215 NB Off-Ramp/I-215 NB Ramp & 2nd St (The Proposed Project adds traffic to the intersection already operating at LOS E in the AM Peak Hour)

23. Waterman Avenue & I-10 Westbound On-Ramp (The project adds traffic to the intersection already operating at LOS F in the PM Peak Hour.)

Signal Warrant Analysis

A peak hour traffic signal warrant assessment for the unsignalized intersection at Waterman Avenue and the I-10 Westbound ramp determined that installation of a traffic signal would be warranted in the 2035 Plus-Project scenario. Technical calculations are provided in Appendix I of this DEIR.

Impact Assessment

Table 5.15-11 shows the changes in V/C ratio from 2035 Without-Project conditions to 2035 With-Project conditions for intersections operating below acceptable LOS.

Table 5.15-11 Intersection Impacts, 2035 Plus-Project Conditions

Intersection	Jurisdiction	Peak Hour	2015 without Project Conditions		2035 Plus-Project Conditions		Change in V/C	Result
			LOS	V/C	LOS	V/C		
1. Waterman Avenue & 30th St	City of San Bernardino	AM PM	E E	1.14 0.81	F E	1.38 1.01	0.24 0.2	**Impact**
2. Waterman Avenue & SR- 210 Eastbound Ramps	Caltrans	AM PM	F F	1.02 0.98	F F	1.23 1.03	0.21 0.05	**Impact**
8. Waterman Avenue & Baseline Avenue	City of San Bernardino	AM PM	D D	0.66 0.75	E F	0.94 1.06	0.28 0.31	**Impact**
10. Waterman Avenue & 9th Street	City of San Bernardino	PM	D	0.74	E	0.98	0.24	**Impact**
12. I-215 Northbound Off- Ramp & 5th Street	Caltrans	PM	C	0.64	D	0.79	0.15	**Impact**
16. I-210 Southbound Ramps & 5th Street	Caltrans	AM PM	E F	0.95 0.99	F F	0.99 1.03	0.04 0.04	**Impact**
17. I-210 Northbound Ramps & 5th Street	Caltrans	AM PM	D F	0.73 1.12	E F	0.84 1.19	0.11 0.07	**Impact**
20. I-215 Southbound On- Ramp & 2nd Street	Caltrans	PM	E	0.74	E	0.76	0.02	**Impact**
21. I-215 Northbound Off- Ramp & 2nd Street	Caltrans	AM	E	0.74	E	0.76	0.02	**Impact**
23. Waterman Avenue & I-10 Westbound On-Ramp	Caltrans	PM	F	-	F	-	-	**Impact**

Source: Fehr & Peers 2015.

Project-generated traffic in 2035 With-Project conditions would have significant impacts on the 10 intersections listed in Table 5.15-11. All of the intersection impacts in the 2035 With-Project scenario are considered cumulative impacts; that is, they would occur due to project traffic generation in combination with traffic generation due to regional growth, modeled using SBTAM.

Pedestrian and Bicycle Impacts

The Proposed Project includes an extensive network of pedestrian-only trails and sidewalks connecting the Specific Plan districts and key sites within the Specific Plan area (see Figure 5.15-2, *Proposed Pedestrian Improvements*).

Striped on-road (Class II) bicycle lanes in both directions of travel at the Specific Plan boundary are proposed on Waterman Avenue and Baseline Street. Off-road (Class I) bicycle paths are proposed along Warm Creek and East Twin Creek within the Specific Plan area, and a third proposed Class I bicycle path would extend eastward along City Creek from the confluence of City Creek and East Twin Creek at the

southeast corner of the Specific Plan area (see Figure 5.15-3, *Proposed Bicycle Facility Improvements*). No adverse impacts to pedestrian or bicycle facilities would occur.

Construction Traffic Impacts

Construction traffic impacts are expected to be less than significant for the following reasons:

- Specific Plan implementation is expected to involve numerous development and redevelopment projects of various sizes in various portions of the 710-acre project site and spread over many years; the analysis here assumes that the Specific Plan would be built out by 2035.

- Construction traffic from various parts of the Specific Plan area would use various routes. Construction traffic from the southern and western parts of the Specific Plan area would most likely use Baseline Street and I-215; construction traffic from the northern and eastern parts of the Specific Plan area would probably use the SR-210 via Waterman Avenue and/or Del Rosa Avenue.[1]

- It is expected that most deliveries of construction equipment and materials, and haul truck trips, would be conducted after the AM peak hour and before the PM peak hour to avoid congestion delays.

Summary of Significant Intersection Traffic Impacts

Specific Plan buildout would result in **significant direct impacts** to operation of the following six intersections in the Existing Plus Project condition:

2. Waterman Avenue & SR-210 Eastbound Ramps

16. I-210 Southbound Ramps & 5th Street

17. I-210 Northbound Ramps & 5th Street

20. 20. I-215 Southbound On-Ramp & 2nd Street

21. I-215 Northbound Off-Ramp & 2nd Street

23. Waterman Avenue & I-10 Westbound On-Ramp

Specific Plan implementation would result in **significant cumulative impacts** to operation of the following 10 intersections in the 2035 Plus Project condition:

1. Waterman Avenue & 30th St

2. Waterman Avenue & SR- 210 Eastbound Ramps

8. Waterman Avenue & Baseline Avenue

[1] Baseline Street is assumed to be the route for construction traffic west to the I-215, because 5th Street passes through downtown San Bernardino and may be more congested than Baseline Street.

10. Waterman Avenue & 9th Street

12. I-215 Northbound Off- Ramp & 5th Street

16. I-210 Southbound Ramps & 5th Street

17. I-210 Northbound Ramps & 5th Street

20. I-215 Southbound On- Ramp & 2nd Street

21. I-215 Northbound Off- Ramp & 2nd Street

23. Waterman Avenue & I-10 Westbound On-Ramp

Impact 5.15-2: The proposed Specific Plan would be subject to the County of San Bernardino Regional Transportation Development Mitigation Plan Fee Schedule and would not conflict with the San Bernardino County Congestion Management Program. [Threshold T-2]

Impact Analysis: The traffic impact analysis was prepared in conformance with requirements of the Congestion Management Program issued by San Bernardino Associated Governments in 2007.

Per San Bernardino Congestion Management Plan (CMP) Appendix A, "Jurisdictions that have implemented qualifying development mitigation programs that achieve development contribution requirements established by the SANBAG Development Mitigation Nexus Study are not required to prepare TIA [traffic impact analysis] reports for CMA review."

The Specific Plan area in the City of San Bernardino is subject to the County of San Bernardino Regional Transportation Development Mitigation Plan Fee Schedule. Therefore, a CMP Traffic Impact Analysis report is not required for this project. Impacts would be less than significant.

Impact 5.15-3: Specific Plan buildout would not change air traffic levels in or out of San Bernardino International Airport (SBIA) or require relocation of air traffic patterns to or from SBIA. [Threshold T-3]

Impact Analysis:

Air Traffic Levels

Specific Plan buildout is estimated to generate a population increase of roughly 8,359; this equals roughly 1.2 percent of the population increase forecast for San Bernardino County (645,709 residents) between 2015 and 2035. The population increase resulting from Specific Plan buildout would not cause a substantial increase in air traffic levels at San Bernardino International Airport.

Structure Heights

The Specific Plan is in the area surrounding SBIA where heights of structures are regulated pursuant to Federal Aviation Administration (FAA) Part 77 Regulations to prevent obstructions to air navigation. Permitted structure heights in the Specific Plan area range from 1,314 feet above mean sea level (amsl) in parts of the southern and southeastern portions to 1,514 feet amsl along the east-central boundary near Wabash Street (see Figure 5.7-2, *Height Limits*). Ground elevations within the regulated area range from about 1,019 feet amsl at the southwest corner of the Specific Plan area to 1,107 feet amsl on the eastern boundary near Wabash Street.

The analysis here is general and approximate. Specific maximum allowable heights for structures would be determined for each development or redevelopment application submitted to the City of San Bernardino. Maximum allowable heights for structures within the regulated area range from approximately 307 feet above ground level (agl) at the southwest corner of the Specific Plan area to about 407 feet agl on the eastern boundary near Wabash Street. The maximum permitted building height under the Specific Plan would be 67 feet (Base Plus maximum height in the Mixed Use Village land use district). The Specific Plan would not permit development of structures exceeding height limits per FAA Part 77 Regulations, and impacts would be less than significant.

Impact 5.15-4: Adequate parking would be provided for the Proposed Project. [Threshold T-7]

Impact Analysis: Parking standards for the Proposed Project are in Section 5.4, *Parking Standards*, of the Specific Plan. The parking standards allow for alternative parking programs that reduce parking demand—including private carpool/vanpool operations and shared parking—in exchange for a reduction in the number of off-street parking spaces required, provided the following conditions are met:

- Adequate off-street parking will be provided for the proposed use.
- Significant environmental impacts will not be caused by the reduction.
- Traffic safety and pedestrian safety will be enhanced by the reduction.

The Specific Plan requires sufficient parking for the proposed land uses, and impacts would be less than significant.

Impact 5.15-5: Project circulation improvements have been designed to adequately address potentially hazardous conditions (sharp curves, etc.), potential conflicting uses, and emergency access. [Thresholds T-4 and T-5]

Impact Analysis:

Hazardous Conditions

Specific Plan buildout would involve the restriping of existing lanes at two intersections under jurisdiction of the City of San Bernardino. All restriping of roadways would be designed by a licensed traffic engineer in conformance with City of San Bernardino Public Works Department street design standards, and buildout

would not cause substantial hazards arising from the design of proposed roadway improvements and modifications.

Improvements to intersections under Caltrans jurisdiction could be minimized for Specific Plan buildout with the addition of turn lanes and a through lane at several intersections. However, because these intersections are under Caltrans jurisdiction, the timing and implementation of improvements are not under the City's control. Further, some lane additions would require acquisition of right-of-way and may not be feasible due to right-of-way constraints (see Section 5.15.7, *Mitigation Measures*, below). Therefore, the improvements to Caltrans intersections at buildout cannot be assumed to be completed. All additions and restriping of roadways would be designed by a licensed traffic engineer in conformance with City of San Bernardino Public Works Department street design standards. Specific Plan buildout would not cause substantial hazards arising from the design of proposed roadway improvements and modifications.

Conflicting Uses and Emergency Access

Specific Plan buildout would not add conflicting uses such as farm equipment to area roadways. Public streets in the City of San Bernardino must be kept free from obstructions pursuant to Municipal Code Chapter 12.44. Construction staging by projects developed in conformance with the Proposed Project would not block public streets, in accordance with this chapter. Specific Plan buildout would not impede emergency access to the Specific Plan area or surrounding neighborhoods. Impacts would be less than significant.

Impact 5.15-6: The Proposed Project would comply with adopted policies, plans, and programs for alternative transportation. [Threshold T-6]

Impact Analysis: The Proposed Project includes an extensive network of pedestrian-only trails and sidewalks connecting all areas of the Proposed Project (see Figure 5.15-2, *Proposed Pedestrian Improvements*).

Striped on-road (Class II) bicycle lanes in both directions of travel at project boundaries are proposed on Waterman Avenue and Baseline Street. Off-road (Class I) bicycle paths are proposed along Warm Creek and East Twin Creek within the Specific Plan area, and a third proposed Class I bicycle path would extend eastward along City Creek from the confluence of City Creek and East Twin Creek at the southeast corner of the Specific Plan area.

Specific Plan buildout would not interfere with operation of Omnitrans bus routes passing through the Specific Plan area. Proposed Project buildout would comply with policies promoting alternative transportation, and no adverse impact would occur.

5.15.4 Cumulative Impacts

Cumulative impacts are addressed above in the 2035 With-Project scenario under Impact 5.15-1, above. Significant cumulative traffic impacts are identified at the following 10 intersections:

1. Waterman Avenue & 30th St

2. Waterman Avenue & SR- 210 Eastbound Ramps

8. Waterman Avenue & Baseline Avenue

10. Waterman Avenue & 9th Street

12. I-215 Northbound Off- Ramp & 5th Street

16. I-210 Southbound Ramps & 5th Street

17. I-210 Northbound Ramps & 5th Street

20. I-215 Southbound On- Ramp & 2nd Street

21. I-215 Northbound Off- Ramp & 2nd Street

23. Waterman Avenue & I-10 Westbound On-Ramp

5.15.5 Existing Regulations and Standard Conditions

San Bernardino Association of Governments (SANBAG)

- Congestion Management Program
  - Regional Transportation Development Mitigation Plan Fee Schedule

City of San Bernardino

- General Plan Circulation Element (minimum acceptable level of service)

5.15.6 Level of Significance Before Mitigation

Upon implementation of regulatory requirements and standard conditions of approval, the following impacts would be less than significant: 5.15-2, 5.15-3, 5.15-4, 5.15-5, and 5.15-6

Without mitigation, the following impacts would be **potentially significant**:

- **Impact 5.15-1** Trip generation by Proposed Project buildout would impact levels of service for study area intersections.

5.15.7 Mitigation Measures

Impact 5.15-1

Existing Plus Project Conditions (Direct Impacts)

T-1 Prior to issuance of the first building permit, the project applicant shall enter into a mitigation agreement with Caltrans for project-related impacts to Caltrans facilities. The agreement shall identify the project's fair-share contribution to the following traffic

improvements that result in improved levels of service at the impacted ramp locations, via an agreement mutually acceptable to Caltrans and the City of San Bernardino:

- Intersection of I-210 Southbound Ramps & 5th Street: Optimize signal timing
- Intersection of I-215 Southbound Ramps & 2nd Street: Optimize signal timing
- Intersection of I-215 Northbound Ramps & 2nd Street: Optimize signal timing
- Intersection of Waterman Avenue & I-10 Westbound On-Ramp: Signalize the intersection with a protected northbound left-turn phase.

T-2 Prior to issuance of the first building permit, the project applicant shall enter into a mitigation agreement with Caltrans for project-related impacts to Caltrans facilities. Due to right-of-way constraints at the two affected intersections, listed below, it is unknown whether installation of the specified turn lanes is feasible. The agreement shall identify the project's fair-share contribution to the following traffic improvements, if found to be feasible, that result in improved levels of service at the impacted ramp locations, via an agreement mutually acceptable to Caltrans and the City of San Bernardino:

- **Waterman Avenue & SR-210 Eastbound Ramps:**
  - Add two exclusive eastbound right-turn lanes
  - Add one southbound left-turn lane
- **I-210 Northbound Ramps & 5th Street:**
  - Add one eastbound left-turn lane
  - Add one exclusive northbound right-turn lane

2035 Plus Project Conditions (Cumulative Impacts)

T-3 Prior to issuance of any building permit after 80 percent buildout of the Specific Plan area, the project applicant shall provide fair share funding for the following improvements as determined by the City.

- **Waterman Avenue & 30th Street:**
  - Add one westbound left-turn lane
  - Add one westbound right-turn lane
  - Add one eastbound right-turn lane with right-turn overlap phase
  - Add an overlap phase for the northbound right-turn

- Modify signal phasing to split phase in the east/west direction. This requires signal pole modifications in the east/west direction to accommodate new split phase vehicle heads on a longer mast arm

The eastbound and westbound 30th Street approaches are wide enough for the additional eastbound and westbound turn lanes to be added through restriping of the affected approaches.

The estimated cost for the improvements at this intersection is $125,000 to $200,000. The fair share contribution is 24 percent of the total cost, that is, $30,000 to $48,000.

- **Waterman Avenue & Baseline Street:**
  - Modify the shared through-right lanes to a through lane and an exclusive right-turn lane at the east and west approaches.

The eastbound and westbound Baseline Street approaches are wide enough for the lane modifications to be made through restriping of the affected approaches.

The estimated cost for the improvement at this intersection is $3,000. The fair share contribution is 57 percent of the total cost, that is, $1,710.

- **Waterman Avenue & 9th Street:**
  - Modify the shared through-right lanes to a through lane and an exclusive right-turn lane at the north and south approaches.

The northbound and southbound Waterman Avenue approaches are wide enough for the lane modifications to be made through restriping of the affected approaches.

The estimated cost for the improvement at this intersection is $3,000. The fair share contribution is 50 percent of the total cost, that is, $1,500.

T-4 Prior to issuance of any building permit after 80 percent buildout of the Specific Plan area, the project applicant shall enter into a mitigation agreement with Caltrans for project-related impacts to Caltrans facilities. The agreement shall identify the project's fair-share contribution to the following traffic improvements that result in improved levels of service at the impacted ramp locations, via an agreement mutually acceptable to Caltrans and the City of San Bernardino:

- **I-215 Southbound Ramps & 2nd Street:**
  - Optimize signal timing

The fair-share contribution is 4 percent of the total cost.

- **I-215 Northbound Ramp & 2nd Street:**
  - Optimize signal timing

The fair-share contribution is 16 percent of the total cost.

- **Waterman Ave & I-10 Westbound On-Ramp:**
  - Optimize signal timing
  - Install a signal with a protected northbound left-turn phase

  The estimated cost for the improvements at this intersection is $90,000 to $125,000. The fair share contribution is 31 percent of the total cost, that is, $27,900 to $38,750.

T-5 Prior to issuance of any building permit after 80 percent buildout of the Specific Plan area, the project applicant shall enter into a mitigation agreement with Caltrans for project-related impacts to Caltrans facilities. Due to right-of-way constraints at the three affected intersections, it is unknown whether installation of the specified lanes is feasible. The agreement shall identify the project's fair-share contribution to the following traffic improvements, if found to be feasible, that result in improved levels of service at the impacted ramp locations, via an agreement mutually acceptable to Caltrans and the City of San Bernardino:

- **Waterman Avenue & SR-210 Eastbound Ramps:**
  - Add one exclusive eastbound right-turn lane
  - Add one eastbound left-turn lane
  - Add one exclusive northbound right-turn lane
  - Add one southbound left-turn lane

  The fair-share contribution for improvements at this intersection is 41 percent.

- **I-215 Northbound Ramps & 5th Street:**
  - Add one exclusive westbound right-turn lane
  - Add one northbound left-turn lane
  - Add two exclusive northbound right-turn lanes

  The fair-share contribution for improvements at this intersection is 35 percent.

- **I-210 Southbound Ramps & 5th Street:**
  - Add one eastbound through lane
  - Add one exclusive southbound right-turn lane
  - Add two southbound left-turn lanes

  The fair-share contribution for improvements at this intersection is 34 percent.

5.15.8 Level of Significance After Mitigation

As detailed in the Mitigation Measures section, the City is requiring that the project developer construct improvements or contribute its fair share to mitigate project impacts. For improvements that the developer is not required by the City to construct as a part of new development, but is required to contribute its fair share, a temporary or short-term impact may occur if the timing of the improvements is uncertain (e.g., the improvement is not included in the City's Capital Improvement Program). Additionally, significant, unavoidable impacts could occur related to improvements outside the City's jurisdiction (i.e., Caltrans), which they cannot control.

Impact 5.15-1

Existing With Project Scenario (Direct Impacts)

Traffic impacts in the Existing Plus Project scenario would be significant and unavoidable for the following reasons:

- **Mitigation Measure T-1:** None of the specified improvements would require acquisition of right-of-way. Implementation of the specified improvements would reduce direct impacts at the four intersections to less than significant. However, the intersections are under Caltrans jurisdiction; thus, implementation of the improvements is out of the control of the City of San Bernardino. Therefore, traffic impacts in the Existing Plus Project scenario at the four intersections would be significant and unavoidable.

- **Mitigation Measure T-2:** Implementation of the specified improvements would reduce direct traffic impacts at the two specified intersections to less than significant. However, traffic impacts at those two intersections would be significant and unavoidable for both of the following reasons: 1, The improvements would require right-of-way acquisition and it is unknown whether such acquisition is feasible due to right-of-way constraints; and 2, the intersections are under Caltrans jurisdiction; thus, implementation of the improvements is out of the control of the City of San Bernardino.

2035 With Project Scenario (Cumulative Impacts)

Intersections of Waterman Avenue with 30th Street, Baseline Street, and 9th Street

Traffic impacts at these three intersections would be less than significant after implementation of the improvements specified in Mitigation Measure T-3. These three intersections are under the jurisdiction of the City of San Bernardino, and the affected approaches to the intersections are wide enough for the lane modifications to be made by restriping.

Remaining Six Intersections

Cumulative traffic impacts at the remaining six intersections would be significant and unavoidable, because all six intersections are under the jurisdiction of Caltrans and implementation of the improvements is out of the control of the City of San Bernardino. In addition, the improvements specified in Mitigation Measure T-5

would require right-of-way acquisition, and it is unknown whether such acquisition is feasible due to right-of-way constraints.

5.15.9 References

San Bernardino Associated Governments (SANBAG). 2014, February 26. Downtown San Bernardino Passenger Rail Project. http://www.sanbag.ca.gov/projects/redlands-sb-rail/FINALSANBAGTransitRailHandout22114b.pdf.

———. 2015, December 14. Redlands Passenger Rail Project. http://www.sanbag.ca.gov/projects/redlands-sb-rail/RPRPFactSheetDecember2015.pdf.

5.16 UTILITIES AND SERVICE SYSTEMS

This section of the Draft Environmental Impact Report (DEIR) evaluates the potential for implementation of the Waterman + Baseline Neighborhood Specific Plan (Proposed Project) to impact utilities and services systems. Utilities and service systems include wastewater (sewage) treatment and collection, water supply and distribution systems, storm drainage systems, solid waste collection and disposal, and other public utilities. Impacts to hydrology (e.g., flooding) and water quality can be found in Section 5.8 *Hydrology and Water Quality*, of this DEIR.

The analysis in this section is based, in part, upon information found in the following technical studies:

- *Waterman Gardens Specific Plan Infrastructure Analysis*, Parsons Brinkerhoff, November 2015
- *Revised Water Supply Assessment for the Waterman + Baseline Neighborhood Transformation Plan*, San Bernardino Water Department, March 2016

Complete copies of these studies are included as Appendix J and Appendix K to this DEIR, respectively.

5.16.1 Wastewater Treatment and Collection

5.16.1.1 ENVIRONMENTAL SETTING

Regulatory Setting

Laws, regulations, and plans that are potentially applicable to the Proposed Project are summarized below.

Federal and State

Clean Water Act and State Water Resources Control Board

Wastewater treatment before effluent is discharged to Waters of the United States is required by the Federal Clean Water Act, United States Code, Title 33, Sections 1251 et seq. Additionally, the State Water Resources Control Board adopted Statewide General Waste Discharge Requirements for Sanitary Sewer Systems, Water Quality Order No. 2006-0003 (Sanitary Sewer Order) on May 2, 2006. The Sanitary Sewer Order requires public agencies that own or operate sanitary sewer systems to develop and implement sewer system management plans and report all sanitary sewer overflows to the State Water Board's online database.

Local

City of San Bernardino 2015 Wastewater Collection Facilities Master Plan

A Sewer Collection System Master Plan has been prepared under an agreement between the City and Psomas, an engineering firm that provides surveying, engineering, construction management, and environmental services. The plan evaluates the existing sewer system's capacity, integrity, and ability to adjust and handle changes in the future land use and population to the year 2020. The City recognizes the importance of developing and implementing a plan to ensure flow capacity is not compromised and will adequately support future development.

