



# Housing Element Implementation and Public Safety Element Update

Draft Supplemental Environmental Impact Report

*prepared by*

**City of Carlsbad**  
Planning Division  
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Carlsbad, California 92008  
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**July 2023**



**RINCON CONSULTANTS, INC.**

Environmental Scientists | Planners | Engineers

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# Executive Summary

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## Project Synopsis

### Project Applicant and Lead Agency

City of Carlsbad  
City of Carlsbad Planning Division  
1635 Faraday Avenue  
Carlsbad, California 92008

### Background

This Supplemental Environmental Impact Report (SEIR) augments the previously certified Programmatic Environmental Impact Report (EIR) for the City of Carlsbad General Plan certified in September 2015. For purposes of this SEIR, the previously certified EIR is referred to herein as the 2015 EIR, and the Carlsbad General Plan is referred to herein as the 2015 General Plan. The impacts of the current 2015 General Plan were analyzed in the 2015 EIR.

The city recently updated its Housing Element to be in compliance with State housing legislation. The updated 2021-2029 Housing Element was adopted by the Carlsbad City Council on April 6, 2021. Updates to the Housing Element triggered the need for changes to the 2015 General Plan to, among others, create new land use designations (R-35 and R-40) and accommodate higher density residential development. The recent approval of the Housing Element has also triggered required analysis and compliance with recent and new state safety legislation. For purposes of this SEIR, the discussion will be primarily focused on the proposed changes within the 2015 General Plan, Zoning Ordinance, and other documents and not on the Housing Element as that was already analyzed in its own CEQA Addendum document.

### Project Description

The Housing Element Implementation and Public Safety Element Update Project (proposed project) consists of amendments to the 2015 General Plan, including the Land Use and Community Design Element and Public Safety Element, and revisions to Carlsbad Municipal Code (CMC) Title 21, the Zoning Ordinance. The updates are necessary to implement the programs of the city's 2021-2029 Housing Element Update, which was adopted by the Carlsbad City Council on April 6, 2021, and comply with changes in state law.

A major component of the project is the change of land use and zoning designations on 18 sites identified in the Housing Element (referred to in this SEIR as "rezone sites") to facilitate residential development. These rezone sites, identified in the Housing Element and as further directed by the City Council, consist of single or multiple properties currently designated for low-density residential, commercial, industrial or public land uses. As proposed, the rezone sites would be partially or entirely redesignated to medium or high-density residential land use designations. This would require changes to the General Plan and Local Coastal Program land use maps, Zoning Ordinance and Zoning Map, and to various master and specific plans. While the proposed project would facilitate new housing through the redesignations, it would not approve any housing construction.

## Alternatives

This SEIR examines two alternatives to the proposed project:

**Alternative 1, No Project Alternative**, includes a land use pattern comprised of land use trends according to the 2015 General Plan. In other words, it assumes that regional growth trends and land use according to the 2015 General Plan would continue, without the proposed project. Under Alternative 1 population in the Plan Area (City of Carlsbad) for 2035 would be 133,410, consistent with the findings of the 2015 General Plan and acknowledging approved residential development since the General Plan's adoption. The 18 rezone sites would not be developed at the same capacity under this scenario as they would under the proposed project. Under existing zoning, Alternative 1 would result in the development of approximately 506 units on the 18 rezone sites, which would be 2,789 units fewer than the 3,295 units contemplated for the proposed project. Land use projects would be comprised of those that are currently in construction or are implemented through the 2015 General Plan updated to reflect current conditions. As land use under the current General Plan still has residential capacity (as well as capacity for new non-residential construction, such as new commercial and industrial buildings), the city would continue to grow in terms of housing units, population, non-residential square footage, and jobs. While not an environmental impact under CEQA, this alternative would not be consistent with the required programs of the 2021-2029 Housing Element and the city would be at risk of having the Housing Element "decertified" by the State if these programs are not implemented.

**Alternative 2, Reduced Sites**, includes development on most of the rezone sites as identified in the project. However, Alternative 2 would exclude development on rezone sites 3, 8, and 15, which, as identified in Table 2-4 of Section 2, *Project Description*, would accommodate a net increase (not including units already permitted under current designations) of 137 dwelling units total under the project. Additionally, the number of units on sites 14 and 17 would be increased to accommodate more housing (180 units more than analyzed under the project) near COASTER transit stations, which are operated by North County Transit District. Therefore, development under Alternative 2 would accommodate 43 more dwelling units than the proposed project. Alternative 2 would still achieve project objectives such as facilitating residential development to meet the 2021-2029 RHNA and pursuing an infill strategy to create walkable communities.

Each alternative is described in greater detail and analyzed in Section 6, *Alternatives*, to determine whether environmental impacts would be similar to, less than, or greater than those of the proposed project.

## Areas of Known Controversy

Areas of controversy associated with the proposed project are made known through comments received during the Notice of Preparation (NOP) process, as well as input solicited during public scoping meetings and an understanding of the community issues in the region. The SEIR scoping process and comments received in response to the NOP identified areas of known controversy for the proposed project, including issues related to air quality, biological resources, cultural and tribal cultural resources, and transportation. Public comments received during the NOP scoping period as well as the main areas of controversy raised in the comments are summarized in Section 1, *Introduction*.



## Issues to be Resolved

Section 15123(b)(3) of the *CEQA Guidelines* requires that an EIR contain a discussion of issues to be resolved including the choice among the project and alternatives, and whether or how to mitigate significant effects. Issues to be resolved include:

- Whether to approve the proposed project or an alternative.

## Issues Not Studied in Detail in the EIR

Section 4.16, *Effects Found Not to Be Significant*, of this SEIR, analyzes any possible significant effects that were determined not to be significant and, therefore, were not discussed in detail in this SEIR. The topics analyzed in Section 4.16 include Agricultural and Forestry Resources, Energy, and Mineral Resources.

## Summary of Impacts and Mitigation Measures

Table ES-1 summarizes the environmental impacts of the proposed project, proposed mitigation measures, and residual impacts (the impact after application of mitigation, if required).

Impacts are categorized as follows:

**Significant and Unavoidable.** An impact that cannot be reduced to below the threshold level given reasonably available and feasible mitigation measures. Such an impact requires a Statement of Overriding Considerations to be issued if the project is approved per Section 15093 of the *CEQA Guidelines*.

**Less than Significant with Mitigation Incorporated.** An impact that can be reduced to below the threshold level given reasonably available and feasible mitigation measures. Such an impact requires findings under Section 15091 of the *CEQA Guidelines*.

**Less than Significant.** An impact that may be adverse, but does not exceed the threshold levels and does not require mitigation measures. However, mitigation measures that could further lessen the environmental effect may be suggested if readily available and easily achievable.

**No Impact.** The proposed project would have no effect on environmental conditions or would reduce existing environmental problems or hazards.

**Table ES-1 Summary of Environmental Impacts**

Impact	Mitigation Measure (s)	Residual Impact
<b>Aesthetics</b>		
<b>Impact AES-1.</b> Similar to the development analyzed in the 2015 General Plan EIR, development under the project would not have a substantial effect on a scenic vista. This impact would be less than significant.	None required.	Less than Significant without Mitigation
<b>Impact AES-2.</b> The City of Carlsbad does not contain a designated state scenic highway. This impact would be less than significant.	None required.	Less than Significant without Mitigation
<b>Impact AES-3.</b> Similar to development analyzed in the 2015 General Plan EIR, development under the project would not conflict with applicable zoning and other regulations governing scenic quality. This impact would be less than significant.	None required.	Less than Significant without Mitigation
<b>Impact AES-4.</b> Similar to development analyzed in the 2015 General Plan EIR, development under the project would result in new sources of light or glare in the area, but would not adversely affect day or nighttime views. This impact would be less than significant.	None required.	Less than Significant without Mitigation
<b>Air Quality</b>		
<b>Impact AQ-1.</b> Similar to the development analyzed in the 2015 General Plan EIR, the proposed project would not conflict with or obstruct the San Diego Regional Air Quality Strategy or State Implementation Plan. This impact would be less than significant with mitigation incorporated.	<b>AQ-1 Housing Forecast Revisions.</b> Prior to the next update of the Regional Housing Needs Assessment and within six months of the certification of the Final SEIR, the City Planner shall provide a revised housing forecast to SANDAG to ensure that any revisions to the population and employment projections used by SDAPCD in updating the RAQS and the SIP will accurately reflect anticipated growth due to the proposed project.	Less than Significant with Mitigation
<b>Impact AQ-2.</b> Implementation of the proposed project would violate air quality standards or contribute to an existing air quality violation because project-related emissions would exceed SDAPCD thresholds. Similarly, the proposed project would result in a cumulatively considerable net increase of criteria pollutants for which the project region is nonattainment under applicable federal or state ambient air quality standards. This impact would be significant and unavoidable.	<b>AQ-2 Operational Emissions Reductions.</b> During the project design and project-level review phases of development projects at the 18 rezone sites, the city shall require each project to determine operational air quality emissions from the project. For projects that exceed regulatory SDCAPCD thresholds, mitigation shall be implemented to reduce impacts to below the regulatory thresholds or to the maximum extent feasible implementing all feasible mitigation. The following represents some measures aimed at reducing air pollutant emissions from operational sources. This is not an exhaustive list of measures, and individual projects shall incorporate measures that best fit each project design.	Significant and Unavoidable

Impact	Mitigation Measure (s)	Residual Impact
	<ul style="list-style-type: none"> <li>▪ Use architectural coating materials, as defined in SDAPCD Rule 67.0.1, that are zero-emission or have a low-VOC content (below 10 grams per liter). Where such VOC coatings are not available or feasible, the coating with the lowest VOC rating available shall be used. These measures shall be noted on all construction plans, and the city shall perform periodic site inspections during construction to verify compliance.</li> <li>▪ Prohibit the installation of woodstoves, hearths, and fireplaces in new construction facilitated by the proposed project.</li> <li>▪ Expand and facilitate completion of planned networks of active transportation infrastructure.</li> <li>▪ Implement EV charging infrastructure beyond requirements set forth in the 2022 CalGreen mandatory measures. Such requirements would be equivalent to the Tier 2 voluntary measures set forth in the 2022 CalGreen standards.</li> <li>▪ Implement traffic demand measures, such as unbundling parking fees from rent/lease options, encouraging/developing a ride-share program for the community, and provide car/bike sharing services, that will reduce daily individual car usage and reduce project VMT</li> </ul>	
<p><b>Impact AQ-3.</b> Development facilitated by the proposed project would not expose offsite sensitive receptors to substantial pollution concentrations. However, the project would site sensitive receptors within close proximity to sources of TAC emissions. This impact would be less than significant with mitigation incorporated.</p>	<p><b>AQ-3 Construction Health Risk Assessment.</b> For individual projects (excluding ADUs, single-family residences, and duplexes) where construction activities would occur within 1,000 feet of sensitive receptors, would last longer than two months, and would not utilize a fleet comprised of strictly EPA rated Tier 4 engines and/or alternative fuel construction equipment, it is required that a construction health risk assessment (HRA) be performed.<sup>1</sup> The construction health risk shall be performed by a qualified air quality consultant coordinated through the City. The HRA shall be conducted following the Office of Environmental Health Hazards Association’s (OEHHA) 2015 Health Risk Guidelines (OEHHA 2015) and SDAPCD guidelines to determine potential risk and compare the risk to the following SDAPCD thresholds:</p> <ul style="list-style-type: none"> <li>▪ Increased cancer risk of &gt; 10.0 in a million;</li> </ul>	<p>Less than Significant with Mitigation</p>

<sup>1</sup> Sensitive receptors are that segment of the public most susceptible to respiratory distress as a result of poor air quality, such as children under 14, persons over 65, persons engaged in strenuous work or exercise, and people with pre-existing cardiovascular and chronic respiratory diseases. Locations of sensitive receptors include schools, parks and playgrounds, hospitals, day cares, assisted living facilities, and residential communities (CARB 2005)

Impact	Mitigation Measure (s)	Residual Impact
	<ul style="list-style-type: none"> <li>▪ Increased non-cancer risk of &gt; 1.0 Hazard Index (Chronic or Acute); or If risk exceeds the thresholds, measures such as requiring the use of Tier 4 and/or alternative fuel construction equipment are recommended to reduce the risk to appropriate levels. The incorporation of Tier 4 and/or alternative fuel construction equipment reduces the emissions of DPM from construction activities and therefore reduces the potential risk to nearby sensitive receptors.</li> </ul> <p><b>AQ-4 Operational Health Risk Assessment.</b> Consistent with the provisions contained in the <i>California Air Resources Board Air Quality and Land Use Handbook</i>, future development projects occurring on Site 2, Site 5, or Site 16 under the proposed project should implement the following:</p> <p>Project applicants shall retain a qualified air quality consultant to prepare a health risk assessment (HRA) in accordance with the CARB and the Office of Environmental Health and Hazard Assessment requirements to determine the exposure of nearby sensitive receptors to emission sources resulting from the project. The HRA shall be submitted to the City of Carlsbad for review and approval. Project applicants shall implement the approved HRA recommendations to any nearby sensitive receptor, if any. Such measures may include, but are not limited to:</p> <ul style="list-style-type: none"> <li>▪ Install, operate, and maintain in good working order a central heating and ventilation system or other air take system in the building of a sensitive receptor that would be impacted by the project, or in each individual residential unit, that meets the efficiency standard of the minimum efficiency reporting value of 13. The heating and ventilation system should include the following features: installation of a high-efficiency filter and/or carbon filter to minimize particulate and other airborne chemical matter from entering the building. Either high-efficiency particulate absorption filters or American Society of Heating, Refrigeration, and Air-Conditioning Engineers 85 percent supply filters should be used.</li> <li>▪ Ensure that positive pressure occurs in the building.</li> <li>▪ Achieve a performance standard of at least one air exchange per hour of fresh outside filtered air.</li> <li>▪ Achieve a performance standard of at least four air exchanges per hour of recirculation.</li> </ul>	

Impact	Mitigation Measure (s)	Residual Impact
	<ul style="list-style-type: none"> <li>▪ Achieve a performance standard of 0.25 air exchanges per hour of unfiltered infiltration if the building is not positively pressurized.</li> </ul>	
<p><b>Impact AQ-4.</b> Similar to the development analyzed in the 2015 General Plan EIR, the proposed project would not create objectionable odors affecting a substantial number of people. This impact would be less than significant.</p>	<p>None required.</p>	<p>Less than Significant without Mitigation</p>
<p><b>Cumulative Impact:</b> As described under Impact AQ-1, the SDAPCD’s approach for assessing cumulative impacts is based on consistency with the latest adopted RAQS. With implementation of Mitigation Measure AQ-1, the proposed project would be consistent with the RAQS. Additionally, SDAPCD best management practices are required for all grading activities in the SDAPCD’s jurisdiction, which would reduce Citywide emissions of ozone precursors, PM<sub>10</sub>, and PM<sub>2.5</sub> from construction facilitated by the proposed project. However, operational emissions resulting from the proposed project would result in exceedances of SDAPCD thresholds, even with implementation of Mitigation Measure AQ-2, and thus would be significant and unavoidable. Therefore, the proposed project’s contribution to cumulative air quality impacts would result in a cumulatively significant impact.</p>	<p>No feasible mitigation measures have been identified.</p>	<p>Cumulatively considerable impact.</p>
<p><b>Biological Resources</b></p>		
<p><b>Impact BIO-1.</b> The proposed project could potentially adversely impact special-status species or their habitat. Local special-status species and nesting birds could occur within the sites during potential construction periods and may potentially be affected by construction activity. This impact would be less than significant with mitigation incorporated.</p>	<p><b>BIO-1 Biological Resources Technical Report.</b> For development projects at Sites 1- 4, 6-9, 17-19 that require vegetation removal, ground disturbance of unpaved areas, parking or staging of equipment or material on unpaved areas, access routes on unpaved areas, or any rehabilitation or construction staging within 100 feet of the property line (except for landscaped developed areas) that contain or have the potential to support special-status species, sensitive habitat, or suitable habitat to support special-status species, prior to the issuance of a grading permit, the applicant shall retain a qualified biologist to conduct a biological resources reconnaissance of the site, consistent with the requirements of General Plan Policy 4-P.9 and the HMP Guidelines for Biological Studies. All future projects shall be consistent with the HMP and the technical report shall include a consistency analysis, including compliance with the narrow endemic standards (MHCP Volume 1, Section 3.7 No. 5, and HMP Section D-6 for TLB, VP species) and special species standards (HMP Section D-6 for LBV and Harb Dun Skipper). The</p>	<p>Less than Significant with Mitigation</p>

Impact	Mitigation Measure (s)	Residual Impact
	<p>Biological Resources Technical Report shall address the presence/absence of suitable habitat for special-status plant and wildlife species, and any additional protocol surveys that may be needed to determine the potential presence/absence of special status species, sensitive plant communities and wetlands, and other special status biological resources protected under the HMP. The report will further propose avoidance, minimization, and mitigation measures, consistent with HMP requirements, necessary to reduce potential impacts to special-status biological resources to less than significant.</p> <p><b>BIO-2 Pre-Construction Bird Surveys, Avoidance, and Notification.</b> If construction activities are initiated during the bird nesting season (February 1 – August 31) involving removal of vegetation or other nesting bird habitat, including abandoned structures and other man-made features, a pre-construction nesting bird survey shall be conducted no more than three days prior to initiation of ground disturbance and vegetation removal activities. The nesting bird pre-construction survey shall be conducted on foot and shall include a 300-foot buffer around the construction site. The survey shall be conducted by a biologist familiar with the identification of avian species known to occur in southern California coastal communities (i.e., qualified biologist). If nests are found, an avoidance buffer shall be determined by a qualified biologist in coordination with the city. The avoidance buffer width will depend upon the species, the proposed work activity, and existing disturbances associated with land uses outside of the site, which shall be demarcated by the biologist with bright orange construction fencing, flagging, construction lathe, or other means to demarcate the boundary. All construction personnel shall be notified as to the existence of the buffer zone and to avoid entering the buffer zone during the nesting season. No ground disturbing activities shall occur within the buffer until the biologist has confirmed that breeding/nesting is completed, and the young have fledged the nest. Encroachment into the buffer shall occur only at the discretion of the qualified biologist on the basis that the encroachment will not be detrimental to an active nest. A report summarizing the pre-construction survey(s) shall be prepared by a qualified biologist and shall be submitted to the city prior to the commencement of construction activities.</p>	

Impact	Mitigation Measure (s)	Residual Impact
<p><b>Impact BIO-2.</b> Development resulting from the project could potentially adversely impact areas that support sensitive natural communities and riparian habitats. This impact would be less than significant with mitigation incorporated.</p>	<p><b>BIO-3 Habitat Buffers.</b> For projects where native habitat may be present (specifically Sites 1, 2, 4, 6, 7, 8, 9, 17, 18, and 19) and if development cannot avoid native habitat, prior to the issuance of a grading permit, a qualified biologist shall be retained by the project applicant to conduct a vegetation community survey of the site. The qualified biologist shall map the extent of vegetation communities on the project site plus 100 feet and report on the findings. This survey and report can be combined with BIO-1, Biological Resources Technical Report. The report shall confirm potential impacts to riparian and wetland habitat have been sufficiently avoided or minimized to reduce impacts to less than significant. Housing development at any of the sites containing riparian or wetland habitat shall adhere to the HMP Guidelines for Riparian and Wetland Buffers. Housing developments at any of the sites within the coastal zone shall adhere to the upland and wetland buffer requirements pursuant to the HMP coastal zone standards. The Biological Resources technical report shall include a figure showing all required upland, riparian and wetland buffers.</p> <p><b>BIO-4 Habitat Impact Mitigation.</b> For projects that will require mitigation through restoration of sensitive upland natural communities (e.g. coastal sage scrub) or wetland habitat, including streams, riparian, and other water bodies, specifically Sites 1, 2, 4, 6, 8, 9, 17, 18, and 19, mitigation through restoration, creation, or enhancement of in-kind habitats shall be implemented in accordance with ratios identified in the HMP (Table 11 and coastal zone standards Section D-7) and an approved mitigation plan. Prior to the issuance of grading permits, the applicant shall prepare and submit a Conceptual Restoration/Mitigation Plan (CRMP) consistent with the HMP Components of a Conceptual Restoration/Mitigation Plan and Guidelines for Habitat Creation and Restoration. The CRMP will provide the framework for compensating for impacts to sensitive riparian and coastal sage scrub habitat at a ratio consistent with HMP Table 11 and coastal zone standards.</p>	<p>Less than Significant with Mitigation</p>

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Impact	Mitigation Measure (s)	Residual Impact
<p><b>Impact BIO-3.</b> Development resulting from the project could potentially adversely impact federally protected wetlands. This impact would be less than significant with mitigation incorporated.</p>	<p><b>BIO-5 Agency Coordination.</b> For projects on sites within potential jurisdictional features, including Sites 1, 2, 4, 9, and 17, permits, agreements, and/or water quality certifications from applicable state and federal agencies regarding compliance with state and federal laws governing work within jurisdictional features are required for submission to the city of Carlsbad with the grading permit application for the project. The project applicant shall satisfy all mitigation requirements of the above agencies. The applicant shall provide such permits and/or agreements prior to issuance of a grading permit.</p>	<p>Less than Significant with Mitigation</p>
<p><b>Impact BIO-4.</b> Development under the proposed project would be primarily concentrated on sites in urban areas of Carlsbad that have been previously developed and disturbed, rather than adjacent to native habitats and potential wildlife corridors. Development under the project could result in significant impacts to potential local wildlife movement along watercourses such as Buena Vista Creek and Agua Hedionda Creek. This impact would be less than significant with mitigation incorporated.</p>	<p>Implementation of mitigation measures BIO-1, BIO-3, and BIO-4 (listed under Impact BIO-1 and Impact BIO-2) is required.</p>	<p>Less than Significant with Mitigation</p>
<p><b>Impact BIO-5.</b> Development under the proposed project could potentially adversely impact areas that support protected trees or tree canopies. This impact would be less than significant with mitigation incorporated.</p>	<p><b>BIO-6 Protected Tree and Tree Canopy Survey.</b> Prior to the issuance of a grading permit, a tree survey shall be conducted by a certified arborist prior to project construction to tag and assess all trees subject to the city’s Trees and Shrubs Ordinance (Municipal Code Title 11.12) and/or CFMP. A city arborist will inspect the property and recommend approving or denying the application in a written report submitted to the city manager. The city shall post a letter of notification and a non-removable marking upon the subject tree a minimum of 30 days prior to its removal. The letter will be posted in a prominent location, visible from a public street and will include, the location of the tree, the reason for the trees removal, the date of the scheduled removal, the species of tree to be replanted, the size of the tree to be replanted, the date by which an appeal must be made to the parks and recreation commission, and a description of the appeal process.</p> <p>The following measures shall be implemented in addition to those required under the city’s permits required for tree removal and maintenance ordinance Guidelines (Municipal Code Title 11.12.090) to avoid and/or compensate for potential indirect impacts to preserved</p>	<p>Less than Significant with Mitigation</p>



Impact	Mitigation Measure (s)	Residual Impact
	<p>sensitive natural communities and protected trees within Carlsbad before, during, and following construction activities.</p> <p><b>PRE-CONSTRUCTION</b></p> <ul style="list-style-type: none"> <li>▪ <b>Fencing.</b> Protective fencing at least three feet high with signs and flagging shall be erected around all preserved sensitive natural communities where adjacent to proposed vegetation clearing and grubbing, grading, or other construction activities. The protective fence shall be installed at a minimum of five feet beyond the tree canopy dripline. The intent of protection fencing is to prevent inadvertent limb/vegetation damage, root damage and/or compaction by construction equipment. The protective fencing shall be depicted on all construction plans and maps provided to contractors and labeled clearly to prohibit entry, and the placement of the fence in the field shall be approved by a qualified biologist prior to initiation of construction activities. The contractor shall maintain the fence to keep it upright, taut and aligned at all times. Fencing shall be removed only after all construction activities are completed.</li> <li>▪ <b>Pre-Construction Meeting.</b> A pre-construction meeting shall be held between all site contractors and a registered consulting arborist and/or a qualified biologist. All site contractors and their employees shall provide written acknowledgement of their receiving sensitive natural community protection training. This training shall include, but shall not be limited to, the following information: (1) the location and marking of protected sensitive natural communities; (2) the necessity of preventing damage to these sensitive natural communities; and (3) a discussion of work practices that shall accomplish such.</li> </ul> <p><b>DURING CONSTRUCTION</b></p> <ul style="list-style-type: none"> <li>▪ <b>Fence Monitoring.</b> The protective fence shall be monitored regularly (at least weekly) during construction activities to ensure that the fencing remains intact and functional, and that no encroachment has occurred into the protected natural community; any repairs to the fence or encroachment correction shall be conducted immediately.</li> <li>▪ <b>Equipment Operation and Storage.</b> Contractors shall avoid using heavy equipment around the sensitive natural communities. Operating heavy machinery around the root zones of trees would increase soil compaction, which decreases soil aeration and,</li> </ul>	

Impact	Mitigation Measure (s)	Residual Impact
	<p>subsequently, reduces water penetration into the soil. All heavy equipment and vehicles shall, at minimum, stay out of the fenced protected zones, unless where specifically approved in writing and under the supervision of a registered consulting arborist and/or a qualified biologist.</p> <ul style="list-style-type: none"> <li>▪ <b>Materials Storage and Disposal.</b> Contractors shall not store or discard any construction materials within the fenced protected zones and shall remove all foreign debris within these areas. The contractors shall leave the duff, mulch, chips, and leaves around the retained trees for water retention and nutrient supply. Contractors shall avoid draining or leakage of equipment fluids near retained trees. Fluids such as gasoline, diesel, oils, hydraulics, brake and transmission fluids, paint, paint thinners, and glycol (anti-freeze) shall be disposed of properly. The contractors shall ensure that equipment be parked at least 50 feet, and that equipment/vehicle refueling occur at least 100 feet, from fenced protected zones to avoid the possibility of leakage of equipment fluids into the soil.</li> <li>▪ <b>Grade Changes.</b> Contractors shall ensure that grade changes, including adding fill, shall not be permitted within the fenced protected zone without special written authorization and under supervision by a registered consulting arborist and/or a qualified biologist. Lowering the grade within the fenced protected zones could necessitate cutting main support and feeder roots, thus jeopardizing the health and structural integrity of the tree(s). Adding soil, even temporarily, on top of the existing grade could compact the soil further, and decrease both water and air availability to the tree roots. Contractors shall ensure that grade changes made outside of the fenced protected zone shall not create conditions that allow water to pond.</li> <li>▪ <b>Trenching.</b> Except where specifically approved in writing beforehand, all trenching shall be outside of the fenced protected zone. Roots primarily extend in a horizontal direction forming a support base to the tree similar to the base of a wineglass. Where trenching is necessary in areas that contain roots from retained trees, contractors shall use trenching techniques that include the use of either a root pruner (Dosko root pruner or equivalent) or an Air-Spade to limit root impacts. An International Society of Arboriculture (ISA) certified arborist or American Society of Consulting Arborists (ASCA) registered</li> </ul>	

Impact	Mitigation Measure (s)	Residual Impact
	<p>consulting arborist shall ensure that all pruning cuts shall be clean and sharp, to minimize ripping, tearing, and fracturing of the root system. Root damage caused by backhoes, earthmovers, dozers, or graders is severe and may ultimately result in tree mortality. Use of both root pruning and Air-Spade equipment shall be accompanied only by hand tools to remove soil from trench locations. The trench shall be made no deeper than necessary.</p> <ul style="list-style-type: none"> <li>▪ <b>Erosion Control.</b> Appropriate erosion control best management practices (BMPs) shall be implemented to protect preserved sensitive natural communities during and following project construction. Erosion control materials shall be certified as weed free.</li> <li>▪ <b>Inspection.</b> An ISA certified arborist or ASCA registered consulting arborist shall inspect the preserved trees adjacent to grading and construction activity on a monthly basis for the duration of the grading and construction activities. A report summarizing site conditions, observations, tree health, and recommendations for minimizing tree damage shall be submitted by the registered consulting arborist following each inspection.</li> </ul>	
	<p><b>POST-CONSTRUCTION</b></p> <ul style="list-style-type: none"> <li>▪ <b>Mulch.</b> The contractors shall ensure that the natural duff layer under all trees adjacent to construction activities shall be maintained. This would stabilize soil temperatures in root zones, conserve soil moisture, and reduce erosion. The contractors shall ensure that the mulch be kept clear of the trunk base to avoid creating conditions favorable to the establishment and growth of decay causing fungal pathogens. Should it be necessary to add organic mulch beneath retained oak trees, packaged or commercial oak leaf mulch shall not be used as it may contain root fungus. Also, the use of redwood chips shall be avoided as certain inhibitive chemicals may be present in the wood. Other wood chips and crushed walnut shells can be used, but the best mulch that provides a source of nutrients for the tree is its own leaf litter. Any added organic mulch added by the contractors shall be applied to a maximum depth of 4 inches where possible.</li> <li>▪ <b>Watering Adjacent Plant Material.</b> All installed landscaping plants near the preserved sensitive natural communities shall require moderate to low levels of water. The surrounding plants shall be watered infrequently with deep soaks and allowed to dry out in-</li> </ul>	

Impact	Mitigation Measure (s)	Residual Impact
	<p>between, rather than frequent light irrigation. The soil shall not be allowed to become saturated or stay continually wet, nor should drainage allow ponding of water. Irrigation spray shall not hit the trunk of any tree. The contractors shall maintain a 30-inch dry-zone around all tree trunks. An above ground micro-spray irrigation system shall be used in lieu of typical underground pop-up sprays.</p> <ul style="list-style-type: none"> <li>▪ <b>Monitoring.</b> An ISA certified arborist or ASCA registered consulting arborist shall inspect the trees preserved on the site adjacent to construction activities for a period of two years following the completion of construction. Monitoring visits shall be completed quarterly, totaling eight visits. Following each monitoring visit, a report summarizing site conditions, observations, tree health, and recommendations for promoting tree health shall be submitted to the city. Additionally, any tree mortality shall be noted and any tree dying during the two-year monitoring period shall be replaced at a minimum 3:1 ratio on-site in coordination with the city.</li> </ul>	
<p><b>Impact BIO-6.</b> The proposed project (specifically Sites 4, 6, 9, and 17) may conflict with an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plans. This impact would be less than significant with mitigation incorporated.</p>	<p><b>BIO-7 HMP Minor Amendments.</b> Prior to project approval at Site 4, 6, 9 and 17, each project shall be analyzed for consistency with the HMP. Development may not occur within an Existing or Proposed Hardline. Any revisions to the HMP hardline boundary to allow for development on these sites shall require a HMP minor amendment, to be processed as an Equivalency Finding. Such boundary revisions must not involve any revisions the HMP operations or implementation, produce any adverse effects on the environment that are new or significantly different from those previously analyzed, result in additional take not previously analyzed, or reduce the acreage or quality of the habitat within the HMP. Any loss of HMP hardline shall be replaced with equal or greater acres of hardline, adjacent to existing hardline elsewhere in the city, and preserved and managed in accordance with the HMP. Any development within the Standards Area portion of Site 4 shall require a HMP Minor Amendment, to be processed as a Consistency Finding, which requires consistency with the HMP Planning Standards for Local Facilities Management Zone 15.</p> <p><b>BIO-8 HMP Adjacency Standards.</b> Projects within sites 1, 2, 4, 6, 7, 8, 9, 17, 18, 19 shall evaluate potential indirect impacts, such as wildfire, erosion, invasive species, unauthorized access, or predators, to habitat</p>	<p>Less than Significant with Mitigation.</p>

Impact	Mitigation Measure (s)	Residual Impact
and species adjacent to the proposed development. Projects shall be consistent with the HMP Adjacency Standards (Section F-3).		
<b>Cultural and Tribal Cultural Resources</b>		
<b>Impact CUL-1.</b> Development facilitated by the project could impact known and previously unidentified historical resources. Impacts to historical resources would be significant and unavoidable.	No feasible mitigation measures beyond compliance with applicable city standards including general plan policies, the Historic Preservation Ordinance and the Carlsbad Cultural Resource Guidelines.	Significant and Unavoidable
<b>Impact CUL-2.</b> Development accommodated by the Project could adversely affect identified and previously unidentified Archaeological resources. Impacts would be less than significant with adherence to the Carlsbad Cultural Resource Guidelines.	None required.	Less than Significant without Mitigation
<b>Impact CUL-3.</b> Ground-disturbing activities associated with development under the Project could result in damage to or destruction of human burials. However, this impact would be less than significant through adherence to State Health and Safety Code Section 7050.5 and Public Resources Code Section 5097.98.	None required.	Less than Significant without Mitigation
<b>Impact CUL-4.</b> Development facilitated by the proposed project could adversely impact tribal cultural resources. Consultation with Native American Tribal representatives is ongoing. This impact would be less than significant with adherence to the Carlsbad Cultural Resource Guidelines.	None required.	Less than Significant without Mitigation
<b>Cumulative Impact:</b> It is possible that future cumulative projects would result in impacts to known or unknown historical resources. While impacts to such resources would be addressed on a case-by-case basis and would likely be subject to mitigation measures similar to those imposed for development facilitated by the project, cumulative development may result in direct or indirect impacts to historical resources. As such, cumulative historical impacts would be significant. Development facilitated by the project would adhere to the provisions of the Carlsbad Cultural Resource Guidelines related to historical resources. However, even after implementation of these guidelines, the proposed project would result in a considerable contribution to this cumulative impact.	No feasible mitigation measures have been identified.	Cumulatively considerable impact.

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Impact	Mitigation Measure (s)	Residual Impact
<b>Geology and Soils</b>		
<b>Impact GEO-1.</b> Similar to the development analyzed in the 2015 General Plan EIR, development facilitated by the proposed project would not be subject to rupture of a known earthquake fault. This impact would remain less than significant.	None required.	Less than Significant without Mitigation
<b>Impact GEO-2.</b> Similar to the development analyzed in the 2015 General Plan EIR, development facilitated by the project could be located in areas that would be exposed to seismic events, including ground shaking, liquefaction, and landslides. Compliance with the California Building Code and Carlsbad Municipal Code would reduce ground shaking, liquefaction, and landslide hazards. With required adherence to existing policies and regulations that require geologic hazard investigations where warranted, control siting of development, and requirement of safe construction practices, impacts would remain less than significant.	None required.	Less than Significant without Mitigation
<b>Impact GEO-3.</b> Similar to the development analyzed in the 2015 General Plan EIR, development facilitated by the project would include ground disturbance such as excavation and grading that would result in loose or exposed soil. Disturbed soil could be eroded by wind or during a storm event, which would result in the loss of topsoil. Adherence to permit requirements and city regulations would ensure that this impact would remain less than significant.	None required.	Less than Significant without Mitigation
<b>Impact GEO-4.</b> Similar to the development analyzed in the 2015 General Plan EIR, development facilitated by the project could be located on a geologic unit or soil that is unstable or could become unstable resulting in on or off-site landslide, lateral spreading, subsidence, liquefaction, expansion, or collapse. Compliance with the California Building Code and Carlsbad Municipal Code would reduce hazards resulting from expansive soils and impacts would remain less than significant.	None required.	Less than Significant without Mitigation

Impact	Mitigation Measure (s)	Residual Impact
<p><b>Impact GEO-5.</b> Similar to the development analyzed in the 2015 General Plan EIR, development facilitated by the project would mostly occur on or near developed sites that would be served by existing sanitation infrastructure. New development is not anticipated to include the use of septic systems. Therefore, impacts related to the use of septic tanks or alternative wastewater disposal systems would remain less than significant.</p>	<p>None required.</p>	<p>Less than Significant without Mitigation</p>
<p><b>Impact GEO-6.</b> Similar to the development analyzed in the 2015 General Plan EIR, development facilitated by the project has the potential to impact paleontological resources. However, this impact is less than significant with compliance with existing city guidelines</p>	<p>None required.</p>	<p>Less than Significant without Mitigation</p>
<p><b>Greenhouse Gas Emissions</b></p>		
<p><b>Impact GHG-1.</b> New residential development facilitated by the proposed project would generate temporary and long-term increases in GHG emissions. Because the proposed project includes additional housing not included in forecasting or reduction goals in those plans, the proposed project would conflict with the GHG emissions goals of the City of Carlsbad Climate Action Plan and 2015 General Plan. This impact would be significant and unavoidable.</p>	<p><b>GHG-1 Update City of Carlsbad Climate Action Plan.</b> The City shall draft and City Council shall adopt an updated Climate Action Plan (CAP) within 12-18 months of adoption of this SEIR. An updated CAP shall include targets that reflect those set by SB 32 to reduce GHG emissions by 40 percent below the 1990 levels by 2030 and AB 1279 reduce GHG emissions by 85 percent below 1990 levels by 2045. Implementation measures in an updated CAP to achieve the 2030 and 2045 targets shall include measures such as, but are not limited to, the following:</p> <ul style="list-style-type: none"> <li>▪ Develop and adopt an updated building energy efficiency ordinance, or “reach code” for existing and proposed structures;</li> <li>▪ Expand charging infrastructure and parking for electric vehicles;</li> <li>▪ Implement carbon sequestration by expanding the urban forest ; and,</li> <li>▪ Implement policies and measures included in the 2022 California Climate Change Scoping Plan, such as mobile source strategies for increasing clean transit options and zero emissions vehicles by providing electric vehicle charging stations.</li> </ul> <p>As part of the updated CAP, the City shall establish CEQA GHG Emissions Thresholds of Significance and an updated CAP Consistency Checklist that are consistent with the updated CAP for use in future CEQA GHG emissions analyses through 2030 and consistent with SB 32. In addition, upon completion of future CAP updates and as necessary, the City shall update the CEQA GHG emissions thresholds of significance and CAP Consistency Checklist to be consistent with each CAP update.</p>	<p>Significant and Unavoidable</p>

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Impact	Mitigation Measure (s)	Residual Impact
<b>Hazards and Hazardous Materials</b>		
<p><b>Impact HAZ-1.</b> Implementation of the proposed project would facilitate new residential development on 18 rezone sites. Proposed residential uses would not involve the routine transportation, use, or disposal of hazardous materials. However, construction of new residences could result in an increase in the overall routine, transport, use and disposal of hazardous materials in Carlsbad for construction activities. Nonetheless, required compliance with applicable regulations related to hazardous materials and compliance with General Plan policies would minimize the risk of releases and exposure to these materials. Impacts would be less than significant.</p>	None required.	Less than Significant without Mitigation
<p><b>Impact HAZ-2.</b> Similar to the development analyzed in the 2015 General Plan EIR, development facilitated by the project would not emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school. This impact would be less than significant.</p>	None required.	Less than Significant without Mitigation
<p><b>Impact HAZ-3.</b> Similar to the development analyzed in the 2015 General Plan EIR, development facilitated by the project could result in development on sites contaminated with hazardous materials. However, compliance with applicable regulations relating to site remediation would minimize impacts from development on contaminated sites, resulting in a less than significant impact.</p>	None required.	Less than Significant without Mitigation
<p><b>Impact HAZ-4.</b> Similar to the development analyzed in the 2015 General Plan EIR, development facilitated by the project would not result in a safety hazard for people residing or working in the project area. Compliance with policies and review procedures of the Airport Land Use Compatibility Plan would result in less than significant impacts.</p>	None required.	Less than Significant without Mitigation
<p><b>Impact HAZ-5.</b> Similar to the development analyzed in the 2015 General Plan EIR, development facilitated by the project would not impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan. This impact would be less than significant.</p>	None required.	Less than Significant without Mitigation



Impact	Mitigation Measure (s)	Residual Impact
<b>Hydrology and Water Quality</b>		
<p><b>Impact HYD-1.</b> Similar to the development analyzed in the 2015 General Plan EIR, development under the project would not violate water quality standards or water discharge requirements, or otherwise substantially degrade surface or groundwater quality due to adherence to existing compliance with State and local regulations and permit requirements which require use of BMPs. This impact would be less than significant.</p>	None required.	Less than Significant without Mitigation
<p><b>Impact HYD-2.</b> Similar to the development analyzed in the 2015 General Plan EIR, development under the project would not interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the Batiquitos Lagoon Valley Groundwater basin. Impacts would be less than significant.</p>	None required.	Less than Significant without Mitigation
<p><b>Impact HYD-3.</b> Similar to the development analyzed in the 2015 General Plan EIR, development under the project may alter drainage patterns and increase runoff in the project area, but would not result in substantial erosion or siltation, result in increased flooding, exceed the capacity of existing or planned stormwater drainage systems, or result in substantial additional polluted runoff. Impacts would be less than significant.</p>	None required.	Less than Significant without Mitigation
<p><b>Impact HYD-4.</b> Similar to the development analyzed in the 2015 General Plan EIR, development under the project may increase impervious surfaces on individual project sites due to the construction of new development but would not substantially alter drainage patterns to such a degree that it would impede or redirect flood flows. Impacts would be less than significant.</p>	None required.	Less than Significant without Mitigation
<p><b>Impact HYD-5.</b> Similar to the development analyzed in the 2015 General Plan EIR, development under the project would not substantially impede recharge in Carlsbad and would be served by CMWD's existing and planned potable water supplies. Development under the project may affect water quality and groundwater supply through construction and operational activities but would not conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan. Impacts would be less than significant</p>	None required.	Less than Significant without Mitigation

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Impact	Mitigation Measure (s)	Residual Impact
<b>Land Use and Planning</b>		
<b>Impact LU-1.</b> The proposed project involves implementing a rezoning program on 18 sites, mainly in developed areas of the city, and would not physically divide an established community. No impact would occur.	None required.	No Impact
<b>Impact LU-2.</b> The proposed project would not result in a significant environmental impact due to a conflict with any land use plan and policy. Therefore, this impact would be less than significant.	None required.	Less than Significant without Mitigation
<b>Noise</b>		
<b>Impact NOI-1.</b> Construction would be required to comply with the allowed daytime construction hours regulated by the Carlsbad Municipal Code and, therefore, would not occur during nighttime hours when people are more sensitive to noise. implementation of Mitigation Measure NOI-1 would reduce construction noise levels for larger developments; however, construction noise may still exceed thresholds and this impact would be significant and unavoidable.	<p><b>NOI-1 Construction Noise Reduction Measures.</b> The following construction noise reduction measures shall be implemented during project construction:</p> <ul style="list-style-type: none"> <li>▪ <b>Shielding and Silencing.</b> Power construction equipment (including combustion engines), fixed or mobile, shall be equipped with noise shielding and silencing devices consistent with manufacturer’s standards or the Best Available Control Technology. Equipment shall be properly maintained, and the project applicant or owner shall require construction contractors to keep documentation on-site during earthwork or construction activities demonstrating that the equipment has been maintained in accordance with manufacturer’s specifications.</li> <li>▪ <b>Enclosures and Screening.</b> Outdoor fixed mechanical equipment shall be enclosed or screened from off-site noise-sensitive uses to the extent feasible. The equipment enclosure or screen shall be impermeable (i.e., solid material with minimum weight of 2 pounds per square feet) and break the line-of-sight from the equipment and off-site noise-sensitive uses.</li> <li>▪ <b>Construction Staging Areas.</b> Construction staging areas shall be located as far from noise-sensitive uses as reasonably feasible in consideration of site boundaries, topography, intervening roads and uses, and operational constraints.</li> <li>▪ <b>Smart Back-Up Alarms.</b> Mobile construction equipment shall have smart back-up alarms that automatically adjust the sound level of the alarm in response to ambient noise levels. Alternatively, back-up alarms shall be disabled and replaced with human spotters to ensure</li> </ul>	Significant and Unavoidable

Impact	Mitigation Measure (s)	Residual Impact
	<p>safety when mobile construction equipment is moving in the reverse direction.</p> <ul style="list-style-type: none"> <li>▪ <b>Equipment Idling.</b> Construction vehicles and equipment shall not be left idling for longer than five minutes when not in use.</li> <li>▪ <b>Workers’ Radios.</b> All noise from workers’ radios, including any on-site music, shall be controlled to a point that they are not audible at off-site noise-sensitive uses.</li> <li>▪ <b>Use of Driven Pile Systems.</b> Driven (impact), sonic, or vibratory pile drivers shall not be used, except in locations where the underlying geology renders alternative methods infeasible, as determined by a soils or geotechnical engineer and documented in a soils report.</li> <li>▪ <b>Temporary Sound Barriers.</b> Temporary sound barriers, such as walls or sound blankets, shall be positioned between construction activities and noise-sensitive uses when construction equipment is located within a line-of-sight to and within 500 feet of the ground-floor exterior use areas of off-site noise-sensitive uses. Sound barriers shall break the line-of-sight between the construction noise source and the ground-floor exterior use area receiver where modeled levels exceed applicable standards. Placement, orientation, size, and density of acoustical barriers shall be specified by a qualified acoustical consultant.</li> <li>▪ <b>Noise Complaint Response.</b> Project applicants shall designate an on-site construction project manager who shall be responsible for responding to any complaints about construction noise. This person shall be responsible for responding to concerns of neighboring properties about construction noise disturbance and shall be available for responding to any construction noise complaints during the hours that construction is to take place. They shall also be responsible for determining the cause of the noise complaint (e.g., bad silencer) and shall require that reasonable measures be implemented to correct the problem. A toll-free telephone number and email address shall be posted in a highly visible manner on the construction site at all times and provided in all notices (mailed, online website, and construction site postings) for receiving questions or complaints during construction and shall also include procedures requiring that the on-site construction manager to respond to callers and email messages. The on-site construction project manager shall be required to track</li> </ul>	

Impact	Mitigation Measure (s)	Residual Impact
	<p>complaints pertaining to construction noise, ongoing throughout demolition, grading, and/or construction and shall notify the city's Community Development Director of each complaint occurrence.</p> <ul style="list-style-type: none"> <li>▪ <b>Project-Specific Construction Noise Study.</b> A Construction Noise Study shall be prepared by a qualified noise expert. The Construction Noise Study shall characterize sources of construction noise, quantify noise levels at noise-sensitive uses (e.g., residences, schools, churches, and hospitals) and identify measures to reduce noise exposure. The Construction Noise Study shall identify reasonably available noise reduction devices or techniques to reduce noise levels to acceptable levels and/or durations including through reliance on any relevant federal, state or local standards or guidelines or accepted industry practices. Noise reduction devices or techniques may include but not be limited to silencers, enclosures, sound barriers, and/or placement of restrictions on equipment or construction techniques (e.g., alternative installation methods to pile driving such as cast-in-place systems or pile cushioning). Each measure in the Construction Noise Study shall identify anticipated noise reductions at noise-sensitive land uses.</li> </ul> <p>Project applicants shall be required to comply with all requirements listed above in addition to any additional requirements identified and recommended by the Construction Noise Study and shall maintain proof that notice of, as well as compliance with, the identified measures have been included in contractor agreements.</p>	
<p><b>Impact NOI-2.</b> Operational activities (e.g., HVAC units, delivery and trash trucks) would be typical of the urban environment and would be required to comply with applicable noise standards in the Carlsbad Municipal Code. Furthermore, while development would generate vehicle trips in the city, the increase in mobile noise would not result in a perceptible 3-DBA increase. Therefore, noise increases due to project operation would be less than significant.</p>	<p>None required.</p>	<p>Less than Significant without Mitigation</p>

Impact	Mitigation Measure (s)	Residual Impact
<p><b>Impact NOI-3.</b> Project development would not involve operational activities that would result in substantial vibration levels. However, use of pile driving or a vibratory roller could potentially generate vibration exceeding thresholds for buildings or structures susceptible to damage (e.g., historic structures). This impact would be less than significant with mitigation.</p>	<p><b>NOI-2 Vibration Control Plan.</b> For construction activities involving vibratory rollers within 50 feet of a structure or pile drivers (impact or sonic) within 140 feet of a structure, the applicant shall prepare a Vibration Control Plan prior to the commencement of construction activities. The Vibration Control Plan shall be prepared by a licensed structural engineer and shall include methods required to minimize vibration, including, but not limited to:</p> <ul style="list-style-type: none"> <li>▪ Alternative installation methods for pile driving (e.g., pile cushioning, drilled piles, cast-in-place systems) within 140 feet of a building to reduce impacts associated with seating the pile</li> <li>▪ Vibration monitoring prior to and during pile driving operations occurring within 140 feet of a building</li> <li>▪ Use of rubber-tired equipment rather than metal-tracked equipment</li> <li>▪ Avoiding the use of vibrating equipment when allowed by best engineering practices</li> </ul> <p>The Vibration Control Plan shall include a pre-construction survey letter establishing baseline conditions at potentially affected extremely fragile buildings/historical resources and/or residential structures. The survey letter shall determine conditions that exist prior to the commencement of construction activities for use in evaluating potential damages caused by construction. Fixtures and finishes susceptible to damage shall be documented photographically and in writing prior to construction. The survey letter shall provide a shoring design to protect such buildings and structures from potential damage. At the conclusion of vibration causing activities, the qualified structural engineer shall issue a follow-up letter describing damage, if any, to impacted buildings and structures. The letter shall include recommendations for any repair, as may be necessary, in conformance with the Secretary of the Interior Standards. Repairs shall be undertaken and completed by the contractor and monitored by a qualified structural engineer in conformance with all applicable codes including the California Historical Building Code (Part 8 of Title 24).</p> <p>A Statement of Compliance signed by the applicant and owner shall be submitted to the city' Building and Safety Division at plan check and prior to the issuance of any permit. The Vibration Control Plan, prepared as outlined above shall be documented by a qualified structural engineer, and shall be provided to the city upon request.</p>	<p>Less than Significant with Mitigation</p>

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Impact	Mitigation Measure (s)	Residual Impact
<p><b>Impact NOI-4.</b> Future development under the proposed project would not be exposed to excessive noise levels from overhead flight patterns from the McClellan-Palomar Airport due to the distance of the development from the airport or with implementation of Airport Land Use Compatibility Plan and General Plan Policies. Impacts would be less than significant.</p>	<p>None required.</p>	<p>Less than Significant without Mitigation</p>
<p><b>Cumulative Impact:</b> Under a worse-case scenario, two projects within 1,000 feet of each other could contribute to a cumulative noise impact for sensitive receivers located equidistant between the two construction sites with concurrent on-site activities. Construction activities associated with future development would comply with Chapter 8.48 of the CMC and would occur Monday through Friday from 7 a.m. to 6 p.m. and Saturday 8 a.m. to 6 p.m.; no work shall be conducted on Sundays and any federal holiday. Nonetheless, larger development projects could combine together, or combine with smaller development projects, to substantially increase noise levels at specific neighboring noise-sensitive receivers. Mitigation Measure NOI-1 would reduce construction noise impacts from developments to the extent feasible. However, as exact construction details are unknown at this time, even with mitigation the project’s contribution to a cumulative noise impact could be considerable.</p>	<p>No feasible mitigation measures have been identified.</p>	<p>Cumulatively considerable impact.</p>
<p><b>Population and Housing</b></p>		
<p><b>Impact POP-1.</b> This SEIR assumes a full buildout of 3,295 residential units in Carlsbad associated with the proposed project, which equates to a population increase of an estimated 8,260 residents compared to the existing population. However, growth resulting from the project is anticipated and would not constitute substantial unplanned population growth. This impact would be less than significant.</p>	<p>None required.</p>	<p>Less than Significant without Mitigation</p>
<p><b>Impact POP-2.</b> Implementation of proposed project would not result in the displacement of substantial numbers of people or housing. The proposed project would facilitate the development of new housing in accordance with State and local housing requirements. This impact would be less than significant.</p>	<p>None required.</p>	<p>Less than Significant without Mitigation</p>

Impact	Mitigation Measure (s)	Residual Impact
<b>Public Services and Recreation</b>		
<b>Impact PS-1.</b> Development facilitated by the proposed project would result in an increase in population within Carlsbad. The projected population increase would increase demand for fire protection services and potentially create the need for a new or altered fire station. However, compliance with policies in the General Plan would reduce impacts related to fire service facilities to a less than significant level.	None required.	Less than Significant without Mitigation
<b>Impact PS-2.</b> Development facilitated by the proposed project would result in an increase in the city's population. The projected population increase would increase demand for police protection services and potentially create the need for new or altered police service facilities. However, compliance with policies in the General Plan would reduce impacts related to police facilities to a less than significant level.	None required.	Less than Significant without Mitigation
<b>Impact PS-3.</b> Development facilitated under the proposed project would result in an increase in population in Carlsbad, resulting in the need for additional or expanded school facilities. However, Government Code 65995 (b) would require funding for the provision or expansion of new school facilities to offset impacts from new residential development. This impact would be less than significant.	None required.	Less than Significant without Mitigation
<b>Impact PS-4.</b> Development associated with the proposed project would increase the population of Carlsbad and the use of existing parks and recreational facilities. However, no plans for the expansion or construction of new parks or recreational facilities are anticipated with the proposed project. Therefore, this impact would be less than significant.	None required.	Less than Significant without Mitigation
<b>Impact PS-5.</b> Development associated with the proposed project would increase the population of Carlsbad and the use of existing library facilities. However, existing library facilities would have sufficient capacity to accommodate the increase in population. Additionally, compliance with General Plan policies would reduce impacts related to library facilities to a less than significant level	None required.	Less than Significant without Mitigation

Impact	Mitigation Measure (s)	Residual Impact
<b>Transportation</b>		
<p><b>Impact T-1.</b> Similar to the development analyzed in the 2015 General Plan EIR, development facilitated by the proposed project would not result in additional conflicts with programs and plans related to the circulation system, relative to the 2015 General Plan. This impact would be less than significant.</p>	<p>None required.</p>	<p>Less than Significant without Mitigation</p>
<p><b>Impact T-2.</b> Development facilitated by the proposed project has the potential to interfere with achievement of the VMT reductions set forth in City of Carlsbad VMT Analysis Guidelines. This impact would be significant and unavoidable.</p>	<p><b>T-1 Achieve VMT Reductions for Development Projects.</b> During the project design and project-level review phases of development projects at the 18 rezone sites, the city shall review each project compared to the City of Carlsbad VMT Analysis Guidelines screening criteria to determine if the submitted project is eligible to be screened out of conducting project-level VMT analysis. If a project meets one or more of the screening criteria, the project is determined to have a less than significant impact to VMT in accordance with the city’s VMT Analysis Guidelines. A project that has not been excluded from the VMT analysis screening process outlined above must undergo a quantitative VMT analysis to determine whether it will have a significant impact on VMT. If it is determined that the project would have a significant impact on VMT (i.e., it does not result in at least a 15 percent reduction in VMT compared to existing conditions), the city shall require the project to implement project-level VMT reduction measures, as noted below, prior to project approval and issuance of construction permits.</p> <p>Transportation Demand Management (TDM) measures and physical measures to reduce VMT are outlined in the <i>City’s VMT Analysis Guidelines</i> and have been identified as potentially VMT reducing in the California Air Pollution Control Officers Association (CAPCOA) <i>Handbook for Analyzing Greenhouse Gas Emission Reductions, Assessing Climate Vulnerabilities, and Advancing Health and Equity</i> (December 2021). The CAPCOA Handbook provides detailed requirements, calculation steps, and limitations for assessing the VMT reduction effectiveness of each measure, including reductions from combinations of measures.</p> <p>Trip reduction strategies may include, but are not limited to, the following:</p> <ol style="list-style-type: none"> <li>1. Provision of bus stop improvements or on-site mobility hubs</li> </ol>	<p>Significant and Unavoidable</p>



Impact	Mitigation Measure (s)	Residual Impact
	<ol style="list-style-type: none"> <li>2. Pedestrian improvements, on-site or off-site, to connect to nearby transit stops, services, schools, shops, etc.</li> <li>3. Bicycle programs including bike purchase incentives, storage, maintenance programs, and on-site education program</li> <li>4. Enhancements to the citywide bicycle network</li> <li>5. Parking reductions and/or fees set at levels sufficient to incentivize transit, active transportation, or shared modes</li> <li>6. Cash allowances, passes, or other public transit subsidies and purchase incentives</li> <li>7. Providing enhanced, frequent bus service</li> <li>8. Implementation of shuttle service</li> </ol> <p>Other measures not listed in CAPCOA but are proven to be effective means of reducing the amount of VMT generated by residents include increasing the mix of uses by adding retail or services within a site or within convenient walking distance.<sup>2</sup> Although it is unlikely that TDM measures will fully mitigate the impact of the program to a less-than-significant level, CEQA mandates the implementation of feasible mitigation measures to reduce a project or program's level of impact. In this context, Fehr &amp; Peers identified a list of recommended TDM measures from Appendix E of the city's VMT Analysis Guidelines to mitigate the project VMT impact to the extent feasible [as presented in Table 4.13-3 of Section 4.13, Transportation, of this SEIR]. The summary provides an estimate of the effectiveness of these measures and specifies which ones are applicable to areas that have adjacent or near transit. Individual rezone sites (if their location based on the TAZ exceeds the city's VMT threshold) should include all feasible mitigation measures Table 4.13-3. Projects that are within a half mile of a transit stop should incorporate the measures that are applicable to encouraging transit.</p>	
<p><b>Impact T-3.</b> Similar to development analyzed in the 2015 General Plan EIR, development facilitated by the project would not substantially increase hazards due to geometric design features (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment). This impact would be less than significant.</p>	<p>None required.</p>	<p>Less than Significant without Mitigation</p>

<sup>2</sup> American Planning Association PAS Memo, 2013. "Getting Trip Generation Right: Eliminating the Bias Against Mixed Use Development" by Jerry Walters, Brian Bochner, and Reid Ewing, May.

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Impact	Mitigation Measure (s)	Residual Impact
<p><b>Impact T-4.</b> Similar to development analyzed in the 2015 General Plan EIR, development by the project would not result in inadequate emergency access. This impact would be less than significant.</p>	<p>None required.</p>	<p>Less than Significant without Mitigation</p>
<p><b>Cumulative Impact:</b> Because the analysis for the project is based on VMT per resident, the significant VMT impact finding implies that the project would also have a cumulatively considerable contribution to a significant cumulative impact. Since project-level significance thresholds were designed to support long-term environmental goals, they inherently also address potential cumulative VMT impacts. As such, VMT would be cumulatively considerable. Therefore, the cumulative impact related to VMT would be significant and unavoidable.</p>		
<p><b>Utilities and Service Systems</b></p>		
<p><b>Impact UTIL-1.</b> Similar to the development analyzed in the 2015 General Plan EIR, development under the project may require the relocation or construction of new or expanded water, wastewater treatment, stormwater drainage, electric power, natural gas, and telecommunications facilities. However, such relocation and construction would not cause significant environmental effects beyond those already identified in this SEIR. This impact would be less than significant.</p>	<p>None required.</p>	<p>Less than Significant without Mitigation</p>
<p><b>Impact UTIL-2.</b> Similar to the development analyzed in the 2015 General Plan EIR, construction and operation of development under the project would result in a net increase in water demand. However, this increase in demand can be served by projected and reasonably available water supplies. This Impact would be less than significant.</p>	<p>None required.</p>	<p>Less than Significant without Mitigation</p>
<p><b>Impact UTIL-3.</b> Similar to the development analyzed in the 2015 General Plan EIR, Wastewater generated by development under the project would be treated at the Encina Wastewater Authority in Carlsbad. The plant would have adequate capacity to serve the anticipated wastewater generation in addition to its existing wastewater treatment commitments. This Impact would be less than significant.</p>	<p>None required.</p>	<p>Less than Significant without Mitigation</p>

Impact	Mitigation Measure (s)	Residual Impact
<p><b>Impact UTIL-4.</b> Similar to the development analyzed in the 2015 General Plan EIR, development under the project would not generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, including the Republic Services Palomar Transfer Station. The project would not impair the attainment of solid waste reduction goals, and development would comply with federal, State, and applicable local statutes and regulations related to solid waste. This impact would be less than significant</p>	<p>None required.</p>	<p>Less than Significant without Mitigation</p>
<p><b>Wildfire</b></p>		
<p><b>Impact WF-1.</b> Similar to the development analyzed in 2015 General Plan, development facilitated by the project would result in additional population and vehicle miles traveled in the city. The project could result in changes to emergency evacuation routes or could increase roadway congestion such that the use of an evacuation route would be hindered. However, impacts would remain less than significant.</p>	<p>None required.</p>	<p>Less than Significant without Mitigation</p>
<p><b>Impact WF-2.</b> Carlsbad is located within a Local Responsibility Area Very High Fire Hazard Severity Zone and adjacent to a State Responsibility Area Very High Fire Hazard Severity Zone. Compliance with applicable policies, codes and regulations would reduce the risk of loss, injury, or death from wildfire associated with development facilitated by the project. This impact would remain less than significant.</p>	<p>None required.</p>	<p>Less than Significant without Mitigation</p>

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# 1 Introduction

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This Supplemental Environmental Impact Report (SEIR) evaluates impacts associated with the proposed project (“Housing Element Implementation and Public Safety Element Update”), which consists of amendments to the Carlsbad General Plan, including the Land Use and Community Design Element and Public Safety Element, and amendments to Carlsbad Municipal Code Title 21, the Zoning Ordinance. The General Plan, the California Environmental Quality Act (CEQA) environmental review process, and the legal basis for preparing an SEIR are described below.

This section discusses:

- Overview of previous Environmental Impact Report (EIR);
- Basis for an SEIR;
- Project requiring environmental analysis;
- Purpose and legal authority of the SEIR;
- Public review and participation process;
- SEIR content;
- SEIR scope;
- Baseline and approach of the SEIR impact analysis;
- Agency roles and responsibilities; and,
- Environmental review process

## 1.1 Overview of Previous EIR

The City of Carlsbad’s certified 2015 General Plan and Climate Action Plan EIR (“2015 General Plan EIR”) analyzed impacts from the 2015 General Plan Update and the city’s Climate Action Plan. The 2015 General Plan EIR anticipated the addition of 6,798 new residential dwelling units by the horizon year of 2035. The 2015 General Plan EIR found less than significant impacts for aesthetics, agricultural resources, biological resources, cultural resources, energy, greenhouse gas emissions, geology and soils, hazards and hazardous materials, hydrology and water quality, land use, noise, population and housing, public services and recreation, tribal cultural resources, utilities and service systems, and wildfire; and significant and unavoidable impacts for air quality and transportation.

## 1.2 Basis for a Supplemental EIR

When an EIR has been adopted and a project is modified or expanded upon, additional CEQA review may be necessary. The key considerations in determining the need for the appropriate type of additional CEQA review are outlined in Section 21166 of the Public Resources Code (PRC) and *CEQA Guidelines* Section 15163.

Pursuant to *CEQA Guidelines* Section 15162, no subsequent EIR shall be prepared unless one or more of the following conditions is present:

1. Substantial changes are proposed in the project which will require major revisions of the previous EIR or negative declaration due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects;

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2. Substantial changes occur with respect to the circumstances under which the project is undertaken which will require major revisions of the previous EIR or Negative Declaration due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects; or
3. New information of substantial importance, which was not known and could not have been known with the exercise of reasonable diligence at the time the previous EIR was certified as complete or the Negative Declaration was adopted, shows any of the following:
  - a. The project will have one or more significant effects not discussed in the previous EIR or negative declaration;
  - b. Significant effects previously examined will be substantially more severe than shown in the previous EIR;
  - c. Mitigation measures or alternatives previously found not to be feasible would in fact be feasible, and would substantially reduce one or more significant effects of the project, but the project proponents decline to adopt the mitigation measure or alternative; or
  - d. Mitigation measures or alternatives which are considerably different from those analyzed in the previous EIR would substantially reduce one or more significant effects on the environment, but the project proponents decline to adopt the mitigation measure or alternative.

Pursuant to *CEQA Guidelines* Section 15163, a lead agency may choose to prepare a supplement to the EIR rather than subsequent EIR if:

1. Any of the conditions described in Section 15162 would require the preparation of a subsequent EIR, and
2. Only minor additions or changes would be necessary to make the previous EIR adequately apply to the project in the changed situation.

Furthermore, according to *CEQA Guidelines* Section 15163:

- a. The supplement to the EIR need contain only the information necessary to make the previous EIR adequate for the project as revised.
- b. A supplement to an EIR shall be given the same kind of notice and public review as is given to a draft EIR under Section 15087.
- c. A supplement to an EIR may be circulated by itself without recirculating the previous draft or final EIR.
- d. When the agency decides whether to approve the project, the decision-making body shall consider the previous EIR as revised by the supplemental EIR. A finding under Section 15091 shall be made for each significant effect shown in the previous EIR as revised.

Pursuant to *CEQA Guidelines* Section 15163, the City of Carlsbad prepared this as a “Supplemental” EIR because only minor additions and changes would be necessary to make the previously certified 2015 General Plan EIR adequately apply to the project. An SEIR is the appropriate level of *CEQA* documentation for multiple reasons. First, the document incorporates updates to the *CEQA Guidelines* since 2015 and includes analysis of environmental issue areas added to the *CEQA Guidelines* and not included in the 2015 General Plan EIR. New environmental issue areas analyzed in this SEIR include energy, wildfire, vehicle miles traveled (VMT) and tribal cultural resources. Therefore, the City of Carlsbad has determined that the preparation of a SEIR is the appropriate

approach to CEQA compliance. Consistent with *CEQA Guidelines* Section 15050, the 2015 General Plan EIR is incorporated into this document by reference. A summary of impacts and applicable mitigation identified in the 2015 General Plan EIR is included in Section 4, *Environmental Impact Analysis*.

### 1.3 Project Requiring Environmental Analysis

The proposed project would facilitate the development of housing on 18 sites as part of the Housing Element implementation. Accordingly, the Carlsbad General Plan, specifically the Land Use and Community Design Element, would be updated to allow for this development. The Public Safety Element would also be updated to ensure consistency with State regulations. Updates to the Land Use and Community Design Element include the proposed addition of two new residential land use designations (R-35 and R-40) for the accommodation of higher density residential development, establishment of revised minimum densities for some residential designations, miscellaneous, related changes to tables, text and policies, and changes to land use designations on multiple sites to accommodate the city's RHNA share. Updates to the Public Safety Element would include addition of the requirements of new State legislation and the incorporation of new policies based on local and regional data. The following documents would be updated consistent with the changes noted above:

- Consistent with project General Plan changes, revise the Zoning Ordinance.
- Amend the Local Coastal Program as necessary to maintain consistency with the General Plan and Zoning Ordinance.
- Revise various master plans and specific plans as necessary to reflect amendments to the General Plan, Zoning Ordinance, and Local Coastal Program.

See Section 2, *Project Description*, for additional information about the proposed project.

### 1.4 Purpose and Legal Authority

The proposed project requires the discretionary approval of the City of Carlsbad; therefore, the project is subject to the environmental review requirements of CEQA PRC Section 21000, commonly referred to as the CEQA. As such, this SEIR is an informational document for use by the City of Carlsbad (Lead Agency), other agencies, and the general public in their consideration and evaluation of the environmental consequences of implementing the proposed project.

In accordance with *CEQA Guidelines* Section 15121(a), the purpose of this SEIR is to:

- Inform public agency decision makers and the public of any significant environmental effects that would result from the Housing Element Implementation and Public Safety Element Update;
- Identify possible ways to minimize significant effects; and,
- Identify reasonable alternatives to the Housing Element Implementation and Public Safety Element Update.

This SEIR was prepared in accordance with *CEQA Guidelines* Section 15151, which defines the standards for EIR adequacy as follows:

An EIR should be prepared with a sufficient degree of analysis to provide decision makers with information which enables them to make a decision which intelligently takes account of

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environmental consequences. An evaluation of the environmental effects of a proposed project need not be exhaustive, but the sufficiency of an EIR is to be reviewed in the light of what is reasonably feasible. Disagreement among experts does not make an EIR inadequate, but the EIR should summarize the main points of disagreement among the experts. The courts have looked not for perfection but for adequacy, completeness, and a good faith effort at full disclosure.

The 2015 General Plan EIR was a Program EIR as defined in *CEQA Guidelines* Section 15168 because it enabled the City of Carlsbad, as the Lead Agency, to examine the overall effects of a series of actions that can be characterized as one large project. Consistent with the 2015 General Plan EIR, this SEIR is a Program EIR under Section 15168(a) of the *CEQA Guidelines*. Section 15168(a) states that:

A Program EIR is an EIR which may be prepared on a series of actions that can be characterized as one large project and are related either: (1) geographically; (2) as logical parts in a chain of contemplated actions; (3) in connection with issuance of rules, regulations, plans, or other general criteria, to govern the conduct of a continuing program; or (4) as individual activities carried out under the same authorizing statutory or regulatory authority and having generally similar environmental effects which can be mitigated in similar ways.

This SEIR is intended to serve as a Program EIR under CEQA. Although the legally required contents of a Program EIR are the same as those of a Project EIR, Program EIRs are typically more conceptual and may contain a more general or qualitative discussion of impacts, alternatives, and mitigation measures than a Project EIR. As provided in CEQA Guidelines Section 15168, a Program EIR may be prepared on a series of actions that may be characterized as one large project. Use of a Program EIR provides the city with the opportunity to consider broad policy alternatives and program-wide mitigation measures, and provides the city with greater flexibility to address project-specific and cumulative environmental impacts on a comprehensive basis.

A Program EIR is appropriate for the proposed project because it satisfies Section 15168(a). The project area for this analysis includes the incorporated city; is within a logical part in a chain of contemplated actions for implementation of the Housing Element and other updates to the General Plan; would be under the city's rules, regulations, plans, and other general criteria; is carried out under one regulatory authority, the city; and would have generally similar environmental effects, as they relate to increasing housing units within the city, which 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 needs to be prepared. However, if the Program EIR addresses the program's effects as specifically and comprehensively as possible, many subsequent activities could be found to be within the Program EIR scope and additional environmental documents may not be required (14 CCR 15168[c]).

When a Program EIR is relied on for a subsequent activity, the lead agency must incorporate feasible mitigation measures and alternatives developed in the Program EIR into the subsequent activities (14 CCR 15168[c][3]). If a subsequent activity would have effects that were not examined in the Program EIR, the lead agency must prepare a new Initial Study leading to a Negative Declaration, Mitigated Negative Declaration, or an EIR (14 CCR 15168[c][1]). The CEQA Guidelines encourage the use of Program EIRs, citing five advantages in Section 15168(b):

1. Provide an occasion for a more exhaustive consideration of effects and alternatives than would be practical in an EIR on an individual action,
2. Ensure consideration of cumulative impacts that might be slighted in a case-by-case analysis,



3. Avoid duplicative reconsideration of basic policy considerations,
4. Allow the Lead Agency to consider broad policy alternatives and program-wide mitigation measures at an early time when the agency has greater flexibility to deal with basic problems or cumulative impacts, and
5. Allow reduction in paperwork.

The proposed project involves the implementation of a broad policy planning document. The project-level details of the implementation of the proposed project would not be known at the time of preparation of the EIR. In this case, the Program EIR still serves a valuable purpose as the first-tier environmental analysis. The Program EIR approach would provide a sufficient level of analysis for the broad nature of the proposed project and future development goals. The city intends to take full advantage of the CEQA streamlining provisions in order to encourage the construction of more housing options quicker and more efficiently.

The SEIR will help facilitate the opportunity for projects to utilize Public Resource Code Section 21159.24, which allows urban infill residential development that meets certain criteria be exempt from CEQA. The city would also facilitate the statutory Infill Housing Exemption by providing updated community level environmental review, as defined by Public Resources Code Section 21159.20, for properties designated for residential development by the General Plan. In addition, the city may utilize the SB266 CEQA streamlining provisions that was adopted as part of CEQA Guidelines Section 15183.3 to streamline review for eligible infill projects by limiting the topic subject to review at the project level.

## 1.5 Documents Incorporated by Reference

As permitted by State CEQA Guidelines Section 15150, this SEIR has referenced several technical studies, analyses, and previously certified environmental documentation. Information from the documents, which have been incorporated by reference, has been briefly summarized in the appropriate section(s). The relationship between the incorporated part of the referenced document and the SEIR has also been described. The documents and other sources that have been used in the preparation of this SEIR are listed in Section 7, *References and Preparers*, of this SEIR.

Technical appendices, used as a basis for much of the environmental analysis in the SEIR, have been summarized in the SEIR, and are provided under separate cover as part of the SEIR. The technical appendices are available for review at the City of Carlsbad Planning Division at 1635 Faraday Avenue, Carlsbad CA 92008.

## 1.6 Public Review and Participation Process

The City of Carlsbad published and distributed a Notice of Preparation (NOP) of the SEIR for a 30-day agency and public review period starting on September 14, 2022, and ending on October 14, 2022. The city held two scoping meetings on September 26, 2022 (in-person) and September 28, 2022 (virtual). On October 13, 2022, the city issued an amended NOP extending the public comment period to October 26, 2022, and adding a third scoping meeting on October 19, 2022 (in-person). The scoping meetings were aimed at providing information about the proposed project to members of public agencies, interested stakeholders, residents, and community members. Awareness of the project and first two scoping meetings was provided via mailers to all property owners and residents within a 600-foot radius of each housing site.

**Housing Element Implementation and Public Safety Element Update**

The city received letters from three agencies in response to the NOP during the public review period, as well as numerous written comments via email and verbal comments during the scoping meetings. The NOP is presented in Appendix A of this SEIR. Table 1-1 summarizes the content of many of the letters, comment cards, and verbal comments received and where the issues raised are addressed in the EIR. All comments, including those that are non-CEQA related, are included in Appendix A and the administrative record.

The City of Carlsbad also consulted with Native American Tribal representatives consistent with the requirements of SB 18 and AB 52. A summary of consultation activities is provided in Section 4.4, *Cultural and Tribal Cultural Resources*, of this SEIR.

**Table 1-1 NOP Comments and SEIR Response**

Committer	Comment/Request	How and Where It Was Addressed
<b>Agency Comments</b>		
California Department of Fish and Wildlife (CDFW)	<p>Recommends the SEIR include discussions in the Biological Resources section of direct, indirect, and cumulative impacts expected to adversely impact biological resources in public lands, open space, riparian ecosystems, and any designated or proposed existing reserve lands. Impacts on, and maintenance of, wildlife corridors and habitat linkages, including linkages that connect coastal California gnatcatcher populations, should be fully evaluated in the SEIR.</p>	<p>Issue is discussed under Impacts BIO-2 and BIO-4 of Section 4.3, <i>Biological Resources</i>, of this SEIR.</p>
	<p>Recommends discussion of project consistency with the biological goals and guidelines outlined in the city’s Habitat Management Plan (HMP) and Implementation Agreement. In addition, the project should not preclude the completion of a viable reserve system as outlined in the HMP.</p>	<p>Issue is discussed under Impact BIO-6 of Section 4.3, <i>Biological Resources</i>, of this SEIR.</p>
	<p>Recommends an analysis of impacts from changes in land use designations and zoning located nearby or adjacent to natural areas that may inadvertently contribute to wildlife-human interactions. A discussion of possible conflicts and mitigation measures to reduce these conflicts should be included in the SEIR.</p>	<p>Issue is discussed under Impacts BIO-1, BIO-2, and BIO-5 of Section 4.3, <i>Biological Resources</i>, of this SEIR.</p>
	<p>Recommends a cumulative effects analysis, as described under CEQA Guidelines section 15130. General and specific plans, as well as future projects, should be analyzed relative to their impacts on similar plant communities and wildlife habitats.</p>	<p>Issue is discussed in Section 4.3.4, <i>Biological Resources - Cumulative Impacts</i>, of this SEIR.</p>
California Department of Transportation (Caltrans)	<p>Requests new developments resulting from the project should provide a VMT based Traffic Impact Study (TIS) using OPR guidance. The TIS may also need to identify the proposed project’s near-term and long-term safety or operational issues, on or adjacent to any existing State facilities.</p>	<p>Issue is discussed under Impact T-2 of Section 4.13, <i>Transportation</i>, of this SEIR.</p>
	<p>Requests the city include discussions and mapping/graphics that describe the city’s existing and future housing inventory per the city’s RHNA</p>	<p>Existing and future housing inventory per the city’s RHNA is discussed in Section 2, <i>Project Description</i>.</p>

Commenter	Comment/Request	How and Where It Was Addressed
	Suggests Carlsbad evaluate and potentially implement Complete Streets projects to improve bicycle and pedestrian access and safety.	Issue is discussed under Impact T-1 of Section 4.13, <i>Transportation</i> , of this SEIR.
	Requests city continue to coordinate with Caltrans to implement necessary improvements at intersections and interchanges where the agencies have joint jurisdiction.	No intersection or interchange improvements are included as part of this project. Nonetheless, the city will continue to coordinate with Caltrans as necessary.
Native American Heritage Commission (NAHC)	States that the proposed project is subject to the requirements and provisions under Assembly Bill (AB 52) for tribal cultural resources.	Consultation required by AB 52 was carried out by the City of Carlsbad, as discussed in Section 4.4.3, <i>Cultural and Tribal Cultural Resources – Existing Conditions</i> , of this SEIR.
<b>Public Comments (by topic)</b>		
Aesthetics	Commenters expressed concern regarding changing the character of established neighborhoods	Scenic resources and the potential for degrading existing visual character or quality of public views are discussed under Impacts AES-1 through AES-3 of Section 4.1, <i>Aesthetics</i> , of this SEIR.
Air Quality and Greenhouse Gas Emissions	Multiple commenters expressed concern regarding air pollution, including lead, from Palomar Airport over sites included in project	Issues associated with air pollution generated from the proposed project are discussed under Impact AQ-2 of Section 4.2, <i>Air Quality</i> , of this SEIR. Issues associated with aerielly-deposited lead are discussed in Section 4.7, <i>Hazards and Hazardous Materials</i> , of this SEIR.
	Commenters raised concern regarding dust control during construction and grading activities	Issue is discussed under Impact AQ-3 of Section 4.2, <i>Air Quality</i> , of this SEIR.
	Commenters express concern regarding potential increase in greenhouse gas emissions beyond those addressed in the Climate Action Plan as a result of the project.	Issue is discussed under Impact GHG-1 of Section 4.6, <i>Greenhouse Gas Emissions</i> , of this SEIR.
Biological Resources	Commenter expresses concern regarding increased coyote sightings and space for coyotes to roam outside of developed areas.	Issue of impacts on habitat and special status species is discussed under Impacts BIO-4 and BIO-6 of Section 4.3, <i>Biological Resources</i> , of this SEIR.
	Commenter concerned potential development on site 10 would affect nesting habitat for hawks and owls.	Issue of impacts on habitat and special status species is discussed under Impact BIO-1 of Section 4.3, <i>Biological Resources</i> , of this SEIR.
	Commenter expresses concern regarding the preservation of older eucalyptus trees.	Issue of the project conflicting with local policies or ordinances, such as a tree preservation policy, is discussed in Impact BIO-5 of Section 4.3, <i>Biological Resources</i> , of this SEIR.
	Commenter expresses concern for impacts on the Buena Vista Lagoon and Creek from project impacts.	Issues to riparian areas are discussed under Impacts BIO-2 and BIO-3, as well as Impact HYD-4 of Sections 4.3, <i>Biological Resources</i> , and 4.8, <i>Hydrology and Water Quality</i> , of this SEIR.

**Housing Element Implementation and Public Safety Element Update**

<b>Commenter</b>	<b>Comment/Request</b>	<b>How and Where It Was Addressed</b>
Cultural and Tribal Cultural Resources	Commenter representing Rincon Band of Luiseno Indians notes the City of Carlsbad is located within the Tribe’s Traditional Use Area and is asking to be consulted and provided the opportunity to provide input to the SEIR process. The Tribe also asks to attend any potential cultural resources field surveys.	Comment is noted, issues regarding Tribal Cultural Resources are discussed in Section 4.4, <i>Cultural and Tribal Cultural Resources</i> , in this SEIR. As discussed in Section 4.4, tribal consultation letters were sent via certified mail to Cheryl Madrigal, Tribal Historic Preservation Officer of the Rincon Band of Luiseño Indians.
Geology and Soils	Commenters concerned Site 3, 8 would not be tenable due to topography	Issue of potential hazards from project due to slopes discussed under Impacts GEO-2 through GEO-4 of Section 4.5, <i>Geology and Soils</i> , of this SEIR.
	Commenter notes paleontological concern near sites.	Issue discussed under Impact GEO-6 of Section 4.5, <i>Geology and Soils</i> , of this SEIR.
	Commenter notes concern regarding expansive soils recorded on or near Sites 10 and 11.	Issues related to expansive soils are discussed under Impact GEO-4 of Section 4.5, <i>Geology and Soils</i> , of this SEIR.
Hazards and Hazardous Materials	Commenters expressed concern regarding safety from McClellan-Palomar Airport	Issue is discussed under Impact HAZ-4 of Section 4.7, <i>Hazards and Hazardous Materials</i> , of this SEIR.
	Commenter notes concern regarding toxic spills on sites near commercial areas.	Issue is discussed under Impact HAZ-3 of Section 4.7, <i>Hazards and Hazardous Materials</i> , of this SEIR.
Hydrology and Water Quality	Commenter expressed concern regarding runoff during construction.	Issue is discussed under Impacts HYD-1 and HYD-2 of Section 4.8, <i>Hydrology and Water Quality</i> , of this SEIR.
Land Use and Planning	Requests review of sites in relation to Palomar Airport Land Use Compatibility Plan	Issue is discussed under Impact HAZ-4 of Section 4.7, <i>Hazards and Hazardous Materials</i> , and Impact NOI-4, of Section 4.10, <i>Noise</i> , of this SEIR.
Noise	Commenters expressed concern regarding noise from McClellan-Palomar Airport over sites included in project.	Issue is discussed under Impact NOI-4 of Section 4.10, <i>Noise</i> , of this SEIR.
	Commenters express concerns regarding noise from potential increase of traffic.	Issue is discussed under Impact NOI-2 of Section 4.10, <i>Noise</i> , of this SEIR.
Public Services	Multiple commenters express concern of potential increase in crime with additional housing.	This is not a CEQA issue and will not be directly discussed in this SEIR. However, Section 4.12, <i>Public Services and Recreation</i> , analyzes the effects of potential increased population on police facilities and protection.
Recreation	Commenters expressed concern regarding the loss of any open space and potential for parks on site.	Issue is discussed under Impact PS-4 of Section 4.12, <i>Public Services and Recreation</i> , of this SEIR.
Transportation	Commenters express concern regarding the impact of increased development of sites on emergency evacuation, particularly Site 10.	Issue is discussed under Impacts HAZ-5, T-4 and WF-2 of Sections 4.7, <i>Hazards and Hazardous Materials</i> , 4.13, <i>Transportation</i> , and 4.15, <i>Wildfire</i> , of this SEIR.

Commenter	Comment/Request	How and Where It Was Addressed
	Commenters express concern for potential traffic and congestion increases in the Village, on El Camino Real, College Blvd, Cannon Road, and other corridors and intersections.	As discussed in Section 4.13, <i>Transportation</i> , of this SEIR, pursuant to SB 743, vehicle miles traveled (VMT) would replace level of service (LOS) as the metric for determining significance of transportation impacts. Therefore, this SEIR does not analyze LOS or congestion as they are non-CEQA issues.
	Commenters note need for VMT analysis regarding project impacts.	Issue is discussed under Impact T-2 of Section 4.13, <i>Transportation</i> , of this SEIR.
	Commenter requests projects currently in development are taken into account in SEIR.	Issue is discussed under Section 4.13.3, <i>Transportation – Cumulative Impacts</i> , of this SEIR.
Utilities and Service Systems	Commenter concerned electrical grid will be able to handle additional residents on sites such as site 10.	Impacts associated with electrical infrastructure to connect new development are discussed in Section 4.14, <i>Utilities and Service Systems</i> .
	Commenters noted concerns of maintaining adequate water supply given population increase on potential sites.	Issue is discussed Impact UTIL-2 of Section 4.14, <i>Utilities and Service Systems</i> , of this SEIR.
	Commenter notes a concern of the additional population on sewage collection and treatment and solid waste services.	Issue is discussed Impact UTIL-3 and UTIL-4 of Section 4.14, <i>Utilities and Service Systems</i> , of this SEIR.

## 1.7 SEIR Content

This SEIR has been organized into seven sections. These include:

- 1) **Introduction.** Provides the project background, and information about the purpose and legal authority of a SEIR, and SEIR content and scope.
- 2) **Project Description.** Identifies the project lead agency, presents and discusses the project objectives, project locations and specific project characteristics.
- 3) **Environmental Setting.** Provides a description of the existing physical setting of the project area and an overview of the progress in implementing the Housing Element Implementation and Public Safety Element Update.
- 4) **Analysis of Environmental Issues.** Describes existing conditions found in the project area and assesses potential environmental impacts that may be generated by implementing the proposed project and cumulative development. These potential project impacts are compared to “thresholds of significance” in order to determine the nature and severity of the direct and indirect impacts. Mitigation measures, intended to reduce adverse, significant impacts below threshold levels, are proposed where feasible. Impacts that cannot be eliminated or mitigated to less-than-significant levels are also identified.
- 5) **Other CEQA-Required Discussions.** Identifies the spatial, economic, or population growth impacts that may result from implementation of the proposed project, as well as long-term effects of the project and significant irreversible environmental changes.
- 6) **Alternatives.** Presents and assesses the potential environmental impacts of three alternatives (one no-build) analyzed in addition to implementation of the proposed Housing Element Implementation and Public Safety Element Update.

- 7) **References/Preparers.** Lists all published materials, federal, State, and local agencies, and other organizations and individuals consulted during the preparation of this SEIR. It also lists the SEIR preparers.

## 1.8 Scope of this SEIR

This SEIR programmatically analyzes the effects of the proposed Housing Element Implementation and Public Safety Element Update Project, which consists of (1) the rezone of specific sites in the city designed to meet current and projected future housing needs of Carlsbad and, (2) for the Public Safety Element Update, the addition of requirements of new State legislation and the incorporation of new policies based on local and regional data.

As noted in more detail in Section 3, *Environmental Setting*, the cumulative effects of the Housing Element Implementation and Public Safety Element Update along with the probable future growth in the San Diego Association of Governments region are included in the analysis at the end of each impact section.

For environmental issue areas that may result in an increased level of impact or a potential change in impact level from the 2015 General Plan EIR, based on new information or changes to regulations or circumstance since the 2015 General Plan EIR certification, those issue areas are further reviewed in this SEIR. These issues have been determined to be:

- Aesthetics
- Air Quality
- Biological Resources
- Cultural and Tribal Cultural Resources
- Geology and Soils
- Greenhouse Gas Emissions
- Hazards and Hazardous Materials
- Hydrology and Water Quality
- Land Use and Planning
- Noise
- Population and Housing
- Public Services and Recreation
- Transportation
- Utilities and Service Systems
- Wildfire

If previous mitigation measures from the 2015 General Plan EIR still apply and would reduce impacts to a less-than-significant level, those measures are listed in the SEIR in the same manner as in the 2015 General Plan EIR.

The level of detail contained throughout this SEIR is consistent with the requirements of CEQA and applicable court decisions. *CEQA Guidelines* Section 15151 provides the standard of adequacy on which this document is based:

An EIR should be prepared with a sufficient degree of analysis to provide decision-makers with information which enables them to make a decision which intelligently takes account of environmental consequences. An evaluation of the environmental effects of the proposed project need not be exhaustive, but the sufficiency of an EIR is to be reviewed in light of what is reasonably feasible. Disagreement among experts does not make an EIR inadequate, but the EIR should summarize the main points of disagreement among the experts. The courts have looked not for perfection but for adequacy, completeness, and a good faith effort at full disclosure.

In preparing the SEIR, use was made of pertinent policies and guidelines, certified EIRs and adopted CEQA documents, and other background documents. A full reference list is contained in Section 7, *References*.

## 1.9 Baseline and Approach for Impact Analysis

The concept of a significant effect on the environment focuses on changes to the baseline physical conditions that will arise as a result of the project (*CEQA Guidelines* Section 15002(g)). Potential new impacts associated with the Housing Element Implementation and Public Safety Element Update are determined through this process as mandated by CEQA. Buildout of the 2015 General Plan EIR is measured as the baseline, except in cases of changed circumstances or new impacts not evaluated in the 2015 General Plan EIR. In these cases, existing conditions at the time the NOP for this SEIR was published are measured as baseline, consistent with Section 15125 of the *CEQA Guidelines*. As described above, the NOP for this SEIR was published on September 14, 2022.

As described above, the proposed Housing Element Implementation and Public Safety Element Update is an update of the current 2015 General Plan. The impacts of the current General Plan were analyzed in the previously certified 2015 General Plan EIR, which was a Program EIR. The analysis in this SEIR is also programmatic and is focused on the potential changes in environmental effects that could result from the updates to the General Plan, Zoning Ordinance, and other documents that are included in the proposed project, including updates or changes to policies, projects, and growth scenarios. Therefore, this SEIR is being prepared to analyze only the changes to the General Plan or changes in circumstances under which the projects would be implemented since certification of the previous 2015 General Plan EIR which occurred on September 22, 2015.

## 1.10 Lead, Responsible, and Trustee Agencies

The *CEQA Guidelines* define lead, responsible and trustee agencies. The city of Carlsbad is the lead agency for the project because it holds principal responsibility for approving the project.

A responsible agency refers to a public agency other than the lead agency that has discretionary approval over the project. The Carlsbad City Council is the final approving authority, with the exception of the proposed changes to the Local Coastal Program (LCP Land Use Map, Zoning Map, Zoning Ordinance, master and specific plans, as applicable in the Coastal Zone), which are subject to California Coastal Commission approval. Therefore, the California Coastal Commission is a responsible agency with approval authority over changes to the Local Coastal Plan.

A trustee agency refers to a State agency having jurisdiction by law over natural resources affected by a project. There are no trustee agencies for the proposed project or EIR. Implementation of the proposed project would not directly cause development in areas where trustee agencies mentioned in *CEQA Guidelines* Section 15386 have jurisdiction. However, future development projects could be located on lands under trustee agency jurisdiction, at which time subsequent environmental review would occur.

## 1.11 Environmental Review Process

The environmental impact review process, as required under CEQA, is summarized below and illustrated in Figure 1-1. The steps are presented in sequential order. Please note that the process summarized below is for an EIR consistent with the referenced sections of the *CEQA Guidelines*.

**Housing Element Implementation and Public Safety Element Update**

However, *CEQA Guidelines* Section 15163(e) requires the same kind of notice and public review for an SEIR as given to a Draft EIR. Therefore, the process summarized below is also applicable to this SEIR.

1. **Determination that a SEIR is warranted.** When an EIR has been certified for a project, a lead agency must determine if a Supplemental EIR should be prepared if only minor additions or changes would be necessary to make the previous EIR adequately apply to the project in a changed situation. As described in Section 1.2, *Basis for a Supplemental EIR*, the proposed project would involve changes to the General Plan which require revisions to the 2015 General Plan EIR. Therefore, the City has determined that the preparation of a Supplemental EIR is the appropriate approach to CEQA compliance.
2. **NOP.** Pursuant to the provision of *CEQA Guidelines* Section 15082, the City (as lead agency) issued a NOP for public review and comment (see Appendix A of this SEIR). As required by *CEQA Guidelines* Section 15375, an NOP is a brief document sent by the lead agency to notify the responsible agencies, trustee agencies, the Governor's Office of Planning and Research (OPR), and other involved agencies that the lead agency plans to prepare a SEIR for a project. The purpose of the notice is to solicit guidance from those agencies as to the scope and content of the environmental information to be included in the SEIR and to solicit recommendations and develop information regarding the scope, focus, and content of the SEIR. The Lead Agency (City of Carlsbad) must file a NOP soliciting input on the EIR scope (or SEIR scope) to the State Clearinghouse, other concerned agencies, and parties previously requesting notice in writing (*CEQA Guidelines* Section 15082; Public Resources Code Section 21092.2). The NOP must be posted in the County Clerk's office for 30 days.
3. **Draft SEIR Prepared.** The Draft SEIR must contain: a) table of contents or index; b) summary; c) project description; d) environmental setting; e) discussion of significant impacts (direct, indirect, cumulative, growth-inducing and unavoidable impacts); f) a discussion of alternatives; g) mitigation measures; and h) discussion of irreversible changes. The contents of an SEIR, though not explicitly listed in the *CEQA Guidelines*, are generally assumed to be the same as a Draft EIR.
4. **Notice of Completion (NOC).** The Lead Agency must file a NOC with the State Clearinghouse when it completes the Draft SEIR and prepare a Public Notice of Availability of a Draft SEIR. The Lead Agency must post the NOC in the County Clerk's office for 30 days (Public Resources Code Section 21092) and send a copy of the NOC to anyone requesting it (*CEQA Guidelines* Section 15087). Additionally, public notice of the Draft SEIR availability must be given through at least one of the following procedures: a) publication in a newspaper of general circulation; b) posting on and off the project site; and c) direct mailing to owners and occupants of contiguous properties. The lead agency must solicit input from other agencies and the public and respond in writing to all comments received (Public Resources Code Sections 21104 and 21253). The minimum public review period for a Draft SEIR is 30 days. When Draft SEIR is sent to the State Clearinghouse for review, the public review period must be 45 days unless the State Clearinghouse approves a shorter period (Public Resources Code 21091). Pursuant to Section 15163(d) of the *CEQA Guidelines*, a SEIR may be circulated by itself without recirculating the previous Draft EIR or Final EIR that it supplements.
5. **Final SEIR/Mitigation Monitoring.** A Final SEIR consists of the Draft SEIR; revisions to the Draft SEIR; responses to comments addressing concerns raised by individuals, organizations, and public agencies or other reviewing parties; and a Mitigation Monitoring and Reporting Program (MMRP). According to PRC Section 21081.6, for projects in which significant impacts would be

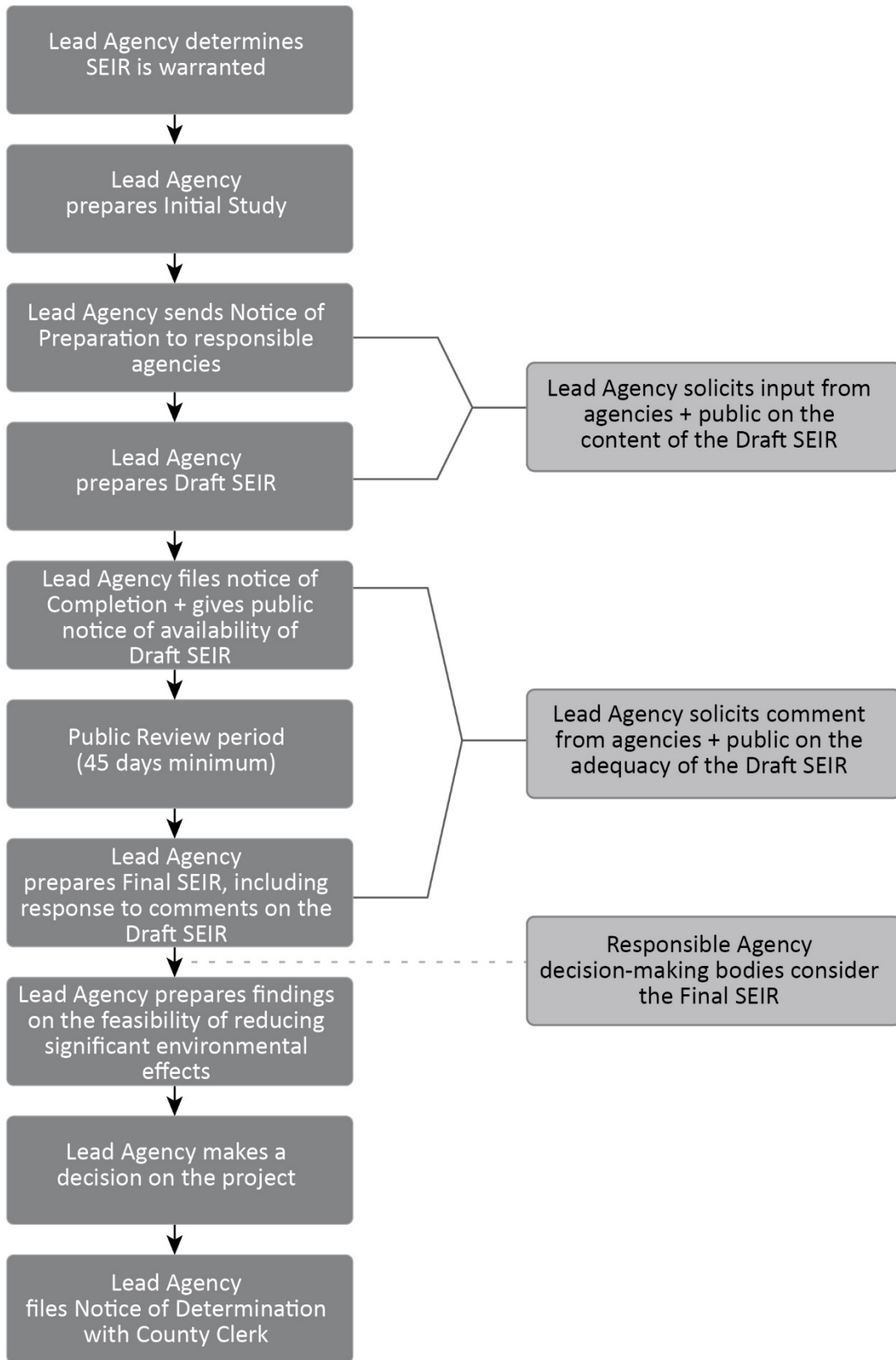


minimized by mitigation measures, the lead agency must include an MMRP. The purpose of an MMRP is to ensure compliance with required mitigation measures during implementation of the project.