City of San Bernardino 2014 Sewer System Management Plan

One of the main requirements of the statewide waste discharge requirements is to develop and implement a sewer system management plan in order to decrease the occurrence of sanitary sewer overflows. The Public Works Department, in coordination with the Water Department, maintains the City of San Bernardino's sewage collection system. The purpose of this plan is to identify the basic elements of the City's sewage spill response plan, assist and train employees to comply with their respective responsibilities, and ensure that the appropriate governing entities are notified in the event of a spill over 1,000 gallons. The City of San Bernardino recognizes the importance of developing and implementing a plan to reduce impacts and occurrences of sewer spills in compliance with state regulations.

Existing Conditions

Wastewater Collection

There are approximately 510 miles of sewer main lines in the City of San Bernardino, maintained by the City's public works department (San Bernardino 2016a).

Pipelines in the Specific Plan area range from 8 to 48 inches in diameter. The major backbone of the wastewater collection system is along Waterman Avenue and transports wastewater flows from the Specific Plan area to the San Bernardino Water Reclamation Plant (WRP). Existing sewer lines are constructed from materials that are less susceptible to degradation with age than water lines are.

There are approximately 211,000 linear feet, or 40 miles, of existing sewer pipelines in the Specific Plan area (Parsons Brinkerhoff 2016). Existing sewer mains in the Specific Plan area are shown on Figure 5.16-1, *Existing Sewer Mains*.

Wastewater Generation in the Specific Plan Area

Existing wastewater generation in the Specific Plan area is estimated at approximately 851,858 gallons per day (gpd), as shown below in Table 5.16-1.

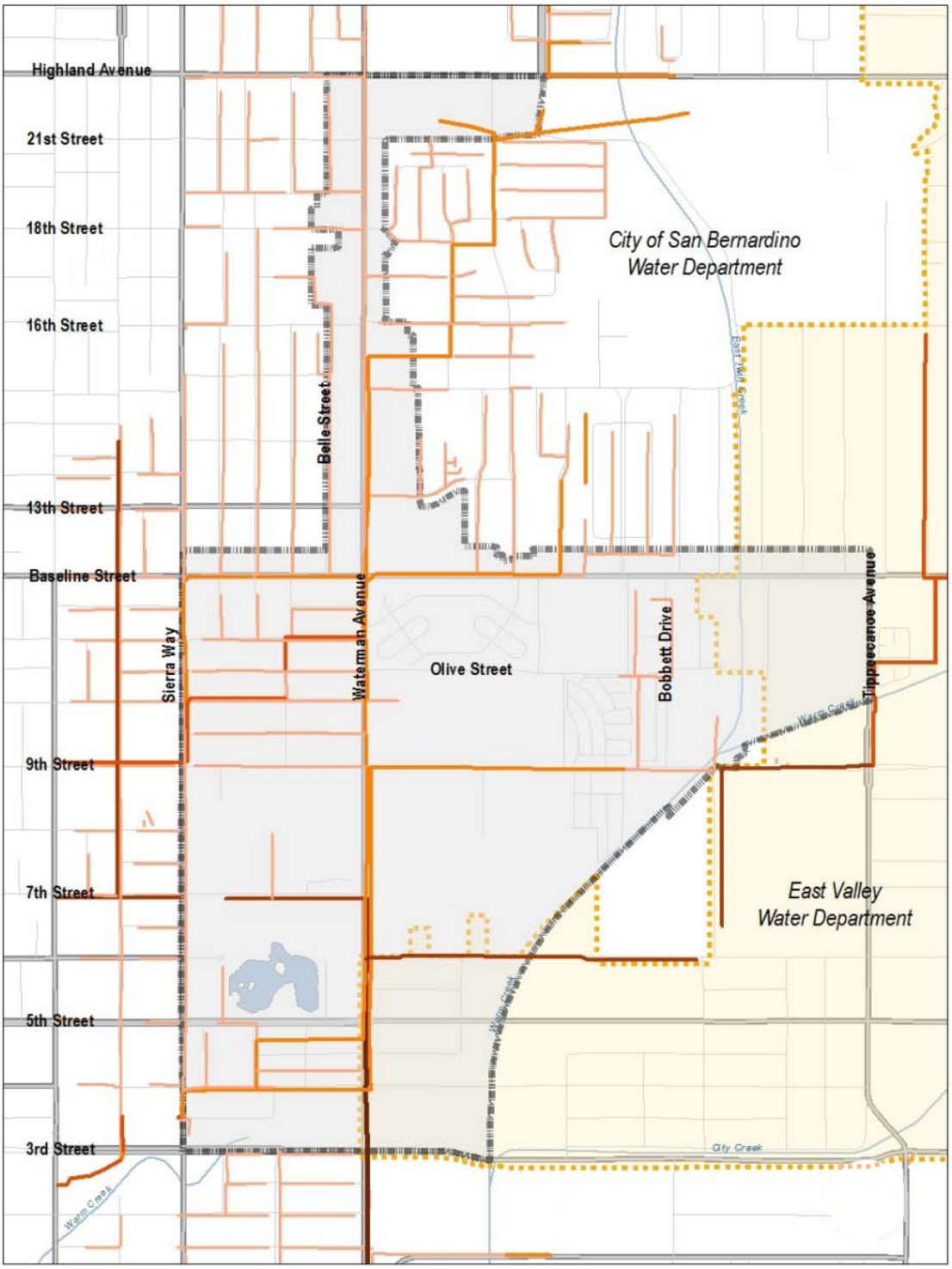
Table 5.16-1 Sewer Demand Based on Existing Conditions

District	Existing Conditions	Generation Factor (gpd)[1]	Wastewater Generation (gpd)
Residential	1,946 DU	158.06/du	307,590
Commercial (retail/office)	2,366,385 SF	0.23/sf	544,269
Total	—	—	**851,858**

du = dwelling units
gpd = gallons per day
sf = square feet
[1] Source: Parsons Brinkerhoff 2016.

Figure 5.16-1 Existing Sewer Mains

5. Environmental Analysis



Specific Plan Area
East Valley Water District (EVWD)
Existing Sewer Line
8 inches
15-10 inches
24-18 inches
36-27 inches
48-39 inches

0 0.5
Scale (Miles)

Base Map Source: Parsons Brinkerhoff, 2016

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Wastewater Treatment

The San Bernardino Municipal Water Department (SBMWD) provides wastewater treatment in the City of San Bernardino including the Specific Plan area. SBMWD owns and operates the San Bernardino WRP at 699 Chandler Place, about 1.8 miles south of the Specific Plan area. The WRP provides primary and secondary water treatment processes for residential, commercial, light industrial, governmental, and landscaping purposes. It has the capacity to treat up to 35.7 million gallons per day (mgd) and currently processes about 28 mgd.

Effluent from the WRP is conveyed to the Rapid Infiltration and Extraction (RIX) Tertiary Treatment Facility in the City of Colton. This facility is jointly owned by SBMWD and the City of Colton and is operated by the City of San Bernardino. Current RIX capacity is 45,000 acre-feet per year (afy), but average annual treatment is approximately 33,000 afy (SAWPA 2010).

SBMWD has proposed development of the Clean Water Factory, with up to 5 mgd of additional tertiary treatment capacity at the WRP to generate treated water for landscape irrigation use and up to 15 mgd of advanced treatment capacity to provide a source of clean water for groundwater replenishment. A notice of preparation of an environmental impact report/environmental impact statement for the Clean Water Factory was circulated in November and December 2014 (SBMWD 2014). Potential later expansions could bring the Clean Water Factory's capacity to 30.5 mgd (WSC 2016).

5.16.1.2 THRESHOLDS OF SIGNIFICANCE

According to Appendix G of the CEQA Guidelines, a project would normally have a significant effect on the environment if the project:

U-1 Would exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board.

U-2 Would require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects.

U-5 Would result in a determination by the wastewater treatment provider which serves or may serve the project that is has inadequate capacity to serve the project's projected demand in addition to the provider's existing commitments.

5.16.1.3 ENVIRONMENTAL IMPACTS

The following impact analysis addresses thresholds of significance found in Appendix G of the CEQA Guidelines. The applicable thresholds are identified in brackets after the impact statement.

Impact 5.16-1: Wastewater generated in the Specific Plan area under the Proposed Project could be adequately treated by the San Bernardino Municipal Water Department. [Thresholds U-1, U-2 (part), and U-5]

Impact Analysis: At buildout of the Specific Plan area, total wastewater generation in the Specific Plan area is estimated at about 1.507 mgd. As shown in Table 5.16-2, the net increase in wastewater generation is estimated at approximately 655,000 gpd.

Table 5.16-2 Estimated Wastewater Generation at Buildout of the Proposed Project

Land Use	Square Feet/Units	Wastewater Generation, Gallons per Day	
		Per Square Foot/Unit[1]	Total
Residential	4,341 units	158.06	686,149
Commercial (retail/office)	3,570,448 square feet	0.23[2]	821,203
		Total	**1,507,352**
		Generation by Existing Land Uses (see Table 5.16-1)	851,858
		Net Increase	**655,494**

[1] Source: Parsons Brinkerhoff 2016.
[2] The generation factor is for office use, which is higher than for retail use. Restaurants generate more wastewater than retail uses; however, the mix of the net change in land uses is unknown; thus, generation factors for specific land uses cannot be used.

Wastewater Treatment Capacity Impact

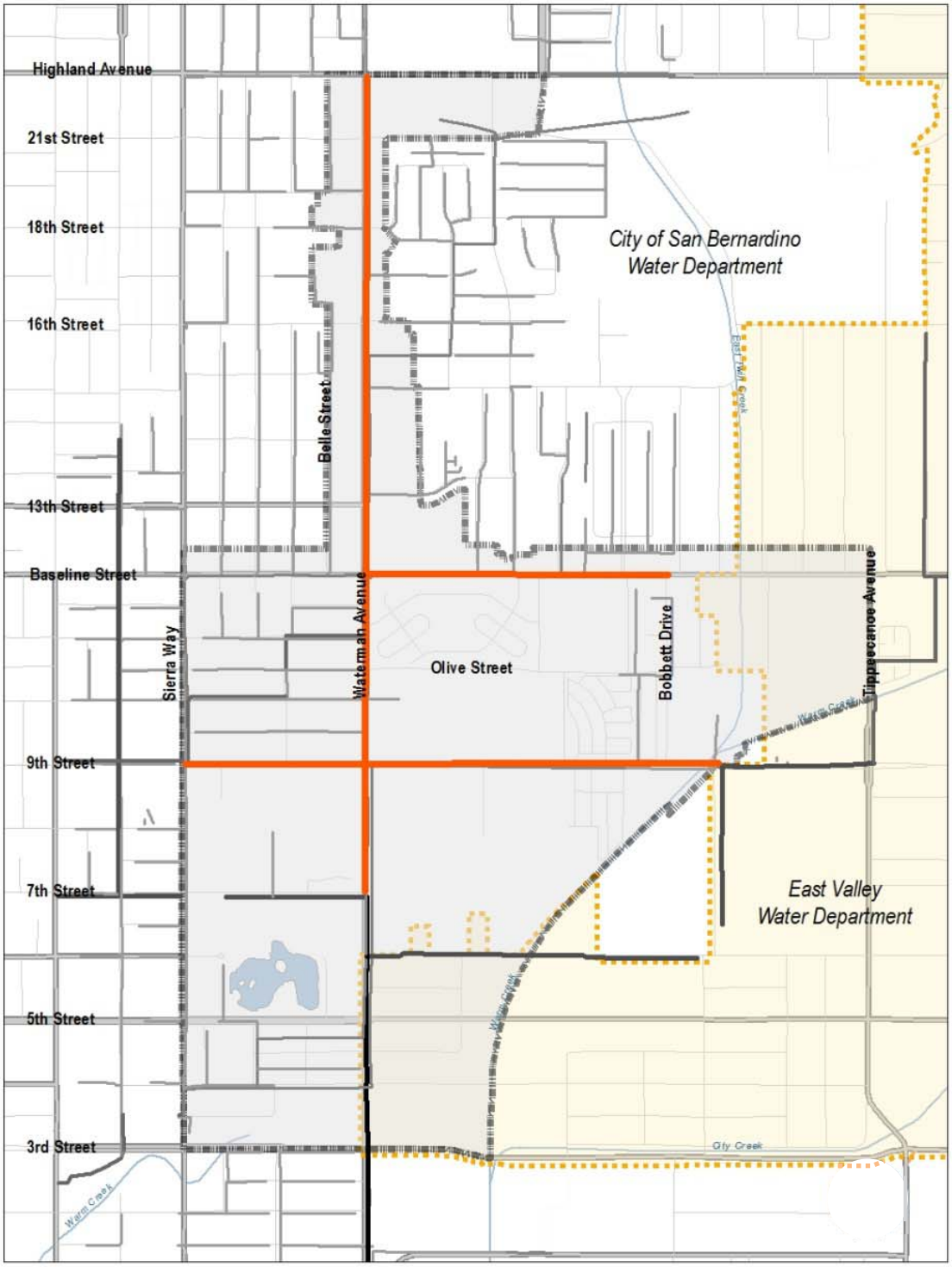
The San Bernardino WRP has about 7.7 mgd residual capacity, which is sufficient to accommodate wastewater generated in the Specific Plan area under the Proposed Project (see *Existing Conditions*, above). Buildout of the Specific Plan would not require construction of new or expanded wastewater treatment facilities. Therefore, impacts related to wastewater treatment capacity would be less than significant.

Proposed Sewer System and Sewer Impacts

The increase in wastewater generation would require supplemental backbone sewer mains to be connected to existing sewer mains as the Specific Plan area is built out over time. Proposed sewer mains includes a 12-inch backbone system that would run along Waterman Avenue from Highland to East 7th street, and along Baseline and East 9th street going west into Waterman Avenue (see Figure 5.16-2, *Proposed Sewer Mains*). This supplemental system would take overflow from the existing backbone pipes at key manholes and convey the flow to a point in south Waterman Avenue where the existing pipeline is adequate to accommodate the increase in water flow and deliver it to the WRP.

Figure 5.16-2 Proposed Sewer Mains

5. Environmental Analysis



Specific Plan Area

East Valley Water District (EVWD)

Proposed Sewer Line
- 12 inches

Existing Sewer Line
- 8 inches
- 15-10 inches
- 24-18 inches
- 36-27 inches
- 48-39 inches

0 0.5
Scale (Miles)

Base Map Source: Parsons Brinkerhoff, 2016

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The proposed supplemental backbone is estimated to be about 17,500 feet long and would cost roughly $360 per linear foot, for a total capital cost of about $6.3 million. However, the City of San Bernardino requires new development to pay a sewer service charge to maintain sewer systems (Municipal Code Chapter 13.08, Connection with Public Sewer). The estimated cost would be aggregated across the entire plan so that each new development would pay an apportioned portion of the cost at time of development and subsequent occupancy.

Proposed sewer lines would be installed under roadways in soils previously disturbed by construction of those roadways and existing utilities. Impacts of installation would be part of the impacts of buildout of the entire Specific Plan analyzed throughout Chapter 5 of this DEIR. Impacts would be less than significant.

5.16.1.4 CUMULATIVE IMPACTS

Wastewater Treatment Impacts

Wastewater impacts are analyzed over the WRP's service area, which covers Loma Linda, the City of San Bernardino, Patton State Hospital, East Valley, San Bernardino International Airport, and portions of unincorporated San Bernardino County. The current capacity of the WRP is 33 mgd, and it currently processes about 28 mgd. The WRP has no plans for expansion of facilities and has sufficient capacity to meet the needs of cumulative developments in its service area. No significant cumulative impact is anticipated, and buildout of the Specific Plan would not contribute to a significant impact.

Sewer Impacts

Other development projects in the City would require project-specific analyses to evaluate their impacts on sewer capacities. Furthermore, other projects would pay sewer service charges to the City of San Bernardino; such revenues would help defray cumulative impacts to sewers. Therefore, no significant cumulative impact to sewers would occur, and buildout of the Proposed Project would not contribute to such an impact.

5.16.1.5 EXISTING REGULATIONS AND STANDARD CONDITIONS

Federal

- United States Code, Title 33, Section 1251 et seq.: Clean Water Act.

Local

- City of San Bernardino Municipal Code, Title 13 Public Utilities, Chapter 13.08 Connection with Public Sewer

5.16.1.6 LEVEL OF SIGNIFICANCE BEFORE MITIGATION

Upon implementation of regulatory requirements and standard conditions of approval, Impact 5.16-1 would be less than significant.

5.16.1.7 MITIGATION MEASURES

No mitigation measures are required.

5.16.1.8 LEVEL OF SIGNIFICANCE AFTER MITIGATION

Project-level and cumulative impacts to wastewater treatment and collection systems would be less than significant.

5.16.2 Water Supply and Distribution Systems

5.16.2.1 ENVIRONMENTAL SETTING

Regulatory Setting

Laws, regulations, and plans that are potentially applicable to the Proposed Project are summarized below.

State

Senate Bill 610: Water Supply Assessments

Senate Bill 610 (SB 610; 2001) amended the California Urban Water Management Planning Act, Section 10610 et seq. of the California Water Code. It mandates that a city or county approving certain projects subject to CEQA 1) identify any public water system that may supply water for the project, and 2) request those public water systems to prepare a specified water supply assessment. The assessment is to include the following:

1. A discussion of whether the public water system's total projected water supplies available during normal, single dry, and multiple dry water years during a 20-year projection would meet the projected water demand associated with the proposed project in addition to the public water system's existing and planned future uses, including agricultural and manufacturing uses.

2. The identification of existing water supply entitlements, water rights, or water service contracts relevant to the identified water supply for the proposed project and water received in prior years pursuant to those entitlements, rights, and contracts.

3. A description of the quantities of water received in prior years by the public water system under the existing water supply entitlements, water rights, or water service contracts.

4. A demonstration of water supply entitlements, water rights, or water service contracts.

5. The identification of other public water systems or water service contract holders that receive a water supply or have existing water supply entitlements, water rights, or water service contracts to the same source of water as the public water system.

6. Additional information is required if groundwater is included in the supply for the proposed project.

> The water supply assessment shall be included in any environmental document prepared for the project. The assessment may include an evaluation of any information included in that environmental document. A determination shall be made whether the projected water supplies would be sufficient to satisfy the demands of the project, in addition to existing and planned future uses.

SB 610 requires new information to be included as part of an urban water management plan (UWMP) if groundwater is identified as a source of water available to the supplier. Information must include a description of all water supply projects and programs that may be undertaken to meet total projected water use. SB 610 prohibits eligibility for funds from specified bond acts until the plan is submitted to the state.

20x2020 Water Conservation Plan

The 20x2020 Water Conservation Plan, issued by the Department of Water Resources in 2010 pursuant to the Water Conservation Act of 2009 (SBX7-7), established a water conservation target of 20 percent reduction in water use by 2020 compared to 2005 baseline use.

Executive Orders Regarding Current Drought

California is in its fourth consecutive year of drought, and most of California remains in exceptional drought conditions. On April 1, 2015, Governor Brown issued Executive Order B-29-15, finding that, among other things, "…conditions of extreme peril to the safety of persons and property continue to exist in California due to water shortage and drought conditions…" and ordering that the "State Water Resources Control Board shall impose restrictions to achieve a statewide 25 percent reduction in potable urban water usage through February 28, 2016" (Brown 2015). The State Water Resources Control Board issued final water conservation targets for water suppliers on July 15, 2015. The water conservation requirement for the SBMWD is 28 percent (SWRCB 2015). On November 13, 2015, Governor Brown issued Executive Order B-36-15 calling for an extension of urban water use restrictions until October 31, 2016, should drought conditions persist. While the state has experienced some much-needed snow and rainfall in December 2015 and January 2016, surface storage remains at or near historic lows, precipitation has been inconsistent, and snowpack is about average (SWRCB 2016).

Regional

Upper Santa Ana River Wash Habitat Conservation Plan

The Upper Santa Ana River Wash Committee was formed to include the supervision and practical knowledge of numerous agencies, including water, mining, flood control, wildlife, and municipal interests. The role of the committee was to establish the important functions represented by participating agencies and to incorporate an inclusive "best use" strategy for land use planning. The "Wash Plan," issued by the Wash Plan task force—which consists of members of agencies and cities within the plan area—was created to better manage habitat, water conservation, mining, transportation, trails, and other land uses in the Santa Ana River Wash. The Wash Plan covers a plan area of about seven square miles in the Santa Ana River Wash; that is, a very small portion of the 2,800-square-mile Santa Ana River Watershed.[1] The plan took effect on November

[1] The Santa Ana River Watershed is described further in Section 5.8, *Hydrology and Water Quality*, of this DEIR.

30, 2015. The west end of the Wash Plan area—on Alabama Street at the east edge of the City of San Bernardino—is about 3.2 miles east of the Specific Plan area.

Regional Water Resources Planning

An Integrated Regional Water Management Plan (IRWMP) for the Upper Santa Ana River Watershed, adopted in 2008 and updated in 2015, guides long-term water resources planning. The main benefit of the plan was the development of a process for managing the local and imported water sources in the SBBA. The IRWMP has two main management objectives: the first is to improve water reliability during drought periods and reduce liquefaction, and the second is to protect water quality and maximize conjunctive use opportunities.[2]

An Integrated Regional Water Management Plan for the entire Santa Ana Watershed (called *One Water One Watershed*) was adopted in 2010 and updated in 2014. The plan emphasizes reducing water demands rather than relying solely on imported water deliveries.

Local

Urban Water Management Plan

The main planning document used by SBMWD and other local agencies to guide infrastructure planning and water supply decision-making is the San Bernardino Valley Regional Urban Water Management Plan (UWMP). SBMWD is required by the Urban Water Management Planning Act to develop a UWMP that is to be updated every five years. The most recent UWMP was released in 2010. At the time this DEIR was written, the 2015 UWMP was being finalized. The 2015 UWMP is a tool that will provide a summary of anticipated supplies and demands for the years between 2015 and 2040.

City of San Bernardino Municipal Code

- **Title 13 Public Utilities Chapter 13.24, *Water Supply System*.** The purpose of this chapter is to ensure that the water furnished or supplied by the domestic water supply system under the jurisdiction of the City shall at all times be pure, wholesome, potable, healthful, and in adequate supply and to provide minimum standards for construction, reconstruction, abandonment, and destruction of wells in order to: a) Protect underground water resources; and b) Provide safe water to persons within the City.

- **Title 13 Public Utilities, Chapter 13.08, *Connection with Public Sewer*.** This chapter establishes fees, regulations, and processes by which a project is allowed to install or reconfigure connections to the City of San Bernardino sewer line system.

- **Title 19 Land Use/Subdivision Regulations, Section 19.28.120, *Water Efficient Landscaping Standards*.** The purpose of this chapter is to promote the aesthetic and recreational values of landscapes, while recognizing the need to invest water resources as efficiently as possible; establish a structure for planning, designing, installing, and maintaining water efficient landscapes in new

[2] Conjunctive use is the storage of surplus imported water and/or surface water in groundwater basins for withdrawal during future dry years.

construction and rehabilitated projects; establish provisions for water management practices and water waste prevention in the irrigation of existing landscapes; implement water quality management practices that minimize storm water and irrigation runoff, to achieve on-site filtration and groundwater recharge; promote and encourage the use of low water use plants in landscapes; minimize the use of cool season turf; promote conservation of potable water by encouraging the use of recycled water and water-conserving technology in landscape irrigation; and promote public education about water conservation and water efficient landscape irrigation. The intent of this chapter is to implement water efficient landscape regulations at least as effective as the state model ordinance adopted pursuant to California Government Code Section 65595.

Existing Conditions

Water Supplies: Overview

The Specific Plan area is in the service areas of two water purveyors. The East Valley Water District (EVWD) provides water to portions of the southern and eastern parts of the Specific Plan area totaling approximately 105 acres, that is, 15 percent of the Specific Plan area; the SBMWD serves the balance of the Specific Plan area (see Figure 5.16-3, *Water Service Areas and Existing Water Mains*).

The two purveyors' water supplies consist of local groundwater from the Bunker Hill Groundwater Basin underlying much of the northeast part of the Upper Santa Ana River Valley; surface water from the Santa Ana River; and imported water from northern California via the State Water Project (SWP). Three levels of water agencies are involved in obtaining and conveying water to customers:

1. The California Department of Water Resources operates the State Water Project
2. The San Bernardino Valley Municipal Water District (Valley District), an SWP contractor, wholesales imported water to retail water purveyors in its service area.
3. Retail water purveyors (SBMWD and EVWD).

Water Supplies: San Bernardino Municipal Water Department

The SBMWD supplies water to much of the City of San Bernardino and some surrounding areas of unincorporated San Bernardino County. SBMWD's current water supply consists solely of water extracted from the underlying Bunker Hill Groundwater Basin. SBMWD produces its water supply from 54 groundwater wells located throughout its service area.

SBMWD groundwater production during the period from 2008 to 2015 ranged from a high of 56,310 afy in 2008 to a low of 36,036 afy in 2015. Groundwater production over the 2015–2035 period is forecast to gradually increase from 50,233 afy in 2015 to 59,082 afy in 2035. Groundwater levels and groundwater production in the Bunker Hill Basin are managed pursuant to a court judgment.

Groundwater Management

Management of the Bunker Hill Basin is coordinated through the Valley District. The Valley District's responsibility for long-range water supply planning includes importing supplemental water and management of the groundwater basins within its boundaries. It is responsible for monitoring groundwater supplies in the San Bernardino and Colton-Rialto basins and maintaining flows at Riverside Narrows on the Santa Ana River.

The Bunker Hill Basin contains in excess of 5 million af of high-quality water, including approximately 1.5 million af of extractable water. It is replenished naturally by local precipitation and by stream flow from rain and snow melt in the San Bernardino Mountains. Water can also be artificially recharged by rerouting stream flows to recharge percolation basins and through SWP turnouts.

Groundwater Judgments

Groundwater in the Bunker Hill Basin is managed pursuant to the "Western Judgment" of 1969 and several other court decisions. Under the Western Judgment, the Valley District is responsible for ensuring that adequate quantities of water are available for extractions above the basin safe yield of 232,100 afy, that is, the amount that can be extracted from the basin annually over many years without overdrafting the basin. Within the Valley District's boundaries, the adjusted right is 167,238 afy, with the remainder of the water rights assigned to agencies outside the Valley District. If water agencies in the Valley District's service area exceed the allotted groundwater production, the Valley District is required to augment supply sources by spreading imported water from the SWP and/or obtaining water from other sources.

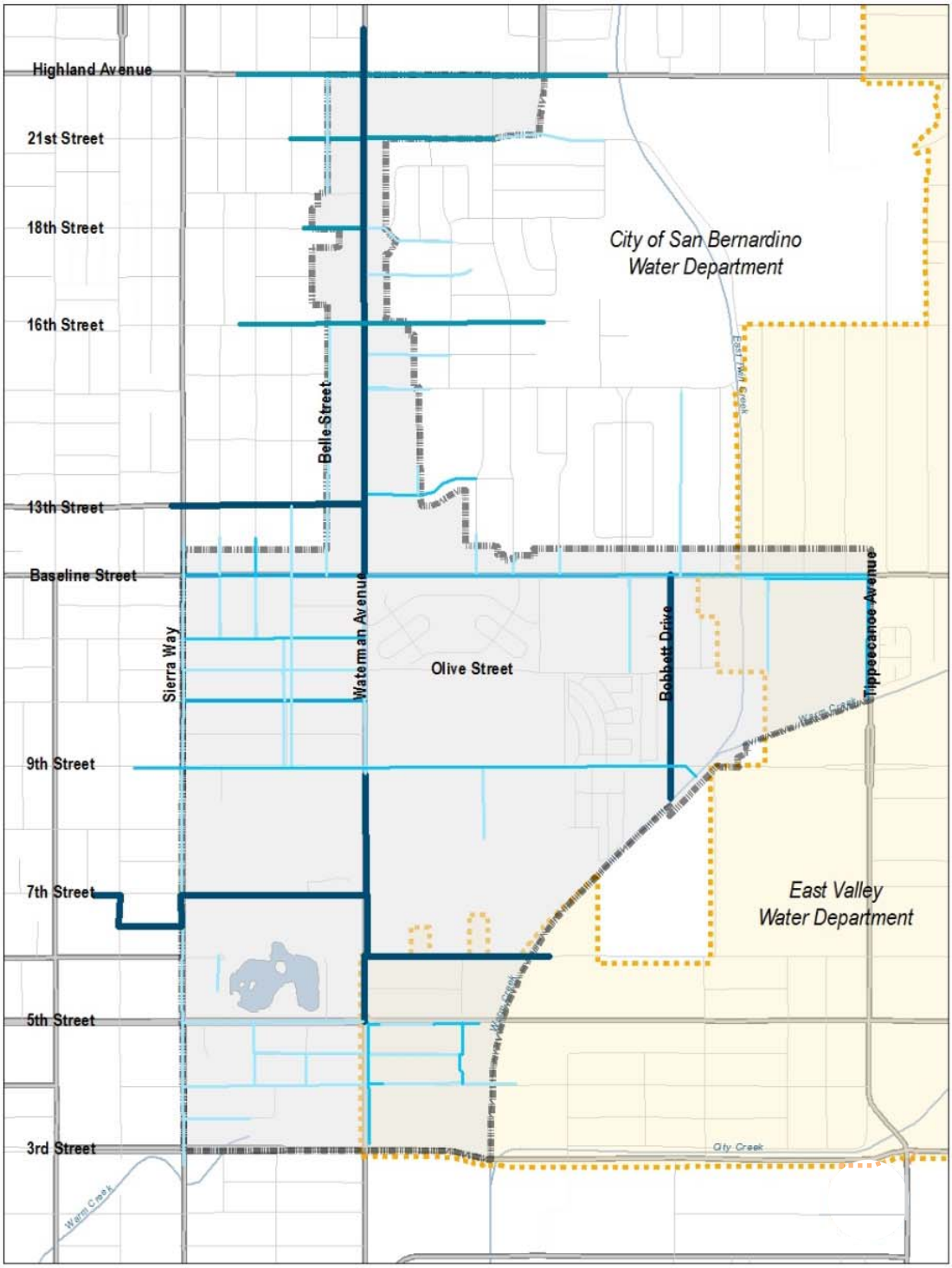
Representatives from Valley District and the Western Municipal Water District—an agency with parallel functions serving the west end of Riverside County—work cooperatively as the Western San Bernardino Watermaster managing groundwater in groundwater basins within the two agencies' service areas.

Prior to 1963, the lack of native surface water and imported water for many years led to groundwater overdraft in the Valley District's boundaries. In more recent years, increased groundwater recharge has led to high groundwater levels in the lower (southern) portion of the Bunker Hill Basin—also known as the pressure zone—where the aquifer is confined. Although groundwater levels in the pressure zone are being managed through increased pumping, they may cause artesian flow in local wells, infrastructure infiltration, and the potential for liquefaction during seismic events.[3] Within the past 70 years, a high groundwater condition—that is, when the groundwater elevation exceeds the ground surface elevation—has occurred at least three times in the area south and east of the intersection of Mill Street and "D" Street in the City. SBMWD participates with other local water agencies in a dewatering program to lower the water levels in the confined pressure zone. The Valley District has sold extracted high groundwater to downstream water agencies and will likely do so again if high groundwater conditions recur.

[3] Artesian flow means water rises in wells above the groundwater level and may reach the surface due to pressure within the aquifer.

Figure 5.16-3 Water Service Areas and Existing Water Mains

5. Environmental Analysis



Specific Plan Area

East Valley Water District (EVWD)

Existing Water Main: 16-20 inches; 8 inches; 30 inches; 12 inches; 4-6 inches

Note: The San Bernardino Municipal Water Department supplies water to the part of the Specific Plan area outside the EVWD

0 — 0.5 Scale (Miles)

Base Map Source: Parsons Brinkerhoff, 2016

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In 2014, the verified extractions for the San Bernardino Basin Area (SBBA)—that is, the Bunker Hill Basin plus the Lytle Creek Subbasin—by other than the plaintiff's agencies within the Valley District's jurisdiction were 152,260 af.[4] This is 14,978 af less than the adjusted annual right of 167,238 af and will be added to the Valley District's accumulated credits. The accumulated credits result from extractions in previous years that were less than the Valley District's adjusted right. The accumulated credits can be applied during years when the verified extractions exceed the adjusted annual right of 167,238 af.

Water quality extracted from the Bunker Hill Basin by SBMWD is of excellent mineral quality with total dissolved solids averaging less than 350 milligrams per liter (or parts per million).

Groundwater Contamination and Remediation

The Bunker Hill Basin was historically affected by four groundwater contamination plumes: the Newmark, Muscoy, Norton, and Crafton-Redlands plumes. The first three plumes consist or mainly consisted of trichloroethylene (TCE) and tetrachloroethylene (PCE); the Crafton-Redlands plume consists mostly of TCE, with lower levels of PCE and dibromochloropropane (DBCP).[5] Potential sources of the contamination include Camp Ono, a World War II-era US Army base in northwest San Bernardino on or near the present-day Littlefield-Shultis Memorial Park west of California State University San Bernardino; subsequent industrial activities on the site of Camp Ono; and the former Cajon Landfill south of the intersection of State Street and Cajon Boulevard in the Community of Muscoy in unincorporated San Bernardino County (USEPA 1995).

The Newmark and Muscoy plumes are in the Newmark Groundwater Contamination Superfund Site, which underlies eight square miles of the City of San Bernardino, including the portion of the Specific Plan area north of about 7th Street and west of about Myrtle Drive. Part of the Newmark Plume underlies this portion of the Specific Plan area. Four domestic supply wells have been closed. There is evidence suggesting that the contamination is moving toward well fields serving the majority of the population of the cities of San Bernardino and Riverside. Treatment of the Newmark Groundwater Contamination site began in 1988; treatment currently uses two granular activated carbon facilities with total capacity of 41.6 mgd. Treated water is used to supplement San Bernardino Municipal Water Department's water supply. It appears that cleanup efforts will be sufficient to protect 32 down-gradient wells (WSC 2016; DTSC 2016). One of the two treatment facilities is near the intersection of 16th Street and Sierra Way, about 0.3 mile west of the north part of the Specific Plan area; the second facility is about 1.1 miles north of the Specific Plan area (SBMWD 2014).

The Norton plume is in the Norton Superfund Site, which is about 0.5 mile southeast of the Specific Plan area. The US Air Force began cleanup work on the plume in 1994; the case was closed by the Santa Ana Regional Water Quality Control Board in 2011 (WSC 2016).

Remediation of the Crafton-Redlands plume is underway. The four contamination plumes are not expected to affect water supply reliability of Bunker Hill Basin groundwater. However, water quality issues change over

[4] The plaintiffs in the Western Judgment—all in Riverside County—consist of Western Municipal Water District, two water companies, and the Regents of the University of California.
[5] TCE and PCE are solvents; DBCP is a soil fumigant.

time, and further remediation efforts could be required to protect and treat drinking water supplies for water suppliers relying on Bunker Hill Basin groundwater (WSC 2016).

The U.S. Environmental Protection Agency, U.S. Department of the Army, City of San Bernardino, and California Department of Toxic Substances Control entered into a Consent Decree in 2005 settling a lawsuit filed by the City of San Bernardino against federal defendants. The decree requires the City of San Bernardino to develop a groundwater management plan for a management zone comprising part of the City to ensure the integrity and effectiveness of the interim remedial action implemented in the Newmark Groundwater Contamination Superfund Site. The groundwater management plan must regulate the amount of new pumping in the management zone, as well as groundwater recharge. As a result, the City of San Bernardino has developed a groundwater management program that regulates new wells, and spreading of water in percolation basins to recharge the Bunker Hill Basin, so that these activities do not adversely affect the Newmark remedy.

Recycled Water

Sanitary wastewater is treated in three phases:

- **Primary Treatment:** removal of solids using settling tanks.
- **Secondary Treatment:** reduction of organic matter using bacteria and oxygen; followed by further removal of solids.
- **Tertiary Treatment:** filtration of wastewater to remove any solids remaining after the first two phases of treatment.

Most wastewater that undergoes tertiary treatment is disinfected afterward. Disinfection methods include chlorine bleach and ultraviolet light. Tertiary-treated wastewater is often reused (i.e., recycled) for landscape and agricultural irrigation, groundwater recharge, and industrial uses.

SBMWD treats wastewater from the City of San Bernardino, City of Loma Linda, East Valley Water District, and portions of unincorporated San Bernardino County.

As described under Section 5.16.1, *Wastewater Treatment and Collection*, above, secondary treatment is carried out at the San Bernardino WRP. Nondisinfected effluent from the plant is sent to the RIX for tertiary treatment. Currently all RIX effluent is discharged into the Santa Ana River. SBMWD is not using any of the RIX effluent for landscape irrigation in its service area because of the location of the RIX facility and cost of distribution. However, the use of recycled water is one of the tools for management of the Bunker Hill Basin included in the IRWMP.

Although a recycled water program has not yet been implemented, SBMWD is actively undertaking design and environmental studies for the Clean Water Factory, a project that will treat effluent from the San Bernardino WRP to a quality approved for groundwater recharge by the State Water Resources Control Board and the Santa Ana Regional Water Quality Control Board.

The Clean Water Factory will convey recycled water to the northern portion of the SBMWD service area for recharge at the Waterman Basins and the East Twin Creek Spreading Grounds. Recycled water spread at these locations will artificially recharge the Bunker Hill Basin, increasing sustainability in the region.

Planned Water Supplies

Groundwater is forecast to comprise most of SBMWD's water supplies over the 2015–2035 period, as shown below in Table 5.16-3.

Table 5.16-3 SBMWD Forecast Water Supplies

Source	2015	2020	2025	2030	2035
Groundwater	50,233	52,671	54,730[1]	56,866[1]	59,082
Recycled Water	—	5,600	5,600	5,600	5,600
Total	**50,233**	**58,271**	**60,330**	**62,466**	**64,682**

Source: San Bernardino 2016b.
[1] Source: IRWMP 2015.

Valley District Planned Water Supply Projects

In the mid-1990s, Valley District completed a regional water facilities master plan for the Bunker Hill Basin that identified a number of transmission facilities to move groundwater from the pressure zone to various locations in the valley. The recently completed IRWMP builds on this previous study and includes an analysis of local water retailers' current and projected buildout water demands. The study identified over 100 local and regional capital projects to conjunctively manage water resources in the SBBA—such as new surface water treatment facilities; groundwater storage and extraction facilities; water conservation; flood control utilization; and water conveyance facilities, including regional and local transmission facilities, pump station, and reservoir facilities. Some of the main projects that will increase the long-term reliability of water resources in the area are:

- **Enhanced Groundwater Recharge Project,** which will construct more basins along the Santa Ana River to maximize water capture. The City Creek Turnout, the first phase of this project, is pending approval. This project is estimated to spread approximately 8,688 afy of SWP water.

- **Central Feeder Pipeline,** consisting of the construction of approximately 56,000 feet of pipeline ranging from 54 to 78 inches diameter, will convey water from the pressure zone to the east end of the valley. Phase 1 is complete and Phase 2 has not yet begun.

- **Recycled Water Use.** The construction of a number of wastewater treatment plants are being considered to generate recycled water closer to its end use.

Water Demands

The water conservation standard for SBMWD under Executive Order B-29-15 is that residential use not exceed approximately 94.4 gallons per capita per day (gpcd).[6]

Water Supply Reliability

SBMWD

SBMWD water supply reliability depends on two factors: system capacity (wells, pipelines, pump stations, etc.) and the availability of groundwater. Water supply assessments must demonstrate supply reliability under normal, single-dry year, and multiple-dry year weather scenarios. The availability of water supply from the Bunker Hill Basin depends on the regional management of water sources by the Valley District.

Under the Western Judgment, the SBMWD can extract as much water as needed from the Bunker Hill Basin to meet its current and projected demands, and the Valley District has the responsibility to ensure that adequate quantities of water are available for extractions above the SBBA basin safe yield of 232,100 afy. Therefore, SBMWD's water reliability depends on imported water reliability and the Valley District's ability to meet its obligation under the Western Judgment. The Western Judgment fixes the maximum amount of groundwater that can be exported from the SBBA by the plaintiffs at 64,862 afy. Within the Valley District's boundaries, nonplaintiff agencies can extract 167,238 afy, from the SBBA before the Valley District has to obtain additional water sources to maintain the long-term safe yield of the basin.

SBMWD water supplies, demands, and surpluses over the period between 2020 and 2035 are shown in Table 5.16-4.

Table 5.16-4 SBMWD Water Supply Reliability, Normal Water Year Conditions

Source	2020	2025	2030	2035
Groundwater Supply	52,671	54,730	56,866	59,082
Recycled Water Supply	5,600	5,600	5,600	5,600
Total	**58,271**	**60,330**	**62,466**	**64,682**
Demands[1]	48,839	50,591	52,409	54,296
Surplus	**9,432**	**9,739**	**10,057**	**10,386**

Sources: San Bernardino 2016b; Kennedy-Jenks 2012.
[1] Water demands shown here are 201 gallons per capita per day (gpcd) – for all indoor and outdoor potable water uses for all types of land uses – pursuant to the 20x2020 Water Conservation Plan. The water conservation requirement for SBMWD under Executive Order B-29-15 is that residential use of potable water not exceed approximately 94.4 gpcd. Thus, the demand shown here is a conservative forecast.

[6] The water conservation standard for SBMWD is 28 percent; the 94.4 gpcd identified above is a 28 percent reduction from the SBMWD baseline water demand of 131.1 gpcd during July through September 2014 (SWRCB 2015).

San Bernardino Valley Municipal Water District

Local Supplies

The IRWMP identifies three main sources of local water available to the Valley District: groundwater, surface supply, and new/reclaimed supply. Below is a brief summary of local water supply sources available to meet projected water demands through 2035.

- **SBBA Surface Water** refers to surface water from local mountain streams available for potable use. Surface water is currently used by the East Valley Water District, West Valley Water District, and the City of Redlands.

- **Seven Oaks Supply** refers to additional surface water that could be available from the Seven Oaks Dam to spread in the basin for groundwater recharge depending on decisions made by the State Water Resources Control Board.

- **SBBA Groundwater** refers to groundwater pumped from the Bunker Hill Basin and Lytle Creek Subbasin.

- **SBBA Return Flows** refers to return flows from extractions above the safe yield of the SBBA and from direct deliveries of imported water. Return flow is water that returns to a water supply source such as a groundwater basin after being used as irrigation. The Annual Report of the Western San Bernardino Watermaster for calendar year 2015 estimates a 36 percent return flow from these sources to recharge the groundwater basin.

- **Rialto-Colton, Riverside North, and Yucaipa basins** include extractions from these basins to be used within the Valley District's service area.

- **Other Groundwater** refers to groundwater extractions from an area between the Chino Basin and Lytle Creek Subbasin.

- **Recycled Water** includes direct delivery of recycled water for irrigation, industrial use, and groundwater recharge.

Long-term reliability of local sources is considered very high in the SBBA because of the relatively large storage potential that allows local water purveyors to meet their demand obligations during extended droughts. Therefore, it is assumed that the total local supplies shown in Table 5.16-4 will be available during average, single dry-year, and multiple dry-year scenarios.

Imported Water

Several categories of SWP water are available to the Valley District: Table A Water, the primary component of annual SWP deliveries; Carryover Water, water allotted to an SWP contractor but not used in a given year and stored till the following year; and Article 21 Water, water available when flows available in the Sacramento-San Joaquin River Delta in northern California, conveyance capacity, and storage capacity all

exceed Table A supplies. The Valley District can also sell excess Table A water to other water agencies through the Turnback Pool program. Access to Carryover Water, Article 21 Water, and Turnback Pool water is considered less reliable than access to Table A water and thus these supplies are not listed as Valley District supplies in the water supply assessment (WSA [San Bernardino 2016b]).

Reliability of the abovementioned categories of SWP water depends on several factors, including:

- Water availability at the source; that is, the Feather and Sacramento Rivers in northern California.
- Regulatory restrictions on SWP operations due to state regulation and federal biological opinions to protect endangered fish such as Delta smelt and spring-run salmon.
- Water rights of other users and/or jurisdictions to water from the Feather and Sacramento Rivers with priority over the SWP.
- Climate change and sea level rise, which are altering the hydrologic conditions in the state.
- Potential failure of Delta levees due to floods and earthquakes.

The average availability over many years of Table A water to SWP contractors in normal water year conditions is estimated as 45 percent of the full Table A amounts for a given year for all SWP contractors combined. The percentage of Table A water that was forecast to be available for 2015 is 11 percent in single-dry-year conditions and 33 percent in multiple-dry-year conditions, compared to the aforementioned 45 percent long-term average for normal water year conditions.

East Valley Water District

The EVWD supplies water to the City of Highland, part of the City of San Bernardino, and some surrounding areas of unincorporated San Bernardino County. EVWD water supplies consist of local groundwater from the Bunker Hill Basin, surface water from the Santa Ana River, and imported water from the SWP.

Groundwater

Groundwater from 20 wells makes up about 85 percent of EVWD's water supplies. Some of these wells are impacted by nitrate, perchlorate, fluoride, uranium, and/or volatile organic compounds, and operation of two wells has been suspended due to contaminant concentrations exceeding drinking water standards. EVWD operates a wellhead treatment facility for perchlorate contamination on Well 28—which is not one of the two wells suspended from operation—that can treat about 1,400 gallons per minute or about 2 mgd (Williams 2016).[7] EVWD expects that groundwater supplies will be reliable over the 2015–2035 period in normal, single-dry-year, and multiple-dry-year conditions (WSC 2016).

[7] Perchlorate is an oxidizer used in products such as rocket propellant, explosives, and batteries.

Surface Water

EVWD has water rights to up to 6.5 mgd of Santa Ana River water through stock ownership of the North Fork Mutual Water Company. Santa Ana River water and imported SWP water are treated at EVWD's Plant 134, which has a capacity of 8 mgd. Water flow in the Santa Ana River varies seasonally and annually. Water available from the Santa Ana River is estimated at 4 mgd in a normal water year and 1 mgd during a single dry year (WSC 2016).