After the Final SEIR is completed, and at least 10 days prior to its certification, a copy of the response to comments on the Draft SEIR will be provided or made available to all commenting parties.

6. **Certification of Final SEIR.** Prior to making a decision on a proposed project, the Lead Agency must certify that: a) the Final SEIR has been completed in compliance with CEQA; b) the Final SEIR was presented to the decision-making body of the Lead Agency; and c) the decision-making body reviewed and considered the information in the Final SEIR prior to approving a project (*CEQA Guidelines* Section 15090).
7. **Findings/Statement of Overriding Considerations.** For each significant impact of the project identified in the SEIR, the Lead Agency must find, based on substantial evidence, that either: a) the project has been changed to avoid or substantially reduce the magnitude of the impact; b) changes to the project are within another agency's jurisdiction and such changes have or should be adopted; or c) specific economic, social, or other considerations make the mitigation measures or project alternatives infeasible (*CEQA Guidelines* Section 15091). If an agency approves a project with unavoidable significant environmental effects, it must prepare a written Statement of Overriding Considerations that sets forth the specific social, economic, or other reasons supporting the agency's decision.
8. **Lead Agency Project Decision.** The Lead Agency may a) disapprove the project because of its significant environmental effects; b) require changes to the project to reduce or avoid significant environmental effects; or c) approve the project despite its significant environmental effects, if the proper findings and statement of overriding considerations are adopted (*CEQA Guidelines* Sections 15042 and 15043). Pursuant to Section 15163(e) of the *CEQA Guidelines*, when the Lead Agency decides whether to approve the project, the decision-making body shall consider the previous EIR as revised by the SEIR. A finding under Section 15091 of the *CEQA Guidelines* shall be made for each significant effect shown in the previous EIR as revised.
9. **Mitigation Monitoring Reporting Program.** When the Lead Agency makes findings on significant effects identified in the SEIR, it must adopt a reporting or monitoring program for mitigation measures that were adopted or made conditions of project approval to mitigate significant effects.
10. **Notice of Determination (NOD).** The Lead Agency must file a NOD after deciding to approve a project for which an SEIR is prepared (*CEQA Guidelines* Section 15094). A local agency must file the NOD with the County Clerk. The NOD must be posted for 30 days and sent to anyone previously requesting notice. Posting of the NOD starts a 30-day statute of limitations on CEQA legal challenges (Public Resources Code Section 21167[c]).

Figure 1-1 Environmental Review Process



## 2 Project Description

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The Housing Element Implementation and Public Safety Element Update (herein referred to as the “proposed project”) consists of amendments to the Carlsbad General Plan adopted in 2015 (“2015 General Plan”), including the Land Use and Community Design Element and Public Safety Element, and revisions to Carlsbad Municipal Code (CMC) Title 21, the Zoning Ordinance. The updates are necessary to implement the programs of the city’s Housing Element Update 2021-2029 (“Housing Element”), which was adopted by the Carlsbad City Council on April 6, 2021, and comply with changes in state law.

A major component of the project is the change of land use and zoning designations on 18 sites (herein referred to as the “rezone sites”) throughout Carlsbad to facilitate residential development. These rezone sites, identified in the Housing Element and as further directed by the City Council, consist of single or multiple properties currently designated for low-density residential, commercial, industrial or public land uses. As proposed, the rezone sites would be partially or entirely redesignated to medium or high-density residential land use designations. This would require changes to the General Plan and Local Coastal Program land use maps, Zoning Ordinance and Zoning Map, and to various master and specific plans. The project proposes no development as further discussed below.

This section describes the project, including the applicant, the rezone sites and locations, major characteristics, objectives, and discretionary actions needed for approval. This section also summarizes key aspects of the 2015 General Plan that have the potential to result in physical environmental effects compared to what was previously analyzed under the Environmental Impact Report (EIR) for the General Plan (“2015 General Plan EIR”) certified in September 2015.

### 2.1 Project Proponent and Lead Agency

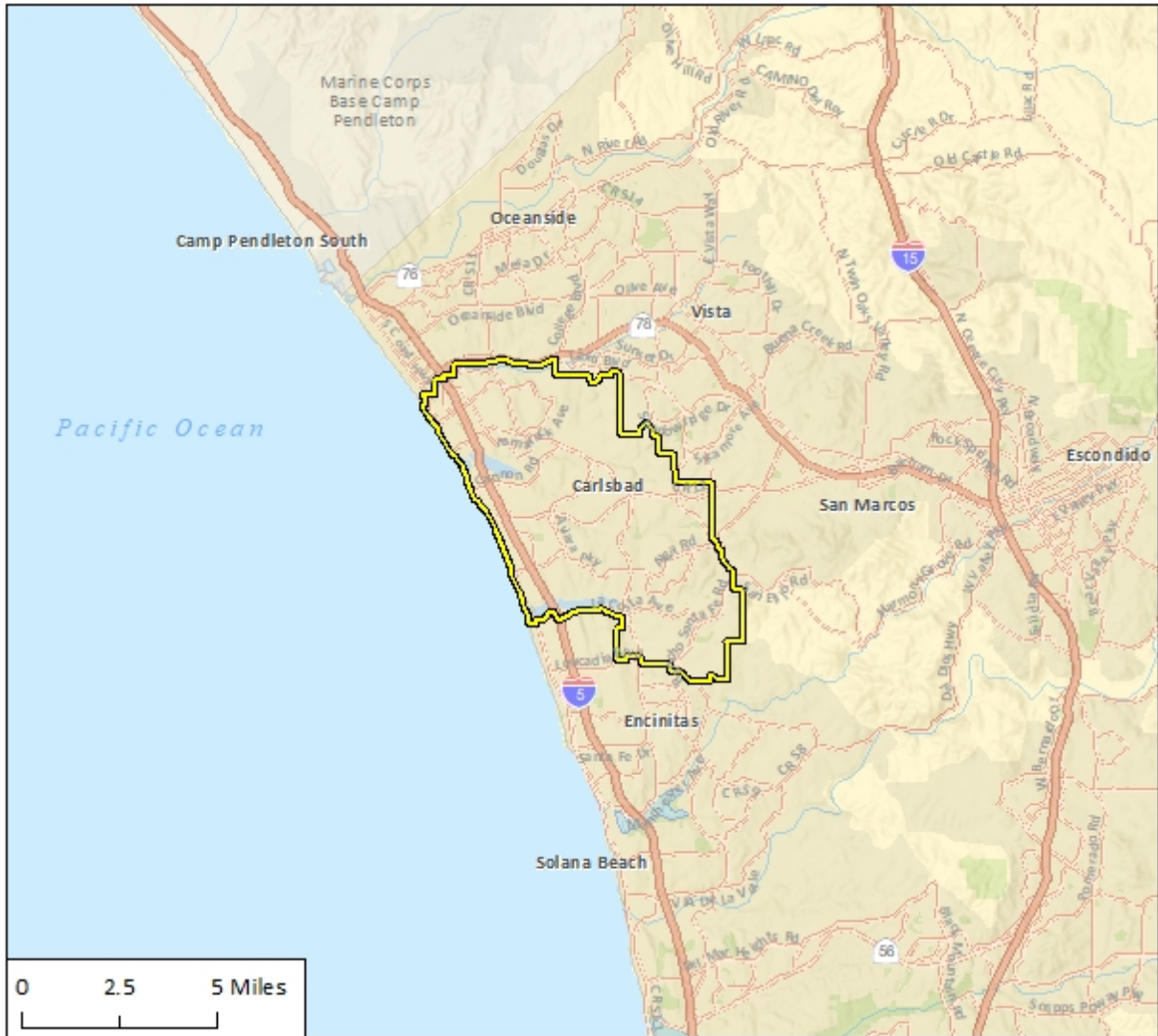
City of Carlsbad  
Community Development Department  
Planning Division  
1635 Faraday Avenue  
Carlsbad, California 92008

**Contact:** Scott Donnell, 442-339-2618, [scott.donnell@carlsbadca.gov](mailto:scott.donnell@carlsbadca.gov)



### 2.2 Project Location

The City of Carlsbad is located on the coast of the Pacific Ocean in northwest San Diego County and encompasses approximately 39 square miles of land area. Carlsbad is surrounded by the cities of Oceanside to the north, Encinitas to the south, and Vista and San Marcos and unincorporated areas of San Diego County to the east. Along Carlsbad’s northern edge, urban development abuts Highway 78, with the highway and Buena Vista Lagoon acting as a boundary between Carlsbad and Oceanside. Similarly, Batiquitos Lagoon along the city’s southern edge acts as a boundary between Carlsbad and Encinitas. To the east, city boundaries are less distinctive, as a mix of hillsides and urban development are located adjacent to the cities of Vista and San Marcos and unincorporated county lands. The city’s regional location is depicted in Figure 2-1.

Figure 2-1 Regional Location



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 Carlsbad City Limits 

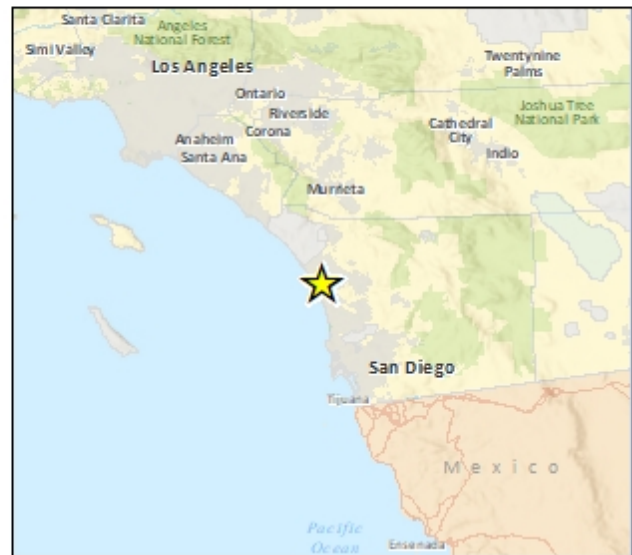


Fig. 2-1 Regional Location



Figure 2-2 Carlsbad City Boundaries



## 2.3 Background

The city recently updated its Housing Element to be in compliance with State housing legislation. The updated Housing Element was adopted by the Carlsbad City Council on April 6, 2021. Updates to the Housing Element triggered the need for changes to the 2015 General Plan to, among others, create new land use designations (R-35 and R-40) and accommodate higher density residential development. The recent approval of the Housing Element has also triggered required analysis and compliance with recent and new state safety legislation. The project would address the requirements of new state legislation and incorporate new policies into the Public Safety Element based on updated local and regional data. Furthermore, the Housing Element resulted in necessary changes to be made to the Zoning Ordinance, Local Coastal Program, and various specific and master plans, to maintain consistency across all documents. Changes in large part are necessary so the city can demonstrate it has adequate sites to accommodate residential development at suitable densities to meet its Regional Housing Needs Assessment, or RHNA, objectives. These changes would amend the land use and zoning designations of multiple sites in Carlsbad.

The proposed changes to land use and zoning designations have been presented and discussed with the community on many occasions, including as part of the Housing Element adoption in April 2021, a City Council meeting in August 2021, public outreach conducted in fall 2021, and a City Council meeting on Feb. 15, 2022. At the February 2022 meeting, the City Council provided direction on specific sites to analyze environmentally as part of this SEIR and present for possible land use changes through the public hearing process.

The Housing Element was analyzed under its own respective CEQA document, an Addendum to the 2015 General Plan EIR which was approved by the City Council also on April 6, 2021 (SCH#2011011004). Thus, for the purposes of this Supplemental Environmental Impact Report (SEIR), the discussion in this SEIR will be primarily focused on the proposed changes within the 2015 General Plan, Zoning Ordinance, and other documents and not on the Housing Element as that was already analyzed in its own CEQA Addendum document.

### 2.3.1 Land Use and Zoning Designations

The City of Carlsbad currently has two broad land use categories including *Residential and Non-Residential* and *Mixed-Use*. Under the Residential land use category, there are currently six residential land use designations, not including those that may be combined with other designations (e.g., R-15/L). These land use designations range from R-1.5 to accommodate single family dwellings to R-30 for the accommodation of multi-family dwellings. Under the Non-Residential and Mixed-Use land use category, there are currently eleven land use designations, not including those that may be combined with other designations. These designations cover various land uses from commercial, office, industrial, manufacturing, open space, transportation corridors, and the Village-Barrio Master Plan area. Some of these land use designations allow residential uses, but do not prioritize residential development.

Figure 2-3 illustrates the locations of the existing General Plan land uses designations throughout the city. Table 2-1 provides the current breakdown of land use designations that are present in the city. Table 2-2 provides the current breakdown of zoning designations that are present in the city.



Figure 2-3 Existing General Plan Land Use Designations



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Additional data provided by the City of Carlsbad, 2022.

Land Use Legend  
Fig X Existing Land Use

**Table 2-1 Existing Land Use Designations (2022)**

<b>Land Use</b>	<b>Acres</b>	<b>Percent of Total</b>
<b>Residential</b>	<b>8,381</b>	<b>38.1%</b>
R-1.5 – Residential 0-1.5 du/ac	546.8	2.5%
R-4 – Residential 0-4 du/ac	4,825.7	21.9%
R-8 - Residential 4-8 du/ac	1,849.8	8.4%
R-15- Residential 8-15 du/ac	808.6	3.7%
R-23 – Residential 15-23 du/ac	331.6	1.5%
R-30 - Residential 23-30 du/ac	18.6	.1%
<b>Mixed Use</b>	<b>22.8</b>	<b>.1%</b>
R-15/L – Residential 8-15 du/ac/Local Shopping Center	17.9	<.1%
R-15/O – Residential 8-15 du/ac/Office	1.3	<.1%
R-15/VC – Residential 8-15 du/ac/Visitor Commercial	3.6	<.1%
<b>Commercial/Industrial</b>	<b>3,217.1</b>	<b>14.6%</b>
V-B Village-Barrio	263.9	1.2%
L-Local Shopping Center	157.2	<.1%
L/CF – Local Shopping Center/Community Facilities	14.3	<.1%
GC – General Commercial	59.8	0.3%
VC – Visitor Commercial	439.6	2%
VC/OS - Visitor Commercial/Open Space	70.9	0.3%
R – Regional Commercial	238.2	1.1%
PI – Planned Industrial	1,811.1	8.2%
PI/O – Planned Industrial/Office	53.9	0.2%
O – Office	108.1	0.5%
<b>Public/Quasi-Public Total</b>	<b>1,221.5</b>	<b>5.6%</b>
P – Public	765.3	3.5%
CF- Community Facilities	930	4%
TC – Transportation Corridor	427.4	1.9%
OS – Open Space	9,174.1	41.7%
<b>Grand Total</b>	<b>22,016.5</b>	<b>100%</b>

1. Percentages may not add up due to rounding.
2. Planned land uses, such as open space, may differ than existing land uses shown in this table.

Sources: City of Carlsbad Land Use Map



**Table 2-2 Existing Zoning Designations (2022)**

<b>Zoning District</b>	<b>Acreage</b>	<b>Percentage of Total Acreage</b>
R-A – Residential Agriculture	226.6	1.03%
R-E – Rural Residential Estate	184.37	0.84%
R-1 -One-Family Residential	2872.29	13.05%
R-2 – Two-Family Residential	98.24	0.45%
R-3 – Multiple Family Residential	164.4	0.75%
RD-M – Residential Density-Multiple	1086.87	4.94%
RD-M/C-2 - Residential Density-Multiple/ General Commercial	32.82	0.15%
RD-M/C-2/OS - Residential Density-Multiple/General Commercial/ Open Space	39.75	0.18%
RD-M/OS - Residential Density-Multiple/ Open Space	7.71	0.04%
RMHP – Residential Mobile Home Park	204.6	0.93%
R-T – Residential Tourist	3.32	0.02%
R-W – Residential Waterway	10.34	0.05%
R-P-Q – Residential Professional with “Q,” Qualified Development Overlay Zone	8.24	0.04%
O – Office	93.92	0.43%
C-L – Local Shopping Center	88.15	0.40%
C-2 – General Commercial	192.08	0.87%
C-T – Commercial Tourist	284.13	1.29%
RD-M/TC	5.8	0.03%
RD-M/C-T	1.21	0.01%
C-M – Heavy Commercial – Limited Industrial Zone	434.17	1.97%
M – Industrial	372.62	1.69%
P-M – Planed Industrial	1094.25	4.97%
P-M/O – Planned Industrial and Office	42.52	0.19%
P-U – Public Utility	208.59	0.95%
V-B – Village-Barrio	256.09	1.16%
V-B, T-C	7.75	0.04%
P-C – Planned Community	8499.7	38.61%
L-C – Limited Control	161.26	0.73%
OS – Open Space	4834.44	21.96%
CR-A/OS – Cannon Road-Agricultural/Open Space	72.55	0.33%
T-C – Transportation Corridor	427.42	1.94%
<b>Total</b>	<b>22016.2</b>	<b>100.00%</b>

Sources: City of Carlsbad Zoning Map

The city implements the provisions outlined in CMC Title 21 *Zoning* to classify, regulate, restrict and segregate the uses of land and buildings. The city’s Zoning Ordinance intends to maintain consistency with the land use designations set forth in the 2015 General Plan through more detailed provisions and standards for both existing and new development. The Zoning Ordinance contains 36 zones and overlay zones to regulate various land uses and types of development throughout the

city. More than one zoning district may be consistent with a single General Plan land use designation.

## 2.4 Project Characteristics

### 2.4.1 Legislative Requirements

A “Project,” as defined by the California Environmental Quality Act (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 the 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]).

For the purposes of this SEIR, the “project” would:

- Amend the City of Carlsbad’s General Plan by updating the Land Use and Community Design Element to implement programs of the Housing Element, including facilitating residential development on 18 rezone sites identified in the Housing Element and as further directed by the City Council on Feb. 15, 2022.
- Consistent with the project’s General Plan changes, revise the Zoning Ordinance.
- Amend the Local Coastal Program as necessary to maintain consistency with the General Plan and Zoning Ordinance.
- Revise various master plans and specific plans as necessary to reflect amendments to the General Plan, Zoning Ordinance, and Local Coastal Program.
- Update the Public Safety Element to comply with State housing and safety legislation.

### 2.4.2 Objectives of the General Plan

According to California Government Code Section 65302, General Plans are required to cover the following “elements” or topics: land use, circulation, housing, conservation, open space, noise, safety, and if applicable, air quality and environmental justice. Jurisdictions may include any other topic that is relevant to planning its future. The Carlsbad General Plan, adopted in 2015, includes all required elements plus elements that discuss arts, culture, history and education; economy, business diversity, and tourism; and sustainability.

Under State law, the General Plan must serve as the foundation upon which all land use decisions are based, and must also be comprehensive, internally consistent, and have a long-term perspective. State law further mandates that the General Plan:

- Identify land use, circulation, environmental, economic, and social goals and policies for the city and its surrounding planning area (i.e., the city’s sphere of influence) as they relate to future growth and development;
- Provide a basis for local government decision-making, including decisions on development approvals and exactions;
- Provide citizens the opportunity to participate in the planning and decision-making process of their communities; and
- Inform citizens, developers, decision-makers, and other cities and counties of the ground rules that guide development within a particular community.

The General Plan functions as a guide to the type of community that Carlsbad citizens desire and provides the means by which that desired future can be achieved. Carlsbad is a community that values its small-town feel, community heritage, and natural setting. The city is committed to encouraging economically sustainable, balanced growth that respects its natural environment and long standing history, while meeting additional needs such as infrastructure and housing. The Carlsbad General Plan's vision for the future focuses on the following core values and priorities:

1. **Small town feel, beach community character and connectedness.** Enhance Carlsbad's defining attributes—its small-town feel and beach community character. Build on the city's culture of civic engagement, volunteerism and philanthropy.
2. **Open space and the natural environment.** Prioritize protection and enhancement of open space and the natural environment. Support and protect Carlsbad's unique open space and agricultural heritage.
3. **Access to recreation and active, healthy lifestyles.** Promote active lifestyles and community health by furthering access to trails, parks, beaches and other recreation opportunities.
4. **The local economy, business diversity and tourism.** Strengthen the city's strong and diverse economy and its position as an employment hub in north San Diego County. Promote business diversity, increased specialty retail and dining opportunities, and Carlsbad's tourism.
5. **Walking, biking, public transportation and connectivity.** Increase travel options through enhanced walking, bicycling and public transportation systems. Enhance mobility through increased connectivity and intelligent transportation management.
6. **Sustainability.** Build on the city's sustainability initiatives to emerge as a leader in green development and sustainability. Pursue public/ private partnerships, particularly on sustainable water, energy, recycling and foods.
7. **History, the arts and cultural resources.** Emphasize the arts by promoting a multitude of events and productions year-round, cutting-edge venues to host world-class performances, and celebrate Carlsbad's cultural heritage in dedicated facilities and programs.
8. **High quality education and community services.** Support quality, comprehensive education and life-long learning opportunities, provide housing and community services for a changing population, and maintain a high standard for citywide public safety.
9. **Neighborhood revitalization, community design and livability.** Revitalize neighborhoods and enhance citywide community design and livability. Promote a greater mix of uses citywide, more activities along the coastline, and link density to public transportation. Revitalize the downtown Village as a community focal point and a unique and memorable center for visitors, and rejuvenate the historic Barrio neighborhood.

### 2.4.3 Proposed Amendments to the General Plan

#### Land Use and Community Design Element

The Land Use and Community Design Element provides the long-term vision, goals, and policies for Carlsbad through the year 2035. The focus is on the accommodation of change and growth in the city, while preserving and enhancing the features and attributes that make it a desirable place to live. As discussed in Section 2.3.1, the Land Use and Community Design Element identifies two primary land use categories including *Residential* and *Non-Residential and Mixed-Use*.

Implementation of the city's Housing Element as noted above triggers the need to make changes to the Land Use and Community Design Element, including the Land Use Map. These changes include

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the proposed addition of two new residential land use designations (R-35 and R-40) for the accommodation of higher density residential development, establishment of new minimum densities for some residential designations, miscellaneous, related changes to tables, text and policies, and changes to land use designations on multiple sites to accommodate the city’s RHNA share. Table 2-3 below lists the new land use designations including the addition of R-35 and R-40, which are indicated with underlines. Designations below that are combined (e.g., R-30/OS) retain the attributes of each individual designation and would be applied to sites to indicate different residential densities and land uses that could occur there.

**Table 2-3 Proposed Land Uses**

<b>Land Use</b>	<b>Acres</b>	<b>Percent of Total</b>
<b>Residential</b>	<b>8,461</b>	<b>38.44%</b>
R-1.5 – Residential 0-1.5 du/ac	546.8	2.48%
R-4 – Residential 0-4 du/ac	4,805.50	21.83%
R-8 - Residential 4-8 du/ac	1,849.80	8.40%
R-15- Residential 11.5-15 du/ac	806.21	3.66%
<u>R-15/R-30 - Residential 11.5-15 du/ac / Residential 26.5-30 du/ac</u>	<u>17.8</u>	<u>0.08%</u>
R-23 – Residential 19-23 du/ac	331.6	1.51%
<u>R-23/P - Residential 19-23 du/ac / Public</u>	<u>5.83</u>	<u>0.03%</u>
<u>R-23/OS - Residential 19-23 du/ac / Open Space</u>	<u>19.73</u>	<u>0.09%</u>
R-30 - Residential 26.5-30 du/ac	48.67	0.22%
<u>R-30/OS - Residential 26.5-30 du/ac / Open Space</u>	<u>9.16</u>	<u>0.04%</u>
<u>R-35 – Residential 32.5-35 du/ac</u>	<u>14.05</u>	<u>0.06%</u>
<u>R-40 Residential 37.5-40 du/ac</u>	<u>5.32</u>	<u>0.02%</u>
<b>Mixed Use</b>	<b>78</b>	<b>0.35%</b>
R-15/O – Residential 11.5-15 du/ac/Office	1.3	0.01%
R-15/VC – Residential 11.5-15 du/ac/Visitor Commercial	1.18	0.01%
<u>R/R-40 - Regional Commercial / Residential 37.5-40/du/ac</u>	<u>3.64</u>	<u>0.02%</u>
<u>R/R-40/R-23 - Regional Commercial/ Residential 37.5-40 du/ac / Residential 19-23 du/ac</u>	<u>28.81</u>	<u>0.13%</u>
<u>R/R-40/R-23/OS - Regional Commercial/Residential 37.5-40 du/ac / Residential 19-23 du/ac / Open Space</u>	<u>23.6</u>	<u>0.11%</u>
<u>R/R-40/OS - Regional Commercial/ Residential 37.5-40 du/ac / Open Space</u>	<u>19.39</u>	<u>0.09%</u>
<b>Commercial/Industrial</b>	<b>3,084.34</b>	<b>14.01%</b>
V-B Village-Barrio	256.15	1.16%
L-Local Shopping Center	157.2	0.71%
L/CF – Local Shopping Center/Community Facilities	14.3	0.06%
GC – General Commercial	55.96	0.25%
VC – Visitor Commercial	439.6	2.00%
VC/OS - Visitor Commercial/Open Space	70.9	0.32%
R – Regional Commercial	162.9	0.74%
PI – Planned Industrial	1,779.39	8.08%
PI/O – Planned Industrial/Office	42.51	0.19%

Land Use	Acres	Percent of Total
O – Office	97.68	0.44%
<b>Public/Quasi-Public Total</b>	<b>1,211.50</b>	<b>5.50%</b>
P – Public	755.31	3.43%
CF- Community Facilities	930	4.23%
TC – Transportation Corridor	427.4	1.94%
OS – Open Space	9,174.10	41.68%
<b>Grand Total</b>	<b>22,010.00</b>	

Notes: Red text indicates new land use designations to facilitate implementation of the 2021-2029 Housing Element

### *Proposed Changes to Sites*

A critical measure of compliance with state housing element law is the ability of a jurisdiction to accommodate its share of the region’s housing needs. This is accomplished by providing plans, policies, and programs designed to meet the city’s RHNA. For San Diego County, the state, through the San Diego Association of Governments (SANDAG), projected the region’s growth for an 8-year projection period between April 15, 2021, and April 15, 2029. SANDAG set Carlsbad’s RHNA target at 3,873, broken into very low income (1,311 units), low income (784 units), moderate income (749 units), and above moderate income (1,029 units). Furthermore, the state strongly advises that jurisdictions incorporate a buffer in their original RHNA allocation of Housing Element sites inventory of at least 15% to 30% more capacity than is required. For the 6<sup>th</sup> Housing Element cycle, the city accounted for a 30% buffer, based on the city’s total RHNA allocation. The buffer equates to 854 units (629 lower and 225 moderate income units).

To help achieve the city’s designated RHNA, the city proposes under this project to undergo both General Plan land use and zoning map amendments as necessary to permit housing on the 18 rezone sites identified in the Housing Element and as directed by City Council in February 2022. The 18 rezone sites are shown below in Figure 2-4. This effort also implements Program 1.1 of the Housing Element. Table 2-4 shows the existing and proposed land use and zoning map amendments to permit housing on the identified housing sites. As the table notes, not all sites require rezoning but have been identified because of their potential to develop with residential units. Further, to maintain consistency with proposed land use and zoning, amendments are required as well to various master and specific plans and to the Local Coastal Program for properties in the Coastal Zone.

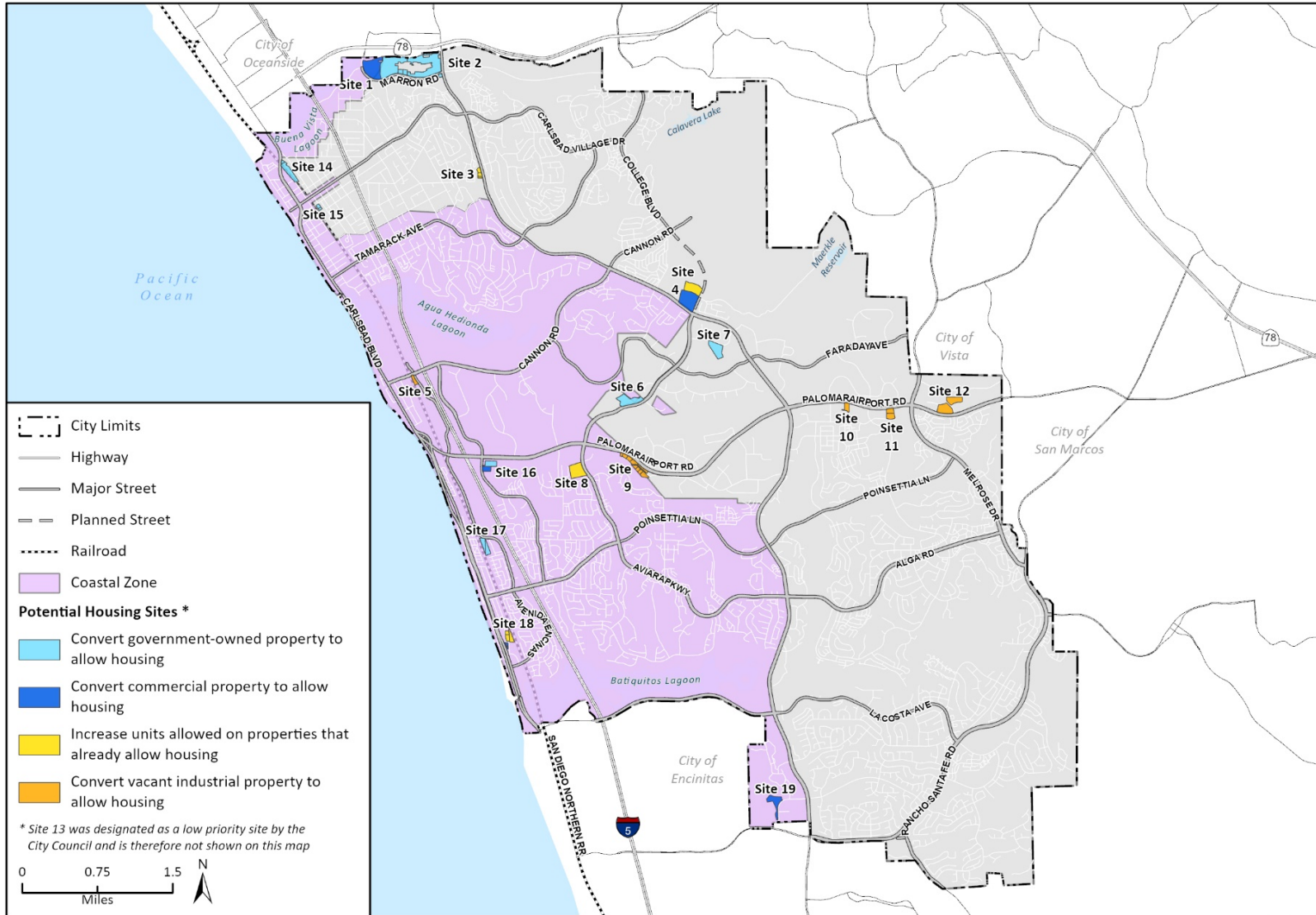
Out of the 3,873 units in the RHNA, 3,295 units, which factors in the state-advised buffer, will be part of the rezone program as the city’s existing inventory of residential land is inadequate to accommodate these units. Housing Element Program 1.1 (specifically, program objectives a. – d.) was established to rezone properties as necessary to make up the shortfall. Because most of the needed units are in the lower income category, most sites must be rezoned at densities of 26.5 units per acre or more. At these densities, apartments of three or more stories are common.

As shown in Figure 2-4, of the 18 rezone sites, ten sites are north of Palomar Airport Road and eight are south. Most of the sites are privately owned, three are owned by the city and two by the North County Transit District. The identified sites are located in each quadrant and each of the four City Council Districts. The quadrants divide the city into four geographic areas along El Camino Real and Palomar Airport Road, and each Council District includes portions of two or more quadrants. The sites are currently designated for commercial, industrial, public, and residential uses, or a

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combination of uses, such as commercial and residential, in the Village and elsewhere. At the time of publication of this SEIR, two sites have approved projects, and one site has an active development application. Owners of most of the sites have expressed interest in having their properties rezoned to allow for this type of development. If the sites' full potential is realized and developed at rents or purchase prices considered affordable to lower and moderate-income households, the city would be able to accommodate its designated RHNA for the 6<sup>th</sup> Housing Element cycle and provide the state-recommended buffer.

Figure 2-4 Proposed Rezone Sites Locations



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Additional data provided by City of Carlsbad, 2023.

COB Housing Sites Portals  
Fig X Carlsbad Housing Sites

**Table 2-4 Proposed General Plan Land Use and Zoning Map Changes**

Site #	Location	APN	Current Land Use Designation	Proposed Land Use Designation	Current Zoning Designation	Proposed Zoning Designation	Existing Units on Site	Unit Yields Permitted Under Existing General Plan Residential Designation, if Present	Proposed Unit Yield	Net Increase in Units (Proposed Unit Yield – Existing Residential Units and/or Units Allowed by Existing Residential Land Use Designation) <sup>1</sup>
Site 1	North County Plaza	156-301-16	R/OS	R/R-40/OS	C-2/Q	RD-M/C-2/OS	0	0	240 units	240 units
Site 2	The Shoppes at Carlsbad parking lot	156-301-11	R/OS	R/R-40/R-23/OS	C-2	RD-M/C-2/OS	0	0	993 units	993 units
		156-302-35	R	R/R-40/R-23	C-2	RD-M/C-2				
		156-301-06	R	R/R-40	C-2	RD-M/C-2				
		156-301-10	R	R/R-40	C-2	RD-M/C-2				
		156-302-23	R	R/R-40	C-2	RD-M/C-2				
Site 3	Chestnut at El Camino Real	167-080-33, 34, 41 and 42	R-4	R-15	R-1-10000	RD-M	0	8	28 units (at 11.5 du/ac)	20 units
Site 4	Zone 15 Cluster	209-060-72	R-4/OS	R-30/OS	R-1-10000	RD-M	1	1	1 unit	0 units <sup>2</sup>
		209-090-11	R-15/L	R-15/R-30	RD-M/C-L	RD-M	0	115	327 units (115 units at 12 du/ac and 212 units at 26.5 du/ac)	212 units
Site 5	Avenida Encinas Car Storage Lot	210-090-24	PI	R-30	P-M	RD-M	0	0	53 units (at 26.5 du/ac)	53 units
Site 6	Crossings Golf Course Lot 5	212-270-05	PI/O	R-30	P-M/O	RD-M	0	0	181 units (at 26.5 du/ac)	181 units



Site #	Location	APN	Current Land Use Designation	Proposed Land Use Designation	Current Zoning Designation	Proposed Zoning Designation	Existing Units on Site	Unit Yields Permitted Under Existing General Plan Residential Designation, if Present	Proposed Unit Yield	Net Increase in Units (Proposed Unit Yield – Existing Residential Units and/or Units Allowed by Existing Residential Land Use Designation) <sup>1</sup>
Site 7	Salk Avenue	212-021-04	O	R-30	O	RD-M	0	0	259 units (at 26.5 du/ac)	259 units
Site 8	Cottage Row Apartments	212-040-47	R-4	R-23/OS	R-1-10000-Q	RD-M	24	33	150 additional units (at 19 du/ac)	117 units
Site 9	West Oaks Industrial	212-040-26 and 212-110-01 to -08	PI and OS	R-30/OS	PI	RD-M/OS	0	192	192 units	0 units
Site 10	Bressi Ranch Colt Place	213-262-17	PI	R-23	P-C	P-C	0	0	49 units (at 19 du/ac)	49 units
Site 11	Bressi Ranch Gateway Road	213-263-19, 213-263-20	PI	R-40	P-C	P-C	0	0	199 units (at 37.5 du/ac)	199 units
Site 12	Industrial Sites East of Melrose	221-015-08, 221-014-03	PI	R-35	P-M	RD-M	0	0	456 units (at 32.5 du/ac)	456 units
Site 14	Carlsbad Village COASTER Station	155-200-11 and 12, 760-166-37, 203-296-12	V-B	V-B (no change)	V-B	V-B (no change)	0	93	93 units (at 28 du/ac) or 200 units (at under 30 du/ac)	0 units or 107 units <sup>3</sup>
Site 15	City's Oak Yard	204-010-05, 204-010-06	V-B	V-B (no change)	V-B	V-B (no change)	0	24	24 units (at 18 du/ac)	0 units

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Site #	Location	APN	Current Land Use Designation	Proposed Land Use Designation	Current Zoning Designation	Proposed Zoning Designation	Existing Units on Site	Unit Yields Permitted Under Existing General Plan Residential Designation, if Present	Proposed Unit Yield	Net Increase in Units (Proposed Unit Yield – Existing Residential Units and/or Units Allowed by Existing Residential Land Use Designation) <sup>1</sup>
Site 16	Caltrans Maintenance Station/ Pacific Sales	211-050-08, 09	GC, P	R-30	RA-10,000/C-2	RD-M	0	0	183 units (at 26.5 du/ac)	182 units
Site 17	Poinsettia COASTER Station	214-150-08, 214-150-20, 214-150-11	P, TC	<b>R-23/P</b>	RD-M-Q, T-C	<b>RD-M/T-C</b>	0	0	27 units or 100 units	27 units or 100 units <sup>4</sup>
Site 18	North Ponto Parcels	216-010-01, 02, 03, 04, 05; 214-160-25 and 28; 214-171-11	R-15, VC/R15, GC	R-23	C-2, RD-M-Q/C-T-Q, RD-M-Q	RD-M	0	40	90 units (at 19 du/ac)	50 units
Site 19	La Costa Glen/Forum	255-012-05	R/OS	R-23/OS	P-C	P-C	0	0	76 units (at 19 du/ac)	76 units
<b>Total</b>										<b>3,295 units</b>

\*Site 13: Removed from Housing Site Inventory and is not included within this SEIR.

\*Unit yields are estimates only.

\*Site 1: A private development application has been submitted. The 240 net increase in units reflects the units the application proposes.

\*Site 9: A project has been approved for 192 units that includes its own project-level CEQA review. However, for a conservative programmatic analysis, this SEIR includes Site 9 in its analysis.

\*Site 18: A private development application with 86 units has been approved on a portion of the site.

<sup>1</sup> Net increase in units does not take into account units estimated from properties that are currently designated or partially designated as commercial (sites 1, 2, 4, 16, 18, 19).

<sup>2</sup> Site "4a" (APN 209-060-72): Site could generate 154 units if rezoned to R-30. However, since the site is currently within a floodplain, the net increase in unit yield is 0.

<sup>3</sup> Site 14: The City Council has directed the study of two different proposed unit yields for this site under Map 1 and Map 2. Map 1 has a proposed yield of 93 units, and Map 2 has a proposed yield of 200 units. The Map 1 yield of 93 units is an estimate of allowed units based on Village and Barrio Master Plan minimum density calculations (28 du/ac based on 50% of the developable area). The Map 2 yield is based on a higher density determined over the entire developable area and still within the density range allowed by the master plan (28-35 du/ac). The 107 units is the difference between the Map 2 and Map 1 unit yield estimates (200 - 93 = 107 units). This analysis assumes 107 units as a conservative estimate.

<sup>4</sup> Site 17: The City Council has directed the study of two different proposed unit yields for this site under Map 1 and Map 2. Map 1 has a proposed yield of 27 units, and Map 2 has a proposed yield of 100 units. This analysis assumes 100 unit as a conservative estimate.

Notes: du/ac = dwelling units per acre

## Public Safety Element

The Public Safety Element is a required component of the city's General Plan that serves to reduce the potential short and long-term risk of death, injuries, property damage, and economic and social dislocation associated with potential hazards. The recent approval of the Housing Element, including the identification of new housing sites for the 6<sup>th</sup> cycle Housing Element site inventory, have triggered required analysis and compliance with recent state safety legislation. The project would address the requirements of new State legislation and incorporate new policies into the Public Safety Element based on updated local and regional data.

The project would address state legislative requirements, including but not limited to:

- Approved in 2019, Senate Bill (SB) 99 requires jurisdictions, upon the next revision of the Housing Element on or after January 1, 2020, to review and update the safety element to include information identifying residential developments in hazard areas that do not have at least two emergency evacuation routes.
- Senate Bill 379 requires Safety Elements to include a climate change vulnerability assessment, measures to address vulnerabilities, and a comprehensive hazard mitigation and emergency response strategy. In addition, Senate Bill 1035 requires cities and counties to update their safety element during a housing element or local hazard mitigation plan update cycle, but not less than once every eight years, if new information on flood hazards, fire hazards, or climate adaptation or resilience is available that was not available during the previous revision of the safety element.
- Senate Bill 1241 requires review and update of the safety element, upon the next revision of the housing element on or after January 1, 2014, as necessary to address the risk of fire in state responsibility areas and very high fire hazard severity zones.
- Assembly Bill 747 requires that upon the next revision of a local hazard mitigation plan, adopted in accordance with the federal Disaster Mitigation Act of 2000 (Public Law 106-390), on or after January 1, 2022, or, if a local jurisdiction has not adopted a local hazard mitigation plan, beginning on or before January 1, 2022, the safety element adopted pursuant to subdivision (g) of Section 65302 shall be reviewed and updated as necessary to identify evacuation routes and their capacity, safety, and viability under a range of emergency scenarios.

Based on the legislative requirements discussed above, the following physical changes resulting from new or modified policies (as listed below) would be made as a result of the implementation of the Public Safety Element:

- Policy 6-P.2** Continue to implement and pursue flood control programs that reduce flood hazards, such as the city's Grading Ordinance and the Floodplain Management Regulations
- Policy 6-P.4** Require all proposed drainage facilities to comply with the city's Standard Design Criteria to ensure they are properly sized to handle 100-year flood conditions. Incorporate updated hydrology and hydraulic data as it becomes available.
- Policy 6-P.5** Require installation of protective structures or other design measures to protect proposed building and development sites, existing infrastructure, and critical services from the effects of flooding. Utilize, where possible, nature-based solutions and pervious pavement to assist in protection.

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- Policy 6-P.6** Encourage the use of permeable materials and surfaces in new development and road repaving to decrease surface water runoff during storms.
- Policy 6-P.7** Promote the use of green infrastructure such as swales to manage stormwater runoff.
- Policy 6-P.13** Regulate new development, redevelopment and lot creation, which requires a coastal development permit, to avoid exposure to sea level rise hazards such as erosion, flooding, inundation, groundwater changes and shoreline migration throughout the lifespan of the proposed development.
- Policy 6-P.16** Require removal or relocation of structures away from sea level rise hazards if public health and safety risks exist, if essential services can no longer be maintained, if the structures are no longer on private property due to migration of the public trust boundary, or if the development requires new or augmented shoreline protective devices that would not otherwise be permitted.
- Policy 6-P.17** Develop sea level rise adaptation plans for assets vulnerable to sea level rise.
- Policy 6-P.31** Minimize risks from landslides by requiring new development to be sited outside of hazard areas, when possible, and to incorporate design that minimizes the potential for damage.
- Policy 6-P.49** When future development is proposed to be intermixed with fire hazard severity zones and/or adjacent to fire hazard severity zones, require applicants to comply with the city's adopted Landscape Manual, which includes requirements related to fire protection, and calls for preparation of a fire protection plan when a proposed project contains or is bounded by hazardous vegetation or is within an area bounded by a Very High Fire Hazard Severity Zone, or as determined by the Fire Code official or their representative.
- Policy 6-P.52** Maintain and implement Wildland/Urban Interface Guidelines for new and existing development within neighborhoods that are proximal to existing fire hazard severity zones. Decrease the extent and amount of edge or wildland urban interface where development is adjacent to fire hazard severity zones.
- Policy 6-P.54** To increase resistance of structures to heat, flames, and embers, review current building code standards and other applicable statutes, regulations, requirements, and guidelines regarding construction, and specifically the use and maintenance of non-flammable materials (both residential and commercial). Promote the use of building materials and installation techniques beyond current building code requirements, to minimize wildfire impacts as well as fire protection plans for all development.
- Policy 6-P.55** In planned developments that may occupy the wildland urban interface, High and Very High Fire Hazard Severity Zones, increase resilience during a potential wildfire evacuation through:
- Enforcing visible address numbers painted on sidewalks. Applying special construction features found in California Building Code Chapter 7A for developments in Very High Fire Hazard Severity Zones & High Fire Hazard Severity Zones areas. Developing and/or adapting multiple language accessible materials for how to prepare your family and home for an evacuation and go kit.

- Identifying and preparing at risk and vulnerable populations that may need assistance to evacuate.
  - Maintaining existing critical evacuation routes, community fire breaks, emergency vehicle access.
  - Requiring adequate access (ingress, egress) to new development, including safe access for emergency response vehicles
  - Identification of anticipated water supply for structural fire suppression.
  - Developing fuel modification plans for all new developments.
- Policy 6-P.58** Coordinate with telecommunication service entities and the San Diego County Communication Department to fire-harden communications.
- Policy 6-P.60** Develop and implement density management strategies that cluster residential developments and minimize low-density exurban development patterns to reduce amounts of flammable vegetation and collective exposure to wildfire risk. When feasible and practicable, require new residential development to be located outside of the Very High Fire Hazard Severity Zone (VHFHSZ). Should new residential development be located in VHFHSZ's, then require that it be built to the current California Building Code and Fire Code.
- Policy 6-P.61** When feasible, site new residential developments and critical facilities outside of the Very High Fire Hazard Severity Zone (VHFHSZ). Protect and harden critical facilities from natural hazards and minimize interruption of essential infrastructure, utilities, and services.
- Policy 6-P.62** Site structures to maximize low-flammability landscape features to buffer against wildfire spread.
- Policy 6-P.63** Require that new development and redevelopment have adequate fire protection, including proximity to adequate emergency services, adequate provisions for fire flow and emergency vehicle access and fire hardened communication, including high speed internet service.
- Policy 6-P.65** Coordinate with San Diego Gas & Electric to implement an electrical undergrounding plan with a focus on critical evacuation roadways and areas with highest wildfire risk.
- Policy 6-P.74** Maintain roadways that are likely to function as key evacuation routes.
- Policy 6-P.80** Protect vulnerable natural and recreational habitats and parks impacted by extreme heat through expansion of large continuous greenspaces wherever possible for greater cooling magnitude and extent. Include:
- A mix of drought tolerant and native habitat types for greatest cooling benefits.
  - Mitigation of risk of dried out vegetation and wildfire risk through drought tolerant and wildfire resilient landscaping on private property.
  - Facilitate mitigation projects through Carlsbad Habitat Management Division
- Policy 6-P.86** Seek funding to plan and implement microgrids, cool roofs, and resilience hubs, and other similar technology in areas with vulnerable populations.
- Policy 6-P.89** Expand the resilience of new and existing critical buildings and infrastructure to function properly while subject to increased climate hazard frequency such as flooding, extreme heat, regional wildfires, and landslides.

**Policy 6-P.90** Partner with utility companies and/or community choice energy entities to improve grid resilience and backup power for the community including but not limited to utility and/or community choice energy entity activities that seek to:

- Harden vulnerable overhead lines against winds and wildfires;
- Protect energy infrastructure and increase redundancy of energy storage and distribution systems in surrounding hazard zones for wildfire;
- Invest in sustainable power sources to provide redundancy and continued services for critical facilities during periods of high demand during extreme heat events; and
- Continue exploring the feasibility of installing microgrids, battery storage, or other local energy storage options.

## 2.4.4 Objectives of the Zoning Ordinance and Zoning Map

In contrast to the long-term broad-based outlook of the Carlsbad General Plan, the Zoning Ordinance provides site-specific controls and guidance on the use and development of properties. Carlsbad Municipal Code (CMC) Title 21, also known as the Zoning Ordinance, consists of two main elements, the Zoning Ordinance and Zoning Map. To prevent incompatible land use relationships, the city's Zoning Ordinance and Zoning Map designate areas or zones for different types of land uses and establishes standards for development. These standards may specify requirements for lot sizes, lot coverages, building heights, setbacks, parking, landscaping, and other development standards. State law (AB 283) requires the city's zoning designations to be consistent with those of the General Plan.

The primary purpose of a zoning ordinance is to establish zoning districts that regulate the use, placement, and form of development throughout the city in order to preserve the health and welfare of the community and carry out the requirements of federal, State, and local law. The zoning ordinance provides specific guidance on future development to accomplish the policies set forth in the Carlsbad General Plan and the desires of the community.

## 2.4.5 Amendment to Zoning Ordinance

Because the city's Zoning Ordinance is the primary implementing tool for key portions of the Carlsbad General Plan, it must be amended to effectively achieve the city's vision.

Although the proposed project will create two new General Plan land use designations (R-35 and R-40), it would not create any new zoning classifications. However, other changes will be made such as to development standards to ensure consistency with the updated General Plan and to implement housing programs and policies contained in the Housing Element.

The Zoning Ordinance and Map implement the city's Local Coastal Program. Revisions to both will trigger amendments to the Local Coastal Program that will be subsequently sent to the California Coastal Commission for final approval.

## 2.4.6 Amendment to Local Coastal Program

The California Coastal Act regulates all development within the state-designated Coastal Zone. The zone extends through the length of the city, and covers approximately one-third of the city's land area. The Coastal Act requires that individual jurisdictions adopt local coastal programs (LCP) to implement the Coastal Act. Carlsbad's LCP consists of a separate land use plan document containing

separate land use policies and an implementation plan, which primarily consists of the city's Zoning Ordinance, as well as portions of the Grading and Drainage Ordinance and Building Codes and Regulations that are applicable to storm water management and grading; master and specific plans applicable to areas in the Coastal Zone are also part of the LCP Implementation plan. Development in the Coastal Zone must comply with the LCP in addition to the General Plan.

Rezone sites 1, 5, 6, 8, 9, 16, 17, 18 and 19 are mostly or entirely in the city's Coastal Zone. If approved by City Council, land use designation changes to these sites and project changes to the Zoning Ordinance and Map and master and specific plans that affect properties in the Coastal Zone will be subject to California Coastal Commission approval. Review and any action by the Coastal Commission on the project would occur after City Council approval and as part of a review process entirely separate from the City's.

### 2.4.7 Amendment to Master and Specific Plans

Several of the rezone sites are within master or specific plans. These plans provide a comprehensive set of guidelines, regulations, and implementation programs for ensuring development of a specific site or area in accordance with the city's General Plan, CMC, and other applicable planning documents. Often, master and specific plans provide more tailored objectives and standards than possible through city-wide documents such as the Zoning Ordinance. Examples of such plans include the Bressi Ranch Master Plan, Village and Barrio Master Plan, and Westfield Carlsbad Specific Plan. Rezone sites 1, 2, 7, 10, 11, 14, 15 and 19 are all within master or specific plans. These plans require amendment as necessary to ensure consistency with the General Plan and Zoning Ordinance and Map as proposed by this project.

### 2.4.8 Anticipated Growth

The Carlsbad General Plan has an approximate year 2035 horizon, but actual buildout of all planned land uses may occur earlier or later, as long-range demographic and economic trends are difficult to predict. The designation within the proposed General Plan of a site for a certain use does not necessarily mean that the site will be developed or redeveloped with that use during the planning period, as most development will depend on property owner initiative.

In 2015, the General Plan EIR reported 45,522 existing housing units in Carlsbad (See Section 4.11, *Population and Housing*) and projected that in the buildout year of 2035, Carlsbad would have 52,320 units (Section 3.9, Land Use, Housing, and Population: 3.9-13). Based on information collected by city staff, since the 2015 General Plan EIR, the city has approved residential development that has resulted in a net increase in the projected housing units to 53,221. As of January 1, 2023, Carlsbad had 47,003 housing units, excluding accessory dwelling units. Therefore, as of release of this SEIR, the city had an available housing unit capacity of 6,218 (53,221 – 47,003) through the buildout year of 2035 under the existing General Plan.

Implementation of the rezone program under the proposed project would facilitate the development of 18 sites, which if developed based on the estimates in Table 2-4 would result in a net increase of 3,295 new housing units to the city's housing stock compared to what is allowed today. These new housing units would generate 8,260 new residents at buildout (see Section 4.11, *Population and Housing*, for calculations).

Combined with the available housing unit capacity under the existing General Plan (6,218 units), the 3,295 new units would result in a new housing capacity of 9,513 units or a total 56,516 units.

## 2.5 Project Objectives

A clear statement of project objectives allows for the analysis of reasonable alternatives to the proposed project, assists the city in making the findings required by CEQA, and informs the city's statement of overriding considerations, if needed. The city's objectives for each of the project's major components are described below:

- Implement the Land Use and Community Design Element, Public Safety Element, and Zoning Ordinance, as amended by this project, to achieve adequate sites for all income groups;
- Provide adequate sites, zoned at appropriate densities and development standards, to facilitate residential development and affordability goals set forth in the 2021-2029 RHNA and as identified in the Housing Element.
- Pursue an infill strategy to foster compact development patterns, create walkable communities and preserve the natural environment and critical environmental areas;
- Expand housing choices to provide a diverse housing inventory to meet the changing needs of the Planning Area, which includes more affordable housing options;
- Update the Public Safety Element to comply with existing State laws.
- Ensure high level of public safety to protect the personal safety and welfare of people who live, work, and visit Carlsbad from crime, pollution, disasters, and other threats and emergencies.

## 2.6 Required Approvals

The following list specifies non-exhaustively and non-exclusively the approvals from the City of Carlsbad and from other agencies necessary for the project. The City Planning Commission and City Council (the City Council is the final approving authority, with the exception of legislative changes in the Coastal Zone, which is subject to California Coastal Commission approval) will review the updated Carlsbad General Plan and its SEIR and supporting documents to consider whether or not to take the following actions:

- Certification of an SEIR;
- Approval of the EIR Findings and Statement of Overriding Considerations;
- Adoption of a Mitigation, Monitoring, and Reporting Program in conjunction with the SEIR;
- Approval of amendments to the General Plan;
- Approval of amendments to the Zoning Ordinance and Zoning Map;
- Approval of amendments to the Local Coastal Program; and
- Approval of amendments to various master and specific plans

As outlined in this section, the proposed project would result in the rezoning of sites with specific development standards. Future projects on the rezone sites must adhere to the CEQA mitigation measures identified in the Mitigation Monitoring and Reporting Program for this SEIR in order for the site to develop consistent with the purpose of the rezone and to ensure that future development reduces environmental impacts to the extent feasible. Future development consistent with the Project Description could proceed "by right" as required by State law. Subsequent projects may tier from the SEIR or a finding may be made that sufficient environmental clearance occurred with the SEIR for the Housing Element (*CEQA Guidelines* Sections 15152, 15162 and 15168). This SEIR comprehensively considers a series of related projects with the intent to streamline



subsequent review of future development projects. Some future development would be subject to subsequent discretionary review and permitting as required by the updated Municipal Code. It should be noted that the following actions are associated with the future development of the city as it builds out pursuant to the 2015 General Plan. That is, actions of the types listed here would occur whether or not the proposed project was approved. Subsequent discretionary actions must be examined in the light of the SEIR to determine whether an additional environmental document needs to be prepared. Most projects would require subsequent discretionary approvals including:

- Coastal Development Permit
- Habitat Management Plan Permit
- Hillside Development Permit
- Planned Development Permit
- Site Development Plan
- Special Use Permit (floodplain, scenic corridor, etc.)
- Tentative Map
- Tentative Parcel Map

### **City Approvals**

City permits are processed upon formal submittal of a development application. Typically, these permits are considered by the Planning Commission in a public hearing setting. In some cases, projects may also require City Council review and approval.

- Coastal Development Permit
- Habitat Management Plan Permit
- Hillside Development Permit
- Planned Development Permit
- Site Development Plan
- Special Use Permit (floodplain, scenic corridor, etc.)
- Tentative Map
- Tentative Parcel Map

### **Other Agencies' Approvals**

Pursuant to *CEQA Guidelines* Section 15096, Responsible Agencies should review and comment on draft EIRs for projects which the Responsible Agency would later be asked to approve. The proposed changes to the Local Coastal Program (LCP Land Use Map, Zoning Map, Zoning Ordinance, master and specific plans, as applicable in the Coastal Zone) are subject to California Coastal Commission approval. Therefore, the California Coastal Commission is a responsible agency with approval authority over changes to the Local Coastal Plan. The California Coastal Commission shall make a determination on certifying the Local Coastal Plan Amendment (LCPA). The California Coastal Commission certification of the LCPA shall be scheduled after the proposed project is adopted. The LCPA portion of the proposed project and associated amendments shall not be effective unless and until fully certified by the California Coastal Commission.

Additionally, subsequent development projects may also require review and approval by other agencies including but not limited to those listed below:

- Future development affecting Waters of the U.S. or adjacent wetlands would need to obtain a permit from the U.S. Army Corps of Engineers issued pursuant to Section 404 of the Federal Clean Water Act (CWA).
- Prior to obtaining a CWA Section 404 permit, a future development may also need to obtain a water quality certification or waiver from the Regional Water Quality Control Board pursuant to Section 401 of the Federal CWA.
- Future development affecting native habitat within a streambed may need a Streambed/Bank Alteration Agreement issued by the California Department of Fish and Wildlife pursuant to Section 1600 et seq. of the California Fish and Game Code.
- Future development located within the City's Coastal Zone may need to gain authorization, including the proper permits and certification from the California Coastal Commission pursuant to the regulations set forth in the California Coastal Act.
- Future development will be required to submit a fugitive dust control plan to the San Diego County Air Pollution Control District (SDAPCD) for approval prior to issuance of grading permits (SDAPCD Rule 55).
- Future development within or altering a 100-year floodplain or other FEMA-mapped flood hazard area would need to obtain a Letter of Map Revision (LOMR), Conditional Letter of Map Revision (CLOMR) or Conditional Letter of Map Revision Based on Fill (CLOMR-F) that describes the effect that the proposed project or fill would have on the National Flood Insurance Program map.
- Future development, such as industrial or medical, for example may need hazardous material handling, use, storage, and/or disposal permit(s) from the appropriate local, regional, state, or federal agency.
- National Pollutant Discharge Elimination System (NPDES) Construction General Permits will be required for grading activities of 1 acre or larger. The developer must file a Notice of Intent with the Regional Water Quality Control Board (RWQCB) and obtain a General Construction Activity Stormwater Permit pursuant to the NPDES regulations established under the CWA. This permit requires preparation and implementation of a Stormwater Pollution Prevention Plan, which is intended to prevent degradation of surface and groundwaters during the grading and construction process.
- Other agencies for which development projects may need to receive permits or clearances include Caltrans; water, wastewater, and other utility districts; North County Transit District (NCTD); San Diego County Regional Airport Authority (Airport Land Use Commission), and; the Federal Aviation Administration.

## 2.7 California Native American Tribal Consultation

Three California Native American Tribe have requested consultation pursuant to Public Resources Code Section 21080.3.1. Information about consultation is included in Section 4.4, *Cultural and Tribal Cultural Resources*, of this SEIR.

## 3 Environmental Setting

This section provides a general overview of the environmental setting for the proposed Housing Element Implementation and Public Safety Element Update. More detailed descriptions of the environmental setting for each environmental issue area evaluated in this SEIR can be found in Section 4, *Environmental Impact Analysis*.

### 3.1 Regional Setting

The City of Carlsbad is located on the coast of the Pacific Ocean in northwest San Diego County and encompasses approximately 39 square miles of land area. The city is located about 30 miles north of San Diego and about 90 miles south of Los Angeles. Carlsbad is surrounded by the cities of Oceanside to the north, Encinitas to the south, and Vista and San Marcos and unincorporated areas of San Diego County to the east. Along Carlsbad's northern edge, urban development abuts Highway 78, with the highway and Buena Vista Lagoon acting as a boundary between Carlsbad and Oceanside. Similarly, Batiquitos Lagoon along the city's southern edge acts as a boundary between Carlsbad and Encinitas. To the east, city boundaries are less distinctive, as a mix of hillsides and urban development are located adjacent to the cities of Oceanside, Vista and San Marcos and unincorporated county lands.

### 3.2 Rezone Sites Setting

To help achieve the City's designated RHNA, the city proposes under this project to undergo both General Plan land use and zoning map amendments as necessary to permit housing on 18 rezone sites identified in the Housing Element. A map of the 18 rezone sites is included in Figure 2-4 in Section 2, *Project Description*. Table 3-1 includes a description of the characteristics of the sites.

**Table 3-1 Rezone Site Characteristics**

Site #	Location	Approximate Site Size	Existing Use and Site Features
Site 1	North County Plaza	19 acres	The site includes a shopping center (North County Plaza) developed with stores, restaurants and other businesses. The site is east of Buena Vista Lagoon and partially includes Buena Vista Creek. An application to develop a portion of the site with residential and new commercial uses has been submitted to the city.
Site 2	The Shoppes at Carlsbad parking lot	57 acres	The site is owned by the city and encompasses the parking lots for The Shoppes at Carlsbad mall and a North County Transit District transit station. The northwest corner of the site includes Buena Vista Creek and its associated riparian habitat and floodplain area.
Site 3	Chestnut at El Camino Real	2.5 acres	The site consists of three vacant properties. The site contains slopes and potential biological resources.

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Site #	Location	Approximate Site Size	Existing Use and Site Features
Site 4	Zone 15 Cluster	27.7 acres	The site includes two separate properties currently used for an RV storage lot, a house, and outbuildings. The site is mostly undeveloped. The northern portion of the site includes a Proposed Hardline and a Standards Area, which are designated for future conservation in the Carlsbad Habitat Management Plan. The Proposed Hardline has been approved as a biological mitigation site for the future extension of College Blvd and is designated as Open Space.
Site 5	Avenida Encinas Car Storage Lot	2 acres	The site is currently occupied with a car storage lot. The site is almost entirely developed with paved surfaces. The site is in proximity of I-5 and the railway. It is also within 0.5-mile walking distance of the beach.
Site 6	Crossings Golf Course Lot 5	11.4 acres	The site is a vacant and undeveloped City-owned property that was graded as part of the Carlsbad Golf Course development. A portion of the site is steeply sloped, and the developable portion of the site is approximately 6.8 acres.
Site 7	Salk Avenue	9.8 acres	The site has been graded but is currently vacant and undeveloped. The site contains manufactured slopes and vegetation.
Site 8	Cottage Row Apartments	11.9 acres	The site is developed with 24 duplex apartments. Portions of the site are undeveloped. The project site is in the Coastal Zone and undeveloped portions contain potential biological resources. The site includes a relatively flat area bordered by steep slopes.
Site 9	West Oaks Industrial	10.8 acres	The site consists of nine separate but adjacent parcels, some of which have been graded, but are undeveloped. The westernmost parcel is an Existing Hardline, and a portion of the remaining lots north of West Oaks Way are a Proposed Hardline in the Carlsbad Habitat Management Plan. A powerline easement and Encinas Creek traverse the site. In 2021, the city approved "West Oaks," a 192-unit apartment project on this site.
Site 10	Bressi Ranch Colt Place	2.6 acres	The site is a previously graded but vacant lot located between residential developments. Approximately 0.6 acres of the site is restricted by McClellan-Palomar Airport Safety Zone 2.
Site 11	Bressi Ranch Gateway Road	5.3 acres	The site consists of two vacant and undeveloped parcels adjacent to industrial and commercial uses.
Site 12	Industrial Sites East of Melrose	14.1 acres	The site consists of two separate but adjacent properties north of Palomar Airport Road. One of the sites is undeveloped but has been previously graded. The other site is developed with a parking lot.
Site 14	Carlsbad Village COASTER Station	7.8 acres	The site is developed with a parking lot that serves the Carlsbad Village Coaster Station and also features vacant, graded land north of the parking lot. The site lies between the Carlsbad Boulevard bridge to a point approximately 200 feet north of the station. It is owned by North County Transit District.
Site 15	City's Oak Yard	1.3 acres	The site is owned by the city and is currently developed with a public works maintenance and operations yard. The site is bordered by existing commercial and industrial development and, to the west, railroad tracks. It is three blocks south of the Carlsbad Village Train Station.

Site #	Location	Approximate Site Size	Existing Use and Site Features
Site 16	Caltrans Maintenance Station and Pacific Sales	6.9 acres	The site consists of two adjacent parcels. The northern parcel is developed with a Caltrans maintenance station and the southern, privately-owned parcel is occupied by commercial use. The eastern portion of the southern parcel is undeveloped and both sites are generally flat.
Site 17	Poinsettia COASTER Station	5.8 acres	The site is developed with transit facilities and 341 parking spaces for transit riders and is owned by the North County Transit District. The site is bordered by railroad tracks to the west and mixed-use development to the east.
Site 18	North Ponto Parcels	5.9 acres	The site consists of eight vacant properties which include self-storage and undeveloped areas. The site is generally flat and is bounded by railroad on the eastern side. The city approved 86 apartments on the north three parcels of Site 18 in May 2022.
Site 19	La Costa Glen/Forum	7.8 acres	The site is primarily vacant and partially developed with a parking lot. The site has been previously graded. There are no known physical constraints to development as previously present slopes within the project site have been graded.

Note: Site 13 removed from Housing Site Inventory and is not included within this SEIR.

### 3.3 Cumulative Projects Setting

Because the project is a general plan update, cumulative impacts are treated somewhat differently than would be the case for a project-specific development. *CEQA Guidelines* Section 15130(b)(1)(B) provides the following direction relative to cumulative impact analysis and states that the following elements are necessary for an adequate discussion of environmental impacts:

A summary of projections contained in an adopted local, regional or statewide plan, or related planning document, that describes or evaluates conditions contributing to the cumulative effect. Such plans may include: a general plan, regional transportation plan, or plans for the reduction of greenhouse gas emissions. A summary of projections may also be contained in an adopted or certified prior environmental document for such a plan. Such projections may be supplemented with additional information such as a regional modeling program. Any such document shall be referenced and made available to the public at a location specified by the lead agency.

Some analyses including air quality, energy, greenhouse gas emissions, transportation, and population and housing, rely on much larger geographic areas such as the San Diego County region. For issues that may have regional cumulative implications, the cumulative impact analysis for this SEIR is based on the regional growth assumed in the San Diego Association of Governments' (SANDAG) most recent Series 14 Regional Growth Forecast used to support regional planning efforts such as the 2021 Regional Plan/Sustainable Communities Strategy as well as local planning such as the development of general plans and long-range plans.

For analyses that may have more localized or neighborhood implications (biological resources, cultural resources, noise, public services, utilities, wildfire), the cumulative impact analysis includes development proposed under the 2015 General Plan. As discussed in Section 2, *Project Description*, the 2015 General Plan EIR reported 45,522 housing units in Carlsbad and projected that in horizon year 2035, Carlsbad would have 52,320 units. Development under the proposed project in

conjunction with the development forecasted in the 2015 General Plan and development that has occurred since the General Plan's approval, is accounted for in the cumulative impacts analysis.

*CEQA Guidelines* Section 15130 provides guidance on the discussion of cumulative impacts. Two conditions apply to determine the cumulative effect of a project: first, the overall effect caused by existing and known or forecasted projects must be considered significant under the significance thresholds discussed above; and second, the project must have a "cumulatively considerable" contribution to that effect.

## 4 Environmental Impact Analysis

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This section discusses the possible environmental effects of the proposed project for the specific issue areas that were identified as having the potential to experience significant impacts. As a Supplemental EIR, this report analyzes the same potentially significant impact areas as the certified EIR (2015) issued by the City of Carlsbad for the 2015 General Plan. A “significant effect” is defined by the *CEQA Guidelines* Section 15382 as:

a substantial, or potentially substantial, adverse change in any of the physical conditions within the area affected by the project including land, air, water, minerals, flora, fauna, ambient noise, and objects of historic or aesthetic significance. An economic or social change by itself shall not be considered a significant effect on the environment but may be considered in determining whether the physical change is significant.

The following issue areas were identified as having potentially significant impacts in the 2015 General Plan EIR and are evaluated in this section:

1. Air Quality
2. Transportation<sup>1</sup>

The following issue areas were determined in the 2015 General Plan EIR to have less than significant impacts or less than significant impacts with mitigation, and are further evaluated in this section:

- |   |                                  |
|---|----------------------------------|
| ▪ Aesthetics                              | ▪ Land Use and Planning          |
| ▪ Cultural and Tribal Cultural Resources  | ▪ Noise                          |
| ▪ Geology and Soils                       | ▪ Population and Housing         |
| ▪ Greenhouse Gas Emissions/Climate Change | ▪ Public Services and Recreation |
| ▪ Hazards and Hazardous Materials         | ▪ Utilities and Service Systems  |
| ▪ Hydrology and Water Quality             | ▪ Wildfire                       |

In addition to the issue areas listed above, the following issue areas were determined in this SEIR to have no impacts, and therefore are addressed in Section 4.16, *Effects Found Not to be Significant*, of this SEIR: Agricultural and Forestry Resources, Energy, and Minerals.

The assessment of each issue area begins with a discussion of the environmental setting related to the issue, which is followed by the impact analysis. In the impact analysis, the first subsection identifies the methodologies used and the “significance thresholds,” which are criteria adopted by the City of Carlsbad and other agencies, universally recognized, or developed specifically for this analysis to determine whether potential effects are significant. The next subsection summarizes the environmental analysis findings of the 2015 General Plan EIR. The last subsection describes each impact of the proposed project, mitigation measures for significant impacts, and the level of significance after mitigation. Each effect under consideration for an issue area is separately listed in

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<sup>1</sup> While the 2015 General Plan EIR determined that the 2015 General Plan would result in significant and unavoidable impacts, this determination was made using the previous metric of LOS. As discussed in Section 4.13, *Transportation*, of this SEIR, pursuant to SB 743, VMT has replaced LOS as the metric for determining transportation significance.

bold text with the discussion of the effect and its significance. Each bolded impact statement also contains a statement of the significance determination for the environmental impact as follows:

**Significant and Unavoidable.** An impact that cannot be reduced to below the threshold level given reasonably available and feasible mitigation measures. Such an impact requires a Statement of Overriding Considerations to be issued if the project is approved per Section 15093 of the *CEQA Guidelines*.

**Less than Significant with Mitigation Incorporated.** An impact that can be reduced to below the threshold level given reasonably available and feasible mitigation measures. Such an impact requires findings under Section 15091 of the *CEQA Guidelines*.

**Less than Significant.** An impact that may be adverse but does not exceed the threshold levels and does not require mitigation measures. However, mitigation measures that could further lessen the environmental effect may be suggested if readily available and easily achievable.

**No Impact.** The proposed project would have no effect on environmental conditions or would reduce existing environmental problems or hazards.

Following each environmental impact discussion is a list of mitigation measures (if required) and the residual effects or level of significance remaining after implementation of the measure(s). In cases where the mitigation measure for an impact could have a significant environmental impact in another issue area, this impact is discussed and evaluated as a secondary impact. The impact analysis concludes with a discussion of cumulative effects, which evaluates the impacts associated with the proposed project in conjunction with other planned and pending developments in the area listed in Section 3, *Environmental Setting*.

The Executive Summary of this SEIR summarizes all impacts and mitigation measures that apply to the proposed project.



## 4.1 Aesthetics

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This section evaluates the potential impacts related to aesthetics, including scenic vistas, scenic resources, visual character and quality, and light and glare associated with the implementation of the proposed project.

### 4.1.1 Setting

The following setting information is based on the 2015 General Plan EIR and updated where appropriate (City of Carlsbad 2015).

Carlsbad is located in northwest San Diego County. In addition to the Pacific Ocean coastline along its western boundary, Carlsbad is surrounded by the cities of Oceanside to the north, Encinitas to the south, and Vista and San Marcos and unincorporated areas of San Diego County to the east.

The Pacific Ocean is among Carlsbad's principal visual features and frames the city's western edge. Vistas of the ocean can be seen from much of Carlsbad Boulevard, especially in the central and southern portions of the boulevard. The city's three lagoons are also distinctive aspects of the city's visual character. The somewhat flatter terrain along the coastline gives way to hillsides toward the east.

The dominant man-made features are Interstate 5 (I-5) and the railroad corridor, which run parallel to the coastline within a mile of the ocean, and the McClellan-Palomar Airport located at the geographic center of the community along Palomar Airport Road and El Camino Real. In the northwest, the older neighborhoods of the Village and the Barrio form a gridded network of streets near the coast.

Urban development abuts Highway 78 along Carlsbad's northern edge, with the highway and Buena Vista Lagoon acting as a boundary between Carlsbad and Oceanside. Along the city's southern edge, Batiquitos Lagoon separates Carlsbad from the city of Encinitas. City boundaries to the east are less distinctive, where a mix of hillsides and urban development lie between the center and the cities of Oceanside, Vista and San Marcos.

Although primarily a residential community by land area, Carlsbad contains a mix of development typologies and patterns. These range from the small-scaled mixed-use and neighborhood commercial found in the northwestern Village and Barrio neighborhoods to the larger lot sizes and auto-oriented shopping centers found in the suburban neighborhoods of the northeast, southeast, and southwest quadrants. In general, most Carlsbad buildings are one to two stories tall, although there are several three- and four-story residential and office/industrial buildings.

### **Scenic Resources and Vistas**

The Carlsbad coastline is one of the largest scenic areas in the city. Although access points to Carlsbad beaches are available, pedestrian and auto access is limited by both natural topography and man-made barriers, such as I-5 and the railroad. As a result, the most convenient way to access the beach is via car at designated crossings or road bridges. The promenade along the beach near Carlsbad Village and its overlook points provide visual access to the shoreline at Carlsbad State Beach. However, views of the coast from Carlsbad Boulevard are often interrupted by buildings, such as residential developments, hotels, and retail uses. Near the intersections of Carlsbad Boulevard with Carlsbad Village Drive and Cannon Road, there are several private uses along the coast that limit waterfront access and views from public streets.

Natural areas and open spaces, including watershed features, hillsides, habitats, parks and vistas, are some of the most defining and integral components of the city's form and structure. Carlsbad's beaches connect to three of California's natural lagoons—Buena Vista, Agua Hedionda and Batiquitos. These lagoons are rich with a diversity of plant, animal and aquatic wildlife and offer public amenities, such as hiking trails, scenic views, fishing, and water recreation. Watershed drainages give Carlsbad its rolling topography in the east, resulting in areas with steep slopes ideal for protected habitat. Hillsides layered with trees and brush create unique, intimate spaces where many of Carlsbad's master planned communities and resorts are located. Natural features also help shape the city's network of manmade open spaces such as city parks, trails and golf courses, many of which extend to the eastern boundary of the city. Parks are distributed throughout the city and host a variety of passive and active resources. A small amount of agricultural land is in productive use in Carlsbad, including the Flower Fields and Strawberry Fields and Sunny Creek area.

Trails, promenades and bikeways are unique visual features and public amenities that evoke images of the city's beach community, small town feel, and connectedness. The beaches and the coastal corridor are key visual amenities in the city, enjoyed not only by beach goers, joggers, bicyclists, but also by passengers in cars along the coastal roads. The seawalls, ramps, and promenade that descend to the beach; the trails that meander along major roads; and the separated and landscaped bikeways along the railroad in the Barrio foster connections and are heavily used amenities for residents and visitors. When applied on a citywide scale, these types of amenities improve pedestrian and bike access while further enhancing neighborhood connections to natural and scenic surroundings. The El Camino Real roadway corridor is also considered a scenic roadway – areas adjacent to the roadway provide rolling hillsides and diverse views.

## 4.1.2 Regulatory Setting

### a. Federal

No existing federal regulations pertain to the visual resources in the project area.

### b. State

#### **State Scenic Highway Program**

According to Caltrans, a state scenic highway should traverse an area of outstanding scenic quality, containing striking views, flora, geology, or other unique natural attributes. Therefore, Caltrans evaluates the merits of a nominated highway on how much of the natural landscape a traveler sees and the extent to which visual intrusions impact the "scenic corridor." Visual intrusions may be natural or constructed elements, viewed from the highway, that adversely affect the scenic quality of a corridor. Visual intrusions are evaluated in the following manner (Caltrans 2012):

- The more pristine the natural landscape is and less affected by intrusions, the more likely the nominated highway will qualify as scenic.
- Where intrusions have occurred, the less impact they have on an area's natural beauty, the more likely the nominated highway will qualify as scenic.

The extent to which intrusions dominate views from the highway will determine the significance of their impact on the scenic corridor. The segment of Interstate 5 (I-5) running through the City of Carlsbad is not an officially designated scenic highway, however it is currently designated as eligible (Caltrans 2023).

## **Senate Bill 743**

Senate Bill 743 (California Public Resources Code Section 21099) passed in 2013, made changes to the CEQA for projects located in transit-oriented development areas. Among these changes are that a project's aesthetics impacts are no longer considered significant impacts on the environment if the project is a residential, mixed-use residential, or employment center project and if the project is located on an infill site within a transit priority area (TPA). Pursuant to Section 21099 of the California Public Resources Code, a "transit priority area" is defined in as an area within 0.5 mile of an existing or planned major transit stop. A "major transit stop" is defined in Section 21064.3 of the California Public Resources Code as a rail transit station, a ferry terminal served by either a bus or rail transit service, or the intersection of two or more major bus routes with a frequency of service interval of 15 minutes or less during the morning and afternoon peak commute periods.

Carlsbad includes areas that are within a TPA including within 0.5 mile of major transit stops such as the Carlsbad Poinsettia COASTER station and Carlsbad Village COASTER Station. As shown in Figure 4.1-1, sites within a TPA include Sites 14 and 15, which are within 0.5 mile of the Carlsbad Village COASTER station, and Site 17 which is within 0.5 mile of the Carlsbad Poinsettia COASTER station.

### **c. Local**

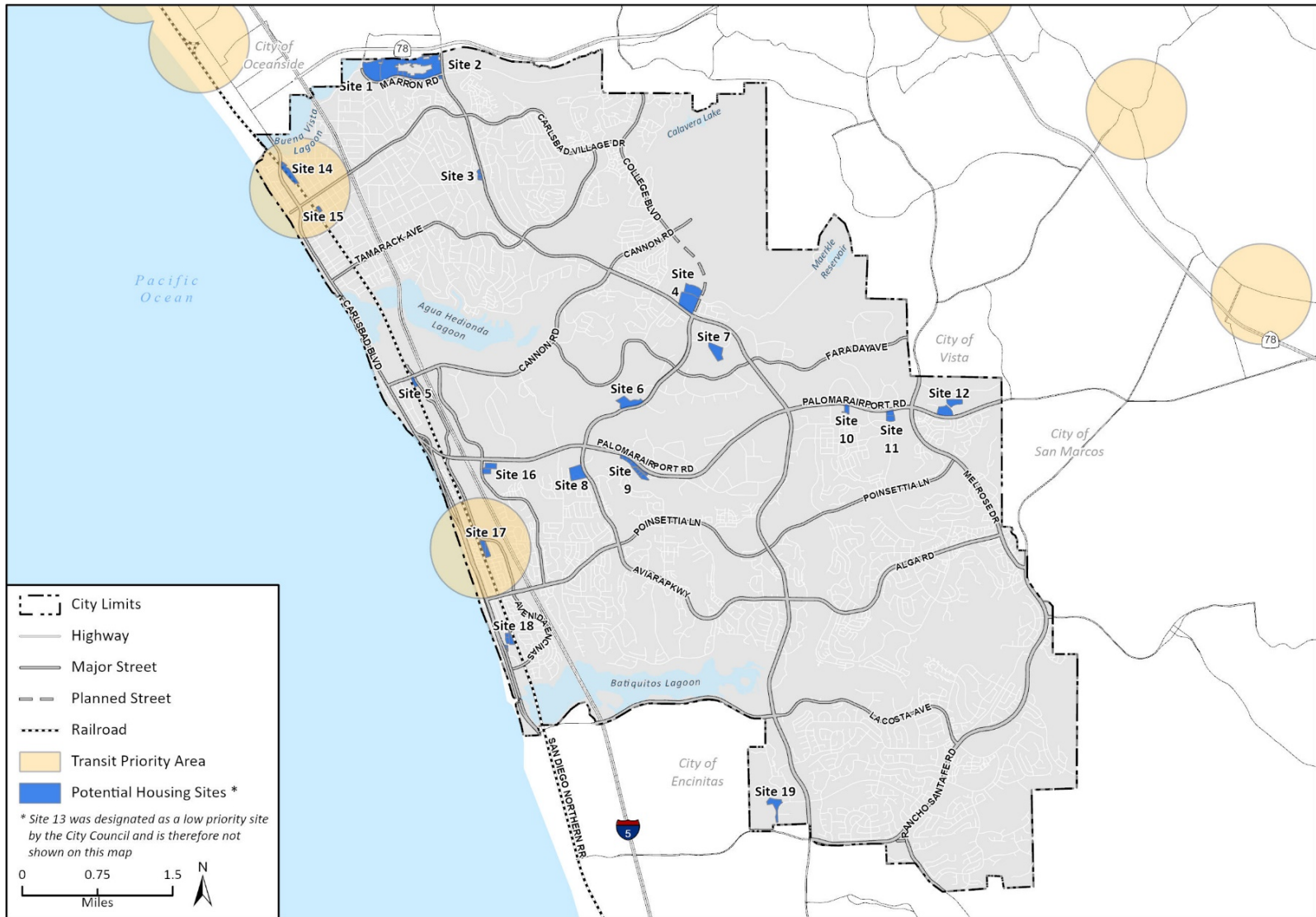
#### **City of Carlsbad Local Coastal Program**

The Coastal Act of 1976 mandates the preparation of Local Coastal Programs that aim to protect, maintain, enhance, and restore the quality of Coastal Zone resources. The California Coastal Commission last certified the City of Carlsbad's Local Coastal Program (LCP) on October 16, 2019. The LCP consists of six geographical segments: the Agua Hedionda Lagoon LCP segment; the Carlsbad Mello I segment; the Carlsbad Mello II segment, the West Batiquitos Lagoon/Sammis Properties segment; the East Batiquitos Lagoon/Hunt Properties segment; and the Village-Barrio segment. The City's LCP contains land use policies that serve to address land use, visitor-serving uses, recreation, public access to the coast, agriculture, cultural and scenic resources, environmentally sensitive habitat, water quality, and coastal hazards (City of Carlsbad 2023). Sites 1, 5, 6, 8, 9, 16, and 17 are located within the Mello II segment; Site 18 is located partially within the Mello II and West Batiquitos Lagoon/Sammis Properties segment; and Site 19 is located within the East Batiquitos Lagoon/Hunt Properties segment (City of Carlsbad 1998).

#### **City of Carlsbad Zoning Ordinance**

The city's Municipal Code does not have a specific section dedicated to prevention of nuisance light and glare through regulation; rather, lighting is addressed for each land use type in the city's Zoning Ordinance (Municipal Code Title 21). For example, for industrial uses allowed in the Planned Industrial zone, the ordinance states, "all uses shall be operated so as not to produce humidity, heat, glare or high-intensity illumination which is perceptible without instruments by the average person while on or beyond the lot containing the use." For uses allowed in the Local Shopping Center, and Office uses, the ordinance states that "light sources shall be designed to avoid direct or indirect glare to any off-site properties or public rights-of-way." Light and glare conditions are also regulated for campgrounds, greenhouses, and gas stations.

Figure 4.1-1 Transit Priority Areas and Housing Sites



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 Additional data provided by City of Carlsbad, 2022; SANDAG, 2023.

CSB Housing Sites Posters  
 Fig 4.1-1 TPA 2016 and Housing Sites

## **Chapter 21.40: Scenic Preservation Overlay Zone**

The purpose of the city's Scenic Preservation Overlay Zone is to supplement the underlying zoning by providing additional regulations for development within designated areas to preserve or enhance outstanding views, flora and geology, or other unique natural attributes and historical and cultural resources. This chapter establishes criteria by which standards may be applied. Adopted standards may address, but are not limited to signs, utilities, landscaping, architectural treatment, setbacks, side yards, height, bulk, and building spacing. Currently, this overlay zone is applied to the El Camino Real corridor. Sites 2, 3, and 4 are located immediately adjacent to the El Camino Real corridor.

## **Chapter 21.95: Hillside Development Regulations**

The city's Hillside Development Regulations are intended to preserve and/or enhance the aesthetic qualities of natural hillsides and manufactured slopes. The regulations require project grading to be minimized, to relate to the slope of the land, and to incorporate contours in manufactured slopes located in highly visible public locations. The regulations additionally assure that the alteration of natural hillsides is done in an environmentally sensitive manner to protect lagoons and riparian ecosystems from increased erosion and avoid substantial impacts to natural resource areas, wildlife habitats, or native vegetation. According to the Hillside Development Guidelines, "A Hillside Development Permit (HDP) is required when a development is proposed on any slope which has a gradient of 15% or greater and a slope height of greater than 15 feet. Development means grading, erecting or constructing on a hillside area."

## **Specific and Master Plans**

The city uses specific plans and master plans to coordinate development and infrastructure improvements on large sites or series of parcels. Specific plans and master plans must be consistent with the General Plan and are typically used to establish development plans and standards to achieve the design and development objectives for a particular area. Much of the residential areas in the southern and northeastern portions of the Carlsbad were developed as part of a master plan (e.g., Aviara, Bressi Ranch, Calavera Hills, Rancho Carrillo, Robertson Ranch, and Villages of La Costa). In addition to the large residential master plan areas, the city has several smaller residential specific plans and specific plans for commercial and industrial areas. The Village Master Plan (described below) guides development in that area. There are also many older specific plans and master plans that have been fully implemented.

## **Carlsbad Village and Barrio Master Plan, 2019**

The Carlsbad Village and Barrio Master Plan (City of Carlsbad 2019) replaces the Village Master Plan and Design Manual which was originally approved in 1995 and most recently revised in 2017. The plan establishes the land use, zoning, design, and long-range strategy for the Carlsbad Village and Barrio areas. The Carlsbad Village and Barrio Master Plan, together with other implementing ordinances, also serve as the Local Coastal Program for the Coastal Zone-portions of the Carlsbad Village and Barrio, pursuant to requirements of the California Coastal Act. The Carlsbad Village and Barrio Master Plan articulates a vision for neighborhoods that:

- Serve as the historic heart of the city, honoring Carlsbad's past and creating a strong sense of community.
- Are connected in place and spirit, yet retain their unique personalities.

- Embody the principles of smart growth, with a mix of commercial and residential land uses, a variety of housing choices, walkable neighborhoods and multiple transportation options.
- Attract high quality, sustainable development that enhances vitality and local character.

Sites 14 and 15 are within the Carlsbad Village and Barrio Master Plan area.

## **City of Carlsbad Scenic Corridor Guidelines**

The Scenic Corridor Guidelines (Guidelines) were completed in 1988 and were developed to implement the then-existing Scenic Highways Element of the Carlsbad General Plan. The Guidelines designate a number of city streets and locations as scenic corridors based on criteria listed in the document and provide guidance for improvements to take place within or adjacent to the scenic corridor rights-of-way. The Guidelines also designate a number of community identity entries, based on included criteria, to receive monumentation or signage. For the scenic corridors, the Guidelines establish the following four categories:

1. Community Theme Corridors – This category contains El Camino Real, Carlsbad Boulevard, and Palomar Airport Road. The guidelines include goals and guidance for right-of way treatments for each of these streets to promote the distinct characteristics of each of these three major thoroughfares.
2. Community Scenic Corridors – Streets included in this category are major arterial streets that pass through and connect major subareas of the city. These streets generally traverse the hills and residential areas of the central and eastern parts of the city.
3. Natural Open Space and Recreation Corridors – Streets in this category were selected based on their rural quality, and each is located adjacent to one of the city’s three lagoons. These streets are narrower, with relatively light traffic volume compared to the other categories, and generally do not connect to high-activity centers.
4. Railroad Corridor – This category encompasses the Atchison Topeka and Santa Fe Railway. The Guidelines recognize the difficulty of controlling railroad-owned right-of-way, but offers guidance on improvements outside of the right-of-way to impact the viewing experience of rail passengers traveling through the city.

The Guidelines reflect the city’s official intentions for scenic corridor rights-of-way and adjacent properties, though the document is not intended to function as development standards or to supersede city policies. Rather, it is intended to be used in conjunction with the city’s other design guidelines, standards, and policies to aid in decisions regarding visual quality and aesthetics.

## **El Camino Real Corridor Development Standards**

The El Camino Real Corridor Development Standards were adopted in 1984 to further the goals of the then-existing Land Use and Scenic Highways Elements of the Carlsbad General Plan to preserve unique city resources as they relate to highways. The 1988 Scenic Corridor Guidelines recognize the standards and note they should be consulted when developing along El Camino Real, so it is appropriate to identify them apart from the Scenic Corridor Guidelines. The standards provide a general design concept for the entire length of the El Camino Real right-of-way, and establish development restrictions for private properties fronting the roadway. The design concept is an easily identifiable homogenous corridor that capitalizes on the distinct design characteristics of five distinct subareas. The standards include design guidelines emphasizing retention of natural topography; right-of-way standards for landscaping, street lighting, signage, and furniture; and

private frontage standards for design theme, medians, sidewalks, signage, building height and setback, grading, street furniture and lighting, roofing, and land use.

## **City of Carlsbad General Plan**

The current Carlsbad General Plan, adopted in 2015, lists several policies related aesthetics in its Land Use and Community Design Element and Mobility Element. The following policies are applicable to proposed project (City of Carlsbad 2015):

### *Land Use and Community Design Element*

- Policy 2-P.10** Development on slopes, when permitted, shall be designed to minimize grading and comply with the hillside development provisions of the Zoning Ordinance and the Carlsbad Local Coastal Program.
- Policy 2-P.11** Consider density and development right transfers in instances where a property owner is preserving open space in excess of normal city requirements for purposes of environmental enhancement, complying with the city's Habitat Management Plan, or otherwise leaving developable property in its natural condition. The density/development potential of the property being left in open space shall be reserved for and used on the remainder of the project site or, through an agreement with the city, may be transferred to another property.
- Policy 2-P.40** Establish development standards that will preserve natural features and characteristics, especially those within coastal, hillside and natural habitat areas.
- Policy 2-P.41** Ensure that the review of future projects places a high priority on the compatibility of adjacent land uses along the interface of different residential density and non-residential intensity categories. Special attention should be given to buffering and transitional methods, especially, when reviewing properties where different residential densities or land uses are involved.
- Policy 2-P.43** Where feasible, locate development away from visible ridges; larger buildings, such as large retail stores and office and industrial development, should be arranged to minimize the buildings' visual appearance from major transportation corridors and vistas.

### *Mobility Element*

- Policy 3-P.23** Maintain the city's scenic transportation corridors as identified in the Carlsbad Scenic Corridor Guidelines.

## 4.1.3 Impact Analysis

### **a. Methodology and Significance Thresholds**

The following thresholds of significance are based on CEQA Guidelines Appendix G. For purposes of this SEIR, implementation of the proposed project may have a significant adverse impact if it would do any of the following:

1. Have a substantial adverse effect on a scenic vista.
2. Substantially damage scenic resources, including but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway.

3. In non-urbanized areas, substantially degrade existing visual character or quality of public views of the site and its surroundings? If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality.
4. Create a new source of substantial light or glare that would adversely affect day or nighttime views in the area.

As described in Section 4.1.2, Regulatory Setting, under Senate Bill 743 aesthetic impacts associated with residential projects in a TPA cannot be considered significant impacts on the environment.

Because implementation of the proposed rezoning would facilitate residential development on infill sites within a TPA, aesthetics impacts of development of those locations within a TPA may not be considered significant impacts on the environment. Sites within a TPA include Sites 14 and 15, which are within 0.5 mile of the Carlsbad Village COASTER station, and Site 17, which is within 0.5 mile of the Carlsbad Poinsettia COASTER station. Therefore, aesthetic impacts associated with Sites 14, 15, and 17 are assumed to be less than significant pursuant to SB 743 and will not be discussed in the analysis below. This analysis focuses on the rezone sites that are not within a TPA (Sites 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 16, 18, and 19).

Pursuant to CEQA Statute Section 21099.d, “aesthetic impacts do not include impacts on historical or cultural resources.” This analysis is included in Section 4.4, *Cultural and Tribal Cultural Resources*, of this SEIR. In addition, Section 4.9, *Land Use and Planning*, includes a discussion of the proposed rezoning’s consistency with city plans and goals, including those applicable to design and aesthetics.

## **b. Prior Environmental Analysis**

The 2015 General Plan EIR determined that impacts to aesthetic resources would be less than significant for scenic vistas, scenic highways, visual quality, and light and glare (Section 3.1, Aesthetics: 3.1-7 to 3.1-17). It further stated that individual development projects would be subject to project-specific development and planning review, including adherence to standards for community design and visual quality. As such, all projects proposed under General Plan implementation would be required to conform to zoning, design standards, and other regulations concerning aesthetic resources such as those that address architectural design, lighting, signage, landscaping, building setbacks, and hillside protection.

The proposed project involves development on sites beyond what was anticipated in the 2015 General Plan EIR and could therefore result in new impacts related to aesthetics. Therefore, all the CEQA checklist items listed above under Methodology and Significance Thresholds are addressed in this analysis.

## **c. Project Impacts and Mitigation Measures**

Some components associated with the proposed project, including updates to the Local Coastal Plan, Public Safety Element, and Master and Specific Plans for consistency between the city’s planning documents, in and of themselves would not result in physical changes to the environment such that impacts to aesthetics would occur. Therefore, this analysis focuses on impacts associated with implementation of the rezone program which would facilitate the development of rezone sites listed in Table 2-4 in Section 2, *Project Description*.



**Threshold 1:** Would the project have a substantial adverse effect on a scenic vista?

**Impact AES-1** SIMILAR TO THE DEVELOPMENT ANALYZED IN THE 2015 GENERAL PLAN EIR, DEVELOPMENT UNDER THE PROJECT WOULD NOT HAVE A SUBSTANTIAL EFFECT ON A SCENIC VISTA. THIS IMPACT WOULD BE LESS THAN SIGNIFICANT.

As stated above under Methodology and Significance Thresholds and because three of the rezone sites are within a TPA and aesthetic impacts in those areas cannot be considered significant impacts, this analysis focuses on the 15 rezone sites not within a TPA.

For the purposes of this analysis, a scenic vista is a view from a public place (roadway, designated scenic viewing spot, etc.) that is expansive and considered important by a jurisdiction or a community. It can be obtained from an elevated position (such as from the top of a hillside) or it can be seen from a roadway with a longer-range view of the landscape. An adverse effect would occur if a proposed project would alter, block, or otherwise damage a scenic vista upon implementation. Scenic vistas in Carlsbad consist of the scenic corridors and views to and from the coastline, open spaces, and hillsides.

The proposed project introduces land use changes on the rezone sites detailed in Table 2-4 of the *Project Description*. In most cases, the rezone sites are located in or near already developed areas and coincide with areas designated for development under the existing General Plan. Most of the development on the rezone sites that would be facilitated by the proposed project would occur along already developed corridors. These areas are urbanized with development of varying heights and topographies. Additional development at these rezone sites would not substantially alter or block views of the landscape or towards the ocean from public viewpoints such as roadways, as building heights would be generally similar to existing and ongoing development. The maximum building heights for R-35 and R-40 zoning districts would be increased to 45 feet, and would apply to rezone sites 1, 2, 11, and 12. However, many of the views that would be affected are already fully or intermittently impeded by mature trees, buildings, or existing topography.

Although Site 2 would be located along El Camino Real, a scenic corridor, development under the proposed project would continue to abide by development regulations in these areas, and existing General Plan policies would ensure that opportunities to enjoy scenic views are either preserved or enhanced.

Future development projects would still be subject to development and planning review and must therefore conform to zoning and other ordinances regarding protection of aesthetic qualities as listed above in the Regulatory Setting. As was found in the 2015 General Plan EIR, compliance with policies 2-P.10, 2-P. 11, 2-P.40, 2-P.41, 2-P.43, 2-P.53, and 3-P.23 would reduce impacts.

Due to the siting and nature of the proposed project, and policies that ensure that new development will have minimal impact on scenic corridors and other scenic resources, the proposed project will have a less than significant impact on the city's scenic vistas.

### **Mitigation Measures**

No mitigation measures are required because, like under the 2015 General Plan EIR, impacts would be less than significant without mitigation.

**Threshold 2:** Would the project substantially damage scenic resources, including but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?

**Impact AES-2 THE CITY OF CARLSBAD DOES NOT CONTAIN A DESIGNATED STATE SCENIC HIGHWAY. THIS IMPACT WOULD BE LESS THAN SIGNIFICANT.**

There are no designated scenic highways in Carlsbad. The segment of I-5 running through the City of Carlsbad is designated as eligible to become a scenic highway, however it is not designated (Caltrans 2023). Therefore, no impacts to designated state scenic highways would occur. The impact would be less than significant.

### Mitigation Measures

No mitigation measures are required because, like under the 2015 General Plan EIR, impacts would be less than significant without mitigation.

**Threshold 3:** Would the project, in non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from a publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?

**Impact AES-3 SIMILAR TO DEVELOPMENT ANALYZED IN THE 2015 GENERAL PLAN EIR, DEVELOPMENT UNDER THE PROJECT WOULD NOT CONFLICT WITH APPLICABLE ZONING AND OTHER REGULATIONS GOVERNING SCENIC QUALITY. THIS IMPACT WOULD BE LESS THAT SIGNIFICANT.**

Carlsbad can be categorized as an urban area as it is largely built out with a mix of residential neighborhoods, commercial areas and corridors, and industrial areas, and has a population of more than 100,000 residents (CEQA Statute Section 21071). Therefore, for the purposes of this CEQA threshold question, Carlsbad is considered an “urbanized area.” The proposed project does not call for any substantial changes to land use or building design for most neighborhoods within the city and includes provisions to preserve or improve the existing visual character of the city. The proposed project would involve land use changes at 18 rezone sites, 15 of which are not within a TPA. However, future development under the program would not conflict with applicable zoning provisions regulating scenic quality such as height, lot coverage and setback requirements, as well as applicable design standards in effect at that time.

The proposed project would facilitate infill development on underutilized sites in order to increase density to accommodate a higher number of affordable housing units in the city in compliance with State law. Development facilitated by the project would be infill development and may enhance the visual quality of the affected rezone sites in some cases by filling in vacant and underdeveloped visual areas with new development.

Future development projects would be subject to development and planning review and must therefore conform to zoning and other ordinances regarding protection of aesthetic qualities as listed above in the Regulatory Setting. As was found in the 2015 General Plan EIR, compliance with policies 2-P.10, 2-P. 11, 2-P.40, 2-P.41, 2-P.43, 2-P.53, and 3-P.23 would reduce impacts.

Overall, for the 15 rezone sites not within a TPA, the proposed project would not conflict with regulations governing scenic quality. The impact would be less than significant.

## Mitigation Measures

No mitigation measures are required because, like under the 2015 EIR, impacts would be less than significant without mitigation.

**Threshold 4:** Would the project create a new source of substantial light or glare that would adversely affect daytime or nighttime views in the area?

**Impact AES-4** SIMILAR TO DEVELOPMENT ANALYZED IN THE 2015 GENERAL PLAN EIR, DEVELOPMENT UNDER THE PROJECT WOULD RESULT IN NEW SOURCES OF LIGHT OR GLARE IN THE AREA BUT WOULD NOT ADVERSELY AFFECT DAY OR NIGHTTIME VIEWS. THIS IMPACT WOULD BE LESS THAN SIGNIFICANT.

Carlsbad is an urbanized city with commensurate level of light and glare. Development facilitated by the project would, in large part, occur as infill on already developed parcels or on vacant or underutilized sites within existing neighborhoods. However, the proposed project would increase allowed density of development on the rezone sites which would add sources of lighting and glare. New lighting could occur on buildings for safety and in pedestrian walkways, and light could be emitted from interior sources through windows on upper stories of tall buildings. The main source of glare would likely be from the sun shining on reflective or light-colored building materials and glazing.

Most of the 15 rezone sites not within a TPA and areas surrounding these rezone sites are developed or located in developed urban areas. Development facilitated by the proposed project would mostly occur as redevelopment of existing built sites or infill development of unused parcels mostly between existing built sites. When facilities such as parking lots or underdeveloped sites are replaced with buildings, these replacements may reduce nighttime sources of light, because parking lots are often more brightly lit during the nighttime than most buildings. Development of underutilized or vacant parcels may result in new light sources, but they would likely be congruous with nearby light sources (e.g., lighting from residential windows). Furthermore, as the development facilitated by the project would be residential units, light from windows would be mostly filtered or obscured by window coverings. Light spillover from exterior residential lighting is typically blocked by adjacent structures or trees.

Furthermore, development facilitated by the proposed project would comply with applicable guidelines including the City's Zoning Ordinance and Title 24 of the California Building Code which aim to reduce light spillover. Therefore, overall, new development on the rezone sites resulting from the proposed project would take place in or near developed and urbanized areas, where moderate light and glare already exist, and would not be out of character with the urban environment. This impact would be less than significant.

## Mitigation Measures

No mitigation measures are required because, like under the 2015 General Plan EIR, impacts would be less than significant without mitigation.

### d. Cumulative Impacts

Development facilitated by the project in conjunction with other nearby reasonably foreseeable future projects in the area could result in impacts to visual resources and aesthetic quality.

Implementation of the project would encourage increased housing development citywide, mainly in areas already developed with other uses. Most projects in the city, adjacent cities, and San Diego

County that are not within TPAs would be required to undergo analysis for impacts to aesthetics and visual resources. These impacts would be mitigated by design guidelines, regulations, policies, and project-specific mitigation measures, thereby limiting damage to existing visual resources and enhancing the visual quality of areas where development occurs. Consequently, development facilitated by the project would not result in significant cumulative environmental impacts in conflict with requirements for preserving scenic vistas, scenic resources in State- or locally designated highways or drives, visual quality, and for limiting the effects of light and glare. Therefore, project implementation would not result in a cumulatively considerable contribution to impact on aesthetics.

## 4.2 Air Quality

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This section evaluates the impacts of the proposed project upon local and regional air quality. Both temporary impacts relating to construction activity and long-term impacts associated with population growth and associated growth in vehicle traffic are discussed.

### 4.2.1 Setting

#### a. Local Climate and Meteorology

Air quality is affected by the rate and location of pollutant emissions and by climatic conditions that influence the movement and dispersion of pollutants. Atmospheric conditions, such as wind speed, wind direction, and air temperature gradients, along with local and regional topography, mediate the relationship between air pollutant emissions and air quality.

The City of Carlsbad is located within the San Diego Air Basin (SDAB), which is bordered by the Pacific Ocean to the west, the South Coast Air Basin to the north, the Salton Sea Air Basin to the east, and the United States/Mexico border to the south. Regional wind patterns are dominated by onshore sea breezes during the day, and winds generally slow or reverse direction toward the sea at night. Temperature and precipitation can vary widely in the SDAB, where average annual precipitation ranges from approximately 10 inches in the coastal and inland areas to over 30 inches in the mountains. In general, milder annual temperatures are experienced in the maritime and coastal areas, whereas the interior and desert areas experience warmer summers and cooler winters.

High air pollution levels in coastal communities of San Diego can often occur when polluted air from the South Coast Air Basin, particularly from Los Angeles, travels southwest over the ocean at night and is brought on shore into San Diego by the sea breeze during the day (San Diego County Air Pollution Control District [SDAPCD] 2010). Air Pollutants are also transported to San Diego during relatively mild Santa Ana weather conditions, however, during strong Santa Ana weather conditions, pollutants are pushed away from San Diego far out to sea.

#### b. Sources of Air Pollution

Air pollutant emissions in the SDAB are generated primarily by stationary and mobile sources. Stationary sources can be divided into two major subcategories:

- Point sources occur at a specific location and are often identified by an exhaust vent or stack. Examples include boilers or combustion equipment that produce electricity or generate heat.
- Area sources are widely distributed and include such sources as residential and commercial water heaters, painting operations, lawn mowers, agricultural fields, landfills, and some consumer products.

Mobile sources refer to emissions from motor vehicles, including tailpipe and evaporative emissions, and can also be divided into two major subcategories:

- On-road sources consist of legally operated vehicles on roadways and highways.
- Off-road sources include aircraft, ships, trains, and self-propelled construction equipment.

Air pollutants can also be generated by the natural environment, such as when high winds suspend fine dust particles or when wildfires generate smoke containing particulate matter.

### **c. Air Pollutants of Primary Concern**

The federal and State Clean Air Acts (CAA) mandate the control and reduction of certain air pollutants. Under these laws, the U.S. Environmental Protection Agency (USEPA) and the California Air Resources Board (CARB) have established the National Ambient Air Quality Standards (NAAQS) and the California Ambient Air Quality Standards (CAAQS) for “criteria pollutants” and other pollutants. Some pollutants are emitted directly from a source (e.g., vehicle tailpipe, an exhaust stack of a factory, etc.) into the atmosphere, including carbon monoxide, volatile organic compounds (VOC)/reactive organic gases (ROG),<sup>1</sup> nitrogen oxides (NO<sub>x</sub>), particulate matter with diameters of up to ten microns (PM<sub>10</sub>) and up to 2.5 microns (PM<sub>2.5</sub>), sulfur dioxide (SO<sub>2</sub>), and lead. Other pollutants are created indirectly through chemical reactions in the atmosphere, such as ozone, which is created by atmospheric chemical and photochemical reactions primarily between VOC and NO<sub>x</sub>. Secondary pollutants include oxidants, ozone, and sulfate and nitrate particulates (smog). The characteristics, sources and effects of criteria pollutants are discussed in the following subsections. The following subsections describe the characteristics, sources, and health and atmospheric effects of air pollutants of primary concern.

#### **Ozone**

Ozone is produced by a photochemical reaction (triggered by sunlight) between NO<sub>x</sub> and VOC/ROG are composed of non-methane hydrocarbons (with some specific exclusions), and NO<sub>x</sub> is composed of different chemical combinations of nitrogen and oxygen, mainly nitric oxide and nitrogen dioxide. NO<sub>x</sub> are formed during the combustion of fuels, while VOC are formed during combustion and evaporation of organic solvents. As a highly reactive molecule, ozone readily combines with many different components of the atmosphere. Consequently, high levels of ozone tend to exist only while high VOC and NO<sub>x</sub> levels along with abundant sunshine are present to sustain the ozone formation process. Once the precursors have been depleted, ozone levels rapidly decline. Because these reactions occur on a regional rather than local scale, ozone is considered a regional pollutant. In addition, because ozone requires sunlight to form, it mostly occurs in concentrations considered serious between the months of April and October. Ozone is a pungent, colorless, toxic gas with direct health effects on humans, including changes in breathing patterns, reduction of breathing capacity, increased susceptibility to infections, inflammation of lung tissue, and some immunological changes (USEPA 2022a). Groups most sensitive to ozone include children, the elderly, people with respiratory disorders, and people who exercise strenuously outdoors.

#### **Carbon Monoxide**

Carbon monoxide is a localized pollutant that is found in high concentrations only near its source. The major source of carbon monoxide, a colorless, odorless, poisonous gas, is the incomplete combustion of petroleum fuels by automobile traffic. Therefore, elevated concentrations are usually found only near areas of high traffic volumes. Other sources of carbon monoxide include the incomplete combustion of petroleum fuels at power plants and fuel combustion from wood stoves

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<sup>1</sup> CARB defines VOC and ROG similarly as, “any compound of carbon excluding carbon monoxide, carbon dioxide, carbonic acid, metallic carbides or carbonates, and ammonium carbonate,” with the exception that VOC are compounds that participate in atmospheric photochemical reactions. For the purposes of this analysis, ROG and VOC are considered comparable in terms of mass emissions, and the term VOC is used in this EIR.

and fireplaces during the winter. The health effects of carbon monoxide are related to its affinity for hemoglobin in the blood. Carbon monoxide causes a number of health problems, including aggravation of some heart diseases (e.g., angina), reduced tolerance for exercise, impaired mental function, and impaired fetal development. At high levels of exposure, carbon monoxide reduces the amount of oxygen in the blood, leading to mortality (USEPA 2022b). Carbon monoxide tends to dissipate rapidly into the atmosphere; consequently, violations of the NAAQS and/or CAAQS for carbon monoxide are generally associated with localized carbon monoxide “hotspots” that can occur at major roadway intersections during heavy peak-hour traffic conditions.

## Nitrogen Dioxide

Nitrogen dioxide is a by-product of fuel combustion; the primary sources are motor vehicles and industrial boilers and furnaces. The principal form of  $\text{NO}_x$  produced by combustion is nitric oxide, but nitric oxide reacts rapidly with the oxygen in the air to form nitrogen dioxide, creating the mixture of nitric oxide and nitrogen dioxide commonly called  $\text{NO}_x$ . Nitrogen dioxide is an acute irritant that can aggravate respiratory illnesses and symptoms, particularly in sensitive groups (SCAQMD 1993; USEPA 2022c). A relationship between nitrogen dioxide and chronic pulmonary fibrosis may exist, and an increase in bronchitis in young children at concentrations below 0.3 parts per million (ppm) may occur. Nitrogen dioxide absorbs blue light, gives a reddish-brown cast to the atmosphere, and reduces visibility (USEPA 2022c). It can also contribute to the formation of  $\text{PM}_{10}$  and acid rain.

## Sulfur Dioxide

Sulfur dioxide is included in a group of highly reactive gases known as “oxides of sulfur.” The largest sources of sulfur dioxide emissions are from fossil fuel combustion at power plants (73 percent) and other industrial facilities (20 percent). Smaller sources of sulfur dioxide emissions include industrial processes such as extracting metal from ore and the burning of fuels with a high sulfur content by locomotives, large ships, and off-road equipment. Sulfur dioxide is linked to a number of adverse effects on the respiratory system, including aggravation of respiratory diseases, such as asthma and emphysema, and reduced lung function (USEPA 2022d).

## Particulate Matter

Suspended atmospheric  $\text{PM}_{10}$  and  $\text{PM}_{2.5}$  is comprised of finely divided solids and liquids such as dust, soot, aerosols, fumes, and mists. Both  $\text{PM}_{10}$  and  $\text{PM}_{2.5}$  are directly emitted into the atmosphere as by-products of fuel combustion and wind erosion of soil and unpaved roads. Particulate matter is also created in the atmosphere through chemical reactions. The characteristics, sources, and potential health effects associated with  $\text{PM}_{10}$  and  $\text{PM}_{2.5}$  can be very different.  $\text{PM}_{10}$  is generally associated with dust mobilized by wind and vehicles while  $\text{PM}_{2.5}$  is generally associated with combustion processes as well as formation in the atmosphere as a secondary pollutant through chemical reactions. Due to its small size,  $\text{PM}_{2.5}$  is more likely to penetrate deeply into the lungs and poses a health threat to all groups, but particularly to the elderly, children, and those with respiratory problems (CARB 2022a). More than half of  $\text{PM}_{2.5}$  that is inhaled into the lungs remains there. These materials can damage health by interfering with the body’s mechanisms for clearing the respiratory tract or by acting as carriers of an absorbed toxic substance. Suspended particulates can also reduce lung function, aggravate respiratory and cardiovascular diseases, increase mortality rates, and reduce lung function growth in children (CARB 2022a).

## **Lead**

Lead is a metal found naturally in the environment, as well as in manufacturing products. The major sources of lead emissions historically have been mobile and industrial sources. However, as a result of the USEPA's regulatory efforts to remove lead from gasoline, atmospheric lead concentrations have declined substantially over the past several decades. The most dramatic reductions in lead emissions occurred prior to 1990 due to the removal of lead from gasoline sold for most highway vehicles. Lead emissions were further reduced substantially between 1990 and 2008, with reductions occurring in the metals industries at least in part as a result of national emissions standards for hazardous air pollutants (USEPA 2013). As a result of phasing out leaded gasoline, metal processing currently remains the primary source of lead emissions. The highest level of lead in the air is generally found near lead smelters. Other stationary sources include waste incinerators, utilities, and lead-acid battery manufacturers. The health impacts of lead include behavioral and hearing disabilities in children and nervous system impairment (USEPA 2022e).

## **Toxic Air Contaminants**

Toxic air contaminants (TACs) are a diverse group of air pollutants that may cause or contribute to an increase in deaths or serious illness, or that may pose a present or potential hazard to human health. TACs include both organic and inorganic chemical substances that may be emitted from a variety of common sources, including gasoline stations, motor vehicles, dry cleaners, industrial operations, painting operations, and research and teaching facilities. One of the main sources of TACs in California is diesel engine exhaust that contains solid material known as diesel particulate matter (DPM). More than 90 percent of DPM is less than one micron in diameter (about 1/70<sup>th</sup> the diameter of a human hair) and thus is a subset of PM<sub>2.5</sub>. Because of their extremely small size, these particles can be inhaled and eventually trapped in the bronchial and alveolar regions of the lungs (CARB 2022b). Particulate matter emitted from diesel engines contributes more than 70 percent of the air emission cancer risk associated with the on-road heavy-duty sector within the SCAB (CARB 2017).

TACs are different than criteria pollutants because ambient air quality standards have not been established for TACs. TACs occurring at extremely low levels may still cause health effects and it is typically difficult to identify levels of exposure that do not produce adverse health effects. TAC impacts are described by carcinogenic risk and by chronic (i.e., long duration) and acute (i.e., severe but of short duration) adverse effects on human health.

### **d. Current Air Quality**

As mentioned above, CARB and the USEPA have established ambient air quality standards for major pollutants, including O<sub>3</sub>, CO, NO<sub>2</sub>, SO<sub>2</sub>, Pb, PM<sub>10</sub>, and PM<sub>2.5</sub>. Standards have been set at levels intended to be protective of public health. California standards are typically more restrictive than federal standards.

Local air districts and CARB monitor ambient air quality to ensure that air quality standards are met and, if they are not met, are required to develop strategies to meet the standards. Air quality monitoring stations measure pollutant ground-level concentrations (typically, 10 feet above ground level). Depending on whether the standards are met or exceeded, the local air basin is classified as in "attainment" or "non-attainment." Some areas are unclassified, which means no monitoring data are available but are considered to be in attainment. Table 4.2-1 summarizes the CAAQS and the NAAQS for each of these pollutants as well as the attainment status of the SDAB. As shown in



Table 4.2-1, the SDAB is in non-attainment for the state and federal standards for ozone, the state standard for PM<sub>2.5</sub>, and the state standard for PM<sub>10</sub> (SDAPCD 2023).

**Table 4.2-1 Ambient Air Quality Standards and Basin Attainment Status**

Pollutant	Averaging Time	California Standards		Federal Standards	
		Concentration	Attainment Status	Concentration	Attainment Status
Ozone	1-Hour	0.09 ppm	N	–	–
	8-Hour	0.070 ppm	N	0.070 ppm	N
Carbon Monoxide	8-Hour	9.0 ppm	A	9.0 ppm	U/A
	1-Hour	20.0 ppm	A	35.0 ppm	U/A
Nitrogen Dioxide	Annual	0.030 ppm	A	0.053 ppm	U/A
	1-Hour	0.18 ppm	A	0.100 ppm	U/A
Sulfur Dioxide	24-Hour	0.04 ppm	A	–	–
	1-Hour	0.25 ppm	A	0.075 ppm	U/A
PM <sub>10</sub>	Annual	20 µg/m <sup>3</sup>	N	--	–
	24-Hour	50 µg/m <sup>3</sup>	N	150 µg/m <sup>3</sup>	U
PM <sub>2.5</sub>	Annual	12 µg/m <sup>3</sup>	N	12 µg/m <sup>3</sup>	U/A
	24-Hour	–	–	35 µg/m <sup>3</sup>	U/A
Lead	30-Day Average	1.5 µg/m <sup>3</sup>	A	–	–
	3-Month Average	–	–	0.15 µg/m <sup>3</sup>	U/A

Notes: ppm = parts per million; µg/m<sup>3</sup> = micrograms per cubic meter; A = Attainment; N = Non-attainment; and U = Unclassified  
Source: SDAPCD 2023

Monitoring of ambient air pollutant concentrations is conducted by CARB and the San Diego County Air Pollution Control District (SDAPCD). The monitoring station located closest to the City of Carlsbad is the Camp Pendleton station (21441 West B Street, Oceanside), located approximately 4 miles to the northwest. This monitoring station measures only ozone, NO<sub>2</sub>, and PM<sub>2.5</sub>. The closest monitoring site with available PM<sub>10</sub> data is the El Cajon-Lexington Elementary School station, which is approximately 30 miles southeast of the project site. Table 4.2-2 summarizes the maximum concentration of each criteria pollutant measured at these monitoring stations in 2019, 2020, and 2021.

**Table 4.2-2 Ambient Air Quality Data at the Nearest Monitoring Station**

<b>Pollutant</b>	<b>2019</b>	<b>2020</b>	<b>2021</b>
Ozone (ppm), Worst 1-Hour	0.075	0.094	0.074
Number of days of state exceedances (>0.09 ppm)	0	0	0
Ozone (ppm), 8-Hour Average	0.064	0.074	0.059
Number of days of state exceedances (>0.07 ppm)	0	3	0
Number of days of federal exceedances (>0.07 ppm)	0	3	0
Nitrogen Dioxide (ppb) – Worst Hour	53.0	58.0	59.0
Number of days of above state standard (>180 ppb)	0	0	0
Particulate Matter <10 microns, mg/m <sup>3</sup> , Worst 24 Hours <sup>1</sup>	38.0	55.0	40.0
Number of days above state standard (>50 mg/m <sup>3</sup> )	0	0	0
Number of days above federal standard (>150 mg/m <sup>3</sup> )	0	0	0
Particulate Matter <2.5 microns, mg/m <sup>3</sup> , Worst 24 Hours	13.8	61.1	20.7
Number of days above federal standard (>35 mg/m <sup>3</sup> )	*	*	*

<sup>1</sup> Data from the El Cajon-Lexington Elementary School Monitoring Station

Notes: ppm = parts per million; ppb = parts per billion; µg/m<sup>3</sup> = micrograms per cubic meter; \* = data not available

Source: CARB 2023; USEPA 2023a

### **e. Sensitive Receptors**

The NAAQS and CAAQS were established to represent the levels of air quality considered sufficient, with an adequate margin of safety, to protect public health and welfare. They are designed to protect that segment of the public most susceptible to respiratory distress as a result of poor air quality, such as children under 14, persons over 65, persons engaged in strenuous work or exercise, and people with pre-existing cardiovascular and chronic respiratory diseases. Locations of sensitive receptors include schools, parks and playgrounds, hospitals, day cares, assisted living facilities, and residential communities (CARB 2005). Federal, State and local regulations, including land use plans, can influence the proximity to which a sensitive receptor can be located near a significant source of air pollution.

CARB’s *Air Quality and Land Use Handbook: A Community Health Perspective* (2005) provides recommendations regarding the siting of new sensitive land uses near potential sources of air toxic emissions (e.g., freeways, distribution centers, rail yards, ports, refineries, chrome plating facilities, dry cleaners, and gasoline dispensing facilities). CARB guidelines also suggest that sensitive receptors not be sited within 500 feet of a high traffic freeway to avoid prolonged exposure to diesel particulates (CARB 2005).

## **4.2.2 Regulatory Setting**

### **a. Federal**

#### **Federal Clean Air Act**

The Federal CAA governs air quality in the United States. The CAA is administered by USEPA at the federal level, CARB at the State level, and by the Air Quality Management Districts at the regional and local levels. The CAA of 1970 and the CAA Amendments of 1971 required the USEPA to establish

the NAAQS, with states retaining the option to adopt more stringent standards or to include other specific pollutants. On April 2, 2007, the Supreme Court found that CO<sub>2</sub> is an air pollutant covered by the CAA; however, no NAAQS have been established for CO<sub>2</sub>.

The USEPA is responsible for enforcing the federal CAA. The USEPA is also responsible for establishing NAAQS. NAAQS are required under the 1977 CAA and subsequent amendments. The USEPA regulates emission sources that are under the exclusive authority of the federal government, such as aircraft, ships, and certain types of locomotives. The agency has jurisdiction over emission sources outside State waters (e.g., beyond the outer continental shelf) and establishes various emission standards, including those for vehicles sold in states other than California. Automobiles sold in California must meet the stricter emission standards established by CARB.

### **Construction Equipment Fuel Efficiency Standard**

The USEPA sets emission standards for construction equipment. The first federal standards (Tier 1) were adopted in 1994 for all off-road engines over 50 horsepower (hp) and were phased in by 2000. A new standard was adopted in 1998 that introduced Tier 1 for all equipment below 50 hp and established the Tier 2 and Tier 3 standards. The Tier 2 and Tier 3 standards were phased in by 2008 for all equipment. The current iteration of emissions standards for construction equipment are the Tier 4 efficiency requirements, which are contained in 40 Code of Federal Regulations Parts 1039, 1065, and 1068 (originally adopted in 69 Federal Register 38958 [June 29, 2004], and most recently updated in 2014 [79 Federal Register 46356]). Emissions requirements for new off-road Tier 4 vehicles were completely phased in by the end of 2015.

#### **b. State**

##### **California Clean Air Act**

The California CAA allows the State to adopt ambient air quality standards and other regulations provided that they are at least as stringent as federal standards. CARB, a part of the California Environmental Protection Agency (CalEPA), is responsible for the coordination and administration of both federal and state air pollution control programs within California, including setting the CAAQS. CARB also conducts research, compiles emission inventories, develops suggested control measures, and provides oversight of local programs. CARB establishes emissions standards for motor vehicles sold in California, consumer products (such as hairspray, aerosol paints, and barbecue lighter fluid), and various types of commercial equipment. It also sets fuel specifications to further reduce vehicular emissions. CARB also has primary responsibility for the development of California's State Implementation Plan (SIP), for which it works closely with the federal government and the local air districts.

CARB established fifteen air basins and delegated local pollution control authority to Air Pollution Control Districts (APCD) or Air Quality Management Districts (AQMD). For San Diego County, air pollution control authority is vested with the SDAPCD.

#### **c. Regional and Local**

##### **San Diego Regional Air Quality Strategy**

The San Diego County Air Pollution Control District (SDAPCD) is the designated air quality control agency for the SDAB. The SDAPCD developed the San Diego Regional Air Quality Strategy (RAQS) pursuant to California Clean Air Act (CCAA) requirements. The RAQS was initially adopted in 1991

and was updated in 1995, 1998, 2001, 2004, 2009, 2016, 2020, and 2022 (SDAPCD 2022a). The RAQS identifies feasible emission control measures to provide progress in San Diego County toward attaining the State ozone standard. The pollutants addressed in the RAQS are volatile organic compounds (VOCs) and NO<sub>x</sub>, precursors to the photochemical formation of ozone (the primary component of smog). At present, no attainment plan for PM<sub>10</sub> or PM<sub>2.5</sub> is required by the state regulations. However, SDAPCD has adopted measures to reduce PM<sub>10</sub> and PM<sub>2.5</sub> in San Diego County. These measures range from regulation against open burning to incentive programs that introduce cleaner technology. These measures can be found in a report titled “Measures to Reduce Particulate Matter in San Diego County” (SDAPCD 2005).

The RAQS relies on information from CARB and SANDAG, including mobile and area source emissions, as well as information regarding projected growth in the County, to project future emissions and then determine from that the strategies necessary for the reduction of emissions through regulatory controls.

## **SDAPCD Rules and Regulations**

**Regulation II: Permits; Rule 10: Permits Required.** Requires that any person building, erecting, altering, or replacing any article, machine, equipment or other contrivance, the use of which may cause the issuance of air contaminants, shall receive written authorization (Authority to Construction) and a Permit to Operate from the SDAPCD.

**Regulation II: Permits; Rule 20.1: New Source Review – General Provisions.** Establishes the general provisions, including exemptions, definitions, and emission calculations, that apply to any new or modified emission unit, any replacement emission unit, any relocated emission unit or any portable emission unit for which an Authority to Construct or Permit to Operate is required.

**Regulation II: Permits; Rule 20.2: New Source Review – Non-Major Sources.** Applies to any new or modified stationary source, to any new or modified emission unit and to any relocated emission unit that is not considered a major stationary source. As applied to new or modified sources, the rule requires (1) the use of Best Available Control Technology (BACT) where the emissions of PM<sub>10</sub>, NO<sub>x</sub>, VOC, or SO<sub>x</sub> would increase by 10 pounds per day or more; (2) an air quality impact analysis if the emissions of PM<sub>10</sub>, NO<sub>x</sub>, VOC, SO<sub>x</sub>, or lead exceed designated trigger levels; and (3) establishes public noticing requirements prior to issuance of a permit.

**Regulation IV: Prohibitions; Rule 50: Visible Emissions.** Prohibits any activity causing air contaminant emissions darker than 20% opacity for more than an aggregate of 3 minutes in any consecutive 60-minute time period. In addition, Rule 50 prohibits any diesel pile-driving hammer activity causing air contaminant emissions for a period or periods aggregating more than 4 minutes during the driving of a single pile.

**Regulation IV: Prohibitions; Rule 51: Nuisance.** Prohibits the discharge, from any source, of such quantities of air contaminants or other materials that cause or have a tendency to cause injury, detriment, nuisance, annoyance to people and/or the public, or damage to any business or property.

**Regulation IV: Prohibitions; Rule 55: Fugitive Dust.** Regulates fugitive dust emissions from any commercial construction or demolition activity capable of generating fugitive dust emissions, including active operations, open storage piles, and inactive disturbed areas, as well as track-out and carry-out onto paved roads beyond a project site. 1

**Regulation IV: Prohibitions; Rule 67.0: Architectural Coatings.** Requires manufacturers, distributors, and end users of architectural and industrial maintenance coatings to reduce VOC emissions from the use of these coatings, primarily by placing limits on the VOC content of various coating categories.

### **SANDAG's 2021 Regional Plan**

SANDAG's Final 2021 Regional Plan was adopted on December 10, 2021, and provides a long-term blueprint for the San Diego region that seeks to meet regulatory requirements, address traffic congestion, and create equal access to jobs, education, healthcare, and other community resources. The 2021 Regional Plan includes a Sustainable Communities Strategy (SCS), as required by SB 375. The SCS describes coordinated transportation and land use planning that exceeds the State's target for reducing per capita greenhouse gas emissions set by the CARB. The State-mandated target is a 19 percent reduction compared to 2005 levels in per capita greenhouse gas emissions from cars and light-duty trucks by 2035, and the 2021 Regional Plan aims to achieve a 20 percent reduction by then.

### **Carlsbad General Plan**

The Carlsbad General Plan (2015) Land Use Element contains the following applicable policies aimed at reducing impacts related to air quality:

- Policy 2-P.13** Encourage medium to higher density residential uses located in close proximity to commercial services, employment opportunities and major transportation corridors.
- Policy 4-P.55** Cooperate with the ongoing efforts of the U.S. Environmental Protection Agency, the San Diego Air Pollution Control District, and the State of California Air Resources Board in improving air quality in the regional air basin.
- Policy 4-P.56** Ensure that construction and grading projects minimize short-term impacts to air quality.
  - a) Require grading projects to provide a storm water pollution prevention plan (SWPPP) in compliance with city requirements, which include standards for best management practices that control pollutants from dust generated by construction activities and those related to vehicle and equipment cleaning, fueling and maintenance;
  - b) Require grading projects to undertake measures to minimize mononitrogen oxides (NO<sub>x</sub>) emissions from vehicle and equipment operations; and
  - c) Monitor all construction to ensure that proper steps are implemented.

The Carlsbad Housing Element contains the following applicable policies aimed at reducing impacts related to air quality and environmental justice:

- Policy 10-P.42** Consider potential adverse health and safety impacts associated with land use decisions to reduce negative impacts upon residents from hazardous materials, industrial activities, agricultural operations using pesticides applied by spray techniques, facility locations, design features, and other aspects that may negatively impact health or quality of life for affected residents.

**Policy 10-P.43** Prohibit the introduction of new incompatible land uses and environmental hazards into existing residential areas.

**Policy 10-P.44** Reduce negative impacts associated with environmental hazards, including but not limited to industrial operations and roadway, railway, and airplane generated air and noise pollution through the enforcement of additional project specific mitigations for all development.

### 4.2.3 Impact Analysis

#### a. Methodology and Significance Thresholds

##### Significance Thresholds

This analysis is based on the guidance and methodologies recommended in the air quality emissions thresholds established by the SDAPCD and the CEQA Appendix G thresholds. For purposes of this SEIR, implementation of the proposed project may have a significant adverse impact if it would:

- 1) Conflict with or obstruct implementation of the applicable air quality plan;
- 2) Violate any air quality standard or contribute substantially to an existing or projected air quality violation;
- 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;
- 4) Expose sensitive receptors to substantial pollutant concentrations; and/or
- 5) Create objectionable odors affecting a substantial number of people.

The SDAPCD has established thresholds for criteria air pollutants in Rule 20.2, Table 20-2-1, "AQIA Trigger Levels" requiring the preparation of air quality impact assessments for permitted stationary sources. These thresholds represent levels below which a stationary source would not have a significant impact on ambient air quality. Project-related air quality impacts estimated in this environmental analysis would be considered significant if any of the applicable significance thresholds presented in Table 4.2-3 or are exceeded.

**Table 4.2-3 SDAPCD Construction Emissions Thresholds**

Pollutant	Total Emissions (lbs/day)
PM <sub>10</sub>	100
PM <sub>2.5</sub>	55
NO <sub>x</sub>	250
SO <sub>x</sub>	250
CO	550
VOC	137 <sup>1</sup>

<sup>1</sup> VOC threshold based on SCAQMD levels per South Coast Air Quality Management District SDAPCD (9/01) and the Monterey Bay ARD (MBARD) which has similar federal and state attainment status as San Diego (City of Carlsbad 2015; City of San Diego 2022).

PM<sub>10</sub> = particulate matter less than 10 microns in diameter, PM<sub>2.5</sub> = particulate matter less than 2.5 microns in diameter, NO<sub>x</sub> = nitrous oxides, SO<sub>x</sub> = sulfur oxides, VOC = volatile organic compounds; CO = carbon monoxide, lbs/day = pounds per day

Source: SDAPCD 2020

**Table 4.2-4 SDAPCD Operational Emissions Thresholds**

Pollutant	Total Emissions		
	Pounds per Hour (lbs/hr)	Pounds per Day (lbs/day)	Tons per Year (tpy)
PM <sub>10</sub>	N/A	100	15
PM <sub>2.5</sub>	N/A	55	10
NO <sub>x</sub>	25	250	40
SO <sub>x</sub>	25	250	40
CO	100	550	100
VOC	N/A	137 <sup>1</sup>	13.7 <sup>1</sup>
Lead and Lead Compounds	N/A	3.2	0.6

<sup>1</sup> VOC threshold based on SCAQMD levels per South Coast Air Quality Management District SDAPCD (9/01) and the Monterey Bay ARD (MBARD) which has similar federal and state attainment status as San Diego (City of Carlsbad 2015; City of San Diego 2023).

PM<sub>10</sub> = particulate matter less than 10 microns in diameter, PM<sub>2.5</sub> = particulate matter less than 2.5 microns in diameter, NO<sub>x</sub> = nitrous oxides, SO<sub>x</sub> = sulfur oxides, VOC = volatile organic compounds; CO = carbon monoxide, lbs/day = pounds per day, N/A = not applicable

Source: SDAPCD 2020

State and federal clean air laws require that emissions of pollutants for which federal or state ambient air quality standards are violated be reduced from current levels. In addition, as an SEIR, this analysis is intended to identify any additional impacts to air quality resulting from updates to the City of Carlsbad General Plan that have not been previously addressed in the 2015 General Plan EIR.

## Methodology

### *Short-term Emissions*

Emissions from construction activities represent temporary impacts that are typically short in duration, and depend on the size, phasing, and type of project. Air quality impacts can nevertheless be acute during construction periods, resulting in significant impacts to air quality. Construction-related emissions are speculative at the program level because such emissions are dependent on the characteristics of individual development projects. However, because construction of projects under the proposed project would generate temporary criteria pollutant emissions, primarily due to the operation of construction equipment and truck trips, a qualitative analysis is provided below.

### *Long-term Emissions*

For this SEIR, the methodology for determining the significance of air quality impacts is by analyzing impacts resulting from buildout of the 18 rezone sites identified in Table 2-4 in Section 2, *Project Description*. Operational emissions were quantified using the California Emissions Estimator Model (CalEEMod) version 2022.1 Project emissions represent the expected development resulting from buildout of the 18 rezone sites as described in in Section 2, *Project Description*. For modeling purposes, this evaluation assumes that buildout under the proposed project would be 3,295 units of mid-rise apartments (defined in CalEEMod as 3 to 10 floors) during the planning period.

In CalEEMod, operational sources of criteria pollutant emissions include area, energy, and mobile sources. Area emissions were based on CalEEMod defaults for each land use type. Electricity use assumed CalEEMod default values and Title 24 compliance based on the construction/operational year. Modeling for water and wastewater were based on CalEEMod defaults. Mobile source emissions consist of emissions generated by vehicles to and from the development sites proposed

under the 2023-2031 Housing Element. Vehicle Miles Traveled (VMT) was derived from the project specific VMT analysis conducted by Fehr & Peers (2023). The VMT analysis indicated that per capita VMT would be approximately 23.6 under buildout of the proposed project.

### *Toxic Air Contaminants*

The USEPA considers those pollutants that could cause cancer risks between one in 10,000 ( $1.0 \times 10^{-4}$ ) and one in one million ( $1.0 \times 10^{-6}$ ) for risk management. Proposition 65 (California Health and Safety Code Section 25249.6), enacted in 1986, prohibits a person in the course of doing business from knowingly and intentionally exposing any individual to a chemical that has been listed as known to the state to cause cancer or reproductive toxicity without first giving clear and reasonable warning. For a chemical that is listed as a carcinogen, the “no significant risk” level under Proposition 65 is defined as the level that is calculated to result in not more than one excess case of cancer in 100,000 individuals ( $1.0 \times 10^{-5}$ ). The SDAPCD recommends the use of this risk level (also reportable as 10 in one million) as the significance threshold for TACs (SDAPCD 2022b). The SDAPCD also recommends that the non-carcinogenic hazards of TACs should not exceed a hazard index (the summation of the hazard quotients for all chemicals to which an individual would be exposed) of 1.0 for either chronic or acute effects (SDAPCD 2022b).

## **b. Prior Environmental Analysis**

The 2015 General Plan EIR determined that impacts to air quality would be significant and unavoidable, including for violation of air quality standards and substantial contribution to an existing air quality violation (Section 3.2, Air Quality: 3.2-19 through 3.2-30). It also determined that growth facilitated by the General Plan would not result in a cumulatively considerable net increase of any criteria pollutant for which the General Plan region is nonattainment, nor would it conflict with or obstruct implementation of the applicable air quality plan. Additionally, sensitive receptors would not be exposed to substantial concentrations of pollutants or odors under growth facilitated by the 2015 General Plan EIR. However, even with implementation of the proposed General Plan goals and policies, long-term operation air quality impacts would remain significant and unavoidable.

The proposed project involves development on sites beyond what was anticipated in the 2015 General Plan EIR and could therefore result in new impacts related to air quality. Therefore, all the CEQA checklist items listed above under Methodology and Significance Thresholds are addressed in this analysis.

## **c. Project Impacts and Mitigation Measures**

Some components associated with the proposed project, including updates to the Local Coastal Plan and Master and Specific Plans for consistency between the city’s planning documents, in and of themselves would not result in physical changes to the environment such that impacts to air quality would occur. Therefore, this analysis focuses on impacts associated with implementation of the rezone program which would facilitate the development of 18 rezone sites listed in Table 2-4 in Section 2, *Project Description*, as well as impacts associated with updates to the Public Safety Element.



**Threshold 1:** Would the project conflict with or obstruct implementation of the applicable air quality plan?

**Impact AQ-1** SIMILAR TO THE DEVELOPMENT ANALYZED IN THE 2015 GENERAL PLAN EIR, THE PROPOSED PROJECT WOULD NOT CONFLICT WITH OR OBSTRUCT THE SAN DIEGO REGIONAL AIR QUALITY STRATEGY OR STATE IMPLEMENTATION PLAN. THIS IMPACT WOULD BE LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED.

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The CARB mobile source emission projections and SANDAG growth projections are based on population and vehicle trends and land use plans developed by cities. As such, projects that propose development that is consistent with the growth anticipated by the general plan (or less dense) would be consistent with the RAQS. If a project proposes development that is greater than what is assumed in SANDAG's growth projections upon which the RAQS is based, then the project would be in conflict with the RAQS and SIP. However, the current population and housing in the County are lower than what was projected for the region, and therefore it is unlikely that the additional units from the proposed project would interfere with the SCAPCD's goals for improving air quality in the SDAB. However, from a long-term planning standpoint, implementation of the proposed project would not comply with the existing assumptions of density and land use utilized to develop the RAQS and applicable SIP. Therefore, even though the proposed project is intended to meet the city's RHNA which is provided by SANDAG, a revised housing forecast will need to be provided to SANDAG to ensure that the next revisions to the RAQS and the SIP accurately reflect the anticipated growth. SANDAG housing forecasts are updated every four years. The next forecast is scheduled for revision in 2025. Because the proposed project would result in emissions that are greater than what is currently accounted for in the RAQS, the significant air quality impacts would conflict with the RAQS, which is the applicable air quality plan. Therefore, this impact is potentially significant.

### **Mitigation Measures**

The following mitigation is required for the city under the proposed project in order to ensure project consistency with SANDAG growth projections and the SDAPCD RAQS and SIP.

#### *AQ-1 Housing Forecast Revisions*

Prior to the next update of the Regional Housing Needs Assessment and within six months of the certification of the Final SEIR, the City Planner shall provide a revised housing forecast to SANDAG to ensure that any revisions to the population and employment projections used by SDAPCD in updating the RAQS and the SIP will accurately reflect anticipated growth due to the proposed project.

### **Significance after Mitigation**

Mitigation measure AQ-1 would ensure that future development under the proposed project is accounted for in SANDAG's regional growth projections, which are incorporated into the SDAPCD RAQS and SIP. Therefore, this impact would be less than significant with mitigation.

<b>Threshold 2:</b> Would the project violate any air quality standard or contribute to an existing or projected air quality violation?
<b>Threshold 3:</b> Would the project result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?

**Impact AQ-2 IMPLEMENTATION OF THE PROPOSED PROJECT WOULD VIOLATE AIR QUALITY STANDARDS OR CONTRIBUTE TO AN EXISTING AIR QUALITY VIOLATION BECAUSE PROJECT-RELATED EMISSIONS WOULD EXCEED SDAPCD THRESHOLDS. SIMILARLY, THE PROPOSED PROJECT WOULD RESULT IN A CUMULATIVELY CONSIDERABLE NET INCREASE OF CRITERIA POLLUTANTS FOR WHICH THE PROJECT REGION IS NONATTAINMENT UNDER APPLICABLE FEDERAL OR STATE AMBIENT AIR QUALITY STANDARDS. THIS IMPACT WOULD BE SIGNIFICANT AND UNAVOIDABLE.**

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As discussed under Section 4.2.2, *Regulatory Setting*, criteria pollutants include ozone, carbon monoxide, NO<sub>x</sub>, PM<sub>10</sub>, PM<sub>2.5</sub>, SO<sub>2</sub>, and lead. The SDAB is a non-attainment area for the federal standards for ozone and the state standards for ozone, PM<sub>2.5</sub> and PM<sub>10</sub>. The SDAB is designated unclassifiable or in attainment for all other federal and State standards. If the proposed project does not exceed thresholds, it would be determined to have less than significant impacts relating to both violation of air quality standards and cumulatively considerable net increases in pollutant emissions.

## Construction

Construction activities from development facilitated by the proposed project would generate temporary air pollutant emissions associated with fugitive dust (PM<sub>10</sub> and PM<sub>2.5</sub>) and exhaust emissions from heavy construction equipment and construction vehicles in addition to VOC emissions that would be released during the paving phase and the drying phase of architectural coatings. The extent of daily emissions, particularly NO<sub>x</sub> emissions, generated by construction equipment, would depend on the equipment used and the hours of operation for each project. The extent of PM<sub>10</sub> and PM<sub>2.5</sub> emissions would depend upon the following factors: (1) the amount of disturbed soils; (2) the length of disturbance time; (3) whether existing structures are demolished; (4) whether excavation is involved; and (5) whether transporting excavated materials off site is necessary. The extent of VOC emissions would primarily depend on the square footage of buildings being painted and asphalt surfaces being paved each day.

As discussed in Section 4.2.2(a), *Significance Thresholds*, the SDAPCD has not established plan-level significance thresholds for construction air pollutant emissions. At this time, development facilitated by the proposed project do not have sufficient detail (e.g., construction schedule, amount of soil export, specific buildout parameters) to allow for project-level analysis given the programmatic nature of the plan and thus it would be speculative to analyze project-level impacts. Therefore, a qualitative approach to characterizing construction-related air emissions has been employed for this analysis.

Construction activities would occur at the sites identified in the suitable sites inventory contained in Table 2-4 in Section 2, *Project Description*, which are generally located in urbanized portions of the city. Development at these sites would be subject to compliance with applicable SDAPCD regulations, including Rule 51 (Nuisance), Rule 55 (Fugitive Dust Control), and Rule 67 (Architectural Coating). Additionally, future development would be subject to compliance with General Plan Policy 4-P.56, which includes best management practices for grading activities.

Compliance with SDAPCD rules would reduce the overall level of air quality impacts associated with construction activities under the proposed project. Furthermore, development facilitated by the proposed project would be required to implement additional mitigation if project-specific analysis identifies the potential to exceed the SDAPCD’s thresholds for construction activities. However, because the exact nature and intensity of reasonably foreseeable development projects is not known at this time, it is speculative to determine whether project-specific mitigation measures would reduce project-level emissions below SDAPCD thresholds for construction activities. Therefore, construction activities under the proposed project could contribute to existing air quality violations and impacts would be potentially significant.

## Operation

Operational emission sources typical of residential land uses include area sources (e.g., fireplaces, architectural coatings, consumer products, and landscaping equipment), energy sources (i.e., use of natural gas for space and water heating and cooking), and mobile sources (i.e., vehicle trips to and from the project sites). Operation of the residential developments facilitated by the proposed project would generate criteria air pollutant emissions associated with area sources, mobile sources, and energy sources.

Table 4.2-5 summarizes estimated daily operational emissions of criteria air pollutants and precursors associated with full buildout of the proposed project and provides a conservative comparison of plan-level emissions to the SDAPCD project-level significance thresholds.

**Table 4.2-5 Estimated Operational Criteria Air Pollutant Emissions (lbs/day)**

Emission Source	Maximum Daily Emissions (lbs/day)					
	VOC	NO <sub>x</sub>	CO	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Area	5,144	100	6,411	11	858	854
Energy	1	6	3	<1	<1	<1
Mobile	32	63	601	2	56	11
Project Emissions	5,177	169	6,748	13	914	865
SDAPCD Emissions Thresholds	137	250	550	250	100	55
<b>Threshold Exceeded?</b>	<b>Yes</b>	<b>No</b>	<b>Yes</b>	<b>No</b>	<b>Yes</b>	<b>Yes</b>

Notes: See Appendix B for modeling results. Some numbers may not add up precisely due to rounding considerations.

As shown in Table 4.2-5, buildout under the proposed project would generate daily mobile source air pollutant emissions in excess of SDAPCD project-level significance thresholds for VOC, CO, PM<sub>10</sub>, and PM<sub>2.5</sub>.

The city’s 2015 General Plan includes policies to programmatically address long-term increases in air pollutant emissions, such as Policies 2-P.13, 4-P.52, and 9-P.2 which seek to reduce mobile source emissions, encourage infill development, and improve multimodal transportation infrastructure. The Public Safety Element Update also contains the following applicable policy aimed at reducing impacts related to air quality.

**Policy 6-P.82** Coordinate with San Diego County Public Health Services and local community organizations to establish extreme heat, drought, and air quality monitoring systems and develop accessible community education resources to prepare community members for increase extreme heat events and ambient air pollution.

Furthermore, development facilitated by the proposed project would be required to implement additional mitigation if project-specific analysis identifies the potential to exceed the SDAPCD's significance thresholds for operational activities. However, despite the emphasis from the project to change land uses to concentrate growth and residences to jobs and services to reduce singular vehicle trips and encourage alternative modes of travel, the project-related emissions would exceed SDAPCD project-level mobile source emissions thresholds. Although the above listed policies would have the effect of reducing mobile VMT, and in turn criteria pollutants, in the project area, emissions would remain in exceedance of SDAPCD thresholds. Therefore, this impact is potentially significant.

### **Mitigation Measures**

The following mitigation is required for future development under the proposed project in order to reduce operational emissions.

#### *AQ-2 Operational Emissions Reductions*

During the project design and project-level review phases of development projects at the 18 rezone sites, the city shall require each project to determine operational air quality emissions from the project. For projects that exceed regulatory San Diego County Air Pollution Control District (SDAPCD) thresholds, mitigation shall be implemented to reduce impacts to below the regulatory thresholds or to the maximum extent feasible implementing all feasible mitigation. The following represents some measures aimed at reducing air pollutant emissions from operational sources. This is not an exhaustive list of measures, and individual projects shall incorporate measures that best fit each project design.

- Use architectural coating materials, as defined in SDAPCD Rule 67.0.1, that are zero-emission or have a low-VOC content (below 10 grams per liter). Where such VOC coatings are not available or feasible, the coating with the lowest VOC rating available shall be used. These measures shall be noted on all construction plans, and the city shall perform periodic site inspections during construction to verify compliance.
- Prohibit the installation of woodstoves, hearths, and fireplaces in new construction facilitated by the proposed project.
- Expand and facilitate completion of planned networks of active transportation infrastructure.
- Implement EV charging infrastructure beyond requirements set forth in the 2022 CalGreen mandatory measures. Such requirements would be equivalent to the Tier 2 voluntary measures set forth in the 2022 CalGreen standards.
- Implement traffic demand measures, such as unbundling parking fees from rent/lease options, encouraging/developing a ride-share program for the community, and provide car/bike sharing services, that will reduce daily individual car usage and reduce project VMT.

## Significance after Mitigation

Mitigation measure AQ-2 would reduce operational emissions from future development under the proposed project, however it would be speculative to quantify such emissions at this time as the details of the individual projects are not known. Therefore, impacts would remain significant and unavoidable.

<b>Threshold:</b> Would the project expose sensitive receptors to substantial pollutant concentrations?
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**Impact AQ-3** DEVELOPMENT FACILITATED BY THE PROPOSED PROJECT WOULD NOT EXPOSE OFFSITE SENSITIVE RECEPTORS TO SUBSTANTIAL POLLUTION CONCENTRATIONS. HOWEVER, THE PROJECT WOULD SITE SENSITIVE RECEPTORS WITHIN CLOSE PROXIMITY TO SOURCES OF TAC EMISSIONS. THIS IMPACT WOULD BE LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED.

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## Carbon Monoxide Hotspots

A carbon monoxide hotspot is a localized concentration of carbon monoxide that is above the NAAQS and CAAQS for carbon monoxide. Localized carbon monoxide hotspots can occur at intersections with heavy peak hour traffic. Specifically, hotspots can be created at intersections where traffic levels are sufficiently high such that the local carbon monoxide concentration exceeds the federal one-hour standard of 35.0 parts per million (ppm) or the federal and State eight-hour standard of 9.0 ppm (USEPA 2023b).

The SDAB is in attainment of the carbon monoxide NAAQS and CAAQS, and the SDAPCD has not recorded an exceedance of carbon monoxide standards at any monitoring stations over the last 20 years (SDAPCD 2021). Based on the low background level of carbon monoxide in the project area, ever-improving vehicle emissions standards for new cars in accordance with State and federal regulations, and the low level of operational carbon monoxide emissions anticipated for reasonably foreseeable development facilitated by the proposed project, the project would not create new hotspots or contribute substantially to existing hotspots. Therefore, the proposed project would not expose sensitive receptors to substantial concentrations of carbon monoxide, and impacts would be less than significant.

## Toxic Air Contaminants

TACs are defined by California law as air pollutants that may cause or contribute to an increase in mortality or an increase in serious illness, or which may pose a present or potential hazard to human health. The following subsections discuss the project's potential to result in impacts related to TAC emissions during construction and operation.

### *Construction*

Construction-related activities would result in temporary project-generated emissions of DPM exhaust emissions from off-road, heavy-duty diesel equipment for site preparation, grading, building construction, and other construction activities. DPM was identified as a TAC by CARB in 1998. The potential cancer risk from the inhalation of DPM (discussed in the following paragraphs) outweighs the potential non-cancer health impacts (CARB 2022b) and is therefore the focus of this analysis.

Generation of DPM from construction projects typically occurs in a single area for a short period. Construction of housing units facilitated by the proposed project would occur over timeframes ranging generally from one to five years. The dose to which the receptors are exposed is the primary factor used to determine health risk. Dose is a function of the concentration of a substance or substances in the environment and the extent of exposure that person has with the substance. Dose is positively correlated with time, meaning that a longer exposure period would result in a higher exposure level for the Maximally Exposed Individual. The risks estimated for a Maximally Exposed Individual are higher if a fixed exposure occurs over a longer period of time. According to the California Office of Environmental Health Hazard Assessment, health risk assessments, which determine the exposure of sensitive receptors to toxic emissions, should be based on a 70-year exposure period; however, such assessments should be limited to the period/duration of activities associated with the project. Thus, the duration of proposed construction activities (i.e., one to five years) is approximately 3 to 17 percent of the total exposure period used for 30-year health risk calculations. Current models and methodologies for conducting health-risk assessments are associated with longer-term exposure periods of 9, 30, and 70 years, which do not correlate well with the temporary and highly variable nature of construction activities, resulting in difficulties in producing accurate estimates of health risk (Bay Area Air Quality Management District 2017).

The maximum PM<sub>10</sub> and PM<sub>2.5</sub> emissions would occur during demolition, site preparation and grading activities, which would only occur for a portion of the overall estimated timeframe of one to five years for construction of housing units facilitated by the proposed project. These activities would typically last for approximately two weeks to two years, depending on the extent of grading and excavation required (e.g., projects with subterranean parking structures or geological constraints require additional grading as compared to those without). PM<sub>10</sub> and PM<sub>2.5</sub> emissions would decrease for the remaining construction period because construction activities such as building construction and architectural coating would require less intensive construction equipment. While the maximum DPM emissions associated with demolition, site preparation, and grading activities would only occur for a portion of the overall construction period, these activities represent the worst-case condition for the total construction period. This would represent between 0.1 to 7 percent of the total 30-year exposure period for health risk calculation. Moreover, the proposed housing sites are spread throughout Carlsbad such that people affected by construction-related TAC emissions generated at one site would likely not be affected by construction-related TAC emissions generated at another site should construction activities occur simultaneously.

Furthermore, development facilitated by the proposed project would be required to implement additional mitigation if project-specific analysis identifies the potential for construction-related TAC emissions to exceed SDAPCD thresholds. However, because the exact nature and intensity of reasonably foreseeable development projects is not known at this time, it is speculative to determine whether project-specific mitigation measures would reduce project-level emissions below the SDAPCD thresholds. Therefore, impacts would be potentially significant. Implementation of Mitigation Measure AQ-3 would ensure that construction activities would not expose sensitive receptors to substantial TAC concentrations.

### *Operation*

#### **OFF-SITE RECEPTORS**

Residential land uses are not considered land uses that generate substantial TAC emissions based on review of the air toxic sources listed in CARB's guidelines. It is expected that quantities of hazardous TACs generated on-site (e.g., cleaning solvents, paints, landscape pesticides, etc.) for the types of

proposed residential land uses would be below thresholds warranting further study under the California Accidental Release Program. Because the project would not include substantial TAC sources and is consistent with CARB and SDAPCD guidelines, it would not result in the exposure of off-site sensitive receptors to significant amounts of carcinogenic or toxic air contaminants. Impacts would be less than significant.

### **ON-SITE RECEPTORS**

The proposed project residential land uses are considered air quality sensitive land uses where sensitive receptors would inhabit. The population residing close to freeways or busy roadways may experience adverse health effects beyond those typically found in urban areas. CARB has published the Air Quality and Land Use Handbook: A Community Health Perspective (CARB 2005), which identifies certain types of facilities or sources that may emit substantial quantities of TACs and therefore could conflict with sensitive land uses, such as “schools and schoolyards, parks and playgrounds, daycare centers, nursing homes, hospitals, and residential communities.” CARB, in the Air Quality and Land Use Handbook, recommends avoiding siting new sensitive land uses within 500 feet of a freeway, urban roads with 100,000 vehicles/day, or rural roads with 50,000 vehicles/day. Additional non-cancer health risk attributable to proximity to freeways was seen within 1,000 feet and was strongest within 300 feet. California freeway studies show about a 70 percent drop-off in particulate pollution levels at 500 feet (CARB 2005). As discussed above, proximity to freeways increases cancer risk and exposure to particulate matter. Similarly, proximity to heavily travelled transit corridors and intersections would expose residents to higher levels of DPM and carbon monoxide. Additional non-cancer health risk attributable to proximity to freeways was seen within 1,000 feet and was strongest within 300 feet.

Implementation of the proposed project involves rezoning that would result in the potential placement of new sensitive receptors (i.e., residences) proximate to existing sources of TACs. Therefore, exposure of future onsite receptors to TACs could occur. The analysis of impacts from the environment on the proposed project is not required under CEQA.<sup>2</sup> However, as there is the potential for impacts to onsite receptors from locations near high volume roadways and CARB has set specific screening distances where impacts to sensitive receptors could occur, a discussion of impact is included to fully inform the potential impacts of project implementation. Of the 18 rezone sites, Site 5 and Site 16 are located within 500 feet of the I-5 freeway and Site 2 is located within 500 feet of SR 78. Therefore, impacts at these sites are potentially significant.

### **Mitigation Measures**

The following mitigation measures are required:

#### *AQ-3 Construction Health Risk Assessment*

For individual projects (excluding ADUs, single-family residences, and duplexes) where construction activities would occur within 1,000 feet of sensitive receptors, would last longer than two months, and would not utilize a fleet comprised of strictly EPA rated Tier 4 engines and/or alternative fuel construction equipment, it is required that a construction health risk assessment (HRA) be

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<sup>2</sup> The August 12, 2015 case law *California Building Industry Association v. Bay Area Air Quality Management District* (2015) 62 Cal.4th 269 determined that CEQA does not require an agency to consider the effects of existing environmental conditions on a proposed project's future users or residents.

performed.<sup>3</sup> The construction HRA shall be performed by a qualified air quality consultant coordinated through the City. The HRA shall be conducted following the Office of Environmental Health Hazards Association's (OEHHA) 2015 Health Risk Guidelines (OEHHA 2015) and SDAPCD guidelines to determine potential risk and compare the risk to the following SDAPCD thresholds:

- Increased cancer risk of > 10.0 in a million;
- Increased non-cancer risk of > 1.0 Hazard Index (Chronic or Acute); or

If risk exceeds the thresholds, measures such as requiring the use of Tier 4 and/or alternative fuel construction equipment are recommended to reduce the risk to appropriate levels. The incorporation of Tier 4 and/or alternative fuel construction equipment reduces the emissions of DPM from construction activities and therefore reduces the potential risk to nearby sensitive receptors.

#### *AQ-4 Operational Health Risk Assessment*

Consistent with the provisions contained in the *California Air Resources Board Air Quality and Land Use Handbook*, future development projects occurring on Site 2, Site 5, or Site 16 under the proposed project should implement the following:

Project applicants shall retain a qualified air quality consultant to prepare a HRA in accordance with the CARB and the Office of Environmental Health and Hazard Assessment requirements to determine the exposure of onsite sensitive receptors to emission sources resulting from the proximity to existing high volume roadways. The HRA shall be submitted to the City of Carlsbad for review and approval. Project applicants shall implement the approved HRA recommendations for all impacted onsite sensitive receptor, if any. Such measures may include, but are not limited to:

- Install, operate, and maintain in good working order a central heating and ventilation system or other air take system in the building of a sensitive receptor that would be impacted by the project, or in each individual residential unit, that meets the efficiency standard of the minimum efficiency reporting value of 13. The heating and ventilation system should include the following features: installation of a high-efficiency filter and/or carbon filter to minimize particulate and other airborne chemical matter from entering the building. Either high-efficiency particulate absorption filters or American Society of Heating, Refrigeration, and Air-Conditioning Engineers 85 percent supply filters should be used.
- Ensure that positive pressure occurs in the building.
- Achieve a performance standard of at least one air exchange per hour of fresh outside filtered air.
- Achieve a performance standard of at least four air exchanges per hour of recirculation.
- Achieve a performance standard of 0.25 air exchanges per hour of unfiltered infiltration if the building is not positively pressurized.

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<sup>3</sup> Sensitive receptors are that segment of the public most susceptible to respiratory distress as a result of poor air quality, such as children under 14, persons over 65, persons engaged in strenuous work or exercise, and people with pre-existing cardiovascular and chronic respiratory diseases. Locations of sensitive receptors include schools, parks and playgrounds, hospitals, day cares, assisted living facilities, and residential communities (CARB 2005)



## Significance after Mitigation

Implementation of Mitigation Measures AQ-3 and AQ-4 would reduce impacts related to potential health risks associated with exposure of sensitive receptors to substantial pollutant concentrations of DPM and TACs. Mitigation Measure AQ-3 would ensure that construction activities would not result in exposure of offsite sensitive receptors to substantial TAC concentrations. Mitigation Measure AQ-4 would ensure that new development facilitated by the project would not expose onsite sensitive receptors to substantial air pollutant concentrations. Implementation of these mitigation measures would reduce impacts from DPM and TACs to a less than significant level.

<b>Threshold:</b> Would the project create objectionable odors affecting a substantial number of people?
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**Impact AQ-4** SIMILAR TO THE DEVELOPMENT ANALYZED IN THE 2015 GENERAL PLAN EIR, THE PROPOSED PROJECT WOULD NOT CREATE OBJECTIONABLE ODORS AFFECTING A SUBSTANTIAL NUMBER OF PEOPLE. THIS IMPACT WOULD BE LESS THAN SIGNIFICANT.

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The occurrence and severity of potential odor impacts depends on a number of factors, including the nature, frequency, and intensity of the source; the wind speeds and direction; and the sensitivity of the receiving location, each contributing to the intensity of the impact. Although offensive odors seldom cause physical harm, they can be perceived as a nuisance, cause distress among the public, and result in citizen complaints.

The proposed project would facilitate the development of additional housing units in an urbanized area with existing residential, commercial, and industrial uses. Construction activities for development forecasted in accordance with the proposed project may produce temporary odors. Examples of potential odors produced by construction activities include concentrations of unburned hydrocarbons from construction equipment tailpipes and reactive organic gases/compounds from architectural coatings. Such odors generally disperse rapidly from individual project sites, occur at magnitudes that would not affect substantial numbers of people, and would be limited to the temporary construction period.

Construction activities forecasted in accordance with the proposed project would be required to comply with SDAPCD Rule 51 (Nuisance), which regulates nuisance odors (SDAPCD 1976). Accordingly, the construction of future development in accordance with the proposed project is not anticipated to create objectionable odors affecting a substantial number of people or expose future residents to odors in concentrations that would produce a public nuisance or hazard. Therefore, this impact would be less than significant.

## Mitigation Measures

No mitigation measures are required because, like under the 2015 General Plan EIR, impacts would be less than significant without mitigation.

### d. Cumulative Impacts

Project related air pollution may combine with other cumulative projects (past, present, and reasonably foreseeable future) to violate criteria pollutant standards if the existing background sources cause nonattainment conditions. Air districts manage attainment of the criteria pollutant standards by adopting rules, regulations, and attainment plans, which comprise a multifaceted programmatic approach to such attainment.

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The geographic scope for analyzing cumulative air quality impacts is the SDAB. The SDAB is designated a nonattainment area for the ozone NAAQS and CAAQS, the PM<sub>10</sub> CAAQS, and the PM<sub>2.5</sub> CAAQS. The SDAB is in attainment of all other NAAQS and CAAQS. Therefore, cumulative air quality impacts related to PM<sub>10</sub>, PM<sub>2.5</sub>, and ozone are potentially significant.

As described under Impact AQ-1, the SDAPCD's approach for assessing cumulative impacts is based on consistency with the latest adopted RAQS. With implementation of Mitigation Measure AQ-1, the proposed project would be consistent with the RAQS. Additionally, SDAPCD best management practices are required for all grading activities in the SDAPCD's jurisdiction, which would reduce Citywide emissions of ozone precursors, PM<sub>10</sub>, and PM<sub>2.5</sub> from construction facilitated by the proposed project. However, operational emissions resulting from the proposed project would result in exceedances of SDAPCD thresholds, even with implementation of Mitigation Measure AQ-2, and thus would be significant and unavoidable. Therefore, the proposed project's contribution to cumulative air quality impacts would result in a cumulatively significant impact.

As identified under Impact AQ-3, the proposed project would result in a potentially significant impact related to DPM and TAC exposure within the city. Discussion of these impacts considers the cumulative nature of the pollutants in the region; for example, the cancer risk and non-cancer risk thresholds have been set pursuant to existing cancer risks in the area and exceeding those thresholds would be considered a cumulative impact. Implementation of Mitigation Measures AQ-3 and AQ-4 would ensure that future development would not expose new or existing sensitive receptors to cumulatively considerable amount of substantial pollutant concentrations from carbon monoxide hotspots or TACs. Therefore, the project's contribution to cumulative air quality impacts related to these pollutants would not result in a cumulatively significant impact.

## 4.3 Biological Resources

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This section assesses potential for the proposed project to directly or indirectly impact biological resources. This section builds off the prior biological resources analysis in the 2015 General Plan EIR.

### 4.3.1 Setting

The City of Carlsbad is located on the coast of the Pacific Ocean in northwest San Diego. Carlsbad is surrounded by the cities of Oceanside to the north, Encinitas to the south, and Oceanside, Vista and San Marcos and unincorporated areas of San Diego County to the east. Along Carlsbad's northern edge, urban development abuts Highway 78, with the highway and Buena Vista Lagoon acting as a boundary between Carlsbad and Oceanside. Similarly, Batiquitos Lagoon along the city's southern edge acts as a boundary between Carlsbad and Encinitas. To the east, city boundaries are less distinctive, as a mix of hillsides and urban development are located adjacent to the cities of Vista and San Marcos and unincorporated county lands. The city's regional location is depicted in Figure 2-1. Elevations range from sea level along the coast to about 1,000 feet above mean sea level at the southeastern border of the city. Land within the city's jurisdiction covers about 39 square miles 25,021 acres, about 38 percent of which is currently open space for resource conservation, recreation, agriculture, and aesthetic use. About 7,376 acres (78 percent of open space land) is comprised of natural open space such as native habitats, lagoons, and streams. The city's open space network boasts three lagoons, nearly 40 miles of hiking trails, and almost seven miles of coastline, as well as unique agricultural and horticultural resources such as the strawberry fields and the Flower Fields.

The western edge of the city is characterized by sandy beaches and three low-lying river estuaries or lagoons – the Batiquitos, Agua Hedionda, and Buena Vista lagoons. The lagoons dominate the city's coastal landscape and provide habitat for a variety of resident and migratory bird species as a part of the city's overall open space network. The coastal portions of the city are largely developed; however, natural vegetation communities remain in and around the three coastal lagoons and on some of the higher, steeper-sloped, inland portions of the city. The adjacent cities of Oceanside and Vista are largely built out, such that in many places the natural vegetation communities end abruptly along the city border. The remaining landscape linkages to natural communities outside the city occur along the southeastern border with San Marcos and unincorporated lands and along the southern border with Encinitas.

#### **a. Vegetation Communities and Land Cover Types**

Vegetation classification is based on the classification systems provided in the *Draft Vegetation Communities of San Diego County* (Oberbauer et al. 2008) to provide consistency with the San Diego Multiple Habitat Conservation Program (MHCP) and modified as appropriate to reflect the existing site conditions. Where applicable, vegetation communities were further classified using *Vegetation Classification Manual for Western San Diego County* (Sproul et al. 2011) to better identify the species composition and provide consistency with California Department of Fish and Wildlife (CDFW) classifications.

Natural vegetation communities cover approximately 7,574 acres, or 30 percent, of land within the city's jurisdiction. The remainder of the city is agricultural lands, disturbed lands, or developed lands. Natural vegetation communities within the city include coastal sage scrub; chaparral (including undifferentiated and southern maritime); grassland (native and non-native); marsh,

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estuarine, and freshwater (including southern coastal saltwater marsh and coastal and valley freshwater marsh); riparian (including sycamore alluvial woodland and riparian scrub); and woodland (including oak woodland and eucalyptus woodland). The principal natural vegetation communities in the city include coastal sage scrub (37 percent) and grassland (18 percent). A description of the natural vegetation communities found within the city is provided below.

Vegetation communities at each of the 18 rezone sites are listed in Table 4.3-1 and described more broadly below.

**Table 4.3-1 Vegetation Communities by Rezone Site**

Site	Name	Vegetation Community	Description
Site 1	North County Plaza	Developed, Riparian	Developed shopping center, constrained by Buena Vista Creek and its associated riparian habitat and floodplain area
Site 2	The Shoppes at Carlsbad parking lot	Developed, Riparian	Developed shopping center constrained by Buena Vista Creek and its associated riparian habitat and floodplain area
Site 3	Chestnut at El Camino Real	Woodland	Slopes with ornamental woodland
Site 4	Zone 15 Cluster	Grassland, Coastal Sage Scrub, Riparian	Flat, previously graded pad (portion of site) Elements of coastal sage scrub, Agua Hedionda Creek, ornamental trees. High potential for thread-leaved brodiaea (narrow endemic, endangered plant)
Site 5	Avenida Encinas Car Storage Lot	Developed	Paved with planted ornamental vegetation
Site 6	Crossings Golf Course Lot 5	Grassland, Coastal Sage Scrub	Flat, previously graded pad (grassland) with steep manufactured slope (coastal sage scrub) that drops to the golf course and open space
Site 7	Salk Avenue	Grassland, Ornamental	Flat, previously graded pad with manufactured slopes, high probability of thread-leaved brodiaea onsite (narrow endemic, endangered plant)
Site 8	Cottage Row Apartments	Coastal Sage Scrub, Disturbed, Developed	Coastal sage scrub along northern portion, remainder is developed and disturbed, steep slopes
Site 9	West Oaks Industrial	Disturbed, Riparian, Coastal Sage Scrub	Previously graded pad, Encinas Creek traverses site, riparian intermixed with coastal sage scrub along north side
Site 10	Bressi Ranch Colt Place	Disturbed	Vacant and graded, planted landscaping
Site 11	Bressi Ranch Gateway Road	Disturbed	Vacant and graded, planted landscaping
Site 12	Industrial Sites East of Melrose Drive	Disturbed	Vacant and graded, planted landscaping
Site 14	Carlsbad Village COASTER Station	Disturbed, Developed	Undeveloped dirt lot and paved areas
Site 15	City's Oak Yard	Developed	Paved
Site 16	Caltrans Maintenance Station/Pacific Sales	Developed	Planted trees and developed

Site	Name	Vegetation Community	Description
Site 17	Poinsettia Coaster Station	Developed, Coastal Sage Scrub, Vernal Pool	Lot overlaps with Poinsettia Station Vernal Pool Preserve. Remainder is paved parking lot and sidewalk
Site 18	North Ponto Parcels	Disturbed, Coastal Sage Scrub	Disturbed lots with remnant native shrubs
Site 19	La Costa Glen/Forum	Coastal Sage Scrub, Chaparral, Disturbed, Developed	Paved parking lot surrounded by coastal sage scrub, chaparral and disturbed habitat

## Upland Habitat

### *Coastal Sage Scrub*

Coastal sage scrub habitat is found on Sites 4, 6, 8, 9, 17, 18, and 19. According to the General Plan, three types of coastal sage scrub exist within the city, representing approximately 38 percent of the natural vegetation in the city: Diegan coastal sage scrub, maritime succulent scrub and coastal sage scrub- chaparral scrub (City of Carlsbad 2015). Diegan coastal sage scrub is drought-deciduous (plants drop their leaves during dry season, as compared to plants that drop their leaves during cold season) and comprised of aromatic shrubs with a diverse understory of annual and perennial non-woody flowering plants and grasses. Diegan coastal sage scrub primarily occurs along dry south-facing slopes or hillsides or on clay-rich soils adjacent to chaparral. In the city, the largest remaining areas of Diegan coastal sage scrub are in Calavera Hills, near the intersection of College Boulevard and Carlsbad Village Drive, and in the Villages of La Costa. Maritime succulent scrub includes a variety of succulents mixed with typical Diegan sage scrub species. Coastal sage scrub-chaparral scrub is a sub-type of coastal sage scrub and considered a transitional community between coastal sage scrub and chaparral types.

Coastal sage scrub is home to the federally threatened coastal California gnatcatcher (*Polioptila californica californica*), as well as the orange-throated whiptail (*Aspidoscelis hyperythra*; a California Species of Special Concern). Coastal sage scrub is considered sensitive habitat under California regulations, but Diegan coastal sage scrub, in particular, is identified in the California Department of Fish and Wildlife (CDFW) California Natural Diversity Database (CNDDDB) as a priority for monitoring and restoration. Coastal sage scrub in the city is part of a regionally significant steppingstone corridor that extends into Oceanside, connecting gnatcatcher populations in Orange and Riverside counties with those south and east of Carlsbad.

### *Vernal Pool*

Vernal pool habitat is present within Site 17. Vernal pools are defined as seasonally flooded depressions that support a distinctive plant and animal community adapted to extreme variability in hydrologic conditions. They fluctuate between seasonally very dry and very wet conditions. Vernal pools must meet both of the following conditions to be characterized as such under the MHCP: (1) the basin is at least partially vegetated during the normal growing season or is unvegetated due to heavy clay or hardpan soils that do not support plant growth or due to degradation by anthropogenic activities; and (2) the basin contains at least one vernal pool obligate species (i.e., species which occur primarily in vernal pools) (County of San Diego 2009). A suite of endemic plant species occurs in vernal pools, many of which are rare species such as San Diego button celery

(*Eryngium aristulatum* var. *parishii*), see Table 4.3-2 below. Additionally, vernal pools can support federally listed fairy shrimp species.

### *Chaparral*

Elements of chaparral habitat are found on Site 19. There are two categories of chaparral habitat located in the city: undifferentiated (including southern mixed and chamise chaparral) and southern maritime chaparral. Approximately 11 percent of the natural vegetation communities in the city are undifferentiated chaparral, and approximately 4 percent are mapped as southern maritime chaparral, which is subject to change as a result of site-specific surveys. Southern mixed chaparral is a fire- and drought-adapted plant community consisting of various woody shrubs. Chamise chaparral is dominated by chamise (*Adenostoma fasciculatum*), with remaining species including shrubs and understory plants common in other types of chaparral. Both these vegetation communities occur in a patchy distribution throughout the city and are located on wetter north and west-facing slopes, alternating with coastal sage scrub, grasslands, and oak woodlands.

Southern maritime chaparral is the most limited type of chaparral in the city and is considered a sensitive habitat. It is similar to southern mixed chaparral, except that it occurs on sandstone. Sensitive plant and animal species that may be found in chaparral habitat are the wart-stemmed ceanothus (*Ceanothus verrucosus*; designated as sensitive by the California Native Plant Society (CNPS)), the federally and state-listed endangered Orcutt's spineflower (*Chorizanthe orcuttiana*), the California endangered short-leaved dudleya (*Dudleya blochmaniae* ssp. *brevifolia*), and the California Watch List species, southern California rufous-crowned sparrow (*Aimophila ruficeps*).

### *Grassland*

Grassland habitat is found on Sites 4, 6, and 7. There are approximately 1,807 acres of both native and non-native grasslands within Carlsbad. Native grasslands are considered a sensitive habitat under California regulations and are identified in the CNDDDB as priority areas for monitoring and restoration. Within the city, native grassland vegetation is extremely limited and characterized by valley needlegrass and valley and foothill needlegrass. Non-native grassland, characterized by wild oats, bromes, and other such non-native grasses, is not considered a sensitive habitat. However, it is important to note that non-native grassland may be a significant foraging habitat for raptors and the California Fully Protected white-tailed kite (*Elanus leucurus*). Non-native grassland may also support sensitive plant species such as the federally and state-listed thread leaved brodiaea (*Brodiaea filifolia*) and San Diego thorn-mint (*Acanthomintha ilicifolia*), and may serve as a habitat linkage for a number of wildlife species such as mule deer (*Odocoileus hemionus*) and scrub species such as the coastal California gnatcatcher.

### *Woodland*

Woodland habitat dominated by eucalyptus (*Eucalyptus* spp.) is found on Site 3. There are two types of woodlands that occur within Carlsbad: oak woodland (approximately 29 acres) and eucalyptus woodland (approximately 257 acres). Oak woodland is dominated by coast live oak with other scattered tree species. Eucalyptus woodland is dominated by various species of planted eucalyptus that survived from agricultural hedgerows, around old dwellings, or in entire groves. Although eucalyptus woodland is a non-native community that does not support sensitive plant species, it is often used for nesting by raptors and other birds or roosting by bats. Sensitive species that may occur in oak woodlands include the Cooper's hawk (*Accipiter cooperii*; a California Watch List

species), regionally sensitive Harbison's dun skipper (*Euphyes vestris harbisoni*), and Nuttall's scrub oak (*Quercus dumosa*) and Engelmann oak (*Quercus engelmannii*; designated as sensitive by CNPS).

## Riparian Habitat

Riparian habitat is found on Sites 1, 2, 4 and 9. Riparian habitats are found along drainages and streams, where soils tend to be moist during all or part of the year. Within Carlsbad, riparian communities may also be the result of agricultural runoff. There are approximately 572 acres of riparian habitat located in the city, consisting of riparian scrub, riparian woodland and riparian forest. Riparian habitats are all considered sensitive under federal and state regulations and policies.

Riparian scrub is characterized by several natural and semi-disturbed wetland communities that occur along river courses and seasonally moist drainages. Within Carlsbad, areas of riparian scrub occur in numerous locations, including but not limited to along El Camino Real (south of Batiquitos Lagoon), Encinas Creek, Box Canyon, along the northern portion of the city south of Highway 78 in Buena Vista Creek and in small pockets throughout the city in springs and seeps. Riparian woodland, including sycamore-alder and other riparian woodland, occurs in broad channels of intermittent streams. Riparian forest includes southern coast live oak, which is dominated by coast live oak with other scattered tree species. Sensitive species that may occur in riparian habitats include the federally and state-listed endangered least Bell's vireo (*Vireo bellii*). Riparian woodland and forest support nesting for a number of raptor species, including white-tailed kite and Cooper's hawk.

### b. Jurisdictional Wetlands, Streams, and Riparian Habitats

In accordance with Section 1602 of the California Fish and Game Code (CFG), the CDFW has jurisdiction over lakes and streambeds (including adjacent riparian resources). CDFW regulates wetland areas that are part of a river, stream, or lake, but also temporary wetland features such as vernal pools. Under Section 404 of the Clean Water Act (CWA), the United States Army Corps of Engineers (USACE) has authority to regulate activities that discharge dredge or fill material into wetlands or other "waters of the United States" through issuance of a Section 404 Permit. Finally, the San Diego Regional Water Quality Control Board (RWQCB) has jurisdiction over "waters of the state" pursuant to the Porter-Cologne Water Quality Control Act and has the responsibility for review of the project water quality certification per Section 401 of the federal CWA.

The National Wetlands Inventory illustrates several wetlands and non-wetland waters that occur within the city (Figure 4.3-1). Sites 1, 2, 4, 9, and 17 contain mapped NWI wetlands. Buena Vista Creek, Agua Hedionda Creek, and San Marcos Creek are Relatively Permanent Waters (RPWs) that maintain a direct hydrologic surface connection to the Pacific Ocean, a traditional navigable water (TNW).

### c. Special-Status Species

Special-status species include those listed as rare, threatened, or endangered by CDFW or the USFWS, or are candidates for either state or federal listing, or have been designated as "fully protected" or "species of special concern" by USFWS and CDFW, or are other species that are tracked by the California Natural Diversity Database (CNDDDB) or California Native Plant Society (CNPS), but do not fall into any of the categories cited above. Table 4.3-2 contains a list of the special-status species from the CNDDDB and CNPS Inventory of Rare Plants that have been recorded in the *San Luis Rey, California* 7.5-minute USGS quadrangle and the surrounding eight quadrangles. Information regarding the occurrences of special-status species in the Planning Area was also

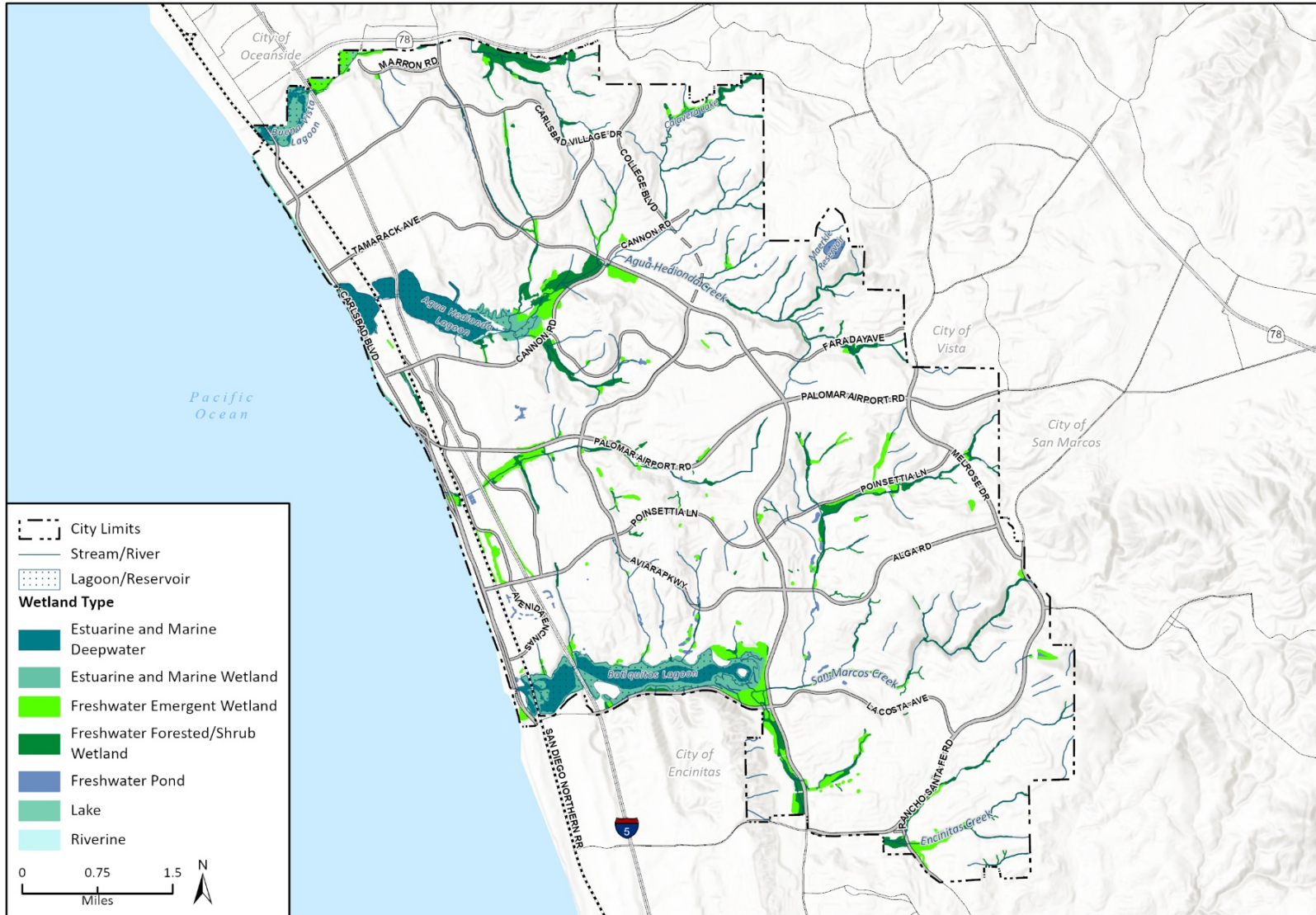
obtained from a query of the USFWS *Information for Planning and Conservation* (IPaC) (February 2022).

The CNDDDB includes all taxa that are listed by the CESA, as well as most federally listed taxa that occur in California. Additionally, the CNDDDB includes elements that are considered rare by experts, but that have not undergone the rigorous steps necessary to become officially listed through CESA. Many of the listed observations are historic (i.e., found in habitat that is no longer present). Therefore, while it is likely that several of these species are found in the city's open space areas and undeveloped vegetated hillsides at the wildland-urban interface, most of the species on this list would have low potential to occur on, and adjacent to the rezone sites and are not expected to be present due to the lack of suitable habitat or other factors (e.g., urban development, nighttime noise and light, domestic animals). Federally- and/or state-designated threatened and endangered species, and California Species of Special Concern (SSC) or California Fully Protected species that have the potential to occur in areas subject to development under the proposed project are listed in Table 4.3-2.

Six special-status species have at least a moderate potential to occur in the project area based on the presence of suitable habitat types. This includes four sensitive wildlife species and two sensitive plant species that are known to be present or are likely present on Sites 1, 2, 4, 6, 7, 8, 9, 17, 18 and 19 as described in Table 4.2-3 below.



**Figure 4.3-1 Carlsbad National Wetlands Inventory Map**



Imagery provided by Esri and its licensors © 2023.  
 Additional data provided by City of Carlsbad, 2022; USGS, 2022; California Department of Water Resources, 2021.

Safety Element  
 Fig 4.3-1 National Wetlands Inventory

**Table 4.3-2 Special-Status Plant and Wildlife Species with Potential to be Affected by the Proposed Project**

Scientific Name Common Name	Status	Habitat Requirements
<b>Plants and Lichens</b>		
<i>Artemisia palmeri</i> San Diego sagewort	None/None G3?/S3? 4.2	Perennial deciduous shrub. Chaparral, coastal scrub, riparian forest, riparian scrub, riparian woodland. Mesic, sandy. Elevations: 50-3000ft. (15-915m.) Blooms (Feb)May-Sep.
<i>Bloomeria clevelandii</i> San Diego goldenstar	None/None G2/S3 1B.1	Perennial bulbiferous herb. Chaparral, coastal scrub, valley and foothill grassland, vernal pools. Clay. Elevations: 165-1525ft. (50-465m.) Blooms Apr-May.
<i>Brodiaea filifolia</i> thread-leaved brodiaea	FT/SCE G2/S2 1B.1	Perennial bulbiferous herb. Chaparral, cismontane woodland, coastal scrub, playas, valley and foothill grassland, vernal pools. Clay (often). Elevations: 80-3675ft. (25-1120m.) Blooms Mar-Jun. This species has a high potential to occur on or adjacent to Sites 4 and 7.
<i>Calandrinia breweri</i> Brewer's calandrinia	None/None G4/S4 4.2	Annual herb. Chaparral, coastal scrub. Burned areas, disturbed areas, loam (sometimes), sandy (sometimes). Elevations: 35-4005ft. (10-1220m.) Blooms (Jan)Mar-Jun.
<i>Chorizanthe orcuttiana</i> Orcutt's spineflower	FE/SCE G1/S1 1B.1	Annual herb. Chaparral, closed-cone coniferous forest, coastal scrub. Openings, sandy. Elevations: 10-410ft. (3-125m.) Blooms Mar-May.
<i>Eryngium aristulatum</i> var. <i>parishii</i> San Diego button-celery	FE/SCE G5T1/S1 1B.1	Annual/perennial herb. Coastal scrub, valley and foothill grassland, vernal pools. San Diego mesa hardpan and claypan vernal pools and southern interior basalt flow vernal pools; usually surrounded by scrub. Elevations: 65-2035ft. (20-620m.) Blooms Apr-Jun. Known to occur within the vernal pool preserve on Site 17.
<i>Hazardia orcuttii</i> Orcutt's hazardia	None/SCT G1/S1 1B.1	Perennial evergreen shrub. Chaparral, coastal scrub. Often on clay; in grassy edges of chaparral and coastal scrub. Elevations: 260-280ft. (80-85m.) Blooms Aug-Oct.
<i>Horkelia truncata</i> Ramona horkelia	None/None G3/S3 1B.3	Perennial herb. Chaparral, cismontane woodland. Habitats in California include: mixed chaparral, vernal streams, and disturbed areas near roads. Clay soil; at least sometimes on gabbro. Elevations: 1310-4265ft. (400-1300m.) Blooms May-Jun.
<i>Lepidium virginicum</i> var. <i>robinsonii</i> Robinson's pepper-grass	None/None G5T3/S3 4.3	Annual herb. Chaparral, coastal scrub. Dry soils, shrubland. 4-. Elevations: 5-2905ft. (1-885m.) Blooms Jan-Jul.
<i>Nolina cismontana</i> chaparral nolina	None/None G3/S3 1B.2	Perennial evergreen shrub. Chaparral, coastal scrub. Primarily on sandstone and shale substrates; also known from gabbro. Elevations: 460-4185ft. (140-1275m.) Blooms (Mar)May-Jul.
<i>Pseudognaphalium leucocephalum</i> white rabbit-tobacco	None/None G4/S2 2B.2	Perennial herb. Chaparral, cismontane woodland, coastal scrub, riparian woodland. Sandy, gravelly sites. Elevations: 0-6890ft. (0-2100m.) Blooms (Jul)Aug-Nov(Dec).
<i>Salvia munzii</i> Munz's sage	None/None G2/S2 2B.2	Perennial evergreen shrub. Chaparral, coastal scrub. Rolling hills and slopes, in rocky soil. Elevations: 375-3495ft. (115-1065m.) Blooms Feb-Apr.
<i>Viguiera laciniata</i> San Diego County viguiera	None/None G4/S4 4.3	Perennial shrub. Chaparral, coastal scrub. Slopes and ridges. Elevations: 195-2460ft. (60-750m.) Blooms Feb-Jun(Aug).

Scientific Name Common Name	Status	Habitat Requirements
<b>Invertebrates</b>		
<i>Danaus plexippus pop. 1</i> monarch - California overwintering population	FC/None G4T2T3/S2S3	Winter roost sites extend along the coast from northern Mendocino to Baja California, Mexico. Roosts located in wind-protected tree groves (eucalyptus, Monterey pine, cypress), with nectar and water sources nearby.
<i>Branchinecta sandiegonensis</i> San Diego fairy shrimp	FE/ None G1/S2	Endemic to San Diego and Orange County mesas. Inhabit seasonal pools filled by winter/spring rains. Hatch in warm water later in the season. Known to occur on vernal pool preserve on Site 17
<i>Streptocephalus woottoni</i> Riverside fairy shrimp	FE/None G1G2/S1S2	Endemic to Western Riverside, Orange, and San Diego counties in areas of tectonic swales/earth slump basins in grassland and coastal sage scrub. Inhabit seasonally astatic pools filled by winter/spring rains. Hatch in warm water later in the season. Known to occur on vernal pool preserve on Site 17.
<b>Reptiles</b>		
<i>Anniella stebbinsi</i> Southern California legless lizard	None/None G3/S3 SSC	Generally south of the Transverse Range, extending to northwestern Baja California. Occurs in sandy or loose loamy soils under sparse vegetation. Disjunct populations in the Tehachapi and Piute Mountains in Kern County. Variety of habitats; generally in moist, loose soil. They prefer soils with a high moisture content.
<i>Aspidoscelis hyperythra</i> orange-throated whiptail	None/None G5/S2S3 WL	Inhabits low-elevation coastal scrub, chaparral, and valley-foothill hardwood habitats. Prefers washes and other sandy areas with patches of brush and rocks. Perennial plants necessary for its major food: termites.
<i>Aspidoscelis tigris stejnegeri</i> coastal whiptail	None/None G5T5/S3 SSC	Found in deserts and semi-arid areas with sparse vegetation and open areas. Also found in woodland and riparian areas. Ground may be firm soil, sandy, or rocky.
<i>Crotalus ruber</i> red-diamond rattlesnake	None/None G4/S3 SSC	Chaparral, woodland, grassland, and desert areas from coastal San Diego County to the eastern slopes of the mountains. Occurs in rocky areas and dense vegetation. Needs rodent burrows, cracks in rocks or surface cover objects.
<i>Salvadora hexalepis virgultea</i> coast patch-nosed snake	None/None G5T4/S2S3 SSC	Brushy or shrubby vegetation in coastal Southern California. Require small mammal burrows for refuge and overwintering sites.
<b>Birds</b>		
<i>Accipiter cooperii</i> Cooper's hawk	None/None G5/S4 WL	Woodland, chiefly of open, interrupted or marginal type. Nest sites mainly in riparian growths of deciduous trees, as in canyon bottoms on river flood-plains; also, live oaks.
<i>Aimophila ruficeps canescens</i> southern California rufous-crowned sparrow	None/None G5T3/S3 WL	Resident in Southern California coastal sage scrub and sparse mixed chaparral. Frequents relatively steep, often rocky hillsides with grass and forb patches.
<i>Artemisiospiza belli belli</i> Bell's sage sparrow	None/None G5T2T3/S3 WL	Nests in chaparral dominated by fairly dense stands of chamise. Found in coastal sage scrub in south of range. Nest located on the ground beneath a shrub or in a shrub 6-18 inches above ground. Territories about 50 yds apart.
<i>Campylorhynchus brunneicapillus sandiegonensis</i> coastal cactus wren	None/None G5T3Q/S3 SSC	Southern California coastal sage scrub. Wrens require tall opuntia cactus for nesting and roosting.