Imported Water

EVWD purchases imported SWP water as needed from the Valley District. EVWD's capacity for using imported water is 8 mgd, that is, the capacity of the Plant 134 treatment facility.

Recycled Water

EVWD does not currently provide recycled water because it is not cost-effective to convey recycled water upstream from treatment plants. However, EVWD expects to benefit indirectly from increased groundwater recharge from SBMWD's planned Clean Water Factory.

Water Supplies and Demands Summary

EVWD water supplies and demands over the 2015–2035 period are summarized in Table 5.16-5. Water demand as shown in Table 5.16-5 below is 301 gallons per capita per day (gpcd) in 2015 and 277 gpcd for 2020 and later—for all indoor and outdoor potable water uses for all types of land uses—pursuant to the 20x2020 Water Conservation Plan. The water conservation requirement for EVWD under Executive Order B-29-15 is that residential use of potable water not exceed approximately 122 gpcd. Thus, the demand shown below is a conservative forecast.

Table 5.16-5 East Valley Water District Existing and Planned Supplies Compared to Demands, Normal Water Year Conditions (afy)

Source		2015	2020	2025	2030	2035
Water Supply						
Existing	Groundwater	24,000	30,250	36,500	42,750	49,000
	Imported	8,960	8,960	8,960	8,960	8,960
	Surface Water	4,480	4,480	4,480	4,480	4,480
	Total Existing	37,440	43,690	49,940	56,190	62,440
Planned	Surface Water	2,820	2,820	2,820	2,820	2,820
	Total	**40,260**	**46,510**	**52,760**	**59,010**	**65,260**
Water Demands						
Demands[1,2]		22,925	24,721	29,235	33,814	38,461
Surplus		**17,335**	**21,789**	**23,525**	**25,196**	**26,799**
Difference as Percentage of Total Supply		43%	47%	45%	43%	41%

Source: Kennedy-Jenks 2012.

1 Demands reported here include conservation: 10 percent conservation in 2015 (compared to demands without additional conservation), and 20 percent in 2020 through 2035. This conservation is required under the 20x2020 Water Conservation Plan, California Water Code §§ 10800 et seq. and 10608 et seq.[2] Water demands shown here are 301 gallons per capita per day (gpcd) in 2015 and 277 gpcd for 2020 and later—for all indoor and outdoor potable water uses for all types of land uses—pursuant to the 20x2020 Water Conservation Plan. The water conservation requirement for EVWD under Executive Order B-29-15 is that residential use of potable water not exceed approximately 122 gpcd. Thus, the demand shown here is a conservative forecast.

Summary, Existing Water Supplies and Demands, SBMWD and EVWD Service Areas

As shown in Tables 5.16-4 and 5.16-5, SBMWD and EVWD both forecast adequate water supplies to meet demands in their respective service areas through the 2015–2035 period.

Ongoing Drought

California remains in a drought that began in 2012. The water years of 2012–2014 were California's driest three consecutive years recorded in terms of statewide precipitation (DWR 2015).[8] Although water year 2016—which began on October 1, 2015—is the wettest year since 2012, ending the drought requires sufficient precipitation to mitigate the effects of the drought, which has not occurred (DWR 2016). The 2010 San Bernardino Valley Regional Urban Water Management Plan (IRWMP)—from which the above information on SBMWD and EVWD water supplies and demands was obtained—was prepared before the current drought began.

Current water conservation requirements under Executive Order B-29-15 are far lower than the water conservation targets pursuant to the 20x2020 Water Conservation Plan that were used in both the WSA and the IRWMP. Therefore, the conclusions in the IRWMP respecting water reliability are considered valid in light of the current drought.

Summary of Existing Specific Plan Area Water Demands

Water demand for existing conditions in the Specific Plan area is estimated at about 2.2 mgd, as shown in Table 5.16-6. About 94 percent of this demand, or 2.06 mgd, is in SBMWD's service area; the balance is in EVWD's service area.

Table 5.16-6 Estimated Existing Water Demands in the Specific Plan Area (gallons per day)

Land Use[1]	Water Demand, gpd per Acre	SBMWD		EVWD		Total	
		Acres	Water Demand	Acres	Water Demand	Acres	Water Demand
Residential	5,427	218.74	1,187,102	21.57	117,060	240.31	1,304,162
Commercial (retail/office)	3,204	119.1	381,596	2.31	7,402	121.41	388,998
Industrial (auto-related)	1,126	74.11	83,448	15.52	17,475	89.63	100,923
Public Facilities/Parks	3,204	125.81	403,095	—	—	125.81	403,095
Vacant Land	—	67.93	—	65.89	—	133.82	—
	Total	**605.69**	**2,055,241**	**105.29**	**141,938**	**710.98**	**2,197,179**

Source: San Bernardino 2016b.
1 Water demand factors were determined by land use:

Land Use	Demand Factor
Residential:	Residential Medium
Commercial (retail/office)	Commercial Office
Industrial (auto-related)	Industrial Heavy
Public Facilities/Parks	Commercial Office
Vacant	Assumed zero use

[8] Water year 2012 extended from October 1, 2011, to September 30, 2012, and likewise for water years 2013 and 2014.

Water Treatment Facilities

Water treatment facilities providing potable water for the two applicable water purveyors are:

- SBMWD's Newmark Groundwater Contamination Site: two facilities with 41.6 mgd total capacity.[9]
- EVWD Wellhead facility, Well 28, 1,400 gpm (about 2 mgd) capacity.
- EVWD Plant 134 (Santa Ana River surface water and SWP imported water), 8 mgd capacity.

Water Distribution

The City of San Bernardino's water distribution system is a decentralized structure that uses many smaller reservoirs instead of few large ones. This system is designed to reduce impacts from natural or man-made disasters, which would only impact a small portion of the water system at one time. It consists of pipelines, storage reservoirs, pumping stations, hydroelectric generating stations, manual and automatic control valves, fire hydrants, and water meters throughout 19 individual pressure zones. Existing water mains in the Specific Plan area are mapped on Figure 5.16-3, *Water Service Areas and Existing Water Mains*.

5.16.2.2 THRESHOLDS OF SIGNIFICANCE

According to Appendix G of the CEQA Guidelines, a project would normally have a significant effect on the environment if the project:

U-2 Would require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects.

U-4 Would not have sufficient water supplies available to serve the project from existing entitlements and resources, and new and/or expanded entitlements would be needed.

[9] Only facilities producing potable water directly are included; thus, SBMWD's planned Clean Water Factory, which will produce treated recycled water partly for groundwater recharge, is excluded.

5.16.2.3 ENVIRONMENTAL IMPACTS

The following impact analysis addresses thresholds of significance found in Appendix G of the CEQA Guidelines. The applicable thresholds are identified in brackets after the impact statement.

Impact 5.16-2: Water supply and delivery systems are adequate to meet requirements of land uses under the Proposed Project. [Thresholds U-2 and U-4]

Impact Analysis: Under the Proposed Project, the SBMWD would provide water to most of the Specific Plan area. The balance of the Specific Plan area would be served by EVWD.

Project Water Demands Compared to SBMWD Water Supplies

Specific Plan buildout would generate total water demands of 3.275 mgd in SBMWD's service area. Existing water demands in that portion of the Specific Plan area are about 2.055 mgd. Therefore, buildout of the Proposed Project would represent a net increase in water demands of approximately 1.22 mgd (see Table 5.16-7). SBMWD forecasts that it will have sufficient water supplies to meet project water demands, and Specific Plan buildout would not require SBMWD to obtain new or expanded water supplies.

Project Water Demands Compared to EVWD Water Supplies[10]

EVWD would provide water to the southern portion of the Specific Plan area south of 6th Street and east of Waterman Avenue and to the east end of the Specific Plan area (the boundary between the two agencies is between Barton Street and Belvan Avenue, as shown in Figure 5.16-3). EVWD's service area in the southern portion of the Specific Plan area is about 56 acres and is in the Employment District. EVWD territory in the east end of the Specific Plan area spans about 49 acres and is in the Eastside Residential District. These two portions of EVWD's service area total about 105 acres, or about 15 percent of the 710-acre Specific Plan area.

The WSA prepared for the Proposed Project by SBMWD used water demand factors per acre for both existing conditions and buildout conditions. Similarly, the same water demand factors were used in the part of the Specific Plan area in EVWD's service area to estimate existing and post-project conditions. These factors were developed to be consistently applied to both districts (see Appendix J). The total net increase in water demands in the two portions of EVWD territory in the Specific Plan area is estimated at 356,455 gpd, or about 399.6 afy, as shown below in Table 5.16-7.

[10] Under SB 610 (see Regulatory Setting, above), a WSA is required when a project proposes construction of 500 or more housing units. Since the number of units proposed by the Proposed Project in EVWD's service area is below that threshold, a WSA was not prepared for EVWD related to the Proposed Project.

Table 5.16-7 Estimated Water Demands from Specific Plan Buildout (gpd)

Land Use[1]	Water Demand (gpd per acre)	SBMWD		EVWD		Total	
		Acres	Total	Acres	Total	Acres	Total
Corridor Mixed Use	5,904	162.4	958,810	18	106,272	180.4	1,065,082
Employment	3,204	70.4	225,562	18.5	59,274	88.9	284,836
Urban Mixed Use	6,991	149.3	1,043,756	—	—	149.3	1,043,756
Residential	5,427	148.8	807,538	51	276,777	199.8	1,084,315
Open Space	3,204	74.7	239,339	17.5	56,070	92.2	295,409
Total	**—**	**605.7**	**3,275,004**	**105**	**498,393**	**710.7**	**3,773,397**
Existing Conditions (from Table 5.16-6)	—	605.7	2,055,241	105	141,938	710.7	2,197,179
Net Increase	—	—	1,219,763	—	356,455	—	1,576,218

Source: San Bernardino 2016b.
[1] Water demand factors were determined by land use:

Land Use	Demand Factor
Residential:	Residential Medium
Commercial (retail/office)	Commercial Office
Industrial (auto-related)	Industrial Heavy
Public Facilities/Parks	Commercial Office
Vacant	Assumed zero use

As shown above in Table 5.16-5, EVWD forecasts that its water surpluses will range from 21,789 afy in 2020 to 26,799 afy in 2035. Thus, EVWD forecasts that it will have sufficient water to supply water demands to its part of the Specific Plan area upon buildout of the Proposed Project. Impacts to water supplies would be less than significant.

Water Distribution

Buildout of the Specific Plan area would include replacement of approximately 78,300 linear feet of water mains, or about 14.8 miles, due to the age and condition of existing mains in the Specific Plan area (see Figure 5.16-4, *Proposed Water Mains*). Water mains would be replaced as needed for each development or redevelopment project built pursuant to the Specific Plan; such projects would pay the replacement costs. All proposed water main upgrades would be in roadways and under parking lots, areas that are developed and paved and have been disturbed by previous construction. Impacts of constructing upgraded water mains are analyzed as part of the Proposed Project buildout analyzed throughout Chapter 5 of this DEIR. No additional impact would occur.

5.16.2.4 CUMULATIVE IMPACTS

Water Supplies

The area considered for cumulative impacts to water supplies is the combined service areas of SBMWD and EVWD. Therefore, analysis under Impact 5.16-2, above, is inherently cumulative. Cumulative impacts to

water supplies in SBMWD's and EVWD's service areas would be less than significant, as substantiated under Impact 5.16-2.

Water Distribution

All development projects in the SBMWD and EVWD service areas would be required to estimate their water demand, water main sizes required to deliver that water demand, and existing sizes of water mains serving that project. Each project would pay Front Footage Fees to the City of San Bernardino—or similar fees to the City of Highland or San Bernardino County—to defray water main installation or replacement costs; such charges would reduce cumulative impacts to water distribution capacity.

5.16.2.5 EXISTING REGULATIONS AND STANDARD CONDITIONS

State

- California Water Code Sections 10610 et seq: SB 610, Urban Water Management Planning Act
- Water Conservation Act of 2009 (SBX7-7)
- Executive Order B-36-15
- Executive Order B-37-16

Local

- Municipal Code, Chapter 13.08, Connection with Public Sewer
- Municipal Code, Section 15.04.020, Adoption of Codes by Reference, Green Building Standards Code
- Municipal Code, Section 19.28.120, Water Efficient Landscaping Standards

5.16.2.6 LEVEL OF SIGNIFICANCE BEFORE MITIGATION

Upon implementation of regulatory requirements and standard conditions of approval, Impact 5.16-2 would be less than significant.

5.16.2.7 MITIGATION MEASURES

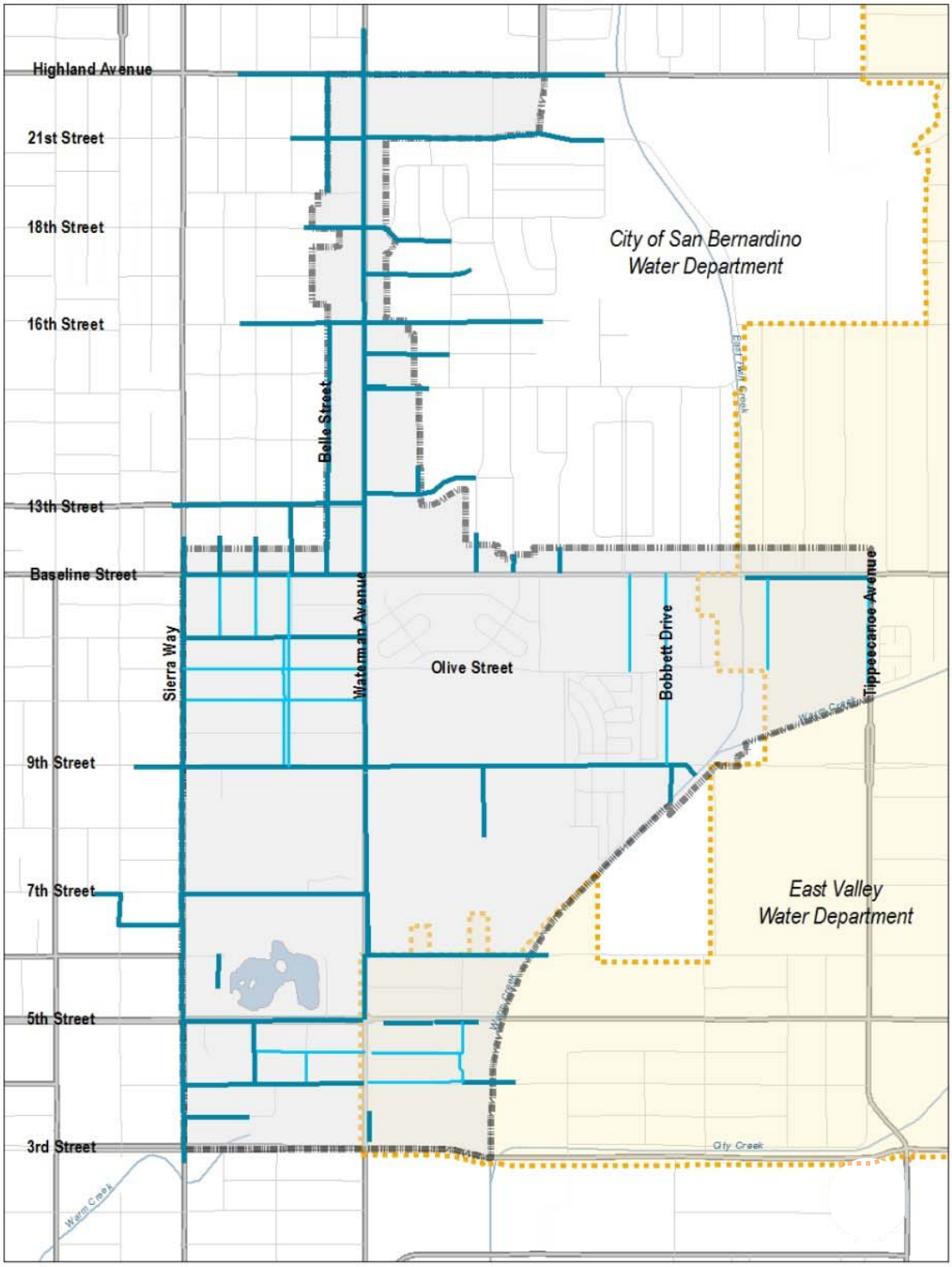
No mitigation measures are required.

5.16.2.8 LEVEL OF SIGNIFICANCE AFTER MITIGATION

Project-level and cumulative impacts to water supply and distribution systems would be less than significant.

Figure 5.16-4 Proposed Water Mains

5. Environmental Analysis



Specific Plan Area

East Valley Water District (EVWD)

Proposed Water Main

8 inches

12 inches

Note: The San Bernardino Municipal Water Department supplies water to the part of the Specific Plan area outside the EVWD

0 0.5
Scale (Miles)

Base Map Source: Parsons Brinkerhoff, 2016

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5.16.3 Storm Drainage Systems

5.16.3.1 ENVIRONMENTAL SETTING

Regulatory Setting

Laws, regulations, and plans that are potentially applicable to the Proposed Project are summarized below.

Clean Water Act

The federal Water Pollution Control Act (or Clean Water Act [CWA]) is the principal statute governing water quality. It establishes the basic structure for regulating discharges of pollutants into the waters of the United States and gives the US Environmental Protection Agency (EPA) authority to implement pollution control programs, such as setting wastewater standards for industry. The statute's goal is to completely end all pollutant discharges and to restore, maintain, and preserve the integrity of the nation's waters. The CWA regulates direct and indirect discharge of pollutants; sets water quality standards for all contaminants in surface waters; and makes it 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 for navigable bodies of water; and regulates other activities that affect water quality, such as dredging and the filling of wetlands. The CWA funds the construction of sewage treatment plants and addresses the need for planning to address nonpoint sources of pollution. Section 402 of the CWA requires a permit for all point-source discharges (from a discernible, confined, and discrete conveyance, such as a pipe, ditch, or channel) of any pollutant (except dredge or fill material) into Waters of the United States.

National Pollutant Discharge Elimination System

Under the National Pollutant Discharge Elimination System (NPDES) program (under Section 402 of the CWA), all facilities that discharge pollutants from any point source into Waters of the United States must have a NPDES permit. The term "pollutant" broadly applies to any type of industrial, municipal, or agricultural waste discharged into water. Point sources can be publicly owned treatment works (POTWs), industrial facilities, and urban runoff. (The NPDES program addresses certain agricultural activities, but the majority are considered nonpoint sources and are exempt from NPDES regulation.) Direct sources discharge directly to receiving waters, and indirect sources discharge to POTWs, which in turn discharge to receiving waters. Under the NPDES program, permits are issued only for 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 industrial/commercial sources are: Process Wastewater Discharges, Non-process Wastewater Discharges, and the Industrial Storm Water Program. NPDES issues two basic permit types: individual and general. Also, the EPA has recently focused on integrating the NPDES program further into watershed planning and permitting (USEPA 2012).

The NPDES has a variety of measures designed to minimize and reduce pollutant discharges. All counties with storm drain systems that serve a population of 50,000 or more, as well construction sites one acre or more in size, must file for and obtain an NPDES permit. Another measure for minimizing and reducing 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—is the EPA'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 disturb one acre or more. The City of San Bernardino Public Works Department is the local enforcing agency of the MS4 NPDES permit.

Low-Impact Development Best Management Practices

A technical guidance document (TGD) for water quality management plans issued by the San Bernardino County Stormwater Program took effect in September 2013. The TGD provides guidance on developing water quality management plans for projects and selecting BMPs—including low-impact development (LID) BMPs, alternatives to LID BMPs if LID BMPs are impracticable on a site, and source control BMPs.

Low-impact development is defined in the TGD as a stormwater management and land development strategy that combines a hydrologically functional site design with pollution prevention measures to compensate for land development impacts on hydrology and water quality. LID techniques mimic the predevelopment site hydrology by using site design techniques that store, infiltrate, evapotranspire, bio-filter, or detain runoff close to its source. LID BMPs are grouped in two general categories:

- **Preventive measures** are site planning, design, and construction practices that focus on minimizing the amount of land disturbed and retaining, to the maximum extent practicable, the natural drainage characteristics of the site. Preventive measures include:
    - Preserve natural infiltration capacity
    - Preserve existing drainage patterns
    - Protect existing vegetation and sensitive areas
    - Minimize impervious areas
    - Disconnect impervious areas
    - Minimize construction footprint
    - Minimize unnecessary compaction
    - Minimize removal of native vegetation

- **Mitigative measures**, if required, are structural BMPs that manage impacts from stormwater runoff and provide pollutant reduction. Mitigative measures include:
  - Infiltration
  - Stormwater harvest and use
  - Bioretention and biofiltration (CDM Smith 2013)

Alternatives to LID BMPs include onsite and offsite treatment BMPs.

Priority projects are required to infiltrate stormwater to the maximum extent practicable and to use biotreatment and harvest-and-use BMPs for the remainder of the design capture volume, which is approximately the volume from a 24-hour, 85th-percentile (or two-year) storm.[11]

Priority projects include the following categories of projects:

- Redevelopment projects adding or replacing 5,000 square feet or more of impervious area
- New development projects creating 10,000 square feet or more of impervious area
- New development or redevelopment of auto repair shops of 5,000 or more square feet
- New development or redevelopment of restaurants of 5,000 or more square feet
- Developments of 5,000 square feet or more on hillsides of 25 percent or more natural slope
- Parking lots of 5,000 square feet or more exposed to stormwater
- New development or redevelopment of gas stations of 5,000 square feet or more (CDM Smith 2013)

Source control BMPs reduce the potential for pollutants to enter runoff. Source control BMPs are classified in two categories: Structural source control BMPs have physical or structural components—such as inlet trash racks, trash bin covers, or an efficient irrigation system—to prevent pollutants from contacting stormwater runoff. Nonstructural source control BMPs are procedures or practices used in project operation, such as stormwater training or trash management and litter control practices.

Existing Conditions

Existing storm drainage facilities onsite include:

- The East Twin Creek channel passes through the east part of the Specific Plan area, and Warm Creek Channel forms its southeastern boundary. City Creek flows into Warm Creek next to the southeast corner of the Specific Plan area. East Twin Creek, Warm Creek, and City Creek all originate in the San Bernardino Mountains to the northeast. Downstream of the confluence of East Twin Creek and City Creek the channel is called Twin Creek. Twin Creek flows into the Santa Ana River about 2.5 miles south of the Specific Plan area.

[11] A 24-hour, 85th-percentile storm is a storm of 24 hours duration that is more severe than 85 percent of the storms in that area; it is approximately equivalent to a two-year storm.

- The Gilbert Street Storm Drain, a 39-inch concrete pipe, extends in Gilbert Street from Waterman Avenue east to East Twin Creek.
- East Twin Creek is a concrete box channel about 40 feet wide.
- Warm Creek is a concrete box channel 50 feet wide by 11 feet deep next to the Specific Plan area's eastern boundary and adjacent to Tippecanoe Street (SBCFCD 2016).

There are existing storm drains in segments of several roadways in the Specific Plan area; most of them are in the southwest quadrant (see Figure 5.16-5, *Existing Storm Drains*).