## Housing Element Implementation and Public Safety Element Update

Scientific Name Common Name	Status	Habitat Requirements
<i>Empidonax traillii</i> <i>extimus</i> southwestern willow flycatcher	FE/SE G5T2/S1	Riparian woodlands in Southern California.
<i>Icteria virens</i> yellow-breasted chat	None/None G5/S3 SSC	Summer resident; inhabits riparian thickets of willow and other brushy tangles near watercourses. Nests in low, dense riparian, consisting of willow, blackberry, wild grape; forages and nests within 10 ft of ground.
<i>Polioptila californica</i> <i>californica</i> coastal California gnatcatcher	FT/None G4G5T3Q/S2 SSC	Obligate, permanent resident of coastal sage scrub below 2500 ft in Southern California. Low, coastal sage scrub in arid washes, on mesas and slopes. Not all areas classified as coastal sage scrub are occupied. High probability of occurrence on or adjacent to Sites 4, 6, 8, 9, 17, 18 and 19.
<i>Setophaga petechia</i> yellow warbler	None/None G5/S3S4 SSC	Riparian plant associations in close proximity to water. Also nests in montane shrubbery in open conifer forests in Cascades and Sierra Nevada. Frequently found nesting and foraging in willow shrubs and thickets, and in other riparian plants including cottonwoods, sycamores, ash, and alders.
<i>Vireo bellii pusillus</i> least Bell's vireo	FE/SE G5T2/S2	Summer resident of Southern California in low riparian in vicinity of water or in dry river bottoms; below 2000 ft. Nests placed along margins of bushes or on twigs projecting into pathways, usually willow, Baccharis, mesquite. Moderate potential to occur on or adjacent to Sites 1, 2 and 4.
<b>Mammals</b>		
<i>Antrozous pallidus</i> pallid bat	None/None G4/S3 SSC	Found in a variety of habitats including deserts, grasslands, shrublands, woodlands, and forests. Most common in open, dry habitats with rocky areas for roosting. Roosts in crevices of rock outcrops, caves, mine tunnels, buildings, bridges, and hollows of live and dead trees which must protect bats from high temperatures. Very sensitive to disturbance of roosting sites.
<i>Chaetodipus californicus</i> <i>femorialis</i> Dulzura pocket mouse	None/None G5T3/S3 SSC	Found in a variety of habitats including coastal scrub, chaparral, and grassland in San Diego County, Baja California, and Mexico. Attracted to grass-chaparral edges.
<i>Chaetodipus fallax fallax</i> northwestern San Diego pocket mouse	None/None G5T3T4/S3S4 SSC	Inhabits coastal sage scrub, sagebrush scrub, grasslands, and chaparral communities. Found in open, sandy areas in southwestern California and northern Baja California. Prefers moderately gravelly and rocky substrates.
<i>Dipodomys stephensi</i> Stephens' kangaroo rat	FE/ST G2/S2	Found primarily in annual & perennial grasslands, but also occurs in coastal scrub & sagebrush with sparse canopy cover. Prefers buckwheat, chamise, brome grass & filaree. Will burrow into firm soil and use the burrows of California ground squirrels and pocket gophers. Occurs only in southern California.
<i>Eumops perotis</i> <i>californicus</i> western mastiff bat	None/None G4G5T4/S3S4 SSC	Occurs in open, semi-arid to arid habitats, including coniferiferous and deciduous woodlands, coastal scrub, grasslands, and chaparral. Roosts in crevices in cliff faces and caves, and buildings. Roosts typically occur high above ground.
<i>Lasiurus cinereus</i> hoary bat	None/None G3G4/S4	Typically roosts in trees in deciduous and coniferous forests and woodlands but occasionally roosts in rocks crevices. Forages in open areas, typically along riparian corridors or over water. Diet primarily consists of moths.
<i>Lepus californicus</i> <i>bennettii</i> San Diego black-tailed jackrabbit	None/None G5T3T4/S3S4	Occurs in Los Angeles, San Bernardino, Riverside, and San Diego Counties of southern California. Typically found in open shrub habitats. Will also occur in woodland habitats with open understory adjacent to shrublands.

Scientific Name Common Name	Status	Habitat Requirements
<i>Myotis yumanensis</i> Yuma myotis	None/None G5/S4	Occurs in a variety of lowland and upland habitats including desert scrub, riparian, and woodlands and forests. Distribution is closely tied to bodies of water. Roosts in a variety of areas including caves, cliffs, mines, crevices in live trees, and buildings and other man-made structures.
<i>Neotoma lepida intermedia</i> San Diego desert woodrat	None/None G5T3T4/S3S4 SSC	Occurs in scrub habitats of southern California from San Luis Obispo County to San Diego County.
<i>Nyctinomops femorosaccus</i> pocketed free-tailed bat	None/None G5/S3 SSC	Variety of arid areas in Southern California; pine-juniper woodlands, desert scrub, palm oasis, desert wash, desert riparian, etc. Rocky areas with high cliffs.
<i>Perognathus longimembris pacificus</i> Pacific pocket mouse	FE/None G5T1/S1 SSC	Inhabits the narrow coastal plains from the Mexican border north to El Segundo, Los Angeles County. Seems to prefer soils of fine alluvial sands near the ocean, but much remains to be learned.
<i>Taxidea taxus</i> American badger	None/None G5/S3 SSC	Most abundant in drier open stages of most shrub, forest, and herbaceous habitats, with friable soils. Needs sufficient food, friable soils and open, uncultivated ground. Preys on burrowing rodents. Digs burrows.

**Listing and Special-Status Species Information**

**Status (Federal/State)**

- FE = Federal Endangered
- FT = Federal Threatened
- FD = Federal Delisted
- FC = Federal Candidate
- SE = State Endangered
- ST = State Threatened
- SCE = State Candidate Endangered
- SR = State Rare
- SD = State Delisted
- SSC = CDFW Species of Special Concern
- FP = CDFW Fully Protected
- WL = CDFW Watch List

**CRPR (CNPS California Rare Plant Rank)**

- 1B = Rare, Threatened, or Endangered in California and elsewhere
- 2A = Presumed extirpated in California, but common elsewhere
- 2B = Rare, Threatened, or Endangered in California, but more common elsewhere
- 3 = Need more information (Review List)
- 4 = Limited Distribution (Watch List)

**CRPR Threat Code Extension**

- .1 = Seriously endangered in California (>80% of occurrences threatened/high degree and immediacy of threat)
- .2 = Moderately threatened in California (20-80% of occurrences threatened/moderate degree and immediacy of threat)
- .3 = Not very endangered in California (<20% of occurrences threatened/low degree and immediacy of threat)

**Other Statuses**

- G1 or S1 Critically Imperiled Globally or Subnationally (state)
- G2 or S2 Imperiled Globally or Subnationally (state)
- G3 or S3 Vulnerable to extirpation or extinction Globally or Subnationally (state)
- G4/5 or S4/5 Apparently secure, common and abundant

**Additional notations may be provided as follows**

- T – Intraspecific Taxon (subspecies, varieties, and other designations below the level of species)
- Q – Questionable taxonomy that may reduce conservation priority
- ? – Inexact numeric rank

**Sensitive Natural Communities**

Plant communities are considered sensitive if they have limited distributions, have high wildlife value, include sensitive species, or are particularly susceptible to disturbance. CDFW maintains a list of sensitive natural communities (CDFW 2022). Sensitive habitats listed by in the CNDDb and the City of Carlsbad’s Habitat Management Plan (HMP) as occurring in the Carlsbad region include:

- Coastal Brackish Marsh
- Diegan Coastal Sage Scrub
- Maritime Succulent Scrub
- Oak Woodland
- San Diego Mesa Claypan Vernal Pool
- San Diego Mesa Hardpan Vernal Pool
- Southern Coastal Salt Marsh
- Southern Cottonwood Willow Riparian Forest
- Southern Maritime Chaparral
- Southern Riparian Forest
- Southern Riparian Scrub
- Southern Sycamore Alder Riparian Woodland
- Southern Willow Scrub
- Vernal Pools

Based on a desktop review and site reconnaissance, marsh, riparian, and/or willow scrub communities occur at Sites 1, 2, 4, 7, 9, and 17.

### 4.3.2 Regulatory Setting

#### **a. Federal**

#### **Federal Endangered Species Act**

The Federal Endangered Species Act of 1973 (FESA) and subsequent amendments provide for the conservation of endangered and threatened species, and the ecosystems upon which they depend. Section 7 of the FESA requires federal agencies to aid in the conservation of listed species, and to ensure that the activities of federal agencies will not jeopardize the continued existence of listed species or adversely modify designated critical habitat. The United States Fish and Wildlife Service (USFWS) and the National Oceanic and Atmospheric Administration (NOAA) are responsible for administration of the FESA and have regulatory authority over federally listed species.

#### **Migratory Bird Treaty Act**

The Migratory Bird Treaty Act (MBTA) makes it unlawful at any time, by any means or in any manner, to pursue, hunt, take, capture, or kill migratory birds, and prohibits the removal of nests occupied by migratory birds. The USFWS administers the MBTA.

#### **United States Army Corps of Engineers Jurisdiction**

The USACE, under provisions of Section 404 of the CWA and USACE implementing regulations, has jurisdiction over the placement of dredged or fill material into “waters of the United States.” Congress enacted the CWA “to restore and maintain the chemical, physical, and biological integrity of the Nation's waters.” Previous regulations codified in 1986 defined “waters of the United States” as traditional navigable waters, interstate waters, all other waters that could affect interstate or foreign commerce, impoundments of waters of the United States, tributaries, the territorial seas, and adjacent wetlands.

On March 20, 2023, the United States Environmental Protection Agency (USEPA) and the USACE released a revised definition of waters of the United States. This rule defines several categories of jurisdictional waters, documents certain types of waters that are excluded from jurisdiction, and clarifies some regulatory terms. Under the revised definition, waters of the United States include:

1. Territorial seas and traditional navigable waters;
2. Perennial and intermittent tributaries that contribute surface flow to those waters;
3. Certain Lakes and ponds, and impoundments of jurisdictional waters, and;
4. Wetlands adjacent to jurisdictional waters.

USACE jurisdictional limits are typically identified by the OHWM or the landward edge of adjacent wetlands (where present). The OHWM is the “line on the shore established by the fluctuations of water and indicated by physical characteristics such as a clear, natural line impressed on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding area” (33 CFR 328.3).

The USACE defines wetlands as “those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions” (33 CFR 328.3). The USACE’s delineation procedures identify wetlands in the field based on indicators of three wetland parameters: hydrophytic vegetation, hydric soils, and wetland hydrology.

## **b. State**

### **California Endangered Species Act**

The California Department of Fish and Wildlife (CDFW) is responsible for administration of the California Endangered Species Act (CESA). For projects that affect both a State and federal listed species, compliance with the FESA will satisfy the CESA if the CDFW determines that the federal incidental take authorization is consistent with the CESA. Projects that result in a take of a California listed species require a take permit under the CESA. The federal and State acts lend protection to species that are considered rare enough by the scientific community and trustee agencies to warrant special consideration, particularly with regard to protection of isolated populations, nesting or den locations, communal roosts, and other essential habitat. Unlike the FESA, the CESA prohibits the take of not just listed endangered or threatened, but also candidate species (species petitioned for listing).

The CESA defines an endangered species as:

...a native species or subspecies of a bird, mammal, fish, amphibian, reptile, or plant which is in serious danger of becoming extinct throughout all, or a significant portion, of its range due to one or more causes, including loss of habitat, change in habitat, overexploitation, predation, competition, or disease.

A threatened species is defined as:

...a native species or subspecies of a bird, mammal, fish, amphibian, reptile, or plant that, although not presently threatened with extinction, is likely to become an endangered species in the foreseeable future in the absence of the special protection and management efforts

required by this chapter. Any animal determined by the commission as rare on or before January 1, 1985 is a threatened species.

Candidate species are defined as:

...a native species or subspecies of a bird, mammal, fish, amphibian, reptile, or plant that the commission has formally noticed as being under review by the department for addition to either the list of endangered species or the list of threatened species, or a species for which the commission has published a notice of proposed regulation to add the species to either list.

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. Article 3, Sections 2080 through 2085, of the CESA addresses the taking of threatened or endangered species by stating:

...no person shall import into this State, export out of this State, or take, possess, purchase, or sell within this State, any species, or any part or product thereof, that the commission determines to be an endangered species or a threatened species, or attempt any of those acts, except as otherwise provided.

Under the CESA, “take” is defined as, “hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill.” Additionally, some sensitive mammals and birds are protected by the state as Fully Protected Mammals or Fully Protected Birds, as described in the CFGC, Sections 4700 and 3511, respectively.

### **Nesting Bird Protection – California Fish and Game Code**

According to CFGC Section 3503 it is unlawful to take, possess, or needlessly destroy the nest or eggs of any bird [except English sparrows (*Passer domesticus*) and European starlings (*Sturnus vulgaris*)]. Sections 3503 and 3513 prohibit the taking of specific birds, their nests, eggs, or any portion thereof during the nesting season. Section 3503.5 specifically protects birds in the orders Falconiformes and Strigiformes (birds-of-prey). Section 3513 essentially overlaps with the federal MBTA, prohibiting the take or possession of any migratory nongame bird. Disturbance that causes nest abandonment and/or loss of reproductive effort is considered “take” by CDFW.

### **California Native Plant Protection Act**

The California Native Plant Protection Act (NPPA) was enacted in 1977 and allows the Fish and Game Commission to designate plants as rare or endangered. Currently, 64 species, subspecies, and varieties of plants are protected as rare under the NPPA. The NPPA prohibits take of endangered or rare native plants but includes some exceptions for agricultural and nursery operations; emergencies; and after properly notifying CDFW for vegetation removal from canals, roads, and other sites, changes in land use, and in certain other situations. Effective in 2015, CDFW promulgated regulations (14 CCR 786.9) under the authority of the NPPA, establishing that the CESA permitting procedures (CFG Code Section 2081) would be applied to plants listed under the NPPA as "Rare." With this change, there is little practical difference for the regulated public between plants listed under CESA and those listed under the NPPA.



## San Diego Regional Water Quality Control Board

The State Water Resources Control Board (SWRCB) and the local San Diego RWQCB assert jurisdiction, on behalf of the USEPA, over waters of the U.S. pursuant to Section 401 of the CWA. In addition, where federal jurisdiction is not asserted (for example, due to a lack of connectivity to a Relatively Permanent Waters [RPW] and Traditional Navigable Waters [TNW]), RWQCB assert jurisdiction over “waters of the State” pursuant to Section 13263 of Porter-Cologne, which are defined as any surface water or groundwater, including saline waters, within the boundaries of the State. In this event, the SWRCB may issue general Waste Discharge Requirements (WDRs) regarding discharges to “isolated” waters of the State if limiting criteria are not exceeded (Water Quality Order No. 2004-0004-DWQ, Statewide General Waste Discharge Requirements for Dredged or Fill Discharges to Waters Deemed by the USACE to be Outside of Federal Jurisdiction) or project-specific WDRs.

## California Department of Fish and Wildlife

### *Stream and Riparian Habitat*

Pursuant to CFGC Section 1600, CDFW has authority over all perennial, intermittent, and ephemeral rivers, streams, and lakes in the state, and requires any person, state or local governmental agency, or public utility to notify the CDFW before beginning any activity that would “substantially divert or obstruct the natural flow of, or substantially change or use any material from the bed, channel, or bank of, any river, stream, or lake, or deposit or dispose of debris, waste, or other material containing crumbled, flaked, or ground pavement where it may pass into any river, stream, or lake” that supports fish or wildlife resources.

A stream is defined as a “body of water that flows at least periodically or intermittently through a bed or channel having banks and supports fish or other aquatic life. This includes watercourses having a surface or subsurface flow that supports or has supported riparian vegetation”. A Lake or Streambed Alteration Agreement may be required for any proposed project that would result in an adverse impact to a river, stream, or lake. CDFW jurisdiction typically extends to the top of the bank and out to the outer edge of adjacent riparian vegetation if present. However, CDFW can take jurisdiction over a body of flowing water and the landform that conveys it, including water sources and adjoining landscape elements that are byproducts of and affected by interactions with flowing water without regard to size, duration, or the timing of flow.

### *Special-Status Species Protection*

Special-status wildlife species are those species included on the CDFW “Special Animals” list. “Special Animal” is a general term that refers to all of the taxa the CNDDDB is interested in tracking, regardless of their legal or protection status. The CDFW considers the taxa on this list to be those of greatest conservation need. The species on this list generally fall into one or more of the following categories:

- Officially listed or proposed for listing under the State and/or Federal Endangered Species Acts.
- State or Federal candidate for possible listing.
- Taxa that meet the criteria for listing, even if not currently included on any list, as described in
- Section 15380 of the California Environmental Quality Act Guidelines.
- Taxa considered by the Department to be a Species of Special Concern.

- Taxa that are biologically rare, very restricted in distribution, declining throughout their range, or have a critical vulnerable stage in their life cycle that warrants monitoring.
- Populations in California that may be on the periphery of a taxon's range but are threatened with extirpation in California.

### **c. Regional and Local**

#### **Multiple Habitat Conservation Program**

Under the California NCCP Act, the cities of Carlsbad, Encinitas, Escondido, Oceanside, San Marcos, Solana Beach, and Vista participated in the preparation of the Multiple Habitat Conservation Program (MHCP), a comprehensive plan that addresses the needs of multiple plant and animal species in northwestern San Diego County. The MHCP Subregional Plan was adopted and certified by the San Diego Association of Governments (SANDAG) Board of Directors in March 2003. The intent is that each jurisdiction will implement their respective portions of the MHCP Plan through citywide "subarea" plans, which describe the specific policies each city will institute for the MHCP.

#### **City of Carlsbad Municipal Code Protection of Trees Ordinance**

City of Carlsbad Municipal Code Chapter 11.12.080, Protection of Trees, establishes regulations and standards to preserve trees in Carlsbad. This ordinance is designed to protect trees by restricting removal, trim, prune or cutting of any street tree, shrub or plant.

#### **City of Carlsbad Municipal Code Heritage Trees**

City of Carlsbad Municipal Code Chapter 11.12.140, Heritage Trees, establishes protection of all designated heritage trees that are on public streets. The city may officially designate as heritage trees those trees in the community which have significant historical or arboricultural interest.

#### **Habitat Management Plan for Natural Communities in the City of Carlsbad**

The City of Carlsbad prepared a subarea plan as a part of the MHCP, called the "Habitat Management Plan for Natural Communities in the City of Carlsbad," (HMP) which was adopted by the Carlsbad City Council in November 2004. The HMP outlines specific conservation, management, facility siting, land use, and other measures that the city will take to preserve the diversity of habitat and protect sensitive biological resources in the city while also allowing for additional development and growth as anticipated under the city's General Plan. Formal approval and adoption of the HMP occurred through issuance of a permit by wildlife agencies, namely USFWS and CDFW, as well as execution of an implementation agreement between the city and the wildlife agencies. To date, Carlsbad's HMP is the only adopted subarea plan in the MHCP subregion. The Carlsbad HMP preserve contains natural habitats that are necessary to sustain threatened, listed, or sensitive species, and to maintain biological value. According to the permit issued by the wildlife agencies, the HMP is required to establish a preserve of 6,478 acres of natural habitat (within the city's jurisdictional boundary), as well as an additional 308 acres of "core area" habitat for the coastal California gnatcatcher (outside of the city's jurisdiction).

#### **Open Space Management Plan**

As a framework plan to assist in the implementation of the MHCP and HMP, the city's Open Space Management Plan (OSMP) establishes procedures, standards, guidelines, and conditions for long-

term conservation and management of sensitive species and habitat. The OSMP applies to three additional categories of open space land that are not included in the areas identified as preserved in the HMP or MHCP. The categories are as follows:

- **Other Natural Lands.** The OSMP applies to all of the natural lands in the city, whereas the HMP applies to natural lands consisting of existing or proposed preserves and lands subject to HMP standards. The other natural lands that are not subject to the HMP (mostly isolated smaller fragments of habitat) were not included in the HMP and MHCP primarily because they did not contribute significantly to the overall biological value of the preserve; however, they are included in the OSMP planning area and continue to be managed as open space.
- **Developed Parks.** This category includes existing parks as well as parks to be developed in the future. Some of the parks under this category are not strictly “open space” in the natural sense, but are developed facilities, such as a skate park or ball field, that are used for outdoor recreational purposes. Developed parks have been incorporated into the city’s geographic information system (GIS) inventory so that citywide management can be scheduled, tracked, and analyzed in this database.
- **Drainage Basins.** The city’s drainage basin facilities were also incorporated into the city’s GIS inventory for the OSMP so that management can be scheduled, tracked, and analyzed. The drainage basin parcels are included as an overlay because they are sometimes covered by other categories and may overlap with the HMP and MHCP areas.

## **HMP Guidelines**

A set of guidelines have been developed by the city to aid in the implementation of the Carlsbad HMP. The HMP guidelines are intended to provide a summary of pertinent regulations from the HMP.

### *Guidelines for Biological Studies*

The Guidelines for Biological Studies were developed to provide the biological standard for processing HMP permits and to help the user navigate through the HMP regulations. The guidelines are intended to ensure that adequate environmental impact analysis is conducted for projects using the appropriate biological data, and that HMP-compliant mitigation is incorporated into project design and permit conditions.

### *Guidelines for Riparian and Wetland Buffers*

The Guidelines for Riparian and Wetland Buffers provides information about designing effective riparian buffers and identifying allowable land uses in a manner that is consistent with the Carlsbad HMP. The document supplements the HMP by providing recommendations and best practices that are consistent with local, state, and federal wetlands-related regulations. The guidelines objectives include providing buffer design recommendations and variance procedures in order to facilitate HMP implementation in the city; identifying allowable uses and land use restrictions for riparian/wetland buffer zones; developing generic and specific buffer management/land use guidelines corresponding to potential adjacent land uses to reduce or eliminate resulting edge effects; and identifying specific opportunities and constraints for buffer establishment on the watershed (stream-reach) level.

### *Guidelines for Habitat Creation and Restoration*

The Guidelines for Habitat Creation and Restoration are intended to assist applicants in designing the restoration part of their mitigation program and to assist city staff in evaluating and approving restoration plans. The guidelines provide project applicants and consulting biologists an overview of typical components included in creation projects for planning purposes. There are separate guidelines for creation, restoration, and enhancement.

### **Community Forest Management Plan**

The Carlsbad Community Forest Management Plan provides guidance to conserve forest areas through proper design, maintenance, and education. The document includes guidelines and procedures for planting, maintaining, removing, replacing, and preserving trees within public areas. A significant portion of the city's forest and most visible landscape features include trees within the city's rights-of-way and other public areas; however, these trees are often the most overlooked by community members. A critical component of the Community Forest Management Plan is to encourage public understanding of the urban and community forest and educate people to make informed decisions regarding tree removal, retention, replacement, and maintenance. A number of direct and indirect public relations and outreach initiatives are outlined in the Community Forest Management Plan in an effort to foster support and citizen education for a healthier and safer urban forest with more positive human effects.

### **Carlsbad General Plan**

The Carlsbad General Plan, Open Space, Conservation, and Recreation Element, addresses open space for resource conservation and recreation, as well as environmental quality topics such as air and water quality. The General Plan has the following goals and policies related to biological resources:

- Goal 4-G.3** Protect environmentally sensitive lands, wildlife habitats, and rare, threatened or endangered plant and animal communities.
- Goal 4-G.4** Promote conservation of hillsides and ridgelines.
- Policy 4-P.9** Maintain and implement the city's Habitat Management Plan (HMP), including the requirement that all development projects comply with the HMP and related documents. Require assessments of biological resources prior to approval of any development on sites with sensitive habitat, as depicted in Figure 4-3.
- Policy 4-P.10** Consider working with private foundations and organizations or designating a conservancy agency to be responsible for protection, maintenance, monitoring and liability of open space lands.
- Policy 4-P.11** Ensure that the improvements recommended for open space areas are appropriate for the type of open space and the use proposed. No improvements (excluding necessary infrastructure) shall be made in environmentally sensitive areas, except to enhance the environmental value of the areas.
- Policy 4-P.12** Continue participation in regional planning efforts to protect habitat and environmentally sensitive species.

- Policy 4-P.13** Support innovative site design techniques such as cluster-type housing and transfer-of-development-rights to preserve sensitive environmental resources and to allow development projects to comply with the city's Habitat Management Plan.
- Policy 4-P.14** Assure that development or grading on hillsides (if allowed) relates to the slope of the land in order to preserve the integrity and appearance of natural hillsides and other landforms wherever possible.
- Policy 4-P.15** Maintain functional wildlife corridors and habitat linkage in order to contribute to regional biodiversity and the viability of rare, unique or sensitive biological resources throughout the city.
- Policy 4-P.17** Seek partnering opportunities with other governmental agencies, private land owners and non-profit organizations to acquire open space; utilize grants, bonds and other funding sources to leverage local funds and reduce cost to Carlsbad taxpayers.
- Policy 4-P.18** Require that, at the time of any discretionary approval, any land identified as open space for its habitat or scenic value shall have an appropriate easement and/or land use and zoning designation placed on it for resource protection.
- Policy 4-P.19** Require a city permit for any grading, grubbing, or clearing of vegetation in undeveloped areas, with appropriate penalties for violations.

### 4.3.3 Impact Analysis

#### a. Methodology and Significance Thresholds

##### Significance Thresholds

Pursuant to Appendix G of the *CEQA Guidelines*, potentially significant impacts to biological resources would result if the project would:

1. Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service.
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 Wildlife or U.S. Fish and Wildlife Service.
3. Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means.
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.
5. Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.
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.

## **Methodology**

The following analysis is based on a literature review concerning biological resources known to occur in the area that is derived from biological resource databases and information on biological resources described in literature, such as, but not limited to, the City of Carlsbad 2015 General Plan Final Environmental Impact Report (City of Carlsbad 2015). The literature review was conducted to assess and verify the environmental setting and to analyze potential impacts that could result from implementation of future projects (at the 18 rezone sites) on sensitive biological resources, including special-status plant and wildlife species, habitat for nesting birds and bats, riparian and other sensitive plant communities, federal and state waters and wetlands, locally protected trees, wildlife movement corridors, and habitat conservation planning areas.

### **b. Prior Environmental Analysis**

The 2015 General Plan EIR addressed potential biological resources impacts in Chapter 3.3, *Biological Resources* of the Draft EIR. The 2015 General Plan EIR determined that impacts to biological resources would be less than significant for effects to listed species or their habitats, loss of significant populations of sensitive species, protected wetlands, wildlife migration or movement corridors, local policies or ordinances protecting biological resources, or conflicts with conservation plans and habitat management plans and habitat groups identified therein (Section 3.3, *Biological Resources*: 3.3-19 through 3.3-30). It further stated that individual development projects would be subject to project-specific development and planning review, including adherence to standards for the protection of biological resources. As such all projects proposed under General Plan implementation would be required to conform to zoning, design standards, the Habitat Management Plan and other regulations concerning the protection of biological resources, including listed species, habitats, and all planning resources designed to protect and conserve these resources.

The proposed project involves development on 18 rezone sites beyond what was anticipated in the 2015 General Plan EIR and could therefore result in new impacts related to biological resources. Therefore, all the CEQA checklist items listed above under Methodology and Significance Thresholds are addressed in this analysis.

### **c. Project Impacts and Mitigation Measures**

Some components associated with the proposed project, including updates to the Local Coastal Plan, Public Safety Element, and Master and Specific Plans for consistency between the city's planning documents, in and of themselves would not result in physical changes to the environment such that impacts to biological resources would occur. Therefore, this analysis focuses on impacts associated with implementation of the rezone program which would facilitate the development of 18 rezone sites listed in Table 2-4 in Section 2, *Project Description*.

**Threshold 1:** Would the project have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?

**Impact BIO-1 THE PROPOSED PROJECT COULD POTENTIALLY ADVERSELY IMPACT SPECIAL-STATUS SPECIES OR THEIR HABITAT. LOCAL SPECIAL-STATUS SPECIES AND NESTING BIRDS COULD OCCUR WITHIN THE SITES DURING POTENTIAL CONSTRUCTION PERIODS AND MAY POTENTIALLY BE AFFECTED BY CONSTRUCTION ACTIVITY. THIS IMPACT IS LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED.**

Sites that contain or are adjacent to natural areas, including coastal sage scrub, oak woodlands, vernal pools, and riparian habitat, have the potential to support special-status species.

Some of the mixed-use and multifamily housing under the proposed project would be located in urban areas and be constructed as infill development or redevelopment. Sites 5 and 10-16 are disturbed or already developed lands, which would therefore avoid direct impacts to sensitive habitats and most special-status species at these sites. However, Sites 5 and 10-16 contain ornamental vegetation. Future developments at these sites could result in impacts to nesting birds due to demolition of the existing structures, removal of vegetation and trees, and grading.

Sites 3, 4, 6-12, and 17 are either all or mostly vacant and undeveloped. Sites 1-2, 6-9, and 18 contain natural habitat or woodlands. Site 17 supports vernal pools. Further discussion of potential impacts to sites that support natural habitats and associated special-status species is provided in the section below.

### **Special-Status Species**

Housing development accommodated under the proposed project may occur in natural areas present on Sites 1- 4, 6-9, 17-19. The CNDDDB query (Table 4.3-2) identifies 41 sensitive plant and wildlife species that have been documented in the region, many of which are historic occurrences in habitat that has since been developed. However, as indicated by the HMP several federally and/or state-designated threatened and endangered species, SSC, or California Fully Protected species, have the potential to occur in areas where development would be accommodated under the proposed project. Nearly all of the plant species with a potential to occur are found in chaparral, coastal scrub, vernal pool, valley and foothill grasslands and most of the wildlife would forage, roost, or nest through these habitats whereas other species would be limited to riparian woodland habitat.

Table 4.3-1 identifies vegetation communities and land uses present at each site. There is potential for sensitive species to occur on sites that are characterized by natural habitats as listed above. As discussed in Table 4.3-2, the following sensitive species are either known to occur or likely to be present within these sites supporting suitable habitat:

- Least Bell's vireo has a moderate potential to occur within riparian habitats on Sites 1, 2, and 4
- Coastal California gnatcatcher has a high potential to occur within coastal sage scrub on Sites 4, 6, 8, 9, 17, 18, and 19
- San Diego pool fairy shrimp, Riverside fairy shrimp, and San Diego button-celery are known to occur in vernal pools on Site 17
- Thread-leaved brodiaea has a high potential to occur in coastal sage scrub openings and grassland habitats on Sites 4 and 7

Future development at Sites 1- 4, 6-9, 17-19 has the potential to adversely affect special-status species or their habitats, which is considered a potentially significant impact.

For example, vegetation clearing, and excavation could remove habitat or directly impact individuals (e.g., mortality). Excavation, ground clearing, equipment and materials storage, access routes, and other activities could result in impacts on runoff and/or water quality, potentially affecting aquatic habitat. Excavation, ground clearing, and access routes could also result in air quality impacts (dust, exhaust) that could affect adjacent habitats. Equipment or construction-related traffic could introduce hazardous materials into habitats and generate noise that may impact special-status species.

Equipment and construction personnel could also introduce noxious and/or invasive species that could damage habitats, such as by disseminating seeds. Any of these effects could result in significant impacts on special-status species. This impact is potentially significant.

### *Nesting Birds*

Reasonably anticipated development resulting from the proposed project could potentially disturb active bird nests. Migratory birds, including most birds that nest in the areas subject to reasonably foreseeable development under the proposed project, are protected by the federal MBTA, which forbids most forms of harm to birds, including to their active nests. In addition, CFGC Section 3503 makes it unlawful to destroy nests or eggs of any bird, except as otherwise provided by code or regulation. Where vegetation, and especially trees, are removed as part of development under the proposed project, there is the potential for violations under the MBTA and Section 3503 of the CFGC. This impact is potentially significant.

## **Mitigation Measures**

The following mitigation measures would be required to address potential impacts to special-status species and habitat.

### *BIO-1 Biological Resources Technical Report*

For development projects at Sites 1- 4, 6-9, 17-19 that require vegetation removal, ground disturbance of unpaved areas, parking or staging of equipment or material on unpaved areas, access routes on unpaved areas, or any rehabilitation or construction staging within 100 feet of the property line (except for landscaped developed areas) that contain or have the potential to support special-status species, sensitive habitat, or suitable habitat to support special-status species, prior to the issuance of a grading permit, the applicant shall retain a qualified biologist to conduct a biological resources reconnaissance of the site, consistent with the requirements of General Plan Policy 4-P.9 and the HMP Guidelines for Biological Studies. All future projects shall be consistent with the HMP and the technical report shall include a consistency analysis, including compliance with the narrow endemic standards (MHCP Volume 1, Section 3.7 No. 5, and HMP Section D-6 for TLB, VP species) and special species standards (HMP Section D-6 for least Bell's vireo, southwestern willow flycatcher and Harbison's Dun Skipper).

The Biological Resources Technical Report shall address the presence/absence of suitable habitat for special-status plant and wildlife species, and any additional protocol surveys that may be needed to determine the potential presence/absence of special status species, sensitive plant communities and wetlands, and other special status biological resources protected under the HMP. The report will further propose avoidance, minimization, and mitigation measures, consistent with HMP



requirements, necessary to reduce potential impacts to special-status biological resources to less than significant.

*BIO-2 Pre-Construction Bird Surveys, Avoidance, and Notification*

If construction activities are initiated during the bird nesting season (February 1 – August 31) involving removal of vegetation or other nesting bird habitat, including abandoned structures and other man-made features, a pre-construction nesting bird survey shall be conducted no more than three days prior to initiation of ground disturbance and vegetation removal activities. The nesting bird pre-construction survey shall be conducted on foot and shall include a 300-foot survey buffer around the construction site. The survey shall be conducted by a biologist familiar with the identification of avian species known to occur in southern California coastal communities (i.e., qualified biologist). If active nests are found, an avoidance buffer shall be determined by a qualified biologist in coordination with the city. The avoidance buffer width will depend upon the species, the proposed work activity, and existing disturbances associated with land uses outside of the site, which shall be demarcated by the biologist with bright orange construction fencing, flagging, construction lathe, or other means to demarcate the boundary. All construction personnel shall be notified as to the existence of the buffer zone and to avoid entering the buffer zone during the nesting season. No ground disturbing activities shall occur within the buffer until the biologist has confirmed that breeding/nesting is completed, and the young have fledged the nest. Encroachment into the buffer shall occur only at the discretion of the qualified biologist on the basis that the encroachment will not be detrimental to an active nest. A report summarizing the pre-construction survey(s) shall be prepared by a qualified biologist and shall be submitted to the city prior to the commencement of construction activities.

### **Significance After Mitigation**

Implementation of mitigation measures BIO-1 and BIO-2 would reduce potential impacts to special-status and/or locally important species to a less than significant level, and assure compliance with the MBTA and CFGC Section 3503, by requiring a biological study to document the presence or absence of special-status species on a project specific basis and determining measures to address impacts such as avoidance, minimization, restoration, or compensation to special-status should they be present, and by ensuring that active nests are identified and as necessary avoided.

**Threshold 2:** Would the project 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 Wildlife or U.S. Fish and Wildlife Service?

**Impact BIO-2 DEVELOPMENT RESULTING FROM THE PROJECT COULD POTENTIALLY ADVERSELY IMPACT AREAS THAT SUPPORT SENSITIVE NATURAL COMMUNITIES AND RIPARIAN HABITATS. THIS IMPACT WOULD BE LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED.**

Riparian habitats and other sensitive natural communities tracked by the CNDDDB and identified in the HMP for the city of Carlsbad include Coastal Brackish Marsh, Maritime Succulent Scrub, San Diego Mesa Claypan Vernal Pool, San Diego Mesa Hardpan Vernal Pool, Southern Coastal Salt Marsh, Southern Cottonwood Willow Riparian Forest, Diegan Coastal Sage Scrub, Southern Maritime Chaparral, Southern Riparian Forest, Southern Riparian Scrub, Southern Sycamore Alder Riparian Woodland, Oak Woodland, and Southern Willow Scrub. Most of these communities are not present at the rezone sites.

Housing development proposed at Sites 6, 8, 9, and 18 could occur within riparian vegetation and/or native coastal scrub and result in potential direct and impacts through removal of vegetation, compaction of soils, and/or indirectly through dust and vegetation thinning. Future development at Sites 1, 2, 4, 17, and 19, if proposed could result in similar effects to riparian, coastal scrub, and/or vernal pool habitats. Through land use and zoning restrictions, housing development would be consistent with the objectives, policies, and programs contained within the city's General Plan Conservation Element to protect sensitive species, which would have direct and indirect beneficial effects for special status species, such as through preserving, protecting, restoring, and enhancing natural plant and wildlife diversity, habitats, corridors, and linkages to enable the healthy propagation and survival of native species.

The proposed project would not change the objectives, policies, and programs contained within the city's Conservation Element. However, implementation of the proposed project could impact various habitat types, including riparian habitat, other sensitive plant communities, or stands of protected trees. Therefore, impacts related to riparian habitat or other sensitive natural community identified in the City's HMP, other local or regional policies or regulations, or by the CDFW or USFWS are potentially significant.

### **Mitigation Measures**

The following mitigation measures are required:

#### *BIO-3 Habitat Buffers*

For projects where native habitat may be present (specifically Sites 1, 2, 4, 6, 7, 8, 9, 17, 18, and 19) and if development cannot avoid native habitat, prior to the issuance of a grading permit, a qualified biologist shall be retained by the project applicant to conduct a vegetation community survey of the site. The qualified biologist shall map the extent of vegetation communities on the project site plus 100 feet and report on the findings. This survey and report can be combined with BIO-1, Biological Resources Technical Report. The report shall confirm potential impacts to riparian and wetland habitat have been sufficiently avoided or minimized to reduce impacts to less than significant. Housing development at any of the sites containing riparian or wetland habitat shall adhere to the HMP Guidelines for Riparian and Wetland Buffers. Housing developments at any of the sites within the coastal zone shall adhere to the upland and wetland buffer requirements pursuant to the HMP coastal zone standards (HMP Section D-7). The Biological Resources technical report shall include a figure showing all required upland, riparian and wetland buffers.

#### *BIO-4 Habitat Impact Mitigation*

For projects that will require mitigation through restoration of sensitive upland natural communities (e.g. coastal sage scrub) or wetland habitat, including streams, riparian, and other water bodies, specifically Sites 1, 2, 4, 6, 8, 9, 17, 18, and 19, mitigation through restoration, creation, or enhancement of in-kind habitats shall be implemented in accordance with ratios identified in the HMP (Table 11 and coastal zone standards Section D-7) and an approved mitigation plan. Prior to the issuance of grading permits, the applicant shall prepare and submit a Conceptual Restoration/Mitigation Plan (CRMP) consistent with the HMP Components of a Conceptual Restoration/Mitigation Plan and Guidelines for Habitat Creation and Restoration. The CRMP will provide the framework for compensating for impacts to sensitive riparian and coastal sage scrub habitat at a ratio consistent with HMP Table 11 and coastal zone standards.

## Significance After Mitigation

Implementation of Measures BIO-1 (listed under Impact BIO-1), BIO-3, and BIO-4 would reduce potential impacts to riparian and sensitive habitats to a less than significant level by ensuring that potential impacts are avoided, minimized, restored, or compensated for prior to obtaining a grading permit.

**Threshold 3:** Would the project have a substantial adverse effect on state or federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?

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### **Impact BIO-3 DEVELOPMENT RESULTING FROM THE PROJECT COULD POTENTIALLY ADVERSELY IMPACT FEDERALLY PROTECTED WETLANDS. THIS IMPACT WOULD BE LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED.**

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Buena Vista Creek, Agua Hedionda Creek, and the other tributaries and drainages throughout Carlsbad, are likely subject to USACE, CDFW, and RWQCB jurisdiction. Most of the future development on the 18 rezone sites identified for the project would have no impact to state or federally protected wetlands. Development at Site 9 has the potential to directly or indirectly affect wetland and/or jurisdictional habitat through direct removal, filling, hydrological interruption, or other means, which would be a significant impact. In addition, future development at Sites 1, 2, 4, and 17 could potentially impact jurisdictional waters and wetlands. Project activities within jurisdictional waters and wetlands would likely be subject to the permit requirements of the USACE, RWQCB, and CDFW, pursuant to Sections 404 and 401 of CWA, the Porter-Cologne Water Quality Control Act, and CFGC 1600.

Development under the proposed project generally would not result in the direct modification of wetlands or jurisdictional waters given the prioritization of new housing development on infill sites in urbanized areas. Future development on the rezone sites would also be required to comply with the city's landscape guidelines manual. Such compliance of future development would ensure that construction does not violate any water quality standards or discharge requirements or otherwise substantially degrade water quality of wetlands or other jurisdictional waters. If necessary, the city's Construction Stormwater Pollution Prevention Plan Ordinance would require future development to comply with the city's Standard Pollution Prevention Plan (SWPP) requirements.

## Mitigation Measures

Implementation of mitigation measures BIO-1, BIO-3, and BIO-4 (listed under Impact BIO-1 and Impact BIO-2) would ensure potential direct and indirect impacts to potentially jurisdictional waters are avoided, minimized, and/or mitigated. In addition, the following mitigation measure would apply:

### *BIO-5 Agency Coordination*

For projects on sites within potential jurisdictional features, including Sites 1, 2, 4, 9, and 17, permits, agreements, and/or water quality certifications from applicable state and federal agencies regarding compliance with state and federal laws governing work within jurisdictional features are required for submission to the city of Carlsbad with the grading permit application for the project. The project applicant shall satisfy all mitigation requirements of the above agencies. The applicant shall provide such permits and/or agreements prior to issuance of a grading permit.

## Significance After Mitigation

Implementation of Measures BIO-1, BIO-3, BIO-4 (listed under Impact BIO-1 and Impact BIO-2), and BIO-5 would reduce potential impacts to wetlands and protected waters to a less than significant level by ensuring that potential impacts are avoided, minimized, restored, or compensated for prior to obtaining a grading permit.

**Threshold 4:** Would the project interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?

**Impact BIO-4** DEVELOPMENT UNDER THE PROPOSED PROJECT WOULD BE PRIMARILY CONCENTRATED ON SITES IN URBAN AREAS OF CARLSBAD THAT HAVE BEEN PREVIOUSLY DEVELOPED AND DISTURBED, RATHER THAN ADJACENT TO NATIVE HABITATS AND POTENTIAL WILDLIFE CORRIDORS. DEVELOPMENT UNDER THE PROJECT COULD RESULT IN SIGNIFICANT IMPACTS TO POTENTIAL LOCAL WILDLIFE MOVEMENT ALONG WATERCOURSES SUCH AS BUENA VISTA CREEK AND AGUA HEDIONDA CREEK. THIS IMPACT WOULD BE LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED.

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There are undeveloped areas within Carlsbad that are located adjacent to large tracks of native habitat. Several of the rezone sites contain or are adjacent to creek corridors or natural habitat. These areas provide vegetative cover suitable for the movement of many terrestrial wildlife species, including medium to large-sized, mobile mammals with relatively large home ranges, such as coyote, deer, and mountain lion, and also provide foraging and breeding habitat for many species. Wildlife species can move through these vegetated areas routinely with some species also using concrete-lined or earthen stormwater channels in the area for movement.

Development activities have the potential to directly (e.g., cutting of trees or other vegetation, or removal of man-made structures containing an active bird nest or denning wildlife) or indirectly (e.g., if activities sufficiently harassed birds to cause nest abandonment) affect nesting birds and non-game mammals. As such, reasonably foreseeable development has the potential to interfere substantially with the movement of native resident wildlife species or with established native resident or migratory wildlife if sited adjacent to or within suitable wildlife movement corridors. Thus, the proposed project would result in potentially significant impacts to wildlife movement.

In addition, projects sited within or adjacent to these areas have the potential to generate adverse edge effects that could significantly reduce the use of surrounding habitats by wildlife for movement through the area. The primary potential effect of such projects being indirect impacts from night lighting and urban noises (e.g., vehicular travel). Native habitats located adjacent to urban development have the potential to be permanently degraded if subject to light trespass or glare from artificial night lighting, which could affect the normal behavior of wildlife and cause some species to avoid the area. Individual projects would be required to conform to city's HMP, which requires lighting use restrictions consistent with existing city lighting guidelines. Compliance with the city's lighting guidelines, particularly those policies requiring shielding and downward orientation of lights, would minimize potential impacts to sensitive native habitats and ensure light trespass and glare would not encroach substantially into native habitats surrounding reasonably foreseeable development. Nevertheless, direct and indirect edge effects have the potential to affect wildlife movement and nursery sites significantly.

Increased noise levels at reasonably foreseeable development sites could also potentially impact wildlife species in the surrounding areas. Construction related noise would be a temporary occurrence and would be limited to the construction areas. These temporary impacts will be of

short duration and infrequent; thus, impacts to wildlife associated with noise pollution would be less than significant.

### **Mitigation Measures**

Implementation of mitigation measures BIO-1, BIO-3, and BIO-4 (listed under Impact BIO-1 and Impact BIO-2) is required.

### **Significance After Mitigation**

Implementation of mitigation measures BIO-1, BIO-3, and BIO-4 would reduce potential impacts to wildlife movement and nursery sites, to less than significant by requiring a project-specific biological evaluation to determine measures to address impacts such as avoidance, minimization, restoration, or compensation.

**Threshold 5:** Would the project conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?

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### **Impact BIO-5 DEVELOPMENT UNDER THE PROPOSED PROJECT COULD POTENTIALLY ADVERSELY IMPACT AREAS THAT SUPPORT PROTECTED TREES OR TREE CANOPIES. THIS IMPACT WOULD BE LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED.**

Development on rezone sites resulting from the implementation of the project may affect some city-protected trees and/or street trees on city rights-of-way. Trees and shrubs are protected in accordance with the city's Protection of Trees Ordinance and Community Forest Management Plan (CFMP), the latter of which establishes a street tree replacement goal of a 2:1 ratio. In addition, the city's Protection of Trees Ordinance (Municipal Code Title 11.12.090) requires permits for the pruning, cutting, trimming or removing any street tree in the right of way. Site 3 contains eucalyptus woodland, and Sites 1, 2, 7, and 16, contain ornamental trees. These trees may be located on both private and public (right of way) property. Therefore, impacts related to city-protected trees are potentially significant.

Consistency with the Carlsbad HMP is discussed under Impact BIO-6.

### **Mitigation Measures**

For projects that may potentially impact city-protected trees as defined by the CFMP and/or Municipal Code the following measure shall apply:

#### *BIO-6 Protected Tree and Tree Canopy Survey*

Prior to the issuance of a grading permit, a tree survey shall be conducted by a certified arborist prior to project construction to tag and assess all trees subject to the city's Trees and Shrubs Ordinance (Municipal Code Title 11.12) and/or CFMP. A city arborist will inspect the property and recommend approving or denying the application in a written report submitted to the city manager. The city shall post a letter of notification and a non-removable marking upon the subject tree a minimum of 30 days prior to its removal. The letter will be posted in a prominent location, visible from a public street and will include, the location of the tree, the reason for the trees removal, the date of the scheduled removal, the species of tree to be replanted, the size of the tree to be replanted, the date by which an appeal must be made to the parks and recreation commission, and a description of the appeal process.

The following measures shall be implemented in addition to those required under the city's permits required for tree removal and maintenance ordinance Guidelines (Municipal Code Title 11.12.090) to avoid and/or compensate for potential indirect impacts to preserved sensitive natural communities and protected trees within Carlsbad before, during, and following construction activities.

### **PRE-CONSTRUCTION**

- **Fencing.** Protective fencing at least three feet high with signs and flagging shall be erected around all preserved sensitive natural communities where adjacent to proposed vegetation clearing and grubbing, grading, or other construction activities. The protective fence shall be installed at a minimum of five feet beyond the tree canopy dripline. The intent of protection fencing is to prevent inadvertent limb/vegetation damage, root damage and/or compaction by construction equipment. The protective fencing shall be depicted on all construction plans and maps provided to contractors and labeled clearly to prohibit entry, and the placement of the fence in the field shall be approved by a qualified biologist prior to initiation of construction activities. The contractor shall maintain the fence to keep it upright, taut and aligned at all times. Fencing shall be removed only after all construction activities are completed.
- **Pre-Construction Meeting.** A pre-construction meeting shall be held between all site contractors and a registered consulting arborist and/or a qualified biologist. All site contractors and their employees shall provide written acknowledgement of their receiving sensitive natural community protection training. This training shall include, but shall not be limited to, the following information: (1) the location and marking of protected sensitive natural communities; (2) the necessity of preventing damage to these sensitive natural communities; and (3) a discussion of work practices that shall accomplish such.

### **DURING CONSTRUCTION**

- **Fence Monitoring.** The protective fence shall be monitored regularly (at least weekly) during construction activities to ensure that the fencing remains intact and functional, and that no encroachment has occurred into the protected natural community; any repairs to the fence or encroachment correction shall be conducted immediately.
- **Equipment Operation and Storage.** Contractors shall avoid using heavy equipment around the sensitive natural communities. Operating heavy machinery around the root zones of trees would increase soil compaction, which decreases soil aeration and, subsequently, reduces water penetration into the soil. All heavy equipment and vehicles shall, at minimum, stay out of the fenced protected zones, unless where specifically approved in writing and under the supervision of a registered consulting arborist and/or a qualified biologist.
- **Materials Storage and Disposal.** Contractors shall not store or discard any construction materials within the fenced protected zones and shall remove all foreign debris within these areas. The contractors shall leave the duff, mulch, chips, and leaves around the retained trees for water retention and nutrient supply. Contractors shall avoid draining or leakage of equipment fluids near retained trees. Fluids such as gasoline, diesel, oils, hydraulics, brake and transmission fluids, paint, paint thinners, and glycol (anti-freeze) shall be disposed of properly. The contractors shall ensure that equipment be parked at least 50 feet, and that equipment/vehicle refueling occur at least 100 feet, from fenced protected zones to avoid the possibility of leakage of equipment fluids into the soil.

- **Grade Changes.** Contractors shall ensure that grade changes, including adding fill, shall not be permitted within the fenced protected zone without special written authorization and under supervision by a registered consulting arborist and/or a qualified biologist. Lowering the grade within the fenced protected zones could necessitate cutting main support and feeder roots, thus jeopardizing the health and structural integrity of the tree(s). Adding soil, even temporarily, on top of the existing grade could compact the soil further, and decrease both water and air availability to the tree roots. Contractors shall ensure that grade changes made outside of the fenced protected zone shall not create conditions that allow water to pond.
- **Trenching.** Except where specifically approved in writing beforehand, all trenching shall be outside of the fenced protected zone. Roots primarily extend in a horizontal direction forming a support base to the tree similar to the base of a wineglass. Where trenching is necessary in areas that contain roots from retained trees, contractors shall use trenching techniques that include the use of either a root pruner (Dosko root pruner or equivalent) or an Air-Spade to limit root impacts. An International Society of Arboriculture (ISA) certified arborist or American Society of Consulting Arborists (ASCA) registered consulting arborist shall ensure that all pruning cuts shall be clean and sharp, to minimize ripping, tearing, and fracturing of the root system. Root damage caused by backhoes, earthmovers, dozers, or graders is severe and may ultimately result in tree mortality. Use of both root pruning and Air-Spade equipment shall be accompanied only by hand tools to remove soil from trench locations. The trench shall be made no deeper than necessary.
- **Erosion Control.** Appropriate erosion control best management practices (BMPs) shall be implemented to protect preserved sensitive natural communities during and following project construction. Erosion control materials shall be certified as weed free.
- **Inspection.** An ISA certified arborist or ASCA registered consulting arborist shall inspect the preserved trees adjacent to grading and construction activity on a monthly basis for the duration of the grading and construction activities. A report summarizing site conditions, observations, tree health, and recommendations for minimizing tree damage shall be submitted by the registered consulting arborist following each inspection.

#### **POST-CONSTRUCTION**

- **Mulch.** The contractors shall ensure that the natural duff layer under all trees adjacent to construction activities shall be maintained. This would stabilize soil temperatures in root zones, conserve soil moisture, and reduce erosion. The contractors shall ensure that the mulch be kept clear of the trunk base to avoid creating conditions favorable to the establishment and growth of decay causing fungal pathogens. Should it be necessary to add organic mulch beneath retained oak trees, packaged or commercial oak leaf mulch shall not be used as it may contain root fungus. Also, the use of redwood chips shall be avoided as certain inhibitive chemicals may be present in the wood. Other wood chips and crushed walnut shells can be used, but the best mulch that provides a source of nutrients for the tree is its own leaf litter. Any added organic mulch added by the contractors shall be applied to a maximum depth of 4 inches where possible.
- **Watering Adjacent Plant Material.** All installed landscaping plants near the preserved sensitive natural communities shall require moderate to low levels of water. The surrounding plants shall be watered infrequently with deep soaks and allowed to dry out in-between, rather than frequent light irrigation. The soil shall not be allowed to become saturated or stay continually wet, nor should drainage allow ponding of water. Irrigation spray shall not hit the trunk of any

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tree. The contractors shall maintain a 30-inch dry-zone around all tree trunks. An above ground micro-spray irrigation system shall be used in lieu of typical underground pop-up sprays.

- **Monitoring.** An ISA certified arborist or ASCA registered consulting arborist shall inspect the trees preserved on the site adjacent to construction activities for a period of two years following the completion of construction. Monitoring visits shall be completed quarterly, totaling eight visits. Following each monitoring visit, a report summarizing site conditions, observations, tree health, and recommendations for promoting tree health shall be submitted to the city. Additionally, any tree mortality shall be noted and any tree dying during the two-year monitoring period shall be replaced at a minimum 3:1 ratio on-site in coordination with the city.

**Significance After Mitigation**

Implementation of Mitigation Measure BIO-6 would assure consistency with local policy protecting trees and shrubs by requiring a project-specific tree survey to determine measures to address impacts such as avoidance, minimization, restoration, or compensation.

**Threshold 6:** Would the project conflict with the provision of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plans?

**Impact BIO-6 THE PROPOSED PROJECT (SPECIFICALLY SITES 4, 6, 9 AND 17) MAY CONFLICT WITH AN ADOPTED HABITAT CONSERVATION PLAN, NATURAL COMMUNITY CONSERVATION PLAN, OR OTHER APPROVED LOCAL, REGIONAL, OR STATE HABITAT CONSERVATION PLANS. THIS IMPACT WOULD BE LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED.**

The city participates in regional conservation efforts through implementation of the Carlsbad HMP, which is Carlsbad’s subarea plan under the MHCP. The MHCP is a comprehensive, multiple jurisdiction planning program designed to develop an ecosystem preserve in northwestern San Diego County. The HMP serves as a federal Habitat Conservation Plan and California Natural Community Conservation Plan. This preserve system is intended to protect viable populations of key sensitive plant and animal species, their habitats and ecosystem function, while accommodating continued economic growth. While the majority of sites would be consistent with the HMP and have less than significant impacts, the following sites are adjacent to areas that currently are designated or proposed Hardline Preserved in the HMP and thus may be inconsistent with the HMP if developed:

- Site 4, Standards Area and Proposed Hardline
- Site 6, small slivers of Existing Hardline along the edges
- Site 9, Existing Hardline and Proposed Hardline
- Site 17, a portion of the lot overlaps with Existing Hardline.

Development of these sites and potential preserve areas as residential could result in a loss of HMP Hardline preserve areas, which is inconsistent with General Plan and HMP policies. Therefore, significant impacts to the adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plans may occur with implementation of the proposed project. This impact would be potentially significant.

Further, proposed projects adjacent to natural habitats could cause indirect effects to sensitive habitat or species offsite. The following sites are adjacent to undeveloped areas that could contain



sensitive habitat: 1, 2, 4, 6, 7, 8, 9, 17, 18, 19. Development of these sites as residential could result in indirect impacts to adjacent habitat, which is inconsistent with HMP policies. Therefore, significant impacts to the adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plans may occur with implementation of the project. This impact would be potentially significant.

### **Mitigation Measures**

The following mitigation measures are required:

#### *BIO-7 HMP Minor Amendments*

Prior to project approval at Site 4, 6, 9 and 17, each project shall be analyzed for consistency with the HMP. Development may not occur within an Existing or Proposed Hardline. Any revisions to the HMP hardline boundary to allow for development on these sites shall require a HMP Minor Amendment, to be processed as an Equivalency Finding. Such boundary revisions must not involve any revisions the HMP operations or implementation, produce any adverse effects on the environment that are new or significantly different from those previously analyzed, result in additional take not previously analyzed, or reduce the acreage or quality of the habitat within the HMP. Any loss of HMP hardline shall be replaced with equal or greater acres of hardline, adjacent to existing hardline elsewhere in the city, and preserved and managed in accordance with the HMP. Any development within the Standards Area portion of Site 4 shall require a HMP Minor Amendment, to be processed as a Consistency Finding, which requires consistency with the HMP Planning Standards for Local Facilities Management Zone 15.

#### *BIO-8 HMP Adjacency Standards*

Projects within sites 1, 2, 4, 6, 7, 8, 9, 17, 18, 19 shall evaluate potential indirect impacts, such as wildfire, erosion, invasive species, unauthorized access, or predators, to habitat and species adjacent to the proposed development. Projects shall be consistent with the HMP Adjacency Standards (Section F-3).

### **Significance After Mitigation**

Implementation of mitigation measures BIO-1, BIO-2, BIO-3, BIO-4, BIO-7 and BIO-8 (listed under Impact BIO-1, Impact BIO-2 and Impact BIO-6) would reduce any conflicts with Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plans to a less than significant level.

#### **d. Cumulative Impacts**

The geographic area to analyze cumulatively considerable biological resource impacts includes the 18 rezone sites and immediately adjacent areas that could be indirectly affected. Therefore, the cumulative impact analyses for the various biological resources are limited to the identification of the types of impacts that may occur as described below.

The following are considered with respect to analyzing cumulative impacts on biological resources:

- The cumulative contribution of other approved and proposed projects to fragmentation of open space in the project vicinity;
- The loss of sensitive habitats and species;

- The contribution of the project to urban expansion into natural areas; and
- Isolation of open space in the vicinity by proposed/future projects.

### **Special-Status Species and Sensitive Habitats**

The proposed project would facilitate development on 18 rezone sites and primarily emphasize infill development in already urbanized areas that lack existing native biological habitats; however, some development would occur in vacant or partially undeveloped sites with potential to support special-status species and sensitive habitats. Individual projects may adversely affect sensitive species and habitats, including wetlands. Impacts would be evaluated on a case-by-case basis.

Based on the impact analysis provided above, the proposed project contribution to biological resources may be cumulatively considerable. As development occurs in the lesser or undeveloped portions of the city, habitat for biological resources will continue to be converted to urban development. It is understood that mobile species (e.g., most reptiles, mammals, and birds) may survive this development by moving to other areas, but less mobile species (i.e., species reliant on a certain type of habitat) would not. Conversion of natural habitat will reduce the availability of habitat for special-status species and the natural areas remaining will likely be isolated and not support biological resources beyond their carrying capacity. Buildout of the proposed project in combination with cumulative development in the city may result in the increase of urban buildout and contribute to the loss of habitat for special-status species, as well as common species.

Implementation of mitigation measures BIO-1 through BIO-5 would reduce impacts from the proposed project by requiring project applicants to avoid, minimize, or mitigate for impacts to sensitive species and habitats, including riparian habitats. Thus, with implementation of these measures, and adherence to HMP requirements, the proposed project would not contribute to cumulatively considerable impacts related to sensitive species and habitats, including riparian habitats. Therefore, cumulative impacts related to special-status species and habitats would be less than significant.

### **City Protected Trees**

The City's Heritage Tree Ordinance (Municipal Code Chapter 11.12.140) and Protection of Trees Ordinance (11.12.080) provides protection for tree species citywide, as previously discussed. All reasonably foreseeable development in the city, including development under the proposed project, would be subject to these ordinances and regulations. Implementation of Mitigation Measure BIO-6 would ensure that there would be no net loss of protected trees from the proposed project and cumulative impacts would be less than significant.

### **HMP Conflicts**

As noted in Impact BIO-6, the city participates in regional conservation efforts through implementation of the Carlsbad HMP, which is Carlsbad's subarea plan under the MHCP. The MHCP is a comprehensive, multiple jurisdiction planning program designed to develop an ecosystem preserve in northwestern San Diego County. With implementation of Mitigation Measures BIO-1, BIO-2, BIO-3, BIO-4, BIO-7 and BIO-8, the City will ensure on a case by case basis that potential conflicts with the HMP, an adopted Habitat Conservation Plan and Natural Community Conservation Plan, from project specific and cumulative impacts are reduced to a less than significant level.

## 4.4 Cultural and Tribal Cultural Resources

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This section analyzes impacts to cultural resources and tribal cultural resources within Carlsbad that would result from implementation of the proposed project, and feasible mitigation measures to reduce the severity of these potential impacts. Information in this section is based on the results of a California Historical Resources Information System (CHRIS) records search, archival and online research, a search of the Sacred Lands File (SLF) by the Native American Heritage Commission (NAHC), and tribal consultation conducted by the City of Carlsbad.

### 4.4.1 Cultural Setting

#### Indigenous History

The project area lies in what is generally described as California's Southern Bight (Byrd and Raab 2007). This region extends from the Mexican border to Santa Monica and includes Orange and San Diego counties, western Riverside County, and the Southern Channel Islands. At European contact, the Southern Bight was occupied by the Tongva, Juaneño, Luiseño, Cupeño, and Kumeyaay (Ipai and Tipai). For the purposes of this study, the prehistoric cultural chronology for the Southern Bight is presented following Byrd and Raab (2007), who divide the chronology into the Early (9600- 5600 BCE), Middle (5600-1650 BCE), and Late (1650 BCE- 1769 CE) Holocene.

##### *Early Holocene (ca. 9600-5600 BCE)*

Evidence of Paleo-Indian occupation of southern California remains very limited. Approximately 75 sites on the southern and central California coast are known that date to 7500 years before present (BP Erlandson and Colten 1991). The earliest accepted dates for human occupation of the California coast are from the Northern Channel Islands, off the Santa Barbara coast. Daisy Cave, on San Miguel Island, dates to as early as 9600 BCE (Erlandson et al. 1996). At the Arlington Springs site on Santa Rosa Island human remains yielded a date of approximately 10,000 BCE (Johnson et al. 2002). San Diego and Orange counties and the Southern Channel Islands have not produced dates as early as these. However, radiocarbon evidence has dated early occupation of the coastal region between circa (ca.) 8000 and 7000 BCE (Byrd and Raab 2007).

Traditional models describe California's first inhabitants as big-game hunters roaming North America during the end of the last Ice Age. As the Ice Age ended, warmer and drier climatic conditions are thought to have created wide-spread cultural responses. The pluvial lakes and streams in the desert interior began to wane and cultures dependent on these water sources migrated to areas with moister conditions, such as the southern California coast (Byrd and Raab 2007).

The San Dieguito Complex is a well-defined cultural response to these changing climatic conditions in the southern California coastal region and was originally named for the cultural sequence in western San Diego County (Rogers 1929, 1939). Leaf-shaped points and knives, crescents, and scrapers characterize the artifact assemblages throughout the region (Byrd and Raab 2007). San Dieguito sites generally show evidence of the hunting of various animals, including birds, and gathering of plant resources (Moratto 2004).

### *Middle Holocene (ca. 5600–1650 BCE)*

The Middle Holocene is generally viewed as a time of cultural transition. During this time, the cultural adaptations of the Early Holocene gradually altered. Use of milling stone tools began to appear across most of central and southern California around 6000-5000 BCE, indicating a focus on the collection and processing of hard-shelled seeds. Environmental changes in the Southern Bight are thought to have been the key factor in these changing adaptations (Byrd and Raab 2007). Occupation patterns indicated semi-sedentary populations focused on the bays and estuaries of San Diego and Orange counties, with shellfish and plant resources as the most important dietary components (Warren 1968). In the San Diego area, this adaptive strategy is known as the La Jolla complex.

Around 4,000 years ago, extensive estuarine silting began to cause a decline in shellfish and, thus, a depopulation of the coastal zone. Settlement shifted to river valleys, and resource exploitation focused on hunting small game and gathering plant resources (Warren 1968; Byrd and Raab 2007).

### *Late Holocene (ca. 1650 BCE – 1769 CE)*

The Late Holocene witnessed numerous cultural adaptations. The bow and arrow were adopted sometime after 500 CE, and ceramics appeared in the area ca. 1000 CE. Populations were sustained by food surpluses, especially acorns (Kroeber 1925; Byrd and Raab 2007). Other exploited food resources include shellfish, fish, small terrestrial mammals, and small-seeded plants. Settlement patterns of the Late Holocene are characterized by large residential camps linked to smaller specialized camps for resource procurement (Byrd and Raab 2007).

## **Ethnographic Overview**

Carlsbad and the surrounding area were primarily inhabited by the Luiseño, with the Kumeyaay/Diegueño just to the south.

### *Luiseño*

The project area is located in the traditional Luiseño ethnographic territory that extends along the coast of modern-day Southern California in San Diego and Riverside Counties (Bradley 2009). The territory spans between Aliso Creek and Agua Hedionda Creek, inland to Santiago Peak in the north, and to the east side of Palomar Mountain in the south, including Lake Elsinore and the Valley of San José (Bean and Shipek 1978). The term Luiseño was applied to the Native Americans who were administered by the Spanish from Mission San Luis Rey. Prior to missionization, the Luiseño living in the area referred to themselves as the Payomkawichum (Mithun 2001: 539-540, Rincon Band of Luiseno Indians 2020). The Luiseño name was used to encompass both the Gheecham, Kheecham, and Aguas Calientes Indians (White 1998).

The Luiseño, Cahuilla, and Cupeño tribes are often referred to as the Southern California Shoshone due to their use of the Takic branch of the Uto-Aztecan language family (Bradley 2009). The Uto-Aztecan language family's origins lie in the Great Basin (Mithun 2001: 539). Linguistic studies suggest that Takic-speaking immigrants from the Great Basin displaced Hokan speakers sometime after 500 BCE (Bean and Shipek 1978).

Prior to European contact, the Luiseño lived in permanent, politically autonomous villages with associated seasonal camps for subsistence exploitation. The population of the Luiseño prior to the arrival of Europeans is believed to be approximately 3,500 (O'Neil 2002). Villages ranged in size from 50 to 400 people. Each village controlled a larger resource territory and maintained ties to other

villages through trade and social networks. Trespassing in the resource area of another village was cause for war (White 1963; Bean and Shipek 1978). Village structures consisted of dome-shaped dwellings (*kish*), sweat lodges, and a ceremonial enclosure (*vamkech*). Leadership in the villages focused on the chief, or *Nota*, and a council of elders or *puuplem*. The chief controlled economic and warfare-related activities, but also held a religious role. Religious leadership included a council of shamans or ritual specialists, with each member of the council inheriting the role patrilineally (Kroeber 1925; Bean and Shipek 1978).

Traditional Luiseño subsistence was focused on the acorn and supplemented by the gathering of other plant resources and shellfish, as well as fishing and hunting. Plant foods typically included pine nuts, seeds from various grasses, manzanita, sunflower, sage, chia, lemonade berry, prickly pear, and lamb's-quarter. Common animal resources included deer, antelope, rabbit, quail, ducks and other birds. Fish were exploited from nearby rivers and creeks. Marine fish and sea mammals were caught from the shore and dugout canoes. Shellfish collected from the shore included abalone, turban, mussels, clams, scallops, and other species (Bean and Shipek 1978). Traditional Luiseño pottery includes (but is not limited to) an earthen vessel called *narungrush*, a wide mouth vessel called a *wiwlish*, a small mouth vessel called *nadungdamal*, and a vessel with two small mouths called a *papakamal* (Sparkman 1909). The *narungrush* was utilized for keeping water cool and storing seeds. *Wiwlish* vessels were used for cooking food. The *nadungdamal* and *papakamal* vessels were used for carrying water (Sparkman 1908).

The center of the Luiseño religion is *Chinigchinich*, the last of a series of heroic mythological figures. The heroes were originally from the stars and their sagas formed Luiseño religious beliefs. Religious rituals took place in a brush enclosure that housed a representation of *Chinigchinich*. Ritual ceremonies included puberty initiation rites, burial and cremation ceremonies, hunting rituals, and peace rituals (Kroeber 1925, Bean and Shipek 1978). Puberty ceremonies for both girls and boys would include painting pictographs and petroglyphs, categorized by archaeologists as the San Luis Rey style or "Luiseño Rectilinear Abstract." It is characterized by zigzags, chevrons, straight lines, and diamond chains (DuBois and Kroeber 1908: 96, Hedges 2002).

The Luiseño today have maintained several of their traditional customs and ceremonies (White 1953). Today there are seven bands of Luiseño people including the San Luis Rey, Pala, Pauma, La Jolla, Rincón, Pechanga, and Sobóba. Many Luiseño people continue to speak their native language, sing traditional songs, and utilize oral history through storytelling.

### *Kumeyaay/Diegueño*

The project area is located just north of the traditional territory of the Kumeyaay or Diegueño, which includes the region along the Pacific coast from central San Diego County southward into Baja California and eastward into Imperial County (Gamble and Zepeda 2002). European settlers in the area referred to them as the Diegueño or Diegueno due to the nearby Mission San Diego de Alcalá (Gifford 1931). They refer to themselves as "Kumeyaay," which refers to both the Ipai and Tipai groups. Linguistic studies support the division of the Kumeyaay people into northern (Ipai) and southern (Tipai) dialect groups (Gifford 1931, Luomala 1978). Ipai territory includes the area north of La Jolla to Agua Hedionda Lagoon with tremendous environmental variation and resource zones. The Tipai territory includes the Pacific coast from La Jolla south to below Ensenada and Todos Santos Bay in Baja California, Mexico. The Kamia, or Desert Kumeyaay, are Tipai located in parts of eastern San Diego County, portions of northeastern Baja California, and the majority of the western portion of Imperial County (Gifford 1931, Luomala 1978). Neighboring groups included the Luiseño

and Cupeño to the northwest, the Cahuilla to the northeast, the Quechan to the east, and the Paipai to the south (Kroeber 1925).

Kumeyaay bands typically controlled 10 to 30 linear miles in a drainage system. Each band's territory contained a primary village and a number of secondary homesteads located along tributary creeks (Shipek 1982:297). Each band was composed of 5 to 15 kinship groups (*sibs* or *shiiimul*), some of which were divided among more than one band (Kroeber 1925: 719). Approximately 50 to 75 named kinship groups were located throughout the entire Kumeyaay territory. Political organization varied between bands. Basic structure included a patrilineal band leader, or a Kwaaypaay, and at least one assistant who acted as a messenger (Luomala 1978: 597, Shipek 1982). The primary roles of the Kwaaypaay were to direct ceremonies, act as a disciplinary head, advise on marriages and family differences, make war decisions, and to organize hunting and foraging expeditions.

The Kwaaypaay counseled with shamans on many important decisions. Ceremonies among the Kumeyaay are similar to those of other Southern California Native groups (Kroeber 1925: 712–717). The ceremonial leader was an inherited religious position. Rituals conducted by ceremonial leaders included puberty rites, marriage, naming ceremonies, cremation of the dead, and the annual mourning ceremony (*keruk*) for all those of the *sib* who had died the previous year. Kumeyaay groups shared religious mythologies and belief in a higher creator-god (Shipek 1985). Kuuchama, or Tecate Peak, was the most sacred landmark, designated by the Kumeyaay god as the location for acquiring power for good, healing, and peace. Other holy places recognized by all Kumeyaay include Wee'ishpa or Signal Mountain, Jacumba Peak, Mt. Woodson, Viejas Mountain, and other mountains near the Colorado River in the Desert Kumeyaay region (Shipek 1985, 1987: 14).

Entire bands moved to winter villages in sheltered valleys near known sources of water. Dwellings in the relatively permanent winter villages were semi-subterranean and roughly circular with a wooden pole framework covered in brush thatch and a mat covering. They faced east to keep out the wind and ensure privacy (Luomala 1978: 597). Other structures in the village consisted of family-owned platform granaries, a village-owned brush ceremonial enclosure, and sweat lodges. A semi-circular enclosure was used for the *keruk* mourning ceremony, and rock walls sometimes surrounded ceremonial and dance areas. At summer camps, *ramadas* and windbreaks were common and built into trees or rock shelters. Granaries and more permanent housing would sometimes be constructed in frequently visited oak groves in the hills and in the mountains of Kumeyaay territory.

Many Kumeyaay camped in coastal valleys at certain times of the year to gather coastal resources. Fish were caught with hooks, nets, and bows from tule boats. Shellfish were gathered from the sandy beaches (e.g., *Chione*, scallops, and *Donax*) and rocky shores (e.g., mussels and abalone). Common game birds included doves and quail; migratory birds included geese. A primary source of protein came from rabbits, woodrats, and other small game living along the mesas and foothills. Small mammals were caught using throwing sticks, bow and arrow, or in nets on community drives. Hunting large game such as deer and mountain sheep was the role of expert hunters trained in specialized hunting folklore (Luomala 1978: 601). Land resources generally belonged to the bands with only a few areas considered "tribal" land and open to anyone (Shipek 1982: 301). Water and stored foods were communally available to all band members on a reciprocal basis (Luomala 1978).

During the winter season, perennial herbs were collected in the valleys. Greens included miner's lettuce (*claytonia perfoliata*), clover, pigweed (*aramanthus*), and other grasses. Seeds were harvested from buckwheat, chia and other salvias, and a variety of grasses. In the mountains and foothills, yucca was gathered for its stalks, flowers, and leaves. Elderberry, manzanita, cholla,

prickly-pear opuntia cactus, and juniper shrubs provided berries and fruit. The acorns from several species of oak were a subsistence staple gathered during the late summer and stored in family and village granaries. At least six species of oaks provided acorns for the Kumeyaay in San Diego County (Luomala 1978: 600).

Production of baskets, nets, and pottery were primarily female occupations. Their main use was tied to food procurement, production, and processing (Wallace 1978). High-quality baskets with a weave similar to other Southern California groups were unique on local and regional levels. The regional unity in basketry traditions is linked to the prominence of acorn processing (Jordan and Shennan 2003). Beyond baskets, carrying nets and sacks were also used for food collection. Regularly manufactured ceramic vessels were used as water jars, for cooking and storage, and as cremation urns (Kroeber 1925: 722).

Men and children wore utilitarian belt sashes and pouches designed to hold tools and small game. Women wore a one- or two-piece apron made of shredded bark and a round, twined cap. Robes of rabbit fur, willow bark, or deerskin were worn in the winter and also served as bedding. For long distance travel, sandals woven from agave fibers protected their feet (Luomala 1978: 599). Special ceremonial costumes and adornment were worn during ceremonies. With the exception of boys and mourners, hair was worn long with bangs cut at the forehead.

Accounts by Spanish missionaries and Kumeyaay elders suggest that status differentiation was established during the Late Holocene but could possibly have been earlier (Shipek 1982). Socio-political structure was drastically disrupted by the introduction of Spanish, Mexican, and American policies and the subsequent depopulation from disease and drought (Shipek 1982).

## **Post-Contact Setting**

Post-Contact history for the state of California is generally divided into three periods: the Spanish Period (1769–1822), Mexican Period (1822–1848), and American Period (1848–present). Although Spanish, Russian, and British explorers visited the area for brief periods between 1529 and 1769, the Spanish Period in California begins with the establishment in 1769 of a settlement at San Diego and the founding of Mission San Diego de Alcalá, the first of 21 missions constructed between 1769 and 1823. Independence from Spain in 1821 marks the beginning of the Mexican Period, and the signing of the Treaty of Guadalupe Hidalgo in 1848, ending the Mexican American War, signals the beginning of the American Period when California became a territory of the United States. Excerpted below, the City of Carlsbad General Plan provides the following summary of Carlsbad's history since the Spanish Period:

### **Spanish and Mexican Period**

In 1769, Spanish explorers first arrived from Mexico and camped near Agua Hedionda Lagoon. When Mexico achieved independence from Spain in 1821, land ownership and land use patterns evolved, igniting the Rancho period in California history where large tracts of land were granted to settlers and government friends to encourage settlement and cattle raising. In 1833, the mission holdings were secularized and divided into large land grants. Much of greater Carlsbad was part of Rancho Agua Hedionda, a 13,000-acre ranch. The holdings extended from the Pacific Ocean east toward Vista and from the north side of Agua Hedionda Lagoon south to Leucadia in present-day Encinitas. In 1842, Rancho Agua Hedionda was granted to Juan María Marrón, who built a three-room adobe on the property.

### **Early American Period**

By the 1860s, the Rancho Agua Hedionda property had been acquired by Matthew Kelly, who established a homestead near the southeast corner and in 1868 constructed a home and associated outbuildings, naming the property “Los Kiotes.” After the Civil War, the development of railroads had an enormous effect on the development of California and the western United States. The California Southern railroad, with its link to a transnational railroad proved crucial to the transformation of the San Diego region from a farming community to a small city of emerging industry, mercantile and agricultural expansion. The selected route of the railroad determined the future of many coastal town sites, including Carlsbad. The railroad stood as the town’s center in Carlsbad Village, and the town grew several blocks in all directions.

In 1886, the Carlsbad Land and Mineral Company was formed, which laid out a town site and initiated speculative development. The newly formed town was christened Carlsbad because the mineral water found there contained the same mineral properties as the famous Spa No. 7 in Karlsbad, Bohemia. Despite its popularity among visitors seeking the reported curative powers of Carlsbad’s waters, the city experienced a long period of declining growth between 1890 and 1914 due to drought and national economic problems. During that time, buildings were abandoned and land uses changed; mining, industrial and agricultural endeavors were attempted but most failed.

### **Twentieth Century**

Population and economic growth resumed again in the late 1910s, spurred by agriculture. Development and infrastructure expanded to accommodate a growing population, although even in the 1920 Census, Carlsbad residential units were still primarily farms. Also at this time, millions of Mexicans fled north from Mexico to seek refuge during the Mexican Revolution, some of whom settled in Carlsbad. These immigrants provided additional farm and railroad labor to the area. They built small simple houses with no electricity or indoor plumbing and later sold the homes to other incoming immigrants. This development provided the foundation for the first neighborhood in Carlsbad, which today is called the Barrio. By 1930, areas near the historic core were divided and subdivided to make room for the newly developing suburban enclaves.

Like the rest of the country, Carlsbad felt the effects of the Great Depression in the 1930s, during which numerous businesses failed and many middle- and lower-class residents left the area. After WWII, however, suburban development began to spread throughout Southern California and, following a series of annexations beginning in the 1960s, including La Costa in 1972, Carlsbad has grown gradually in area and population (City of Carlsbad 2015).

## **4.4.2 Regulatory Setting**

### **a. Federal**

#### **National Register of Historic Places**

Although the project does not have a federal nexus, properties which are listed in or have been formally determined eligible for listing in the NRHP are automatically listed in the CRHR. The following is therefore presented to provide applicable regulatory context. The NRHP was authorized by Section 101 of the National Historic Preservation Act and is the nation’s official list of cultural resources worthy of preservation. The NRHP recognizes the quality of significance in American,



state, and local history, architecture, archaeology, engineering, and culture is present in districts, sites, buildings, structures, and objects. Per 36 CFR Part 60.4, a property is eligible for listing in the NRHP if it meets one or more of the following criteria:

- Criterion A:** Is associated with events that have made a significant contribution to the broad patterns of our history.
- Criterion B:** Is associated with the lives of persons significant in our past.
- Criterion C:** Embodies the distinctive characteristics of a type, period, or method of installation, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction.
- Criterion D:** Has yielded, or may be likely to yield, information important in prehistory or history.

In addition to meeting at least one of the above designation criteria, resources must also retain integrity. The National Park Service recognizes seven aspects or qualities that, considered together, define historic integrity. To retain integrity, a property must possess several, if not all, of these seven qualities, defined as follows:

- Location:** The place where the historic property was constructed or the place where the historic event occurred
- Design:** The combination of elements that create the form, plan, space, structure, and style of a property
- Setting:** The physical environment of a historic property
- Materials:** The physical elements that were combined or deposited during a particular period of time and in a particular pattern or configuration to form a historic property
- Workmanship:** The physical evidence of the crafts of a particular culture or people during any given period in history or prehistory
- Feeling:** A property's expression of the aesthetic or historic sense of a particular period of time
- Association:** The direct link between an important historic event or person and a historic property

Certain properties are generally considered ineligible for listing in the NRHP, including cemeteries, birthplaces, graves of historical figures, properties owned by religious institutions, relocated structures, or commemorative properties. Additionally, a property must be at least 50 years of age to be eligible for listing in the NRHP. The National Park Service states that 50 years is the general estimate of the time needed to develop the necessary historical perspective to evaluate significance (National Park Service 1997:41). Properties which are less than 50 years must be determined to have "exceptional importance" to be considered eligible for NRHP listing.

## **b. State**

### **California Environmental Quality Act**

California Public Resources Code (PRC) Section 21804.1 requires lead agencies to determine if a project could have a significant impact on historical or unique archaeological resources. As defined in PRC Section 21084.1, a historical resource is a resource listed in, or determined eligible for listing in, the CRHR, a resource included in a local register of historical resources or identified in a historical

resources survey pursuant to PRC Section 5024.1(g), or any object, building, structure, site, area, place, record, or manuscript that a lead agency determines to be historically significant. PRC Section 21084.1 also states resources meeting the above criteria are presumed to be historically or culturally significant unless the preponderance of evidence demonstrates otherwise. Resources listed in the NRHP are automatically listed in the CRHR and are, therefore, historical resources under CEQA. Historical resources may include eligible built environment resources and archaeological resources of the precontact or historic periods.

*CEQA Guidelines* Section 15064.5(c) provides further guidance on the consideration of archaeological resources. If an archaeological resource does not qualify as a historical resource, it may meet the definition of a “unique archaeological resource” as identified in PRC Section 21083.2. PRC Section 21083.2(g) defines a unique archaeological resource as an artifact, object, or site about which it can be clearly demonstrated that, without merely adding to the current body of knowledge, there is a high probability that it meets any of the following criteria: 1) it contains information needed to answer important scientific research questions and that there is a demonstrable public interest in that information, 2) has a special and particular quality such as being the oldest of its type or the best available example of its type, or 3) is directly associated with a scientifically recognized important prehistoric or historic event or person.

If an archaeological resource does not qualify as a historical or unique archaeological resource, the impacts of a project on those resources will be less than significant and need not be considered further (*CEQA Guidelines* Section 15064.5[c][4]). *CEQA Guidelines* Section 15064.5 also provides guidance for addressing the potential presence of human remains, including those discovered during the implementation of a project.

According to CEQA, an impact that results in a substantial adverse change in the significance of a historical resource is considered a significant impact on the environment. A substantial adverse change could result from physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of the historical resource would be materially impaired (*CEQA Guidelines* Section 15064.5 [b][1]). Material impairment is defined as demolition or alteration in an adverse manner [of] those characteristics of a historical resource that convey its historical significance and that justify its inclusion in, or eligibility for inclusion in, the CRHR or a local register (*CEQA Guidelines* Section 15064.5[b][2][A]).

If it can be demonstrated that a project will cause damage to a unique archaeological resource, the lead agency may require reasonable efforts be made to permit any or all of these resources to be preserved in place or left in an undisturbed state. To the extent that resources cannot be left undisturbed, mitigation measures are required (PRC Section 21083.2[a][b]).

*CEQA Guidelines* Section 15126.4 stipulates an EIR shall describe feasible measures to minimize significant adverse impacts. In addition to being fully enforceable, mitigation measures must be completed within a defined time period and be roughly proportional to the impact of the project. Generally, a project which is found to comply with the *Secretary of the Interior’s Standards for the Treatment of Historic Properties with Guidelines for Preserving, Rehabilitating, Restoring, and Reconstructing Historic Buildings* (the Standards) is considered to be mitigated below a level of significance (*CEQA Guidelines* Section 15126.4 [b][1]). For historical resources of an archaeological nature, lead agencies should also seek to avoid damaging effects where feasible. Preservation in place is the preferred manner to mitigate impacts to archaeological sites; however, data recovery through excavation may be the only option in certain instances (*CEQA Guidelines* Section 15126.4[b][3]).

## California Register of Historical Resources

The CRHR was established in 1992 and codified by PRC Sections 5024.1 and 4852. The CRHR is an authoritative listing and guide to be used by State and local agencies, private groups, and citizens in identifying the existing historical resources of the State and to indicate which resources deserve to be protected, to the extent prudent and feasible, from substantial adverse change (PRC Section 5024.1[a]). The criteria for eligibility for the CRHR are consistent with the NRHP criteria but have been modified for state use to include a range of historical resources that better reflect the history of California (PRC Section 5024.1[b]). Unlike the NRHP however, the CRHR does not have a defined age threshold for eligibility; rather, a resource may be eligible for the CRHR if it can be demonstrated sufficient time has passed to understand its historical or architectural significance (California Office of Historic Preservation 2006). Further, resources may still be eligible for listing in the CRHR even if they do not retain sufficient integrity for NRHP eligibility (California Office of Historic Preservation 2006). Generally, the California Office of Historic Preservation recommends resources over 45 years of age be recorded and evaluated for historical resources eligibility (California Office of Historic Preservation 1995:2).

Properties are eligible for listing in the CRHR if they meet one of more of the following criteria:

- Criterion 1:** Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage.
- Criterion 2:** Is associated with the lives of persons important to our past.
- Criterion 3:** Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values.
- Criterion 4:** Has yielded, or may be likely to yield, information important in prehistory or history.

## California Public Resources Code

Section 5097.5 of the California PRC states:

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

As used here, "public lands" means lands owned by or under the jurisdiction of the state or any city, county, district, authority, or public corporation, or any agency thereof. Consequently, public agencies are required to comply with PRC Section 5097.5 regarding their activities, including construction and maintenance, as well as for permit actions (e.g., encroachment permits) undertaken by others.

If a project can be demonstrated to cause damage to a unique archaeological resource, the lead agency may require reasonable efforts to permit any or all of these resources to be preserved in place or left in an undisturbed state. To the extent that resources cannot be left undisturbed, mitigation measures are required (PRC Section 21083.2[a-c]).

## **Codes Governing Human Remains**

The disposition of human remains is governed by Section 7050.5 of the California Health and Safety Code and PRC Sections 5097.94 and 5097.98 and falls within the jurisdiction of the NAHC. If human remains are discovered, the County Coroner must be notified within 48 hours and there should be no further disturbance to the site where the remains were found. If the remains are determined by the coroner to be Native American, the coroner is responsible for contacting the NAHC within 24 hours. The NAHC, pursuant to Section 5097.98, will immediately notify those persons it believes to be most likely descended from the deceased Native Americans so they can inspect the burial site and make recommendations for treatment or disposal.

## **California Health and Safety Code**

Section 7050.5 of the California Health and Safety Code states that in the event of discovery or recognition of any human remains in any location other than a dedicated cemetery, there shall be no further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent remains until the coroner of the county in which the remains are discovered has determined if the remains are subject to the Coroner's authority. If the human remains are of Native American origin, the coroner must notify the NAHC within 24 hours of this identification.

## **Assembly Bill 52 of 2014**

AB 52 expanded CEQA by defining a new resource category, "tribal cultural resources." AB 52 establishes that "a project with an effect that may cause a substantial adverse change in the significance of a tribal cultural resource is a project that may have a significant effect on the environment" (PRC Section 21084.2). AB 52 further states when feasible, the lead agency shall establish measures to avoid impacts that would alter the significant characteristics of a tribal cultural resource (PRC Section 21084.3). PRC Section 21074 (a)(1)(A) and (B) defines tribal cultural resources as "sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American Tribe," and meets either of the following criteria:

- a. Listed or eligible for listing in the CRHR, or in a local register of historical resources as defined in PRC Section 5020.1(k).
- b. A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of PRC Section 5024.1. In applying the criteria set forth in subdivision (c) of PRC Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American Tribe.

In recognition of California Native American tribal sovereignty and the unique relationship of California local governments and public agencies with California Native American tribal governments and with respect to the interests and roles of project proponents, it is the intent AB 52 to accomplish the following:

1. Recognize that California Native American prehistoric, historic, archaeological, cultural, and sacred places are essential elements in tribal cultural traditions, heritages, and identities.
2. Establish a new category of resources in CEQA called "tribal cultural resources" that considers the tribal cultural values in addition to the scientific and archaeological values when determining impacts and mitigation.

3. Establish examples of mitigation measures for tribal cultural resources that uphold the existing mitigation preference for historical and archaeological resources of preservation in place, if feasible.
4. Recognize that California Native American tribes may have expertise with regard to their tribal history and practices, which concern the tribal cultural resources with which they are traditionally and culturally affiliated (because CEQA calls for a sufficient degree of analysis, tribal knowledge about the land and tribal cultural resources at issue should be included in environmental assessments for projects that may have a significant impact on those resources).
5. In recognition of their governmental status, establish a meaningful consultation process between California Native American tribal governments and lead agencies, respecting the interests and roles of all California Native American tribes and project proponents, and the level of required confidentiality concerning tribal cultural resources, early in the CEQA environmental review process, so that tribal cultural resources can be identified, and culturally appropriate mitigation and mitigation monitoring programs can be considered by the decision-making body of the lead agency.
6. Recognize the unique history of California Native American tribes and uphold existing rights of all California Native American tribes to participate in, and contribute their knowledge to, the environmental review process pursuant to CEQA.
7. Ensure that local and tribal governments, public agencies, and project proponents have information available, early in CEQA environmental review process, for purposes of identifying and addressing potential adverse impacts to tribal cultural resources and to reduce the potential for delay and conflicts in the environmental review process.
8. Enable California Native American tribes to manage and accept conveyances of, and act as caretakers of, tribal cultural resources.
9. Establish that a substantial adverse change to a tribal cultural resource has a significant effect on the environment.

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

### **Senate Bill 18 of 2004**

California Government Code Section 65352.3 (adopted pursuant to the requirements of SB 18) requires local governments to contact, refer plans to, and consult with tribal organizations prior to making a decision to adopt or amend a general or specific plan. The tribal organizations eligible to consult have traditional lands in a local government’s jurisdiction, and are identified, upon request, by the Native American Heritage Commission. As noted in the California Office of Planning and Research’s Tribal Consultation Guidelines (2005), “The intent of SB 18 is to provide California Native American tribes an opportunity to participate in local land use decisions at an early planning stage, for the purpose of protecting, or mitigating impacts to, cultural places.”

## **c. Local**

### **Carlsbad General Plan**

The City of Carlsbad General Plan, which was adopted in 2015, includes goals and policies relating to cultural resources (City of Carlsbad 2015). As presented in the Arts, History, Culture, and Education Element and Open Space, Conservation, and Recreation Element, these include:

#### *Arts, History, Culture, and Education Element*

- Goal 7-G.1** Recognize, protect, preserve, and enhance the city’s diverse heritage.
- Goal 7-G.2** Make Carlsbad’s history more visible and accessible to residents and visitors.
- Policy 7-P.1** Prepare an updated inventory of historic resources in Carlsbad, with recommendations for specific properties and districts to be designated in national, state, and local registries, if determined appropriate and with agreement of the property owners.
- Policy 7-P.2** Encourage the use of regional, state and federal programs that promote cultural preservation to upgrade and redevelop properties with historic or cultural value. Consider becoming a participant in the Mills Act tax incentive program.
- Policy 7-P.3** Formalize a program of historical markers/plaques at resources in state and national registers or of local importance.
- Policy 7-P.4** Promote community education of historic resources, integration and celebration of such resources as part of community events: a. Enhance the community’s recognition that objects of historic importance increase both fiscal and community value; b. Promote the use of historic resources for the education, pleasure and welfare of the people of the city. Cooperate with historic societies, schools, libraries, parks and community members to stimulate public interest in historic preservation; and c. Maintain historical reference materials on file at the Carlsbad City Library.
- Policy 7-P.5** Encourage the rehabilitation of qualified historic structures through application of the California Historical Building Code.
- Policy 7-P.6** Ensure compliance with the City of Carlsbad Cultural Resource Guidelines to avoid or substantially reduce impacts to historic structures listed or eligible to be listed in the National Register of Historic Places or the California Register of Historical Resources.
- Policy 7-P.7** Implement the City of Carlsbad Cultural Resources Guidelines to avoid or substantially reduce impacts to archaeological and paleontological resources.
- Policy 7-P.8** During construction of specific development projects, require monitoring of grading, ground-disturbing, and other major earthmoving activities in previously undisturbed areas or in areas with known archaeological or paleontological resources by a qualified professional, as well as a tribal monitor during activities in areas with cultural resources of interest to local Native American tribes. Both the qualified professional and tribal monitor shall observe grading, ground-disturbing, and other earth-moving activities.

- Policy 7-P.9** Ensure that treatment of any cultural resources discovered during site grading complies with the City of Carlsbad Cultural Resource Guidelines. Determination of the significance of the cultural resource(s) and development and implementation of any data recovery program shall be conducted in consultation with interested Native American tribes. All Native American human remains and associated grave goods shall be returned to their most likely descendent and repatriated. The final disposition of artifacts not directly associated with Native American graves shall be negotiated during consultation with interested tribes; if the artifact is not accepted by Native American tribes, it shall be offered to an institution staffed by qualified professionals, as may be determined by the City Planner. Artifacts include material recovered from all phases of work, including the initial survey, testing, indexing, data recovery, and monitoring.
- Policy 7-P.10** Require consultation with the appropriate organizations and individuals (e.g., Information Centers of the California Historical Resources Information Systems [CHRIS], the Native American Heritage Commission [NAHC], and Native American groups and individuals) to minimize potential impacts to cultural resources that may occur as a result of a proposed project.
- Policy 7-P.11** Prior to occupancy of any buildings, a cultural resource monitoring report identifying all materials recovered shall be submitted to the City Planner.

*Education Element and Open Space, Conservation, and Recreation Element*

- Policy 4-P.32** Where appropriate, designate as open space those areas that preserve historic, cultural, archeological, paleontological and educational resources.
- Policy 4-P.34** Promote expansion of recreational and educational use opportunities in areas of significant ecological value, such as lagoons, where discretionary use of the resource allows. Consider partnering with private foundations for the conservation of such lands and the development of educational programming. Combine historically significant sites with recreational learning opportunities, where possible. Utilize community parks in support of historical and cultural programs and facilities when feasible and appropriate. Coordinate the efforts of the Historic Preservation

### **City of Carlsbad Historic Preservation Ordinance**

As detailed in Title 22 of the Carlsbad Municipal Code, the City of Carlsbad Historic Preservation Ordinance (Ord. CS-438 § 3, 2022; Ord. NS-433 § 2, 1997; Ord. 9776 § 1, 1985) authorizes the Historic Preservation Commission to establish and adopt a historic resources inventory, as approved by the City Council, by the procedures outlined in the ordinances. An eligible property may be nominated and designated as a historic resource if it satisfies the requirements set forth below. Historic resources may be designated as historic sites, historic landmarks, and historic districts. A historic resource may be considered and approved by council for designation as a historic resource if it is at least 50 years, attained significance in the last 50 years, its owner has consented to its designation, and it meets one of the following criteria:

- a) It is associated with events that have made a significant contribution to the broad patterns of local or regional history, or the historic, cultural or architectural heritage of California or the United States; or

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- b) It is associated with the lives of persons important to local, California, or United States history; or
- c) It embodies distinctive characteristics of a region, style, type, period or method of construction, or is representative of a notable work of an acclaimed builder, engineer, designer or architect that embodies significant structural, engineering, or architectural achievement; or
- d) It has yielded or has the potential of yielding information important to the prehistory or history of the local area, California or the United States (Ord. CS-438 § 4, 2022; Ord. NS-433 § 3, 1997; Ord. NS-141 § 5, 1991; Ord. 9776 § 1, 1985)

In addition, Section 22.06.030 of the Municipal Code defines a historic district as a grouping of buildings, structures or other improvements that, among other criteria, it is a geographically definable area with a concentration of contributing resources linked historically, culturally, or architecturally through location, design, setting, materials, workmanship, feeling and/or association; and consists of contributing resources share a time period in which most of the original construction occurred or with some other shared historical, cultural or architectural period of context or significance (Ord. CS-438 § 4, 2022; Ord. NS-433 § 3, 1997; Ord. 9835 § 2, 1987; Ord. 9776 § 1, 1985).

Sections 22.08.010 through 22.08.030 of the Municipal outline requirements for projects that would involve the alteration, demolition, or relocation of a nominated or designated historic resource or projects within the boundaries of a historic district. All applications for a permit for work involving a historic site, historic district, landmark, other than routine maintenance or repair, are subject to the review of the city planner and, in certain cases, the historic preservation commission. Except in certain circumstances, such as those of economic hardship, a permit may be issued only if the proposed work would not substantially destroy or alter a designated resource, would comply with the Standards, and would be compatible with the resource’s historical character (Ord. CS-438 § 5, 2022; Ord. NS-433 § 4, 1997; Ord. 9776 § 1, 1985).

**Carlsbad Tribal, Cultural, and Paleontological Resources Guidelines**

The *Carlsbad Tribal, Cultural, and Paleontological Resources Guidelines* (City of Carlsbad 2017; henceforth referred to as “Carlsbad Cultural Resource Guidelines”) provide procedures for the identification and treatment of said resources within the city’s boundaries. Among other things, the document identifies, minimal qualifications standards for cultural resources professionals, areas of potential sensitivity for cultural resources, methods and standards of analysis, procedures for the identification and analysis of cultural resources, and standards for the preparation of cultural resources studies.

**4.4.3 Existing Conditions**

A California Historical Resources Information System (CHRIS) records search was conducted by the South Coastal Information Center (SCIC) in July 2022 for the proposed project. The SCIC is the official state repository for cultural resources records and reports for the county in which the project falls. The purpose of the records search was to identify previously recorded cultural resources, as well as previously conducted cultural resources studies within the project area and a 0.5-mile radius surrounding it. Additionally, the National Register of Historic Places (NRHP), the California Register of Historic Resources (CRHR), the California Historical Landmarks list, the Archaeological



Determination of Eligibility (ADOE) list, and the Built Environment Resources Directory (BERD) were reviewed, as well as its predecessor the California State Historic Property Data (HPD) File.

The CHRIS records search and background research identified seven cultural resources within Carlsbad, including one built environment resource and six archaeological resources. Among these, only the built environment resource, 2550 Carlsbad Boulevard (P-37-037179), was evaluated for historical resource significance and it was recommended ineligible for NRHP, CRHR, and local listing in 2012 (Davis 2012).

In addition to the CHRIS records search and background research, the city requested a review of the Sacred Lands File (SLF) by the Native American Heritage Commission (NAHC). In accordance with both AB 52 and SB 18, the city conducted consultation with tribal contacts who had either previously requested consultation or were identified by the NAHC as being traditionally and culturally affiliated with the project area. The results of the SLF search and tribal consultation are discussed in further detail below.

## **Historical Resources in Project Area**

The following sections discuss the presence of known historical resources, which are properties that have been listed, determined eligible, or previously recommended eligible for listing in the NRHP, CRHR, and the local register, in addition to potential historical resources, which include any property 45 years or more of age that has not been previously evaluated for inclusion in the NRHP, CRHR, or local register.

### *Known Historical Resources*

A review of NRHP, California Office of Historic Preservation (OHP) website, the BERD, city of Carlsbad historic property list, and previous historical resources documentation prepared in or for the city of Carlsbad<sup>1</sup> identified four known historical resources on or immediately adjacent to one of the 18 sites making up the project area.

- Site 4 contains Agua Hedionda/Marron Adobe (2770 Sunny Creek Road), which was previously recommended eligible for listing in the NRHP.
- Agua Hedionda District with an OHP status code of 2S, meaning it has been determined eligible for the NRHP and automatically listed in the CRHR. However, the BERD does not provide locational information for this district and it could not be confirmed whether the district is located on a project site.
- The property at 2560 Carlsbad Boulevard, located west of Site 14, was identified as potentially locally significant in the 1990 City of Carlsbad Cultural Resources Survey (Roth & Associates 1990).
- The property at 2476 Mountain View Drive, located across Carlsbad Boulevard west of Site 14, was identified as potentially locally significant in the 1990 City of Carlsbad Cultural Resources Survey (Roth & Associates 1990).

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<sup>1</sup> City of Carlsbad. n.d. Working Paper 4: History, the Arts and Cultural Resources, High Quality Education and Community Services; City of Carlsbad. n.d. Carlsbad General Plan, Draft Environmental Impact Report; City of Carlsbad. 2015. Carlsbad General Plan. September 2015; City of Carlsbad. 2019. "Historic" Properties in Carlsbad. November 21, 2019. Document on file with the City of Carlsbad; Roth & Associates. 1990. City of Carlsbad Cultural Resources Survey. Prepared for City of Carlsbad Housing and Redevelopment. February 18, 1990; WESTEC Services, Inc. 1980. Regional Historic Preservation Study, Carlsbad, CA. Prepared for Comprehensive Planning Organization of the San Diego Region. April 19, 1980.

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- Red Apple Inn/Army and Navy Academy, located immediately west of Site 14, was identified as potentially locally significant in the 1980 Regional Historic Preservation Survey (WESTEC Services 1980).
- The potential Carlsbad Village Historic District, as identified in the 2015 General Plan EIR, encompasses Sites 14 and 15.
- The potential Old Carlsbad Historic District, as identified in the 2015 General Plan EIR, borders a portion of the west boundary of Site 14, along Carlsbad Boulevard.

Although none of the known historical resources are formally listed on the NRHP, CRHR, or local register, each has been recommended eligible for designation and as such qualifies as a historical resource pursuant to CEQA. Available documentation did not, in all cases, provide clear locational information and Table 4.4-1 below may not represent a complete inventory of known historical resources. As such, other designated historical resources may be located in or adjacent to the project area. Future projects should consult Appendix C, which consists of lists of known known historical resources identified in previous historical resources surveys conducted in Carlsbad.

**Table 4.4-1 Known Historical Resources on and Adjacent to the Rezone Sites**

Resource Name	Location	Proximity to Site	Eligibility Status
Agua Hedionda/Marron Adobe	2770 Sunny Creek Road	Adjacent to Site 4	Recommended eligible for listing in the NRHP
N/A	2560 Carlsbad Boulevard	West of Site 14	Potentially eligible for local designation
N/A	2476 Mountain View Drive	Adjacent to Site 14 (across Carlsbad Boulevard west)	Potentially eligible for local designation
N/A	2787 State Street	Adjacent to Site 14 (100 feet southeast)	Potentially eligible for local designation
Red Apple Inn/Army and Navy Academy	2585 Carlsbad Blvd	Immediately adjacent to Site 14	Potentially eligible for local designation
Carlsbad Village potential historic district	Bounded generally by Laguna and Ocean drives on the north; Oak and Walnut avenues on the south; Interstate 5 and Jefferson and Maddison streets on the east; and Ocean and Garfield streets on the west	Sites 14 and 15 are located within the potential historic district boundaries	Potentially eligible for local designation
Old Carlsbad potential historic district	Bounded generally by State Route 78 on the north, El Camino Real on the east, the coast and Agua Hedionda Lagoon on the west, and Cannon Road on the south	Site 14 borders the potential historic district on the north	Potentially eligible for local designation

Sources: BERD; City of Carlsbad n.d., 2015, 2019; Roth & Associates 1980; WESTEC Services, Inc. 1990

*Potential Historical Resources*

A review of historical aerial photographs and topographic maps indicates that, excluding known historical resources, six of the project sites contain buildings or structures that are presently 45 years or more of age, the typical age threshold for historical resources consideration under CEQA (California Office of Historic Preservation 1995:2). As such, these properties have the potential to qualify as historical resources pursuant to CEQA pending further investigation. No additional rezone sites contain buildings or structures that will become 45 years of age within the anticipated buildout year of the General Plan of 2035. Table 4.4-2 below contains an inventory of the Housing Element Sites. The inventory presented below may not be exhaustive, however, and additional potential historical resources may be located on project sites pending site-specific analysis.

**Table 4.4-2 Inventory of Rezone Sites**

Site	APN	Location	Construction Date	Eligibility Status
1	1563011600	North County Plaza, 1810 Marron Road	N/A	N/A
2	1563011100; 1563011000; 1563010600; 1563023500; 1563022300	The Shoppes at Carlsbad, 2525 El Camino Real	N/A	N/A
3	1670805000; 1670804900; 1670803400	Chestnut Avenue at El Camino Real	Vacant	N/A
4	2090901100; 2090607200	Zone 15 cluster, College Ave at El Camino Real, and 2820 Sunny Creek Rd	Circa 1978 (2090607200)	N/A
5	2100902400	Avenida Encinas car storage lot, Avenida Encinas at Cannon Road	N/A	N/A
6	2122700500	Crossings Golf Course Lot 5	Vacant	N/A
7	2120210400	Salk Avenue parcel, Salk Avenue at Fermi Court	Vacant	N/A
8	2120404700	Cottage Row, 1400 Plame Tree Lane	Circa 1978	Unknown

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Site	APN	Location	Construction Date	Eligibility Status
9	2120402600; 2121100700; 2121100600; 2121100500; 2121100800; 2121100400; 2121100300; 2121100200; 2121100100	West Oaks industrial site	Circa 1964 transmission lines (2121100500, 2121100800, 2121100200, and 2121100100)	Unknown
10	2132621700	Bressi Ranch Colt Place industrial parcel, Palomar Airport Road east of Innovation Way	Vacant	Unknown
11	2132631900; 2132632000	Bressi Ranch Gateway Road industrial parcels, Gateway Road at Palomar Airport Road	Vacant	Unknown
12	2210140300; 2210150800	Industrial sites east of Melrose Drive, 5980 Eagle Dr	Vacant	Unknown
14	1552001200; 7601663700	Carlsbad Village Train Station Parking Lot, near railroad tracks at Carlsbad Boulevard	Railroad tracks on parcels are pre-1937	Unknown
15	2040100500; 2040100600	City's Oak Yard, Oak Avenue and Tyler Street	Circa 1964 (2040100600); circa 1967 (2040100500)	Unknown
16	2110500900; 2110500800	Caltrans Maintenance Station & Pacific Sales, 6100 Paseo Del Norte	Circa 1978	Unknown
17	2141502000; 2141500800	NCTD Poinsettia Coaster Station, Costa Boulevard west of Embarcadero Lane	Circa 1995	Unknown
18	2141602800; 2141711100; 2141602500; 2160100100; 2160100200; 2160100300; 2160100400; 2160100500	North Ponto Parcels, 7200 Ponto Drive	Circa 1964 (2141711100); circa 1978 (2141602500)	Unknown

Site	APN	Location	Construction Date	Eligibility Status
19	2550120500	Vacant and parking lot for La Costa Glen/Forum, Calle Barcelona west of El Camino Real	NA	N/A

Source: NETROnline 2022

### Archaeological Resources in the Project Area

As stated above, the CHRIS records search that was conducted for the proposed project identified six archaeological resources within the project area. Additionally, the city received a response to their SLF search request from the NAHC on November 9, 2020, that indicated that Carlsbad is positive for Sacred Lands. Though it is known that archaeological resources have been identified within Carlsbad, information on archaeological resources is confidential and will not be further discussed here.

### Tribal Cultural Resources in the Project Area

As part of its tribal cultural resource identification process pursuant to California Assembly Bill (AB) 52, the city sent letters via certified mail to four Native American tribal contacts who had previously requested consultation. Under AB 52, tribes have 30 days to respond and request consultation.

The tribal contacts included the following:

- Cami Mojado, Cultural Resources Manager of the San Luis Rey Band of Mission Indians
- Michael Mirelez, Cultural Resource Director of the Torres Martinez Desert Cahuilla Indians
- Cheryl Madrigal, Tribal Historic Preservation Officer of the Rincon Band of Luiseño Indians
- Michael Linton, Chairperson of the Mesa Grande Band of Mission Indians

As part of its tribal cultural resource identification process pursuant to Senate Bill (SB) 18, the city sent letters via certified mail to 25 Native American tribal contacts identified by the NAHC as being traditionally and culturally affiliated with the project area. Under the provisions of SB 18, have 90 days to respond and request consultation. The tribal contacts included the following:

- Raymond Welch, Chairperson of the Barona Group of the Capitan Grande
- Ralph Goff, Chairperson of the Campo Band of Diegueño Mission Indians
- Robert Pinto, Chairperson of the Ewiiapaayp Band of Kumeyaay Indians
- Michael Garcia, Vice Chairperson for the Ewiiapaayp Band of Kumeyaay Indians
- Virgil Perez, Chairperson of the lipay Nation of Santa Ysabel
- Rebecca Osuna, Chairperson of the Inaja-Cosmit Band of Indians
- Lisa Cumper, Tribal Historic Preservation Officer of the Jamul Indian Village
- Erica Pinto, Chairperson of the Jamul Indian Village
- Carmen Lucas, Tribal Spokesperson of the Kwaaymii Laguna Band of Mission Indians
- Norma Contreras, Chairperson of the La Jolla Band of Luiseño Indians
- Javaughn Miller, Tribal Administrator of the La Posta Band of Diegueño Mission Indians

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- Gwendolyn Parada, Chairperson of the La Posta Band of Diegueño Mission Indians
- Angela Elliott Santos, Chairperson of the Manzanita Band of Kumeyaay Nation
- Michael Linton, Chairperson of the Mesa Grande Band of Diegueño Mission Indians
- Shasta Gaughen, Tribal Historic Preservation Officer of the Pala Band of Mission Indians
- Temet Aguilar, Chairperson of the Pauma Band of Luiseño Indians
- Mark Macarro, Chairperson of the Pechanga Band of Luiseño Indians
- Cheryl Madrigal, Tribal Historic Preservation Officer of the Rincon Band of Luiseño Indians
- San Luis Rey Tribal Council of the San Luis Rey Band of Mission Indians
- Allen Lawson, Chairperson of the San Pasqual Band of Diegueño Mission Indians
- Joseph Ontiveros, Chairperson of the Soboba Band of Luiseño Indians
- Cody Martinez, Chairperson of the Sycuan Band of the Kumeyaay Nation
- John Christman, Chairperson of the Viejas Band of Kumeyaay Indians
- Isaiah Vivanco, Chairperson of the Soboba Band of Luiseno Indians

The Pala Band of Mission Indians, Rincon Band of Lusieno Indians, and San Luis Rey Band of Mission Indians have formally requested consultation.

#### 4.4.4 Impact Analysis

##### **a. Methodology and Significance Thresholds**

##### **Historical and Archaeological Resources**

If a project may cause a substantial adverse change in the characteristics of a resource that convey its significance or justify its eligibility for inclusion in the CRHR or a local register, either through demolition, destruction, relocation, alteration, or other means, then the project would have a significant effect on the environment (*CEQA Guidelines* Section 15064.5[b]). Impacts would be significant if the project would:

- 1) Cause a substantial adverse change in the significance of a historical resource pursuant to §15064.5.
- 2) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5.
- 3) Disturb any human remains, including those interred outside of formal cemeteries.

Threshold 1 broadly refers to historical resources. To more clearly differentiate between archaeological and built environment resources, analysis under Threshold 1 has been limited to built environment resources. Archaeological resources, including those that may be considered historical resources pursuant to Section 15064.5 and those that may be considered unique archaeological resources pursuant to Section 21083.2, are considered under Threshold 2.

Direct impacts can be assessed by identifying the types and locations of proposed development, determining the exact locations of cultural resources within the project area, assessing the significance of the resources that may be affected, and determining the appropriate mitigation. Removal, demolition, or alteration of historical resources can permanently impact the historic fabric of an archaeological site, structure, or historic district.

The State Legislature, in enacting the CRHR, amended CEQA to clarify which properties are significant, as well as which project impacts are considered to be significantly adverse. A project with an effect that may cause a substantial adverse change in the significance of a historical resource is a project that may have significant effect on the environment (*CEQA Guidelines* Section 150645[b]). A substantial adverse change in the significance of a historical resource means demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of a historical resource would be materially impaired (*CEQA Guidelines* Section 150645[b][1]).

The *CEQA Guidelines* further state that “[t]he significance of an historical resource is materially impaired when a project... [d]emolishes or materially alters in an adverse manner those physical characteristics of an historical resource that convey its historical significance and that justify its inclusion in the California Register ... local register of historic resources... or its identification in an historic resources survey.” As such, the test for determining whether or not the project will have a significant impact on identified historical resources is whether it will materially impair physical integrity of the historic resource such that it could no longer be listed in the CRHR or a local landmark program.

## **Tribal Cultural Resources**

Appendix G of the *CEQA Guidelines* identifies the following criteria for determining whether a project’s impacts would have a significant impact to tribal cultural resources:

1. Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:
  - a. Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k), or
  - b. A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resource Code section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.

In accordance with both AB 52 and SB 18, the City has conducted consultation as the lead agency. This consultation included written communication with a total of 27 tribal contacts. The AB 52 and SB 18 letters were sent on October 24, 2022, and May 9, 2023, respectively. At the time of the release of the Draft SEIR, the Pala Band of Mission Indians, Rincon Band of Lusieno Indians, and San Luis Rey Band of Mission Indians have formally requested consultation. Consultation is ongoing.

### **b. Prior Environmental Analysis**

The 2015 General Plan EIR determined that impacts to historical and archaeological resources would be less than significant with regard to adverse changes to historical landmarks and other historical resources, adverse changes to archeological resources, or the disturbance of human remains (Section 3.7, Historical, Archaeological, and Paleontological Resources: 3.7-18 through 3.7-23). Individual development projects are subject to project-specific development and planning review, including tribal consultation, and built environment evaluation if necessary.

The proposed project involves land use changes to encourage development on 18 rezone sites beyond what was anticipated in the 2015 General Plan EIR and could therefore result in new impacts related to cultural or tribal cultural resources. Therefore, all the CEQA checklist items listed above under Methodology and Significance Thresholds are addressed in this analysis.

### **c. Project Impacts and Mitigation**

Some components associated with the proposed project, including updates to the Local Coastal Plan, Public Safety Element, and Master and Specific Plans for consistency between the city's planning documents, in and of themselves would not result in physical changes to the environment such that impacts to cultural or tribal cultural resources would occur. Therefore, this analysis focuses on impacts associated with implementation of the rezone program which would facilitate the development of 18 rezone sites listed in Table 2-4 in Section 2, *Project Description*.

**Threshold 1:** Would the project cause a substantial adverse change in the significance of a historical resource pursuant to Section 15064.5?

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**Impact CUL-1 DEVELOPMENT FACILITATED BY THE PROJECT COULD IMPACT KNOWN AND PREVIOUSLY UNIDENTIFIED HISTORICAL RESOURCES. IMPACTS TO HISTORICAL RESOURCES WOULD BE SIGNIFICANT AND UNAVOIDABLE.**

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The project consists of amendments to the 2015 General Plan necessary to implement programs of the city's Housing Element. Although the EIR for the 2015 General Plan found there would be less than significant impacts to historical resources, as discussed below, site-specific analysis for the current project finds that construction activities facilitated by project may cause significant and unavoidable impacts to historical resources.

The project would rezone 18 project sites identified in the Housing Element to facilitate housing. One site, Site 4, is immediately adjacent to a known historical resource, Agua Hedionda/Marron Adobe (2770 Sunny Creek Road), which has been recommended eligible for the NRHP. One project site, Site 14, is located immediately adjacent to known historical resources that have been previously identified as eligible for the local register (Table 4.4-1). Additionally, Sites 14 and 15 are located within the boundaries of the potential Carlsbad Village Historic District, and Site 14 is immediately adjacent to the potential Old Carlsbad Historic District. There are also 6 sites (Sites 4, 8, 9, 14, 15, and 18) containing buildings or structures that have been that have not been subject to a previous historical resources evaluation but which currently meet the 45-year age threshold generally triggering the need for evaluation (Table 4.4-2). No additional project sites contain properties that will become 45 years age over the life of the General Plan, which will be in effect through 2035. Pending further analysis there is potential for these previously unevaluated properties to qualify as historical resources pursuant to CEQA. For the purposes of this study, these properties are considered potential historical resources.

Although the project does not propose any specific construction activities, reasonably foreseeable development facilitated by the project could impact historical resources through demolition, construction, and reconstruction activities, which may result in impacts to historical resources. Such impacts may include direct physical changes to a historical resource or the introduction of new visual elements into a historical resource's setting. The City of Carlsbad has adopted policies to minimize impacts to historical resources, which would apply to future development facilitated by the project. As outlined above in Section 4.4.2, *Regulatory Setting*, General Plan policies 7-P.1, 7-P.2, 7-P.5, and 7-P.6 promote the identification, designation, and retention of historically significant



buildings. In addition, under city's Historic Preservation Ordinance, projects involving the alteration, demolition, or relocation of a nominated or designated property or work within a nominated or designated historic site or historic district, are subject to a permit review process designed to reduce impacts to historical resources. In most cases, the approval of a permit for a project involving a nominated or designated historical resource would be required to adhere to the Standards, which would minimize impacts to the maximum feasible extent (Carlsbad Municipal Code (or CMC) sections 22.08.010 through 22.08.030).

Finally, to ensure consistent methods and procedures for the identification of yet unknown historical resources and assessment of impacts to historical resources, the City has adopted the Carlsbad Cultural Resource Guidelines. Per the City's guidelines, a historical resources evaluation shall be prepared for developments involving a property that contains buildings or structures that are 45 years of age or older. For the current project, such sites include, but are not necessarily limited to, Sites 4, 8, 9, 14, 15, and 18, where buildings and structures of 45 years or more of age are known to be present. The evaluation shall be prepared prior to any construction activities by a qualified architectural historian or historian who meets the Secretary of the Interior's Professional Qualifications Standards (PQS) in architectural history or history (36 CFR Part 61). If qualifying historical resources are identified, an impacts assessment shall be prepared to determine whether the project would cause changes to the historical resource that would impair its ability to convey its historical significance, which would constitute an impact pursuant to CEQA. In cases where a project would result affect a historical resource, avoidance or adherence to the Standards is preferable. However, where these remedies are not feasible, the City's guidelines provide two standard treatments applicable to historical resources which may be used to mitigate impacts. These include:

*Standard Treatment 4: Project-Specific Public Interpretation and Education.* Any eligible cultural resource may be interpreted for the benefit of the general public through the development and installation of one or more interpretive panels in parks, along trails, or at scenic overlooks. The consultation conducted with SLRBMI would determine whether or not this measure is appropriate for Native American cultural resources. The number, location, and content of the panels shall not disclose the locations of confidential archaeological sites. Panels will measure approximately two feet by three feet and will be displayed along newly constructed trails within the permit area. Panels may be upright or may be lower and angled.

Panels will be printed, manufactured, and installed by appropriate and experienced professionals. Immediately following installation, photographs and GPS coordinates of the installed signs will be provided to the City as proof of compliance with this requirement. Should the subject of the panels or signs be Native American culture, then the SLRBMI shall be afforded an opportunity to review and comment on the draft panels, prior to manufacturing.

*Standard Treatment 6: HABS/HAER/HALS-Like Documentation.* The Historic American Building Survey (HABS), Historic American Engineering Record (HAER), and Historic American Landscape Survey (HALS) programs are administered by the NPS, in consultation with the federal agency and SHPO. These programs provide documentation for eligible buildings and structures. For the purpose of these Guidelines, federal agencies, NPS, and SHPO are not involved; however, documentation comparable with this program may be utilized. It should be noted that this documentation does not mitigate certain impacts to CEQA-defined Historical Resources to a less-than-significant level.

In addition to the above-cited standard treatments, under some circumstances, the project applicant may negotiate with the City to develop non-standard treatments tailored to the specific

conditions of a project. Adherence to the relevant General Plan policies, the Historic Preservation Ordinance, and the relevant elements of the Carlsbad Cultural Resource Guidelines would reduce impacts to historical resources. However, these measures do not in all cases require the retention of historical resources, adherence to the Standards, or other actions to prevent impacts to historical resources as defined in *CEQA Guidelines* Section 15064.5(b). Moreover, although the application of the City's Standard Treatments 2 and 6, in addition to unspecified non-standard treatments, would potentially reduce impacts to the maximum extent feasible, legal precedent has established that the loss of historical fabric cannot be readily compensated for by commemorative mitigation.<sup>2</sup> As such, measures to reduce impacts outlined above would not in all cases avoid impacts to historical resources. Therefore, impacts to historical resources would be potentially significant.

### **Mitigation Measures**

No mitigation measures are required because adherence to the relevant General Plan policies, the Historic Preservation Ordinance, and the relevant provisions of the Carlsbad Cultural Resource Guidelines would reduce impacts to the maximum extent feasible. No other feasible mitigation measures are available.

### **Significance After Mitigation**

No feasible mitigation measures are required beyond adherence to applicable General Plan policies, the Historic Preservation Ordinance, and the relevant provisions of the Carlsbad Cultural Resource Guidelines. As explained above, measures to reduce impacts outlined above would not in all cases avoid impacts to historical resources. Therefore, impacts to historical resources would be significant and unavoidable.

<b>Threshold 2:</b> Would the project cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?
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**Impact CUL-2 DEVELOPMENT FACILITATED BY THE PROPOSED PROJECT COULD ADVERSELY AFFECT IDENTIFIED AND PREVIOUSLY UNIDENTIFIED ARCHAEOLOGICAL RESOURCES. HOWEVER, THIS IMPACT WOULD BE LESS THAN SIGNIFICANT WITH ADHERENCE TO THE CARLSBAD CULTURAL RESOURCE GUIDELINES.**

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Although the EIR for the 2015 General Plan found there would be less than significant impacts to archaeological resources, archaeological sites are known to be present in the project area and the vicinity. Therefore, ground-disturbing activities associated with development facilitated by the proposed project have the potential to damage or destroy historic-age or prehistoric archaeological resources that may be present on or below the ground surface, particularly in areas not studied in a cultural resources investigation or when excavation depths exceed those attained previously for past development. Each of the rezoned parcels has the potential to contain archaeological resources. Consequently, damage to or destruction of known or previously unknown archaeological resources could occur because of the proposed project.

The Carlsbad Cultural Resource Guidelines addresses treatment of cultural resources should they be identified as a result of development associated with the proposed project. Therefore, potential impacts to archaeological resources would be less than significant with adherence to the Carlsbad Cultural Resource Guidelines.

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<sup>2</sup> League For Protection of Oakland's Architectural and Historic Resources, Plaintiff and Appellant, v. City of Oakland et al., Montgomery Ward & Co., Inc., et al. No. A074348. First District, Division One. Feb 10, 1997.

## Mitigation Measures

No mitigation measures are required because, like under the 2015 General Plan EIR, impacts would be less than significant without mitigation.

**Threshold 3:** Would the project disturb any human remains, including those interred outside of formal cemeteries?

**Impact CUL-3 GROUND-DISTURBING ACTIVITIES ASSOCIATED WITH DEVELOPMENT UNDER THE PROPOSED PROJECT COULD RESULT IN DAMAGE TO OR DESTRUCTION OF HUMAN BURIALS. HOWEVER, THIS IMPACT WOULD BE LESS THAN SIGNIFICANT THROUGH ADHERENCE TO STATE HEALTH AND SAFETY CODE SECTION 7050.5 AND PUBLIC RESOURCES CODE SECTION 5097.98.**

Human burials outside of formal cemeteries can occur in prehistoric archaeological contexts. While no known burial sites have been identified in the city, excavations during construction activities could have the potential to disturb these resources, which could include Native American burial sites.

The Carlsbad Cultural Resource Guidelines Standard Treatment 11: Post-Review Discoveries section addresses treatment of human remains should they be disturbed as a result of development associated with the project. Moreover, human burials, in addition to being potential archaeological resources, have specific provisions for treatment in PRC Section 5097. The California Health and Safety Code (Section 7050.5, 7051, and 7054) has specific provisions for the protection of human burial remains. Existing regulations address the illegality of interfering with human burial remains, and protect them from disturbance, vandalism, or destruction. They also include established procedures to be implemented if Native American skeletal remains are discovered. PRC Section 5097.98 also addresses the disposition of Native American burials, protects such remains, and provides for the establishment of the NAHC to resolve any related disputes. All development projects are also subject to State of California Health and Safety Code Section 7050.5 which states that, if human remains are unearthed, no further disturbance can occur until the county coroner has made the necessary findings as to the origin and disposition of the remains pursuant to the PRC Section 5097.98. If the remains are determined to be of Native American descent, the coroner has 24 hours to notify the Native American Heritage Commission which will determine and notify a most likely descendant (MLD). The MLD shall complete the inspection of the site and make recommendations to the landowner within 48 hours of being granted access. With adherence to these existing regulations as well as the Carlsbad Cultural Resource Guidelines, the impact to human remains would be less than significant. No mitigation is required.

## Mitigation Measures

No mitigation measures are required because, like under the 2015 General Plan EIR, impacts would be less than significant without mitigation.

**Threshold 4a:** Would the project cause a substantial adverse change in the significance of a Tribal cultural resource as defined in Public Resources Code Section 21074 that is listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code Section 5020.1(k)?

**Threshold 4b:** Would the project cause a substantial adverse change in the significance of a Tribal cultural resource as defined in Public Resources Code Section 21074 that is a resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1?

**Impact CUL-4 DEVELOPMENT FACILITATED BY THE PROPOSED PROJECT COULD ADVERSELY IMPACT TRIBAL CULTURAL RESOURCES. CONSULTATION WITH NATIVE AMERICAN TRIBAL REPRESENTATIVES IS ONGOING. THIS IMPACT WOULD BE LESS THAN SIGNIFICANT WITH ADHERENCE TO THE CARLSBAD CULTURAL RESOURCE GUIDELINES.**

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As part of its tribal cultural resources identification process under AB 52 and SB18, the city sent letters via certified mail to twenty-seven tribal contacts that were identified as traditionally and culturally affiliated with the project area. The Pala Band of Mission Indians, Rincon Band of Lusieno Indians, and San Luis Rey Band of Mission Indians have formally requested consultation and consultation with these tribes is ongoing. Although no specific tribal cultural resources on the rezone sites have been identified during the preparation of this document, tribal cultural resources are known to exist in Carlsbad. Development facilitated by the proposed project has the potential to adversely impact tribal cultural resources. The Carlsbad Cultural Resource Guidelines addresses identification and treatment of tribal cultural resources that may be impacted as a result of development associated with the proposed project. Therefore, potential impacts to tribal cultural resources would be less than significant with adherence to the Carlsbad Cultural Resource Guidelines. No mitigation is required.

**Mitigation Measures**

No mitigation measures are required because, like under the 2015 General Plan EIR, impacts would be less than significant without mitigation.

**d. Cumulative Impacts**

The geographic scope for cumulative cultural resource impacts includes areas in the vicinity Carlsbad, including adjacent unincorporated County land and adjacent incorporated cities. This geographic scope is appropriate for cultural resources because such resources are regionally specific. The geographic scope for cumulative tribal cultural resource impacts includes Luiseño and Kumeyaay/Diegueño traditional territory. This geographic scope is appropriate for tribal cultural resources because tribal cultural resources are regionally specific and determined by the local tribes. Cumulative buildout in this region would have the potential to adversely impact cultural and tribal cultural resources.

It is possible that future cumulative projects would result in impacts to known or unknown historical resources. While impacts to such resources would be addressed on a case-by-case basis and would likely be subject to mitigation measures similar to those imposed for development facilitated by the project, cumulative development may result in direct or indirect impacts to historical resources. As such, cumulative historical impacts would be significant. Development facilitated by the project

would adhere to the provisions of the Carlsbad Cultural Resource Guidelines related to historical resources. However, even after implementation of these guidelines, the proposed project would result in a considerable contribution to this cumulative impact.

Buildout of cumulative projects would result in significant cumulative impacts to unknown archaeological resources. In the event that individual cumulative projects would result in impacts to known or unknown cultural resources, impacts to such resources would be addressed on a case-by-case basis, and would likely be subject to mitigation measures similar to those imposed for development facilitated by the project. As such, cumulative archaeological impacts would be less than significant without mitigation as development facilitated by the project must adhere to the Carlsbad Cultural Resource Guidelines. With adherence to these guidelines, impacts to archaeological resources would be less than significant; therefore, the proposed project would not result in a considerable contribution to this cumulative impact.

Future projects and cumulative projects in the region would involve ground-disturbing activities which could encounter human remains. If human remains are found, the proposed project and cumulative projects would be required to comply with the State of California Health and Safety Code Section 7050.5, as described in Impact CUL-3, above. With adherence to the Carlsbad Cultural Resource Guidelines and existing regulations relating to human remains, cumulative impacts would be less than significant, and the proposed project would not result in a considerable contribution to this cumulative impact.

Cumulative development in the region would disturb areas with the potential to contain tribal cultural resources. Given the potential to damage these unknown tribal cultural resources, cumulative impacts could be significant. Cumulative projects are reviewed separately by the appropriate jurisdiction and undergo environmental review when it is determined that the potential for significant impacts exists. In the event that future cumulative projects would result in impacts to known or unknown tribal cultural resources, impacts to such resources would be addressed on a case-by-case basis, and would be subject to the Carlsbad Cultural Resource Guidelines. With adherence to these guidelines, cumulative impacts would be less than significant, and the proposed project would not result in a considerable contribution to this cumulative impact.

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## 4.5 Geology and Soils

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This section addresses the potential physical environmental effects related to seismic hazards, underlying soil characteristics, slope stability, erosion, and paleontological resources within the City of Carlsbad from implementation of the project.

### 4.5.1 Setting

#### **a. Regional Geology**

Carlsbad is situated in the Peninsular Ranges, the southwestern most province of the 11 major geomorphic provinces<sup>1</sup> in California (California Geological Survey [CGS] 2002). In general, the Peninsular Ranges consist of northwest-southeast trending mountain ranges and faults. More specifically, the City of Carlsbad lies in the Coastal Plain Region of the Peninsular Ranges, which extends from the Pacific Coast to the western foothills of the Peninsular Ranges (County of San Diego 2007). The Coastal Plain Region is underlain by marine and non-marine sedimentary rocks deposited within the last 75 million years overlying a basement consisting of plutonic igneous rocks.

#### **b. Local Geology and Soils**

Carlsbad is within the coastal portion of the Peninsular Ranges Geomorphic Province, a region characterized by northwest-trending structural blocks and intervening fault zones. Typical lithologies in the Peninsular Ranges include a variety of igneous, intrusive rocks associated with the Cretaceous-age (between approximately 65 and 135 million years old) Southern California Batholith (a large igneous intrusive body). In western San Diego County, batholithic rocks are often intruded into Jurassic-age (between approximately 135 and 195 million years old) metavolcanic and/or metasedimentary units, with these basement rocks locally overlain by Tertiary-age (between approximately 2 and 65 million years old) marine and non-marine sedimentary strata. Tertiary rocks in the western portion of the county are associated primarily with a number of sea level advance and retreat cycles over approximately the last 55 million years, including sedimentary units in Carlsbad and vicinity as described below (City of Carlsbad 2014).

Topographically, the Peninsular Ranges Province is composed of generally parallel ranges of steep-sloping hills and mountains separated by alluvial valleys. More recent uplift and erosion has produced the characteristic canyon and mesa topography present today in western San Diego County, as well as the deposition of surficial materials including Quaternary-age (less than approximately two million years old) alluvium, colluvium and topsoil (City of Carlsbad 2014).

The elevation of the city ranges from approximately sea level to 1,000 feet above mean sea level (United States Geological Survey [USGS] 2023). Surficial soils primarily consist of clays, loams, and sands, including but not limited to Altamont clay, Diablo clay, Bonsall loam, Chesterton loam, Cieneba loam, Escondido loam, Exchequer loam, Fallbrook loam, Friant loam, Gaviota loam, Huerhuero loam, Las Posas loam, Carlsbad sand, Corralitos sand, Las Flores sand, Marina sand. The most abundant soil orders<sup>2</sup> include Alfisols, Entisols, Inceptisols, Mollisols, and Vertisols. The soil orders in the Oceanside Quadrangle, in which the city is located, is shown in Figure 4.5-1.

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<sup>1</sup> A geomorphic province is defined as a region of unique topography and geology that is distinguished from other regions based on its landforms and geologic history.

<sup>2</sup> Soil orders represent a grouping of soils with distinct characteristics and ecological significance.

Figure 4.5-1 Soil Orders in Carlsbad



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 Additional data provided by City of Carlsbad, 2022; SSURGO, 2021.

EIR, Geology  
 Fig 4.5-1 Soil Types in Carlsbad



## **c. Geologic and Seismic Hazards**

### **Earthquake Faults**

CGS establishes criteria for classification of faults. There are no active faults that run directly through Carlsbad; however, there are several regional Quaternary faults offshore of Carlsbad (Figure 4.5-2). Quaternary-age faults are less than approximately 2 million years old. Age-undetermined faults are faults where the recency of fault movement has not been determined. Faults can be “age-undetermined” if the fault in question has simply not been studied to determine its recency of movement. Within the framework of the Alquist-Priolo Act (the A-P Act; see discussion in section 4.5.2 below), age-undetermined faults within regulatory Earthquake Fault Zones can be considered Holocene-active (surface displacement within the past 11,700 years) until proven otherwise (CGS 2018).

### **Regional Faults**

There are no active faults that run directly through Carlsbad. Additionally, CGS does not include Carlsbad on its list of cities affected by Alquist–Priolo Earthquake Fault Zones. The Elsinore Fault Zone and Newport-Inglewood-Rose Canyon Fault Zone, the nearest Alquist-Priolo Earthquake Fault Zones, are located approximately 20 miles northeast and 21 miles south, respectively, of Carlsbad. Other faults in the region include the Coronado Bank, La Nacion, Agua Caliente, and San Jacinto. Figure 4.5-2 shows regional faults around Carlsbad.

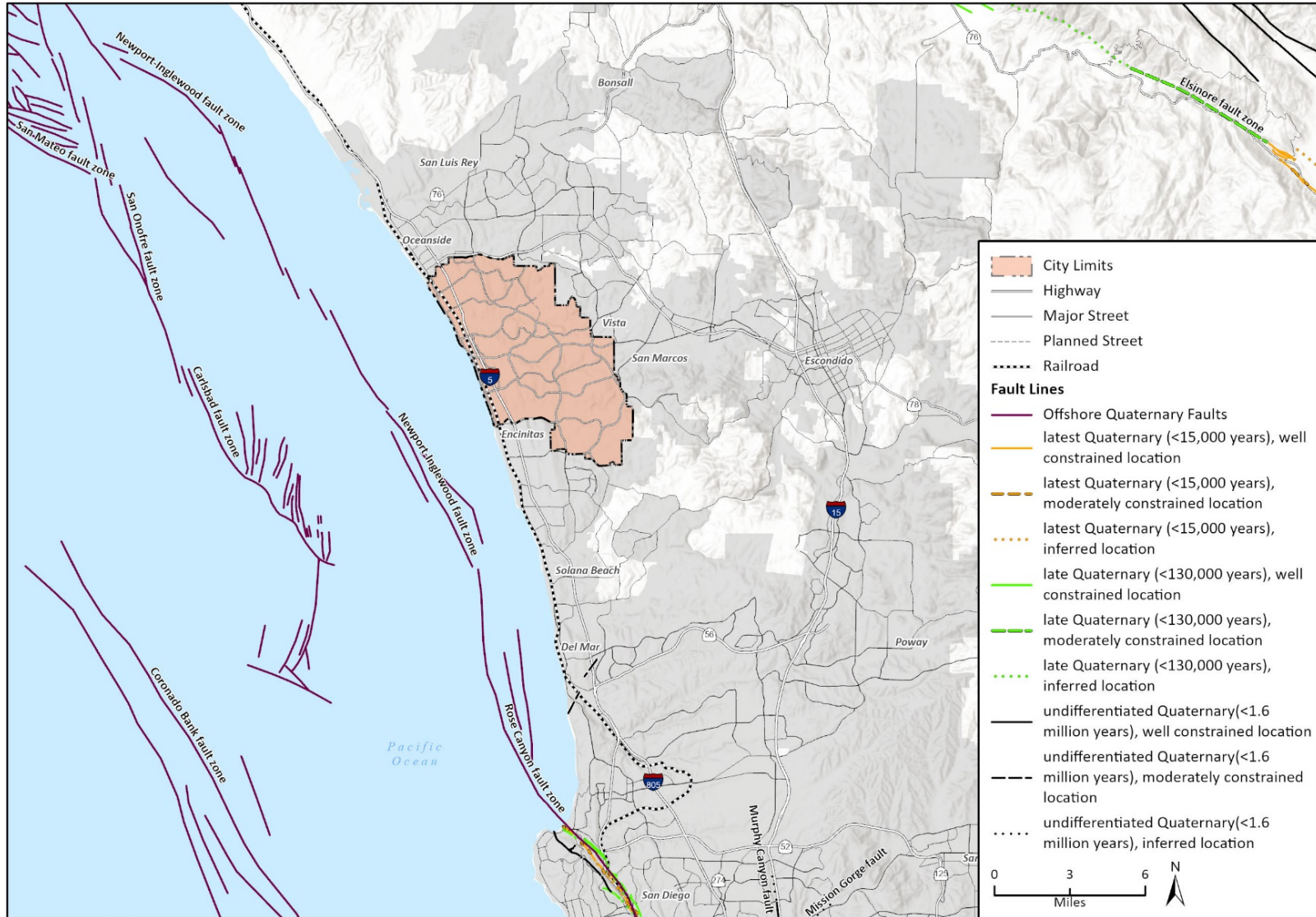
### **Recent Regional Seismic Activity**

Historic documents record that an earthquake centered either on the Rose Canyon or Coronado Bank faults struck San Diego on May 27, 1862, damaging buildings in Old Town San Diego and causing ground rupture near the San Diego River mouth. This earthquake is believed to have had a magnitude of about 6.0 based on descriptions of the damage it caused. The strongest recorded earthquake in the San Diego area was a magnitude of 5.3 on the Richter scale that struck on July 13, 1986, on the Coronado Bank fault, 25 miles offshore of Solana Beach. There have been several moderate earthquakes recorded within the Rose Canyon Fault Zone as well. On June 17, 1985, three earthquakes hit San Diego measuring 3.9, 4.0, and 3.9, respectively, and on October 28, 1986, a stronger earthquake with a magnitude of 4.7 occurred (City of Carlsbad 2014).

### **Surface Rupture**

Surface rupture represents the breakage of ground along the surface trace of a fault, which is caused by the intersection of the fault surface area ruptured in an earthquake with the Earth's surface. Fault displacement occurs when material on one side of a fault moves relative to the material on the other side of the fault. This can have particularly adverse consequences when buildings are located within the rupture zone. It is not feasible, from a structural or economic perspective, to design and build structures that can accommodate rapid displacement involved with surface rupture. Amounts of surface displacement can range from a few inches to tens of feet during a rupture event.

Figure 4.5-2 Regional Faults near Carlsbad



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 Additional data provided by City of Carlsbad, 2022; USGS, 2020.

EIR Geology  
 Fig 4.5-2 Regional Faults near Carlsbad

The A-P Act regulates development near active faults to mitigate the hazard of surface fault rupture. Essentially, this Act contains two requirements: (1) it prohibits the location of most structures for human occupancy across the trace of active faults; and (2) it establishes Earthquake Fault Zones and requires geologic/seismic studies of all proposed developments within 1,000 feet of the zone. The Earthquake Fault Zones are delineated and defined by the State Geologist and identify areas where potential surface rupture along a fault could occur. There are no Alquist-Priolo Earthquake Fault Zones in Carlsbad, as described above.

## **Ground Shaking**

Fault activity has the potential to result in ground shaking, which can be of varying intensity depending on the intensity of earthquake activity, proximity to that activity, and local soils and geology conditions. Carlsbad lies in a seismically active region of Southern California. The type and magnitude of seismic impacts are dependent on the distance to the epicenter of the earthquake, the nature of the fault on which the earthquake is located, and the intensity and magnitude of the seismic event. Although located near fault lines, Carlsbad lies within a medium-low probabilistic peak ground acceleration zone, or an area of medium-low ground shaking potential (City of Carlsbad 2014).

The major cause of structural damage from earthquakes is ground shaking. The intensity of ground motion expected at a particular site depends upon the magnitude of the earthquake, the distance to the epicenter, and the geology of the area between the epicenter and the property. Greater movement can be expected at sites located on poorly consolidated material, such as alluvium, within close proximity to the causative fault, or in response to a seismic event of great magnitude.

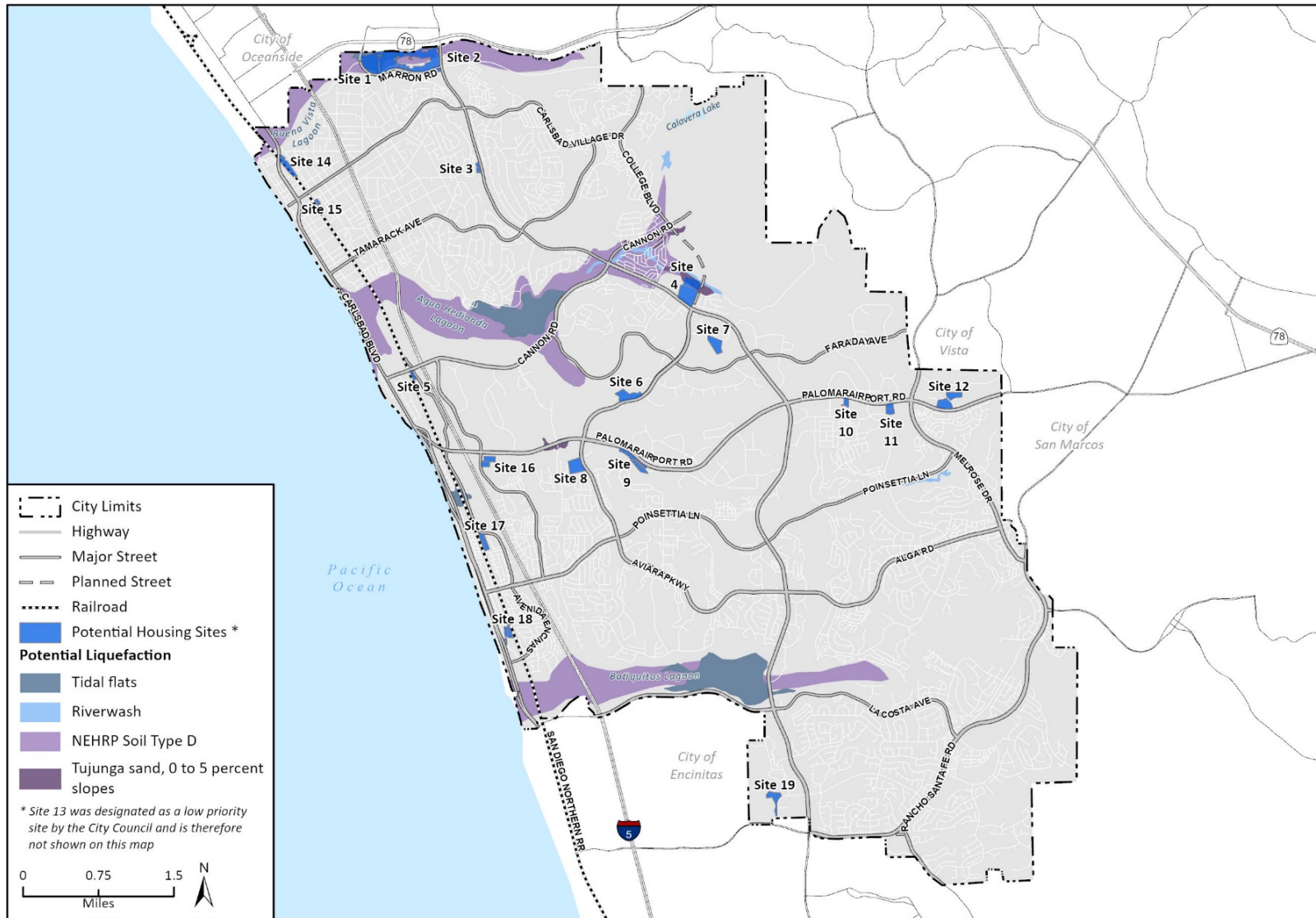
### **d. Secondary Seismic Effects**

Potential hazards resulting from the secondary effects of ground-shaking include liquefaction and earthquake-induced landslides. Soil-disturbing activities such as grading, soil compaction, and cut and fill activities can create or exacerbate conditions that increase the chance of such effects during or independent of seismic activity.

### **Liquefaction and Collapse**

Liquefaction is a phenomenon that occurs in soils where granular sediment or fill material either contain, or lie immediately above, high moisture content. Ground shaking or other rapid loading can reduce the strength and stiffness of a soil and transform it momentarily from a solid state to a liquid state. Collapsible soils are unsaturated soils that experience a radical rearrangement of particles and a decrease in volume upon wetting, additional loading, or both, similar to liquefiable soils (United States Bureau of Reclamation 1992). Buildings in areas that experience liquefaction may suddenly sink or suffer major structural damage. Most of Carlsbad does not have liquefaction potential. However, three east-west bands in the northern, central, and southern portions of the city have liquefaction potential primarily from National Earthquake Hazards Reduction Program (NEHRP) Soil Type D, as well as from tidal flats, riverwash, and Tujunga sand. Figure 4.5-3 illustrates liquefaction potential throughout Carlsbad.

Figure 4.5-3 Liquefaction Risk in Carlsbad



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 Additional data provided by City of Carlsbad, 2022.

EIR Geology  
 Fig 4.5-3 Liquefaction in Carlsbad

## **Landslides and Slope Stability**

Seismic ground shaking can also result in landslides and other slope instability. Landslides occur when slopes become unstable, and masses of earth material move downslope. Landslides are usually rapid events, often triggered during periods of rainfall or by earthquakes. Mudslides and slumps are a shallower type of slope failure. They typically affect the upper soil horizons rather than bedrock features. Usually, mudslides and slumps occur during or soon after periods of rainfall, but they can be triggered by seismic shaking. As shown in Figure 4.5-4, the city has mixed levels of landslide susceptibility.

### **e. Other Geologic Hazards**

Some of the geotechnical hazards discussed above, such as landslides and slope instability, can be triggered by or occur independently of seismic events. Others, such as subsidence, expansive soils, lateral spreading, and soil erosion occur independently of seismic events, and are discussed here.

#### **Subsidence**

Subsidence refers to the sinking of a large area of ground surface in which material is displaced vertically with little or no horizontal movement. Subsidence originates at great depths below the surface when subsurface pressure is reduced by the natural loss or human withdrawal of fluids (e.g. groundwater, natural gas, or oil), or can occur due to soil compression. Soils in San Diego County are generally granitic and there have been no documented incidents of subsidence in the county or the city (City of Carlsbad 2014).

#### **Expansive Soils**

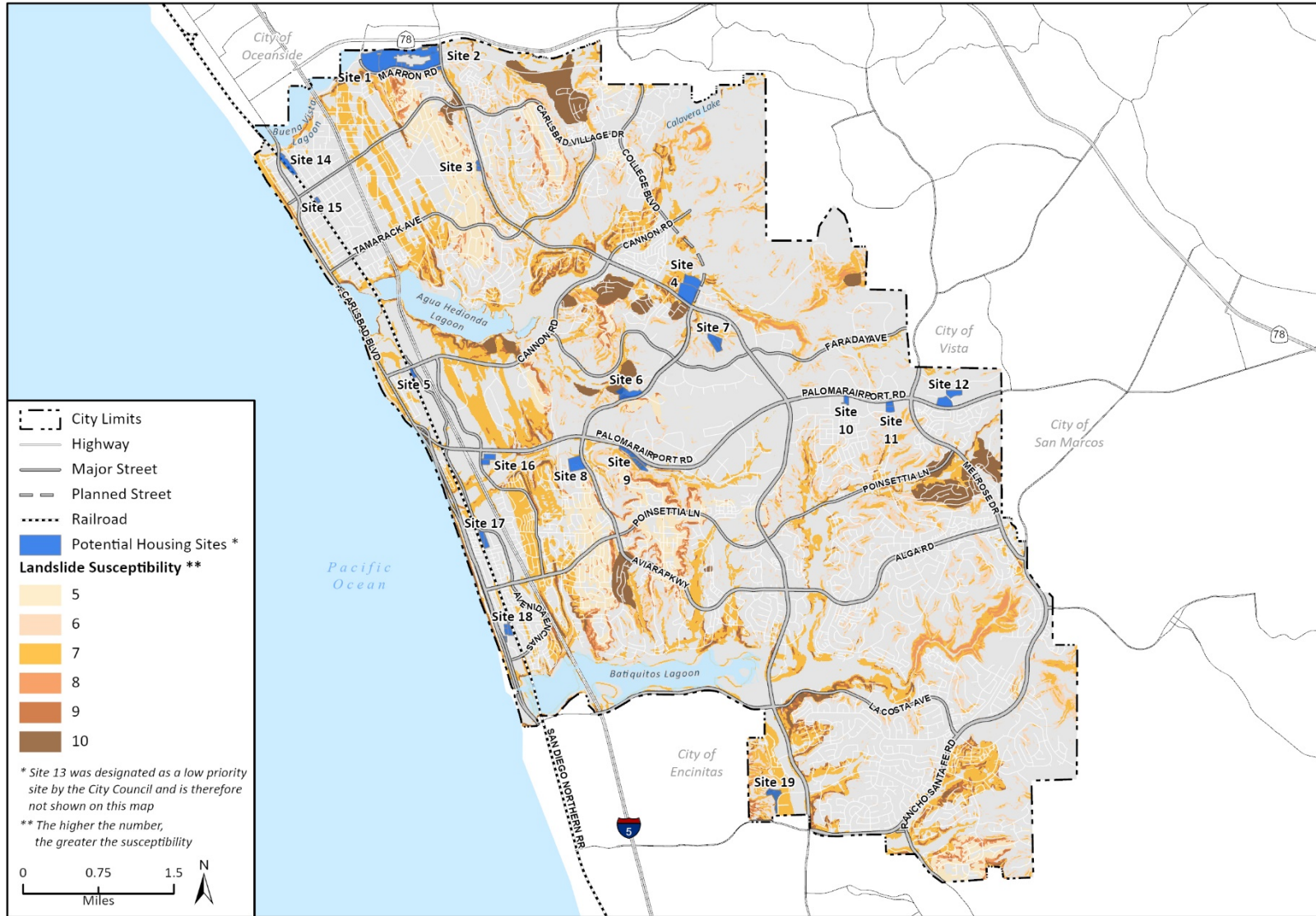
Expansive soils swell with increases in moisture content and shrink with decreases in moisture content. These soils usually contain high clay content. Foundations for structures constructed on expansive soils require special design considerations. Because expansive soils can expand when wet and shrink when dry, they can cause foundations, basement walls and floors to crack, causing substantial structural damage. As such, structural failure due to expansive soils near the ground surface is a potential hazard. Most of the soils in Carlsbad have low shrink-swell potential (City of Carlsbad 2014).

#### **Lateral Spreading**

Lateral spreading is a type of liquefaction induced ground failure that can occur on gentle slopes or near free-faces, such as river channels, which results in the horizontal displacement of soil (United States Geological Survey 2015). Lateral spreading can be considerably damaging to foundations, bridges, roadways, pipelines, and other structures. As discussed above under *Liquefaction*, most of Carlsbad does not have liquefaction potential and therefore does not have lateral spreading potential.



Figure 4.5-4 Landslide Susceptibility in Carlsbad



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 Additional data provided by City of Carlsbad, 2022; CGS, Map Sheet 58, 2018.

EIR, Geology  
 Fig 4.5-4 Landslide Susceptibility in Carlsbad

## **Soil Erosion**

Erosion refers to the removal of soil by water or wind. Factors that influence erosion potential include the amount of rainfall and wind, the length and steepness of the slope, and the amount and type of vegetative cover. Depending on how well protected the soil is from these forces; the erosion process can be very slow or rapid. Removal of natural or manufacture protection can result in substantial soil erosion and excessive sedimentation and pollution problems in streams, lakes, and estuaries.

Within Carlsbad, erosion from water, wind, and agricultural/development tillage, as well as coastal erosion from storms and rising sea-levels have the potential to threaten the city's water quality, economic viability, and supply of natural resources. In terms of coastal erosion, beaches are the first line of defense against ocean waves, providing a buffer between the waves and coastal properties. When beaches are cut back during storms, they progressively lose their buffering ability, making further erosion more likely. The most direct approach to reduce or avoid coastal erosion is to limit the amount of development in the areas likely to be affected by coastal erosion. In addition, the city has identified specific areas where additional protection efforts are necessary, including drainage/erosion, slope stability, and seismic hazards; within the Coastal Zone, the city has designated these areas as part of the Coastal Resource Protection Overlay Zone (City of Carlsbad 2014).

### **f. Paleontological Resources**

Paleontological resources, or fossils, are the remains and traces of prehistoric life. Fossils are typically preserved in layered sedimentary rocks and the distribution of fossils is a result of the sedimentary history of the geologic units within which they occur. Fossils occur in a non-continuous and often unpredictable distribution within some sedimentary units, and the potential for fossils to occur within sedimentary units depends on several factors. Although it is not possible to determine whether a fossil will occur in any specific location, it is possible to evaluate the potential for geologic units to contain scientifically significant paleontological resources, and therefore evaluate the potential for impacts to those resources and provide mitigation for paleontological resources if they do occur during construction.

The *Carlsbad Tribal, Cultural, and Paleontological Resources Guidelines* (City of Carlsbad 2017; henceforth referred to as "Carlsbad Cultural Resource Guidelines") adopted by the City in 2017 provide guidelines for managing paleontological resources. These guidelines provide a paleontological sensitivity rating for each of the geologic units mapped within the city by Kennedy and Tan (2007). These geologic units and their paleontological sensitivities are listed in Table 4.5-1.

There are several known geological formations within Carlsbad, including the Lusardi Formation of the Cretaceous Age, as well as the Santiago Formation and Del Mar Formation of the Tertiary Age. These formations include a sequence of sedimentary rock units that record portions of the last 140 million years of earth history. The Lusardi Formation consistently produces significant fossils and consists of sandstones and conglomerate that were deposited in a shallow sea that covered the region approximately 74 million years ago (City of Carlsbad 2014).

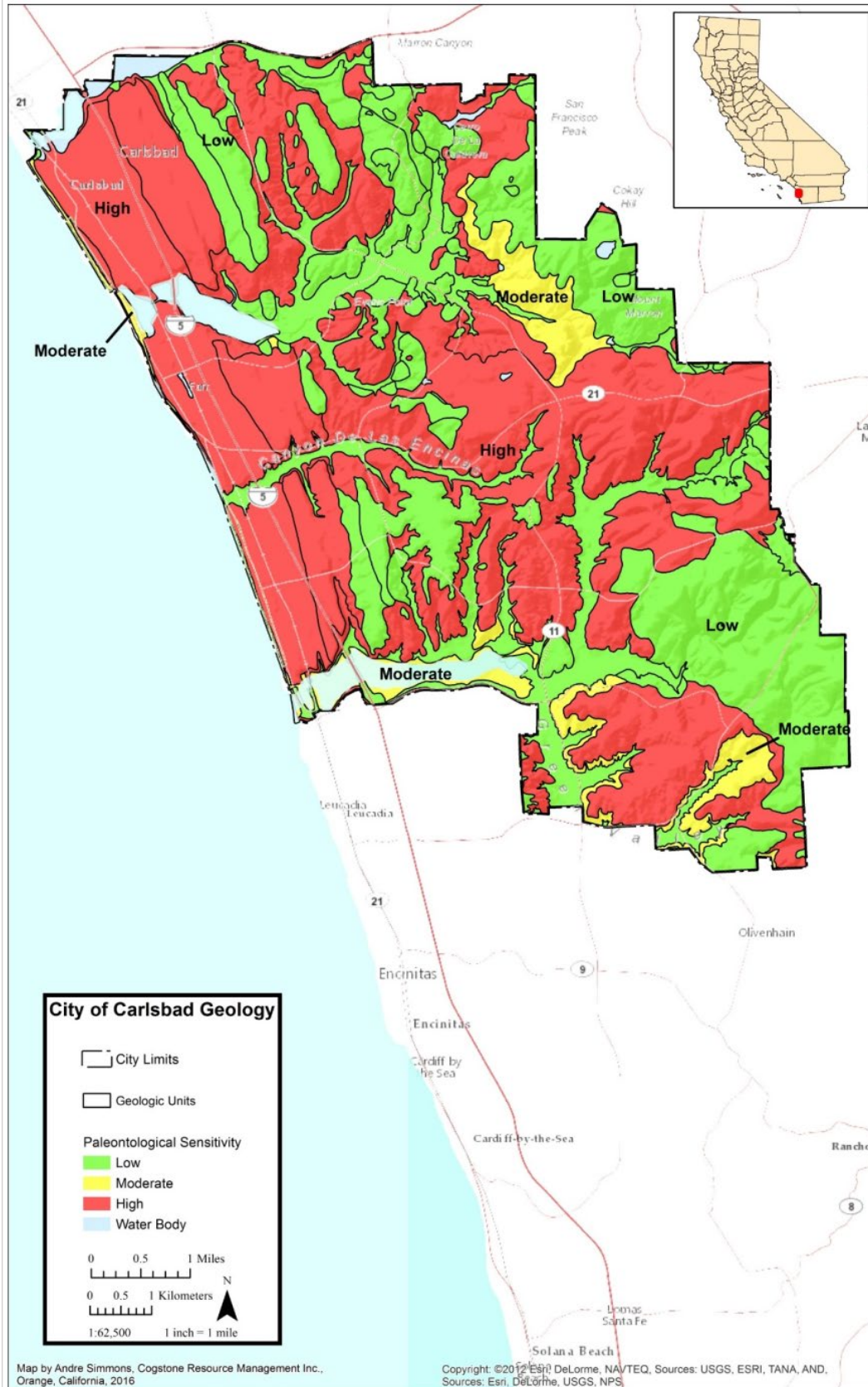
**Table 4.5-1 Geologic Units within City of Carlsbad and their Paleontological Sensitivity**

<b>Geologic Unit</b>	<b>Age</b>	<b>Paleontological Sensitivity</b>	<b>Sites</b>
alluvial floodplain deposits	Late Holocene	Low	1, 2, 4
marine beach deposits	Late Holocene	Moderate	None
paralic estuarine deposits	Late Holocene	Moderate	None
young alluvial flood-plain deposits	Holocene and late Pleistocene	Low	8, 9
landslide deposits	Holocene and Pleistocene	Low	6
undivided old alluvial flood-plain deposits	late to middle Pleistocene	Low	4
old alluvial flood-plain deposits, unit 6	late to middle Pleistocene	Low	None
old alluvial flood-plain deposits, unit 5	late to middle Pleistocene	Low	None
old paralic deposits, units 7-8	late to middle Pleistocene	High	None
old paralic deposits, units 6-7	late to middle Pleistocene	High	5, 14-18
old paralic deposits, unit 6	late to middle Pleistocene	Moderate	None
old paralic deposits, units 2-4	late to middle Pleistocene	High	None
undivided very old alluvial flood-plain deposits	middle to early Pleistocene	Low	None
very old paralic deposits, undivided	middle to early Pleistocene	Low	None
very old paralic deposits, unit 13	middle to early Pleistocene	Low	1
very old paralic deposits, unit 12	middle to early Pleistocene	Low	3
very old paralic deposits, units 10-11	middle to early Pleistocene	Low	None
very old paralic deposits, unit 10	middle to early Pleistocene	Low	6
Dacite Stock	Miocene	Low	None
Delmar Formation	middle Eocene	Moderate	None
Santiago Formation	middle Eocene	High	1-3, 6, 8-12
Torrey Sandstone	middle Eocene	Low	None
Point Loma Formation	Late Cretaceous	High	4, 7
Lusardi Formation	Late Cretaceous	Moderate	None
undivided tonalite	mid-Cretaceous	Low	None
Leucogranodiorite of Lake Hodges	mid-Cretaceous	Low	None
undivided metasedimentary and metavolcanic rocks	Mesozoic	Low	None

Source: City of Carlsbad 2017



Figure 4.5-5 Paleontological Sensitivity in Carlsbad



Carlsbad is located in the *Encinitas, San Luis Rey, San Marcos, and Rancho Santa Fe*, U.S. Geological Survey 7.5-minute topographic quadrangles. The geology of the region was mapped by Kennedy and Tan (2007), who identified the following geologic units within the city:

- modern beach deposits
- modern to early Pleistocene-aged alluvial floodplain deposits (subdivided into various units)
- modern to early Pleistocene-aged paralic deposits (subdivided into various units)
- Holocene to Pleistocene-aged landslide deposits
- dacite stock
- Delmar Formation
- Santiago Formation
- Torrey Sandstone
- Point Loma Formation
- Lusardi Formation
- undivided Cretaceous-aged tonalite
- leucogranodiorite of Lake Hodges
- undivided Mesozoic-aged metasedimentary and metavolcanic rocks

Areas of high paleontological sensitivity are shown in Figure 4.5-5. As shown therein, much of Carlsbad is within an area of high paleontological sensitivity, which consists of landforms that typically contain archaeological sites or for which there is a higher concentration of previously recorded resources. The high potential units in Carlsbad are the Point Loma Formation and the Santiago Formation (City of Carlsbad 2017).

## 4.5.2 Regulatory Setting

### a. Federal

#### **Clean Water Act**

Congress enacted the Clean Water Act (CWA), formerly the Federal Water Pollution Control Act of 1972, with the intent of restoring and maintaining the chemical, physical, and biological integrity of the waters of the United States. The CWA requires states to set standards to protect, maintain, and restore water quality through the regulation of point source and non-point source discharges to surface water. Those discharges are regulated by the National Pollutant Discharge Elimination System (NPDES) permit process (CWA Section 402). NPDES permitting authority is administered by the California State Water Resources Control Board (SWRCB) and its nine Regional Water Quality Control Boards (RWQCBs).

#### **Disaster Mitigation Act of 2000**

Congress passed the Disaster Mitigation Act of 2000 to amend the Robert T. Stafford Disaster Relief and Emergency Assistance Act by invoking new and revitalized approaches to mitigation planning. Section 322 of the Act emphasized the need for state and local government entities to closely coordinate on mitigation planning activities, and makes the development of a hazard mitigation plan a specific eligibility requirement for any local government applying for federal mitigation grant funds. Communities with an adopted and federally-approved hazard mitigation plan thereby

become pre-positioned and more apt to receive available mitigation funds before and after the next declared disaster.

To implement the new Stafford Act provisions, the Federal Emergency Management Agency (FEMA) published requirements and procedures for local hazard mitigation plans in the Code of Federal Regulations (CFR) at Title 44, Chapter 1, Part 201.6. These regulations specify minimum standards for developing, updating, and submitting local hazard mitigation plans for FEMA review and approval at least once every five years.

## **b. State**

### **California Building Code**

The California Building Code (CBC), Title 24, Part 2 provides building codes and standards for the design and construction of structures in California. The 2022 CBC is based on the 2015 International Building Code with the addition of more extensive structural seismic provisions. Chapter 16 of the CBC contains definitions of seismic sources and the procedure used to calculate seismic forces on structures. The CBC requires addressing soil-related hazards, such as treating hazardous soil conditions involving removal, proper fill selection, and compaction. In cases where soil remediation is not feasible, the CBC requires structural reinforcement of foundations to resist the forces of expansive soils.

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

The A-P Act of 1972 was passed into law following the destructive February 9, 1971, magnitude 6.6 San Fernando earthquake. The A-P Act provides a mechanism for reducing losses from surface fault rupture on a statewide basis. The intent of the A-P Act is to ensure public safety by prohibiting the siting of most structures for human occupancy across traces of active faults that constitute a potential hazard to structures from surface faulting or fault creep. This A-P Act groups faults into categories of active, potentially active, and inactive. Historic and Holocene age faults are considered active, Late Quaternary and Quaternary age faults are considered potentially active, and pre-Quaternary age faults are considered inactive.

### **Seismic Hazards Mapping Act**

The Seismic Hazards Mapping Act (the Act) of 1990 was passed into law following the destructive October 17, 1989 M6.9 Loma Prieta earthquake. The Act directs the CGS to delineate Seismic Hazard Zones. The purpose of the Act is to reduce the threat to public health and safety and to minimize the loss of life and property by identifying and mitigating seismic hazards. Cities, counties, and State agencies are directed to use seismic hazard zone maps developed by CGS in their land-use planning and permitting processes. The Act requires that site-specific geotechnical investigations be performed prior to permitting most urban development projects within seismic hazard zones.

### **California Public Resources Code**

Section 5097.5 of the Public Resources Code states:

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

permission of the public agency having jurisdiction over such lands. Violation of this section is a misdemeanor.

Here “public lands” means those owned by, or under the jurisdiction of, the state or any city, county, district, authority, or public corporation, or any agency thereof. Consequently, public agencies are required to comply with Public Resources Code Section 5097.5 for their own activities, including construction and maintenance, and for permit actions (e.g., encroachment permits) undertaken by others.

### **c. Regional and Local**

#### **San Diego County Multi-Jurisdictional Hazard Mitigation Plan**

The 2023 San Diego County Multi-Jurisdictional Hazard Mitigation Plan (MJHMP) was approved by the San Diego County Board of Supervisors in February 2023 as an update to the 2018 MJHMP. However, the 2023 MJHMP is still pending final approval from the Federal Emergency Management Agency (FEMA). The MJHMP identifies risks and ways to minimize damage by natural and human-caused disasters. It was prepared to comply with the Disaster Mitigation Act of 2000 to increase disaster planning funding, and is intended to educate the public, help serve as a decision-making tool, supplement and enhance local policies regarding disaster planning, and improve multi-jurisdiction coordination. Topics related to geology, soils, and seismicity are addressed in the MJHMP, including earthquake, liquefaction, and rain-induced landslide.

The MJHMP identifies wildfire, earthquakes, hazardous materials, flooding, and severe weather as the top five hazards in Carlsbad due to the potential loss of life, injuries, and damage to property, as well as the significance in the disruption of services (San Diego County 2023). After FEMA approval and local adoption, the annexes to the MJHMP for each city within the county will be updated. Pending those approvals, the 2018 MJHMP identifies goals for hazard mitigation in Carlsbad, including “reducing the possibility of damage and losses to existing assets, including people, critical facilities/infrastructure, and public facilities due to earthquakes.” Various actions are outlined in the MJHMP to assist the city in reaching this goal (San Diego County 2018).

#### **Carlsbad General Plan**

The following General Plan Arts, History, Culture, and Education Element policies are related to paleontological resources:<sup>3</sup>

- Policy 7-P.7** Implement the City of Carlsbad Cultural Resource Guidelines to avoid or substantially reduce impacts to archaeological and paleontological resources.
- Policy 7-P.8** During construction of specific development projects, require monitoring of grading, ground-disturbing, and other major earthmoving activities in previously undisturbed areas or in areas with known archaeological or paleontological resources by a qualified professional, as well as a tribal monitor during activities in areas with cultural resources of interest to local Native American tribes. Both the qualified professional and tribal monitor shall observe grading, ground disturbing, and other earth-moving activities.

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<sup>3</sup> The current Carlsbad General Plan, adopted in 2015, lists several policies related to geology and soils in the Public Safety Element. The existing Public Safety Element policies would be replaced by the updated Public Safety Element policies as part of this project; therefore, policies from the 2015 General Plan that are being removed as part of the Public Safety Element Update are not included in this section.

- Policy 7-P.9** Ensure that treatment of any cultural resources discovered during site grading complies with the City of Carlsbad Cultural Resource Guidelines. Determination of the significance of the cultural resource(s) and development and implementation of any data recovery program shall be conducted in consultation with interested Native American tribes. All Native American human remains and associated grave goods shall be returned to their most likely descendent and repatriated. The final disposition of artifacts not directly associated with Native American graves shall be negotiated during consultation with interested tribes; if the artifact is not accepted by Native American tribes, it shall be offered to an institution staffed by qualified professionals, as may be determined by the City Planner. Artifacts include material recovered from all phases of work, including the initial survey, testing, indexing, data recovery, and monitoring.
- Policy 7-P.10** Require consultation with the appropriate organizations and individuals (e.g., Information Centers of the California Historical Resources Information Systems [CHRIS], the Native American Heritage Commission [NAHC], and Native American groups and individuals) to minimize potential impacts to cultural resources that may occur as a result of a proposed project.
- Policy 7-P.11** Prior to occupancy of any buildings, a cultural resource monitoring report identifying all materials recovered shall be submitted to the City Planner.

## **City of Carlsbad Municipal Code**

### *Building Code*

The City Building Code (Carlsbad Municipal Code [CMC] Title 18) is intended to regulate the construction of applicable facilities and encompasses (and formally adopts) associated elements of the CBC (Title 24, Part 2, Volumes 1 and 2) and the California Building Standards Code. Specifically, this includes guidelines related to “regulating the erection, construction, enlargement, alteration, repair, moving, removal, demolition, conversion, occupancy, equipment, use, height, area, and maintenance of all buildings or structures in the city of Carlsbad...”

### *Grading and Erosion Control*

Chapter 15.16 of the CMC establishes minimum requirements for grading and dictates that a grading permit is required for any grading. An application for a grading permit must include but is not limited to submittal of grading plans, engineering calculations, a soils investigation, and a geotechnical report. The Grading Ordinance is intended to facilitate appropriate planning, design, and construction of development within the city, while ensuring compatibility with associated physical conditions, environmental resources and legal/regulatory requirements. The grading permit requires a stormwater maintenance program, construction stormwater pollution prevention plan, and other such documentation and information as may be necessary to demonstrate that the grading work will be carried out in substantial compliance with all city codes and standards, and the requirements of the city’s Landscape Manual.

### *Septic Tank Systems*

Chapter 13.20 of the CMC governs the installation and construction of septic tank systems within the city. Septic tank systems are not permitted unless the public sewer system is not adjacent to the proposed development, or the utilities director determines that extension of the public sewer

system is not feasible; or the sewer moratorium pursuant to Section 18.05.020 of this code is in effect and none of the exceptions of that section are applicable. All septic tank systems that are permitted are required to meet all requirements of the CMC as well as Chapter 3 of Division 8 of Title 6 of San Diego County Code of Regulatory Ordinances.

## **City of Carlsbad Landscape Manual**

The City of Carlsbad adopted its Landscape Manual in February 2016 which outlines policies and requirements for landscaping and provides guidance for the implementation of CMC Chapter 18.50, Water Efficient Landscape Ordinance. Policies within the Landscape Manual are related to sustainability, water conservation, planting, irrigation, streetscape, fire protection, and soil revegetation or erosion control (City of Carlsbad 2016).

## **Technical Guidelines for Geotechnical Reports**

The city's *Geotechnical Report Guidelines* identify specific requirements for various levels of geotechnical evaluation, including reconnaissance studies, preliminary geotechnical investigation reports, and as-graded geotechnical reports. Guidelines for all of the noted reports include requirements such as literature review; field investigation/mapping; descriptions of geologic, seismic, and engineering conditions; and conclusions/recommendations to identify potential issues and related mitigation requirements, and to ensure conformance with applicable regulations and standards (City of Carlsbad 1993).

### 4.5.3 Impact Analysis

#### **a. Methodology and Significance Thresholds**

##### **Significance Thresholds**

Based on Appendix G of the *CEQA Guidelines* a project may be deemed to have a significant impact on geology and soils if it would:

1. Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:
  - a. 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;
  - b. Strong seismic ground shaking;
  - c. Seismic-related ground failure, including liquefaction; or
  - d. Landslides;
2. Result in substantial soil erosion or the loss of topsoil;
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;
4. Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property;
5. Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater; or

6. Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature.

## **Methodology**

This section describes the potential environmental impacts of the project relevant to geology and soils. The impact analysis is based on an assessment of baseline conditions for the area, including topography, geologic and soil conditions, and seismic hazards, as described above under Subsection 4.5.1, *Setting*. This analysis identifies potential impacts based on the predicted interaction between the affected environment and construction, operation, and maintenance activities related to development under the proposed project. This section describes impacts in terms of location, context, duration, and intensity, and recommends mitigation measures, when necessary, to avoid or minimize impacts.

### *Paleontological Sensitivity*

Paleontological sensitivity refers to the potential for a geologic unit to produce scientifically significant fossils. Direct impacts to paleontological resources occur when earthwork activities, such as grading or trenching, cut into the geologic deposits within which fossils are buried and physically destroy the fossils. Sensitivity is determined by rock type, history of the geologic unit in producing significant fossils, and fossil localities recorded from that unit. Paleontological sensitivity is derived from the known fossil data collected from the entire geologic unit, not just from a specific survey.

The Carlsbad Cultural Resource Guidelines (City of Carlsbad 2017) assigned paleontological sensitivity ratings to each of the geologic units in the City of Carlsbad based on previous fossil collections. Geologic units can be assigned high, moderate, or low, paleontological sensitivities. High-sensitivity geologic units consist of those containing localities that have produced significant paleontological resources. Moderate-sensitivity geologic units are those that have produced a few fossil localities or represent depositional environments that have a high likelihood of producing fossils. Low-sensitivity geologic units are those that are unlikely to produce fossils due to their young age, high-energy depositional environment, or nature of their formation (i.e., metamorphic or igneous rocks). Development within areas of high paleontological sensitivity may be likely to result in impacts to paleontological resources.

### **b. Prior Environmental Analysis**

The 2015 General Plan EIR determined that impacts to geology, soils, and seismicity would be less than significant for adverse effects related to rupture of a known fault, strong ground shaking, seismic-related ground failure, or landslides; soil erosion; landslide, lateral spreading, subsidence, liquefaction, or collapse; locating development on expansive soils; and installing septic tanks and alternative waste water disposal systems in expansive soils (Section 3.5, Soils, Geology, and Seismicity: 3.5-15 through 3.5-22). It further stated that individual development projects would be subject to project-specific development and planning review, including adherence to standards for geology, soils, and seismicity impacts. The 2015 General Plan EIR analyzed impacts associated with paleontological resources in Section 3.7, Historical, Archaeological, and Paleontological Resources and determined that impacts to paleontological resources would be less than significant with compliance with General Plan policies to protect such resources.

The proposed project involves land use changes to encourage development on 18 rezone sites beyond what was anticipated in the 2015 General Plan EIR and could therefore result in new

impacts related to geology and soils. Therefore, all the CEQA checklist items listed above under Methodology and Significance Thresholds are addressed in this analysis.

### **c. Project Impacts and Mitigation Measures**

Some components associated with the proposed project, including updates to the Local Coastal Plan and Master and Specific Plans for consistency between the city’s planning documents, in and of themselves would not result in physical changes to the environment such that impacts to geology and soils would occur. Therefore, this analysis focuses on impacts associated with implementation of the rezone program which would facilitate the development of 18 rezone sites listed in Table 2-4 in Section 2, *Project Description*, as well as updates to the Public Safety Element which includes policies related to geology and soils.

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

**Impact GEO-1 SIMILAR TO THE DEVELOPMENT ANALYZED IN THE 2015 GENERAL PLAN EIR, DEVELOPMENT FACILITATED BY THE PROPOSED PROJECT WOULD NOT BE SUBJECT TO RUPTURE OF A KNOWN EARTHQUAKE FAULT. THIS IMPACT WOULD REMAIN LESS THAN SIGNIFICANT.**

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There are no Alquist Priolo Earthquake Fault Zones in Carlsbad. As shown in Figure 4.5-2, there are no other known faults in Carlsbad. As such, development facilitated by the project would not directly or indirectly cause substantial adverse effects involving rupture of a known earthquake fault. Therefore, impacts related to rupture of a known earthquake fault would remain less than significant, as concluded in the 2015 General Plan EIR.

### **Mitigation Measures**

No mitigation measures are required because, like under the 2015 General Plan EIR, impacts would be less than significant without mitigation.



- Threshold 2:** Would the project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving strong seismic ground shaking?
- Threshold 3:** Would the project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving seismic-related ground failure, including liquefaction?
- Threshold 4:** Would the project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving landslides?

**Impact GEO-2 SIMILAR TO THE DEVELOPMENT ANALYZED IN THE 2015 GENERAL PLAN EIR, DEVELOPMENT FACILITATED BY THE PROJECT COULD BE LOCATED IN AREAS THAT WOULD BE EXPOSED TO SEISMIC EVENTS, INCLUDING GROUND SHAKING, LIQUEFACTION, AND LANDSLIDES. COMPLIANCE WITH THE CALIFORNIA BUILDING CODE AND CARLSBAD MUNICIPAL CODE WOULD REDUCE GROUND SHAKING, LIQUEFACTION, AND LANDSLIDE HAZARDS. WITH REQUIRED ADHERENCE TO EXISTING POLICIES AND REGULATIONS THAT REQUIRE GEOLOGIC HAZARD INVESTIGATIONS WHERE WARRANTED, CONTROL SITING OF DEVELOPMENT, AND REQUIREMENT OF SAFE CONSTRUCTION PRACTICES, IMPACTS WOULD REMAIN LESS THAN SIGNIFICANT.**

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Development facilitated by the project would potentially expose a larger number of residents to the effects of seismic ground shaking, liquefaction, and landslides from local and regional earthquakes. The 18 sites that would be rezoned under the proposed project are subject to ground shaking, liquefaction, and landslides. Specifically, sites in the north of the city (Sites 1, 2, and 4) are subject to liquefaction due to the presence of river wash, tidal flats, or other soil hazards, and most sites overlap with areas known to be subject to varying degrees of landslide potential. Development facilitated by the project would be required to be built to current seismic standards, including but not limited to the CBC and CMC, that could better withstand the adverse effects of strong ground shaking than existing development.

In addition to compliance with mandatory CBC requirements as codified in CMC Title 18, CMC Chapter 15.16 identifies that a project applicant must prepare a geotechnical investigation prior to approval of a grading permit. Additionally, the city sets forth guidelines for geotechnical reports, as described under *Regulatory Setting*. Compliance with provisions of CMC Chapter 15.16 and Title 18 would reduce potential impacts related to seismic hazards of individual development projects facilitated by the project.

Additionally, policies 6-P.20 through 6-P.31 of the Public Safety Element Update, listed below, would further reduce impacts of strong seismic ground shaking, liquefaction, and landslides, as these policies would require geotechnical investigations and reports for development in areas susceptible to geologic and soil hazards, review of grading and development plans, and incorporation of design features that minimize potential for seismic damage.

- Policy 6-P.20** Allow for consideration of seismic and geologic hazards at the earliest possible point in the development process, preferably before comprehensive engineering work has commenced.
- Policy 6-P.21** Maintain geotechnical report guidelines identifying specific requirements for various levels of geotechnical evaluation, including reconnaissance studies, preliminary geotechnical investigation reports, and as-graded geotechnical reports.
- Policy 6-P.22** Use information in Figure 6-4 as a generalized guideline for planning purposes and in determining the type and extent of geotechnical report to be required for a

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proposed development project. When a geotechnical report is required, require submission of the report and demonstration that a project conforms to all mitigation measures recommended in the report prior to city approval of the proposed development (as required by state law).

- Policy 6-P.23** Require a geotechnical investigation and report of all sites proposed for development in areas where geologic conditions or soil types are susceptible to liquefaction. Also require demonstration that a project conforms to all mitigation measures recommended in the geotechnical report prior to city approval of the proposed development (as required by state law).
- Policy 6-P.24** Prohibit location of critical structures directly across known earthquake faults unless a geotechnical and/or seismic investigation is performed to show that the earthquake fault is neither active nor potentially active.
- Policy 6-P.25** Require applicants to conduct detailed geologic and seismic investigations at sites where the construction of critical structures (high-occupancy structures and those that must remain in operation during emergencies) and structures over four stories are under consideration.
- Policy 6-P.26** In accordance with California state law, deny subdivision maps if a project site is not physically suitable for either the type or density of a proposed development because of specific, adverse impacts on public health and safety conditions, such as geologic, seismic, or other hazards and there is no feasible method to satisfactorily mitigate or avoid such adverse impacts.
- Policy 6-P.27** Require qualified geotechnical engineering professionals to review grading plans and inspect areas of excavation during and after grading, to evaluate slope stability and other geotechnical conditions that may affect site development and public safety. In areas of known or suspected landslides and/or adverse geologic conditions, the following determinations should be made: extent of landslide, depth-to-slide plane, soil types and strengths, presence of clay seams and ground water conditions.
- Policy 6-P.28** Continue to regulate development, including remodeling or structural rehabilitation, to ensure adequate mitigation of safety hazards on sites having a history or threat of seismic dangers, erosion, subsidence, or flooding.
- Policy 6-P.29** Regularly inspect locations with high landslide susceptibility directly following major storm and atmospheric events.
- Policy 6-P.30** Develop mitigation strategies for new areas deemed at risk to slope instability by considering the risks associated with climate change impacts which are anticipated to cause more frequent landslides from more extreme and frequent rain events and wildfires.
- Policy 6-P.31** Minimize risks from landslides by requiring new development to be sited outside of hazard areas, when possible, and to incorporate design that minimizes the potential for damage.

Overall, compliance with the CBC, CMC, and General Plan policies would reduce the potential for loss, injury, or death following a seismic event and impacts would remain less than significant, as concluded in the 2015 General Plan EIR.

## Mitigation Measures

No mitigation measures are required because, like under the 2015 General Plan EIR, impacts would be less than significant without mitigation.

<b>Threshold 5:</b> Would the project result in substantial soil erosion or the loss of topsoil?
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**Impact GEO-3** SIMILAR TO THE DEVELOPMENT ANALYZED IN THE 2015 GENERAL PLAN EIR, DEVELOPMENT FACILITATED BY THE PROJECT WOULD INCLUDE GROUND DISTURBANCE SUCH AS EXCAVATION AND GRADING THAT WOULD RESULT IN LOOSE OR EXPOSED SOIL. DISTURBED SOIL COULD BE ERODED BY WIND OR DURING A STORM EVENT, WHICH WOULD RESULT IN THE LOSS OF TOPSOIL. ADHERENCE TO PERMIT REQUIREMENTS AND CITY REGULATIONS WOULD ENSURE THAT THIS IMPACT WOULD REMAIN LESS THAN SIGNIFICANT.

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Development facilitated by the project would involve construction activities such as stockpiling, grading, excavation, paving, and other earth-disturbing activities. Loose and disturbed soils are more prone to erosion and loss of topsoil by wind and water.

Construction activities that disturb one or more acres of land are subject to the Construction General Permit (Order 2009-0009, as amended by Orders 2010-0014-DWQ and 2012-006-DWQ; Municipal Permit Order No. R9-2013-0001, as amended by Orders R9-2015-0001 and R9-2015-0100; NPDES Permit No. CAS0109266, issued by the California RWQCB, San Diego Region). Compliance with the permit requires each qualifying development project to file a Notice of Intent with the SWRCB. Permit conditions require preparation of a Stormwater Pollution Prevention Plan (SWPPP), which must describe the site, the facility, erosion and sediment controls, runoff water quality monitoring, means of waste disposal, control of construction sediment and erosion control measures, maintenance responsibilities, and non-storm water management controls. Grading and drainage plans accompanying the Construction General Permit application must include BMPs for erosion prevention and sediment control, fencing at waterways and in sensitive areas, and limitation of disturbed areas. The permit applications must also demonstrate compliance with NPDES permit provisions.

As described in Section 4.8, *Hydrology and Water Quality*, development within the city would be subject to the applicable NPDES Municipal Regional Stormwater Permit which requires measures to reduce and eliminate stormwater pollutants, installation of appropriate BMPs to control stormwater runoff from construction sites, and that grading and drainage permits be obtained prior to construction. Enforcement of these permit requirements would reduce soil erosion impacts.

As discussed above, pursuant to CMC Chapter 15.16, grading permits obtained for new development require a stormwater maintenance program, construction stormwater pollution prevention plan, and other such documentation and information that may be necessary to demonstrate that grading work will be carried out in substantial compliance with all city codes and standards, and the requirements of the city's Landscape Manual. CMC Chapter 15.16 also requires preparation of a SWPPP compliant with NPDES permit requirements and implementation of construction stormwater BMPs. Compliance with provisions of CMC Chapter 15.16, along with general CBC requirements under Title 18, would reduce potential impacts related to soil erosion and loss of topsoil of individual development projects facilitated by the project. Additionally, the updated Public Safety Element would include policy 6-P.28 (included under Impact GEO-2), which would encourage regulation of development to ensure adequate mitigation of safety hazards such as erosion.

Adherence to the requirements of the NPDES Construction General Permit and Municipal Regional Stormwater Permit, including installation of appropriate BMPs to control stormwater runoff, and compliance with CMC would reduce the potential for development facilitated by the project to cause erosion or the loss of topsoil. Impacts would remain less than significant, as concluded in the 2015 General Plan EIR.

### **Mitigation Measures**

No mitigation measures are required because, like under the 2015 General Plan EIR, impacts would be less than significant without mitigation.

<p><b>Threshold 6:</b> Would the project be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse?</p>
<p><b>Threshold 7:</b> Would the project be located on expansive soil, as defined in Table 1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?</p>

**Impact GEO-4 SIMILAR TO THE DEVELOPMENT ANALYZED IN THE 2015 GENERAL PLAN EIR, DEVELOPMENT FACILITATED BY THE PROJECT COULD BE LOCATED ON A GEOLOGIC UNIT OR SOIL THAT IS UNSTABLE OR COULD BECOME UNSTABLE RESULTING IN ON OR OFF-SITE LANDSLIDE, LATERAL SPREADING, SUBSIDENCE, LIQUEFACTION, EXPANSION, OR COLLAPSE. COMPLIANCE WITH THE CALIFORNIA BUILDING CODE AND CARLSBAD MUNICIPAL CODE WOULD REDUCE HAZARDS RESULTING FROM EXPANSIVE SOILS AND IMPACTS WOULD REMAIN LESS THAN SIGNIFICANT.**

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As identified in the proposed Public Safety Element Update, liquefaction and landslide hazard potential zones are located in portions of Carlsbad (Figures 4.5-3 and 4.5.4). The project could accommodate development within some of these areas. Of the 18 housing sites, Sites 1, 2, and 4 are located within or nearby areas identified as liquefaction hazard potential zones, and most of the housing sites are located within or nearby to areas with varying landslide risk. These areas could potentially accommodate future development that could be subject to liquefaction, landslide, lateral spreading, subsidence, or collapse.

Impacts from these types of soil hazards would be reduced to less than significant levels by the standard development review process for individual projects. Standard building and grading procedures would mitigate most soil hazards. Geotechnical engineering of any landslide areas would be necessary to ensure that slopes would not become destabilized during grading activities. Onsite soil investigations would identify local hazard conditions, which are then mitigated through implementation of appropriate engineering designs as required by the CBC and CMC, and construction techniques and through proper site improvements.

Development facilitated by the project on expansive soils could be subject to damage or could become unstable when the underlying soil shrinks or swells (see Section 4.5.1, *Setting*). As discussed above, some the 18 rezone sites that would be rezoned have mixed landslide susceptibility and some are located in potential liquefaction zones. The adverse effects of expansive soils can be avoided through proper subsoil preparation, drainage, and foundation design. To design an adequate foundation, it must be determined if the site contains expansive soils through appropriate soil sampling and laboratory soils testing. Expansive soils are identified through expansion tests of samples of soil or rock, or by means of the interpretation of a standard soils testing procedure. The

CBC includes requirements to address soil-related hazards, including testing to identify expansive soils and design specifications where structures are to be constructed on expansive soils. Typical measures to treat expansive soil conditions involve removal, proper fill selection, and compaction. In cases where soil remediation is not feasible, the CBC requires structural reinforcement of foundations to resist the forces of expansive soils. As discussed above, pursuant to CMC Chapter 15.16, the city would require preparation of an engineering geologist's investigation and soils report prior to approval of a grading permit. Geotechnical recommendations within the report would be incorporated into project design, as required by the CBC. Compliance with provisions of CMC and CBC would reduce potential impacts related to locating future development on expansive soils. Additionally, policies 6-P.21 through 6-P.27, listed under Impact GEO-2, would further reduce impacts of unstable and expansive soils by maintaining guidelines for geotechnical reports, requiring geotechnical reports for development located in areas with known soil and geologic hazards, and developing mitigation strategies for areas with slope instability and geologic hazards. Overall, compliance with the CBC, CMC, and General Plan policies would reduce hazards related to expansive soils and the impact would remain less-than-significant, as concluded in the 2015 General Plan EIR.

### **Mitigation Measures**

No mitigation measures are required because, like under the 2015 General Plan EIR, impacts would be less than significant without mitigation.