5.16.3.2 THRESHOLDS OF SIGNIFICANCE

According to Appendix G of the CEQA Guidelines, a project would normally have a significant effect on the environment if the project:

U-3 Would require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects.

5.16.3.3 ENVIRONMENTAL IMPACTS

The following impact analysis addresses thresholds of significance found in Appendix G of the CEQA Guidelines. The applicable thresholds are identified in brackets after the impact statement.

Impact 5.16-3: Existing and proposed storm drainage systems are adequate to serve the drainage requirements of the Proposed Project. [Threshold U-3]

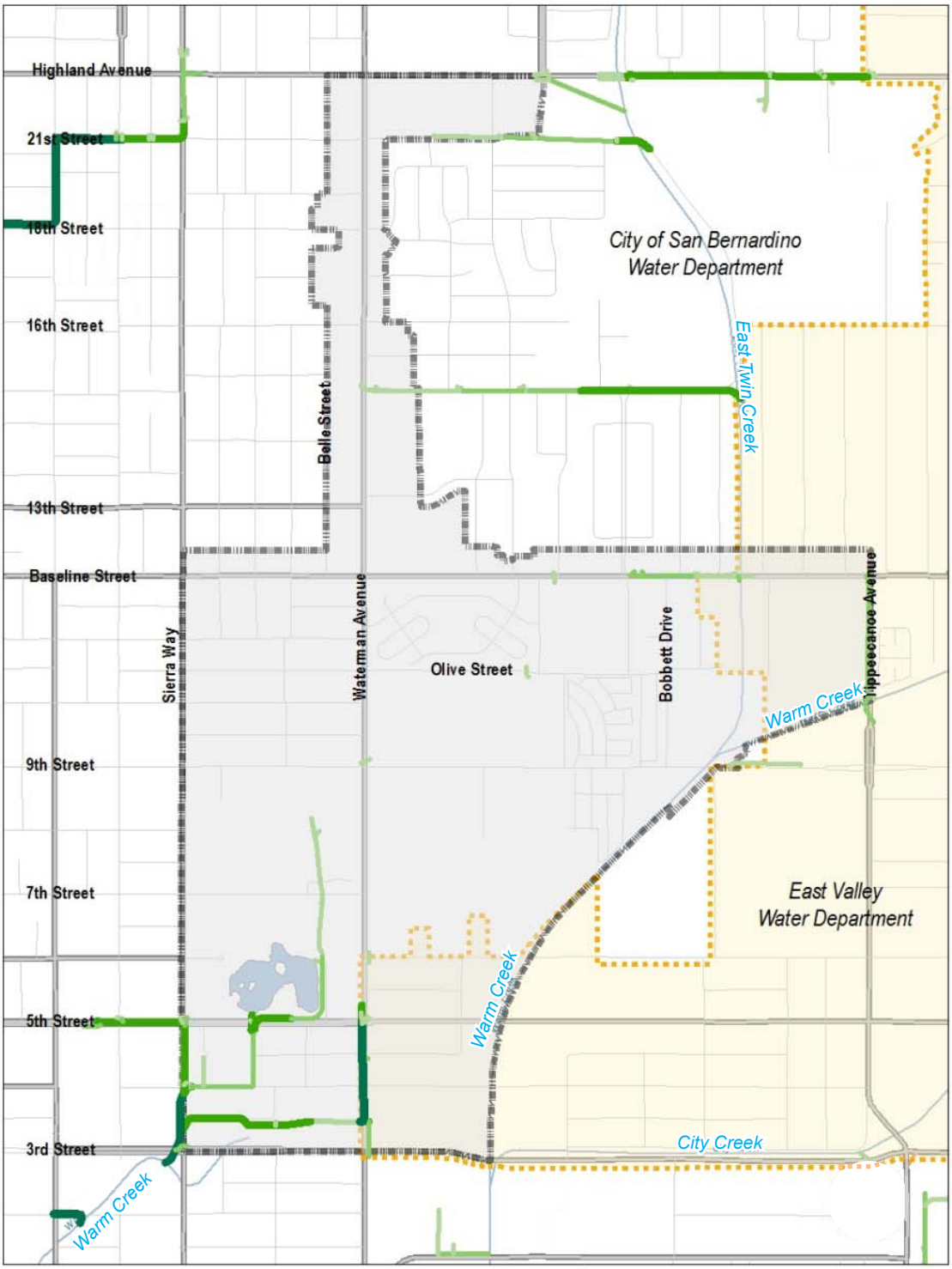
Impact Analysis: The Proposed Project would permit net increases of 2,395 residential units and 1,204,063 square feet of commercial uses in the Specific Plan area compared to existing conditions. Proposed land uses are shown in Figure 3-2, *Proposed Land Use Plan*. Because the Specific Plan area is largely developed with urbanized land uses under existing conditions, Specific Plan buildout would only moderately increase impervious areas. The specific increase of impervious areas for each project developed pursuant to the Specific Plan would be determined during engineering design of that project.

Priority projects are required to infiltrate stormwater to the maximum extent practicable and to use biotreatment and harvest-and-use BMPs for the remainder of the design capture volume, which is approximately the stormwater volume from a 24-hour, 85th-percentile storm.[12]

[12] Categories of priority projects are listed in Section 5.16.3.1, under *Low-Impact Development Best Management Practices*.

Figure 5.16-5 Existing Storm Drains

5. Environmental Analysis



Specific Plan Area
East Valley Water District (EVWD)
Existing Storm Drain
24-15 inches
39-27 inches
60-42 inches
84-69 inches

0 0.5
Scale (Miles)

Base Map Source: Parsons Brinkerhoff, 2016

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Proposed Storm Drain Infrastructure

The Specific Plan area's storm drain system would be reconfigured to better serve the area on a project-by-project basis. The Specific Plan details a new storm drain system to reduce on- and offsite flooding. Figure 5.16-6, *Proposed Storm Drains,* is a conceptual regional system of the drainage basins and collection systems that, if developed, could substantially reduce the risk of localized flooding. This concept would provide the necessary infrastructure to provide adequate flood protection for the entire Specific Plan area. It would provide approximately 8,220 linear feet of 60-inch-diameter reinforced concrete pipe, and each of the three backbone lines would have an associated 5-acre basin. The construction cost for the drainage system is roughly $450 per linear foot for a total of $3.7 million; the cost of each of the three basins is about $350,000 each, for a total of $1 million. The cost for the stormwater infrastructure could be aggregated across the entire Specific Plan buildout so that each new development pays a portion of the cost. Storm drainage improvements would be evaluated for each project developed in conformance with the Specific Plan; individual projects could propose drainage improvements differing from the storm drains and basins described above. Any solutions proposed would be required to comply with requirements in the San Bernardino County Stormwater Program TGD summarized above in Section 5.16.3.1.

Construction of proposed drainage improvements would be part of the buildout of the entire Specific Plan, and its impacts are analyzed throughout Chapter 5 of this DEIR. No other significant impact would occur.

5.16.3.4 CUMULATIVE IMPACTS

Cumulative impacts are considered for the Santa Ana River Watershed. Other projects in the watershed may increase the amount of impervious surfaces in the watershed and thus may increase flow rates and volumes of runoff entering storm drains in the region. Other projects in the watershed would be required by MS4 permits to be sized and designed to ensure onsite retention of the volume of runoff produced from a 24-hour, 85th-percentile storm event (or two-year storm). Other impacts to storm drainage would be analyzed in separate CEQA processing for each cumulative project, and mitigation measures would be required as appropriate to minimize significant impacts.

5.16.3.5 EXISTING REGULATIONS AND STANDARD CONDITIONS

Regional

- MS4 Permit, Order No. R8-2009-0030, Santa Ana Regional Water Quality Control Board

5.16.3.6 LEVEL OF SIGNIFICANCE BEFORE MITIGATION

Upon implementation of regulatory requirements and standard conditions of approval, Impact 5.16-3 would be less than significant.

5.16.3.7 MITIGATION MEASURES

No mitigation measures are required.

5.16.3.8 LEVEL OF SIGNIFICANCE AFTER MITIGATION

Project-level and cumulative impacts to storm water drainage systems would be less than significant.

5.16.4 Solid Waste Disposal

5.16.4.1 ENVIRONMENTAL SETTING

Regulatory Setting

Laws, regulations, and plans that are potentially applicable to the Proposed Project are summarized below.

Assembly Bills AB 939 and AB 341

Assembly Bill AB 939 (Integrated Solid Waste Management Act of 1989: Public Resources Code §§ 40050 et seq.) established an integrated waste-management system that focused on source reduction, recycling, composting, and land disposal of waste. AB 939 required every California city and county to divert 50 percent of its waste from landfills by the year 2000. Compliance with AB 939 is measured in part by comparing solid waste disposal rates for a jurisdiction with target disposal rates; actual rates at or below target rates are consistent with AB 939. AB 939 also required California counties to show 15 years disposal capacity for all jurisdictions in the county or show a plan to transform or divert its waste.

Assembly Bill 341 (Chapter 476, Statutes of 2011) increased the statewide solid waste diversion goal to 75 percent by 2020. The law also mandates recycling for commercial and multifamily residential land uses.

California Green Building Standards Code

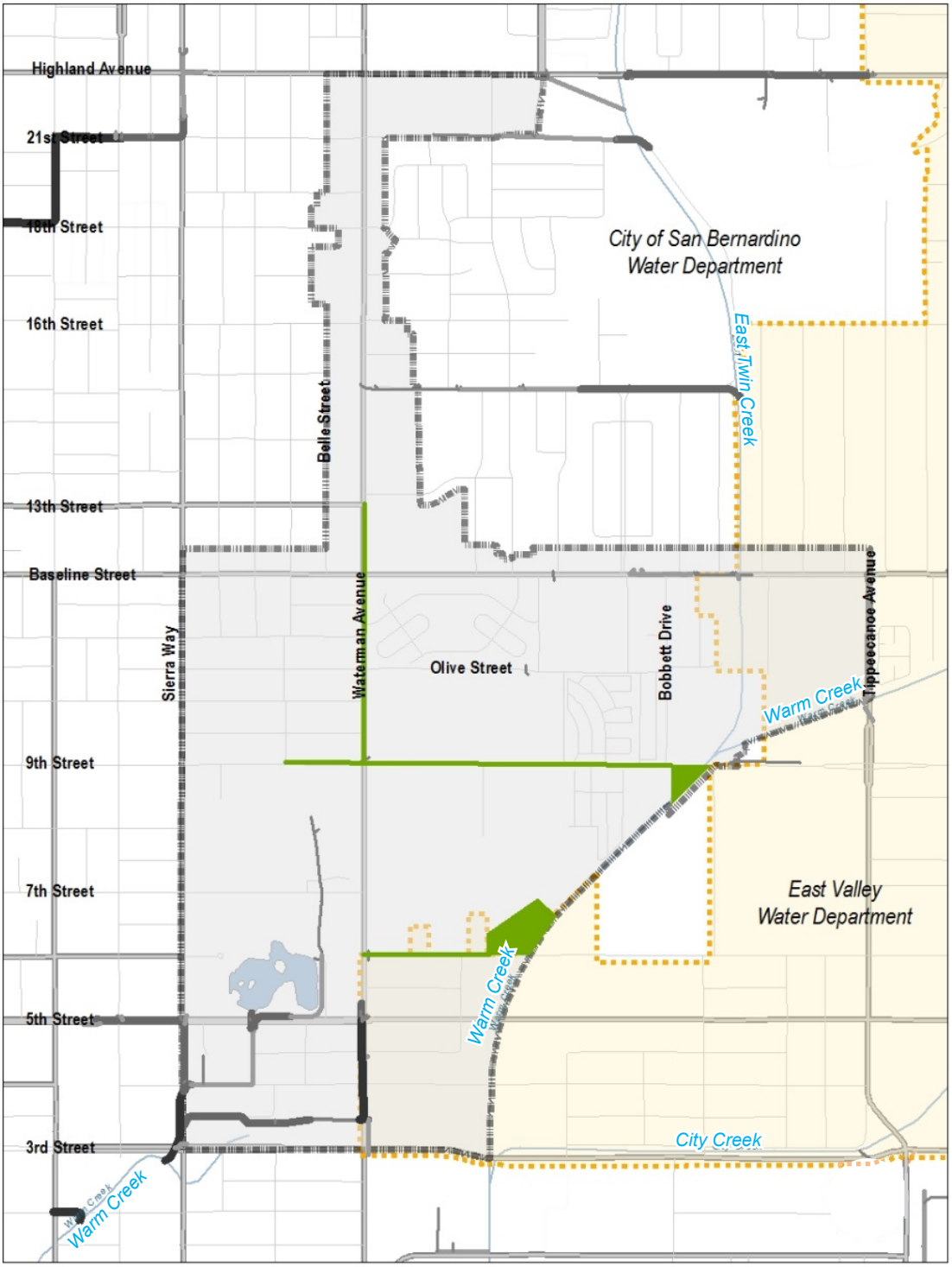
Section 5.408 (Construction Waste Reduction, Disposal, and Recycling) of the California Green Building Standards Code (CALGreen; Title 24, California Code of Regulations, Part 11) requires that at least 50 percent of the nonhazardous construction and demolition waste from nonresidential construction operations be recycled and/or salvaged for reuse. CALGreen is updated triennially; the 2016 CALGreen is scheduled to take effect January 1, 2017.

City of San Bernardino Municipal Code 8.24 Refuse and Solid Waste

Chapter 8.24 of the City of San Bernardino Municipal Code sets forth uniform requirements and regulations for the direct and indirect users of the refuse and recycling collection services of the City. It also allows for the City to comply with applicable state and federal laws.

Figure 5.16-6 Proposed Storm Drains

5. Environmental Analysis



Specific Plan Area

East Valley Water District (EVWD)

Conceptual Storm Drains

60 inches

Basin

Existing Storm Drains

24-15 inches

39-27 inches

60-42 inches

84-69 inches

0 0.5

Scale (Miles)

Base Map Source: Parsons Brinkerhoff, 2016

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Existing Conditions

Solid Waste Generation

Existing solid waste generation in the Specific Plan area is estimated at 33,217 pounds per day, as shown in Table 5.16-8.

Table 5.16-8 Estimated Existing Solid Waste Generation in Specific Plan Area

Land Use District	Principal Nonresidential Land Use	Units/Square Feet	Solid Waste Generation, Pounds per Day	
			Per unit[1]	Total
Nonresidential Land Uses				
Uptown Professional	Health care (hospital and medical office)	1,244,332	0.007	8,710
Westside Neighborhood	Retail	243,519	0.006	1,461
Midtown Core Mixed Use	Retail and government	346,981	0.007	2,429
Eastside Neighborhood	Government	108,527	0.007	760
Gateway	Government and auto-related use	136,318	0.007	954
Employment	Auto-related use	286,708	0.009	2,580
	Subtotal	**2,366,385**	**—**	**16,895**
Residential Land Uses				
All residential uses	Multifamily residential	669	5.31	3,552
	Single-family residential	1,277	10	12,770
	Subtotal	**1,946**	**—**	**16,332**
			Total	**33,217**

[1] Source: CalRecycle 2013.

Solid Waste Collection

The City of San Bernardino Public Works Department, Integrated Waste Management Division, is responsible for the management of solid waste and recycling programs for the City. The City is currently under a franchise agreement contract with Jack's Disposal pursuant to City Resolution No. 96-175. Jack's Disposal is responsible for the collection, transportation, and disposal of solid waste and construction debris, and for providing temporary bin/roll-off services. Residential customers are provided with three containers: black for trash, green for yard trimmings, and blue for recyclable materials.

Solid Waste Recycling and Disposal

Jack's Disposal separates the waste stream into recyclable and nonrecyclable materials. Recyclable materials are taken to either Baseline Recycling or San Bernardino Recycling Center in the City of San Bernardino. Solid nonrecyclable waste is taken to one of two landfills under the jurisdiction of San Bernardino County Solid Waste Management: Mid-Valley Landfill and San Timoteo Landfill. Both landfills are owned and operated by the County of San Bernardino Solid Waste Management Division. Capacity information for these two landfills is shown in Table 5.16-9, *Existing Landfill Capacity*.

Table 5.16-9 Existing Landfill Capacity

Landfill and City	Current Remaining Capacity (cubic yards)	Daily Disposal (tons)			Estimated Date of Closure
		Maximum Permitted	Average	Residual Capacity	
Mid-Valley Rialto	66,949,246	7,500	3,700	3,800	2053
San Timoteo Redlands	12,786,050	2,000	900	1,100	2054
Total	**79,735,196** (56,801,397 tons)	**9,500**	**4,600**	**4,900**	—

Source: Rivera 2015.

The City of San Bernardino has implemented a construction and demolition (C&D) debris recycling program which mandates that 50 percent of the C&D materials generated from residential, commercial, and demolition construction projects must be recycled and/or diverted from landfills. The nearest facility to the Specific Plan area that accepts C&D debris is East Valley Recycling and Transfer facility at 1250 South Tippecanoe Avenue in San Bernardino, about 1.9 miles to the south of the Specific Plan area (CalRecycle 2016).

Although the solid waste facilities permit for Mid-Valley is projected to end in 2033, there is sufficient capacity to last through September 2053. Additionally, the permit for San Timoteo is projected to meet capacity in 2043, but there is sufficient capacity in the landfill through 2054.

5.16.4.2 THRESHOLDS OF SIGNIFICANCE

According to Appendix G of the CEQA Guidelines, a project would normally have a significant effect on the environment if the project:

U-6 Would be served by a landfill with insufficient permitted capacity to accommodate the project's solid waste disposal needs.

U-7 Would not comply with federal, state, and local statutes and regulations related to solid waste.

5.16.4.3 ENVIRONMENTAL IMPACTS

The following impact analysis addresses thresholds of significance found in Appendix G of the CEQA Guidelines. The applicable thresholds are identified in brackets after the impact statement.

Impact 5.16-4: Existing and/or proposed facilities would be able to accommodate solid waste generated by the Proposed Project, and the Proposed Project would comply with applicable solid waste regulations. [Thresholds U-6 and U-7]

Impact Analysis: As shown in Table 5.16-10, buildout of the Proposed Project is estimated to generate an increase of approximately 18,160 pounds—or 9.3 tons—of solid waste per day. The two landfills accepting nearly all solid waste landfilled from San Bernardino—Mid-Valley and San Timoteo Sanitary Landfills—have

a combined residual capacity of 4,900 tons per day, with estimated closure dates in 2054 (San Timoteo) and 2053 (Mid-Valley).

Table 5.16-10 Estimated Solid Waste Generation by Proposed Project Buildout

Land Use District	Land Use	Net Change, Square Feet/Unit	Solid Waste Generation: Square Feet/Unit[1] (land use category)	Solid Waste Generation: Total Square Feet
Nonresidential				
Uptown Professional	Office and neighborhood serving commercial	513,363	0.006 (office)	3,080
Westside Neighborhood	Neighborhood serving commercial	342,852	0.006 (retail)	2,057
Midtown Core Mixed Use	Retail, restaurants, community center	610,450	0.006 (retail)	3,663
Eastside Neighborhood	Neighborhood serving commercial	206,614	0.006 (retail)	1,240
Gateway	Neighborhood serving commercial	444,896	0.006 (retail)	2,669
Employment	Office, commercial, and business park	1,452,273	0.006 (office)	8,714
Subtotal	**—**	**3,570,448**	**—**	**21,423**
Residential				
All	Single-Family Residential	1,472	10.00	14,720
	Multi-Family Residential	2,869	5.31	15,234
Subtotal	**—**	**4,341**	**—**	**29,954**
			Total	**51,377**
			Less Existing Conditions (see Table 5.16-8 above)	33,217
			Net Increase	**18,160**

[1] Source: CalRecycle 2013.

Buildout of the Proposed Project would likely occur sometime beyond year 2020. However, for the purposes of this DEIR, the Specific Plan area is estimated to be built out by 2035 and it is anticipated that buildout would occur prior to closure of both landfills. There is adequate solid waste disposal capacity in the region to accommodate solid waste generated by land uses in the Specific Plan area, and approval of the Proposed Project would not require increased permitted landfill capacity. Impacts would be less than significant.

5.16.4.4 CUMULATIVE IMPACTS

Cumulative impacts are considered for the service areas of the Mid-Valley and San Timoteo Sanitary Landfills. Capacities and estimated closing dates for the two landfills are listed above in Table 5.16-9. Mid-Valley has capacity to last through September 2053, and San Timoteo through 2054, even though the current permits for those facilities expire before those dates. There is adequate landfall capacity in the county to accommodate forecast growth for the next 20 years. No significant cumulative impact to landfill capacity would occur, and project impacts would not be cumulatively considerable.

5.16.4.5 EXISTING REGULATIONS AND STANDARD CONDITIONS

State

- Public Resources Code 40050 et seq. (AB 939)
- Assembly Bill 341 (Chapter 476, Statutes of 2011)

5.16.4.6 LEVEL OF SIGNIFICANCE BEFORE MITIGATION

Upon implementation of regulatory requirements and standard conditions of approval, Impact 5.16-4 would be less than significant.

5.16.4.7 MITIGATION MEASURES

No mitigation measures are required.

5.16.4.8 LEVEL OF SIGNIFICANCE AFTER MITIGATION

Project-level and cumulative impacts related to solid waste disposal would be less than significant.

5.16.5 Other Utilities

5.16.5.1 ENVIRONMENTAL SETTING

Regulatory Setting

Laws, regulations, and plans that are potentially applicable to the Proposed Project are summarized below.

California Building Code

Energy conservation standards for new residential and nonresidential buildings were adopted in June 1977 by the California Energy Resources Conservation and Development Commission (which later became the California Energy Commission [CEC]) and are updated triennially (Title 24, Part 6, of the California Code of Regulations [CCR]). Title 24 requires the design of building shells and building components to conserve energy. The 2013 Building and Energy Efficiency Standards, adopted by the CEC, took effect on January 1, 2014. Buildings that are constructed in accordance with the 2013 Standards are 25 percent (residential) to 30 percent (nonresidential) more energy efficient than the 2008 standards due to incorporation of better windows, insulation, lighting, ventilation systems, and other features that reduce energy consumption in homes and businesses. The 2016 Standards are scheduled to take effect on January 1, 2017.

On July 17, 2008, the California Building Standards Commission adopted the nation's first green building standards, or CALGreen (24 CCR Part 11) as part of the California Building Standards Code. CALGreen established planning and design standards for sustainable site development, energy efficiency (in excess of California Energy Code requirements), water conservation, material conservation, and internal air contaminants. CALGreen's mandatory provisions became effective January 1, 2011, and it is updated triennially. The 2016 CALGreen is scheduled to take effect on January 1, 2017.

2006 Appliance Efficiency Regulations

The 2006 Appliance Efficiency Regulations (20 CCR §§ 1601–1608) were adopted by the CEC on October 11, 2006, and approved by the California Office of Administrative Law on December 14, 2006. The regulations include standards for both federally regulated appliances and non–federally regulated appliances.