**Threshold 8:** Would the project have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?

**Impact GEO-5** SIMILAR TO THE DEVELOPMENT ANALYZED IN THE 2015 GENERAL PLAN EIR, DEVELOPMENT FACILITATED BY THE PROJECT WOULD MOSTLY OCCUR ON OR NEAR DEVELOPED SITES THAT WOULD BE SERVED BY EXISTING SANITATION INFRASTRUCTURE. NEW DEVELOPMENT IS NOT ANTICIPATED TO INCLUDE THE USE OF SEPTIC SYSTEMS. THEREFORE, IMPACTS RELATED TO THE USE OF SEPTIC TANKS OR ALTERNATIVE WASTEWATER DISPOSAL SYSTEMS WOULD REMAIN LESS THAN SIGNIFICANT.

As discussed in Section 4.14, *Utilities and Service Systems*, development facilitated by the project would occur in areas where existing wastewater infrastructure exists. New development is not anticipated to include the use of septic systems. Pursuant to Chapter 13.20, septic tanks are permitted only when the public sewer system is not adjacent to development or the city's utilities director determines that extension of the sewer system is not feasible. In the unforeseen situation whereby a septic system would be required, the system would be required to comply with requirements in Chapter 13.20 and Chapter 3 of Division 8 of Title 6 of San Diego County Code of Regulatory Ordinances. As such, impacts would remain less than significant, as concluded in the 2015 General Plan EIR.

### **Mitigation Measures**

No mitigation measures are required because, like under the 2015 General Plan EIR, impacts would be less than significant without mitigation.

**Threshold 9:** Would the project directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

**Impact GEO-6** SIMILAR TO THE DEVELOPMENT ANALYZED IN THE 2015 GENERAL PLAN EIR, DEVELOPMENT FACILITATED BY THE PROJECT HAS THE POTENTIAL TO IMPACT PALEONTOLOGICAL RESOURCES. HOWEVER, THIS IMPACT IS LESS THAN SIGNIFICANT WITH COMPLIANCE WITH EXISTING CITY GUIDELINES.

As discussed in Section 4.7.1, *Setting*, Carlsbad is known to contain geological units with moderate or high paleontological sensitivity. Development facilitated by the project would involve excavation and grading, which would encounter paleontological resources in areas with moderate to high sensitivity. For projects located in areas underlain by sensitive geologic units, the Carlsbad Cultural Resource Guidelines require a review of primary literature and online databases, a paleontological assessment of the project area (plus a one-mile radius) by the San Diego Museum of Natural History, and a field survey to determine if paleontological resources or potentially fossiliferous sediments are present (if the sensitive sediments are exposed at the surface). The results of these analyses are used to create a Paleontological Assessment Report which will provide recommendations to mitigate impacts to paleontological resources, if necessary. Suggested mitigation measures are provided in the Carlsbad Cultural Resource Guidelines (City of Carlsbad 2017). Additionally, as concluded in the 2015 General Plan EIR, policies 7-P.7 through 7-P.11 of the Arts, History, Culture, and Education Element would reduce impacts to paleontological resources by implementing the Carlsbad Cultural Resource Guidelines; requiring monitoring of ground-disturbing activities in areas known to contain paleontological resources; and ensuring proper treatment and consultation of paleontological resources discovered during ground-disturbing activities. As concluded in the 2015 General Plan EIR, with compliance with these guidelines and General Plan policies, this impact would be less than significant.

### **Mitigation Measures**

No mitigation measures are required because, like the 2015 General Plan EIR, this impact would be less than significant without mitigation.

### **d. Cumulative Impacts**

Exposure to geologic hazards is site-specific. For example, development on one property would not increase exposure to hazards such as fault rupture and seismic shaking on another property, and therefore there would be no potential for cumulative impacts. Potential impacts to paleontological resources are also site-specific. Other hazards discussed in this chapter, such as soil erosion or loss of topsoil, are more cumulative in nature. For example, development on multiple properties in a watershed may combine to create a cumulative impact related to increased runoff and erosion from impervious surfaces. As discussed in this impact analysis, development on each of the 18 sites carried out under the project may increase the potential for seismic and soil hazards, but implementation of the policies contained in the project, combined with compliance with existing laws and regulations would reduce project-level impacts to a less than significant level. For all the reasons discussed above, the project would not make a substantial contribution to cumulative geology and soils and impacts would be less than cumulatively significant/cumulatively less than significant, as concluded in the 2015 General Plan EIR.

## 4.6 Greenhouse Gas Emissions

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This section analyzes the potential impacts of the project related to greenhouse gas emissions (GHG) and climate change. The analysis is based on the growth forecasts as described in Section 2, *Project Description* and Section 4.11, *Population and Housing*, as well as vehicle miles traveled (VMT) data provided by Fehr & Peers in Section 4.13, *Transportation*. Air quality impacts are discussed in Section 4.2, *Air Quality*.

### 4.6.1 Setting

#### a. Climate Change and Greenhouse Gases

Gases that absorb and re-emit infrared radiation in the atmosphere are called GHGs. The gases that are widely seen as the principal contributors to human-induced climate change include carbon dioxide (CO<sub>2</sub>); methane (CH<sub>4</sub>); nitrous oxides (N<sub>2</sub>O); fluorinated gases such as hydrofluorocarbons (HFCs) and perfluorocarbons (PFCs); and sulfur hexafluoride (SF<sub>6</sub>). Water vapor is excluded from the list of GHGs because it is short-lived in the atmosphere and its atmospheric concentrations are largely determined by natural processes, such as oceanic evaporation.

Different types of GHGs have varying global warming potentials (GWP). The GWP of a GHG is the potential of a gas or aerosol to trap heat in the atmosphere over a specified timescale (generally, 100 years). Because GHGs absorb different amounts of heat, a common reference gas (CO<sub>2</sub>) is used to relate the amount of heat absorbed to the amount of the gas emitted, referred to as “carbon dioxide equivalent” (CO<sub>2</sub>e), which is the amount of GHG emitted multiplied by its GWP. Carbon dioxide has a 100-year GWP of one. By contrast, methane has a 100-year GWP of 30, meaning its global warming effect is 30 times greater than CO<sub>2</sub> on a molecule per molecule basis (United Nations Intergovernmental Panel on Climate Change [IPCC] 2021).<sup>1</sup>

GHGs are emitted by natural processes and human activities. Of these gases, CO<sub>2</sub> and CH<sub>4</sub> are emitted in the greatest quantities from human activities. Emissions of CO<sub>2</sub> are usually by-products of fossil fuel combustion, and CH<sub>4</sub> results from off-gassing associated with agricultural practices and landfills. Human-made GHGs, many of which have greater heat-absorption potential than CO<sub>2</sub>, include fluorinated gases and SF<sub>6</sub> (United States Environmental Protection Agency [USEPA] 2022a).

Climate change is the observed increase in the average temperature of the Earth’s atmosphere and oceans along with other substantial changes in climate (such as wind patterns, precipitation, and storms) over an extended period. The term “climate change” is often used interchangeably with the term “global warming,” but climate change is preferred because it conveys that other changes are happening in addition to rising temperatures. The baseline against which these changes are measured originates in historical records that identify temperature changes that occurred in the past, such as during previous ice ages. The global climate is changing continuously, as evidenced in the geologic record, which indicates repeated episodes of substantial warming and cooling. The rate of change has typically been incremental, with warming or cooling trends occurring over the course of thousands of years. The past 10,000 years have been marked by a period of incremental warming, as glaciers have steadily retreated across the globe. However, scientists have observed

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<sup>1</sup> The Intergovernmental Panel on Climate Change’s (2021) *Sixth Assessment Report* determined that methane has a GWP of 30. However, the 2022 Climate Change Scoping Plan published by the California Air Resources Board uses a GWP of 25 for methane, consistent with the Intergovernmental Panel on Climate Change’s (2007) *Fourth Assessment Report*. Therefore, this analysis utilizes a GWP of 25.

acceleration in the rate of warming over the past 150 years. The IPCC expressed in their Sixth Assessment Report that the rise and continued growth of atmospheric CO<sub>2</sub> concentrations is unequivocally due to human activities (IPCC 2021). Human influence has warmed the atmosphere, ocean, and land, which has led the climate to warm at an unprecedented rate in the last 2,000 years. It is estimated that between the period of 1850 through 2019, a total of 2,390 gigatons of anthropogenic CO<sub>2</sub> was emitted. It is likely that anthropogenic activities have increased the global surface temperature by approximately 1.07 degrees Celsius between the years 2010 through 2019 (IPCC 2021).

The accumulation of GHGs in the atmosphere regulates the earth's temperature. Without the natural heat-trapping effect of GHGs, the earth's surface would be about 33 degrees Celsius (°C) cooler (World Meteorological Organization 2013). However, since 1750, estimated concentrations of CO<sub>2</sub>, CH<sub>4</sub>, and N<sub>2</sub>O in the atmosphere have increased by 47 percent, 156 percent, and 23 percent, respectively, primarily due to human activity (IPCC 2021). GHG emissions from human activities, particularly the consumption of fossil fuels for electricity production and transportation, are believed to have elevated the concentration of these gases in the atmosphere beyond the level of concentrations that occur naturally.

## **b. Greenhouse Gas Emissions Inventories**

### **Global Emissions Inventory**

Worldwide anthropogenic GHG emissions totaled 47,000 million metric tons (MT) of CO<sub>2</sub>e in 2015, which is a 43 percent increase from 1990 GHG levels (USEPA 2022a). Specifically, 34,522 million metric tons (MMT) of CO<sub>2</sub>e of CO<sub>2</sub>, 8,241 MMT of CO<sub>2</sub>e of CH<sub>4</sub>, 2,997 MMT of CO<sub>2</sub>e of N<sub>2</sub>O, and 1,001 MMT of CO<sub>2</sub>e of fluorinated gases were emitted in 2015. The largest source of GHG emissions were energy production and fuel use from vehicles and buildings, which accounted for 75 percent of the global GHG emissions. Agriculture uses and industrial processes contributed 12 percent and six percent, respectively. Waste sources contributed three percent and international transportation sources contributed two percent. These sources account for approximately 98 percent because there was a net sink of two percent from land-use change (including afforestation/reforestation and emissions removals by other land use activities) (USEPA 2022a).

### **United States Emissions Inventory**

United States GHG emissions were 6,347.7 MT of CO<sub>2</sub>e in 2021 or 5,593.5 MT CO<sub>2</sub>e after accounting for sequestration. Emissions increased by 6.8 percent from 2020 to 2021. The increase from 2020 to 2021 reflects the was driven by an increase in CO<sub>2</sub> emissions from fossil fuel combustion which increased 7 percent relative to previous years and is primarily due to the economic rebounding after the COVID-19 Pandemic. In 2020, the energy sector (including transportation) accounted for 81 percent of nationwide GHG emissions while agriculture, industrial and waste accounted for approximately 10 percent, 6 percent, and 3 percent respectively (USEPA 2023).

### **California Emissions Inventory**

Based on the California Air Resource Board (CARB) California Greenhouse Gas Inventory for 2000-2020, California produced 369.2 MT of CO<sub>2</sub>e in 2020, which is 35.3 MT of CO<sub>2</sub>e lower than 2019 levels. The 2019 to 2020 decrease in emissions is likely due in large part to the impacts of the COVID-19 pandemic. The major source of GHG emissions in California is the transportation sector, which comprises 37 percent of the state's total GHG emissions. The industrial sector is the second



largest source, comprising 20 percent of the state's GHG emissions while electric power accounts for approximately 16 percent. The magnitude of California's total GHG emissions is due in part to its large size and large population compared to other states. However, a factor that reduces California's per capita fuel use and GHG emissions as compared to other states is its relatively mild climate. In 2016, the state of California achieved its 2020 GHG emission reduction target of reducing emissions to 1990 levels as emissions fell below 431 MT of CO<sub>2</sub>e (CARB 2022a). The annual 2030 statewide target emissions level is 260 MT of CO<sub>2</sub>e (CARB 2022a).

### **Local Emissions Inventory**

Based on the City of Carlsbad's 2012 GHG Emissions Inventory, approximately 977,000 MT of CO<sub>2</sub>e in 2012 was generated in Carlsbad. Transportation was the major source accounting for 49.9 percent of the total, largely due to passenger vehicles, but also commercial trips and buses. Electricity was the second largest source of emissions at 30.8 percent. Natural gas usage represented 13.7 percent, and solid waste, off-road transportation, water, and wastewater sectors accounted for the remaining 5.6 percent of emissions (City of Carlsbad 2020a).

### **c. Potential Effects of Climate Change**

Globally, climate change has the potential to affect numerous environmental resources through potential impacts related to future air temperatures and precipitation patterns. Scientific modeling predicts that continued GHG emissions at or above current rates would induce more extreme climate changes during the 21<sup>st</sup> century than were observed during the 20<sup>th</sup> century. Each of the past three decades has been warmer than all the previous decades on record, and the decade from 2000 through 2010 has been the warmest. The observed global mean surface temperature from 2015 to 2017 was approximately 1.0°C higher than the average global mean surface temperature over the period from 1880 to 1900 (National Oceanic and Atmospheric Administration 2020). Furthermore, several independently analyzed data records of global and regional Land-Surface Air Temperature obtained from station observations jointly indicate that Land-Surface Air Temperature and sea surface temperatures have increased.

According to *California's Fourth Climate Change Assessment*, statewide temperatures from 1986 to 2016 were approximately 0.6 to 1.1°C higher than those recorded from 1901 to 1960. Potential impacts of climate change in California may include reduced water supply from snowpack, sea level rise, more extreme heat days per year, larger forest fires, and more drought years (State of California 2018). In addition to statewide projections, *California's Fourth Climate Change Assessment* includes regional reports that summarize climate impacts and adaptation solutions for nine regions of the state and regionally specific climate change case studies (State of California 2018). However, while there is growing scientific consensus about the possible effects of climate change at a global and statewide level, current scientific modeling tools are unable to predict what local impacts may occur with a similar degree of accuracy. A summary follows of some of the potential effects that could be experienced in California because of climate change.

### **Air Quality**

Scientists project that the annual average maximum daily temperatures in California could rise by 2.4 to 3.2°C in the next 50 years and by 3.1 to 4.9°C in the next century (State of California 2018). Higher temperatures are conducive to air pollution formation, and rising temperatures could therefore result in worsened air quality in California. As a result, climate change may increase the concentration of ground-level ozone. The magnitude of the effect of the increased concentration of

ground-level ozone, and therefore its indirect effects, are uncertain. In addition, as temperatures have increased in recent years, the area burned by wildfires throughout the state has increased, and wildfires have occurred at higher elevations in the Sierra Nevada Mountains (State of California 2018). If higher temperatures continue to be accompanied by an increase in the incidence and extent of large wildfires, air quality could worsen. Severe heat accompanied by drier conditions and poor air quality could increase the number of heat-related deaths, illnesses, and asthma attacks throughout the state. However, if higher temperatures are accompanied by wetter, rather than drier conditions, the rains could tend to temporarily clear the air of particulate pollution, which would effectively reduce the number of large wildfires and thereby ameliorate the pollution associated with them (California Natural Resources Agency 2009).

## **Water Supply**

Analysis of paleoclimatic data (such as tree-ring reconstructions of stream flow and precipitation) indicates a history of naturally and widely varying hydrologic conditions in California and the west, including a pattern of recurring and extended droughts. Uncertainty remains with respect to the overall impact of climate change on future precipitation trends and water supplies in California. Year-to-year variability in statewide precipitation levels has increased since 1980, meaning that wet and dry precipitation extremes have become more common (California Department of Water Resources 2018). This uncertainty regarding future precipitation trends complicates the analysis of future water demand, especially where the relationship between climate change and its potential effect on water demand is not well understood. The average early spring snowpack in the western U.S., including the Sierra Nevada Mountains, decreased by about 10 percent during the last century. During the same period, sea level rose over 0.15 meter along the central and southern California coasts (State of California 2018). The Sierra snowpack provides most of California's water supply as snow that accumulates during wet winters is released slowly during the dry months of spring and summer. A warmer climate is predicted to reduce the fraction of precipitation that falls as snow and the amount of snowfall at lower elevations, thereby reducing the total snowpack (State of California 2018). Projections indicate that average spring snowpack in the Sierra Nevada and other mountain catchments in central and northern California will decline by approximately 66 percent from its historical average by 2050 (State of California 2018).

## **Hydrology and Sea Level Rise**

Climate change could affect the intensity and frequency of storms and flooding (State of California 2018). Furthermore, climate change could induce substantial sea level rise in the coming century. Rising sea level increases the likelihood of and risk from flooding. The rate of increase of global mean sea levels between 1993 to 2022, observed by satellites, is approximately 3.5 millimeters per year, double the twentieth century trend of 1.6 millimeters per year (World Meteorological Organization 2013; National Aeronautics and Space Administration 2022). Sea levels are rising faster now than in the previous two millennia, and the rise will probably accelerate, even with robust GHG emission control measures. Sea level rise may jeopardize California's water supply due to saltwater intrusion and induce groundwater flooding and/or exposure of buried infrastructure (State of California 2018).

## **Agriculture**

California has an over \$50 billion annual agricultural industry that produces over a third of the country's vegetables and two-thirds of the country's fruits and nuts (California Department of Food

and Agriculture 2020). Higher CO<sub>2</sub> levels can stimulate plant production and increase plant water-use efficiency. However, if temperatures rise and drier conditions prevail, certain regions of agricultural production could experience water shortages of up to 16 percent, which would increase water demand as hotter conditions lead to the loss of soil moisture. In addition, crop yield could be threatened by water-induced stress and extreme heat waves, and plants may be susceptible to new and changing pest and disease outbreaks (State of California 2018). Temperature increases could also change the time of year certain crops, such as wine grapes, bloom or ripen, and thereby affect their quality (California Climate Change Center 2006).

## **Ecosystems**

Climate change and the potential resultant changes in weather patterns could have ecological effects on the global and local scales. Soil moisture is likely to decline in many regions because of higher temperatures, and intense rainstorms are likely to become more frequent. Rising temperatures could have four major impacts on plants and animals: timing of ecological events; geographic distribution and range of species; species composition and the incidence of nonnative species within communities; and ecosystem processes, such as carbon cycling and storage (Parmesan 2006; State of California 2018).

### 4.6.2 Regulatory Setting

#### **a. Federal**

##### **Federal Clean Air Act**

On April 2, 2007, in *Massachusetts v. EPA* (549 U.S. 497 [2007]), the U.S. Supreme Court found GHGs are air pollutants covered by the Clean Air Act (CAA). The Court held the Administrator must determine whether GHG emissions from new motor vehicles cause or contribute to air pollution that may reasonably be anticipated to endanger public health or welfare, or whether the science is too uncertain to make a reasoned decision. On December 7, 2009, the Administrator signed two distinct findings regarding GHGs under Section 202(a) of the CAA:

- **Endangerment Finding:** The Administrator finds the current and projected concentrations of six GHGs (CO<sub>2</sub>, CH<sub>4</sub>, N<sub>2</sub>O, HFCs, PFCs, and SF<sub>6</sub>) in the atmosphere threaten the public health and welfare of current and future generations.
- **Cause or Contribute Finding:** The Administrator finds the combined emissions of these GHGs from new motor vehicles and new motor vehicle engines contribute to GHG pollution, which threatens public health and welfare.

These findings do not themselves impose any requirements on industry or other entities. However, this action was a prerequisite for implementing GHG emission standards for vehicles (USEPA 2022b). In collaboration with the National Highway Traffic Safety Administration (NHTSA) and CARB, the USEPA developed emission standards for light-duty vehicles and heavy-duty vehicles (NHTSA et al. 2016; U.S. Government Publishing Office 2016).

##### **Federal Fuel Efficiency Standards (CAFE)**

Under the CAA, corporate average fuel economy (CAFE) standards have been set for passenger cars and light trucks. The State of California has traditionally had a waiver to set its own more stringent fuel efficiency standards. However, on August 2, 2018, the NHTSA and USEPA, operating under the

direction of the Trump Administration, proposed the Safer Affordable Fuel-Efficient Vehicles Rule (SAFE Rule). This rule addresses emissions and fuel economy standards for motor vehicles and is separated in two parts as described below.

- Part One, “One National Program” (84 Federal Register 51310), revokes a waiver granted by USEPA to the State of California under Section 209 of the CAA to enforce more stringent emission standards for motor vehicles than those required by USEPA for the explicit purpose of GHG reduction, and indirectly, criteria air pollutants and ozone precursor emission reduction. This revocation became effective on November 26, 2019, potentially restricting the ability of CARB to enforce more stringent GHG emission standards for new vehicles and set zero emission vehicle mandates in California.
- Part Two addresses CAFE standards for passenger cars and light trucks for model years 2021 to 2026. This rulemaking proposed new CAFE standards for model years 2022 through 2026 and would amend existing CAFE standards for model year 2021. The proposal retained the model year 2020 standards (specifically, the footprint target curves for passenger cars and light trucks) through model year 2026. The proposal addressing CAFE standards was jointly developed by NHTSA and USEPA, with USEPA simultaneously proposing tailpipe CO<sub>2</sub> standards for the same vehicles covered by the same model years.

The USEPA and NHTSA published final rules to amend and establish national CO<sub>2</sub> and fuel economy standards on April 30, 2020 (Part Two of the SAFE Vehicles Rule) (85 Federal Register 24174). On April 22, 2021, the Biden Administration formally proposed to roll back portions of the SAFE Rule, restoring California’s right to enforce more stringent fuel efficiency standards (NHTSA 2022). Most recently, on December 21, 2021, the NHTSA finalized rules to repeal the SAFE I Rule. The final rule concludes the SAFE I Rule overstepped the agency’s legal authority and established overly broad prohibitions that did not account for a variety of important state and local interests. The final rule ensures the SAFE I Rule will no longer form an improper barrier to states exploring creative solutions to address their local communities’ environmental and public health challenges (NHTSA 2022).

## **b. State**

### **California Global Warming Solutions Act of 2006 (Assembly Bill 32, Senate Bill 32, and Assembly Bill 1279)**

The “California Global Warming Solutions Act of 2006,” (AB 32), outlines California’s major legislative initiative for reducing GHG emissions. AB 32 codifies the statewide goal of reducing GHG emissions to 1990 levels by 2020 and requires CARB to prepare a Scoping Plan that outlines the main state strategies for reducing GHG emissions to meet the 2020 deadline. In addition, AB 32 requires CARB to adopt regulations to require reporting and verification of statewide GHG emissions. Based on this guidance, CARB approved a 1990 statewide GHG level and 2020 target of 431 MMT of CO<sub>2</sub>e, which was achieved in 2016. CARB approved the Scoping Plan on December 11, 2008, which included GHG emission reduction strategies related to energy efficiency, water use, and recycling and solid waste, among others.

CARB approved the 2013 Scoping Plan update in May 2014. The update defined the CARB’s climate change priorities for the next five years, set the groundwork to reach post-2020 statewide goals, and highlighted California’s progress toward meeting the “near-term” 2020 GHG emission reduction goals defined in the original Scoping Plan.

On September 8, 2016, the governor signed Senate Bill (SB) 32 into law, extending the California Global Warming Solutions Act of 2006 by requiring the state to further reduce GHG emissions to 40 percent below 1990 levels by 2030 (the other provisions of AB 32 remain unchanged). On December 14, 2017, CARB adopted the 2017 Scoping Plan, which provides a framework for achieving the 2030 target. The 2017 Scoping Plan relies on the continuation and expansion of existing policies and regulations, such as the Cap-and-Trade Program, and implementation of recently adopted policies and legislation, such as SB 1383 and SB 100 (discussed below). The 2017 Scoping Plan also puts an increased emphasis on innovation, adoption of existing technology, and strategic investment to support its strategies (CARB 2017).

AB 1279, “The California Climate Crisis Act,” was passed on September 16, 2022 and declares the State would achieve net zero greenhouse gas emissions as soon as possible, but no later than 2045, and to achieve and maintain net negative greenhouse gas emissions thereafter. In addition, the bill states that the State would reduce GHG emissions by 85 percent below 1990 levels no later than 2045. The 2022 Scoping Plan lays out a path to achieve AB 1279 targets (CARB 2022a). The actions and outcomes in the 2022 Scoping Plan would achieve significant reductions in fossil fuel combustion by deploying clean technologies and fuels, further reductions in short-lived climate pollutants, support for sustainable development, increased action on natural and working lands to reduce emissions and sequester carbon, and the capture and storage of carbon.

The 2022 Update assesses the progress California is making toward reducing its GHG emissions by at least 40 percent below 1990 levels by 2030, as called for in SB 32 and laid out in the 2017 Scoping Plan, addresses recent legislation and direction from Governor Newsom, extends and expands upon these earlier plans, and implements a target of reducing anthropogenic emissions to 85 percent below 1990 levels by 2045, as well as taking an additional step of adding carbon neutrality as a science-based guide for California’s climate work. As stated in the 2022 Update, “The plan outlines how carbon neutrality can be achieved by taking bold steps to reduce GHGs to meet the anthropogenic emissions target and by expanding actions to capture and store carbon through the state’s National Working Lands (NWL) and using a variety of mechanical approaches” (CARB 2022a). Specifically, the 2022 Update:

- Identifies a path to keep California on track to meet its SB 32 GHG reduction target of at least 40 percent below 1990 emissions by 2030.
- Identifies a technologically feasible, cost-effective path to achieve carbon neutrality by 2045 and a reduction in anthropogenic emissions by 85 percent below 1990 levels.
- Focuses on strategies for reducing California’s dependency on petroleum to provide consumers with clean energy options that address climate change, improve air quality, and support economic growth and clean sector jobs.
- Integrates equity and protecting California’s most impacted communities as driving principles throughout the document.
- Incorporates the contribution of NWL to the state’s GHG emissions, as well as their role in achieving carbon neutrality.
- Relies on the most up-to-date science, including the need to deploy all viable tools to address the existential threat that climate change presents, including carbon capture and sequestration, as well as direct air capture.
- Evaluates the substantial health and economic benefits of taking action.
- Identifies key implementation actions to ensure success.

In addition to reducing emissions from transportation, energy, and industrial sectors, the 2022 Update includes emissions and carbon sequestration in NWL and explores how NWL contribute to long-term climate goals. Under the Scoping Plan Scenario, California’s 2030 emissions are anticipated to be 48 percent below 1990 levels, representing an acceleration of the current SB 32 target. Cap-and-Trade regulation continues to play a large factor in the reduction of near-term emissions for meeting the accelerated 2030 reduction target. Every sector of the economy will need to begin to transition in this decade to meet our GHG reduction goals and achieve carbon neutrality no later than 2045. The 2022 Update approaches decarbonization from two perspectives, managing a phasedown of existing energy sources and technologies, as well as increasing, developing, and deploying alternative clean energy sources and technology.

### **Senate Bill 100 (100 Percent Clean Energy Act)**

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

### **Senate Bill 375 (Sustainable Communities and Climate Protection Act)**

SB 375, signed in August 2008, enhances the State’s ability to reach AB 32 goals by directing CARB to develop regional GHG emission reduction targets to be achieved from passenger vehicles by 2020 and 2035. In addition, SB 375 directs each of the state’s 18 major Metropolitan Planning Organizations to prepare a “sustainable communities strategy” (SCS) that contains a growth strategy to meet these emission targets for inclusion in the Regional Transportation Plan (RTP). On March 22, 2018, CARB adopted updated regional targets for reducing GHG emissions from 2005 levels by 2020 and 2035. San Diego Association of Governments (SANDAG) was assigned targets of a 15 percent reduction in GHGs from passenger vehicles by 2020 and a 19 percent reduction in GHGs from passenger vehicles by 2035 (CARB 2022b).

### **Executive Order B-55-18**

On September 10, 2018, Governor Brown issued Executive Order B-55-18, which established a new statewide goal of achieving carbon neutrality by 2045 and maintaining net negative GHG emissions thereafter. This goal is in addition to the existing statewide GHG reduction targets established by SB 32, SB 100, SB 375, and SB 1383.

### **CARB Innovative Clean Transit Regulations**

In December 2018, CARB adopted the Innovative Clean Transit regulations, requiring all transit agencies to develop a plan to achieve zero emission bus fleets on or before 2040. Starting between 2023 and 2029, transit agencies must begin purchasing only zero-emission bus replacements and must have completed the fleet replacement program prior to 2040.

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

The California Code of Regulations (CCR) Title 24 is referred to as the California Building Standards Code. It consists of a compilation of several distinct standards and codes related to building construction including plumbing, electrical, interior acoustics, energy efficiency, and handicap accessibility for persons with physical and sensory disabilities. The current iteration is the 2022 Title

24 standards. The California Building Standards Code's energy-efficiency and green building standards are outlined below.

### *Part 6 – Building Energy Efficiency Standards*

CCR Title 24, Part 6 is the Building Energy Efficiency Standards or California Energy Code. This code, originally enacted in 1978, establishes energy-efficiency standards for residential and non-residential buildings in order to reduce California's energy demand. New construction and major renovations must demonstrate their compliance with the current Energy Code through submittal and approval of a Title 24 Compliance Report to the local building permit review authority and the California Energy Commission (CEC). The 2022 Title 24 standards are the applicable building energy efficiency standards for the proposed project because they became effective on January 1, 2023.

### *Part 11 – California Green Building Standards*

The California Green Building Standards Code, referred to as CALGreen, was added to Title 24 as Part 11, first in 2009 as a voluntary code, which then became mandatory effective January 1, 2011 (as part of the 2010 California Building Standards Code). The 2022 CALGreen includes mandatory minimum environmental performance standards for all ground-up new construction of residential and non-residential structures. It also includes voluntary tiers with stricter environmental performance standards for these same categories of residential and non-residential buildings. Local jurisdictions must enforce the minimum mandatory CALGreen standards and may adopt additional amendments for stricter requirements.

The mandatory standards require:

- 20 percent reduction in indoor water use relative to specified baseline levels;<sup>2</sup>
- Waste Reduction:
  - Non-residential and multi-family dwellings with five or more units: Provide readily accessible areas identified for the depositing, storage and collection of nonhazardous materials for recycling, including (at a minimum) paper, corrugated cardboard, glass, plastic, organic waste, and metals; and/or
- Inspections of energy systems to ensure optimal working efficiency;
- Low-pollutant emitting exterior and interior finish materials such as paints, carpets, vinyl flooring, and particleboards;
- Electric Vehicle (EV) Charging for New Construction:<sup>3</sup>
  - One- and two-family dwellings and town houses with attached private garages: Dedicated circuitry to facilitate installation of electric vehicle (EV) charging;
  - Multi-family dwellings and hotels/motels with less than 20 units/rooms: Designation of at least 10 percent of the total number of parking spaces shall be EV capable and at least 25 percent of the total number of parking spaces shall be EV-ready;

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<sup>2</sup> Similar to the compliance reporting procedure for demonstrating Energy Code compliance in new buildings and major renovations, compliance with the CALGreen water-reduction requirements must be demonstrated through completion of water use reporting forms. Buildings must demonstrate a 20 percent reduction in indoor water use by either showing a 20 percent reduction in the overall baseline water use as identified in CALGreen or a reduced per-plumbing-fixture water use rate.

<sup>3</sup> EV Capable = a vehicle space with electrical panel space and load capacity to support a branch circuit and necessary raceways to support EV charging; EV-ready = a vehicle space which is provided with a branch circuit and any necessary raceways to accommodate EV charging stations, including a receptacle for future installation of a charger (see 2022 California Green Building Standard Code, Title 24 Part 11 for full explanation of mandatory measures, including exceptions).

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- Multi-family dwellings and hotels/motels with greater than 20 units/rooms: Designation of at least 10 percent of the total number of parking spaces shall be EV capable, at least 25 percent of the total number of parking spaces shall be EV-ready, and at least 5 percent of the total number of parking spaces shall be equipped with a Level 2 charging station;
- Hardscape areas: minimum No. 10 container size or equal shall be installed to provide shade of 20 percent of the landscape area within 15 years (unless covered by applicable shade structures and/or solar or the marked area is for organized sports activities).

The voluntary standards require:

- Deconstruct existing buildings and reuse applicable salvaged materials;
- Residential – Cool Roofs: have a thermal mass over the roof membrane, including green roofs weighing a minimum of 25 pounds per square foot or roof areas covered by solar photovoltaic panels and building integrated solar thermal panels;
- Residential – Reduce nonroof heat island for 50 percent of sidewalks, patios, driveways or other paved areas;
- One- and two-family dwelling units and townhouses with attached garages: install a dedicated 208/250-volt branch circuit for EV charging;
- Residential Bicycle Parking:
  - Surface parking: minimum No. 10 container size or equal shall be installed to provide shade over 50 percent of the parking within 15 years (unless parking area covered by appropriate shade structures and/or solar);
  - Multi-family/hotel/motel short-term parking: provide permanently anchored bicycle racks within 100 feet of visitor’s entrance for 5 percent of visitor motorized vehicle parking capacity (minimum one 2-bike capacity rack);
  - Multi-family buildings long-term parking: provide acceptable on-site bicycle parking for at least one bicycle per every two dwelling units; and/or
  - Hotel/motel long-term parking: provide one acceptable on-site bicycle parking space for every 25,000 square feet but not less than two spaces;
- Tier I:
  - Stricter energy efficiency requirements;
  - Stricter water conservation requirements for specific fixtures;
  - minimum 65 percent reduction in construction waste with third-party verification, Minimum 10 percent recycled content for building materials;
  - Minimum 20 percent permeable paving;
  - Minimum 20 percent cement reduction;
  - Multi-family developments/hotels/motels: minimum 35 percent of total parking spaces shall be EV ready and for projects with 20 or more dwelling units/rooms a minimum of 10 percent of the total number of parking spaces shall be equipped with EV charging stations.
- Tier II:
  - Stricter energy efficiency requirements,
  - Stricter water conservation requirements for specific fixtures;
  - Minimum 75 percent reduction in construction waste with third-party verification,
  - Minimum 15 percent recycled content for building materials;



- Minimum 30 percent permeable paving;
- Minimum 25 percent cement reduction; and/or
- Multi-family developments/hotels/motels: minimum 40 percent of total parking spaces shall be EV ready and for projects with 20 or more dwelling units/rooms, a minimum of 15 percent of the total number of parking spaces shall be equipped with EV charging stations.

### **Assembly Bill 341/Assembly Bill 1826 (Mandatory Recycling/Composting)**

The California Integrated Waste Management Act of 1989, as modified by AB 341, requires each jurisdiction's source reduction and recycling element to include an implementation schedule that shows diversion away from landfills of 75 percent of all solid waste by 2020 and annually thereafter. AB 1826 requires recycling of organic waste (i.e., composting). All businesses and public entities that generate four or more cubic yards of solid waste per week and multi-family residential dwellings that have five or more units are required to recycle and compost.

### **California Model Water Efficient Landscape Ordinance**

The revised Model Water Efficient Landscape Ordinance became effective on December 15, 2015. New development that includes landscaped areas of 500 square feet or more are subject to the following revised ordinance requirements:

- More efficient irrigation systems
- Incentives for graywater usage
- Improvements in on-site stormwater capture
- Limiting the portion of landscape that can be planted with high water use plants
- Reporting requirements for local agencies.

### **Clean Energy, Jobs, and Affordability Act of 2022 (Senate Bill 1020)**

Adopted on September 16, 2022, SB 1020 creates clean electricity targets for eligible renewable energy resources and zero-carbon resources to supply 90 percent of retail sale electricity by 2035, 95 percent by 2040, 100 percent by 2045, and 100 percent of electricity procured to serve all state agencies by 2035. This bill shall not increase carbon emissions elsewhere in the western grid and shall not allow resource shuffling.

## **c. Regional and Local**

### **City of Carlsbad Climate Action Plan**

The City of Carlsbad Climate Action Plan (CAP) was adopted in September 2015 and amended in May 2020. The plan identified GHG emissions targets for the years 2020 and 2035; established a communitywide emissions inventory and forecasts; and included measures to reduce GHG emissions in the areas of energy efficiency, renewable energy, transportation, and water conservation (City of Carlsbad 2020a). Through implementation of the existing CAP, the city surpassed its 2020 GHG reduction targets established by AB 32. The following 2020 CAP goals and measures would be applicable to GHG impacts resulting from the proposed project (SANDAG 2021):

**Measure J:** New Construction Residential and Commercial Solar Water Heater Installation.

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**Goal:** Install solar water heaters or heat pumps on all new residential and commercial construction. Retrofit up to 30 percent of existing homes and commercial buildings to include solar water heaters or heat pumps.

**Measure L:** Promote an Increase in the Amount of Zero-Emissions Vehicle Travel.

**Goal:** Promote an increase in the amount of ZEV miles traveled from a projected 4.5 percent to 25 percent of total vehicle miles traveled by 2035.

**Measure N:** Reduce GHG Intensity of Water Utilities Supply Conveyance, Treatment, and Distribution.

**Goal:** Reduce the intensity of GHG emissions from water utilities (including water supply, wastewater, and recycle water) conveyance, treatment, and distribution by 8 percent by 2035.

The city is currently in the process of updating the CAP to better align with updated state targets and further pursue the community's goal of promoting a sustainable environment. The updated CAP will include revisions to current GHG reduction measures, evaluation of existing GHG reduction targets and forecasts, and expanded implementation monitoring procedures.

## **City of Carlsbad Landscape Manual**

The City of Carlsbad adopted its Landscape Manual in February 2016 which outlines policies and requirements for landscaping and provides guidance for the implementation of CMC Chapter 18.50, Water Efficient Landscape Ordinance. Policies within the Landscape Manual are related to sustainability, water conservation, planting, irrigation, streetscape, fire protection, and soil revegetation or erosion control (City of Carlsbad 2016).

## **City of Carlsbad Sustainable Mobility Plan**

The City of Carlsbad Sustainable Mobility Plan (SMP) presents recommendations for reducing vehicle miles traveled, mitigating the impacts of growth and development, and shifting how residents get around the city away from private automobiles toward modes that are more livable, cleaner and healthier. The SMP outlines programs and treatments designed to make transit more convenient, promote walkways and bikeways for short and routine trips, reduce vehicular congestion, and improve safety and reduce emissions consistent with the city's CAP. Proposed mobility programs in the SMP include Cycling Education, the Carlsbad Safe Routes to School Program, the Carlsbad Transportation Demand Management Program, and the Carlsbad Active Transportation Monitoring Program (City of Carlsbad 2020b).

## **Carlsbad General Plan**

The City of Carlsbad General Plan Update was adopted in 2015 and contains goals, policies, and actions aimed at guiding future growth within the city. Goals and policies pertaining to reduction of greenhouse gas emissions and included in the General Plan Land Use and Community Design Element; Open Space, Conservation, and Recreation Element; and Sustainability Element are as follows (City of Carlsbad 2015):

*Land Use and Community Design Element*

- Policy 2-G.2** Promote a diversity of compatible land uses throughout the city, to enable people to live close to job locations, adequate and convenient commercial services, and public support systems such as transit, parks, schools, and utilities.
- Policy 2-G.3** Promote infill development that makes efficient use of limited land supply, while ensuring compatibility and integration with existing uses. Ensure that infill properties develop with uses and development intensities supporting a cohesive development pattern.
- Policy 2-G.6** Allow a range of mixed-use centers in strategic locations that maximize access to commercial services from transit and residential areas.

*Open Space, Conservation, and Recreation Element*

- Policy 4-P.52** Participate in the implementation of transportation demand management programs on a regional basis.
- Policy 4-P.54** Provide, whenever possible, incentives for carpooling, flex-time, shortened work weeks, and telecommunications and other means of reducing vehicular miles traveled.

*Sustainability Element*

- Policy 9-G.2** Undertake initiatives to enhance sustainability by reducing the community's greenhouse gas emissions and fostering green development patterns—including buildings, sites, and landscapes.
- Policy 9-G.3** Promote energy efficiency and conservation in the community.
- Policy 9-P.1** Enforce the Climate Action Plan as the city's strategy to reduce greenhouse gas emissions.
- Policy 9-P.2** Continue efforts to decrease use of energy and fossil fuel consumption in municipal operations, including transportation, waste reduction and recycling, and efficient building design and use.
- Policy 9-P.13** Use the city's Climate Action Plan as the platform for delineating and implementing measures to improve energy conservation, and increase renewable energy use (such as solar) in existing and new development.

**SANDAG 2021 Regional Plan**

The 2021 Regional Plan is the most recent plan adopted by SANDAG, and it builds upon the goals, policies, and forecasts of preceding plans. However, the 2021 Regional Plan is currently being amended to not include the regional road usage charge and the draft environmental document is anticipated for release mid-2023. The plan combines the Regional Transportation Plan, SCS, and Regional Comprehensive Plan. As such, the plan demonstrates that the SANDAG region can achieve emissions reductions consistent with targets set forth by SB 375. GHG reductions achieved through development consistent with the 2021 Regional Plan would result in corresponding reductions in energy consumption in the region. The 2021 Regional Plan sets forth a long-term blueprint for the San Diego region that seeks to meet regulatory requirements, address traffic congestion, and create

equal access to jobs, education, healthcare, and other community resources. The 2021 Regional Plan polices are built around three core strategies (SANDAG 2021):

- **Invest In a Reimagined Transportation System.** Build a network and fund services that include multimodal roadways; an expanded network of fast, frequent, and low-cost transit; 21<sup>st</sup> century technology that manages the entire transportation system and connects people to on-demand services; and zero-emissions options for vehicles and micromobility.
- **Incentivize Sustainable Growth and Development.** Collaborate with local jurisdictions and fund programs to accelerate housing production while also addressing equity, climate resilience, and mobility.
- **Implement Innovative Demand and System Management.** Reduce solo driving and congestion through increased remote work, carsharing, vanpooling, pricing strategies and parking management programs that leverage partnerships and technology.

### 4.6.3 Impact Analysis

#### a. Methodology and Significance Thresholds

##### Significance Thresholds

Appendix G of the *CEQA Guidelines* state that a project may have a significant adverse impact if it would:

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

The issue of climate change typically involves an analysis of whether or not a project's contribution towards an impact is cumulatively considerable. Cumulatively considerable means that the incremental effects of an individual project are significant when viewed in connection with the effects of past projects, other current projects, and probable future projects (*CEQA Guidelines* Section 15064[h][1]).

*CEQA Guidelines* Section 15064.4 recommends that lead agencies quantify GHG emissions and consider several other factors that may be used in the determination of significance of GHG emissions from a project, including the extent to which the project may increase or reduce GHG emissions; whether a project exceeds an applicable significance threshold; and the extent to which the project complies with regulations or requirements adopted to implement a plan for the reduction or mitigation of GHG emissions.

*CEQA Guidelines* Section 15064.4 does not establish a threshold of significance. Lead agencies have the discretion to establish significance thresholds for their respective jurisdictions, and in establishing those thresholds, a lead agency may appropriately look to thresholds developed by other public agencies, or suggested by other experts, as long as any threshold chosen is supported by substantial evidence (*CEQA Guidelines* Section 15064.7[c]).

According to *CEQA Guidelines* Section 15183.5, projects can tier off of a qualified GHG reduction plan, which allows for project-level evaluation of GHG emissions through comparison of the project's consistency with the GHG reduction policies included in a qualified GHG reduction plan, such as the CAP. This approach is considered by the Association of Environmental Professionals

[AEP] (2016) in its white paper, *Beyond Newhall and 2020*, to be the most defensible approach presently available under CEQA to determine the significance of a project's GHG emissions.

The City of Carlsbad's current 2020 CAP is a qualified GHG reduction plan, because it demonstrates achievement of the State's 2030 target under SB 32. The City of Carlsbad CAP contains a project-level screening threshold of 900 MT CO<sub>2</sub>e per year; projects that do not exceed this amount would not contribute considerably to cumulative climate change impacts, and therefore would demonstrate consistency with the CAP. Projects that exceed 900 MT CO<sub>2</sub>e would need to be evaluated using the CAP Consistency Checklist to demonstrate consistency with the CAP and determine if the project would result in significant impacts related to GHG emissions. However, given the plan-level nature of the proposed project, the CAP's screening threshold would not be suitable for this analysis. Therefore, GHG emissions associated with project implementation are discussed qualitatively. In addition, the proposed project is evaluated based on consistency with the 2022 Scoping Plan, SANDAG 2021 Regional Plan, and City of Carlsbad General Plan for the purposes of reducing GHG emissions and mitigating the effects of climate change. GHG emissions from the construction and operation of the proposed project are provided for informational purposes.

## **Methodology**

The focus of this analysis and the estimate of GHG emissions are limited to only those potential emissions that would result from net new buildout of the project, which includes VMT modeling for Carlsbad. While emissions generated in Carlsbad, such as those emissions generated by businesses or individual operations, may contribute to GHG emissions globally, only those emissions that may change under project implementation are included in this SEIR as a reasonable approach to estimate GHG impacts of the project.

To calculate GHG emissions for informational purposes, the California Emissions Estimator Model (CalEEMod) version 2022.1 was used to estimate GHG emissions associated with the project. Calculations of CO<sub>2</sub>, CH<sub>4</sub>, and N<sub>2</sub>O emissions are provided to identify the magnitude of potential project effects related to GHG emissions. The analysis focuses on CO<sub>2</sub>, CH<sub>4</sub>, and N<sub>2</sub>O because these comprise 98 percent of all GHG emissions by volume and are the GHG emissions the proposed project would emit in the largest quantities (IPCC 2021). Emissions of all GHGs are converted into their equivalent GWP in terms of CO<sub>2</sub> (i.e., CO<sub>2</sub>e). Minimal amounts of other GHGs (such as chlorofluorocarbons [CFCs]) would be emitted; however, these other GHG emissions would not substantially add to the total.

### *Short-term Emissions*

The California Air Pollution Control Officer Association (CAPCOA) does not discuss whether any of the suggested threshold approaches adequately address impacts from temporary construction activity. As stated in the CEQA and Climate Change white paper, "more study is needed to make this assessment or to develop separate thresholds for construction activity." (CAPCOA, 2008). In addition, the City of Carlsbad has not identified any construction-related GHG emissions thresholds.

Construction-related emissions are speculative at the plan level because such emissions are dependent on the characteristics of individual development projects. However, because construction associated with development envisioned by the proposed project would generate temporary GHG emissions (primarily due to the operation of construction equipment and truck trips), a qualitative analysis is provided below.

### *Long-term Emissions*

Long term emissions were analyzed quantitatively using the methodologies and assumptions presented in Section 4.2.2 (c), Air Quality Methodology. In the absence of an applicable quantitative threshold, emissions are presented for informational purposes, and the proposed project’s operational impacts are discussed qualitatively.

### **b. Prior Environmental Analysis**

The 2015 General Plan EIR determined that impacts related to GHG emissions would be less than significant with implementation of the City of Carlsbad CAP. It determined that growth facilitated by the General Plan would generate greenhouse gas emissions both directly and indirectly, however such emissions would result in a less than significant impact. Additionally, the 2015 General Plan EIR found that buildout under the General Plan would not conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases.

The proposed project involves development on sites beyond what was anticipated in the 2015 General Plan EIR and could therefore result in new impacts related to GHG. Therefore, all the CEQA checklist items listed above under Methodology and Significance Thresholds are addressed in this analysis.

### **c. Project Impacts and Mitigation Measures**

Some components associated with the proposed project, including updates to the Local Coastal Plan, Public Safety Element, and Master and Specific Plans for consistency between the city’s planning documents, in and of themselves would not result in physical changes to the environment such that impacts related to GHG would occur. Therefore, this analysis focuses on impacts associated with implementation of the rezone program which would facilitate the development of 18 rezone sites listed in Table 2-4 in Section 2, *Project Description*.

- Threshold 1:** Would the project generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment?
- Threshold 2:** Would the project conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases?

**Impact GHG-1 NEW RESIDENTIAL DEVELOPMENT FACILITATED BY THE PROPOSED PROJECT WOULD GENERATE TEMPORARY AND LONG-TERM INCREASES IN GHG EMISSIONS. BECAUSE THE PROPOSED PROJECT INCLUDES ADDITIONAL HOUSING NOT INCLUDED IN FORECASTING OR REDUCTION GOALS IN THOSE PLANS, THE PROPOSED PROJECT WOULD CONFLICT WITH THE GHG EMISSIONS GOALS OF THE CITY OF CARLSBAD CLIMATE ACTION PLAN AND 2015 GENERAL PLAN. THIS IMPACT WOULD BE SIGNIFICANT AND UNAVOIDABLE.**

### **Consistency with Applicable Plans and Policies**

#### *City of Carlsbad Climate Action Plan*

The City of Carlsbad CAP outlines goals, strategies, and actions for reducing emissions and combating climate change. The CAP ensures that Carlsbad does its part to contribute to the goals of AB 32 and its successor legislation, SB 32, to reduce its GHG emissions to 1990 levels by 2020, and to 40 percent below 1990 by 2030. The horizon year for this CAP is 2035, corresponding with the General Plan buildout year. The CAP uses a linear trajectory in emissions reductions between 2030

and 2050 to determine the 2035 target, approximately 52 percent below 2012 baseline. The CAP's GHG reduction measures describe goals, amount of reduction in 2035, and actions to meet the target levels, and include but are not limited to the following:

- Commercial and industrial photovoltaic systems
- Single-family, multi-family and commercial efficiency retrofits
- Solar water heater/heat pump installation
- Efficient lighting standards
- Increased zero-emissions vehicle travel
- Transportation Demand Management (TDM)
- Citywide renewable projects
- Water delivery and conservation

The proposed project would be consistent with the applicable measures, as stated in the Regulatory Setting section, by complying with existing General Plan policies (such as Policies 9-G.2, 9-G.3, 9-P.1, 9-P.2, and 9-P.13), and the latest Title 24 Green Building Code and Building Efficiency Energy Standards. Such policies would be consistent with requirements contained in the 2022 Title 24 standards, such as installing photovoltaic systems and energy-efficient LED lighting, water-efficient faucets and toilets, water efficient landscaping and irrigation, and recycling. In addition, future projects would be required to install electric vehicle charging stations consistent with the 2022 CALGreen Standards for new residential construction. Development facilitated by the project would be served by San Diego Gas & Electric or Clean Energy Alliance, both of which are required to increase their renewable energy procurement in accordance with SB 100 targets.

However, the proposed project represents an increase in housing units that were not accounted for in the CAP, and thus GHG emissions from the proposed project were not accounted for in the CAP analysis. Therefore, the targets and measures in the existing CAP do not take into account the growth accommodated by the proposed project and thus the proposed project would not be consistent with the existing City of Carlsbad CAP.

### *Carlsbad General Plan*

The 2015 General Plan provides a consistent framework for land use and development decisions consistent with an established community vision. As the equivalent of a local "constitution" for land use and development, the General Plan's diagrams, goals, and policies form the basis for the city's zoning, subdivision, and infrastructure decisions. The proposed project would comply with the latest Title 24 Energy Standards that reduce wasteful, expensive, inefficient or unnecessary use of energy. In addition, Title 24 Energy Standards would increase the indoor water use efficiency and use of indoor water-efficient irrigation systems for the proposed developments. Compliance with Title 24 Energy Standards would ensure that the proposed project is consistent with General Plan Sustainability Element goals 9-G.2 and 9-G.3, in addition to policies 9-P.2 and 9-P.13, which promote energy efficiency, reductions in community GHG emissions, and increased renewable energy use in new development.

Development facilitated by the proposed project would include bicycle and electric vehicle parking consistent with the 2022 CALGreen Standards for new residential construction, which would contribute to a reduction in vehicle use and subsequent mobile source emissions. The proposed project would also accommodate higher density development and aims to pursue an infill development strategy, which would provide connectivity to mixed land uses and support alternative

modes of transportation. The emphasis of the proposed project on infill development and multimodal transportation would reduce GHG emissions per capita and ensure consistency with General Plan policies 2-G.2, 2-G.3, and 2-G.4, which promote strategic infill development and integration with existing land uses.

However, the proposed project represents an increase in housing units that were not accounted for in the 2015 General Plan and GHG emissions from the proposed project were not accounted for in the existing CAP analysis. The existing CAP was updated with the 2015 General Plan, and the 2015 General Plan EIR found that implementation of the CAP was needed to reduce GHG impacts resulting from implementation of the General Plan. Therefore, because the proposed project was not accounted for in the CAP analysis, the proposed project would not be consistent with the General Plan until the CAP is updated.

### *2022 Scoping Plan*

The principal state plan to monitor and regulate GHGs is AB 32, the California Global Warming Solutions Act of 2006, which was followed by SB 32. The quantitative goal of AB 32 was to reduce GHG emissions to 1990 levels by 2020. According to CARB, California achieved its 2020 GHG emission reduction target in 2016. The goal of SB 32 is to reduce GHG emissions to 40 percent below 1990 levels by 2030. Pursuant to SB 32, the Scoping Plan was created to outline goals and measures for the state to achieve the reductions, the latest iteration of which is the 2022 Scoping Plan. The 2022 Scoping Plan focuses on outcomes needed to achieve carbon neutrality by assessing paths for clean technology, energy deployment, natural and working lands, and others, and is designed to meet the state's long-term climate objectives and support a range of economic, environmental, energy security, environmental justice, and public health priorities. The project would be consistent with these goals through project design, which includes complying with the latest Title 24 Green Building Code and Building Efficiency Energy Standards (as applicable). Therefore, the project would not conflict with the 2022 Scoping Plan.

### *SANDAG: 2021 Regional Plan*

SANDAG adopted the *2021 Regional Plan* on December 10, 2021, which serves as the Regional Comprehensive Plan and SCS for the region. The 2021 Regional Plan provides a long-term blueprint for the San Diego region that seeks to meet regulatory requirements, address traffic congestion, and create equal access to jobs, education, healthcare, and other community resources. The plan is the result of years of planning, data analysis, and community engagement to reimagine the San Diego region with a transformative transportation system, a sustainable pattern of growth and development, and innovative demand and management strategies.

One of the main goals of the 2021 Regional Plan is for healthy air and reduced GHG emissions. According to the 2021 Regional Plan, reducing our reliance on the automobile as a primary mode of transportation requires that safe, affordable, and convenient alternatives are available. It also requires that people can access their jobs and other destinations by taking shorter trips. This can be achieved by focusing growth and development in the region's urbanized areas, where there are existing and planned transportation options. The 2021 Regional Plan reduces per capita GHG emissions from cars and light-duty trucks to 20 percent below 2005 levels by 2035, exceeding the region's state-mandated target of 19 percent.

As discussed in Section 4.13, *Transportation*, the proposed project would result in decreased VMT rates compared to a No Project condition, reflecting the benefits that increased density of residential land uses have on reducing VMT per capita. Additionally, policies 3-P.1 through 3-P.5, 3-



P.8, 3-P.16, 3-P.17, 3-P.19, 3-P.20, and 3-P.22 through 3-P.37 from the 2015 General Plan would discourage use of single occupancy vehicles and support multi-modal transportation, similar to the 2015 General Plan EIR. Therefore, compliance with 2015 General Plan policies would result in reduced VMT per capita, further reducing GHG emissions from mobile sources per capita (see Section 4.13, *Transportation*). Therefore, the project would implement policies and design features which would result in VMT per capita reductions and advance the goals contained in the 2021 Regional Plan. Therefore, the project would not conflict with the 2021 Regional Plan.

## GHG Emissions

Total GHG emissions for the 18 sites are provided below for informational purposes. Operation of future development under the proposed project would generate GHG emissions associated with area sources, energy and water usage, vehicle trips, and wastewater and solid waste generation. Table 4.6-1 shows the estimated operational GHG emissions associated with full buildout of 3,295 units for future development under the proposed project. As shown therein, annual emissions from the proposed project would be approximately 36,735 MT of CO<sub>2</sub>e per year. The total GHG emissions from the proposed project would represent approximately 0.01 percent and 4 percent of the California and City of Carlsbad 2012 GHG emissions inventories, respectively (inventories are discussed under Section 4.6.1b).

**Table 4.6-1 Combined Annual Emissions of Greenhouse Gases**

Emission Source	Annual Emissions (MT CO <sub>2</sub> e)
<b>Operational</b>	
Area	5,015
Energy	3,987
Mobile	26,775
Solid Waste	690
Water, Wastewater	265
Refrigerants	4
<b>Total</b>	<b>36,735</b>

MT CO<sub>2</sub>e = metric tons of carbon dioxide equivalent  
 Source: Appendix B CalEEMod worksheets.

## Summary

The plan consistency analysis provided above demonstrates that the project generally complies with the plans, policies, regulations and GHG reduction actions/strategies outlined in City of Carlsbad CAP, 2022 Scoping Plan and SANDAG 2021 Regional Plan, and City of Carlsbad General Plan. The project would be largely consistent with the measures in the Carlsbad CAP and the policies related to GHG emissions reductions in the City of Carlsbad General Plan. However, as the project would result in an increase in housing units that were not accounted for in the CAP analysis, which included setting emissions reductions targets and identifying measures to meet the targets, the proposed project would conflict with applicable plans, policies, and measures an agency adopted for the purpose of reducing emissions of GHG emissions. Impacts would be potentially significant.

## **Mitigation Measures**

The following mitigation measure is required.

### *GHG-1 Update City of Carlsbad Climate Action Plan*

The city shall draft and present to City Council for adoption an updated Climate Action Plan (CAP) within 12-18 months of adoption of this SEIR. An updated CAP shall include targets that reflect those set by SB 32 to reduce GHG emissions by 40 percent below the 1990 levels by 2030 and AB 1279 to reduce GHG emissions by 85 percent below 1990 levels by 2045. Implementation measures in an updated CAP to achieve the 2030 and 2045 targets shall include measures such as, but are not limited to, the following:

- Develop and adopt an updated building energy efficiency ordinance, or “reach code,” for existing and proposed structures;
- Expand charging infrastructure and parking for electric vehicles;
- Implement carbon sequestration by expanding the urban forest; and,
- Implement policies and measures included in the 2022 California Climate Change Scoping Plan, such as mobile source strategies for increasing clean transit options and zero emissions vehicles by providing electric vehicle charging stations.

As part of the updated CAP, the city shall establish CEQA GHG Emissions Thresholds of Significance and an updated CAP Consistency Checklist that are consistent with the updated Carlsbad CAP for use in future CEQA GHG emissions analyses through 2030 and consistent with SB 32. In addition, upon completion of future CAP updates and as necessary, the city shall update the CEQA GHG emissions thresholds of significance and CAP Consistency Checklist to be consistent with each CAP update.

## **Significance After Mitigation**

Implementation of Mitigation Measure GHG-1 would ensure that the updated City of Carlsbad CAP includes the additional housing units included in the proposed project within its forecasts and emissions reduction goals and would ensure that development facilitated by the project after the CAP is updated would be consistent with State emissions goals. However, individual projects that may occur prior to the adoption of the updated CAP would not be guaranteed to be consistent with State emissions goals. Until the updated CAP and any emission thresholds or updated checklists are adopted, implementation of the proposed project would not be consistent with State GHG reduction plans. If and when the city’s CAP is in accordance with statewide emissions targets and accounting for growth under the proposed project, this impact may be reduced to less than significant. Therefore, until the city updates the CAP in accordance with Mitigation Measure GHG-1, the project’s impacts related to GHG emissions would be significant and unavoidable.

### **d. Cumulative Impacts**

GHG and climate change are, by definition, cumulative impacts. The geographic scope for considering cumulative impacts related to GHG emissions is the state of California. Although GHG emissions have worldwide repercussions, the contribution of the project to the impact is addressed in light of the goals for reducing statewide emissions.

Statewide GHG emissions are an existing significant cumulative impact. As such, the state has established the following statewide emissions reductions targets:

- By 2020, reduce GHG emissions to 1990 levels.
- By 2030, reduce GHG emissions to 40 percent below 1990 levels.
- By 2045, reduce GHG emissions to 85 percent below 1990 levels.

GHG impacts are assessed in a cumulative context since no single project can cause a discernible change to the climate. Therefore, cumulative significance is based on the same thresholds as the proposed project. In the absence of an adopted numeric threshold for the City of Carlsbad, the significance of the project's GHG emissions is based on plan compliance with the City of Carlsbad CAP. In addition, consistency with applicable plans, policies, regulations, and requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of GHG emissions. GHG emissions from the construction and operation of the proposed project are provided for informational purposes. For this project, the most directly applicable adopted regulatory plans to reduce GHG emissions are the City of Carlsbad CAP, 2022 Scoping Plan, SANDAG 2021, and City of Carlsbad General Plan. As discussed in Impact GHG-1, the proposed project would implement energy and water conservation measures consistent with the latest Title 24 Building Energy Efficiency Standards (Part 6) and Green Building Standards (Part 11), aligned with statewide, regional, and local plans. The proposed project's objectives include development on compact infill sites and higher density development that would improve connectivity of land uses and promote the use of alternative modes of transportation. In addition, the project would implement bicycle and electric vehicle charging parking spaces consistent with the 2022 CALGreen Standards, which would potentially reduce the reliance of single motor vehicles. However, until the updated CAP is adopted, implementation of the project would not be consistent with applicable GHG reduction plans. As such, impacts from the project's GHG emissions would be significant and unavoidable, and the project would represent a cumulatively considerable impact related to GHG emissions. Therefore, the cumulative impact related to GHG emissions would be significant and unavoidable.

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## 4.7 Hazards and Hazardous Materials

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This section evaluates the potential impacts relating to hazards and hazardous materials impacts associated with implementation of the proposed project. Potential hazards associated with wildland fires are discussed in Section 4.15, *Wildfire*.

### 4.7.1 Setting

#### a. Hazardous Materials

The term “hazardous material” has different definitions for different regulatory programs. For the purpose of this SEIR, the term “hazardous materials” refers to both hazardous materials and hazardous waste. The California Health and Safety Code Section 25501(n)(1) defines a hazardous material as any material that “because of its quantity, concentrations, or physical or chemical characteristics, poses a significant present or potential hazard to human health and safety or to the environment if released into the workplace or the environment.” Hazardous materials include but are not limited to hazardous substances, hazardous waste, and any material that a handler or the administering agency has a reasonable basis for believing would be injurious to the health and safety of persons or harmful to the environment if released into the workplace or environment.

A material is hazardous if it exhibits one or more of the following characteristics: toxicity, ignitability, corrosivity, and reactivity. These types of hazardous materials are defined below:

- **Toxic Substances.** Toxic substances may cause short-term or long-lasting health effects, ranging from temporary effects to permanent disability, or even death. For example, such substances can cause disorientation, acute allergic reactions, asphyxiation, skin irritation, or other adverse health effects if human exposure exceeds certain levels (the level depends on the substances involved and is chemical-specific). Carcinogens, substances that can cause cancer, are a special class of toxic substances. Examples of toxic substances include benzene (a component of gasoline and suspected carcinogen) and methylene chloride (a common laboratory solvent and a suspected carcinogen).
- **Ignitable Substances.** Ignitable substances are hazardous because of their ability to burn. Gasoline, hexane, and natural gas are examples of ignitable substances.
- **Corrosive Materials.** Corrosive materials can cause severe burns. Corrosives include strong acids and bases such as sodium hydroxide (lye) or sulfuric acid (battery acid).
- **Reactive Materials.** Reactive materials may cause explosions or generate toxic gases. Explosives, pure sodium or potassium metals (which react violently with water), and cyanides are examples of reactive materials.

Soil and groundwater can become contaminated by hazardous material releases in a variety of ways, including permitted or illicit use and accidental or intentional disposal or spillage. Before the 1980s, most land disposal of chemicals was unregulated, resulting in numerous industrial properties and public landfills becoming dumping grounds for unwanted chemicals. The largest and most contaminated of these sites became Superfund sites, so named for their eligibility to receive cleanup money from a federal fund established under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). The National Priorities List (NPL) is the list of national priorities among the known releases or threatened releases of hazardous substances, pollutants, or contaminants throughout the United States and its territories. The NPL is intended primarily to

guide the USEPA in determining which sites warrant further investigation. Sites are added to the NPL following a hazard ranking system.

Numerous smaller properties have been designated as contaminated sites. Often these are gas station sites where leaking underground storage tanks (LUST) were upgraded under a federal requirement in the late 1980s. Another category of sites that may have some overlap with the types already mentioned is “brownfields” – previously used, often abandoned, sites that due to actual or suspected contamination are undeveloped or underused. Both the USEPA and California Department of Toxic Substances Control (DTSC) maintain lists of known brownfields sites. These sites are often difficult to inventory due to their owners’ reluctance to publicly label their property as potentially contaminated.

### **Asbestos Containing Materials**

Asbestos is a naturally occurring fibrous material that was widely used in structures built between 1945 and 1978 for its fireproofing and insulating properties. Asbestos-containing materials (ACM) were banned by USEPA between the early 1970s and 1991 under the authority of the CAA and the Toxic Substances Control Act (TSCA) due to their harmful health effects. Exposure to asbestos increases risk of developing lung disease, such as lung cancer, mesothelioma, or asbestosis (USEPA 2023a). Common ACMs include vinyl flooring and associated mastic, wallboard and associate joint compound, plaster, stucco, acoustic ceiling spray, ceiling tiles, heating system components, and roofing materials. Pre-1973 structures are affected by asbestos regulations if damage occurs, or if remodeling, renovation, or demolition activities disturb ACMs.

### **Lead and Lead-Based Paint**

Lead is a naturally occurring metallic element. Because of its toxic properties, lead is regulated as a hazardous material. Excessive exposure to lead can result in the accumulation of lead in the blood, soft tissues, and bones. Children are particularly susceptible to potential lead-related health problems because it is easily absorbed into developing systems and organs. Lead can affect almost every organ and system in the body. In children, lead can cause behavior and learning problems, lower IQ and hyperactivity, hearing problems, and anemia. In adults, lead can cause cardiovascular effects, decreased kidney function, and reproductive problems. In addition, lead can result in serious effects to the developing fetus and infant for pregnant women (USEPA 2023b). Among its numerous uses and sources, lead can be found in paint, water pipes, solder in plumbing systems, and in soils surrounding buildings and structures that are painted with lead-based paint (LBP). LBP was primarily used during the same time period as ACMs. Pre-1978 structures are affected by LBP regulations if the paint is in a deteriorated condition or if remodeling, renovation, or demolition activities disturb LBP surfaces.

### **Polychlorinated Biphenyls**

Polychlorinated biphenyls (PCB) belong to a broad family of man-made organic chemicals known as chlorinated hydrocarbons. PCBs were domestically manufactured from 1929 until manufacturing was banned in 1979. They have a range of toxicity and vary in consistency from thin, light-colored liquids to yellow or black waxy solids. Due to their non-flammability, chemical stability, high boiling point and electrical insulating properties, PCBs were used in hundreds of industrial and commercial applications.

## **b. Existing Conditions**

### **Hazardous Materials Sites**

The locations where hazardous materials are used, stored, treated and/or disposed of comes to the attention of regulatory agencies through various means, including licensing and permitting, enforcement actions, and anonymous tips. To the extent possible, the locations of these businesses and operations are recorded in database lists maintained by various federal, State, and local regulatory agencies. In addition, federal, State, and local agencies enforce regulations applicable to hazardous waste generators and users, and the San Diego County Environmental Health Services Division tracks and inspects hazardous materials handlers to ensure appropriate reporting and compliance.

Permitted uses of hazardous materials include those facilities that use hazardous materials or handle hazardous wastes in accordance with current hazardous materials and hazardous waste regulations. The use and handling of hazardous materials from these sites is considered low risk, although there can be instances of unintentional chemical releases. In such cases, the site would be tracked in the environmental databases as an environmental case. Permitted sites without documented releases are, nevertheless, potential sources of hazardous materials in the soil and/or groundwater due to accidental spills, incidental leakage, or spillage that may have gone undetected. Some facilities are permitted for more than one hazardous material use and, therefore, could appear in more than one database.

The potential to encounter hazardous materials in soil and groundwater is generally based on a search of federal, State, and local regulatory databases that identify permitted hazardous materials uses, environmental cases, and spill sites. The DTSC EnviroStor database contains information on properties in California where hazardous substances have been released or where the potential for a release exists. The California State Water Resources Control Board (SWRCB) GeoTracker database contains information on properties in California for sites that require cleanup, such as LUST sites, which may impact, or have potential impacts, to water quality, with emphasis on groundwater.

According to databases of hazardous material sites maintained by the DTSC (EnviroStor) and the SWRCB (GeoTracker), the sites designated for rezoning in Carlsbad do not have any of the following types of hazardous sites that are still active or need further investigation: underground storage tank (UST), voluntary cleanup, school investigation, tiered permit, or State response sites (DTSC 2023; SWRCB 2023).

According to DTSC and SWRCB, sites 14 and 16 had LUST sites which are now designated as inactive and closed.

### **Use, Transport, and Abatement of Hazardous Materials**

The use of hazardous materials is typically associated with industrial land uses. Activities such as manufacturing, plating, cleaning, refining, and finishing, frequently involve chemicals that are considered hazardous when accidentally released into the environment. Some parcels in the project area are currently used for industrial purposes such as Site 5, Site 9, Site 11, Site 12, Site 15, and Site 16.

To a lesser extent, hazardous materials may also be used by various commercial enterprises, as well as residential uses. In particular, dry cleaners use cleaning agents considered to be hazardous materials. Hardware stores typically stock paints and solvents, as well as fertilizers, herbicides, and pesticides. Swimming pool supply stores stock acids, algaecides, and caustic agents. Most

commercial businesses occasionally use commonly available cleaning supplies that, when used in accordance with manufacturers' recommendations, are considered safe by the State of California, but when not handled properly can be considered hazardous. Private residences also use and store commonly available cleaning materials, paints, solvents, swimming pool and spa chemicals, as well as fertilizers, herbicides, and pesticides. The project area includes both commercial and residential land uses.

If improperly handled, hazardous materials can result in public health hazards through human contact with contaminated soils or groundwater, or through airborne releases in vapors, fumes, or dust. There is also the potential for accidental or unauthorized releases of hazardous materials that would pose a public health concern. The use, transport, and disposal of hazardous materials and wastes are required to occur in accordance with federal, State, and local regulations. In accordance with such regulations, the transport of hazardous materials and wastes can only occur with transporters who have received training and appropriate licensing. Additionally, hazardous waste transporters are required to complete and carry a hazardous waste manifest, which includes forms, reports, and procedures designed to seamlessly track hazardous waste.

## **Schools**

School locations require consideration because children are particularly sensitive to hazardous materials exposure. Additional protective regulations apply to projects that could use or disturb potentially hazardous products near or at schools. The California Public Resources Code requires projects that would be located within 0.25 mile of a school and might reasonably be expected to emit or handle hazardous materials to consult with the school district regarding potential hazards. There are schools within 0.25 mile of the 18 rezone sites, as shown on Figure 4.7-1. The Army and Navy Academy is within 0.25-mile of Site 14 and the Discovery Isle Child Development Center is within 0.25-mile of Site 16. Other childcare centers or preschools may also be located within 0.25 mile of the rezone sites.

### 4.7.2 Regulatory Setting

#### **a. Federal Regulations**

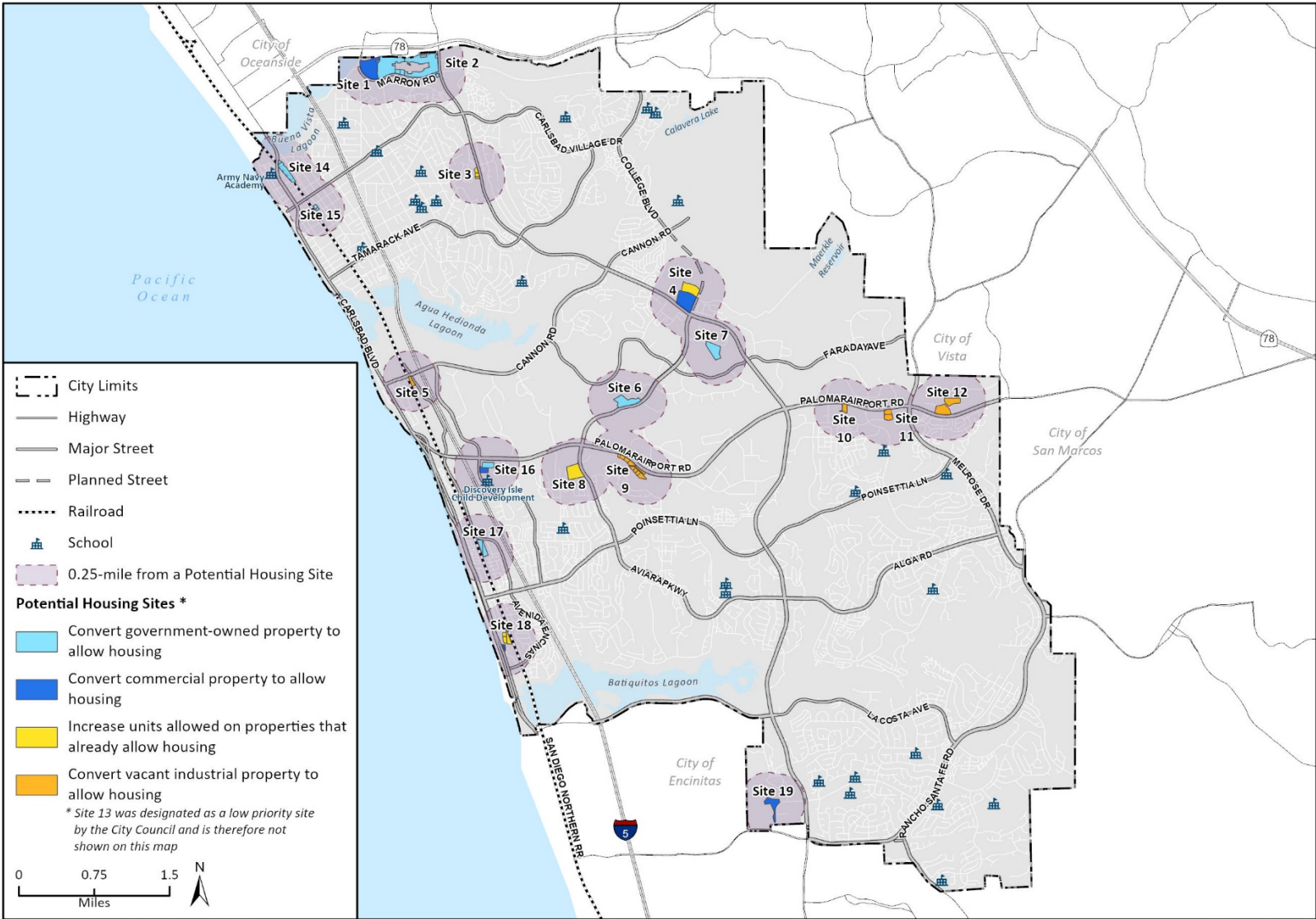
Primary Federal agencies with responsibility for hazardous materials management include the USEPA, U.S. Department of Labor's Occupational Safety and Health Administration (OSHA), and the U.S. Department of Transportation (USDOT). The major laws enforced by these agencies are described below.

#### **Toxic Substances Control Act (1976) and the Resource Conservation and Recovery Act of 1976**

These acts established a program administered by the USEPA for the regulation of the generation, transportation, treatment, storage, and disposal of hazardous waste. The Resource Conservation and Recovery Act (RCRA) was amended in 1984 by the Hazardous and Solid Waste Act, which affirmed and extended the "cradle to grave" system of regulating hazardous wastes. Among other things, the use of certain techniques for the disposal of some hazardous wastes was specifically prohibited by the Hazardous and Solid Waste Act.



Figure 4.7-1 Schools within 0.25-mile of Housing Sites



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 Additional data provided by City of Carlsbad, 2022.

CSB Housing Sites Posters  
 Fig 4.7-1 Schools within 0.25 miles of Housing Sites

## **Comprehensive Environmental Response, Compensation and Liability Act, amended by the Superfund Amendments and Reauthorization Act (1986)**

This law was enacted in 1980 and provides broad federal authority to respond directly to releases or threatened releases of hazardous substances that may endanger public health or the environment. Among other things, CERCLA established requirements concerning closed and abandoned hazardous waste sites, provided for liability of persons responsible for releases of hazardous waste at these sites, and established a trust fund to provide for cleanup when no responsible party could be identified. CERCLA also enabled 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 also established the National Priorities List.

## **Superfund Amendments and Reauthorization Act of 1986 (Public Law 99 499)**

This law amends CERCLA to reflect lessons learned by the USEPA during the first six years administering the Superfund program. Superfund Amendments and Reauthorization Act (SARA) provided new enforcement authorities and settlement tools, increased the focus on human health problems posed by hazardous waste sites, and encouraged greater citizen participation in making decisions on how sites should be cleaned up. The law also increased State involvement in every phase of the Superfund program and required Superfund actions to consider the standards and requirements found in other State and federal environmental laws and regulations.

## **Lead-Based Paint Elimination Final Rule Title 24 Code of Federal Regulations**

Governed by the United States Department of Housing and Urban Development, regulations for LBP are contained in the Lead-Based Paint Elimination Final Rule Title 24 CFR 33, which requires sellers and lessors to disclose known LBP and LBP hazards to prospective purchasers and lessees. Additionally, all LBP abatement activities must follow California and federal occupational safety and health administrations (California Occupational Safety and Health Administration [Cal/OSHA] and Federal Occupational Safety and Health Administration [OSHA], respectively and with the State of California Department of Health Services requirements. Only LBP trained and certified abatement personnel can perform abatement activities. All lead LBP removed from structures must be hauled and disposed of by a transportation company licensed to transport this type of material at a landfill or receiving facility licensed to accept the waste.

## **United States Environmental Protection Agency**

The USEPA is the agency primarily responsible for enforcement and implementation of federal laws and regulations pertaining to hazardous materials. Applicable federal regulations pertaining to hazardous materials are contained in the CFR Titles 29, 40, and 49. Hazardous materials, as defined in the CFR, are listed in 49 CFR 172.101. The management of hazardous materials is governed by the following laws, which include specific requirements for facilities that generate, use, store, treat, and/or dispose of hazardous materials. USEPA provides oversight and supervision for federal Superfund investigation/remediation projects, evaluates remediation technologies, and develops hazardous materials disposal restrictions and treatment standards.

## **U.S. Department of Transportation Regulations**

USDOT prescribes strict regulations for the safe transportation of hazardous materials, including requirements for hazardous waste containers and licensed haulers that transport hazardous waste on public roads. The Secretary of the USDOT receives the authority to regulate the transportation of hazardous materials from the Hazardous Materials Transportation Act (HMTA), as amended and codified in 49 U.S. Code (U.S.C.) Section 5101 et seq. The Secretary is authorized to issue regulations to implement the requirements of 49 U.S.C. The Pipeline and Hazardous Materials Safety Administration (PHMSA), formerly the Research and Special Provisions Administration, was delegated the responsibility to write the hazardous materials regulations, which are contained in Title 49 of the CFR Parts 100-180. Title 49 of the CFR, which contains the regulations set forth by the HMTA, specifies requirements and regulations with respect to the transport of hazardous materials. It requires that every employee who transports hazardous materials receive training to recognize and identify hazardous materials and become familiar with hazardous materials requirements. Under the HMTA, the Secretary "may authorize any officer, employee, or agent to enter upon, inspect, and examine, at reasonable times and in a reasonable manner, the records and properties of persons to the extent such records and properties relate to: (1) the manufacture, fabrication, marking, maintenance, reconditioning, repair, testing, or distribution of packages or containers for use by any 'person' in the transportation of hazardous materials in commerce; or (2) the transportation or shipment by any 'person' of hazardous materials in commerce.

## **Occupational Safety and Health Act of 1970**

The U.S. Department of Labor's OSHA was created to assure safe and healthful working conditions by setting and enforcing standards and by providing training, outreach, education, and assistance. OSHA provides standards for general industry and construction industry on hazardous waste operations and emergency response. The Occupational Safety and Health Act, which is implemented by OSHA, contains provisions with respect to hazardous materials handling. Federal Occupational Safety and Health Act requirements, as set forth in Title 29 of the CFR Section 1910, et. seq., are designed to promote worker safety, worker training, and a worker's right-to-know. OSHA has delegated the authority to administer OSHA regulations to the State of California.

Title 49 of the CFR, which contains the regulations set forth by the Hazardous Materials Transportation Act of 1975, specifies additional requirements and regulations with respect to the transport of hazardous materials. Title 49 of the CFR requires that every employee who transports hazardous materials receive training to recognize and identify hazardous materials and become familiar with hazardous materials requirements. Drivers are also required to be trained in function and commodity-specific requirements.

## **Other Hazardous Materials Regulations**

In addition to the USDOT regulations for the safe transportation of hazardous materials, there are other applicable federal laws that also address hazardous materials:

- Community Environmental Response Facilitation Act of 1992
- Clean Water Act
- Clean Air Act
- Safe Drinking Water Act
- Atomic Energy Act

- Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA)

## **b. State Regulations**

### **California Code of Regulations Title 22**

Hazardous substances are regulated by state and federal agencies in order to protect public health and the environment. Hazardous materials have certain chemical, physical, or infectious properties that threaten life, health, property, or environment. The California Code of Regulations (CCR) Title 22 provides the following definition:

A hazardous material is a substance or combination of substances which, because of its quantity, concentration or physical, chemical, or infectious characteristics, may either (1) cause or significantly contribute to an increase in mortality or an increase in serious, irreversible or incapacitating irreversible illness; or (2) pose a substantial present or potential hazard to human health and safety, or the environment when improperly treated, stored, transported or disposed of. Hazardous materials include waste that has been abandoned, discarded, or recycled on the property and as a result represents a continuing hazard as the development is proposed. Hazardous materials also include any contaminated soil or groundwater.

### **California Environmental Protection Agency**

The management of hazardous materials and waste within California is under the jurisdiction of the CalEPA, which was created by the State of California to establish a cabinet-level voice for the protection of human health and the environment and to assure the coordinated deployment of state resources.

### **Office of Environmental Health Hazard Assessment**

The State of California Office of Environmental Health Hazard Assessment oversees implementation of many public health-related environmental regulatory programs within CalEPA, including implementing the provisions of the Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65). Proposition 65 requires the governor to publish, at least annually, a list of chemicals known to the state to cause cancer or reproductive toxicity. The proposition was intended by its authors to protect California citizens and the state's drinking water sources from chemicals known to cause cancer, birth defects, or other reproductive harm and to inform citizens about exposures to such chemicals.

### **Department of Toxic Substances Control (DTSC)**

As a department of the California Environmental Protection Agency, DTSC is the primary agency in California that regulates hazardous waste, cleans up existing contamination, and looks for ways to reduce the hazardous waste produced in California. DTSC regulates hazardous waste in California primarily under the authority of RCRA and the California Health and Safety Code.

DTSC also administers the California Hazardous Waste Control Law (HWCL) to regulate hazardous wastes which is implemented by regulations described in California Code of Regulations Title 26. While the HWCL is generally more stringent than RCRA, until the USEPA approves the California program, both state and federal laws apply in California. The HWCL lists 791 chemicals and approximately 300 common materials that may be hazardous; establishes criteria for identifying, packaging, and labeling hazardous wastes; prescribes management controls; establishes permit

requirements for treatment, storage, disposal, and transportation; and identifies some wastes that cannot be disposed of in landfills. Environmental health standards for management of hazardous waste are contained in California Code of Regulations Title 22, Division 4.5.

Government Code Section 65962.5 requires the DTSC, the State Department of Health Services, the SWRCB, and CalRecycle to compile and annually update lists of hazardous waste sites and land designated as hazardous waste sites throughout the State, collectively known as the Cortese List. The Secretary for Environmental Protection consolidates the information submitted by these agencies and distributes it to each city and county where sites on the lists are located. Before the lead agency accepts an application for any development project as complete, the applicant must consult these lists to determine if the site at issue is included.

If any soil is excavated from a site containing hazardous materials, it would be considered hazardous waste if it exceeded specific criteria in Title 22 of the California Code of Regulations. Remediation of hazardous wastes found at a site may be required if excavation of these materials is performed, or if certain other soil disturbing activities would occur. Even if soil or groundwater at a contaminated site does not have the characteristics required to be defined as hazardous waste, remediation of the site may be required by regulatory agencies subject to jurisdictional authority. Cleanup requirements are determined on a case-by-case basis by the agency taking jurisdiction.

## **California Fire Code**

Part 9 of the California Building Standards Code includes the California Fire Code (last updated in 2022) which establishes the minimum requirements consistent with nationally recognized good practices to safeguard the public health, safety, and general welfare for the hazards of fire, explosion, or dangerous conditions in new and existing buildings, structures and premises, and to provide safety and assistance to firefighters and emergency responders during emergency operations. The provisions of this code apply to the construction, alteration, movement enlargement, replacement, repair, equipment, use and occupancy, location, maintenance, removal, and demolition of every building or structure or any appurtenances connected or attached to such building structures throughout the State of California.

### **c. Local Regulations**

#### **Carlsbad General Plan**

The current Carlsbad General Plan, adopted in 2015, lists some policies related to hazards and hazardous materials in its Public Safety Element and Land Use and Community Design Element. The following policies are applicable to the proposed project (City of Carlsbad 2015a; City of Carlsbad 2015b):<sup>1</sup>

##### *Land Use and Community Design Element*

**Policy 2-P.37** Require new development located in the Airport Influence Area (AIA) to comply with applicable land use compatibility provisions of the McClellan–Palomar Airport Land Use Compatibility Plan (ALUCP) through review and approval of a site

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<sup>1</sup> The current Carlsbad General Plan, adopted in 2015, lists several policies related to hazards and hazardous materials in the Public Safety Element. The existing Public Safety Element policies would be replaced by the updated Public Safety Element policies as part of this project; therefore, policies from the 2015 General Plan that are being removed as part of the Public Safety Element Update are not included in this section.

development plan, or other development permit. Unless otherwise approved by City Council, development proposals must be consistent or conditionally consistent with applicable land use compatibility policies with respect to noise, safety, airspace protection, and overflight notification, as contained in the McClellan-Palomar ALUCP. Additionally, development proposals must meet Federal Aviation Administration (FAA) requirements with respect to building height as well as the provision of obstruction lighting when appurtenances are permitted to penetrate the transitional surface (a 7:1 slope from the runway primary surface.) Consider the San Diego County Airport Land Use Commission recommendations in the review of development proposals.

**Policy 2-P.38** Coordinate with the San Diego County Airport Land Use Commission and the FAA to protect public health, safety and welfare by ensuring the orderly operation of the airport and the adoption of land use measures that minimize the public's exposure to excessive noise and safety hazards within areas around the airport.

**Policy 2-P.39** Prohibit the geographic expansion of McClellan-Palomar Airport unless approved by a majority vote of the Carlsbad electorate. (Section 21.53.015, Carlsbad Municipal Code.).

#### *Open Space, Conservation, and Recreation Element*

**Policy 4-P.51** Prior to the approval of new development within an existing or former agricultural area in Carlsbad, require a detailed soils testing and analysis report be prepared by a registered soils engineer and submitted to the city and the county health department for review and approval. This report shall evaluate the potential for soil contamination due to historic use, handling, or storage of agricultural chemicals restricted by the San Diego County Department of Health Services. If hazardous chemicals are detected at concentrations in the soil that would have a significantly adverse effect on human health, the report shall identify a range of possible mitigation measures to remediate the significant public health impacts.

### **County of San Diego Department of Environmental Health and Quality (DEHQ)**

The Hazardous Materials Division (HMD) of DEHA regulates hazardous waste and tiered permitting, USTs, aboveground petroleum storage and risk management plans, hazardous materials business plans and chemical inventory, risk management plans, and medical waste. The HMD's goal is "to protect human health and the environment by ensuring that hazardous materials, hazardous waste, medical waste, and USTs are properly managed.

### **California Environmental Protection Agency's Unified Program**

In 1993, Senate Bill 1082 gave CalEPA the authority and responsibility to establish a unified hazardous waste and hazardous materials management and regulatory program, commonly referred to as the Unified Program. The purpose of this program is to consolidate and coordinate six different hazardous materials and hazardous waste programs, and to ensure that they are consistently implemented throughout the state. The Unified Program is overseen by CalEPA with support from the DTSC, RWQCBs, the OES, and the State Fire Marshal.

State law requires county and local agencies to implement the Unified Program. The agency in charge of implementing the program is called the Certified Unified Program Agency (CUPA). The County of San Diego DEH, Hazardous Materials Division is the designated CUPA for the county. In addition to the CUPA, other local agencies help to implement the Unified Program. These agencies are called Participatory Agencies. The Hazardous Materials Division is the Participatory Agency for Carlsbad.

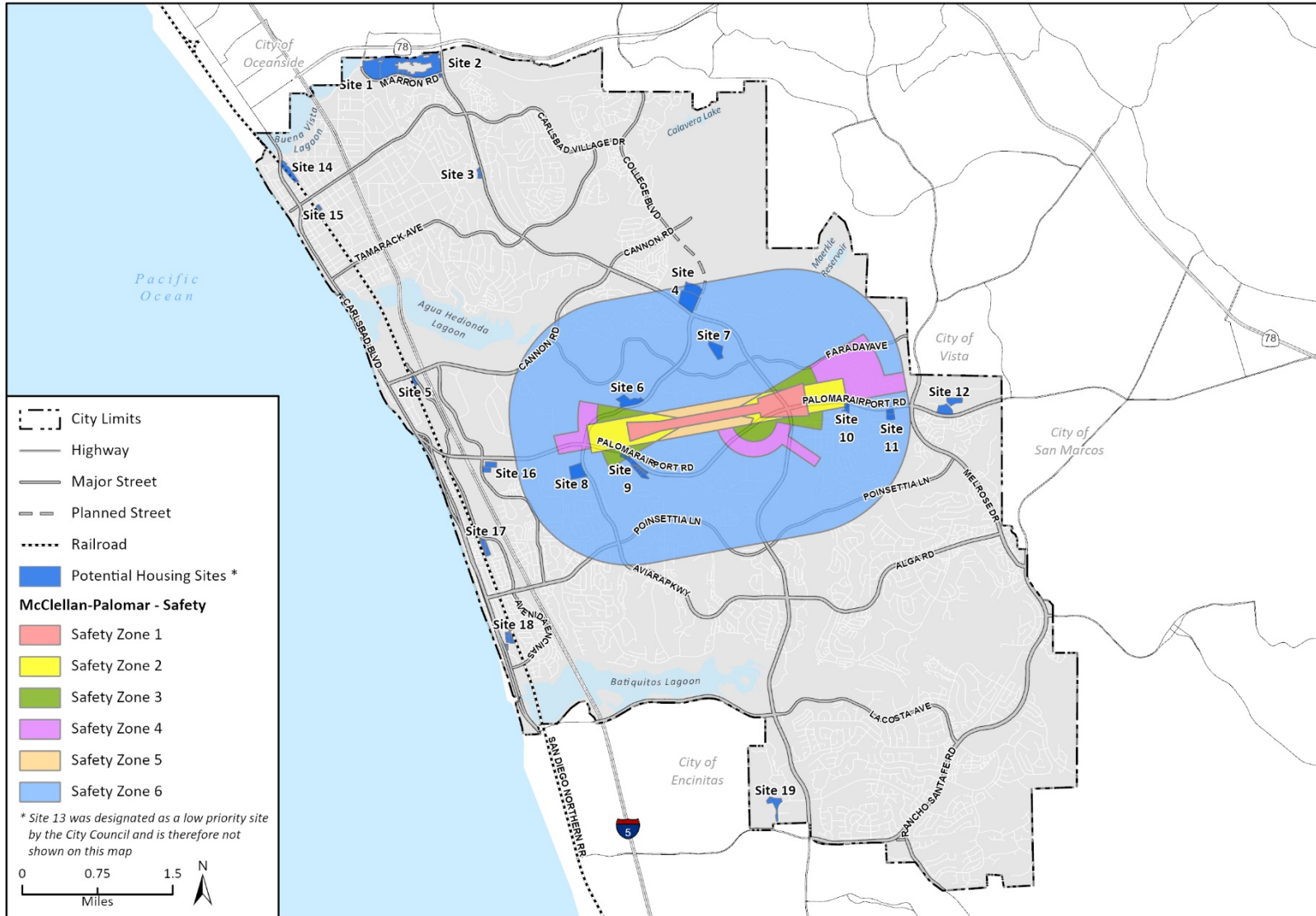
### **San Diego County Multi-Jurisdictional Hazard Mitigation Plan**

Long-term prevention, mitigation efforts and risk-based preparedness for specific hazards within the city are addressed as a part of the San Diego County Multi-Jurisdictional Hazard Mitigation Plan (MJHMP). The 2023 San Diego County Multi-Jurisdictional Hazard Mitigation Plan (MJHMP) was approved by the San Diego County Board of Supervisors in February 2023 as an update to the 2018 MJHMP. However, the 2023 MJHMP is still pending final approval from the Federal Emergency Management Agency (FEMA). The MJHMP identifies specific risks for San Diego County and provides methods to help minimize damage caused by natural and man-made disasters. The final list of hazards profiled for San Diego County was determined as wildfire/structure fire, flood, coastal storms/erosion/tsunami, earthquake/liquefaction, rain-induced landslide, dam failure, hazardous materials incidents, nuclear materials release, and terrorism. Currently, the city is in the process of updating its mitigation strategies and action programs within the MJHMP. The San Diego County OES is responsible for coordinating with local jurisdictions and participating agencies to monitor, evaluate, and update the MJHMP as necessary.

### **McClellan–Palomar Airport Land Use Compatibility Plan (ALUCP)**

The McClellan–Palomar ALUCP was prepared by the San Diego County Regional Airport Authority to protect the safety of the public (adopted in 2010 and amended in 2010 and 2011). ALUCPs are intended to promote compatibility between airports and the land uses that surround them by addressing noise, overflight, safety, and airspace protection concerns. Each ALUCP prevents exposure to excessive noise and safety hazards within an airport influence area over a 20-year horizon. The McClellan–Palomar ALUCP provides for the orderly growth of the airport and the area surrounding the airport and safeguards the general welfare of the inhabitants within the vicinity of the airport and the public in general. According to Exhibit III-2 (Compatibility Policy Map: Safety) of the ALUCP and as shown in Figure 4.7-2, a portion of site 10 is within Zone 2 - Inner Approach/Departure Zone, and a portion of Site 9 is within Zone 3 - Inner Turning Zone. In addition, the remaining portions of Sites 9 and 10 as well as Sites 4, 6, 7, 8, and 11 are within Zone 6 - Traffic Pattern Zone. According to Exhibit III-5 (Compatibility Policy Map: Airport Influence Area) of the ALUCP and as shown in Figure 4.7-3, Sites 4, 6, 7, 8, 9, 10, 11, and a portion of 16 are within Airport Influence Area - Review Area 1 and Sites 5, 12, 17, and a portion of Sites 16 and 18 are within Airport Influence Area - Review Area 2.

Figure 4.7-2 Mc-Clellan-Palomar Airport Safety Zone and Housing Sites

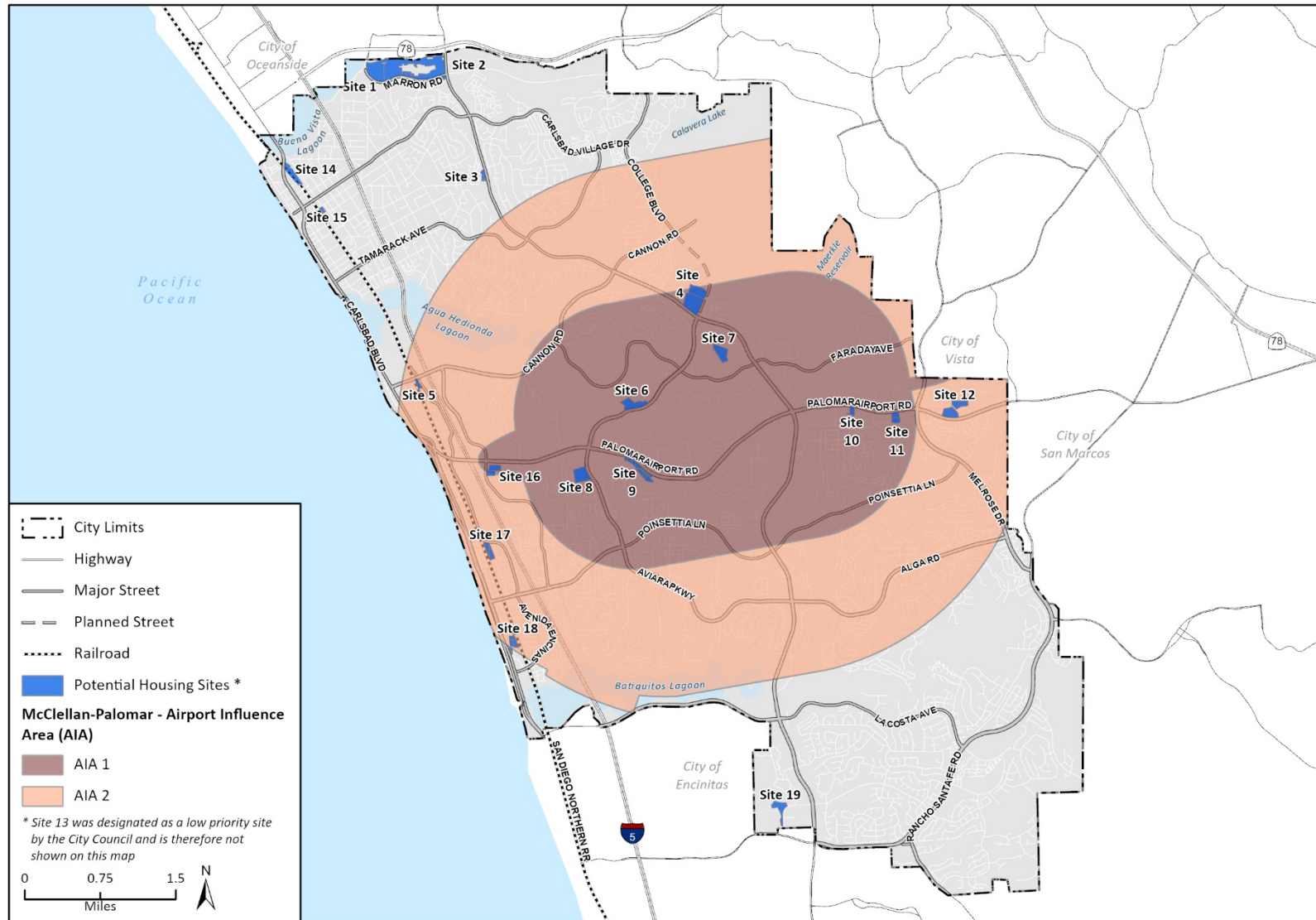


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 Additional data provided by City of Carlsbad, 2022; San Diego County Airport Authority.

CSB Housing sites Posters  
 Fig 4.7-3 Airport Safety Zone and Sites



Figure 4.7-3 Mc-Clellan-Palomar Airport Airport Influence Area and Housing Sites



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 Additional data provided by City of Carlsbad, 2022; San Diego County Airport Authority.

CSB Housing sites Posters  
 Fig 4.7-2 Airport Influence Area and Sites

## Carlsbad Municipal Code

Chapter 6.03 of the Carlsbad Municipal Code requires the disclosure of hazardous materials and regulates the establishment of hazardous waste. The city has adopted the County of San Diego regulations requiring the disclosure of hazardous materials (San Diego County Code of Regulatory Ordinances, Title 6, Division 8, Chapters 9 and 11), unless local modifications are enacted by the City of Carlsbad, pursuant to law.

### 4.7.3 Impact Analysis

#### a. Methodology and Thresholds of Significance

The following thresholds are based on *CEQA Guidelines* Appendix G. For purposes of this SEIR, impacts related to hazards and hazardous materials are considered significant if implementation of the proposed project would:

1. Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials;
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;
3. Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school;
4. Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would create a significant hazard to the public or the environment;
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, result in a safety hazard or excessive noise for people residing or working in the project area;
6. Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan; or
7. Expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires.

As described at the beginning of this section, an analysis of the risk of exposure to wildland fires resulting from implementation of the proposed HEU is contained in Section 4.15, *Wildfire*. Therefore, threshold 7 is addressed in Section 4.15, *Wildfire*.

#### b. Prior Environmental Analysis

The 2015 General Plan EIR determined that impacts related to transport, use, and disposal of hazardous materials; upset and accident conditions involving the release of hazardous materials into the environment; emissions or handling of hazardous materials within 0.25 mile of a school; location of development projects on hazardous materials sites such that the new use would create a hazard to the public or the environment; consistency with the policies in the McClellan-Palomar Airport Land Use Compatibility Plan; interference with an adopted emergency response or evacuation plan; and risk from wildland fire in lands adjacent to urbanized or residential areas would be less than

significant (Section 3.6, Hazards and Hazardous Materials, Airport Safety, and Wildfires: 3.6-27 through 3.6-37). It further stated that individual development projects would be subject to project-specific development and planning review, including adherence to standards for hazards, airport, and wildfire safety.

The proposed project involves land use changes to encourage development on 18 sites beyond what was anticipated in the 2015 General Plan EIR and could therefore result in new impacts related to land use and planning. Therefore, all the CEQA checklist items listed above under Methodology and Significance Thresholds are addressed in this analysis, with the exception of Threshold 7 which is addressed in Section 4.15, *Wildfire*.

### **c. Project Impacts and Mitigation Measures**

Some components associated with the proposed project, including updates to the Local Coastal Plan and Master and Specific Plans for consistency between the City's planning documents, in and of themselves would not result in physical changes to the environment such that impacts from hazards and hazardous materials would occur. Therefore, this analysis focuses on impacts associated with implementation of the rezone program which would facilitate the development of 18 sites listed in Table 2-4 in Section 2, *Project Description*, as well as updates to the Public Safety Element which includes policies related to hazards and hazardous materials.

- Threshold 1:** Would the project create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?
- Threshold 2:** Would the project create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?

**Impact HAZ-1 IMPLEMENTATION OF THE PROPOSED PROJECT WOULD FACILITATE NEW RESIDENTIAL DEVELOPMENT ON 18 REZONE SITES. PROPOSED RESIDENTIAL USES WOULD NOT INVOLVE THE ROUTINE TRANSPORTATION, USE, OR DISPOSAL OF HAZARDOUS MATERIALS. HOWEVER, CONSTRUCTION OF NEW RESIDENCES COULD RESULT IN AN INCREASE IN THE OVERALL ROUTINE, TRANSPORT, USE AND DISPOSAL OF HAZARDOUS MATERIALS IN CARLSBAD FOR CONSTRUCTION ACTIVITIES. NONETHELESS, REQUIRED COMPLIANCE WITH APPLICABLE REGULATIONS RELATED TO HAZARDOUS MATERIALS AND COMPLIANCE WITH GENERAL PLAN POLICIES WOULD MINIMIZE THE RISK OF RELEASES AND EXPOSURE TO THESE MATERIALS. IMPACTS WOULD BE LESS THAN SIGNIFICANT.**

Hazardous materials are typically utilized by most land uses such as industrial, retail/office, commercial, residential, agriculture, medical, and recreational uses, among other activities. Residential uses do not typically use hazardous materials other than small amounts for cleaning and landscaping. These materials would not be different from household chemicals and solvents already in wide use throughout Carlsbad. Residents and workers are anticipated to use limited quantities of products routinely for periodic cleaning, repair, and maintenance or for landscape maintenance/pest control that could contain hazardous materials. Those using such products would be required to comply with all applicable regulations regarding the disposal of household waste. Therefore, operation of new residential uses poses little risk of exposing the public to hazardous materials.

The proposed project would involve rezoning to accommodate additional housing. The proposed project would not facilitate the establishment of new industrial, warehouse, auto-service, or manufacturing uses. Therefore, the proposed project would not introduce new manufacturing,

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warehouse, or industrial uses that would sell, use, store, transport, or release substantial quantities of hazardous materials.

Future construction activities associated with buildout of the project may generate hazardous materials and waste, such as fuels and oils from construction equipment and vehicles. The routine use, transportation, and disposal of hazardous materials and waste within and through Carlsbad is an aspect of modern society and not unique to the proposed project.

Some of the sites, including Site 5, Site 9, Site 11, Site 12, Site 15, and Site 16 are within or near industrial areas. Federal and state regulations require adherence to specific guidelines regarding the use, transportation, disposal, and accidental release of hazardous materials would reduce impacts related to exposure of new residents to hazards associated with existing industrial uses.

Regulations associated with using, transporting, or disposing of hazardous materials include RCRA, the Emergency Planning and Community Right-to-Know Act, the Hazardous Materials Transportation Act, California Health and Safety Code, CCR Title 22, CCR Title 27, SB 1889, and the Consolidated Fire Code. The city will continue to maintain permitting requirements, as administered by the County of San Diego's DEHQ requirements, for the handling, storage, or generation of hazardous waste. Disclosure laws will continue to be enforced by the city to identify business users and the materials they handle to facilitate notification of appropriate agencies in the event of a violation. Additionally, the proposed project includes updates to the Public Safety Element, including the following policies which would further reduce hazardous wastes and materials impacts to a less than significant level:

- Policy 6-P.35** Limit hazards associated with the manufacture, use, transfer, storage and disposal of hazardous materials and hazardous wastes through enforcement of applicable local, county, state and federal regulations.
- Policy 6-P.36** Coordinate with the County of San Diego and use the San Diego County Multi-Jurisdictional Hazard Mitigation Plan (MJHMP) as a guide for implementing actions to reduce hazardous waste impacts.
- Policy 6-P.37** Regulate locations for the manufacture, storage, and use of hazardous materials within the city through implementation of Carlsbad Municipal Code Title 21 (Zoning Ordinance).
- Policy 6-P.38** Regulate development on sites with known contamination of soil and groundwater to ensure that construction workers, future occupants, and the environment as a whole, are adequately protected from hazards associated with contamination, and encourage cleanup of such sites. Provide documentation that development sites are not impacted by former/current site uses, including but not limited to, agricultural chemicals, aerially deposited lead, common railroad contaminants, and hazardous material storage and/or use.
- Policy 6-P.39** Provide hazardous materials emergency incident responses. Coordinate such responses with applicable federal, state and county agencies.
- Policy 6-P.40** Maintain regulations that require proper storage and disposal of hazardous materials to reduce the likelihood of leakage, explosions, or fire, and to properly contain potential spills from leaving the site.

- Policy 6-P.41** Enhance and expand the use of desilting/pollutant basins to function as hazardous material spill control facilities to prevent the spread of contaminants to downstream areas.
- Policy 6-P.42** Support public awareness and participation in household hazardous waste management, solid waste, and recycling programs.

Overall, policies 6-P.35 through 6-P.42 would require the enforcement of federal, State, county, and local regulations associated with the manufacture, use, transfer, storage, and disposal of hazardous materials and wastes and also provide for response in the case of accident or upset conditions.

Through these regulatory actions, along with the ongoing public education efforts of the city, and the identification of risks, the city can continue to maintain safe conditions. With the implementation of federal, State, and local regulations and policies the risk of death, injury and/or property loss is reduced.

As was found in the 2015 General Plan EIR, compliance with General Plan policies would further reduce impacts. Therefore, compliance with the General Plan policies and federal, State and local regulations will ensure the impact of routine use, transport, and disposal of hazardous materials associated with implementation of the project would be less than significant. Impacts associated with development on sites that may contain soil or groundwater contamination are further discussed under Impact HAZ-3.

### **Mitigation Measures**

No mitigation measures are required because, like under the 2015 General Plan EIR, impacts would be less than significant without mitigation.

**Threshold 3:** Would the project emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within 0.25 mile of an existing or proposed school?

**Impact HAZ-2** SIMILAR TO THE DEVELOPMENT ANALYZED IN THE 2015 GENERAL PLAN EIR, DEVELOPMENT FACILITATED BY THE PROJECT WOULD NOT EMIT HAZARDOUS EMISSIONS OR HANDLE HAZARDOUS OR ACUTELY HAZARDOUS MATERIALS, SUBSTANCES, OR WASTE WITHIN ONE-QUARTER MILE OF AN EXISTING OR PROPOSED SCHOOL. THIS IMPACT WOULD BE LESS THAN SIGNIFICANT.

The proposed project would facilitate residential development at a higher density in the vicinity of some schools. As shown in Figure 4.7-1, there are schools within 0.25 miles of the rezone sites. The Army and Navy Academy is within 0.25-mile of Site 14, and the Discovery Isle Child Development Center is within 0.25-mile of Site 16. However, residential uses do not typically emit hazardous materials or substances other than small amounts for cleaning and landscaping. Therefore, operation of new residential uses would not emit or handle hazardous materials within 0.25 mile of a school.

As mentioned in Impact HAZ-1, construction facilitated by the proposed project may include the temporary transport, storage, and use of potentially hazardous materials including fuels, lubricating fluids, cleaners, or solvents. Specifically, demolition, grading, and excavation activities associated with new construction on the 18 rezone sites may result in emissions and transport of hazardous materials. Further, the rezone sites may have unrecorded pre-existing contamination that could be exposed during grading or construction activities. However, adherence to applicable policies

regarding emission and transport of hazardous materials such as the Toxic Substances Control Act, the Resource Conservation and Recovery Act, and the Hazardous Waste Control Act, as listed the *Regulatory Setting* and under Impact HAZ-1, would ensure potential impacts would be reduced.

Additionally, as was found in the 2015 General Plan EIR, compliance with General Plan Public Safety Element policies would further reduce impacts. Therefore, potential impacts associated with hazardous materials, substances, or wastes within 0.25 mile of an existing or proposed school would be less than significant.

### **Mitigation Measures**

No mitigation measures are required because, like under the 2015 General Plan EIR, impacts would be less than significant without mitigation.

**Threshold 4:** Would the project be located on a site that is included on a list of hazardous material sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?

**Impact HAZ-3** SIMILAR TO THE DEVELOPMENT ANALYZED IN THE 2015 GENERAL PLAN EIR, DEVELOPMENT FACILITATED BY THE PROJECT COULD RESULT IN DEVELOPMENT ON SITES CONTAMINATED WITH HAZARDOUS MATERIALS. HOWEVER, COMPLIANCE WITH APPLICABLE REGULATIONS RELATING TO SITE REMEDIATION WOULD MINIMIZE IMPACTS FROM DEVELOPMENT ON CONTAMINATED SITES, RESULTING IN A LESS THAN SIGNIFICANT IMPACT.

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Most of the rezone sites do not have any active or open LUST cleanup sites or other active or open hazardous materials sites pursuant to Government Code Section 65962.5 (SWRCB 2023). Sites 14 and 16 each had one LUST which has now been designated inactive and case closed. Sites 2, 4, 8, and 15 are located adjacent to parcels which have former LUST cleanup sites or Cleanup Program sites. Several housing sites are near the McClellan-Palomar Airport, major roadways, or rail and aerially-deposited lead or other contaminants could be present. California Supreme Court in a December 2015 opinion (*BIA v. BAAQMD*) confirmed CEQA is concerned with the impacts of a project on the environment, not the effects the existing environment may have on a project; therefore, potential hazards impacts to future new residents on the rezone sites would not be an impact under CEQA.

However, redevelopment of sites with existing soil or groundwater contamination could potentially pose a significant hazard to the public or the environment through releases of hazardous materials into the environment. The extent to which soil or groundwater may be affected by LUST, metals, lead, or other potential contamination source, if at all, depends on the type of contaminant, the amount released, the duration of the release, distance from source, and depth to groundwater. If groundwater contamination is identified, characterization of the vertical and lateral extent of the contamination and remediation activities would be required by the Regional Water Quality Control Board prior to the commencement of any new construction activities that would disturb the subsurface. If contamination exceeds regulatory action levels, the developer would be required to undertake remediation procedures prior to grading and development under the supervision of the Regional Water Quality Control Board, depending upon the nature of any identified contamination.

Further, the General Plan contains policies designed to lessen the impact of sites contaminated with hazardous materials. For example, General Plan Policy 4-P.51 would require a detailed soils testing and analysis report to be prepared if development is located within an existing or former agricultural area and require mitigation measures to remediate significant public health impacts.

Similarly, the Public Safety Element Update includes Policy 6-P.38 (listed under Impact HAZ-1) which would regulate development on sites with known soil and groundwater contamination to ensure protection of construction workers, future occupants, and the environment, as well as encourage cleanup of contaminated sites.

As was found in the 2015 General Plan EIR, compliance with General Plan Policies would further reduce potential impacts associated with development on a hazardous materials site. Compliance with existing State and local regulations would reduce impacts. Therefore, the impact of posing a significant hazard to the public or environment through the release of hazardous materials associated with the implementation of the proposed project would be less than significant.

### **Mitigation Measures**

No mitigation measures are required because, like under the 2015 General Plan EIR, impacts would be less than significant without mitigation.

**Threshold 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 the project result in a safety hazard or excessive noise for people residing or working in the project area?

**Impact HAZ-4 SIMILAR TO THE DEVELOPMENT ANALYZED IN THE 2015 GENERAL PLAN EIR, DEVELOPMENT FACILITATED BY THE PROJECT WOULD NOT RESULT IN A SAFETY HAZARD FOR PEOPLE RESIDING OR WORKING IN THE PROJECT AREA. COMPLIANCE WITH POLICIES AND REVIEW PROCEDURES OF THE AIRPORT LAND USE COMPATIBILITY PLAN WOULD RESULT IN LESS THAN SIGNIFICANT IMPACTS.**

The McClellan–Palomar Airport has an ALUCP developed and adopted by the San Diego County Airport Land Use Commission in 2010 and last amended in 2011 (San Diego County Regional Airport Authority 2011). San Diego County manages the operation of the airport. The city reviews all proposed development projects within the Airport Influence Area for compatibility with the ALUCP.

According to Exhibit III-5 (Compatibility Policy Map: Airport Influence Area) of the ALUCP and as shown in Figure 4.7-3, Sites 4, 6, 7, 8, 9, 10, 11, and a portion of Site 16 are within Airport Influence Area - Review Area 1. Review Area 1 encompasses locations exposed to aircraft noise levels of 60 dB CNEL or greater together with all of the safety zones depicted. Therefore, this area depicts locations where noise and/or safety concerns may necessitate limitations on the types of land use actions. Sites 5, 12, 17, and a portion of Sites 16 and 18 are within Airport Influence Area - Review Area 2. Review Area 2 consists of locations beyond Review Area 1 but within the airspace protection and/or overflight notification areas shown in the ALUCP. The only land use restrictions in Review Area 2 are for the heights of structures, particularly in areas of high terrain. Recordation of overflight notification documents is also required for projects in Review Area 2.

According to Exhibit III-2 (Compatibility Policy Map: Safety) of the ALUCP and as shown in Figure 4.7-2, a portion of site 10 is within Zone 2 - Inner Approach/Departure Zone, and a portion of Site 9 is within Zone 3 - Inner Turning Zone. In addition, the remaining portions of Sites 9 and 10 as well as Sites 4, 6, 7, 8, and 11 are within Zone 6 - Traffic Pattern Zone.

For future development within the Review Areas, new development proposals must process a site development plan or other development permit and be found consistent or conditionally consistent with applicable land use compatibility policies with respect to noise, safety airspace protection, and overflight, as contained in the ALUCP. The project would be subject to the land use compatibility

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policies 2.6, 3.5, and 3.6 in the McClellan–Palomar ALUCP, directing the Airport Land Use Commission to review land use actions which may have noise or safety concerns and real estate disclosures regarding overflight compatibility for sites in the Airport Influence Area. Additionally, future development would be required to comply with Policy 6-P.32 of the Public Safety Element Update, and Policy 2-P.37 of the Land Use and Community Design Element Update, which state the following:

**Policy 6-P.32** Ensure that development in the McClellan-Palomar Airport Influence Area is consistent with the land use compatibility policies contained in the McClellan-Palomar Airport Land Use Compatibility Plan.

**Policy 2-P.37** Require new development located in the Airport Influence Area (AIA) to comply with applicable land use compatibility provisions of the McClellan–Palomar Airport Land Use Compatibility Plan (ALUCP) through review and approval of a site development plan or other development permit. Unless otherwise approved by City Council, development proposals must be consistent or conditionally consistent with applicable land use compatibility policies with respect to noise, safety, airspace protection, and overflight notification, as contained in the McClellan-Palomar ALUCP. Additionally, development proposals must meet Federal Aviation Administration (FAA) requirements with respect to building height as well as the provision of obstruction lighting when appurtenances are permitted to penetrate the transitional surface (a 7:1 slope from the runway primary surface). Consider San Diego County Regional Airport Authority Airport Land Use Commission recommendations.

Table 4.7-1 includes a discussion of project consistency with the land use policies and restrictions set forth in the ALUCP. As shown, the proposed project would not conflict with the development policies. Therefore, the proposed project would not cause a safety hazard for people residing or working in the project area.

**Table 4.7-1 Project Consistency with McClellan-Palomar Airport Land Use Compatibility Plan**

Safety Zone	Rezone Sites	ALUCP Policies	Project Consistency
Zone 2 - Inner Approach/Departure Zone	Site 10	New residential development at a density greater than 4 dwelling units per gross acre is “incompatible.”	<b>Consistent:</b> Approximately .60 acre of Site 10 along Palomar Airport Road is restricted to only develop at under 4 units per acre. During site design for future development on the site, the portion in Zone 2 would not be developed beyond what is allowed in the ALUCP.
Zone 3 - Inner Turning Zone	Site 9	New residential development at a density greater than 16 dwelling units per gross acre is “incompatible.” New residential development at a density of more than 4 dwelling units per gross acre but not more than 13 dwelling units per gross acre is “conditionally compatible” provided that the	<b>Consistent:</b> Approximately 1.72 acres of this site is within Zone 3. A project has been approved at this site for 192 units that included its own project-level CEQA review and was found to not conflict with the ALUCP. The portion of the project in Zone 3 would include approximately 7 units per acre and would include



Safety Zone	Rezone Sites	ACLUP Policies	Project Consistency
		development complies with the clustering requirements.	development that would comply with the clustering requirements set forth in the ALUCP.
Zone 6 - Traffic Pattern Zone	Remaining portions of Sites 9 and 10 Sites 4, 6, 7, 8, and 11	New residential development is "compatible."	<b>Consistent:</b> Residential development on these sites would not conflict with the ALUCP.

Source: San Diego County Regional Airport Authority 2011; City of Carlsbad 2020

Please refer to Impact NOI-4 under Section 4.10, *Noise*, of this SEIR, for an analysis of noise impacts from the McClellan-Palomar Airport.

As was found in the 2015 General Plan EIR, compliance with General Plan policies and the procedures in the ALUCP would reduce potential impacts related to airport hazards. This impact would be less than significant.

### Mitigation Measures

No mitigation measures are required because, like under the 2015 General Plan EIR, impacts would be less than significant without mitigation.

**Threshold 6:** Would the project impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?

**Impact HAZ-5** SIMILAR TO THE DEVELOPMENT ANALYZED IN THE 2015 GENERAL PLAN EIR, DEVELOPMENT FACILITATED BY THE PROJECT WOULD NOT IMPAIR IMPLEMENTATION OF OR PHYSICALLY INTERFERE WITH AN ADOPTED EMERGENCY RESPONSE PLAN OR EMERGENCY EVACUATION PLAN. THIS IMPACT WOULD BE LESS THAN SIGNIFICANT.

Implementation of the project would result in new development and population growth, resulting in an increase in demand for emergency services, which could affect the implementation of adopted emergency response and evacuation plans. However, the city has adopted the "City of Carlsbad Emergency Operations Plan" prepared in conjunction with the Unified San Diego County Emergency Services Organization. This plan addresses the city's planned response to extraordinary emergency situations associated with any type of natural disaster, technological incident, or state of war emergency (Unified San Diego County Emergency Services Organization and County of San Diego 2022). The plan includes the city as part of the Statewide Emergency Management System. Further, the proposed project includes updates to the Public Safety Element, including the following proposed policies:

**Policy 6-P.70** Implement and maintain the City of Carlsbad Emergency Operations Plan, the Multi-jurisdictional Hazard Mitigation Plan, and other relevant emergency plans, policies, and procedures.

**Policy 6-P.71** Promote public awareness of potential natural and man-made hazards, measures that can be taken to protect lives and property.

**Housing Element Implementation and Public Safety Element Update**

- Policy 6-P.72** Inform the public and contractors of the danger involved and the necessary precautions that must be taken when working on or near pipelines or utility transmission lines.
- Policy 6-P.73** Ensure all new development complies with all applicable regulations regarding the provision of public utilities and facilities.
- Policy 6-P.74** Maintain roadways that are likely to function as key evacuation routes.
- Policy 6-P.75** Provide resources to City of Carlsbad staff regarding appropriate emergency preparedness and response activities as well as designed roles and responsibilities as Disaster Service Workers. Conduct routine trainings for all-hazards emergency preparedness and response.
- Policy 6-P.76** Facilitate restriction of parking, construction permits or right-of-way encroachment permits on high fire days in neighborhoods in and near fire hazard zones and along critical evacuation routes.
- Policy 6-P.77** Facilitate restriction of parking, construction permits or right-of-way encroachment on days with potential storm surges, atmospheric rivers, and king tide days in neighborhoods in and near flood hazard zones and along critical evacuation routes.
- Policy 6-P.78** Develop and maintain emergency evacuation capabilities in conjunction with regional partners and regional plans such as the San Diego County Emergency Operations Plan.
- Policy 6-P.79** Continue to communicate to the public on essential resources and procedures through a variety of communication tools and in multiple languages on topics including:
  - Education on the California Standard Statewide Evacuation Terminology.
  - Emergency evacuation checklists for residents.
  - Creation and education of the public on evacuation maps.
  - Available transportation services.
  - Evacuation shelter and support service options.

With the compliance of the emergency plan and updated Public Safety Element policies above, the potential to impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan would be less than significant.

**Mitigation Measures**

No mitigation measures are required because, like under the 2015 General Plan EIR, impacts would be less than significant without mitigation.

**d. Cumulative Impacts**

The geographic scope for cumulative hazardous materials impacts is limited to projects within 0.25 mile of the sites. This geographic scope is appropriate for hazardous materials because risks associated with hazards and hazardous materials occur largely in a site-specific and localized context as adverse impacts from a hazardous materials release or spill diminish in magnitude with distance. Cumulative residential development in the vicinity of any identified hazardous materials sites would gradually increase the population exposed to the use and transport of hazardous materials; the

routine use, storage, and disposal of hazardous materials; listed hazardous materials sites; and subject to emergency response and evacuation plans. The magnitude of hazards for individual projects would depend upon the location, type, and size of development and the specific hazards associated with individual sites. Implementation of existing laws and regulations, including remedial action on contaminated sites, as discussed with regard to the project under Impacts HAZ-1 through HAZ-5, would avoid potential hazard impacts.

Overall, hazards and hazardous materials impacts associated with individual developments are site specific in nature and must be addressed on a case-by-case basis. Since hazards and hazardous materials are required to be examined as part of the permit application and review process, potential impacts associated with individual projects would be adequately addressed prior to permit approval. With adherence to existing regulatory standards for hazardous materials, no significant cumulative human health impacts would occur, and the project would not have a cumulatively considerable contribution to a significant cumulative impact related to hazards and hazardous materials.

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## 4.8 Hydrology and Water Quality

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This section addresses impacts related to drainage infrastructure and surface water quality. Information regarding potable water and topography was obtained from the Carlsbad Municipal Water District's (CMWD) *Potable Water Master Plan* (2019), while data regarding groundwater and water quality was obtained from the CMWD's *2020 Urban Water Management Plan* (2021).

### 4.8.1 Setting

The San Diego Region is divided into 11 hydrologic units that flow from elevated regions in the east toward coastal lagoons, estuaries, or bays in the west. Carlsbad is located within the Carlsbad Hydrologic Unit (HU), also referred to as the Carlsbad Watershed Management Area, which is approximately 210 square miles in area, extending from the headwaters above Lake Wohlford in the east to the Pacific Ocean in the west, and from Vista and Oceanside in the north to Solana Beach, Encinitas, and the community of Rancho Santa Fe to the south. There are numerous important surface hydrologic features within the Carlsbad HU including four unique coastal lagoons, three major creeks, and two large water storage reservoirs (City of Carlsbad 2023). Figure 4.8-1 shows watersheds and surface water features in Carlsbad.

#### a. Watershed and Surface Water

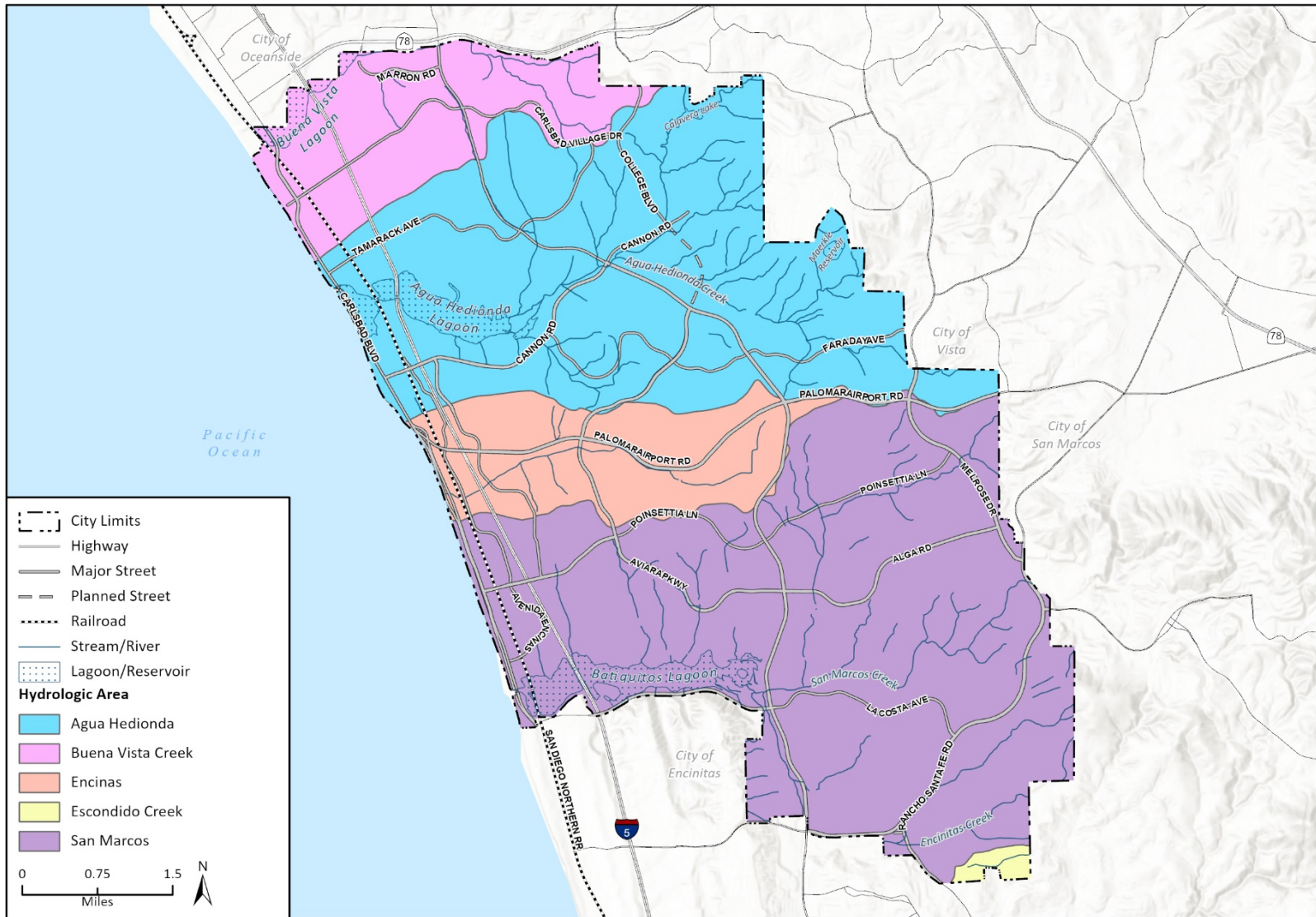
Surface water resources in Carlsbad include coastal waters, reservoirs, and lake resources, as well as streams and rivers. Most of the surface flow in the streams and rivers of the San Diego region comes from precipitation runoff and storm events. Precipitation occurs predominantly during the winter and spring months and streamflows are highest during this period. Surface flows during summer and fall months are typically low, and consist of urban runoff, agricultural runoff, and surfacing groundwater.

Surface water features in the San Diego Basin include Buena Vista Creek, Buena Vista Lagoon, Agua Hedionda Creek, Agua Hedionda Lagoon, San Marcos Creek, and Batiquitos Lagoon. Buena Vista Creek originates on the western slopes in the San Marcos Mountains northeast of Carlsbad and discharges into the Pacific Ocean via the Buena Vista Lagoon. Agua Hedionda Creek flows towards the ocean from the southern edge of the San Marcos Mountains, east of Vista, into the Agua Hedionda Lagoon. The San Marcos Creek originates near Twin Oaks and San Marcos and flows towards the ocean into the Batiquitos Lagoon, on the southern edge of the city (City of Carlsbad 2023).

As identified in the San Diego Regional Water Quality Control Board's (RWQCBs) Water Quality Control Plan for the San Diego Basin (Basin Plan), Buena Vista Creek, Agua Hedionda Creek, San Marcos Creek, and San Luis Rey River all have designated beneficial uses including the following:

- Municipal and domestic water supply
- Agricultural water supply
- Industrial service water supply
- Contact water recreation
- Non-contact water recreation
- Warm freshwater habitat
- Cold freshwater habitat
- Wildlife habitat
- Rare, threatened, and endangered species habitat
- Hydropower generation

Figure 4.8-1 Watershed and Surface Waters in Carlsbad



Imagery provided by Esri and its licensors © 2023.  
 Additional data provided by City of Carlsbad, 2022; USGS, 2022; California Department of Water Resources, 2021.

CSB Housing Site Posters  
 Fig 4.8-1 Watershed and Surface Waters

## **b. Topography**

The topographical conditions in Carlsbad are varied, consisting of 39 square miles of rolling hills, beaches, and bluffs along the northern coast of San Diego County. In addition to the Pacific Ocean coastline along its western boundary, the communities surrounding Carlsbad include the city of Oceanside to the north, the city of Encinitas to the south, and the cities of Vista and San Marcos and unincorporated areas of San Diego County to the east.

Along Carlsbad's northern edge, urban development abuts Highway 78, with the highway and Buena Vista Lagoon acting as a boundary between Carlsbad and Oceanside. Similarly, Batiquitos Lagoon along the city's southern edge defines the boundary between Carlsbad and Encinitas. To the east, city boundaries are less distinctive, as a mix of hillsides and urban development are located adjacent to the cities of Oceanside, Vista and San Marcos and unincorporated lands. The topography ranges from sea level along the western coastline to nearly 700 feet above mean sea level (MSL) along the eastern boundary (CMWD 2019).

## **c. Groundwater**

Groundwater consists of water within underground aquifers that is recharged from the land surface. The rate of groundwater recharge is affected by the permeability of the ground surface. Carlsbad is located within the semi-arid San Diego region, which experiences a slow rate of groundwater recharge by rainfall (San Diego County Water Authority 2023).

The Batiquitos Lagoon Valley Groundwater Basin partially underlies Carlsbad; however, most of the city is not within a designated groundwater basin. This basin consists of 741 acres. The basin is bounded on the northeast by impermeable crystalline rocks, on the west by Batiquitos Lagoon, and otherwise by semipermeable rocks on the La Jolla Formation. The overall groundwater storage capacity and storage levels are currently unknown. The groundwater in this basin is not considered a good source of irrigation or municipal use due to the high content of chloride, sulfate, and total dissolved solids (California Department of Water Resources 2004).

## **d. Hydrologic Hazards**

### **Flood Hazards**

Floodplains are areas of land located adjacent to rivers or streams that are subject to recurring inundation or flooding. Preserving or restoring natural floodplains helps with flood loss reduction benefits and improves water quality and habitat. Floods are typically described in terms of their statistical frequency. For example, a 100-year floodplain describes an area within which there is a one percent probability of a flood occurring in any given year. Flooding can cause widespread damage to affected areas. Buildings and vehicles can be damaged or destroyed, while smaller objects can be buried in flood-deposited sediments. Floods can also cause drowning or isolation of people or animals. In addition, floodwaters can break utility lines, interrupting services and potentially affecting health and safety, particularly in the case of broken sewer or gas lines.

The secondary effects of flooding are due to standing water, which can result in crop damage, septic tank failure, mosquito breeding habitat, and well water contamination. Standing water can also damage roads, foundations, and electrical circuits.

### *FEMA 100-Year Flood Hazard*

The Federal Emergency Management Agency (FEMA) prepares Flood Insurance Rate Maps (FIRMs), which identify 100-year and 500-year flood zones. The 100-year flood, or “base flood”, refers to the flood resulting from a storm event that has a one percent chance of occurring in any given year. Areas mapped in the 100-year floodplain area are subject to inundation during a 100-year storm event. Flood zones in Carlsbad are shown on Figure 4.8-2. The potential flood hazard areas identified on the FIRM maps include the entire coastline and the following major drainage basins:

- Buena Vista Creek and Buena Vista Lagoon
- Agua Hedionda Creek, its northern tributary, and the Agua Hedionda Lagoon
- San Marcos Creek and its northern tributary
- Batiquitos Lagoon
- Encinitas Creek

A portion of Site 4 contains designated 100-year floodplain areas near Agua Hedionda Creek. Portions of Sites 1 and 2 contain designated floodplain areas near Buena Vista Creek (FEMA 2019).

Most jurisdictions within San Diego County, including the City of Carlsbad, participate in the National Flood Insurance Program. Pursuant to the City of Carlsbad’s Local Coastal Program (LCP) and Carlsbad Municipal Code (CMC) Title 21 (Zoning), development is restricted within 100-year floodplain areas.

### *Dam Inundation*

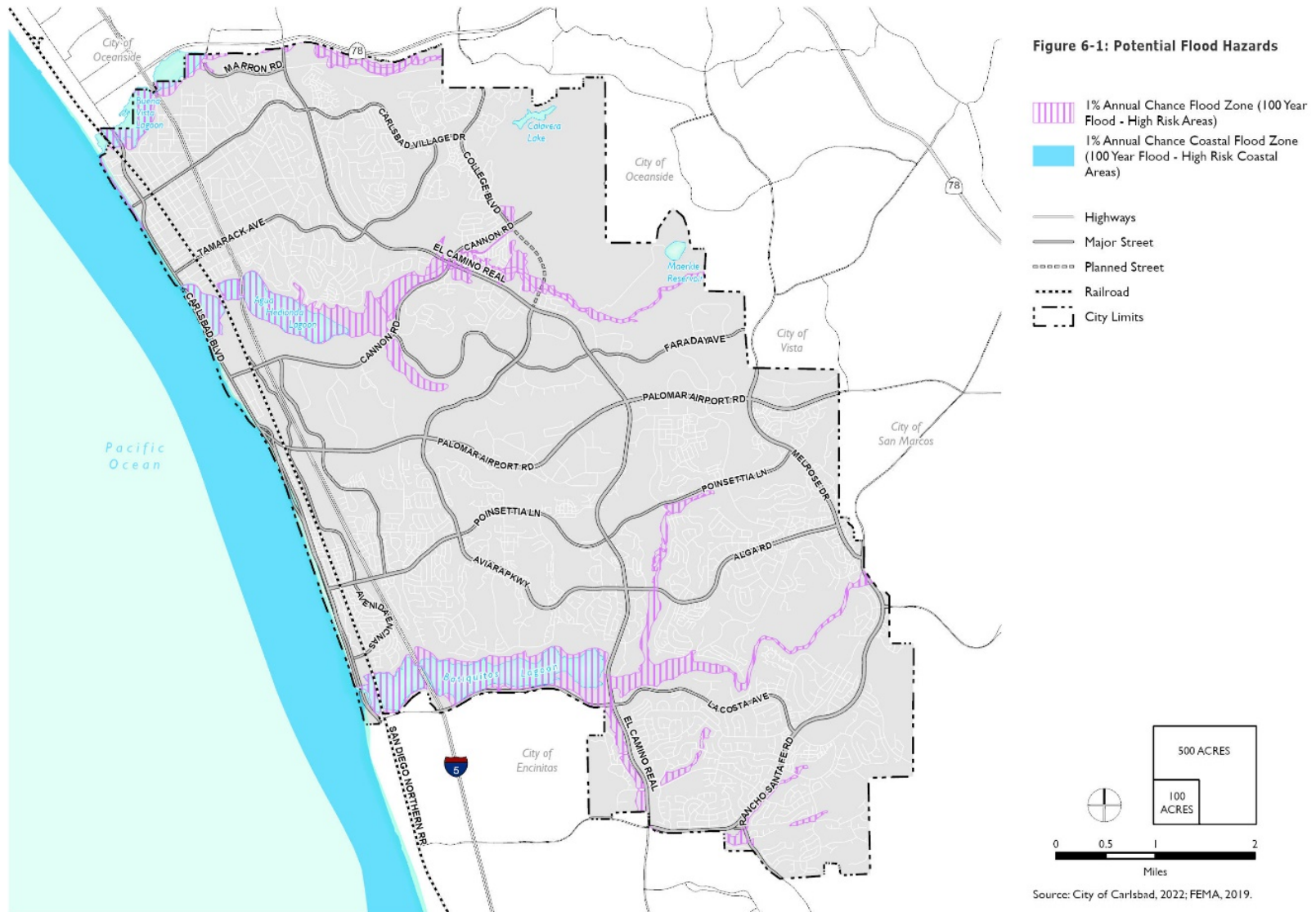
Dam inundation is caused by the sudden release of impounded water from structural failure or overtopping of a dam. The San Diego County Multi-Jurisdictional Hazard Mitigation Plan (MJHMP) identifies dam failure risk levels based on dam inundation map data. There are five dams located within or adjacent to Carlsbad: Calavera, Maerkle, Melrose Avenue, San Marcos, and Bressi. The Stanley A Mahr reservoir is also located in the southeast portion of the city. The Calavera, Melrose Avenue and Stanley A. Mahr reservoir dams have been assigned high hazard ratings, Maerkle dam has an extremely high hazard rating, San Marcos dam has a significant hazard rating, and the Bressi dam has a low hazard rating. The California Division of Safety of Dams also classifies jurisdictional dams by downstream hazard potential. Calavera, Melrose Avenue, San Marcos and Stanley A. Mahr dams are classified as high and the Maerkle dam is classified as extremely high. Bressi dam is not a state jurisdictional dam. These dams are periodically inspected by the State of California Division of Safety of Dams. The Dam Inundation Zones within Carlsbad are shown on Figure 4.8-3. Housing site 4 is within a Dam Inundation Zone.

### *Tsunami and Seiche Hazards*

Tsunamis are long wavelength ocean waves generated by sudden movements of the ocean floor, such as earthquakes, volcanic eruptions, or landslides. As shown in Figure 4.8-4, the immediate vicinity of Buena Vista, Agua Hedionda, and Batiquitos Lagoons are at risk for tsunami run-up. Of the 18 rezone sites, Sites 1 and 2 are within or adjacent to the maximum tsunami run-up area. Seiches are wave-like oscillatory movements that occur in enclosed water bodies such as lakes or reservoirs due to winds or seismic activity. Potential effects of seiches include flooding and related hazards from spilling or overflowing water. Areas at risk of seiche typically overlap with dam inundation zones, as shown in Figure 4.8-3. Of the 18 rezone sites, Site 4 could be subject to a seiche.

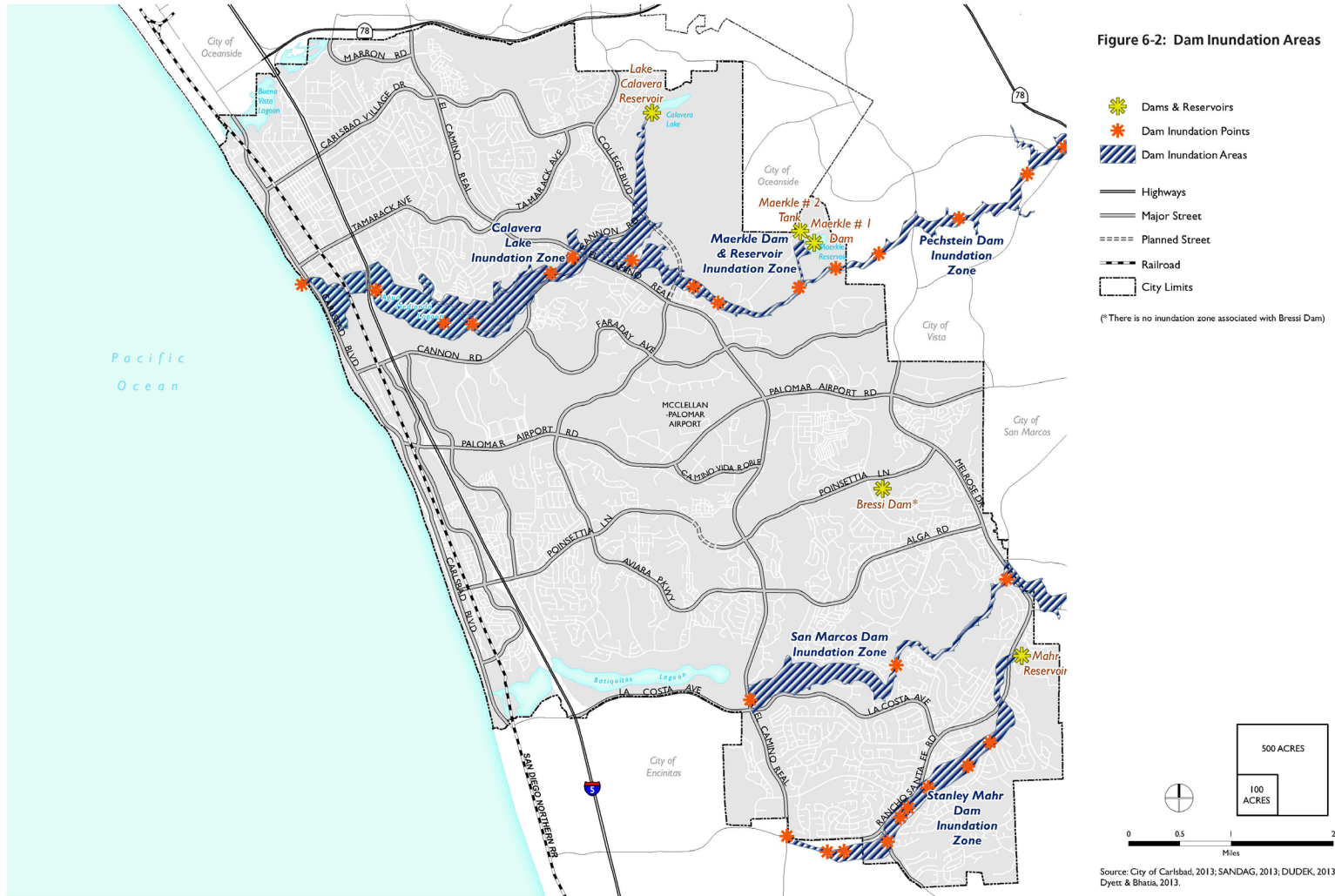


**Figure 4.8-2 FEMA Flood Hazard Zones in Carlsbad**

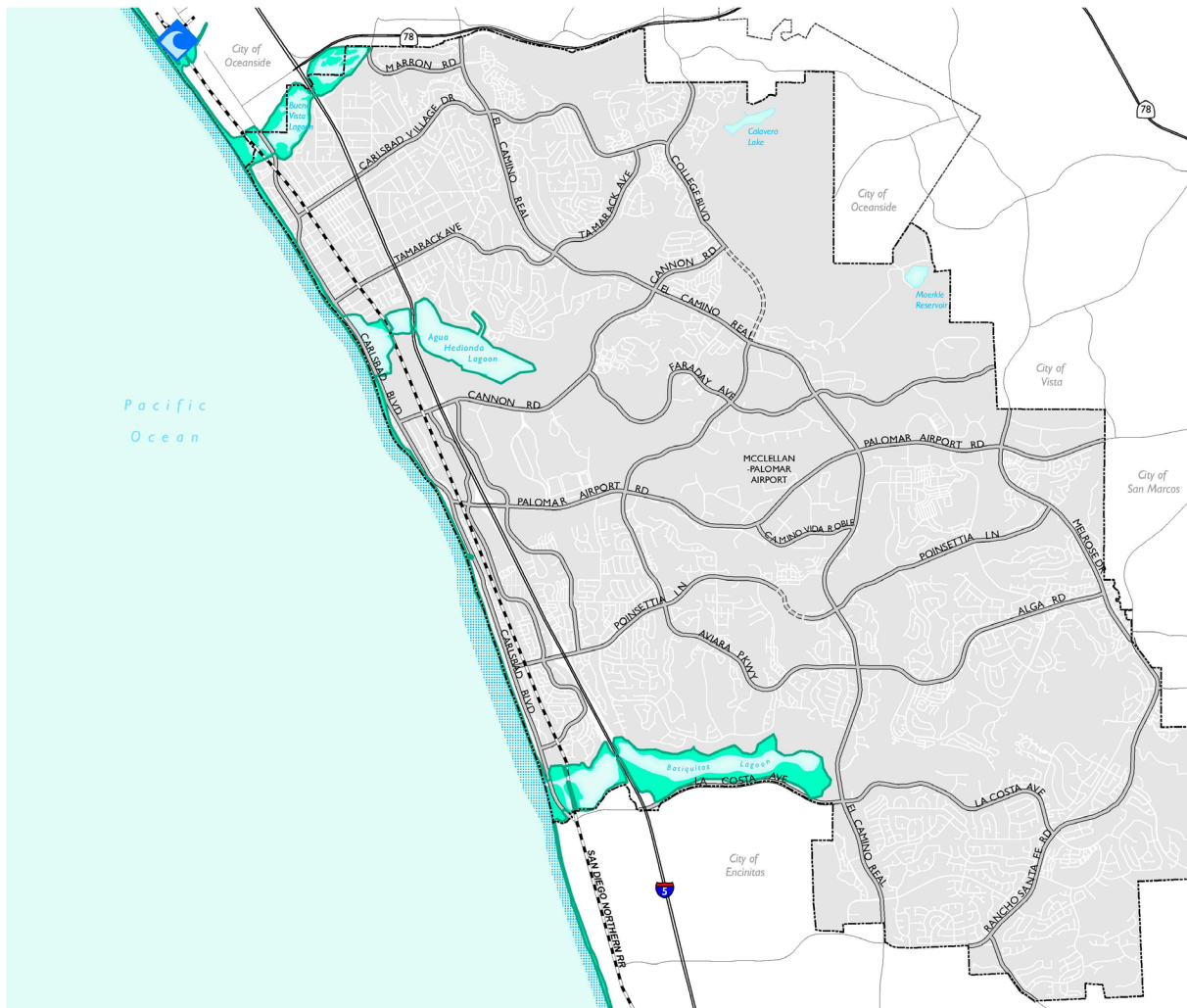


Safety Element  
 Fig X Potential Flood Hazards

Figure 4.8-3 Dam Inundation Zones in Carlsbad

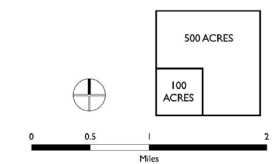


**Figure 4.8-4 Tsunami Hazard Areas in Carlsbad**



**Figure 6-3: Maximum Tsunami Projected Run-up**

- Historic Tsunami Effect Felt
- FEMA VE Zone (High Risk)
- Maximum Tsunami Projected Runup
- Highways
- Major Street
- Planned Street
- Railroad
- City Limits



Source: City of Carlsbad, 2013; SANDAG, 2012; Dyett & Bhatia, 2013.

## **e. Water Quality**

The primary sources of pollution to surface and groundwater resources include stormwater runoff from paved areas, which can contain hydrocarbons, sediments, pesticides, herbicides, toxic metals, and coliform bacteria. Improperly placed septic tank leach fields and properly placed septic tanks that do not have proper residence time or are not properly maintained or have improperly disposed of household cleaners and other materials can cause similar types of contamination. Illegal waste dumping can introduce contaminants such as gasoline, pesticides, herbicides and other harmful chemicals (City of Carlsbad 2023).

As discussed above, the Batiquitos Lagoon Valley Groundwater Basin is located within Carlsbad. The overall groundwater storage capacity and storage levels are currently unknown. The groundwater in this basin is not considered a good source of irrigation or municipal use due to the high content of chloride, sulfate, and total dissolved solids.

### **4.8.2 Regulatory Setting**

Development in Carlsbad is subject to various local, State, and federal regulations and permits regarding the use of water resources.

#### **a. Federal**

##### **Clean Water Act**

The Federal Clean Water Act, enacted by Congress in 1972 and amended several times since, is the primary federal law regulating water quality in the United States and forms the basis for several State and local laws throughout the country. The Act established the basic structure for regulating discharges of pollutants into the waters of the United States. The Clean Water Act gave the U.S. Environmental Protection Agency (USEPA) authority to implement federal pollution control programs, such as setting water quality standards for contaminants in surface water, establishing wastewater and effluent discharge limits for various industry contaminants in surface water, establishing wastewater and effluent discharge limits for various industry categories, and imposing requirements for controlling nonpoint-source pollution. At the federal level, the Clean Water Act is administered by the USEPA and U.S. Army Corps of Engineers (USACE). At the State and regional levels in California, the act is administered and enforced by the State Water Resources Board (SWRCB) and the nine regional water quality control boards (RWQCBs).

##### **Clean Water Act Section 401**

Under Section 401 of the Clean Water Act, the RWQCBs have regulatory authority over actions in waters of the United States and/or the State of California through the issuance of water quality certifications, which are issued in conjunction with any federal permit (e.g., permits issued by the USACE under Section 404 of the Clean Water Act, described above). Section 401 of the Clean Water Act provides the SWRCB and the RWQCBs with the regulatory authority to waive, certify, or deny any proposed activity that could result in a discharge to surface waters of the State. To waive or certify an activity, these agencies must find that the proposed discharge would comply with State water quality standards, including those protecting beneficial uses and water quality. If these agencies deny the proposed activity, the federal permit cannot be issued. This water quality certification is generally required for projects requiring Section 404 authorization involving the discharge of dredged or fill material to wetlands or other waters of the United States.

## **Clean Water Act Section 402**

Section 402 of the Clean Water Act requires that all construction sites on an acre or greater of land, as well as municipal, industrial and commercial facilities discharging wastewater or stormwater directly from a point source (e.g., pipe, ditch, or channel) into a surface water of the United States must obtain permission under the National Pollutant Discharge Elimination System (NPDES) permit. All NPDES permits are written to ensure that the surface water receiving discharges will achieve specified water quality standards.

According to federal regulations, NPDES permit coverage for stormwater discharges associated with construction activity can be obtained through individual State permits or general permits. Individual permitting involves the submittal of specific data on a single construction project to the appropriate permitting agency that will issue a site-specific NPDES permit to a project. NPDES coverage under a general permit involves the submittal of a Notice of Intent by the regulated construction project that they intend to comply with a general permit to be developed by USEPA or a state with delegated permitting authority.

## **Clean Water Act Section 404**

Under Section 404 of the Clean Water Act, proposed discharges of dredged or fill material into waters of the United States require USACE authorization. Waters of the United States generally include tidal waters, lakes, ponds, rivers, streams (including intermittent streams), and wetlands (with the exception of isolated wetlands). Federal regulations are currently pending that would revise the definition of “waters of the United States” subject to Section 404 of the Clean Water Act, as further discussed in Section 4.3, *Biological Resources*.

## **National Flood Insurance Act/Flood Disaster Protection Act**

The National Flood Insurance Act of 1968 made flood insurance available for the first time. The Flood Disaster Protection Act of 1973 made the purchase of flood insurance mandatory for the protection of property located in Special Flood Hazard Areas. These laws are relevant because they led to mapping of regulatory floodplains and to local management of floodplain areas according to guidelines that include prohibiting or restricting development in flood hazard zones.

## **Federal Emergency Management Agency**

FEMA administers the National Flood Insurance Program (NFIP) to provide subsidized flood insurance to communities that comply with FEMA regulations limiting development in floodplains. FEMA also issues Flood Insurance Rate Maps (FIRMs) that identify which land areas are subject to flooding. These maps provide flood information and identify flood hazard zones in the community. The design standard for flood protection is established by FEMA. FEMA’s minimum level of flood protection for new development is the 100-year flood event, also described as a flood that has a one percent chance of occurring in any given year.

FEMA has also developed requirements and procedures for evaluating earthen levee systems and mapping the areas affected by those systems. Levee systems are evaluated for their ability to provide protection from 100-year flood events and the results of this evaluation are documented in the FEMA Levee Inventory System (FLIS). Levee systems must meet minimum freeboard standards and must be maintained according to an officially adopted maintenance plan. Other FEMA levee system evaluation criteria include structural design and interior drainage.

## **b. State**

### **Clean Water Act Section 402**

In California, the NPDES program is administered by the SWRCB through the RWQCBs and requires municipalities to obtain permits that outline programs and activities to control wastewater and stormwater pollution. The Federal Clean Water Act prohibits discharge of stormwater from construction projects unless the discharge is in compliance with an NPDES permit. The SWRCB is the permitting authority in California, and adopted an NPDES General Permit for Stormwater Discharges Associated with Construction and Land Disturbance Activities (Construction General Permit) (Order 2009-0009, as amended by Orders 2010-0014-DWQ and 2012-006-DWQ). Containment and spill cleanup are also encompassed in the Storm Water Pollution Prevention Plan (SWPPP). This includes inspections for spills, a requirement that chemicals be stored in watertight containers with secondary containment to prevent spillage or leakage, procedures for addresses hazardous and non-hazardous spills, including a spill response and implementation procedure, include on-site equipment for cleanup and spills, and spill training for construction personnel.<sup>1</sup>

The order applies to construction sites that include one or more acre of soil disturbance. Construction activities include clearing, grading, grubbing, excavation, stockpiling, and reconstruction of existing facilities involving removal or replacement. The Construction General Permit requires that the landowner and/or contractor file permit registration documents prior to commencing construction and then pay a fee annually through the duration of construction. These documents include a notice of intent, risk assessment, site map, stormwater pollution prevention plan (SWPPP), and signed certification statement. The SWPPP must include measures to ensure that: all pollutants and their sources are controlled; non-stormwater discharges are identified and eliminated, controlled, or treated; site best management practices (BMPs) are effective and result in the reduction or elimination of pollutants in stormwater discharges and authorized non-stormwater discharges; and BMPs installed to reduce or eliminate pollutants after construction are completed and maintained. The Construction General Permit specifies minimum BMP requirements for stormwater control based on the risk level of the site.

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

The Porter-Cologne Water Quality Control Act (Division 7 of the California Water Code) is the primary statute covering the quality of waters in California. Under the act, SWRCB has the ultimate authority over the State's water quality policy. SWRCB administers water rights, water pollution control, and water quality functions throughout the state, while the nine RWQCBs conduct planning, permitting, and enforcement activities. The RWQCBs also regulate water quality under this act through the regulatory standards and objectives set forth in Water Quality Control Plans (also referred to as Basin Plans) prepared for each region.

### **California Toxics Rule**

Because California had not established a complete list of acceptable water quality criteria for toxic pollutants, EPA Region IX established numeric water quality criteria for toxic constituents in the form of the California Toxics Rule (CTR). The CTR provides water quality criteria for certain potentially toxic compounds for inland surface waters, enclosed bays, estuaries, and waters designated for human health or aquatic life uses. The CTR is often used by the RWQCBs when

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<sup>1</sup> See [https://www.waterboards.ca.gov/water\\_issues/programs/stormwater/docs/constpermits/wqo\\_2009\\_0009\\_complete.pdf](https://www.waterboards.ca.gov/water_issues/programs/stormwater/docs/constpermits/wqo_2009_0009_complete.pdf)



establishing water quality objectives and TMDLs. Although the CTR criteria do not apply directly to discharges of storm water runoff, they are utilized as benchmarks for toxics in urban runoff. The CTR is used as a benchmark to evaluate the potential ecological impacts of storm water runoff to receiving waters. The CTR establishes acute and chronic surface water quality standards for certain water bodies. Acute criteria provide benchmarks for the highest permissible concentration below which aquatic life can be exposed for short periods of time without deleterious effects. Chronic criteria provide benchmarks for an extended period of time (i.e., 4 days or more) without deleterious effects. The acute CTR criteria have a shorter relevant averaging period (less than 4 days) and provide a more appropriate benchmark for comparison for storm water flows.

CTR criteria apply to the receiving water body and are calculated based on the probable hardness values of the receiving waters. At higher hardness values for receiving waters, certain constituents (including copper, lead, and zinc) are more likely to be complexed (bound with) components in the water column. This in turn reduces the bioavailability and resulting potential toxicity of these metals.

### **California General Plan Law, Government Code Section 65302**

Government Code Section 65302(a) requires cities and counties located within the state to review the Land Use, Conservation, and Safety elements of the general plan "for the consideration of flood hazards, flooding, and floodplains" to address flood risks. The code also requires cities and counties in the state to annually review the land use element with respect "those areas covered by the plan that are subject to flooding identified by floodplain mapping prepared by FEMA or the California DWR."

### **Sustainable Groundwater Management Act (SGMA)**

Effective in 2015, SGMA creates a framework for sustainable, local groundwater management in California. SGMA allows local agencies to customize groundwater sustainability plans to their regional economic and environmental needs. This act requires local regions to create a GSA and to adopt groundwater management plans for groundwater basins or subbasins that are designated as medium or high priority. High-priority and medium-priority basins or subbasins must adopt groundwater management plans by 2020 or 2022, depending upon whether the basin is in critical overdraft. GSAs will have until 2040 or 2042 to achieve groundwater sustainability.

### **California Coastal Act**

The California Coastal Act of 1976 (Coastal Act) and the California Coastal Commission (CCC), the state's coastal protection and planning agency, were established by voter initiative in 1972 to plan for and regulate new development, and to protect public access to and along the shoreline. The Coastal Act considers water quality and water-related public safety concerns as issues of public importance. To provide maximum public access to the coast and public recreation areas, the Coastal Act directs each local government located within the coastal zone to prepare a Local Coastal Program consistent with Section 30501 of the Coastal Act, in consultation with the Coastal Commission and with public participation.

### **California Ocean Plan**

The Ocean Plan is one of five statewide water quality control plans established by the SWRCB to preserve and enhance California's territorial ocean waters for the use and enjoyment of the public. The Ocean Plan provides control for the discharge of waste to ocean waters and ensures the

protection of beneficial uses of ocean waters. Discharge of waste can include stormwater runoff, municipally-treated sewage outflow, and other discharges by industry under RWQCB and SWRCB permits. The Ocean Plan sets forth water quality objectives for protection of marine aquatic life as well as objectives for bacterial, physical, chemical, and biological characteristics for ocean waters.

The Ocean Plan is reviewed every three years to guarantee its water quality objectives are adequate to prevent degradation of marine species and protect public health. The Ocean Plan was first adopted by the SWRCB on July 6, 1972 and has been amended several times. The most recent amendment to the Ocean Plan was in 2019 to incorporate revised statewide bacteria water quality objectives and implementation options to protect recreational users from the effects of pathogens.

### **c. Regional and Local**

#### **San Diego Basin – Region 9, Water Quality Control Plan**

In accordance with the criteria in the California Porter–Cologne Water Quality Control Act, and other pertinent state and federal rules and regulations, each RWQCB is responsible for water quality control planning within their region, often in the form of a basin plan. San Diego County falls within the jurisdiction of Region 9 of the RWQCB. The San Diego Basin—Region 9, Water Quality Control Plan establishes standards for compliance in the San Diego Basin. The RWQCB is also responsible for implementing the provisions of the General Permit, including reviewing Storm Water Pollution Prevention Plans and monitoring reports, conducting compliance inspections, and taking enforcement actions.

#### **San Diego Region Municipal Stormwater Permit (MS4 Permit)**

The Clean Water Act amendments of 1987 established a framework for regulating stormwater discharges from municipal, industrial, and construction activities under the NPDES program. The NPDES permit program, as authorized by Section 402 of the Clean Water Act, was established to control water pollution by regulating point sources that discharge pollutants into waters of the United States. In California, the SWRCB administers the NPDES municipal stormwater permitting program through the nine regional boards. Pursuant to the Municipal Stormwater Permit (Order No. R9-2013-0001, as amended by Orders R9-2015-0001 and R9-2015-0100; NPDES Permit No. CAS0109266) issued by the San Diego RWQCB, co-permittees are required to develop and implement construction and permanent stormwater BMP regulations addressing stormwater pollution associated with private and public development projects. Development projects are also required to include BMPs to reduce pollutant discharges from the project site in the permanent design. The Municipal Stormwater Permit outlines the individual responsibilities of the co-permittees including, but not limited to, the implementation of management programs, BMPs, and monitoring programs, within their jurisdiction and their watershed(s). BMPs associated with the final design are described in the Model Standard Urban Stormwater Mitigation Plan. The County of San Diego requires a stormwater management plan to describe potential construction and post-construction pollutants and identify BMPs to protect water resources.

In addition, the RWQCB's Municipal Stormwater Permit requires control of hydromodification, or changes in the natural flow pattern (surface flow or groundwater) of an area due to development. Hydromodification can be managed by reducing runoff flow and volume, along with including BMPs that reduce volume.



## Jurisdictional Runoff Management Program

The city has developed a Jurisdictional Runoff Management Program (JRMP) to comply with Municipal Permit Order No. R9-2013-0001, as amended by Order Nos. R9-2015-0001 and R9-2015-0100, NPDES Permit No. CAS0109266, issued by the State of California San Diego Regional Water Quality Control Board. The permit was issued on May 8, 2013 and amended on April 1, 2015 and on January 7, 2016. The JRMP helps to implement programs to reduce pollution in urban runoff, including programs to regulate new public and private land development during each of the three major phases of urban development, i.e., the planning, construction, and existing development (or use) phases (City of Carlsbad 2021).

## Carlsbad General Plan

The current Carlsbad General Plan, adopted in 2015, lists several policies related to water supply and infrastructure in its Open Space, Conservation, and Recreation Element and Sustainability Element. The following policies are applicable to the proposed project (City of Carlsbad 2015):

### *Open Space, Conservation, and Recreation Element*

- Policy 4-P.57** Work with the stakeholders in the community and region, such as but not limited to the San Diego Regional Water Quality Control Board (RWQCB), California Fish and Wildlife, US Fish and Wildlife, Coastal Commission, Army Corps of Engineers, Environmental Protection Agency, neighboring cities, counties, businesses, residents, and non-profit groups, to comply with applicable federal, state and local regulations related to water quality in our region, consistent with the city's current NPDES Municipal Storm Water Permit issued by the RWQCB or other related regulations. Prepare and implement any applicable plans such as a Water Quality Improvement Plan, Integrated Regional Water Management Plan, Load Reduction Plan, or others as needed to comply with applicable regulations.
- Policy 4-P.58** Require developments to incorporate structural and non-structural best management practices (BMPs) to mitigate or reduce the projected increases in pollutant loads. Do not allow post-development runoff from a site that would cause or contribute to an exceedance of receiving water quality objectives or has not been reduced to the maximum extent practicable.
- Policy 4-P.59** Implement water pollution prevention methods to the maximum extent practicable, supplemented by pollutant source controls and treatment. Use small collection strategies located at, or as close as possible to, the source (i.e., the point where water initially meets the ground or source of potential pollution) to minimize the transport of urban runoff and pollutants offsite and into a municipal separate storm sewer system (MS4).
- Policy 4-P.60** Make any necessary structural control changes to the storm water conveyance system to remove or reduce storm water pollutant levels.
- Policy 4-P.61** Conduct analysis of the effectiveness of the overall pollution prevention programs in Carlsbad consistent with the city's NPDES Municipal Storm Water Permit issued by the RWQCB or other related regulations.
- Policy 4-P.62** Continue to implement a program to detect and eliminate illicit connections to storm drains and illegal discharges of non-storm water wastes into storm water conveyance systems.

## **Housing Element Implementation and Public Safety Element Update**

- Policy 4-P.63** Continue to implement a program for the testing and monitoring of storm water and/or non-storm water flows consistent with the city's NPDES Municipal Storm Water Permit issued by the RWQCB or other related regulations.
- Policy 4-P.64** Preserve, where possible, natural watercourses or provide naturalized drainage channels within the city. Where feasible, implement restoration and rehabilitation opportunities.
- Policy 4-P.65** Coordinate the needs of storm water pollution management with habitat management, flood management, capital improvement projects, development, aesthetics and other open space needs.

### *Sustainability Element*

- Policy 9-P.3** Develop and implement a water sub-metering ordinance for new multi-family rental and mixed-use buildings.
- Policy 9-P.6** Promote the use of on-site gray water and rainwater collection systems through education, expedited permitting review, fee exemptions and other measures.

The General Plan has policies related to flooding hazards, which would be replaced by policies within the proposed Public Safety Element update.

## **City of Carlsbad Grading and Drainage Ordinance**

CMC Title 15 is the city's Grading and Drainage Ordinances. The Grading and Drainage Ordinances establish minimum requirements for grading associated with development under CMC Titles 20 (Subdivisions) and 21 (Zoning). The Grading Ordinance requires that a grading permit be obtained prior to grading, including the clearing and grubbing of vegetation. The permit requires a stormwater maintenance program, construction SWPPP, and other such documentation and information as may be necessary to demonstrate that the grading work will be carried out in substantial compliance with all city codes and standards, and the requirements of the city's Landscape Manual.

Chapters 15.08 and 15.12 of the Grading Ordinance address drainage and stormwater management and discharge. The purpose of these chapters is to ensure the completion of drainage facilities, and to protect and enhance the water quality of receiving waters and wetlands in a manner pursuant to and consistent with the Clean Water Act and municipal permit. The city's efforts include prohibiting non-stormwater discharges to the stormwater conveyance system; eliminating discharges to the stormwater conveyance system from spills, dumping, or disposal of materials other than stormwater or permitted or exempted discharges; reducing pollutants in stormwater discharges to the maximum extent practicable; and reducing pollutants in stormwater discharges to achieve applicable water quality objectives for receiving waters within Carlsbad.

Chapter 15.16 of the CMC establishes minimum requirements for grading and dictates that a grading permit is required for any grading. The Grading Ordinance is intended to facilitate appropriate planning, design, and construction of development within the city, while ensuring compatibility with associated physical conditions, environmental resources, and legal/regulatory requirements. The grading permit requires a stormwater maintenance program, construction stormwater pollution prevention plan, and other such documentation and information as may be necessary to demonstrate that the grading work will be carried out in substantial compliance with all city codes and standards, and the requirements of the city's Landscape Manual.

## City of Carlsbad Coastal Shoreline Development Overlay Zone

The City of Carlsbad addresses coastal shoreline development in CMC Chapter 21.204. The land use regulations included in the Municipal Code provide for control over development and land use along the coastline so that the public's interest in maintaining the shoreline as a unique recreational and scenic resource, promoting public safety and access, and avoiding adverse geologic and economic effect of bluff erosion, is adequately protected. Geotechnical reports are required for all development within the overlay zone and must include the potential for flooding due to sea surface super elevation, wave run-up, tsunami, and river flows. Mitigation measures and alternative solutions are required for any potential impact identified in a geotechnical report.

## City of Carlsbad Floodplain Management Regulations

The City of Carlsbad addresses flood hazards areas in its Floodplain Management Regulations (CMC Chapter 21.110), which requires a special use permit for any development proposed in areas of special flood hazards and areas of flood-related erosion hazards. The Floodplain Management Regulations restrict or prohibit land uses considered unsafe in a floodplain. They address standards of construction such as anchoring of structures, construction materials and methods, elevations and flood proofing. Developments that are not subject to the Floodplain Management Regulations are also reviewed by the City of Carlsbad Land Development Engineering Division for flooding potential. Proposed grading and drainage improvements are analyzed to ensure that drainage is not diverted from its natural drainage basin to another basin that was not designed to take that additional flow.

### 4.8.3 Impact Analysis

#### a. Methodology and Significance Thresholds

In accordance with Appendix G of the *CEQA Guidelines*, impacts would be considered significant if the proposed project would:

1. Violate any water quality standards or waste discharge requirements (WDR's) or otherwise substantially degrade surface or ground water quality;
2. Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin;
3. Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or through the addition of impervious surfaces, in a manner which would:
  - a. result in substantial erosion or siltation on- or off-site,
  - b. substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite,
  - c. create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff, or
  - d. impede or redirect flood flows;
4. In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation;
5. Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan.

## b. Prior Environmental Analysis

The 2015 General Plan EIR determined that impacts to hydrology, flooding, and water quality would be less than significant, including for water quality standards and waste discharge requirements, depletion of ground water, erosion, siltation, and on-site or off-site flooding (Section 3.8, Hydrology and Flooding/Water Quality: 3.8-20 through 3.8-32). It also found that new development under the General Plan would not create runoff beyond existing storm drain system capacities or substantially degrade water quality, and impacts would be less than significant. It further stated that individual development projects would be subject to project-specific development and planning review to conform to zoning, design standards, and other regulations concerning hydrology, flooding, and water quality.

The proposed project involves land use changes to encourage development on 18 rezone sites beyond what was anticipated in the 2015 General Plan EIR and could therefore result in new impacts related to hydrology and water quality. Therefore, all the CEQA checklist items listed above under Methodology and Significance Thresholds are addressed in this analysis.

## c. Project Impacts and Mitigation Measures

Some components associated with the proposed project, including updates to the Local Coastal Plan, Public Safety Element, and Master and Specific Plans for consistency between the city's planning documents, in and of themselves would not result in physical changes to the environment such that impacts to hydrology or water quality would occur. Therefore, this analysis focuses on impacts associated with implementation of the rezone program which would facilitate the development of 18 rezone sites listed in Table 2-4 in Section 2, *Project Description*.

<b>Threshold 1:</b> Would the project violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?
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**Impact HYD-1** SIMILAR TO THE DEVELOPMENT ANALYZED IN THE 2015 GENERAL PLAN EIR, DEVELOPMENT UNDER THE PROJECT WOULD NOT VIOLATE WATER QUALITY STANDARDS OR WATER DISCHARGE REQUIREMENTS, OR OTHERWISE SUBSTANTIALLY DEGRADE SURFACE OR GROUNDWATER QUALITY DUE TO ADHERENCE TO EXISTING COMPLIANCE WITH STATE AND LOCAL REGULATIONS AND PERMIT REQUIREMENTS WHICH REQUIRE USE OF BMPs. THIS IMPACT WOULD BE LESS THAN SIGNIFICANT.

## Construction

Construction activities associated with future development under the proposed project on the 18 rezone sites could result in soil erosion due to earth-moving activities such as excavation, grading, soil compaction and moving, and soil stockpiling. Specific development associated with the project would be required to comply with State and local water quality regulations designed to control erosion and protect water quality during construction. This includes compliance with the requirements of the SWRCB Construction General Permit, which requires preparation and implementation of a SWPPP for projects that disturb one acre or more of land. Future development built under the project greater than one acre in size would be subject to the SWRCB Construction General Permit and would be required to develop a SWPPP. The SWPPP must include erosion and sediment control BMPs that would meet or exceed measures required by the Construction General Permit. BMPs to reduce potential construction impacts may include measures such as the installation of silt fences to trap sediments, slope stabilization, and regular sweeping of construction sites to control dust. Post-construction stormwater performance standards are also required to

specifically address water quality and channel protection events. Implementation of the required SWPPP and applicable City ordinances would reduce the potential for eroded soil and any contaminants attached to that soil to contaminate a waterbody following a storm event. Additionally, as was found in the 2015 General Plan EIR, policies 4-P.57 through 4-P.65 of the Open Space, Conservation, and Recreation Element would reduce impacts to water quality by requiring construction BMPs and implementing water pollution prevention methods. Construction impacts to surface and groundwater quality would be less than significant.

## **Operation**

The proposed project would facilitate development of 3,280 units on the 18 rezone sites. The City of Carlsbad is a permittee under the Waste Discharge Requirements for Municipal Separate Storm Sewer System (MS4) Discharges within San Diego County. Specific project development would be required to adhere to all requirements under the San Diego County Municipal Stormwater Permit. Future developments under the project would employ low-impact development (LID) techniques and stormwater control measures as outlined under CMC Chapter 15.12.080. The city's LID control measures aim to conserve natural areas, protect slopes and channels, provide storm drain system stenciling and signage, divert roof runoff to vegetated areas before discharge unless the diversion would result in slope instability, and direct surface flow to vegetated areas before discharge unless the diversion would result in slope instability. Furthermore, development under the project would be required to comply with CMC Chapter 15.12 *Stormwater Management and Discharge Control* and Chapter 18.48, *Stormwater Pollution Prevention*. These chapters of the CMC outline requirements and BMPs for both construction and operation of projects to reduce the discharge of sediment and other particulate matter into the city's groundwater system.

Compliance with the regulations, permit requirements, and BMPs, described above would prevent or minimize impacts related to water quality by reducing pollutants of concern in stormwater runoff and ensuring that construction and operation of all future development under the project would not cause or contribute to the degradation of water quality in receiving waters. As was found in the 2015 General Plan EIR, compliance with policies 4-P.57 to 4-P.65 would reduce impacts. Construction and operation of specific developments built under the project would not violate any water quality standards or WDRs or otherwise substantially degrade water quality, and water quality impacts would be less than significant.

## **Mitigation Measures**

No mitigation measures are required because, like under the 2015 General Plan EIR, impacts would be less than significant without mitigation.

<p><b>Threshold 2:</b> Would the project substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?</p>
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**Impact HYD-2** SIMILAR TO THE DEVELOPMENT ANALYZED IN THE 2015 GENERAL PLAN EIR, DEVELOPMENT UNDER THE PROJECT WOULD NOT INTERFERE SUBSTANTIALLY WITH GROUNDWATER RECHARGE SUCH THAT THE PROJECT MAY IMPEDE SUSTAINABLE GROUNDWATER MANAGEMENT OF THE BATIQUITOS LAGOON VALLEY GROUNDWATER BASIN. IMPACTS WOULD BE LESS THAN SIGNIFICANT.

As described in the Environmental Setting section above, the only groundwater basin within the city is the Batiquitos Lagoon Valley Groundwater Basin. The groundwater in this basin is not considered

a good source of irrigation or municipal use due to the high content of chloride, sulfate, and total dissolved solids. The project would allow for additional development within Carlsbad that could increase demands for water; however, this increase in water demand would not impact local groundwater supplies as the primary purveyor of water for the city is the Carlsbad Municipal Water District (CMWD), which currently does not utilize any local groundwater or surface water supplies to serve the city.

Development facilitated by the project would incrementally increase the amount of impervious surface in the project area, which could incrementally reduce the potential for groundwater recharge from infiltration of precipitation. Development under the project would primarily be infill development in previously disturbed and/or paved areas and increase in impervious surface area introduced by new housing development would be marginal. In addition, the city requires new construction and redevelopment to use LID techniques. These techniques would ensure that pervious surfaces are incorporated into development that would be facilitated by the project. Therefore, impacts of impervious surfaces on groundwater recharge would be less than significant.

### **Mitigation Measures**

No mitigation measures are required because, like under the 2015 General Plan EIR, impacts would be less than significant without mitigation.

<p><b>Threshold 3a:</b> Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would result in substantial erosion or siltation on- or off-site?</p>
<p><b>Threshold 3b:</b> Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?</p>
<p><b>Threshold 3c:</b> Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner that would create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?</p>

**Impact HYD-3** SIMILAR TO THE DEVELOPMENT ANALYZED IN THE 2015 GENERAL PLAN EIR, DEVELOPMENT UNDER THE PROJECT MAY ALTER DRAINAGE PATTERNS AND INCREASE RUNOFF IN THE PROJECT AREA, BUT WOULD NOT RESULT IN SUBSTANTIAL EROSION OR SILTATION, RESULT IN INCREASED FLOODING, EXCEED THE CAPACITY OF EXISTING OR PLANNED STORMWATER DRAINAGE SYSTEMS, OR RESULT IN SUBSTANTIAL ADDITIONAL POLLUTED RUNOFF. IMPACTS WOULD BE LESS THAN SIGNIFICANT.

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### **Construction**

Construction activities associated with development of the 18 rezone sites would involve stockpiling, grading, excavation, dredging, paving, and other earth-disturbing activities resulting in the alteration of existing drainage patterns. As described under Impact HYD-1 above, compliance with SWRCB's NPDES Construction General Permit, and the CMC would reduce the risk of short-

term erosion and increased runoff resulting from drainage alterations during construction. Therefore, impacts would be less than significant.

## **Operation**

The project would facilitate development at the 18 rezone sites, most of which are already developed and include impervious surfaces. Drainage patterns at those sites could be altered through the introduction of new impervious surfaces and infrastructure. However, future development on already developed sites would not have a substantial effect on drainage patterns or stormwater runoff volumes due to the relatively minor change in impervious surface area compared with development on vegetated vacant sites.

Sites 3, 4, 6, 7, 9, 10, 11, and 12 are largely vacant and generally do not contain impervious surfaces. changes in impervious surfaces associated with development facilitated by the project would increase the rate and/or amount of surface runoff, redirect runoff to different discharge locations, or concentrate runoff from sheet flow to channelized flow. Surface water runoff rate and amount is determined by multiple factors, including the amount and intensity of precipitation, amount of other imported water that enters a watershed, and amount of precipitation and imported water that infiltrates to the groundwater. Infiltration is also determined by several factors, including soil type, antecedent soil moisture, rainfall intensity, the amount of impervious surfaces in a watershed, and topography. The rate of surface runoff is largely determined by topography. Runoff that does not infiltrate would be captured in the city's storm drain system and ultimately discharged to the Pacific Ocean.

Development at the 18 rezone sites facilitated by the project would adhere to existing regulatory requirements that instruct stormwater management, including management of rainfall at the source by infiltrating stormwater as close to the source as practicable. Per NPDES requirements, post-construction peak runoff must be maintained at or below pre-project levels. Impact HYD-1 discusses applicable regulations that would limit pollutant discharges, including sediment and silt, from development under the project. As discussed above for Impact HYD-1, the CMC requires BMPs to control the volume, rate, and potential pollutant load of stormwater runoff from new development and redevelopment projects as a requirement of the Municipal Stormwater Permit. The CMC also sets forth requirements and BMPs pertaining to the mitigation of erosion, sediment control and runoff as outlined in CMC Chapter 15.12 and Chapter 15.16. The city incorporates such requirements in any land use entitlement and construction or building-related permit to be issued relative to such development or redevelopment. Furthermore, the city's LID ordinance in Chapter 15.12.080 aims to specifically reduce the amount of surface runoff and aid in groundwater recharge through techniques such as infiltration, evapotranspiration, bioretention and/or rainfall harvest and additional uses in accordance with the requirements set forth in the MS4 permit and the LID standards manual.

As was found in the 2015 General Plan EIR, compliance with 2015 General Plan policies would further reduce impacts. Given compliance with the above regulations and requirements, the project would not alter the existing drainage patterns or contribute runoff water in a manner which would result in substantial erosion, siltation, or flooding, nor would it exceed the capacity of existing or planned stormwater drainage systems. Impacts would be less than significant.

## **Mitigation Measures**

No mitigation measures are required because, like under the 2015 General Plan EIR, impacts would be less than significant without mitigation.

**Threshold 3d:** Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would impede or redirect flood flows?

**Threshold 4:** In flood hazard, tsunami, or seiche zones, would the project risk release of pollutants due to project inundation?

**Impact HYD-4** SIMILAR TO THE DEVELOPMENT ANALYZED IN THE 2015 GENERAL PLAN EIR, DEVELOPMENT UNDER THE PROJECT MAY INCREASE IMPERVIOUS SURFACES ON INDIVIDUAL PROJECT SITES DUE TO THE CONSTRUCTION OF NEW DEVELOPMENT BUT WOULD NOT SUBSTANTIALLY ALTER DRAINAGE PATTERNS TO SUCH A DEGREE THAT IT WOULD IMPEDE OR REDIRECT FLOOD FLOWS. IMPACTS WOULD BE LESS THAN SIGNIFICANT.

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As stated in Section 4.8.1, *Setting*, a small portion of the city is located within a 100-year floodplain area. These areas are located along the Buena Vista, Agua Hedionda, and San Marcos Creeks and the Buena Vista, Agua Hedionda, and Batiquitos Lagoons. A portion of site 4 contains designated floodplain areas near Agua Hedionda Creek. Development on this site would be required to comply with CMC Chapter 21.110, *Floodplain Management Regulations*, which sets forth design requirements in flood-prone areas such as elevating all residential structures at least two feet above the base flood elevation and constructed with materials that can resist strong hydrostatic and hydrodynamic loads.

Housing Sites 1 and 2 are within or proximate to tsunami hazard zones, and Site 4 could be impacted by a seiche or dam failure. Inundation of development within these sites could risk release of pollutants due to project inundation. However, all specific project development under the project would be required to comply with all regulations and requirements set forth by FEMA and the CMC. With compliance to the above regulations and measures, impacts to flood flows and the release of pollutants in flood-prone areas would be reduced. Additionally, the Public Safety Element Update would include policies 6-P.1 through 6-P.12, which would implement and develop flood control programs and require installation of protective structures to minimize impacts of flooding. Impacts would be less than significant.

### **Mitigation Measures**

No mitigation measures are required because, like under the 2015 General Plan EIR, impacts would be less than significant without mitigation.



**Threshold 5:** Would the project conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?

**Impact HYD-5** SIMILAR TO THE DEVELOPMENT ANALYZED IN THE 2015 GENERAL PLAN EIR, DEVELOPMENT UNDER THE PROJECT WOULD NOT SUBSTANTIALLY IMPEDE RECHARGE IN CARLSBAD AND WOULD BE SERVED BY CMWD'S EXISTING AND PLANNED POTABLE WATER SUPPLIES. DEVELOPMENT UNDER THE PROJECT MAY AFFECT WATER QUALITY AND GROUNDWATER SUPPLY THROUGH CONSTRUCTION AND OPERATIONAL ACTIVITIES BUT WOULD NOT CONFLICT WITH OR OBSTRUCT IMPLEMENTATION OF A WATER QUALITY CONTROL PLAN OR SUSTAINABLE GROUNDWATER MANAGEMENT PLAN. IMPACTS WOULD BE LESS THAN SIGNIFICANT.

As discussed under HYD-2, housing developments facilitated by the project would be served by the CMWD. The CMWD provides potable water, wastewater treatment, recycled water to about 92,000 residents in the city (CMWD 2021). CMWD supply is purchased from the San Diego County Water Authority, which receives its water supply from the Colorado River, Sacramento-San Joaquin Delta, and the Carlsbad desalination plant. Groundwater is not extracted for potable supply, and a Groundwater Sustainability Plan for the Batiquitos Lagoon Valley Groundwater Basin has not been prepared. Therefore, the project would not obstruct a sustainable groundwater management plan.

The project area is in the San Diego RWQCB Basin Plan area. Development under the proposed project may affect water quality and groundwater supply through construction and operational activities. As discussed in Impact HYD-1, compliance with relevant water quality regulations, BMPs, and policies would reduce the risk of water degradation from soil erosion and other pollutants related to construction and operational activities of development under the project. The requirements of the San Diego County Municipal Stormwater permit, Construction General Permit, and applicable CMC ordinances are intended to protect water quality and support attainment of water quality standards in downstream receiving water bodies. With incorporation of the BMPs described above under Impacts HYD-1 and HYD-3 in accordance with the San Diego County Municipal Stormwater permit, Construction General Permit, and CMC requirements, future development built under the project would not impair existing or potential beneficial uses of nearby or downstream water bodies and would not conflict with or obstruct implementation of the Basin Plan. Impacts would be less than significant.

### **Mitigation Measures**

No mitigation measures are required because, like under the 2015 General Plan EIR, impacts would be less than significant without mitigation.

### **d. Cumulative Impacts**

The geographic scope for cumulative hydrology and water quality impacts is the Carlsbad Watershed Management Area. This geographic scope is appropriate for hydrology and water quality because water quality impacts are localized in the watershed where the impact occurs.

Cumulative development would generally increase impermeable surface area in Carlsbad's watersheds. Development would potentially increase peak flood flows, alter drainage patterns, reduce groundwater recharge, and increase pollutants in the regional stormwater. However, all cumulative development would also be required to adhere to all applicable State and local regulations designed to control erosion and protect water quality, including the CMC, NPDES Construction General Permit and the Municipal Stormwater Permit. All construction sites larger than one acre in size would be required to prepare and submit a SWPPP, thereby reducing the risk of

water degradation on- and off-site from soil erosion and other pollutants. This would reduce the quantity of stormwater runoff that enters the storm drainage system and discharges to the Pacific Ocean.

Implementation of NPDES and CMC requirements would also reduce the potential for increased pollutants in stormwater and groundwater. The Construction General Permit requires the implementation of BMPs on all construction sites to limit erosion and sedimentation, thereby minimizing water quality impacts. The requirements of the CMC and the Municipal Stormwater Permit would also decrease operational effects of cumulative development because each development proposal would be required to reduce the on-site post-development peak discharges at or below pre-development peak discharge rates by implementing on-site LID features and other groundwater recharge design elements. Compliance with mandatory Clean Water Act (NPDES Construction General Permit and MS4 General Permit) and CMC requirements would further reduce the potential for water quality degradation and violations of water quality standards as a result of cumulative development. Therefore, cumulative impacts would be less than significant.

As discussed under Impacts HYD-1 and HYD-3, development under the project would increase impervious surface at the 18 rezone sites and may alter drainage patterns. Cumulative development in the Carlsbad watershed may also increase impervious surfaces resulting in localized impacts. However, projects would be analyzed and mitigated on a case-by-case basis and would be designed to avoid or mitigate potential impacts related to runoff and groundwater recharge in compliance with the jurisdiction's Municipal Code, relevant water quality regulations, BMPs, and policies which would help reduce the risk of water degradation from soil erosion and other pollutants related to project construction and operational activities. Construction and operation of all cumulative development would be required to comply with the City's LID ordinance as outlined in CMC Chapter 15.12.080 which aims to specifically reduce the amount of surface runoff and aid in groundwater recharge through techniques such as infiltration, evapotranspiration, bioretention and/or rainfall harvest. Compliance with the City's LID ordinance and the County's MS4 permit would reduce impacts to water quality and groundwater recharge. Impacts from the project on water quality and groundwater recharge would be less than significant.

As discussed under Impact HYD-4, portions of Carlsbad are located within a 100-year flood hazard area; however, only site 4 (and only a portion of the site) is in a flood zone. Cumulative development in other areas in the Carlsbad watershed that are subject to inundation may have localized impacts. However, projects would be analyzed and mitigated on a case-by-case basis and would be designed to avoid or mitigate potential impacts related to flooding in compliance with the jurisdiction's Municipal Code. Cumulative impacts related to flooding, seiche, and tsunami would therefore be less than significant. The project would not impede or redirect flood flows or risk release of pollutants due to inundation. Impacts from implementation of the project related to flood flows and inundation would be less than significant. Because flooding is localized and site-specific, the project would not have a cumulatively considerable contribution to a significant cumulative impact related to flood hazard or inundation risks.

As discussed under Impacts HYD-2 and HYD-5, the project would increase the demand for water in the CMWD service area. Cumulative development in the CMWD service area would increase the demand for water from CMWD. However, groundwater is not a component of CMWD water supply and would not be affected by the increased population resulting from cumulative development. Therefore, development facilitated by the project would not result in a significant cumulative impact.

## 4.9 Land Use and Planning

This section analyzes the consistency of the proposed project with applicable land use plans, policies, and regulations, and identifies environmental effects that would arise from any inconsistencies.

### 4.9.1 Setting

Carlsbad occupies approximately 39 square miles of rolling hills, beaches and bluffs along the northern coast of San Diego County. The city is located about 30 miles north of San Diego and about 90 miles south of Los Angeles.

The geographically dominant land use in Carlsbad is residential, with neighborhoods distributed throughout the city. The 2015 General Plan includes a Land Use Map identifying types of uses and densities/intensities of each use permitted in the city. Table 2-2 in Section 2, *Project Description*, describes the extent of existing land use designations showing open space, planned communities, and single-family residential development with the largest shares, respectively. Other designations include Office, General Commercial, Industrial, Planned Industrial, and Residential Density – Multiple.

Table 4.9-1 shows the current land use designations for the 18 rezone sites. The sites are currently designated for low-density residential, commercial, industrial, or public land use.

**Table 4.9-1 Existing Land Use Designations**

Site #	Location	APN	Current Land Use Designation
Site 1	North County Plaza	156-301-16	R - Regional Commercial/OS - Open Space
Site 2	The Shoppes at Carlsbad parking lot	156-301-11	R - Regional Commercial/OS - Open Space
		156-302-35	R – Regional Commercial
		156-301-06	R – Regional Commercial
		156-301-10	R – Regional Commercial
		156-302-23	R – Regional Commercial
Site 3	Chestnut at El Camino Real	167-080-33, 34, 41 and 42	R-4 – Residential 0-4 du/ac
Site 4	Zone 15 Cluster	209-060-72	R-4 – Residential 0-4 du/ac OS – Open Space
		209-090-11	R-15- Residential 8-15 du/ac L-Local Shopping Center
Site 5	Avenida Encinas Car Storage Lot	210-090-24	PI – Planned Industrial
Site 6	Crossings Golf Course Lot 5	212-270-05	PI – Planned Industrial O – Office
Site 7	Salk Avenue	212-021-04	O – Office
Site 8	Cottage Row Apartments	212-040-47	R-4 – Residential 0-4 du/ac
Site 9	West Oaks Industrial	212-040-26 and 212-110-01 to -08	PI and OS – Open Space
Site 10	Bressi Ranch Colt Place	213-262-17	PI – Planned Industrial

Site #	Location	APN	Current Land Use Designation
Site 11	Bressi Ranch Gateway Road	213-263-19, 213-263-20	PI – Planned Industrial
Site 12	Industrial Sites East of Melrose	221-015-08, 221-014-03	PI – Planned Industrial
Site 14	Carlsbad Village COASTER Station	155-200-11 and 12, 760-166-37, 203-296-12	V-B Village-Barrio
Site 15	City's Oak Yard	204-010-05, 204-010-06	V-B Village-Barrio
Site 16	Caltrans Maintenance Station/Pacific Sales	211-050-08, 09	GC – General Commercial P – Public
Site 17	Poinsettia COASTER Station	214-150-08, 214-150-20, 214-150-11	P – Public TC – Transportation Corridor
Site 18	North Ponto Parcels	216-010-01, 02, 03, 04, 05; 214-160-25 and 28; 214-171-11	R-15 - Residential 8-15 du/ac VC - Visitor Commercial GC – General Commercial
Site 19	La Costa Glen/Forum	255-012-05	R - Regional Commercial/OS - Open Space

## 4.9.2 Regulatory Setting

### a. Federal

There are no federal regulations that directly pertain to land use and planning. Federal regulations that indirectly affect land use and planning pertaining to air quality, energy, GHGs, noise, and transportation and the impacts of those regulations are discussed in their respective sections of this SEIR.