Existing Conditions

Electricity

Southern California Edison (SCE) provides electricity to the City of San Bernardino. SCE serves much of southern California—from most of Orange and Riverside counties on the south to part of Santa Barbara County on the west and Mono County on the northeast (CEC 2011). Total electricity consumption in SCE's service area was 99,243 gigawatt-hours (GWH) per year in 2013 and is forecast to increase to 113,612 GWH in 2024 (CEC 2014); one GWH is equivalent to one million kilowatt-hours. Sources of electricity sold by SCE in 2014, the latest year for which data are available, were:

- 24 percent renewable, consisting mostly of geothermal and wind
- 3 percent large hydroelectric
- 27 percent natural gas
- 6 percent nuclear
- 40 percent unspecified sources—that is, not traceable to specific sources (SCE 2015)

Natural Gas

The Southern California Gas Company (SCGC) provides natural gas to the City of San Bernardino. SCGC's service area spans much of the southern half of California, from Imperial County on the southeast to San Luis Obispo County on the northwest to part of Fresno County on the north to Riverside County and most of San Bernardino County on the east (CEC 2012). Total supplies of natural gas available to SCGC are expected to remain stable at 3.875 billion cubic feet per day (bcfd) between 2015 and 2030. Total natural gas consumption in SCGC's service area was 2.615 bcfd for 2015 and is forecast to be 2.619 bcfd in 2030 (CGEU 2015).

Communication Providers

Land line telephone and cable services are offered by the following providers: ATT, Charter, Time Warner, and Verizon.

5.16.5.2 THRESHOLDS OF SIGNIFICANCE

Although not specifically in Appendix G of the CEQA Guidelines, the following additional threshold is also addressed in the impact analysis: a project would normally have a significant effect on the environment if the project:

U-8 Would increase demand for other public services or utilities.

5.16.5.3 ENVIRONMENTAL IMPACTS

Impact 5.16-5: Existing and/or proposed facilities would be able to accommodate utility demands generated by the Proposed Project. [Threshold U-8]

Impact Analysis: The increased density of residential and nonresidential land uses in the Specific Plan area would increase demand for other utilities, including electricity and natural gas.

Electricity

Buildout of the Proposed Project is forecast to increase electricity demands in the Specific Plan area by 20,725 megawatt-hours per year (MWhr/yr), or approximately 40 percent above current consumption, as shown in Table 5.16-11.

Table 5.16-11 Estimated Electricity Demands by Proposed Project Buildout

	Electricity Demands, MWhr/Yr			
	Existing Conditions	Project Buildout	Net Increase	Percent Increase
Residential	11,734	20,926	9,192	78
Nonresidential	38,841	49,878	11,037	28
Total	**50,575**	**70,804**	**20,229**	**40%**

Source: Appendix B of this DEIR.

SCE forecasts that it will have sufficient electricity supplies for demands by Proposed Project buildout, and buildout would not require SCE to obtain new or expanded electricity supplies. Impacts would be less than significant.

Natural Gas

Proposed project buildout is estimated to reduce natural gas demands in the Specific Plan area by 1,667 thousand BTU per year (MBTU/Yr), or about 2 percent below existing natural gas demands, as shown in Table 5.16-12.

Table 5.16-12 Estimated Natural Gas Demands by Proposed Project Buildout

	Electricity Demands, MBTU/Yr			
	Existing Conditions	Project Buildout	Net Increase	Percent Increase
Residential	49,329	74,180	24,851	50%
Nonresidential	38,509	19,133	-19,376	-50%
Total	**87,837**	**93,313**	**5,475**	**6%**

Source: Appendix B of this DEIR.

The existing building stock was primarily built in the 1960s, predating modern building and energy efficiency standards. New construction in California is required to achieve the Building and Energy Efficiency Standards in the California Energy Code (24 CCR, Part 6), which is updated triennially. Most recently, the

CEC adopted the 2016 Standards, which go into effect on January 1, 2017. Under the 2016 Standards, residential buildings are 28 percent more energy efficient than the 2013 Standards, and nonresidential buildings are 5 percent more energy efficient than the 2013 Standards (CEC 2015a). The 2016 standards will not achieve zero net energy (ZNE)—that is, buildings that produce as much energy as they consume over the course of a year through energy efficiency and onsite renewable power generation such as photovoltaic solar.[13] The 2019 standards will take the final step to achieve ZNE for newly constructed residential buildings throughout California (CEC 2015b), and nonresidential ZNE buildings are anticipated to be required by 2030. New construction under the Specific Plan would achieve, at a minimum, the 2016 Standards. Though nonresidential square footage in the Specific Plan area would increase by 51 percent at buildout, nonresidential natural gas use would decrease from existing conditions, as shown in Table 5.16-12.

SCGC forecasts that it will have adequate gas supplies over the 2015–2030 period for estimated natural gas demands by the Proposed Project, and Specific Plan buildout would not require SCGC to obtain new or expanded gas supplies. Impacts would be less than significant.

Communication Facilities

Additional residential and nonresidential tenants would increase the demand for communication facilities such as cable, internet, and telephone services. Additional facilities would be necessary to accommodate the additional residential units, such as new cable connections, node locations, and power supplies. To serve future residential and nonresidential development, enhancement and/or extensions of existing facilities within the Specific Plan area would be required. These facilities are regulated by the California Utilities Commission and can be upgraded without any significant impact on the environment. Impacts would be less than significant.

5.16.5.4 CUMULATIVE IMPACTS

The areas considered for cumulative impacts are SCE's and SCGC's service areas. As growth occurs in these areas, additional demands for utilities such as electricity and natural gas may increase. However, the applicable utility providers would continue to assess new sources of demand on a project-by-project basis. At this time, there are no known impediments to the ability of SCE and SCGC to serve the growing regions that they serve. No significant cumulative impact is anticipated due to implementation and buildout of the Proposed Project.

5.16.5.5 EXISTING REGULATIONS AND STANDARD CONDITIONS

State

- Title 24, Part 6, California Code of Regulations: Building and Energy Efficiency Standards
- Title 24, Park 11, California Code of Regulations: Green Building Standards Code
- Title 20 California Code of Regulations: Appliance Energy Efficiency Standards

[13] The energy consumption considered for Zero Net Energy includes HVAC systems, built-in lighting, most water heaters, and some appliances. It excludes devices powered from electric wall outlets.

5.16.5.6 LEVEL OF SIGNIFICANCE BEFORE MITIGATION

Upon implementation of regulatory requirements and standard conditions of approval, the following impacts would be less than significant: 5.16-5.

5.16.5.7 MITIGATION MEASURES

No mitigation measures are required.

5.16.5.8 LEVEL OF SIGNIFICANCE AFTER MITIGATION

Specific Plan-level and cumulative impacts to other utilities would be less than significant.

5.16.6 References

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6. Significant Unavoidable Adverse Impacts

At the end of Chapter 1, *Executive Summary*, is a table that summarizes the impacts, mitigation measures, and levels of significance before and after mitigation. Mitigation measures would reduce the level of impact, but the following impacts would remain significant, unavoidable, and adverse after mitigation measures are applied:

6.1 AIR QUALITY

Impact 5.2-2

Construction activities associated with the buildout of the Proposed Project would generate criteria air pollutant emissions that would exceed SCAQMD's regional significance thresholds, contribute to the nonattainment designations of the SoCAB, and contribute to known health effects from poor air quality—including worsening of bronchitis, asthma, and emphysema; a decrease in lung function; premature death of people with heart or lung disease; nonfatal heart attacks; irregular heartbeat; decreased lung function; and increased respiratory symptoms. Mitigation Measures AQ-1 through AQ-3 would reduce criteria air pollutants generated from Project-related construction activities. Buildout of the Proposed Project would occur over 20 years or more. Construction time frames and equipment for individual site-specific projects are not available at this time. There is a potential for multiple developments to be constructed at any one time, resulting in significant construction-related emissions. Therefore, despite adherence to Mitigation Measures AQ-1 through AQ-3, project-level and cumulative impacts under Impact 5.2-2 would remain **significant and unavoidable**.

Impact 5.2-3

Buildout of the proposed land use plan would generate additional vehicle trips and area sources of criteria air pollutant emissions that exceed SCAQMD's regional significance thresholds and would contribute to the nonattainment designations of the SoCAB and known health effects from poor air quality—including worsening of bronchitis, asthma, and emphysema; a decrease in lung function; premature death of people with heart or lung disease; nonfatal heart attacks; irregular heartbeat; decreased lung function; and increased respiratory symptoms. Incorporation of Mitigation Measures AQ-4 through AQ-6 would reduce operation-related criteria air pollutants generated from stationary and mobile sources. Mitigation Measures AQ-5 and AQ-6 would encourage and accommodate use of alternative-fueled vehicles and nonmotorized transportation. However, despite adherence to Mitigation Measures AQ-4 through AQ-6, project-level and cumulative impacts identified under Impact 5.2-3 would remain **significant and unavoidable** due to the magnitude of land use development associated with the Proposed Project.

Impact 5.2-4

Mitigation Measures AQ-1 and AQ-2 (applied for Impact 5.2-2) would reduce the Proposed Project's regional construction emissions and therefore also reduce the Proposed Project's localized construction-related criteria air pollutant emissions to the extent feasible. However, because existing sensitive receptors may be close to project-related construction activities, construction emissions generated by individual development projects have the potential to exceed SCAMQD's LSTs. Because of the scale of development activity associated with buildout of the Proposed Project, for this broad-based Specific Plan it is not possible to determine whether the scale and phasing of individual projects would result in the exceedance of the localized emissions thresholds and contribute to known health effects. Therefore, project-level and cumulative impacts under Impact 5.2-3 would remain **significant and unavoidable**.

Impact 5.2-5

Buildout of the Proposed Project could result in new sources of air pollutant emissions near existing or planned sensitive receptors. Review of projects by SCAQMD for permitted sources of air emissions (e.g., industrial facilities, dry cleaners, and gasoline dispensing facilities) would ensure health risks are minimized. Mitigation Measure AQ-7 would ensure that mobile sources of emissions not covered under SCAQMD permits are considered during subsequent project-level environmental review. Development of individual projects would be required to achieve the thresholds established by SCAQMD. However, the Proposed Project is in an area with elevated risk. Therefore, although individual projects may achieve the project-level risk thresholds, they would contribute to the high levels of risk in the SoCAB. Therefore, the Proposed Project's cumulative contribution to health risk is **significant and unavoidable**.

6.2 GREENHOUSE GAS EMISSIONS

Impact 5.6-1

Mitigation Measures AQ-4 through AQ-6 would encourage and accommodate use of alternative-fueled vehicles and nonmotorized transportation and ensure that GHG emissions from the buildout of the Proposed Project would be minimized. However, additional federal, state, and local measures would be necessary to reduce GHG emissions under the Proposed Project to meet the long-term GHG reduction goals under Executive Order S-03-05 and Executive Order B-30-15. Based on SCAQMD's 2020 efficiency target, this would equate to 2.2 $MTCO_2e$/SP at the Specific Plan's buildout year. The buildout GHG emissions inventory for the Proposed Project would generate 6.8 $MTCO_2e$/SP and would exceed the efficiency target of 2.2 $MTCO_2e$/SP. The new Executive Order B-30-15 requires CARB to prepare another update to the Scoping Plan to address the 2030 target for the state. At this time, there is no plan past 2020 that achieves the long-term GHG reduction goal established under Executive Order S-03-05 or the new Executive Order B-30-15. As identified by the California Council on Science and Technology, the state cannot meet the 2050 goal without major advancements in technology (CCST 2012). Since no additional statewide measures are currently available, Impact 5.6-1 would remain significant and unavoidable.

6.3 NOISE

Impact 5.12-1

Implementation of Mitigation Measure 5.12-1 would reduce demolition and construction noise impacts to sensitive receptors in and near the project site. However, as the distances between mobile and stationary construction noise sources and sensitive receptors are currently unknown, it is presently impossible to demonstrate that such implementation would reduce demolition and construction noise impacts to less than significant. Therefore, such impacts would remain significant and unavoidable.

Impact 5.12-3

No mitigation measures are available that would reduce groundborne vibration generated by construction of projects developed pursuant to the Specific Plan to below the threshold of annoyance to humans. Therefore, such vibration impact would be significant and unavoidable.

6.4 TRANSPORTATION AND TRAFFIC

Impact 5.16-1

Existing With Project Scenario (Direct Impacts)

Traffic impacts in the Existing Plus Project scenario would be significant and unavoidable for the following reasons:

- **Mitigation Measure T-1:** None of the specified improvements would require acquisition of right-of-way. Implementation of the specified improvements would reduce direct impacts at the four intersections to less than significant. However, the intersections are under Caltrans jurisdiction; thus, implementation of the improvements is out of the control of the City of San Bernardino. Therefore, traffic impacts in the Existing Plus Project scenario at the four intersections would be significant and unavoidable.

- **Mitigation Measure T-2:** Implementation of the specified improvements would reduce direct traffic impacts at the two specified intersections to less than significant. However, traffic impacts at those two intersections would be significant and unavoidable for both of the following reasons: 1, The improvements would require right-of-way acquisition and it is unknown whether such acquisition is feasible due to right-of-way constraints; and, 2, the intersections are under Caltrans jurisdiction; thus, implementation of the improvements is out of the control of the City of San Bernardino.

2035 With Project Scenario (Cumulative Impacts)

Intersections of Waterman Avenue with 30th Street, Baseline Street, and 9th Street

Traffic impacts at the three aforementioned intersections would be less than significant after implementation of improvements specified in Mitigation Measure T-3. The three specified intersections are under the

jurisdiction of the City of San Bernardino, and the affected approaches to the respective intersections are wide enough for the lane modifications to be made by restriping.

Remaining Six Intersections

Cumulative traffic impacts at the remaining six intersections would be significant and unavoidable, as all six intersections are under the jurisdiction of Caltrans and implementation of the improvements is out of the control of the City of San Bernardino. In addition, the improvements specified in Mitigation Measure T-5 would require right-of-way acquisition and it is unknown whether such acquisition is feasible due to right-of-way constraints.

7. Alternatives to the Proposed Project

7.1 INTRODUCTION

7.1.1 Purpose and Scope

The California Environmental Quality Act (CEQA) requires that an Environmental Impact Report (EIR) include a discussion of reasonable project alternatives that would "feasibly attain most of the basic objectives of the project, but would avoid or substantially lessen any significant effects of the project, and evaluate the comparative merits of the alternatives" (CEQA Guidelines Section 15126.6). This chapter identifies potential alternatives to the Proposed Project and evaluates them, as required by CEQA.

Key provisions of the CEQA Guidelines on alternatives (Section 15126.6[a] through [f]) are summarized below to explain the foundation and legal requirements for the alternatives analysis in the EIR.

- "The discussion of alternatives shall focus on alternatives to the project or its location which are capable of avoiding or substantially lessening any significant effects of the project, even if these alternatives would impede to some degree the attainment of the project objectives, or would be more costly" (15126.6[b]).

- "The specific alternative of 'no project' shall also be evaluated along with its impact" (15126.6[e][1]).

- "The no project analysis shall discuss the existing conditions at the time the Notice of Preparation (NOP) is published, and at the time the environmental analysis is commenced, as well as what would reasonably be expected to occur in the foreseeable future if the project were not approved, based on current plans and consistent with available infrastructure and community services. If the environmentally superior alternative is the 'no project' alternative, the EIR shall also identify an environmentally superior alternative among the other alternatives" (15126.6[e][2]).

- "The range of alternatives required in an EIR is governed by a 'rule of reason' that requires the EIR to set forth only those alternatives necessary to permit a reasoned choice. The alternatives shall be limited to ones that would avoid or substantially lessen any of the significant effects of the project" (15126.6[f]).

- "Among the factors that may be taken into account when addressing the feasibility of alternatives are site suitability, economic viability, availability of infrastructure, general plan consistency, other plans or regulatory limitations, jurisdictional boundaries, and whether the proponent can reasonably acquire, control or otherwise have access to the alternative site (or the site is already owned by the proponent)" (15126.6[f][1]).

- "For alternative locations, "only locations that would avoid or substantially lessen any of the significant effects of the project need be considered for inclusion in the EIR" (15126.6[f][2][A]).
- "An EIR need not consider an alternative whose effect cannot be reasonably ascertained and whose implementation is remote and speculative" (15126.6[f][3]).

For each development alternative, this analysis:

- Describes the alterative,
- Analyzes the impact of the alternative as compared to the Proposed Project,
- Identifies the impacts of the project that would be avoided or lessened by the alternative,
- Assesses whether the alternative would meet most of the basic project objectives, and
- Evaluates the comparative merits of the alternative and the project.

Per the CEQA Guidelines Section 15126.6(d), additional significant effects of the alternatives are discussed in less detail than the significant effects of the project as proposed.

7.1.2 Project Objectives

The following objectives have been established for the Waterman + Baseline Neighborhood Specific Plan (Proposed Project) and will aid decision makers in their review of the Proposed Project and associated environmental impacts:

1. Facilitate development and redevelopment of the Project Area consistent with City's General Plan through preparation of a specific plan.
2. Foster development that serves to reduce vehicle miles traveled by promoting alternatives to driving, such as walking, biking, and use of mass transit.
3. Provide for a wide-range of housing types consistent with the City's adopted Housing Element.
4. Improve Neighborhood Safety:
    - Reduce crime, drug activity, and gang activity throughout the Plan area;
    - Implement crime reduction activities and CPTED strategies;
    - Restore underutilized, vacant, and neglected properties;
    - Improve streetscapes through tree trimming and enhanced lighting;
    - Provide a network of "Complete Streets;
    - Improve access and connections to surrounding neighborhoods, city, and region;
    - Revitalize and create neighborhood serving commercial centers;
    - Create safe and attractive public places for residents to gather;
    - Reduce conflicts between neighborhoods and industrial uses; and

- Improve lighting and street appearance to deter dumping and blight.
- Provide Viable Housing Choices:
- Acquire properties to develop and/or rehabilitate homes;
- Improve the existing housing stock;
- Create new opportunities for home ownership;
- Integrate a broad array of resources to support services for children and families into existing and future housing;
- Continue to implement the Build San Bernardino housing partnership program; and
- Pair housing support with financial literacy and other programs to achieve successful home ownership.

5. Promote Neighborhood Investment:

- Drive neighborhood business growth and investment;
- Attract new businesses focused offering fair wages ;
- Promote infill development on vacant lots;
- Support the formation of a business improvement district;
- Allow for the implementation of community art projects;
- Plan for and prioritize the development of safe, reliable and efficient infrastructure systems to support new development;
- Build community efficacy and promote neighborhood pride; and
- Ensure adequate parking to attract and support development while encouraging alternative travel modes.

6. Ensure Economic Prosperity:

- Attract companies with high-paying, stable employment opportunities;
- Retain businesses that are compatible with surrounding neighborhoods;
- Promote school readiness through early child development opportunities;
- Enhance community partnerships to strengthen student capacity and parent involvement in schools;
- Prepare students for a postsecondary education and/or skilled job opportunities;
- Expand services to connect residents to critical employment resources;
- Establish partnerships with local businesses to prioritize the hiring of qualified residents;
- Support youth through mentoring and related programs; and
- Identify and administer services to support social and economic mobility for children and families.

7.2 ALTERNATIVES CONSIDERED AND REJECTED DURING THE SCOPING/PROJECT PLANNING PROCESS

The following is a discussion of the land use alternatives considered during the scoping and planning process and the reasons why they were not selected for detailed analysis in this Draft EIR (EIR).

7.2.1 Alternative Development Areas

CEQA requires that the discussion of alternatives focus on alternatives to the project or its location that are capable of avoiding or substantially lessening any significant effects of the Proposed Project. The key question and first step in the analysis is whether any of the significant effects of the project would be avoided or substantially lessened by putting the Proposed Project in another location. Only locations that would avoid or substantially lessen any of the significant effects of the project need be considered for inclusion in the EIR (Guidelines Sec. 15126[5][B][1]). In general, any development of the size and type proposed by the proposed Specific Plan would have substantially the same impacts on air quality, greenhouse gas (GHG) emission, land use/planning, noise, population/ housing, public services, recreation, transportation/traffic and utilities/service systems. Without a site specific analysis, impacts on aesthetics, biological resources, cultural resources, geology/soils, hazards and hazardous materials, hydrology/water quality and mineral resources cannot be evaluated.

As the California Supreme Court indicated in its decisions in Citizens of Goleta Valley v. Board of Supervisors, 52 Cal. 3d 553 (1990):

> The general plan has been aptly described as the "constitution for all future developments" within the city or county.... "The propriety of virtually any local decision affecting land use and development depends upon consistency with the applicable general plan and its elements…." To be sure, the general plan is not immutable, far from it. But it may not be trifled with lightly, as the limitation on the number of amendments to the general plan in any calendar year attests." (Goleta, 52 cal.3d at 570-571)
>
> [In] some circumstances, an EIR may consider alternatives requiring a site-specific amendment of the general plan. However, an EIR is not ordinarily an occasion for the reconsideration or overhaul of fundamental land use policy. (Goleta, at 573)

The adopted 2005 General Plan already allows a significant amount of residential and non-residential development within the Specific Plan area. Since the Specific Plan area is predominantly developed with urban uses, associated impacts to aesthetics, biological resources, cultural resources, geology/soils, hazards and hazardous materials, hydrology/water quality and mineral resources will be limited. In reviewing potential alternative sites within and adjacent to the City, the only available undeveloped land is located in the northern portion of the City within foothills of the San Bernardino Mountains. Consistent with the Supreme Court's interpretation of the role of the General Plan in framing CEQA alternatives analysis, and in consideration of the City's adopted General Plan, no alternative sites within the jurisdiction of the City are considered to be feasible alternatives to the Proposed Project, since they would not reduce the environmental impacts

associated with the Proposed Project. In fact, impacts to aesthetics, biological resources, cultural resources, geology/soils, hazards and hazardous materials, hydrology/water quality and mineral resources, would be increased. Additionally, development of an alternative site would not further the physical and economic revitalization of the Waterman + Baseline neighborhood, which is a major objective of the Proposed Project. Furthermore, the proposed Specific Plan is specific to the geography of the neighborhood surrounding the intersection of Waterman Avenue and Baseline Street. Therefore, it is not feasible to even consider an alternative site and an alternative site could not feasibly accomplish most of the basic objectives of the Proposed Project while reducing potential environmental impacts, and thus there are no available alternative sites which could accommodate the Proposed Project.

7.2.2 Adaptive Reuse Alternative

Ten historical resources in the Specific Plan area were identified in the cultural resources investigation and are described in Table 5.4-1 (see Section 5.4, *Cultural Resources*). One of the resources, Waterman Gardens, was evaluated as eligible for listing on both the National Register of Historic Places and the California Register of Historical Resources. Three of the other resources have been designated California Points of Historical Interest: the Home of Eternity Cemetery of Congregation Emanuel, the Martin Adobe, and Baseline Road (now Baseline Street); one of these resources, the Martin Adobe, collapsed, and the debris has been removed from the site. Adaptive reuse of these structures was considered as a potential alternative; however, it was determined to be infeasible due to the high cost associated with rehabilitation of these structures and the inability to meet the project objectives including the provision of affordable housing. As a result, the Adaptive Reuse Alternative was not considered for further analysis.

7.3 ALTERNATIVES SELECTED FOR FURTHER ANALYSIS

Based on the criteria listed above, the following three alternatives have been determined to represent a reasonable range of alternatives which have the potential to feasibly attain most of the basic objectives of the Proposed Project but which may avoid or substantially lessen any of the significant effects of the Proposed Project. Table 7-1 summarizes the alternatives selected for further analysis. These alternatives are analyzed in detail in the following sections.

- No Project/Existing General Plan Alternative
- Increased Residential Use Alternative
- Reduced Intensity Alternative

7. Alternatives to the Proposed Project

Table 7-1 Summary of Development Alternatives

Alternative	Description	Basis for Selection and Summary of Analysis
Proposed Project		
Waterman + Baseline Neighborhood Specific Plan	• Promotes physical and economic revitalization of the Waterman + Baseline neighborhood through adoption of a specific plan. • 4,341 DUs (2,395 additional DUs) • 3,570,448 square feet of non-residential (1,204,063 additional square feet)	N/A
Project Alternatives		
1) No Project/ Existing General Plan Alternative	• 2,917 DUs (971 additional DUs) • 7,103,782 square feet of non-residential (4,737,397 additional square feet)	• Required by CEQA • Avoids need for general plan and zone change • Does not avoid significant impacts to air quality, cultural resources, GHG, noise, transportation/traffic • Does not meet the project objectives
2) Increased Residential Use Alternative	• Reduce the additional non-residential building area by 50 percent and increase the maximum residential dwelling units by 100 percent. • 6,736 dwelling units (4,790 additional dwelling units) • 2,968,417 square feet of maximum non-residential (additional 602,032 square feet from existing)	• Would slightly reduce air quality, GHG, noise, and traffic impacts. • Does not avoid significant environmental impacts • Meets some of the project objectives but not to the degree of the Proposed Project
3) Reduced Intensity Alternative	• Reduce the overall development density by 30 percent. The additional non-residential building area and the number of additional dwelling units were both reduced by 30 percent. • 3,622 dwelling units (1,676 additional DUs) • 3,209,229 square feet of non-residential (842,844 additional square feet)	• Would reduce air quality, GHG, noise, and traffic impacts. • Does not avoid significant environmental impacts. • Meets some of the project objectives but not to the degree of the Proposed Project.

An EIR must identify an "environmentally superior" alternative and where the No Project Alternative is identified as environmentally superior, the EIR is then required to identify as environmentally superior an alternative from among the others evaluated. Each alternative's environmental impacts are compared to the Proposed Project and determined to be environmentally superior, neutral, or inferior. However, only those impacts found significant and unavoidable are used in making the final determination of whether an alternative is environmentally superior or inferior to the Proposed Project. Impacts related to air quality, cultural resources, greenhouse gas emissions, noise, and traffic were found to be significant and unavoidable. Section 7.7 identifies the Environmentally Superior Alternative.

The Preferred Land Use Alternative (proposed Waterman + Baseline Neighborhood Specific Plan) is analyzed in detail in Chapter 5 of this DEIR.

7.4 NO PROJECT/EXISTING GENERAL PLAN ALTERNATIVE

This alternative, which is required by CEQA, assumes that the existing general plan and zoning designations would remain unchanged. The Specific Plan area currently contains approximately 1,946 dwelling units and 2,366,385 square feet of non-residential land uses. Under this alternative, the Specific Plan area would be developed to approximately 80 percent of the maximum buildout potential under the City's adopted General Plan. In calculating the total development capacity for each site, an 80% development potential is assumed and applied to the acreage, meaning that for a 5 acre parcel, only 4 acres are considered developable with the remaining acre available for infrastructure, transit right-of-ways and open space. Therefore, the No Project/Existing General Plan Alternative assumes that 2,917 DUs (971 additional DUs) and 7,103,782 square feet of non-residential (4,737,397 additional square feet) would be developed within the Specific Plan area.

7.4.1 Aesthetics

Under this alternative, changes to the existing visual character of the Specific Plan area would be reduced. In addition, the Design Standards and Guidelines included within the Specific Plan would not be implemented. Therefore, no visually beneficial impacts from implementation of Proposed Project would occur within the Specific Plan area. No visually adverse impacts have been identified by the Proposed Project, and under the No Project/Existing General Plan Alternative, no significant visual impacts would be anticipated. However, since the visual improvements associated with the Proposed Project would not occur, this alternative is environmentally inferior to the Proposed Project. This is not a significant and unavoidable impact of the Proposed Project.

7.4.2 Air Quality

Under this alternative, the increase in non-residential development intensity and reduction in residential units would increase Project-related trips to 33,106 trips per day, as compared to 12,024 for the Proposed Project. This alternative would therefore increase the operational air quality impacts for NO_x, CO, PM_{10}, and $PM_{2.5}$. Construction emissions would likely be similar. This alternative is environmentally inferior to the Proposed Project. Air quality is a significant and unavoidable impact of the Proposed Project. Significant short-term air quality impacts and long-term operational impact would remain significant and unavoidable.

7.4.3 Biological Resources

Development under this alternative would impact the same properties that would be impacted under the Proposed Project. As a result, impacts to biological resources would be similar. This is not a significant and unavoidable impact of the Proposed Project.

7.4.4 Cultural Resources

Compared to the Proposed Project, the amount of non-residential intensity of development would increase under this alternative. However, development under this alternative would impact the same properties that

would be impacted under the Proposed Project. Therefore, as with the Proposed Project, development under this alternative could result in an impact on known and/or unknown historical resources. Under this alternative and the Proposed Project, potential impacts to historical resources would be significant without mitigation. Therefore, historical resources impacts under this alternative would be similar to those of the Proposed Project, less than significant with mitigation incorporated.

7.4.5 Geology and Soils

The City of San Bernardino, including the Specific Plan, area is not underlain by a known Alquist-Priolo Earthquake Fault Zone; however, there are known active faults in the region that can cause ground shaking and other secondary hazardous seismic and geologic conditions that can adversely impact existing structures. No significant geologic and soils impacts have been identified provided that existing regulations and standard conditions are implemented prior to and during building construction. Therefore, this alternative is environmentally neutral to the Proposed Project. This is not a significant and unavoidable impact of the Proposed Project.

7.4.6 Greenhouse Gas Emissions

Under this alternative, the increase in non-residential development intensity and reduction in residential units would increase Project-related trips to 33,106 trips per day, as compared to 12,024 for the Proposed Project. As a result, this Alternative would increase the greenhouse gas emissions associated with the Proposed Project. This is a significant and unavoidable impact of the Proposed Project.

7.4.7 Hazards and Hazardous Materials

The Specific Plan area is currently developed with various residential, commercial, and industrial land uses, some of which handle, store, and dispose various hazardous materials. Compliance with existing regulations and standards related to hazardous materials currently provide adequate environmental safety within the Specific Plan area. The Proposed Project emphasizes green technology and sustainable development, therefore, promoting cleanup where necessary and phase-out hazardous materials use where appropriate. Existing land uses would continue to operate under this alternative and opportunities for sustainable development and green technologies would be lost. This alternative is environmentally inferior to the Proposed Project. This is not a significant and unavoidable impact of the Proposed Project.

7.4.8 Hydrology and Water Quality

The Specific Plan area is already developed with urban uses and most runoff is conveyed by surface streets or local storm drains to regional storm drainage facilities. Under the No Project Alternative, no changes to the drainage pattern or system would occur. The Proposed Project would likely increase impervious surfaces in the Specific Plan area due to increased development square footages. However, the implementation of the Proposed Project would also implement site design measures, Low Impact Development (LID), and best management practices (BMPs) such as biofiltration treatment features, permeable paving materials, porous asphalt infiltration features, and green streets that reduced runoff volumes that are conveyed to drainage

system, as appropriate. The approach in dealing with water quality requirements would be similar under the Proposed Project and this alternative that project-specific water quality management plan (WQMP) would also be prepared and recommendations therein would be implemented so that no significant impacts on hydrology and water quality occur. No significant impact under the No Project Alternative would occur and this alternative is environmentally neutral to the Proposed Project. This is not a significant and unavoidable impact of the Proposed Project.

7.4.9 Land Use and Relevant Planning

No changes to the current land use designations would occur under this alternative. No general plan or zoning code amendments would be necessary. However, the existing uses would be allowed to operate even under the Proposed Project. Additionally, the Proposed Project provides long-term economic opportunities and new vision for the future in a more sustainable manner. This alternative is environmentally inferior to the Proposed Project. This is not a significant and unavoidable impact of the Proposed Project.

7.4.10 Mineral Resources

No changes to the Specific Plan area's boundaries would occur and potential access to existing mineral deposits (if present) would be similar. No changes in mineral resources condition would occur under this alternative and this alternative is environmentally neutral to the Proposed Project. This is not a significant and unavoidable impact of the Proposed Project.

7.4.11 Noise

Although most of the Specific Plan area is currently developed as residential, industrial, office and commercial uses, several noise-sensitive receptors such as residences, hospitals, hotels, and schools are located within the Specific Plan area and along its boundaries. Under this alternative, construction impacts would be similar to the Proposed Project. However, since Project-related traffic increases would be increased, long-term noise impacts would be greater than under the Proposed Project. This alternative is environmentally inferior to the Proposed Project.

7.4.12 Population and Housing

Under this alternative, fewer additional residential units would be constructed. As shown on previous Table 5.12-11, with the Proposed Project, the City's jobs/housing balance slightly improves from 1.67 to 1.64. The direct and indirect population growth resulting from this alternative would be less than the Proposed Project. With fewer housing units, the improvements to the City's jobs/housing balance would be slightly less than under the Proposed Project. Therefore, this alternative is environmentally inferior to the Proposed Project. This is not a significant and unavoidable impact of the Proposed Project.

7.4.13 Public Services

Under this alternative, 2,917 DUs (971 additional DUs) and 7,103,782 square feet of non-residential (4,737,397 additional square feet) would be developed within the Specific Plan area. With the reduction in

residential units, additional public services demands related to schools, libraries, and daycare would be reduced. Demands for public services are typically greater with residential uses compared to nonresidential uses. This alternative is environmentally superior to the Proposed Project for some public services. This is not a significant and unavoidable impact of the Proposed Project.

7.4.14 Recreation

Under the No Project Alternative, additional demand for parks and recreational facilities would be reduced since fewer residential units would be constructed. However, opportunities for additional recreational amenities identified in the proposed Specific plan for the existing San Bernardino residents would also be lost. This alternative is environmentally neutral to the Proposed Project. This is not a significant and unavoidable impact of the Proposed Project.

7.4.15 Transportation and Traffic

Under this alternative, the increase in non-residential development intensity and reduction in residential units would increase Project-related trips to 33,106 trips per day, as compared to 12,024 for the Proposed Project. As a result, more intersections, arterial segments, and freeway segments would be impacted under this alternative. This alternative is environmentally inferior to the Proposed Project. This is a significant and unavoidable impact of the Proposed Project.

7.4.16 Utilities and Service Systems

Under this alternative, 2,917 DUs (971 additional DUs) and 7,103,782 square feet of non-residential (4,737,397 additional square feet) would be developed within the Specific Plan area. Residential units would be reduced; however, non-residential land uses would be substantially increased as compared to the Proposed Project. Therefore, impacts to utilities and service systems would be similar. However, Project impacts to utilities and service systems would be less than significant with mitigation and no significant impacts have been identified. This is not a significant and unavoidable impact of the Proposed Project.

7.4.17 Conclusion

Avoid or Substantially Lessen Project Impacts

This alternative would increase impacts related to air quality, GHG emissions, noise, population and housing, land use and planning, and transportation and traffic. Impacts related to aesthetics, biological resources, cultural resources, geology and soils, hazards and hazardous materials, hydrology and water quality, minerals, recreation, and utilities and service systems would be similar to the Proposed Project. Only impacts to public services would be slightly reduced. This alternative is not considered environmentally superior to the Proposed Project.

Attainment of Project Objectives

This alternative would not meet any of the project objectives identified in Section 7.1.2.

7.5 INCREASED RESIDENTIAL USE ALTERNATIVE

Under the Increased Residential Use Alternative, the additional non-residential building area would be reduced by 50 percent and the maximum residential dwelling units would be increased by 100 percent. This would result in 6,736 dwelling units (4,790 additional dwelling units) and 2,968,417 square feet of maximum non-residential uses (additional 602,032 square feet from existing) within the Specific Plan area. Traffic increases associated with this alternative would be slightly reduced from 12,024 to 11,966 trips per day as compared to the Proposed Project. All other aspects of the Proposed Project would be implemented under this alternative.

7.5.1 Aesthetics

Implementation of this alternative would reduce the overall development intensity of the non-residential uses and increase the number of residential units. Under this alternative, the Specific Plan would continue to provide detailed design guidelines that help ensure public realm improvements are well defined and sustainable, and result in a coherent environment. Therefore, enhancements to the aesthetic character of the Specific Plan area would occur, similar to the Proposed Project. This alternative is environmentally neutral as compared to the Proposed Project. This is not a significant and unavoidable impact of the Proposed Project.

7.5.2 Air Quality

Construction emissions associated with this alternative would be similar to the Proposed Project, since total building square footage would be similar. Traffic increases associated with this alternative would be slightly reduced from 12,024 to 11,966 trips per day, as compared to the Proposed Project. However, this reduction would not have any measurable effect on the air quality impacts of the Proposed Project. Therefore, similar to the Proposed Project, significant and unavoidable air quality impacts would occur.

7.5.3 Biological Impacts

Development under this alternative would impact the same areas that would be impacted under the Proposed Project. As a result, impacts to biological resources would be similar. This is not a significant and unavoidable impact of the Proposed Project.

7.5.4 Cultural Resources

Compared to the Proposed Project, the number of residential units would increase under this alternative. However, development under this alternative would impact the same properties that would be impacted under the Proposed Project. Therefore, as with the Proposed Project, development under this alternative could result in an impact on known and/or unknown historical resources. Under this alternative and the Proposed Project, potential impacts to historical resources would be significant without mitigation. Therefore, historical resources impacts under this alternative would be similar to those of the Proposed Project, less than significant with mitigation incorporated.

7.5.5 Geology and Soils

No changes to the project boundaries would occur under this alternative, and all development projects under this alternative would be required to comply with the most recently updated building and seismic codes and regulations. No significant geologic and soils impacts have been identified and this alternative is environmentally neutral to the Proposed Project. This is not a significant and unavoidable impact of the Proposed Project.

7.5.6 Greenhouse Gas Emissions

Traffic increases associated with this alternative would be slightly reduced from 12,024 to 11,966 trips per day, as compared to the Proposed Project. However, this reduction would not have any measurable effect on the greenhouse gas emissions associated with the Proposed Project. Therefore, similar to the Proposed Project, significant and unavoidable greenhouse gas impacts would occur.

7.5.7 Hazards and Hazardous Materials

The Specific Plan area is currently developed with various residential and non-residential land uses, some of which handle, store, and dispose various hazardous materials. Compliance with existing regulations and standards related to hazardous materials currently provide adequate environmental safety within the Specific Plan area. Under this alternative, the Specific Plan would continue to emphasize green technologies and sustainable developments, therefore would encourage cleanup and phasing out of hazardous materials use where necessary. No significant impacts related to hazardous materials were identified under the Proposed Project and no significant impacts are anticipated under this alternative. This alternative is environmentally neutral to the Proposed Project. This is not a significant and unavoidable impact of the Proposed Project.

7.5.8 Hydrology and Water Quality

The Specific Plan area is already developed with urban uses and most runoff is conveyed by surface streets or local storm drains to regional storm drainage facilities. Under the Increased Residential Use Alternative, no changes to the drainage pattern or system would occur. The Proposed Project would likely increase impervious surfaces in the Specific Plan area due to increased development square footages. However, the implementation of the Proposed Project would also implement site design measures, Low Impact Development (LID), and best management practices (BMPs) such as biofiltration treatment features, permeable paving materials, porous asphalt infiltration features, and green streets that reduced runoff volumes that are conveyed to drainage system, as appropriate. The approach in dealing with water quality requirements would be similar under the Proposed Project and this alternative that project-specific water quality management plan (WQMP) would also be prepared and recommendations therein would be implemented so that no significant impacts on hydrology and water quality occur. No significant impact under the Increased Residential Use Alternative would occur and this alternative is environmentally neutral to the Proposed Project. This is not a significant and unavoidable impact of the Proposed Project.

7.5.9 Land Use and Relevant Planning

This alternative would require all of the amendments proposed under the Proposed Project. Therefore, the potential land use impacts would be similar to that of the Proposed Project. However, the increase in residential uses may reduce potential land use compatibility impacts, since substantially more residential units would be developed near (or adjacent to) other residential uses. Therefore, this alternative is environmentally superior to the Proposed Project. Land Use and Planning is not a significant and avoidable impact of the Proposed Project.

7.5.10 Mineral Resources

Under this alternative, less non-residential development and more residential development would be provided compared to the Proposed Project. However, no changes to the Specific Plan area's boundaries would occur and potential access to existing mineral deposits (if present) would be similar. No changes in mineral resources condition would occur under this alternative and this alternative is environmentally neutral to the Proposed Project. This is not a significant and unavoidable impact of the Proposed Project.

7.5.11 Noise

Although most of the Specific Plan area is currently developed as residential, industrial, office and commercial uses, several noise-sensitive receptors such as residences, hospitals, hotels, and schools are located within the Specific Plan area and along its boundaries. Under this alternative, construction impacts would be similar to the Proposed Project. However, since Project-related traffic increases would be similar, long-term noise impacts would also be similar to the Proposed Project.

7.5.12 Population and Housing

Under this alternative, more residential units would be constructed than under the Proposed Project. As shown on previous Table 5.12-11, with the Proposed Project, the City's jobs/housing balance slightly improves from 1.67 to 1.64 in 2040. The direct and indirect population growth resulting from this alternative would be greater than the Proposed Project. With more housing units, the improvements to the City's jobs/housing balance would be slightly greater than under the Proposed Project. Therefore, this alternative is environmentally superior to the Proposed Project. This is not a significant and unavoidable impact of the Proposed Project.

7.5.13 Public Services

The demand for public services would be increased because the number of residential units would be increased compared to the Proposed Project. Typically, greater public services demands are associated with residential uses compared to non-residential uses. Therefore, although fire and police services demands related to non-residential uses would be reduced, demands for school, library, and daycare would likely increase under this alternative. When compared in general, public service impacts would be environmentally inferior to the Proposed Project. This is not a significant and unavoidable impact of the Proposed Project.

7.5.14 Recreation

Under this alternative, opportunities for additional parks, open space, and recreation facilities identified as part of the specific plan would still be applicable. However, with the additional residential units to be constructed in the Specific Plan area, an increase in demand for parks and recreational facilities would occur. This alternative would also create development opportunities and alleviate development pressure in other areas but would create greater needs for recreational facilities. However, this alternative is environmentally inferior to the Proposed Project in that it would increase demands on public parks. This is not a significant and unavoidable impact of the Proposed Project.

7.5.15 Transportation and Traffic

Traffic increases associated with this alternative would be slightly reduced from 12,024 to 11,966 trips per day, as compared to the Proposed Project. However, the slight reduction in trips would not avoid any of the significant impacts related to traffic. Because some of the impacted facilities have right-of-way constraints or are under the jurisdiction of Caltrans, as with the Proposed Project, it cannot be guaranteed that that all recommended improvements can be implemented. Therefore, significant and unavoidable impacts related to traffic cannot be avoided. This alternative is similar to the Proposed Project. This is a significant unavoidable impact of the Proposed Project.

7.5.16 Utilities and Service Systems

Residential uses generally consume more water and generate more wastewater than compared to non-residential land uses. Therefore, this alternative would likely increase the Proposed Project's impact on sewer and water. Impacts related to electricity, natural gas, and solid waste are likely to be similar to the Proposed Project. Therefore, it is anticipated that the majority of planned improvements and mitigation measures identified under the Proposed Project would still be required. This alternative is environmentally inferior to the Proposed Project because of the greater water demand and wastewater generation. This is not a significant, unavoidable impact of the Proposed Project.

7.5.17 Conclusion

Avoid or Substantially Lessen Project Impacts

This alternative would increase impacts related to public services, recreation, utilities and service systems, air quality, GHG emissions, noise, population and housing, land use and planning, and transportation and traffic. Impacts related to aesthetics, air quality, biological resources, cultural resources, geology and soils, greenhouse gas emissions, hazards and hazardous materials, hydrology and water quality, minerals, noise and transportation and traffic would be similar to the Proposed Project. Only impacts to land use and planning and population and housing would be slightly reduced. This alternative is not considered environmentally superior to the Proposed Project.

Attainment of Project Objectives

This alternative would meet some of the project objectives identified in Section 7.1.2.

7.6 REDUCED INTENSITY ALTERNATIVE

This alternative would reduce the overall additional development intensity by 30 percent. It would result in a total of 3,622 dwelling units (1,676 additional DUs) and 3,209,229 square feet of non-residential uses (842,844 additional square feet. Project-related traffic increases would be reduced from 12,024 trips per day to 8,417 trips per day. The intent of this alternative is to reduce the air quality, GHG emissions, and traffic impacts associated with implementation of the Specific Plan while achieving the objectives of the Proposed Project.

7.6.1 Aesthetics

Under this alternative, the overall decrease in development intensity would potentially result in slightly reduced visual impacts during construction, as the duration and intensity would be less than the Proposed Project. The anticipated visual enhancement from various public realm improvements and consistent design schemes would be similar to the Proposed Project. This alternative is environmentally superior to the Proposed Project. This is not a significant and unavoidable impact of the Proposed Project.

7.6.2 Air Quality

The Reduced Intensity Alternative would reduce regional air quality impacts by approximately 30 percent. With approximately 30 percent reduction in building area, this alternative would reduce the projected exceedance of the SCAQMD threshold level for regional construction emissions by approximately 30 percent. However, even with the reductions, the Proposed Project would continue to exceed the SCAQMD thresholds of significance. The maximum daily operational phase regional emissions would also be reduced by 30 percent. However, even with the reduction, the net increase would continue to exceed SCAQMD's threshold levels for VOC, NO_x, CO, PM_{10}, and $PM_{2.5}$. This alternative would reduce the air quality impacts, and it would be environmentally superior to the Proposed Project. However, significant and unavoidable construction and operational phase air quality impacts would not be eliminated.

7.6.3 Biological Impacts

Development under this alternative would impact the same areas that would be impacted under the Proposed Project. As a result, impacts to biological resources would be similar. This is not a significant and unavoidable impact of the Proposed Project.

7.6.4 Cultural Resources

Compared to the Proposed Project, the number of residential and non-residential intensity of development would decrease under this alternative. However, development under this alternative would likely impact the same properties that would be impacted under the Proposed Project. Therefore, as with the Proposed

Project, development under this alternative could result in an impact on known and/or unknown historical resources. Under this alternative and the Proposed Project, potential impacts to historical resources would be significant without mitigation. Therefore, historical resources impacts under this alternative would be similar to those of the Proposed Project, less than significant with mitigation incorporated.

7.6.5 Geology and Soils

No changes to the project boundaries would occur under this alternative and all development projects under this alternative would be required to comply with the most recently updated building and seismic codes and regulations. No significant geologic and soils impacts have been identified and this alternative is environmentally neutral to the Proposed Project. Geology and soils is not a significant and unavoidable impact of the Proposed Project.

7.6.6 Greenhouse Gas Emissions

The Reduced Intensity Alternative would reduce greenhouse gas emissions by approximately 30 percent, as compared to the Proposed Project. As with the Proposed Project, this alternative would continue to promote the increase utilization of alternative forms of transportation and reduction in VMTs and the specific plan includes policies and actions to increase bike and pedestrians pathways and to create a better connected alternative transportation and active transit system. This alternative is environmentally superior compared to the Proposed Project. However, because this alternative would also exceed the screening threshold of 3,000 $MTCO_{2e}$, impacts related to GHG emissions would be significant and unavoidable. GHG emissions impact was identified as significant and unavoidable under the Proposed Project and would remain significant and unavoidable.

7.6.7 Hazards and Hazardous Materials

The Specific Plan area is currently developed with various residential and non-residential land uses, some of which handle, store, and dispose various hazardous materials. Compliance with existing regulations and standards related to hazardous materials currently provide adequate environmental safety within the Specific Plan area. Under this alternative, the specific plan would continue to emphasize green technologies and sustainable developments, therefore would encourage cleanup and phasing out of hazardous materials use where necessary. No significant impacts related to hazardous materials were identified under the Proposed Project and no significant impacts are anticipated under this alternative. This alternative is environmentally neutral to the Proposed Project. This is not a significant and unavoidable impact of the Proposed Project.

7.6.8 Hydrology and Water Quality

The Specific Plan area is already developed with urban uses and most runoff is conveyed by surface streets or local storm drains to regional storm drainage facilities. Under the Reduced Intensity Alternative, no changes to the drainage pattern or system would occur. The Proposed Project would likely increase impervious surfaces in the Specific Plan area due to increased development square footages. However, the implementation of the Proposed Project would also implement site design measures, Low Impact

Development (LID), and best management practices (BMPs) such as biofiltration treatment features, permeable paving materials, porous asphalt infiltration features, and green streets that reduced runoff volumes that are conveyed to drainage system, as appropriate. The approach in dealing with water quality requirements would be similar under the Proposed Project and this alternative that project-specific water quality management plan (WQMP) would also be prepared and recommendations therein would be implemented so that no significant impacts on hydrology and water quality occur. No significant impact under the Reduced Intensity Alternative would occur and this alternative is environmentally neutral to the Proposed Project. This is not a significant and unavoidable impact of the Proposed Project.

7.6.9 Land Use and Relevant Planning

This alternative would require all of the amendments proposed under the Proposed Project. Therefore, the potential land use impacts would be similar to that of the Proposed Project. This alternative is environmentally neutral to the Proposed Project. This is not a significant and unavoidable impact of the Proposed Project.

7.6.10 Mineral Resources

Under this alternative, less residential and non-residential development would be provided compared to the Proposed Project. However, no changes to the Specific Plan area's boundaries would occur and potential access to existing mineral deposits (if present) would be similar. No changes in mineral resources condition would occur under this alternative and this alternative is environmentally neutral to the Proposed Project. This is not a significant and unavoidable impact of the Proposed Project.

7.6.11 Noise

This alternative would reduce the development intensity by 30 percent, therefore, decreasing project-related noise impacts by approximately 30 percent. Reduction in building area would reduce the amount and duration of construction and the average daily trips would also be less than the Proposed Project. Under this alternative, the overall number of sensitive receptors to be impacted by new development would also be less than the Proposed Project since there would be fewer residents in the Specific Plan area. This alternative is environmentally superior to the Proposed Project. The Proposed Project would result in significant short-term construction impacts, less than significant traffic roadway and vibration impacts.

7.6.12 Population and Housing

Under this alternative, fewer additional residential units would be constructed and less non-residential development. As shown on previous Table 5.12-11, with the Proposed Project, the City's jobs/housing balance slightly improves from 1.67 to 1.64. Under this alternative, there would be an equal reduction in the number of housing units and job-generating land uses. Therefore, no change to the City's jobs/housing balance would occur and this alternative would be environmentally neutral to the Proposed Project. This is not a significant and unavoidable impact of the Proposed Project.

7.6.13 Public Services

The demand for public services generated at the Specific Plan area would be reduced by approximately 30 percent, including the Proposed Project's impact on police, fire, schools, and libraries. However, with the reduction in development intensity, the anticipated tax revenues would also decrease, which may impact the fire, police, and library service provider's ability to provide necessary facilities, equipment, and personnel. Therefore, with implementation of existing regulations and standard conditions, impacts related to public services would be similar to that of the Proposed Project. Public service impacts would be environmentally neutral to the Proposed Project. This is not a significant and unavoidable impact of the Proposed Project.

7.6.14 Recreation

Under the Reduced Intensity Alternative, the demand for parks and recreational facilities would be less than the Proposed Project. However, dedication standards and conditions identified for the Proposed Project would still be applicable under this alternative. Therefore, as with the Proposed Project, this alternative would also create development opportunities in an underutilized parcels, thereby alleviating development pressures in other open space areas that could be developed for parks or other recreational purposes. Recreation impacts would be environmentally neutral to the Proposed Project. This is not a significant and unavoidable impact of the Proposed Project.

7.6.15 Transportation and Traffic

This alternative would have fewer traffic-related impacts than the Proposed Project. Total ADT generated by the Proposed Project would be reduced by approximately 30 percent; from 12,024 trips under the Proposed Project to approximately 8,417 trips. Therefore, this alternative is environmentally superior to the Proposed Project. Impacted intersections, segments, and freeway facilities under the Proposed Project are within the jurisdiction of the City of San Bernardino and Caltrans. Therefore, although reduced, it is reasonable to anticipate that impacted facilities under this alternative cannot be guaranteed to be improved to operate at acceptable LOS. Many of these facilities are deficient under existing conditions. Therefore, as with the Proposed Project, impacts to the City intersections and Caltrans facilities would remain a significant and unavoidable impact under this alternative. This is a significant and unavoidable impact of the Proposed Project.

7.6.16 Utilities and Service Systems

This alternative would reduce the Proposed Project's impact on sewer, water, electricity, natural gas, and solid waste by approximately 30 percent. It is anticipated that the majority of planned improvement and mitigation measures identified under the Proposed Project would still be required to reduce impacts to a less than significant level. This alternative is environmentally superior to the Proposed Project. However, based on less development, fewer improvements to utility infrastructure would occur and costs to implement system-wide improvements could be higher for individual development projects. This is not a significant and unavoidable impact of the Proposed Project.

7.6.17 Conclusion

Avoid or Substantially Lessen Project Impacts

This alternative would avoid or substantially lessen significant and unavoidable impacts related to aesthetics, air quality, GHG emissions, noise, transportation and traffic, and utilities and service systems. Impacts related to biological resources, cultural resources, geology and soils, hazards and hazardous materials, land use and planning, mineral resources, population and housing, public services, and recreation would be similar to the Proposed Project.

Attainment of Project Objectives

This alternative would meet most of the project objectives identified in Section 7.2.1 but not to the same degree as the Proposed Project.

7.7 ENVIRONMENTALLY SUPERIOR ALTERNATIVE

CEQA requires a lead agency to identify the "environmentally superior alternative" and, in cases where the "No Project" Alternative is environmentally superior to the Proposed Project, the environmentally superior development alternative must be identified.

The CEQA Guidelines (Section 15126[a]) state that an EIR must address "a range of reasonable alternatives to the project, or to the location of the project, which could feasibly attain the basic objectives of the project, but would avoid or substantially lessen any of the significant effects of the project and evaluate the comparative merits of the alternatives.

The Reduced Intensity Alternative has been identified as having the least environmental impacts and as being the superior out of three development alternatives. The Reduced Intensity Alternative would lessen environmental impacts associated with the Proposed Project by approximately 30 percent. However, this alternative, while having the least amount of environmental impacts, is not capable of eliminating any significant unavoidable adverse effects associated with the development. Additionally, it is anticipated that all mitigation measures identified under the Proposed Project would also need to be incorporated. Among the factors that may be used to eliminate alternatives from detailed consideration in an EIR are: (i) failure to meet most of the basic project objectives, (ii) infeasibility, or (iii) inability to avoid significant environmental impacts." [Guidelines Sec. 15126.6(c)]

Moreover, while meeting all of the project objectives to a certain degree, it would not do so to the extent that can be achieved by the Proposed Project. For example, the Reduced Intensity Alternative would allow for economic revitalization of the area but not to the degree under the Proposed Project. Additionally, decreasing the development intensity by 30 percent where additional density could be supported would result in greater development pressure elsewhere in the City and could result in greater environmental impacts.

7. Alternatives to the Proposed Project

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8. Impacts Found Not to Be Significant

California Public Resources Code Section 21003 (f) states: "…it is the policy of the state that…[a]ll persons and public agencies involved in the environmental review process be responsible for carrying out the process in the most efficient, expeditious manner in order to conserve the available financial, governmental, physical, and social resources with the objective that those resources may be better applied toward the mitigation of actual significant effects on the environment." This policy is reflected in the State California Environmental Quality Act (CEQA) Guidelines (Guidelines) Section 15126.2(a), which states that "[a]n EIR [Environmental Impact Report] shall identify and focus on the significant environmental impacts of the Proposed Project" and Section 15143, which states that "[t]he EIR shall focus on the significant effects on the environment." Guidelines Section 15128 requires that an EIR contain a statement briefly indicating the reasons that various possible significant effects of a project were determined not to be significant, and were therefore not discussed in detail in the Draft EIR (DEIR).

As described in the Notice of Preparation (NOP) prepared for the Proposed Project, the only impact category not determined to have at least one potentially significant impact was agricultural and forestry resources; therefore, all other categories have been evaluated in this DEIR. The following subsection substantiates why impacts related to agricultural and forestry resources were determined to be less than significant during the EIR scoping process.

8.1 AGRICULTURAL AND FORESTRY RESOURCES

Thresholds of significance identified in Table 8-1 are found in Appendix G of the State CEQA Guidelines.

Table 8-1 Impacts Found Not to Be Significant

Environmental Issues	Level of Significance
II. AGRICULTURE AND FOREST RESOURCES. 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. Would the project:	
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	No Impact
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	No Impact

8. Impacts Found Not to Be Significant

Table 8-1 Impacts Found Not to Be Significant

Environmental Issues	Level of Significance
c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?	No Impact
d) Result in the loss of forest land or conversion of forest land to non-forest use?	No Impact
e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?	Less Than Significant Impact

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

No Impact. As shown in Figure 4-1, *Aerial Photograph*, the Specific Plan area is in a highly urbanized area. The area contains a wide variety of land uses including residential, commercial, industrial, and institutional uses. Although it contains several notable concentrations of vacant land, the Specific Plan area is generally developed with buildings, structures, and other hardscape and landscape improvements. According to the California Department of Conservation (DOC) "California Important Farmland Finder," the Specific Plan area is not designated Farmland of Statewide Importance, Unique Farmland, or Farmland of Local Importance (DOC 2014). There is a 10-acre community garden approximately 200 feet to the southeast of the Specific Plan area that is designated Farmland of Statewide Importance by DOC. However, the community garden would not be affected by buildout of the Proposed Project. Therefore, implementation of the Proposed Project would not convert mapped farmland to nonagricultural use. No impact would occur and no mitigation is necessary.

b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?

No Impact. The DOC's Division of Land Resource Protection does not show any land within the Specific Plan area—or elsewhere in the City of San Bernardino—with an active Williamson Act contract (DOC 2015). Furthermore, the City of San Bernardino zoning map (San Bernardino 2015) does not zone any portion of the Specific Area for agricultural use. Therefore, implementation of the Proposed Project would not conflict with existing zoning for agricultural use or a Williamson Act contract. No impact would occur and no mitigation is necessary.

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

No Impact. The Specific Plan area is in a heavily urbanized part of San Bernardino that contains no forests. The City of San Bernardino does not zone any land for forest land, timberland, or Timberland Production

(San Bernardino 2015). Project implementation would have no impact on forestland, and no mitigation is necessary.

d) Result in the loss of forest land or conversion of forest land to non-forest use?

No Impact. See response to Section 3.2(c), above.

e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?

Less Than Significant Impact. See responses to Sections 8.1(a), (b), and (c), above. As shown in Figure 4-1, there is a 4.5-acre orchard in the Specific Plan area at the northeast corner of La Junita Street and Olive Street. Conversion of this agricultural use to non-agricultural uses could occur during implementation of the Proposed Project. However, as noted above, the Specific Plan area is not designated Farmland of Statewide Importance, Unique Farmland, or Farmland of Local Importance (DOC 2014). The site is also surrounded by urbanized land uses. As a result, the potential conversion of the 4.5-acre orchard is not considered a significant impact.

8.2 REFERENCES

California Department of Conservation (DOC). 2014. California Important Farmland Finder. http://maps.conservation.ca.gov/ciff/ciff.html.

———. 2015. San Bernardino County Williamson Act FY 2014/2015, Sheet 2 of 2 (map). ftp://ftp.consrv.ca.gov/pub/dlrp/wa/sanbernardino_so_14_15_WA.pdf.

San Bernardino, City of. 2015. City of San Bernardino Official Zoning Map. http://www.sbcity.org/civicax/filebank/blobdload.aspx?blobid=15890

8. Impacts Found Not to Be Significant

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9. Significant Irreversible Changes Due to the Proposed Project

Section 15126.2(c) of the CEQA Guidelines requires that an Environmental Impact Report (EIR) describe any significant irreversible environmental changes that would be caused by the Waterman + Baseline Neighborhood Specific Plan (Proposed Project) should it be implemented.

Implementation of the Proposed Project would increase development intensity within the Specific Plan area. Therefore, additional commitment of nonrenewable and/or slowly renewable energy resources, natural resources, and human resources would be necessary. Irreversible consumption of construction materials, such as lumber and other forest products, sand and gravel, asphalt, steel, copper, lead, other metal, and water would occur, and increased commitment of social services and public maintenance services such as police, fire, schools, libraries, sewer, water, solid waste, and natural gas services, would also be required. These energy and social service commitments would be long-term obligations. Once these commitments are made, it is improbable that the Specific Plan area would revert back to its current condition. However, the Specific Plan area is already developed; therefore, the use of existing infrastructure is possible with some upgrades and improvements, and environmental impacts can be minimized. Additional development intensities can be more readily accommodated with minimal physical impact, relieving development pressure from other areas where more intensive use of nonrenewable resources would be necessary. Nonetheless, the Proposed Project would result in significant irreversible changes to the environment throughout the lifespan of the structures.

9. Significant Irreversible Changes Due to the Proposed Project

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10. Growth–Inducing Impacts of the Proposed Project

Pursuant to Sections 15126(d) and 15126.2(d) of the CEQA Guidelines, this section is provided to examine ways in which the Proposed Project could foster economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment. Also required is an assessment of other projects that would foster other activities which could affect the environment, individually or cumulatively. To address this issue, potential growth-inducing effects will be examined through analysis of the following questions:

- Would this project remove obstacles to growth, e.g., through the construction or extension of major infrastructure facilities that do not presently exist in the project area, or through changes in existing regulations pertaining to land development?

- Would this project result in the need to expand one or more public services to maintain desired levels of service?

- Would this project encourage or facilitate economic effects that could result in other activities that could significantly affect the environment?

- Would approval of this project involve some precedent-setting action that could encourage and facilitate other activities that could significantly affect the environment?

Please note that growth-inducing effects are not to be construed as necessarily beneficial, detrimental, or of little significance to the environment. This issue is presented to provide additional information on ways in which the Proposed Project could contribute to significant changes in the environment, beyond the direct consequences of developing the land use concept examined in the preceding sections of this EIR.

Would this project remove obstacles to growth, e.g., through the construction or extension of major infrastructure facilities that do not presently exist in the project area, or through changes in existing regulations pertaining to land development?

The Specific Plan area is currently developed with a range of urban uses served by existing infrastructure facilities. However, based on the age and condition of the existing infrastructure, new growth within the Specific Plan area is limited. Implementation of the Proposed Project, including the completion of infrastructure upgrades outlined in the Chapter 7, *Infrastructure Plan*, of the proposed Specific Plan, would ensure that the proposed land use densities and intensities allowed by the Specific Plan are accommodated.

10. Growth-Inducing Impacts of the Proposed Project

The proposed increase in development intensities and amendments to various planning documents would remove this obstacle and would have a direct growth-inducing effect.

Would this project result in the need to expand one or more public services to maintain desired levels of service?

As discussed in Section 5.13, *Public Services*, of this DEIR, the Proposed Project would require additional public services to maintain desired levels of service at buildout. The need for services would grow incrementally as individual development projects are approved. Furthermore, local tax revenues that fund these services would be expected to increase proportional to any increase in need. Therefore, implementation of the Proposed Project would not result in service capacity beyond what is approved. The Proposed Project would not, therefore, have significant growth-inducing consequences with respect to public services.

Would this project encourage or facilitate economic effects that could result in other activities that could significantly affect the environment?

During project construction, a number of design, engineering, and construction-related jobs would be created, which would be a direct, growth-inducing effect of the Proposed Project. The increase in residential and employment population in the Specific Plan Area would also lead to economic effects as residents and employees engage in shopping, entertainment, employment, home improvement, auto maintenance and other retail/commercial activities in Specific Plan area and the surrounding area. This would create increased demand for economic goods and services and would, therefore, likely encourage the creation of new businesses and/or the expansion of existing businesses to address the demand. However, the introduction of residential mixed use areas; facilitation of commercial amenities to serve the area's employers and employees; and implementation of the enhanced pedestrian, bicycle, and transit improvements that are envisioned by the Proposed Project would reduce vehicle miles travelled and thereby reduce air quality impacts. Therefore, although the Proposed Project would have a direct growth-inducing effect, indirect growth-inducing effects would be minimized due to the balance of land uses set forth by the Proposed Project.

Would approval of this project involve some precedent-setting action that could encourage and facilitate other activities that could significantly affect the environment?

The Proposed Project involves amendments to the City of San Bernardino General Plan and Zoning Code and adoption of the Waterman + Baseline Neighborhood Specific Plan. No changes to any of the City's building safety standards (i.e., building, grading, plumbing, mechanical, electrical, fire codes) are proposed or required to implement the Proposed Project. Mitigation measures have been identified in the preceding Sections 5.1 to 5.16 to ensure that subsequent subdivision maps and site-specific development projects comply with all applicable City plans, policies, ordinances, etc. This would ensure that there are no conflicts with adopted land development regulations, and that environmental impacts are minimized.

Pressures to develop other land in the surrounding area may derive from regional economic conditions and market demands for housing, commercial, office, and industrial land uses that may be directly or indirectly influenced by the Proposed Project. As the development intensity associated with the Proposed Project is allocated to future development, proposals may arise to further amend the General Plan, Zoning Code, and

Specific Plan. However, these amendments would require a full environmental analysis of the impacts of such actions. Therefore, although the Proposed Project may be considered a precedent-setting action, the impacts of subsequent similar actions would require environmental analysis and associated mitigation to ensure that subsequent impacts would not significantly affect the environment.

10. Growth-Inducing Impacts of the Proposed Project

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11. Organizations and Persons Consulted

County of San Bernardino Solid Waste Management Division

Arthur L. Rivera, Deputy Director

San Bernardino City Unified School District

Samer Alzubaidi, Director, Projects and Planning

San Bernardino Community Development Department

Gary Akers, Land Development Division Manager

Oliver Mujica, Planning Division Manager

San Bernardino Fire Department

Dan Harker, Acting Deputy Chief

San Bernardino Municipal Water Department

Greg Gage, Engineering Manager

Francisco Lopez-Jimenez, Associate Engineer

San Bernardino Police Department

Paul Williams, Captain

11. Organizations and Persons Consulted

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12. Qualifications of Persons Preparing EIR

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12. Qualifications of Persons Preparing EIR

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MCKENNA ET AL.

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- BA, Anthropology/Archaeology, California State University, Fullerton

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CITY OF SAN BERNARDINO
COMMUNITY DEVELOPMENT DEPARTMENT
NOTICE OF AVAILABILITY

FROM: CITY OF SAN BERNARDINO
Community Development Department
300 North "D" Street
San Bernardino, CA 92418

TO: ☒ Public Agencies and Interested Parties

SUBJECT: Notice of Availability of a Draft Environmental Impact Report (EIR) in accordance with the California Environmental Quality Act, Sections 15085 and 15087 of the CEQA Guidelines

Project Title: Waterman + Baseline Neighborhood Specific Plan (SCH# 2015081086)

Project Location – City: San Bernardino **Project Location – County:** San Bernardino

Project Location - Specific: The Waterman + Baseline Neighborhood Specific Plan project is located in the City of San Bernardino within the County of San Bernardino. The Specific Plan area includes approximately 710 acres located near the center of San Bernardino around the intersection on Waterman Avenue and Baseline Street. Specifically, the Proposed Project boundaries are formed by Sierra Way to the west, Tippecanoe Avenue and the flood control channel on the east, 3rd Street to the south, and Highland Avenue to the north. The western boundary is approximately 1.1 miles from Interstate 215 (I-215), and the northern boundary is 0.6 miles from the Foothill Freeway (I-210).

Description of Nature, Purpose, and Beneficiaries of Project: The proposed Specific Plan would establish a land use and development framework, identify needed transportation and infrastructure improvements, and serve as a marketing tool for attracting developers to key sites and for boosting economic development. The Proposed Project is intended to encourage residential and neighborhood-serving commercial establishments on major corridors such as Baseline Street and Waterman Avenue, direct the creation of employment-generating uses to the southern portion of the Specific Plan area closer to the Civic Center and Downtown, and protect and enhance the existing residential neighborhoods. The preferred land use plan for the Proposed Project accommodates an increase in existing residential uses from an estimated 1,946 units to approximately 4,341 units and an increase in non-residential uses from roughly 2,366,385 square feet to approximately 3,570,448 square feet. It establishes six distinct districts to guide future development of key parcels throughout the Specific Plan area. The proposed Specific Plan also proposes circulation and infrastructure improvements for the Specific Plan area.

Lead Agency: City of San Bernardino **Department:** Community Development

Locations where Draft EIR Is Available: (1) City of San Bernardino Community Development Department 300 North "D" Street, San Bernardino; (2) Norman Feldheym Library, 555 West 6th Street, San Bernardino (hard copy for review and internet access for on-line review); and (3) City Web Site: www.sbcity.org (under Community Development\Planning)

Review Period: July 29, 2016 – September 12, 2016

Contact Person: Oliver Mujica, Planning Division Manager **Area Code/Telephone/Extension:** 909-384-5057

Significant Environmental Impacts: The Draft EIR identifies significant and unavoidable adverse impacts related to the following topics: air quality (short term and long term), greenhouse gas emissions, noise (construction and operational), and traffic (project and cumulative).

Hazardous Waste: There are no hazardous waste sites as defined in Government Code Section 65962.5 on the project site.

Comments: Submit written comments to the Community Development Department, 300 N. "D" Street, San Bernardino, CA 92418, Attn: Oliver Mujica, Planning Division Manager.

Hearings: No hearings have been scheduled for this project. Hearings by the Planning Commission and the Mayor and Common Council will be noticed public hearings.

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