### b. State

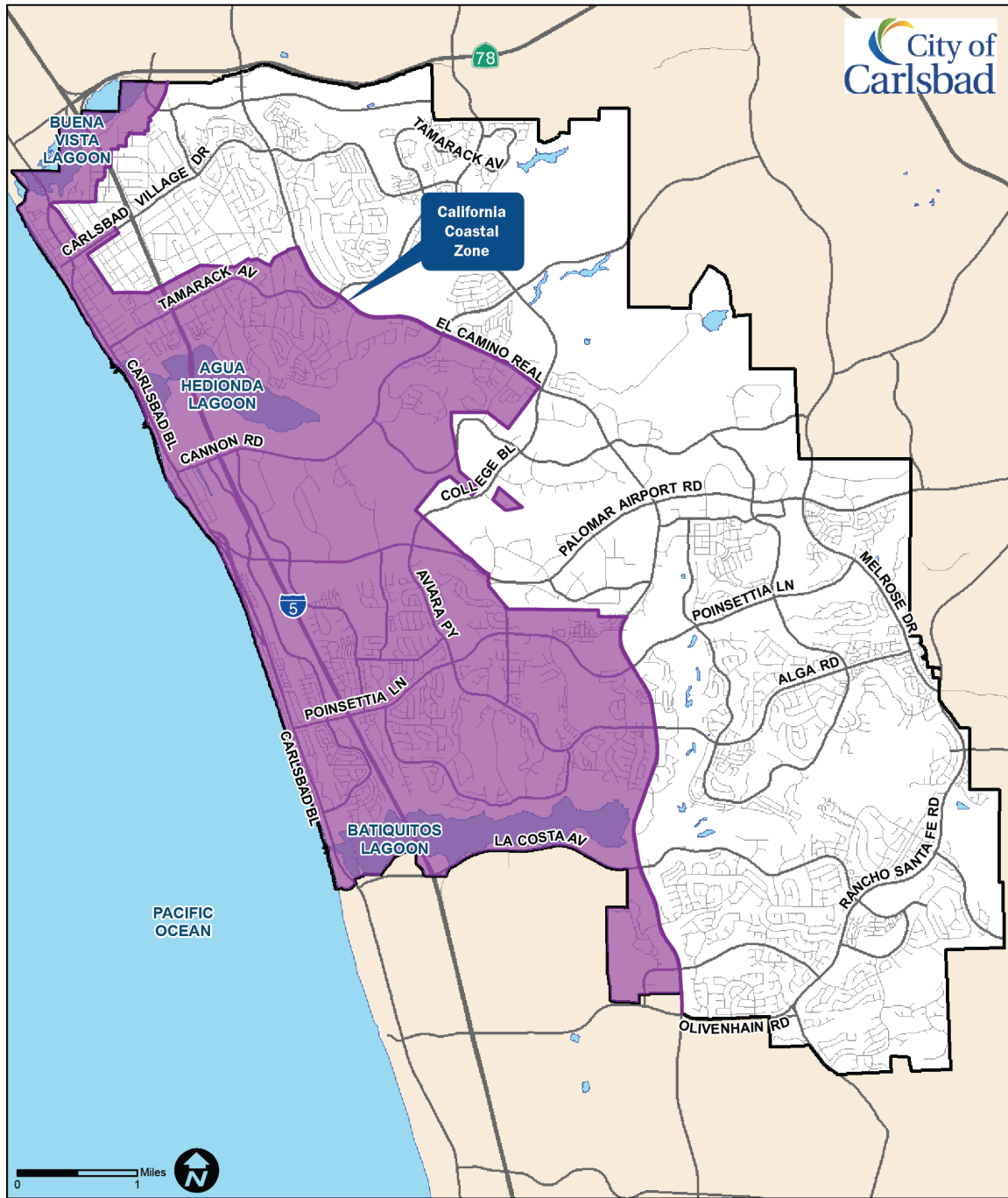
#### **General Plan Law (California Government Code Section 65300)**

California Government Code Section 65300 regulates the substantive and topical requirements of general plans. State law requires that each city and county adopt a general plan “for the physical development of the county or city, and any land outside its boundaries which bears relation to its planning.” The California Supreme Court has called the general plan the “constitution for future development.” The general plan expresses the community’s development goals and embodies public policy relative to the distribution of future land uses, both public and private.

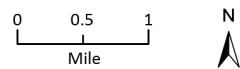
#### **California Coastal Act**

The California Coastal Act (Public Resources Code Section 30000 et seq.) authorizes the State of California to regulate development within the Coastal Zone, defined as the area between the seaward limits of the state’s jurisdiction and generally 1,000 yards landward from the mean high tide line of the sea. In Carlsbad, the Coastal Zone boundary generally encompasses the area east of the Pacific Ocean to El Camino Real, as shown in Figure 4.9-1.

Figure 4.9-1 Carlsbad Coastal Zone Boundary



Source: City of Carlsbad.



The basic goals of the Coastal Act, per Public Resources Code Section 30001.5, are:

- a. Protect, maintain, and, where feasible, enhance and restore the overall quality of the coastal zone environment and its natural and artificial resources.
- b. Assure orderly, balanced utilization and conservation of coastal zone resources taking into account the social and economic needs of the people of the state.
- c. Maximize public access to and along the coast and maximize public recreational opportunities in the coastal zone consistent with sound resources conservation principles and constitutionally protected rights of property owners.
- d. Assure priority for coastal-dependent and coastal related development over other development on the coast.
- e. Encourage state and local initiatives and cooperation in preparing procedures to implement coordinated planning and development for mutually beneficial uses, including educational uses, in the coastal zone.

The Coastal Act's coastal resources planning and management policies cover six areas: public access, recreation, the marine environment, land resources, development, and industry. The policies articulate requirements for public access and for protection of marine resources and environmentally sensitive habitat areas. They lay out clear priorities for concentrating development in urbanized areas, preserving agriculture and open space, protecting fishing and coastal-dependent industry, promoting recreational use of the coast, and giving priority to visitor-serving commercial uses over general commercial or residential development.

The Coastal Act requires that individual jurisdictions adopt local coastal programs (LCP) to implement the Coastal Act. Carlsbad's LCP consists of a land use plan document (separate from the General Plan) containing land use policies and an implementation plan. The implementation plan consists of ordinances, including the city's Zoning Ordinance and Municipal Code chapters on stormwater management and discharge control and grading and erosion control. It also includes various master and specific plans and the city's Habitat management Plan and Drainage Master Plan. Development in the city's Coastal Zone must comply with the LCP in addition to the General Plan.

### **California Government Code Section 65301**

Section 65301 of the California Government Code requires a general plan to address the geographic territory of the local jurisdiction and any other territory outside its boundaries that bears relation to the planning of the jurisdiction. The jurisdiction may exercise its own judgment in determining what areas outside of its boundaries to include in the planning area. The State of California General Plan Guidelines denotes that the planning area for a city should include (at minimum) all land within the city limits and all land within the city's Sphere of Influence (SOI).

### **California Government Code Section 65860(a)**

State law requires that general law city or town zoning ordinances be consistent with the general plan. A zoning ordinance is consistent with an adopted general plan only if the various land uses authorized by the zoning ordinance "are compatible with the objectives, policies, general land uses, and programs specified in such a plan" (Government Code Section 65860(a)). State law also provides that in the event a zoning ordinance becomes inconsistent with a general plan by reason of

amendment to such a plan, the zoning ordinance must be amended within a reasonable time so that it is consistent with the general plan as amended [Government Code Section 65860(a)].

### **Sustainable Communities and Climate Protection Act (SB 375)**

The Sustainable Communities and Climate Protection Act (SB 375) supports the State's climate goals by helping reduce greenhouse gas emissions through coordinated transportation, housing, and land use planning. Under SB 375, the California Air Resources Board (CARB) set targets for 2020 and 2035 for each of the 18 metropolitan planning organization regions in 2010 and updated them in 2018. Each of the regions must prepare a Sustainable Communities Strategy (SCS), as an integral part of its regional transportation plan, that contains land use, housing, and transportation strategies that, if implemented, would allow the region to meet CARB's targets. SB 375 establishes some incentives to encourage implementation of the development patterns and strategies included in an SCS. Developers can get relief from certain environmental review requirements under the California Environmental Quality Act (CEQA) if their new residential and mixed-use projects are consistent with a regions SCS that meets the targets (see Public Resources Code Sections 21155, 21155.1, 21155.2, and 21159.28).

### **c. Regional and Local**

#### **SANDAG 2021 Regional Plan**

The 2021 Regional Plan is the most recent plan adopted by SANDAG, and it builds upon the goals, policies, and forecasts of preceding plans. However, the 2021 Regional Plan is currently being amended to not include the regional road usage charge and the draft environmental document is anticipated for release mid-2023. The plan combines the Regional Transportation Plan, Sustainable Communities Strategy (SCS), and Regional Comprehensive Plan. As such, the plan demonstrates that the SANDAG region can achieve emissions reductions consistent with targets set forth by SB 375. GHG reductions achieved through development consistent with the 2021 Regional Plan would result in corresponding reductions in energy consumption in the region. The 2021 Regional Plan sets forth a long-term blueprint for the San Diego region that seeks to meet regulatory requirements, address traffic congestion, and create equal access to jobs, education, healthcare, and other community resources. The 2021 Regional Plan polices are built around three core strategies (SANDAG 2021):

- **Invest In a Reimagined Transportation System.** Build a network and fund services that include multimodal roadways; an expanded network of fast, frequent, and low-cost transit; 21<sup>st</sup> century technology that manages the entire transportation system and connects people to on-demand services; and zero-emissions options for vehicles and micromobility.
- **Incentivize Sustainable Growth and Development.** Collaborate with local jurisdictions and fund programs to accelerate housing production while also addressing equity, climate resilience, and mobility.
- **Implement Innovative Demand and System Management.** Reduce solo driving and congestion through increased remote work, carsharing, vanpooling, pricing strategies and parking management programs that leverage partnerships and technology.

#### **McClellan–Palomar Airport Land Use Compatibility Plan (ALUCP)**

The McClellan–Palomar ALUCP was prepared by the San Diego County Regional Airport Authority to protect the safety of the public (adopted in 2010 and amended in 2010 and 2011). ALUCPs are intended to promote compatibility between airports and the land uses that surround them by

addressing noise, overflight, safety, and airspace protection concerns. Each ALUCP prevents exposure to excessive noise and safety hazards within an airport influence area over a 20-year horizon. The McClellan–Palomar ALUCP provides for the orderly growth of the airport and the area surrounding the airport and safeguards the general welfare of the inhabitants within the vicinity of the airport and the public in general. According to Exhibit III-1 (Compatibility Policy Map: Noise) of the ALUCP, and shown in Figure 4.10-5 of Section 4.10, *Noise*, of this SEIR, Sites 6, 8, 9, and 16 are located within the 60 to 65 dB CNEL noise contour of the McClellan-Palomar Airport, and none of the sites are located within the noise contours above 65 dB CNEL except for a small portion of Site 9 which is within the 65-70 dB CNEL noise contour. According to Exhibit III-2 (Compatibility Policy Map: Safety) of the ALUCP, and shown in 4.7-2 of Section 4.7, *Hazards and Hazardous Materials*, of this SEIR, a portion of site 10 is within Zone 2 - Inner Approach/Departure Zone, and a portion of Site 9 is within Zone 3 - Inner Turning Zone. In addition, the remaining portions of Sites 9 and 10 as well as Sites 4, 6, 7, 8, and 11 are within Zone 6 - Traffic Pattern Zone. According to Exhibit III-5 (Compatibility Policy Map: Airport Influence Area) of the ALUCP, and shown in Figure 4.7-3 of Section 4.7, *Hazards and Hazardous Materials*, of this SEIR, Sites 4, 6, 7, 8, 9, 10, 11, and a portion of 16 are within Airport Influence Area - Review Area 1 and Sites 5, 12, 17, and a portion of Sites 16 and 18 are within Airport Influence Area - Review Area 2.

### **City of Carlsbad General Plan**

The current General Plan was last comprehensively updated in 2015. The General Plan functions as a guide for future development and city land use decisions. The General Plan is a "constitution" for local decision making that addresses the range of immediate, mid-, and long-term issues with which the community is concerned, including but not limited to environmental sensitivity and preservation, public services, public safety, local transportation needs, sustainability, housing, and economic vitality. The 2015 General Plan is intended to allow land use and policy determinations to be made within a comprehensive framework that incorporates public health, safety, and "quality of life" considerations in a manner that recognizes the resource limitations and the fragility of the community's natural environment. Policies from the Land Use and Community Design Element, as updated under the proposed project for consistency with the 2021-2029 Housing Element would apply to future development under the proposed project. Further, the policies from Mobility Element and Housing Element would be applicable to the proposed project.

#### *Mobility Element*

**Policy 3-P.32** Require developers to improve pedestrian and bicycle connectivity consistent with the city's bicycle and pedestrian master plans and trails master planning efforts. In addition, new residential developments should demonstrate that a safe route to school and transit is provided to nearby schools and transit stations within a half mile walking distance.

#### *Housing Element*

**Policy 10-P.1** Ensure the availability of sufficient developable acreage in all residential densities to accommodate varied housing types and income levels as required to meet Carlsbad's 2021-2029 RHNA, as discussed in Section 10.3 (Resources Available).

**Policy 10-P.3** Provide alternative housing opportunities by encouraging adaptive reuse of older commercial or industrial buildings.



- Policy 10-P.7** Encourage distribution of development of affordable housing throughout the city to avoid over concentration in a particular area, excluding areas lacking necessary infrastructure or services.
- Policy 10-P.8** Develop and adopt objective design standards that will be used for all mixed use and multi-family housing projects.
- Policy 10-P.13** Pursuant to the Inclusionary Housing Ordinance, require affordability for lower-income households of a minimum of 15 percent of all residential projects. For projects that are required to include 10 or more units affordable to lower-income households, at least 10 percent of the lower-income units should have three or more bedrooms (lower-income senior housing projects exempt).
- Policy 10-P.15** Work with the community to modify or replace Measure E (Growth Management Plan) relative to the residential growth caps and development moratorium to be in compliance with SB 330.
- Policy 10-P.16** Address the unmet housing needs of the community through new development and housing that is set aside for lower- and moderate income households consistent with priorities set by the Housing Services Division, in collaboration with the Planning Division, and as set forth in the city's Consolidated Plan.
- Policy 10-P.17** Encourage the development of an adequate number of housing units suitably sized to meet the needs of lower- and moderate income larger households.
- Policy 10-P.30** Support ongoing efforts of federal, State, regional, and local efforts to affirmatively further fair housing
- Policy 10-P.42** Consider potential adverse health and safety impacts associated with land use decisions to reduce negative impacts upon residents from hazardous materials, industrial activities, agricultural operations using pesticides applied by spray techniques, facility locations, design features, and other aspects that may negatively impact health or quality of life for affected residents.

## City of Carlsbad Municipal Code

Carlsbad's codes governing development applicable to the land use and planning analysis include the Zoning Ordinance, Environment Ordinance, and Subdivisions Ordinance. These codes regulate development as described below.

### *Building Code*

The City Building Code (Carlsbad Municipal Code [CMC] Title 18) is intended to regulate the construction of applicable facilities and encompasses (and formally adopts) associated elements of the CBC (Title 24, Part 2, Volumes 1 and 2) and the California Building Standards Code. Specifically, this includes guidelines related to "regulating the erection, construction, enlargement, alteration, repair, moving, removal, demolition, conversion, occupancy, equipment, use, height, area, and maintenance of all buildings or structures in the city of Carlsbad..."

### *Zoning Ordinance (Carlsbad Municipal Code, Title 21)*

This ordinance implements the General Plan by regulating the distribution and intensity of land uses in such categories as residential, commercial, and industrial. Regulations establish standards for minimum lot size; building height and setback limits; fence heights; parking; and other development

parameters within each land use. In the event of an inconsistency between the Zoning Ordinance and the General Plan, the General Plan shall prevail. Carlsbad Municipal Code Chapter 21.95 (Hillside Development Regulations) governs hillside protection and establishes regulations for development on hillsides.

*Environment Ordinance (Carlsbad Municipal Code, Title 19)*

This ordinance provides for enhancement and protection of the environment within the city by establishing principles, criteria, and procedures for evaluating the environmental impacts of development, consistent with the General Plan, and ensures compliance with the California Environmental Quality Act (CEQA).

*Subdivisions Ordinance (Carlsbad Municipal Code, Title 20)*

This ordinance implements Title 7, Division 2 of the California Government Code (Subdivision Map Act), and sets procedures to regulate the division of land. The General Plan, Zoning Ordinance, and the Carlsbad Subdivision Ordinance govern the design of a subdivision, the size of its lots, and the types of improvements that will be required as conditions of approval.

*Grading and Drainage Ordinance*

CMC Title 15 is the city's Grading and Drainage Ordinances. The Grading and Drainage Ordinances establish minimum requirements for grading associated with development under CMC Titles 20 (Subdivisions) and 21 (Zoning). The Grading Ordinance requires that a grading permit be obtained prior to grading, including the clearing and grubbing of vegetation. The permit requires a stormwater maintenance program, construction stormwater pollution prevention plan, and other such documentation and information as may be necessary to demonstrate that the grading work will be carried out in substantial compliance with all city codes and standards, and the requirements of the city's Landscape Manual.

Chapters 15.08 and 15.12 of the Grading Ordinance address drainage and stormwater management and discharge. The purpose of these chapters is to ensure the completion of drainage facilities and to protect and enhance the water quality of receiving waters and wetlands in a manner pursuant to and consistent with the Clean Water Act and municipal permit. The city's efforts include prohibiting non-stormwater discharges to the stormwater conveyance system; eliminating discharges to the stormwater conveyance system from spills, dumping, or disposal of materials other than stormwater or permitted or exempted discharges; reducing pollutants in stormwater discharges to the maximum extent practicable; and reducing pollutants in stormwater discharges in order to achieve applicable water quality objectives for receiving waters within Carlsbad.

Chapter 15.16 of the CMC establishes minimum requirements for grading and dictates that a grading permit is required for any grading. The Grading Ordinance is intended to facilitate appropriate planning, design, and construction of development within the city, while ensuring compatibility with associated physical conditions, environmental resources and legal/regulatory requirements. The grading permit requires a stormwater maintenance program, construction stormwater pollution prevention plan, and other such documentation and information as may be necessary to demonstrate that the grading work will be carried out in substantial compliance with all city codes and standards, and the requirements of the city's Landscape Manual.

## **City of Carlsbad Growth Management Plan (Proposition E)**

The City adopted the Growth Management Plan (GMP) in July 1986 to address the concerns of rapid growth and its impacts on quality of life, which was ratified by voter approval of Proposition E in November 1986.

The GMP requires adequate public facilities be provided concurrent with new growth. To ensure this, the GMP identifies performance standards for 11 public facilities – city administration, library, wastewater treatment, parks, drainage, circulation, fire, open space, schools, sewer collection, and water distribution. The facility performance standards were based on the city’s residential dwelling unit capacity (existing and future units), which in 1986 was estimated to be 54,599 dwelling units.

Through Proposition E, voters limited the maximum number of dwelling units that can be constructed citywide to 54,599 units, spread out between the Northwest Quadrant (15,370 units), Northeast Quadrant (9,042 units), Southwest Quadrant (12,859 units), and Southeast Quadrant (17,328 units). Pursuant to Proposition E, the city cannot approve any General Plan amendment, zone change, subdivision map or other discretionary permit that could result in residential development that exceeds the dwelling unit limit in each quadrant. To increase the Proposition E dwelling unit limit in any city quadrant requires approval by Carlsbad voters (City of Carlsbad 2015). However, recent State housing laws have preempted the city’s ability to require compliance with the dwelling caps or to stop development due to noncompliance, as acknowledged in adopted City Council Resolution 2021-074 (City of Carlsbad 2023). The city is currently developing a new approach to managing growth.

## **Specific and Master Plans**

The city uses specific plans and master plans extensively to coordinate development and infrastructure improvements on large sites or series of parcels. Specific plans and master plans must be consistent with the general plan and are typically used to establish development plans and standards to achieve the design and development objectives for a particular area. Much of the residential areas in the southern and northeastern portions of the Carlsbad were developed as part of a master plan (e.g., Aviara, Bressi Ranch, Calavera Hills, Rancho Carrillo, Robertson Ranch, and Villages of La Costa). In addition to the large residential master plan areas, the city has several smaller residential specific plans and specific plans for commercial and industrial areas. The Village and Barrio Master Plan was recently amended in 2021 and will continue to guide development in that area. There are also many older specific plans and master plans that have been fully implemented.

## **City of Carlsbad Habitat Management Plan**

The Carlsbad Habitat Management Plan (HMP) is a long-range plan for conserving wildlife habitat in the city. The HMP is an adopted subarea plan within the proposed North County Multiple Habitat Conservation Plan. The Carlsbad HMP outlines specific conservation, management, facility siting, land use, and other measures that the city will take to preserve the diversity of the habitat and protect sensitive biological resources in the city while also allowing for additional development and growth under the city’s General Plan. The city’s HMP preserve contains natural habitats that are necessary to sustain threatened, listed or sensitive species, and to maintain biological value. According to U.S. Fish and Wildlife Service and California Department of Fish and Wildlife requirements, the HMP is required to establish a preserve of 6,478 acres of natural habitat (within the city’s jurisdictional boundary), as well as an additional 308 acres of “core area” habitat for the

coastal California gnatcatcher (outside of the city's jurisdiction). See Section 4.3, Biological Resources for a more detailed discussion of biological resources and the HMP.

### 4.9.3 Impact Analysis

#### **a. Methodology and Significance Thresholds**

The analysis in this section focuses on the compatibility of land uses identified in the project with existing and planned land uses within Carlsbad, as well as consistency with any applicable land use plans, policies, or regulations. The following thresholds of significance are based on Appendix G of the *CEQA Guidelines*. For purposes of this SEIR, implementation of the project may have a significant adverse impact if it would do any of the following:

1. Physically divide an established community
2. Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect

The plan consistency analysis describes existing regional and local plans and policies and is intended to fulfill the requirements of *CEQA Guidelines* Section 15125(d). The emphasis of the analysis is on plan inconsistency and potential conflicts between the project and existing applicable land use plans, and whether any inconsistencies are significant environmental effects. The project is considered consistent with the provisions of the identified regional and local plans if it meets the general intent of the applicable plans and does not conflict with any directly applicable policies. A given project need not be in perfect conformity with each and every policy nor does state law require precise conformity of a project with every policy or land use designation. Courts have also acknowledged that general and specific plans attempt to balance a range of competing interests, and that it is nearly, if not absolutely, impossible for a project to be in perfect conformity with each and every policy set forth in the applicable plan. Additionally, in reaching such consistency conclusions, the city may also consider the consequences of denial of a project, which can also result in other policy inconsistencies. For example, Government Code Section 65589.5 explains that the potential consequences of limiting the approval of housing are reduced mobility, urban sprawl, excessive commuting, and air quality deterioration.

For an impact to be considered significant, any inconsistency would also have to result in a significant adverse change in the environment not already addressed in the other resource chapters of this SEIR. The analysis below provides a brief overview of the most relevant policies from the various planning documents. However, the city's consistency conclusions are based upon the planning documents as a whole.

#### **b. Prior Environmental Analysis**

The 2015 General Plan EIR determined that impacts to land use would be less than significant as they pertain to conflicts with applicable land use plans (Section 3.9, Land Use Planning, Housing, and Population: 3.9-11 through 3.9-22). It found that General Plan implementation would not physically divide an established community and would, in fact, beneficially increase connectivity locally and regionally. The General Plan EIR further stated that individual development projects would be subject to project-specific development and planning review, including adherence to standards for land use planning.

The proposed project involves land use changes to encourage development on 18 rezone sites beyond what was anticipated in the 2015 General Plan EIR and could therefore result in new impacts related to land use and planning. Further, the proposed project involves updates to several land use plans including the LCP, Zoning Ordinance, master and specific plans, and the Public Safety Element of the General Plan. Therefore, all the CEQA checklist items listed above under Methodology and Significance Thresholds are addressed in this analysis.

### c. Project Impacts and Mitigation Measures

**Threshold 1:** Would the project physically divide an established community?

**Impact LU-1 THE PROPOSED PROJECT INVOLVES IMPLEMENTING A REZONING PROGRAM ON 18 SITES, MAINLY IN DEVELOPED AREAS OF THE CITY, AND WOULD NOT PHYSICALLY DIVIDE AN ESTABLISHED COMMUNITY. NO IMPACT WOULD OCCUR.**

The proposed project would involve a rezoning program that would allow for development of 3,280 new residential units. In general, the project aims to rezone parcels that are within infill areas and are surrounded by existing developed parcels. The development of these sites would not result in the construction of barriers, such as new roads, that would divide the existing communities surrounding the sites.

Short-term construction impacts would be constrained within the sites themselves; however, off-site improvements for utilities or transportation infrastructure would likely be required (refer to Section 4.13, *Transportation*, and Section 4.14, *Utilities and Service Systems*) for some of the sites. Potential off-site improvements would be constructed within roadway rights-of-way and would not block access between existing communities. Therefore, existing roadways would not be blocked, and construction would not limit access to a community or restrict movement within a community.

The proposed project is designed to implement the Housing Element to meet the city's RHNA and would promote the development of existing vacant, underdeveloped or underutilized properties, thereby locating people closer to existing employment, goods and services within an established community. Furthermore, the proposed project includes Housing Programs with requirements for Affirmatively Furthering Fair Housing (AFFH) that puts a great emphasis on anti-displacement and tenant protection. Specifically, Goal 10-G.1 of the Housing Element encourages development of a diversity of new housing to meet the demand of anticipated city and regional growth and to meet or exceed the city's RHNA; and Policy 10-P.7 encourages dispersion of affordable housing throughout the city. Additionally, the proposed project does not include any new infrastructure, or alteration of existing infrastructure or thoroughfares, that may create physical divisions or boundaries.

Updates to the Public Safety Element include policy updates ensuring evacuation routes and other safety measures are implemented in accordance with State law but would not create structures that could physically divide an established community. Further, updates to the Local Coastal Plan and master and specific plans that are being proposed as part of the project for consistency between the city's planning documents and in and of themselves would not result in physical changes to the environment such that impacts would occur. Therefore, no impact related to dividing an established community would occur.

#### Mitigation Measures

No mitigation measures are required because, like under the 2015 General Plan EIR, impacts would be less than significant without mitigation.

**Threshold 2:** Would the project cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?

**Impact LU-2 THE PROPOSED PROJECT WOULD NOT RESULT IN A SIGNIFICANT ENVIRONMENTAL IMPACT DUE TO A CONFLICT WITH ANY LAND USE PLAN AND POLICY. THEREFORE, THIS IMPACT WOULD BE LESS THAN SIGNIFICANT.**

Since the proposed project involves changes to land use designations at 18 rezone sites to facilitate housing development, by its nature it may be inconsistent with existing local regulations, such as the LCP and Zoning Ordinance. Regionally and locally adopted land use plans, policies, and regulations, including SANDAG's 2021 Regional Plan and the City's 2015 General Plan, apply to the project. In addition to the 2021 Regional Plan and Carlsbad's 2015 General Plan, the City of Carlsbad maintains specific and master plans for some areas within the city to tailor appropriate development standards and policies to individual neighborhoods, as described in the Regulatory Setting section above. By state law, these plans must be consistent with the General Plan. The proposed project is designed to address potential inconsistencies by including updates to the LCP, Zoning Ordinance, and master and specific plans to ensure that the city's land use planning documents are consistent with the proposed rezone program. Impacts associated with changes to these land use plans, policies, and regulations are analyzed throughout this SEIR.

As discussed in Section 4.6, *Greenhouse Gas Emissions*, the proposed project would be consistent with SANDAG's 2021 Regional Plan since it would result in decreased vehicle miles traveled (VMT) rates compared to a No Project condition, reflecting the benefits that increased density of residential land uses have on reducing VMT per capita. The proposed project would also place more residents in proximity to jobs, services, and transit, which would reduce the use of single-occupancy vehicles and thereby VMT and air pollutants and encourage the use of alternative modes of transportation. This would meet the 2021 Regional Plan's core strategies including accelerating housing production in Carlsbad while also addressing equity, climate resilience, and mobility (Incentivize Sustainable Growth and Development) and reducing solo driving and congestion in Carlsbad (Implement Innovative Demand and System Management).

Additionally, as discussed in Section 4.11, *Population and Housing*, although the proposed project would exceed the GMP limit of 54,599 units, the State requires that all local governments adequately plan to meet the housing needs of their communities (HCD 2023). Given that the State is currently in an ongoing housing crisis due to an insufficient housing supply, the additional units under the proposed project would further assist in addressing the existing crisis and meeting the housing needs of the city's communities. Therefore, the objectives of this project are to implement the city's Housing Element (which was certified by HCD) in order to meet projected population and housing growth. The Housing Element is designed to accommodate regional growth anticipated by SANDAG's RHNA projections. Therefore, the proposed project is intended to plan for anticipated population growth. The proposed project would not constitute unplanned growth because it would be consistent with the City's RHNA and is being planned for and analyzed in this SEIR. Further, as recent State law and State mandated housing goals preempt voter approved housing limits such as those under the GMP, the city is developing a new approach to managing growth. The preemption of implementing residential GMP caps, residential quadrant limits, and residential control points is acknowledged in adopted City Council Resolution 2021-074 (City of Carlsbad 2023b). Therefore, the proposed project would constitute as planned population growth. The city is also developing a new

approach to manage growth since recent State law and State mandated housing goals preempt voter approved housing limits such as those under the GMP.

To ensure consistency between the project and LCP, amendments to the LCP land use map are being processed concurrent with the project. Within the Coastal Zone, no discretionary permit shall be issued by the city unless found to be consistent with the General Plan and the LCP. In the event of conflict between the provisions of the General Plan and the LCP Land Use Plan, the terms of the LCP Land Use Plan shall prevail. Future development located within the Coastal Zone would be required to comply with land use policies within the LCP. Further, updates to the LCP and Master and Specific Plans that are being proposed as part of the project for consistency between the city's planning documents in and of themselves would not result in physical changes to the environment such that impacts would occur. Additionally, the proposed project would facilitate infill development on vacant or underutilized sites and therefore would not interfere with pedestrian coastal access or coastal trails.

According to the updated Public Safety Element, pursuant to the LCP and Carlsbad Municipal Code Title 21 (Zoning), development is restricted within 100-year floodplain areas. As discussed in Section 4.8, *Hydrology and Water Quality*, of this SEIR, a small portion of the city is located within a 100-year floodplain area. These areas are located along the Buena Vista, Agua Hedionda, and San Marcos Creeks and the Buena Vista, Agua Hedionda, and Batiquitos Lagoons. A portion of site 4 contains designated floodplain areas near Agua Hedionda Creek. However, development on site 4 would be required to comply with CMC Chapter 21.110, *Floodplain Management Regulations*, which sets forth design requirements in flood-prone areas such as elevating all residential structures at least two feet above the base flood elevation and constructed with materials that can resist strong hydrostatic and hydrodynamic loads, reducing impacts to a less than significant level. Additionally, future development would be required to comply with the applicable policies within the updated Public Safety Element to ensure reduced risks related to flooding and sea level rise hazards, specifically policies 6-P.1 through 6-P.19, which would ensure consistency with the LCP. Inconsistency with the city's HMP is discussed in Section 4.3, *Biological Resources*.

The Planning Division has primary responsibility for administering the laws, regulations and requirements that pertain to the physical development of the city. Specific duties relating to implementation of the project would include preparing zoning ordinance amendments, reviewing development applications, conducting investigations, and making reports and recommendations on planning and land use, zoning, subdivisions, development plans, and environmental regulations. Future development on the rezone sites will be required to demonstrate consistency with applicable local regulations (such as the city's Zoning Ordinance and 2015 General Plan) as well as applicable state and federal regulations. Given that the proposed project does not conflict with any other agencies' applicable land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect, impacts would be less than significant.

### **Mitigation Measures**

No mitigation measures are required because, like under the 2015 General Plan EIR, impacts would be less than significant without mitigation.

## **d. Cumulative Impacts**

### **Division of an Established Community**

The cumulative setting for land use and planning impacts is the City of Carlsbad. Cumulative land use and planning impacts, such as the potential for conflicts with adjacent land uses and consistency with adopted plans and regulations, are typically site- and project-specific. Subsequent projects allowed by the project may result in site-specific land use conflicts. However, because the exact size and nature of future developments and associated infrastructure improvements are not known at this time, it would be speculative to predict when impacts may occur. The project would not include any features that would physically divide an established community, and as such, would not contribute to cumulative impacts.

### **Consistency with Land Use Plans/Policies**

As discussed under Impact LU-2, the General Plan Update would be consistent with applicable land use plans, policies, or regulations, including SANDAG's 2021 Regional Plan, the city's 2015 General Plan, the GMP, the LCP, Zoning Code and Ordinance, and master and specific plans in the city, and as such, would not contribute to cumulative impacts.



## 4.10 Noise

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This section evaluates noise and groundborne vibration impacts resulting from the construction and operation of new development accommodated by the project. Topics addressed consist of short-term construction and long-term operational noise and vibration, including the exposure of noise-sensitive receivers to substantial or incompatible noise levels. Noise modeling results and the vibration calculations associated with the analysis herein are included in Appendix D to this SEIR.

### 4.10.1 Setting

#### **a. Fundamentals of Noise**

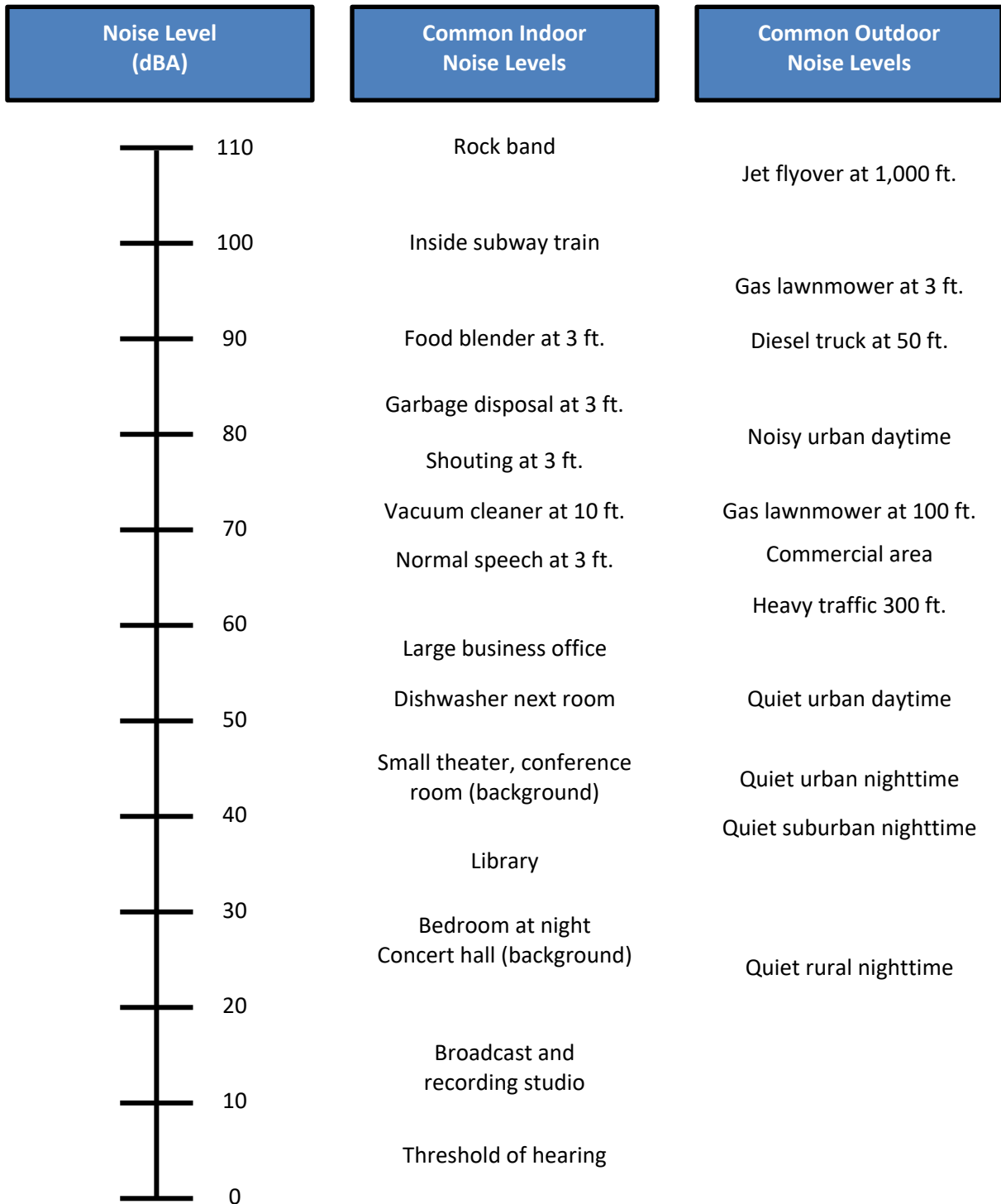
Sound is a vibratory disturbance created by a moving or vibrating source, which is capable of being detected by the hearing organs (e.g., the human ear). Noise is defined as sound that is loud, unpleasant, unexpected, or undesired and may therefore be classified as a more specific group of sounds. The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

Noise levels are commonly measured in decibels (dB) using the A-weighted sound pressure level (dBA). The A-weighting scale is an adjustment to the actual sound pressure levels so that they are consistent with the human hearing response, which is most sensitive to frequencies around 4,000 Hertz (Hz) and less sensitive to frequencies around and below 100 Hz. Decibels are measured on a logarithmic scale that quantifies sound intensity in a manner similar to the Richter scale used to measure earthquake magnitudes. A doubling of the energy of a noise source, such as a doubling of traffic volume, would increase the noise level by 3 dB; similarly, dividing the energy in half would result in a decrease of 3 dB. Common outdoor and indoor noise sources and their typical corresponding A-weighted noise levels are shown in Figure 4.10-1.

Human perception of noise has no simple correlation with sound energy. The perception of sound is not linear in terms of dBA or in terms of sound energy. Two sources do not “sound twice as loud” as one source. It is widely accepted that the average healthy ear can barely perceive an increase (or decrease) of up to 3 dBA in noise levels (i.e., twice [or half] the sound energy); that a change of 5 dBA is readily perceptible (8 times the sound energy); and that an increase (or decrease) of 10 dBA sounds twice (or half) as loud (10.5 times the sound energy) (Caltrans 2013).

Sound changes in both level and frequency spectrum as it travels from the source to the receiver. The most obvious change is the decrease in sound level as the distance from the source increases. The manner by which noise declines with distance depends on factors such as the type of sources (e.g., point or line), the path the sound will travel, site conditions, and obstructions. Noise levels from a point source (e.g., construction, industrial machinery, ventilation units) typically attenuate, or drop off, at a rate of 6 dBA per doubling of distance. Noise from a line source (e.g., roadway, pipeline, railroad) typically attenuates at about 3 dBA per doubling of distance (Caltrans 2013). The propagation of noise is also affected by the intervening ground, known as ground absorption. A hard site, such as a parking lot or smooth body of water, receives no additional ground attenuation and the changes in noise levels with distance (drop-off rate) result simply from the geometric spreading of the source. An additional ground attenuation value of 1.5 dBA per doubling of distance typically applies to a soft site (e.g., soft dirt, grass, or scattered bushes and trees) (Caltrans 2013).

**Figure 4.10-1 Examples of Typical Noise Levels**



Source: Caltrans 2013

Noise levels may also be reduced by intervening structures. The amount of attenuation provided by this “shielding” depends on the size of the object and the frequencies of the noise levels. Natural terrain features, such as hills and dense woods, and man-made features, such as buildings and walls, can alter noise levels. Generally, any large structure blocking the line of sight will provide at least a 5 dBA reduction in source noise levels at the receiver (Federal Highway Administration [FHWA] 2011). Structures can substantially reduce occupants’ exposure to noise as well. The FHWA’s guidelines indicate that modern building construction generally provides an exterior-to-interior noise level reduction of 20 to 35 dBA with closed windows.

## Descriptors

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

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

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

## b. Fundamentals of Vibration

Groundborne vibration of concern in environmental analysis consists of the oscillatory waves that move from a source through the ground to adjacent structures. The number of cycles per second of oscillation makes up the vibration frequency, described in terms of hertz (Hz). The frequency of a vibrating object describes how rapidly it oscillates. While people have varying sensitivities to vibrations at different frequencies, in general they are most sensitive to low-frequency vibration. Vibration in buildings, such as from nearby construction activities, may cause windows, items on shelves, and pictures on walls to rattle. Vibration of building components can also take the form of an audible low-frequency rumbling noise, referred to as groundborne noise. Groundborne noise is usually only a problem when the originating vibration spectrum is dominated by frequencies in the upper end of the range (60 to 200 Hz), or when foundations or utilities, such as sewer and water pipes, physically connect the structure and the vibration source (FTA 2018). Although groundborne vibration is sometimes noticeable in outdoor environments, it is almost never annoying to people

who are outdoors. The primary concern from vibration is that it can be intrusive and annoying to building occupants and vibration-sensitive land uses.

Vibration energy spreads out as it travels through the ground, causing the vibration level to diminish with distance away from the source. High-frequency vibrations diminish much more rapidly than low frequencies, so low frequencies tend to dominate the spectrum at large distances from the source. Variability in the soil strata can also cause diffractions or channeling effects that affect the propagation of vibration over long distances (Caltrans 2020). When a building is exposed to vibration, a ground-to-foundation coupling loss (the loss that occurs when energy is transferred from one medium to another) will usually reduce the overall vibration level. However, under rare circumstances, the ground-to-foundation coupling may amplify the vibration level due to structural resonances of the floors and walls.

**Descriptors**

Vibration amplitudes are usually expressed in peak particle velocity (PPV) or RMS vibration velocity. The PPV and RMS velocity are normally described in inches per second (in./sec.). PPV is defined as the maximum instantaneous positive or negative peak of a vibration signal. PPV is often used in monitoring of vibration because it is related to the stresses that are experienced by buildings (Caltrans 2020).

**Response to Vibration**

Vibration associated with construction has the potential to be an annoyance to nearby land uses. Caltrans has developed limits for the assessment of vibrations from transportation and construction sources. The Caltrans vibration limits are reflective of standard practice for analyzing vibration impacts. As shown in Table 4.10-1 and Table 4.10-2, the Caltrans *Transportation and Construction Vibration Guidance Manual* (2020) identifies guideline impact criteria for damage to buildings and additional impact criteria for annoyance to humans from transient and continuous/frequent sources.

**Table 4.10-1 Building Vibration Damage Potential**

Structure and Condition	Maximum PPV (in./sec.)	
	Transient Sources	Continuous/Frequent Intermittent Sources
Extremely fragile historic buildings, ruins, ancient mountains	0.12	0.08
Fragile buildings	0.20	0.10
Historic and similar old buildings	0.50	0.25
Older residential structures	0.50	0.30
New residential structures	1.00	0.50
Modern industrial/commercial buildings	2.00	0.50

Notes: Transient sources create a single isolated vibration event, such as blasting or drop balls (i.e., a loose steel ball that is dropped onto structures or rock to reduce them to a manageable size). Continuous/frequent intermittent sources include impact pile drivers, pogo-stick compactors, crack-and-seat equipment, vibratory pile drivers, and vibratory compaction equipment.

PPV = peak particle velocity; in./sec. = inches per second

Source: Caltrans 2020

**Table 4.10-2 Vibration Annoyance Potential**

Human Response	Maximum PPV (in./sec.)	
	Transient Sources	Continuous/Frequent Intermittent Sources
Barely perceptible	0.04	0.01
Distinctly perceptible	0.25	0.04
Strongly perceptible	0.90	0.10
Severe	2.00	0.40

Notes: Transient sources create a single isolated vibration event, such as blasting or drop balls (i.e., a loose steel ball that is dropped onto structures or rock to reduce them to a manageable size). Continuous/frequent intermittent sources include impact pile drivers, pogo-stick compactors, crack-and-seat equipment, vibratory pile drivers, and vibratory compaction equipment.

PPV = peak particle velocity; in./sec. = inches per second

Source: Caltrans 2020

### c. Sensitive Receivers

Noise exposure goals for various types of land uses reflect the varying noise sensitivities associated with those uses. The Noise Element of the General Plan identifies residences, schools, churches, and hospitals as the most sensitive land uses (City of Carlsbad 2015).

Vibration-sensitive receivers, which are similar to noise-sensitive receivers, include residences and institutional uses, such as hospitals, schools, and churches. However, vibration-sensitive receivers also include buildings where vibrations may interfere with vibration-sensitive equipment that is affected by vibration levels that may be well below those associated with human annoyance (e.g., recording studios or medical facilities with sensitive equipment). Other uses that may have particular sensitivity to groundborne vibration include historic sites and structures.

According to Section 2, *Project Description*, the city encompasses approximately 39 square miles, and is comprised primarily of single family residential uses, with neighborhoods distributed throughout the city. As discussed in Section 2, *Project Description*, 38 percent of the city is currently comprised of residential land uses. Therefore, residential uses comprise most of the sensitive receivers in the city. Other sensitive receivers located in the city include institutional uses (e.g., schools, hospitals, and churches). In addition, refer to Section 4.4, *Cultural and Tribal Cultural Resources*, for a discussion of historic properties in the city that may be particularly sensitive to increases in groundborne vibration levels.

### d. Existing Conditions

#### Noise Sources

Carlsbad is affected by a variety of noise sources, including mobile and stationary sources. The predominant noise sources are transportation sources such as vehicles, aircraft, and rail noise. According to the General Plan Noise Element, the most prevalent noise source in the city is traffic on the freeways and arterials, with the most dominant noise source being Interstate-5 (I-5). Other major streets with high levels of noise include Highway 78 and arterial streets such as El Camino Real, Palomar Airport Road, Rancho Santa Fe Road, Melrose Drive, and Carlsbad Boulevard. The North County Transit District (NCTD) owns a north-to-south rail line and two passenger rail stations located within the city: Carlsbad Village and Carlsbad Poinsettia stations. NCTD operates the Coaster commuter rail service on this rail line; the Atchison, Topeka & Santa Fe freight line and the Amtrak passenger service also use the rail line through the city. McClellan-Palomar Airport is presently

**Housing Element Implementation and Public Safety Element Update**

operating as a commercial service facility and is located west of El Camino Real, just north of Palomar Airport Road.

To characterize ambient sound levels at and near the 18 rezone sites under the proposed project, 10-minute sound level measurements were conducted on Tuesday, June 7, 2022, and Wednesday, June 8, 2022. Table 4.10-3 summarizes the results of the noise measurements, and Figure 4.10-2 shows the locations of the measurements relative to the housing sites. As shown in the results, measured noise levels ranged from 44 dBA  $L_{eq}$  to 66 dBA  $L_{eq}$ . The dominant noise source was roadway traffic; higher noise levels were observed near the busier roadways.

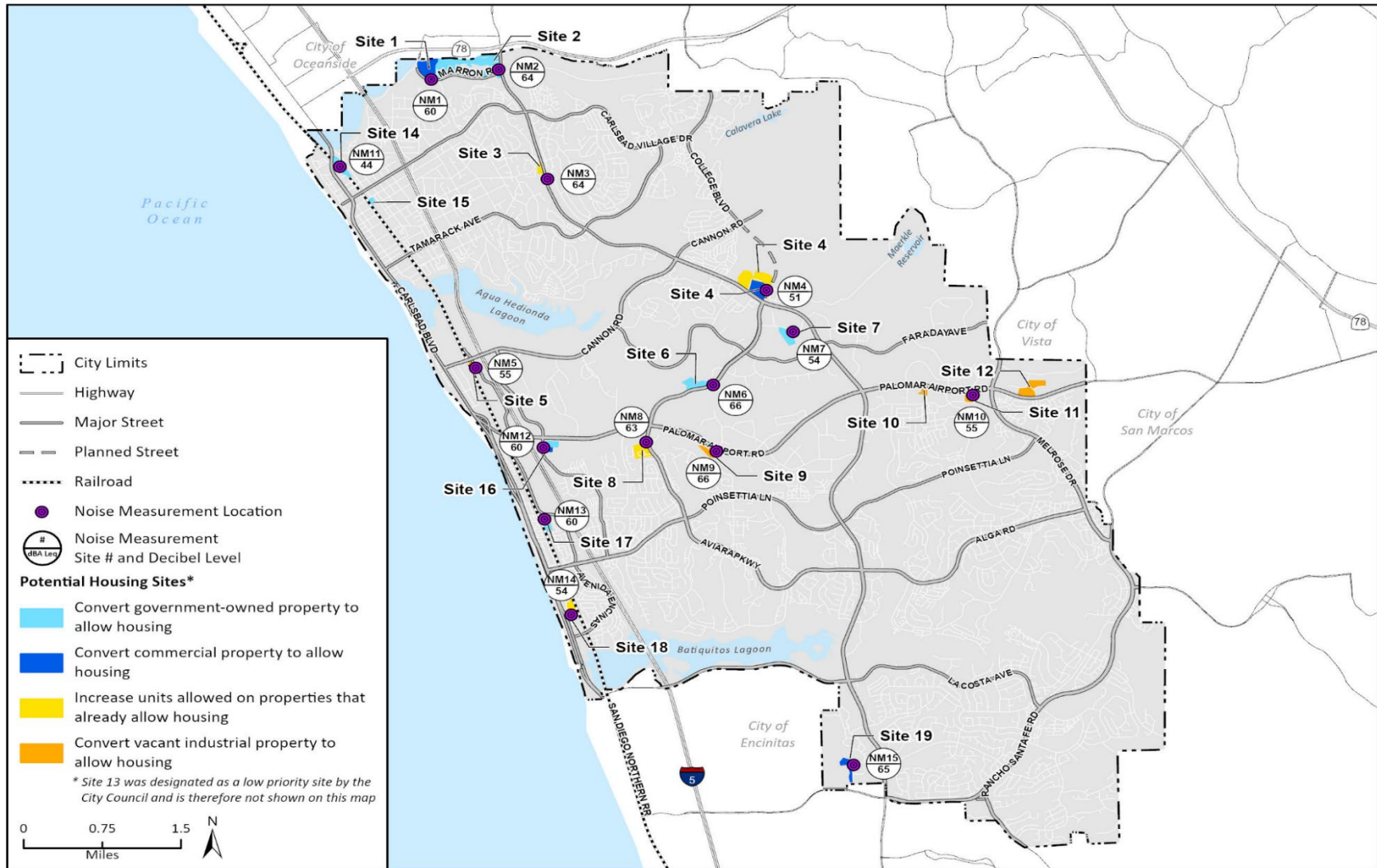
**Table 4.10-3 Project Site Vicinity Sound Level Monitoring Results**

Measurement	Representative Housing Sites	Date	Sample Times	$L_{eq}$ (dBA)	$L_{95}$ (dBA)	$L_{max}$ (dBA)
1	1	6/8/2022	9:48 a.m. – 10:48 a.m.	60	52	74
2	2	6/8/2022	10:05 a.m. – 10:15 a.m.	64	46	76
3	3	6/8/2022	9:27 a.m. – 9:37 a.m.	64	40	76
4	4	6/8/2022	8:22 a.m. – 8:32 a.m.	51	40	67
5	5	6/7/2022	9:48 a.m. – 9:58 a.m.	55	51	68
6	6	6/8/2022	7:45 a.m. – 7:55 a.m.	66	39	76
7	7	6/8/2022	8:03 a.m. – 8:13 a.m.	54	40	69
8	8	6/7/2022	10:08 a.m. – 10:18 a.m.	63	49	72
9	9	6/7/2022	10:28 a.m. – 10:38 a.m.	66	51	77
10	10, 11, 12	6/7/2022	7:37 a.m. – 7:47 a.m.	55	49	63
11	14, 15	6/8/2022	10:28 a.m. – 10:38 a.m.	44	43	51
12	16	6/7/2022	9:28 a.m. – 9:38 a.m.	60	55	71
13	17	6/7/2022	9:06 a.m. – 9:16 a.m.	60	42	71
14	18	6/7/2022	8:40 a.m. – 8:50 a.m.	54	41	69
15	19	6/7/2022	8:12 a.m. – 8:22 a.m.	65	45	75

dBA = A-weighted decibel;  $L_{eq}$  = average noise level equivalent;  $L_{95}$  = sound level exceeded 95 percent of the time;  $L_{max}$  = maximum instantaneous noise level

See Appendix D for measurement data.

Figure 4.10-2 Noise Measurement Locations and Housing Sites



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 Additional data provided by City of Carlsbad, 2022.

Noise Element  
 Fig X Potential Housing Sites and Noise Measurements

The General Plan Noise Element includes noise contours that have been estimated using information about both current and projected future land uses and traffic volumes throughout the city.<sup>1</sup> Figure 4.10-3 shows the existing noise contours and Figure 4.10-4 displays anticipated changes in noise levels associated with future growth accompanied by an increase in citywide traffic volumes for the General Plan's horizon year of 2035. The contour lines follow the highest volume traffic arteries in narrow bands. Contours in the range of 70 dBA  $L_{dn}$  and greater run along the I-5, Palomar Airport Road, and El Camino Real. Contours in the range of 65 to 70 dBA  $L_{dn}$  run along Poinsettia Lane and Faraday Avenue. An area with ambient noise levels in the vicinity of 60 to 65 dBA  $L_{dn}$  exists along Carlsbad Village Drive and La Costa Avenue. Elsewhere in Carlsbad, ambient noise levels are generally below 60 dBA  $L_{dn}$ . Noise levels diminish away from major streets. This is due to both the normal reduction in noise level with distance from the source and the absorption of noise by homes and trees adjacent to these streets. The hilly terrain and wooded character of the city provide additional noise shielding. Major changes in the noise environment are not anticipated during the timeframe of this General Plan. Roadway segments anticipated to experience a slight increase in noise levels consist of College Boulevard and Poinsettia Lane.

Furthermore, McClellan-Palomar Airport is presently operating as a commercial service facility and is located west of El Camino Real, just north of Palomar Airport Road. The current McClellan-Palomar Airport Land Use Compatibility Plan (ALUCP) modeled exposure levels based on approximately 289,100 annual aircraft operations, which is the aviation forecast in the current 2021 Airport Master Plan. Figure 4.10-5 displays the noise contours for the McClellan-Palomar Airport.

## **Vibration Sources**

Sources of vibration in the city, similar to that of the noise environment, are also primarily motor vehicles along roadways. Like mobile-source noises, vibration by vehicular movement generally affects numerous receivers along lengths of roadways and depends on pavement and type and weight of the vehicle. Vibration may also be generated by construction equipment (e.g., earth-moving equipment and pile driving); however, these sources are temporary and vary on a project-by-project basis. In addition, commercial or industrial activities may generate vibration from the use of heavy equipment (e.g., businesses that recycle construction debris).

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<sup>1</sup> Noise contours consist of modeled areas of similar noise exposure that do not consider the presence of structures (e.g., buildings and solid walls) and natural topography (e.g., hills and berms) that obstruct the line-of-sight between a noise source and a receiver and further reduce noise levels.



**Figure 4.10-3 City Noise Contours – Existing**

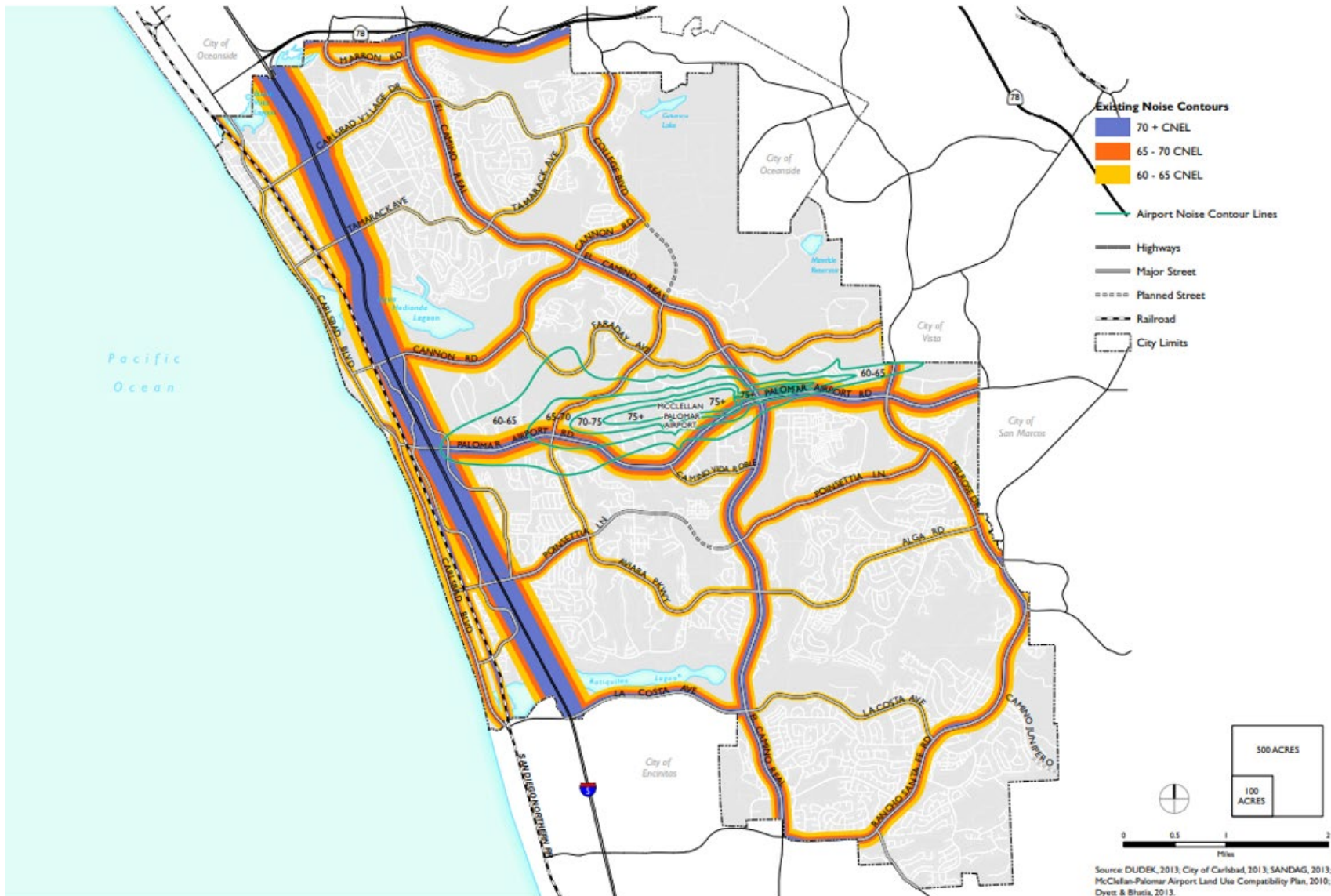
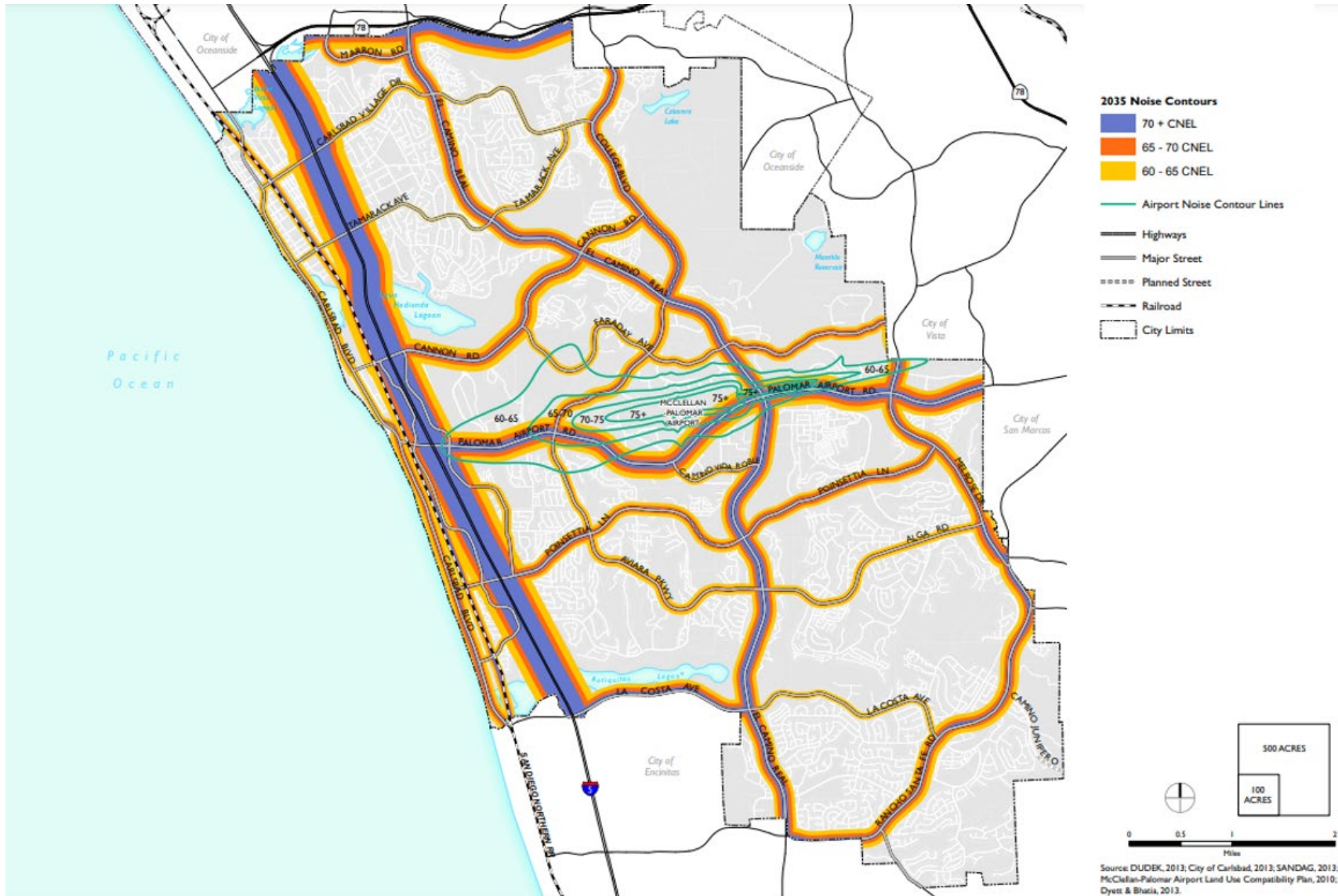
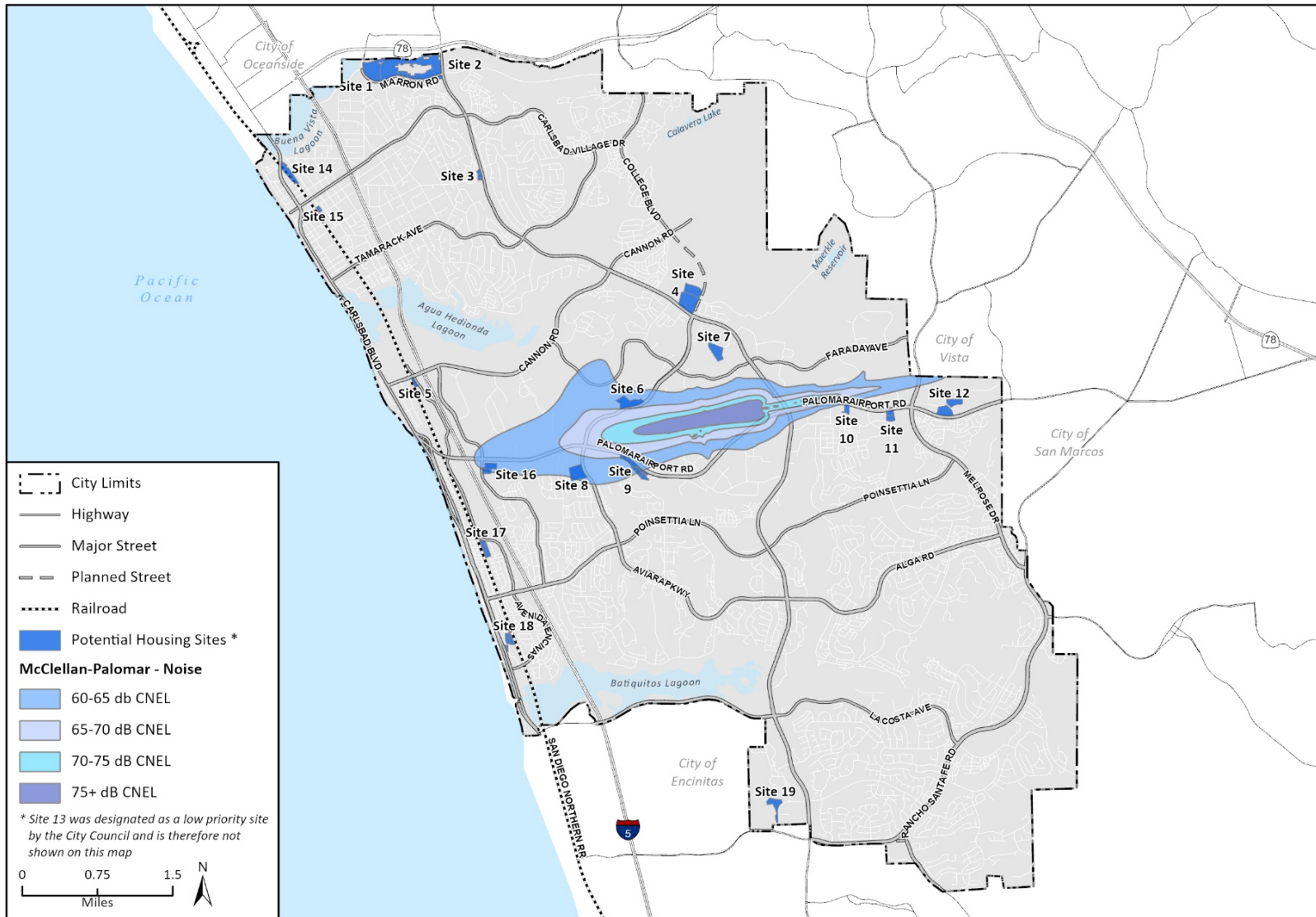


Figure 4.10-4 City Noise Contours – Future



**Figure 4.10-5 Airport Noise Contours**



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 Additional data provided by City of Carlsbad, 2022; SANDAG, 2023.

CSB Housing Sites Posters  
 Fig 5 Airport Noise Contour and Sites



## 4.10.2 Regulatory Setting

### a. Federal

#### **Occupational Safety and Health Act of 1970**

Under the Occupational Safety and Health Act of 1970, the Occupational Safety and Health Administration (OSHA) has adopted regulations designed to protect workers against the effects of occupational noise exposure. These regulations list permissible noise level exposure as a function of the amount of time during which the worker is exposed. The regulations further specify a hearing conservation program that involves monitoring noise to which workers are exposed, ensuring that workers are made aware of overexposure to noise, and periodically testing the workers' hearing to detect any degradation.

### b. State

#### **California Building Code, Title 24, Part 2, Section 1206.4**

According to the 2022 California Building Code (CBC), Title 24, Part 2, Section 1206.4 (Allowable Interior Noise Levels) of the California Code of Regulations, interior noise levels attributable to exterior sources shall not exceed 45 CNEL in any habitable room. A habitable room is typically a residential room used for living, sleeping, eating, or cooking. Bathrooms, closets, hallways, utility spaces, and similar areas are not considered habitable rooms for this regulation.

#### **California Department of Transportation**

As discussed in the *Environmental Setting* of this section, Caltrans has developed limits for the assessment of vibration from transportation and construction sources, which are reflective of standard practice for analyzing vibration impacts. Table 4.10-1 presents the impact criteria for structural damage to buildings and Table 4.10-2 presents the criteria for annoyance to humans. The State noise and vibration guidelines are to be used as guidance with respect to planning for noise, not standards and/or regulations to which the City of Carlsbad must adhere.

### c. Local

#### **City of Carlsbad Noise Guidelines Manual**

The City of Carlsbad Noise Guidelines Manual is primarily intended to address community noise issues related to land use. Carlsbad's Noise Element policies are summarized, the science of noise is summarized, procedures for the processing of a project are explained, preferred methods for the mitigation of noise are listed, and a preferred noise report format is presented. Additionally, typical conditions of approval are listed. The Noise Guidelines Manual does not address noise issues such as animal noise, noise from parties and loud gatherings, motor vehicle noise or general nuisance noise, for which the best resource is the Carlsbad Municipal Code (CMC) Noise Ordinance (CMC Chapter 8.48).

#### **City of Carlsbad Municipal Code**

CMC Chapter 8.48 outlines regulations for limitation of hours for construction (i.e., the erection, demolition, alteration, or repair of any building or structure or the grading or excavation of land)

that creates disturbing, excessive, or offensive noise. Construction can occur Monday through Friday from 7 a.m. to 6 p.m. and Saturday 8 a.m. to 6 p.m.; no work shall be conducted on Sundays and any federal holiday. CMC Chapter 8.48 also outlines exceptions that may be granted by the city for circumstances such as emergency repairs required to protect the health and safety of the community. The CMC does not contain quantitative noise standards for construction or for stationary sources from residential uses.

## City of Carlsbad 2015 General Plan

The evaluation of noise in the Carlsbad General Plan focuses on motor vehicles, aircraft, construction activities, and commercial/industrial operations. The General Plan Noise Element incorporates policies and development standards intended to provide construction- and operational-phase noise control to reduce noise conflicts in the Planning Area. Applicable goals and policies in the General Plan Noise Element include:

### *Goals*

- Goal 5-G.1.** Protect public health and welfare by eliminating existing noise problems where feasible, maintaining an acceptable indoor and outdoor acoustic environment, and preventing significant degradation of the acoustic environment.
- Goal 5-G.2.** Ensure that new development is compatible with the noise environment, by continuing to use potential noise exposure as a criterion in land use planning.
- Goal 5-G.3.** Guide the location and design of transportation facilities, industrial uses and other potential noise generators to minimize the effects of noise on adjacent land uses.
- Goal 5-G.4.** Ensure long-term compatibility between the airport and surrounding land use.
- Goal 5-G.5.** Foster healthy and productive work environments that do not cause hearing damage or other adverse noise related health impacts to workers in Carlsbad.

### *Policies*

#### **LAND USE AND NOISE COMPATIBILITY**

- Policy 5-P.1** **Acceptability of Use Location.** Use the noise and land use compatibility matrix (Table 4.10-4) and Future Noise Contours map (Figure 4.10-4) as criteria to determine acceptability of a land use, including the improvement/construction of streets, railroads, freeways and highways. Do not permit new noise-sensitive uses—including schools, hospitals, places of worship, and homes—where noise levels are “normally unacceptable” or higher, if alternative locations are available for the uses in the city.
- Policy 5-P.2** **Required Noise Analysis.** Require a noise analysis be conducted for all discretionary development proposals (except for developments of single family homes with four units or fewer) located where projected noise exposure would be other than “normally acceptable”. A required noise analysis should: a. Be prepared by a certified noise consultant or acoustical engineer; b. Be funded by the applicant; c. Include a representative, on-site day and night sound level measurement; d. Include a delineation of current (measured) and projected (General Plan or 10 years in future, whichever horizon extends further out) noise contours; e. Identify noise levels with and without the proposed project, ranging from 55 to 75 dBA ( $L_{dn}$ ) within

the proposed development site; and f. If noise levels exceed the standards in Table 4.10-4, include a description of adequate and appropriate noise abatement measures to mitigate the noise to allowable levels for the proposed use.

**Policy 5-P.3 Noise-Attenuation.** For all projects that require discretionary review and have noise exposure levels that exceed the standards in Table 4.10-4, require site planning and architecture to incorporate noise attenuating features. With mitigation, development should meet the allowable outdoor and indoor noise exposure standards in Table 4.10-5. When a building's openings to the exterior are required to be closed to meet the interior noise standard, then mechanical ventilation shall be provided.

**Policy 5-P.4 Exterior Noise Levels Exceeding Acceptable Level.** If the noise analysis shows that exterior noise levels cannot be mitigated to an acceptable level as identified in Table 4.10-5, the development should not be approved without one or more of the following findings:

- Changes or alterations have been required in, or incorporated into, the project that avoid or substantially lessen the noise.
- Changes or alterations to avoid or substantially lessen noise are within the responsibility and jurisdiction of another public agency and not the City of Carlsbad. Such changes have been adopted by such other agency or can and should be adopted by such other agency.
- Specific economic, social, or other considerations make infeasible the mitigation measures or project alternatives to avoid or substantially lessen noise.
- If a project is approved with exterior noise levels exceeding the acceptable noise level, all purchasers of the impacted property shall be notified in writing prior to purchase, and by deed disclosure in writing, that the property they are purchasing is, or will be, impacted by noise and does not meet City of Carlsbad noise standards for residential property.

**Policy 5-P.5 Noise Generation.** As part of development project approval, require that noise generated by a project does not exceed standards established in Table 4.10-6.

**Policy 5-P.6 Berms and Sound Walls.** Discourage the use of berms and sound walls for noise mitigation; rather, encourage the use of project design techniques such as increasing the distance between the noise source and the noise sensitive receiver and use non-noise sensitive structures (e.g., a garage) to shield noise sensitive areas. If a berm or wall is determined necessary to mitigate noise, discourage exclusive use of walls in excess of six feet in height and encourage use of natural barriers such as site topography or constructed earthen berms. When walls are determined to be the only feasible solution to noise mitigation, then the walls shall be designed to limit aesthetic impacts. When walls over six feet in height are necessary to mitigate noise, a berm/wall combination with heavy landscaping, a terraced wall heavily landscaped, or other similar innovative wall design technique shall be used to minimize visual impacts.

**Policy 5-P.7 Mitigation Cost.** The City of Carlsbad shall not fund mitigation of existing or future noise impacts from streets, railroad, airport or any other source for existing or future private development within the city.

**Policy 5-P.8 Noise Guidelines Manual.** Update the Noise Guidelines Manual to ensure consistency with General Plan standards and policies, and contemporary practices.

#### **MOTOR VEHICLE/ROADWAY NOISE**

**Policy 5-P.9** Continue to enforce the California Motor Vehicle Code as it applies to excessive noise. The Carlsbad Police Department should continue to reduce the number of excessively noisy vehicles on city streets and deter persons from operating their motor vehicles in a noisy manner.

**Policy 5-P.10** Consider noise impacts in the design of road systems and give special consideration to noise sensitive areas; to the greatest extent possible, the design of roads should minimize roadway noise to levels acceptable to surrounding areas.

**Policy 5-P.11** Review traffic flow systems and, wherever possible, synchronize signalization and/or implement other traffic flow improvements to avoid traffic stops and starts, and adjust traffic flow to achieve noise levels acceptable to surrounding areas.

#### **AIRPORT NOISE**

**Policy 5-P.12** Use the noise policies in the McClellan-Palomar Airport Land Use Compatibility Plan (ALUCP) to determine acceptability of a land use within the airport's influence area (AIA) as depicted in the ALUCP. Additional disclosure actions for new development in the AIA, such as avigation easements, deed restrictions, recorded notice, etc., are required of developers/sellers of noise impacted residential units.

**Policy 5-P.13** For projects within the Airport Influence Area, utilize the noise standards contained in the McClellan-Palomar ALUCP, as well as the noise standards contained in this element. However, reserve the right to overrule the ALUCP as provided for in State Public Utilities Code Section 21676.

**Policy 5-P.14** Recognize that procedures for the abatement of aircraft noise have been identified in the Fly Friendly Program for McClellan-Palomar Airport. The city expects the widespread dissemination of, and pilot adherence to, the adopted procedures.

**Policy 5-P.15** Expect the airport to control noise (to the extent of its limited authority granted by the Federal Aviation Administration to indirectly regulate aircraft noise through airport design and scheduling) while the city shall control land-use thus sharing responsibility for achieving and maintaining long-term noise/land-use compatibility in the vicinity of McClellan-Palomar Airport.

**Policy 5-P.16** Require new nonresidential development to comply with the noise compatibility criteria in the ALUCP. Require dedication of avigation easements for new developments designated as conditionally compatible for noise in the ALUCP, and which are located within the 65 dB CNEL noise contour.

#### **RAILROAD NOISE**

**Policy 5-P.17** Coordinate with other agencies and private entities to investigate methods of implementing a railroad quiet zone and other methods of reducing railroad noise impacts on surrounding uses; such as through development of a grade separated rail corridor.

**WORK-RELATED NOISE**

**Policy 5-P.18** Participate in noise control and hearing conservation programs in all appropriate work environments owned, operated, or otherwise under the control of the City of Carlsbad.

**Policy 5-P.19** Promote that all persons responsible for operation of noise-producing equipment or processes, exercise reasonable care to minimize casual noise exposure to unprotected workers or passers-by to reduce risk of hearing damage.

**Policy 5-P.20** Encourage and assist its employees in identifying and abating potential noise hazards on city-owned or controlled property.

**Table 4.10-4 Noise and Land Use Compatibility Matrix**

Land Use Category	Normally Acceptable <sup>1</sup>	Conditionally Acceptable <sup>2</sup>	Normally Unacceptable <sup>3</sup>	Clearly Unacceptable <sup>4</sup>
Residential – Single Family	50-60	55-70	70-75	75-85
Residential – Multiple Family	50-65	60-70	70-75	75-85
Transient Lodging – Motels, Hotels	50-65	60-70	70-80	80-85
Schools, Libraries, Churches, Hospitals, Nursing Homes	50-70	60-70	70-80	80-85
Auditoriums, Concert	N/A	50-70	65-85	N/A
Sports Arena, Outdoor	N/A	50-75	70-85	N/A
Playgrounds, Parks	50-70	N/A	67.5-75	72.5-85
Golf Courses, Riding Stables, Water Recreation, Cemeteries	50-75	N/A	70-80	80-85
Office Buildings, Business Commercial and Professional,	50-70	67.5-77.5	75-85	N/A
Industrial, Manufacturing, Utilities, Agriculture	50-75	70-80	75-85	N/A

<sup>1</sup> Normally Acceptable: Specified land use is satisfactory, based upon the assumption that any buildings involved are of normal conventional construction, without any special noise insulation requirements.

<sup>2</sup> Conditionally Acceptable: New construction or development should be undertaken only after a detailed analysis of the noise reduction requirements is made and needed noise insulation features included in the design.

<sup>3</sup> Normally Unacceptable: New construction or development should generally be discouraged. If new construction or development does proceed, a detailed analysis of the noise reduction requirements must be made and needed noise insulation features included in the design.

<sup>4</sup> Clearly Unacceptable: New construction or development clearly should not be undertaken.

Source: Adapted from Table 5-1, City of Carlsbad 2015

While Table 4.10-4 establishes standards to help the city determine the appropriateness of locating specific uses in noise-prone environments, Table 4.10-5 provides standards that development shall attain through noise attenuation measures. Table 4.10-6 provides standards for noise from non-transportation noise sources such as, but not limited to, industrial facilities, automotive servicing, car washes, equipment yards, nightclubs, hotels, and shopping centers. These standards apply to the noise sources themselves, as measured at the edge of the property line; noise caused by motor vehicles traveling to and from the site is exempt from this standard.



**Table 4.10-5 Allowable Noise Exposure<sup>1</sup>**

Type of Use	Maximum Exterior Allowable Noise Level (dBA L <sub>eq</sub> ) <sup>2,3</sup>	Maximum Interior Allowable Noise Level (dBA L <sub>eq</sub> )
Residential	60 <sup>4</sup>	45
Motels, Hotels	65	45
Hospitals, Residential Care Facilities, Schools, Libraries, Museums, Churches, Day Care Facilities	65	45
Playgrounds, Parks, Recreation Uses	65	50
Commercial and Office Uses	65	50
Industrial Uses	70	65

dBA = A-weighted decibel; CNEL = Community Noise Equivalent Level; L<sub>eq</sub> = average noise level equivalent

<sup>1</sup> Development proposed within the McClellan-Palomar Airport Area of Influence shall also be subject to the noise compatibility policies contained in the ALUCP.

<sup>2</sup> For non-residential uses, where an outdoor activity area is not proposed, the standard does not apply. Where the location of outdoor activity areas is unknown, the exterior noise level standard shall be applied to the property line of the receiving use

<sup>3</sup> Where it is not possible to reduce noise in outdoor activity areas to the allowable maximum, levels up to 5 dB higher may be allowed provided that available exterior noise level reduction measures have been implemented and interior noise levels are in compliance with this table.

<sup>4</sup> An exterior noise exposure level of 65 dBA CNEL is allowable for residential uses in a mixed-use project and for residential uses within the McClellan-Palomar Airport Area of Influence, pursuant to the noise compatibility policies contained in the ALUCP.

Source: Adapted from Table 5-2, City of Carlsbad 2015

**Table 4.10-6 Performance Standards for Non-Transportation Sources (As Measured at Property Line of Source/Sensitive Use)**

Land Use Designation	Daytime (7:00 a.m. to 10:00 p.m.) <sup>1</sup>	Nighttime (10:00 p.m. to 7:00 a.m.) <sup>1</sup>
Hourly Leq, dB	55	45
Maximum Level, dB	75	65

dBA = A-weighted decibel; CNEL = Community Noise Equivalent Level; L<sub>eq</sub> = average noise level equivalent

<sup>1</sup> Each of the noise levels specified above shall be lowered by 5 dB for simple tone noises, noises consisting primarily of speech or music, or for recurring impulsive noises.

Source: Adapted from Table 5-3, City of Carlsbad 2015

## 4.10.3 Impact Analysis

### a. Methodology and Significance Thresholds

#### Significance Thresholds

In accordance with Appendix G of the *CEQA Guidelines*, the project's noise and vibration impacts would be significant if it would:

1. Generate a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies
2. Generate excessive groundborne vibration or groundborne noise levels
3. For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, expose people residing or working in the project area to excessive noise levels

The following discussion identifies specific thresholds used to analyze the general CEQA thresholds listed above.

*Construction Noise*

As described under Section 4.10.2, *Regulatory Framework*, CMC Chapter 8.48 outlines regulations for limitation of hours for construction (i.e., the erection, demolition, alteration, or repair of any building or structure or the grading or excavation of land) that creates disturbing, excessive, or offensive noise. Construction can occur Monday through Friday from 7 a.m. to 6 p.m. and Saturday 8 a.m. to 6 p.m.; no work shall be conducted on Sundays and any federal holiday. CMC Chapter 8.48 also outlines exceptions that may be granted by the city for circumstances such as emergency repairs required to protect the health and safety of the community. However, the CMC does not provide a quantitative construction noise threshold.

In the absence of applicable local noise level limits, this analysis references guidance from the Federal Transit Administration’s (FTA) *Transit Noise and Vibration Impact Assessment Manual* to establish a quantified threshold against which to assess the impact of construction noise (FTA 2018); FTA recommends that reasonable noise criteria may include those shown in Table 4.10-7. Construction noise would be significant if it exceeded this noise criteria.

**Table 4.10-7 Construction Noise Criteria**

<b>Land Use</b>	<b>Daytime L<sub>eq</sub> (8-hour)</b>	<b>Nighttime L<sub>eq</sub> (8-hour)</b>
Residential	80	70
Commercial	85	85
Industrial	90	90

Source: FTA 2018

*Operational Noise*

Stationary noise would be subject to the city noise limits in Table 4.10-6.

Roadway noise would result in a significant impact if development accommodated under the project would cause the ambient noise level measured at the property line of affected uses to increase by 3 dBA, which would be a barely perceptible increase in traffic noise.

*Groundborne Vibration*

The city has not adopted a significance threshold to assess vibration impacts during construction and operation. Therefore, the Caltrans *Transportation and Construction Vibration Guidance Manual* (2020) is used to evaluate potential construction vibration impacts related to both potential building damage and human annoyance. Construction vibration impacts from development would be significant if vibration levels exceed the Caltrans criteria shown in Table 4.10-1 and Table 4.10-2. For example, impacts would be significant if vibration levels exceed 0.5 in./sec. PPV for residential structures and 2.0 in./sec. PPV for commercial structures, which is the limit where minor cosmetic (i.e., non-structural) damage may occur to these buildings. Construction vibration impacts would also be significant if vibration levels exceed 0.12 in./sec. PPV for extremely fragile historic buildings, as shown in Table 4.10-1. In addition, construction vibration impacts would cause significant human annoyance at nearby receivers if vibration levels exceed 0.25 in./sec. PPV, which is the limit where vibration becomes distinctly perceptible from barely perceptible.

### *Airport Noise*

Exposure to airport noise would be significant if new development is located within the noise contours of the McClellan-Palomar Airport that exceed the city's land use compatibility standards shown in Table 4.10-4.

## **Methodology**

As discussed in Section 2, *Project Description*, the project is a plan to accommodate forecasted growth and existing and future need for housing that would result in land use and zoning changes that could allow up to 3,280 housing units on 18 rezone sites in the city. The following discussion describes the methodology, including models, used to evaluate the significance of potential noise and vibration impacts related to the forecasted construction and operation of 3,280 housing units accommodated by the project.

### *Construction Noise*

The primary source of temporary noise associated with the project would be construction activities associated with proposed development. Construction equipment can be considered to operate in two modes: stationary and mobile. Stationary equipment operates in a single location for one or more days at a time, with either fixed-power operation (e.g., pumps, generators, and compressors) or variable-power operation (e.g., pile drivers, rock drills, and pavement breakers). Mobile equipment moves around a construction site with power applied in cyclic fashion, such as bulldozers, graders, and loaders (FTA 2018). Each phase of construction has its own noise characteristics due to specific equipment mixes; some will have higher continuous noise levels than others and some may have high-impact intermittent noise levels (FTA 2018). Therefore, construction noise levels may fluctuate depending on the type of equipment being used, construction phase, or equipment location. In typical construction projects on vacant sites, grading activities typically generate the highest noise levels because grading involves the largest equipment and covers the greatest area. Foundation excavation and construction is often the second loudest phase, followed by paving and building construction.

Variation in power imposes additional complexity in characterizing the noise source level from construction equipment. Power variation is accounted for by describing the noise at a reference distance from the equipment operating at full power and adjusting it based on the duty cycle, or percent of operational time, of the activity to determine the  $L_{eq}$  of the operation (FTA 2018).

For assessment purposes, noise levels for common construction equipment provided in the FTA *Transit Noise and Vibration Impact Assessment* (2018) guidance document were used to analyze potential noise levels associated with future development under the project. The FTA provides typical noise levels at 50 feet from various types of equipment. Construction noise was also estimated using the FHWA's Roadway Construction Noise Model (RCNM) (2006). RCNM predicts construction noise levels for a variety of construction operations based on empirical data and the application of acoustical propagation formulas. Using RCNM, construction noise levels were estimated at a distance of 50 feet from future development.

In general, smaller developments on urban infill sites are not likely to result in substantial construction noise impacts because construction activities at these sites are inherently limited by the size of the site. The size of urban infill project sites typically limits the use of the largest (i.e., noisiest) pieces of heavy-duty equipment. The size of a project site also typically limits the size of the development and the related duration of construction activities. Although some individuals may

find construction noise of any kind or of any duration very disturbing, as a general matter, typical construction (including with the implementation of mitigation measures described in further detail in the following subsection) does not result in and would not be considered a significant impact. Therefore, while urban infill developments that meet the following criteria could result in disturbance to residents and employees at adjacent properties, resulting noise levels typically would not result in significant construction noise impacts:

- One subterranean level or less (generally 20,000 cubic yards or less of excavated soil material);
- Construction durations of less than 18 months (excluding interior finishing);
- Use of equipment rated less than 300 horsepower, typically small and medium backhoes, bulldozers, etc.; and
- No potential for pile driving.

Larger projects that require extended construction or heavy-duty equipment could expose sensitive uses to more continuous and/or louder noise impacts and result in significant short-term noise exposure. When noise-sensitive land uses (e.g., residences, schools, libraries, hospitals) are located within 500 feet of a project site, projects that meet one or more of the characteristics below may have the potential to result in significant impacts:

- Two subterranean levels or more (generally more than 20,000 cubic yards of excavated soil material);
- Construction durations of 18 months or more (excluding interior finishing);
- Use of large, heavy-duty equipment rated 300 horsepower or greater; or
- The potential for pile driving.

#### *On-site Operational Noise*

The primary on-site noise sources associated with operation of project developments would include noise from stationary heating, ventilation, and air conditioning (HVAC) equipment, on-site vehicle movement (e.g., delivery and trash hauling), and outdoor activities. Analysis of outdoor activity considers the existing noise environment and refers to regulations included in the city's municipal code (i.e., Title 8 and 21) and the Noise Element. Specification for a typical to larger-sized residential condenser was used to determine project HVAC noise; the unit used for this analysis is a Carrier 38HDR060 split system condenser. The manufacturer's noise data lists the unit as having a sound power level of 72 dBA (Carrier 2011).

#### *Off-site Operational Noise*

Development accommodated under the project would generate motor vehicle trips, thereby increasing off-site traffic on area roadways. The project's off-site traffic noise impacts are analyzed based on data from the Transportation Modeling Considerations and Results Memorandum completed by Fehr & Peers dated April 2023, which is included as Appendix E. The overall increase in traffic noise was estimated using vehicle miles traveled (VMT) data from the Memorandum for existing conditions (Year 2016), future without project conditions (i.e., Year 2035 without the project), and future with project conditions (i.e., Year 2035 with the project).

#### *Groundborne Vibration*

Operation of development accommodated by the project would not include substantial vibration sources (e.g., use of heavy equipment). Rather, construction activities would have the greatest

potential to generate groundborne vibration affecting sensitive receivers and/or structures adjacent to a construction site, especially during grading and when a site is located near a historic site or structure. As discussed in Section 4.4, *Cultural and Tribal Cultural Resources*, the City of Carlsbad possesses four known individual historical resources on or immediately adjacent to one of the rezone sites.

A quantitative assessment of potential vibration impacts from construction activities was conducted using equations developed by Caltrans (Caltrans 2020). Table 4.10-8 shows typical vibration levels for various pieces of construction equipment used in the construction vibration assessment.

**Table 4.10-8 Typical Vibration Levels for Construction Equipment**

Equipment	PPV (in./sec.) at 25 Feet
Pile Driver (Impact)	0.644
Pile Driver (Sonic)	0.170
Vibratory Roller	0.210
Hoe Ram	0.089
Large Bulldozer	0.089
Caisson Drilling	0.089
Loaded Truck	0.076
Jackhammer	0.035
Small Bulldozer	0.003

Sources: FTA 2018; Caltrans 2020

Because groundborne vibration could cause physical damage to structures and is measured in an instantaneous period, vibration impacts are typically modeled based on the distance from the location of vibration-intensive construction activities, which is conservatively assumed to be edge of a project site, to the edge of the nearest off-site structures. For assessment purposes, vibration levels for the construction equipment shown in Table 4.10-8 were modeled at various incremental distances between 25 feet and 100 feet to analyze potential vibration levels associated with future development under the project. Vibration calculations are included in Appendix D.

**b. Prior Environmental Analysis**

The 2015 General Plan EIR measured noise conditions at sites throughout Carlsbad and developed noise contours that show noise levels are highest along I-5 and arterial roadways (See Figure 3.10-1 and Figure 3.10-2 of the 2015 General Plan for noise measurement locations and noise contours). The 2015 General Plan EIR determined that temporary impacts to noise from construction would be less than significant (Section 3.10, Noise: 3.10-21 through 3.10-38). The General Plan also establishes policies that would mitigate operational impacts to less than significant. Vibration and increase in noise near sensitive land uses were also found to have less than significant impacts for General Plan implementation. The 2015 General Plan EIR further stated that individual development projects would be subject to project-specific development and planning review, including adherence to standards for noise and vibration reduction.

The proposed project involves land use changes to encourage development on 18 rezone sites beyond what was anticipated in the 2015 General Plan EIR and could therefore result in new

impacts related to noise. Therefore, all the CEQA checklist items listed above under Significance Criteria are addressed in this analysis.

**c. Project Impacts and Mitigation Measures**

Some components associated with the proposed project, including updates to the Local Coastal Plan, Public Safety Element, and Master and Specific Plans for consistency between the city’s planning documents, in and of themselves would not result in physical changes to the environment such that impacts to noise would occur. Therefore, this analysis focuses on impacts associated with implementation of the rezone program which would facilitate the development of 18 rezone sites listed in Table 2-4 in Section 2, *Project Description*.

**Threshold 1:** Would the project result in generation of a substantial temporary increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?

**Impact NOI-1 CONSTRUCTION WOULD BE REQUIRED TO COMPLY WITH THE ALLOWED DAYTIME CONSTRUCTION HOURS REGULATED BY THE CARLSBAD MUNICIPAL CODE AND, THEREFORE, WOULD NOT OCCUR DURING NIGHTTIME HOURS WHEN PEOPLE ARE MORE SENSITIVE TO NOISE. IMPLEMENTATION OF MITIGATION MEASURE NOI-1 WOULD REDUCE CONSTRUCTION NOISE LEVELS FOR LARGER DEVELOPMENTS; HOWEVER, CONSTRUCTION NOISE MAY STILL EXCEED THRESHOLDS AND THIS IMPACT WOULD BE SIGNIFICANT AND UNAVOIDABLE.**

Future construction activity would require the use of a variety of noise-generating equipment that would result in temporary increases in ambient noise levels on an intermittent basis. Typical noise levels at 50 feet from various types of equipment that may be used during construction are listed in Table 4.10-9. The loudest noise levels are typically generated by impact equipment (e.g., pile drivers) and heavy-duty equipment (e.g., cranes, scrapers, and graders). Construction noise would occur intermittently throughout construction, and in some instances, multiple pieces of equipment may operate simultaneously, generating overall noise levels that are incrementally higher than what is shown in Table 4.10-9.

**Table 4.10-9 Construction Equipment Noise Levels**

Equipment	Typical Noise Level (dBA) at 50 Feet from Source
Air Compressor	80
Backhoe	80
Compactor	82
Concrete Mixer	85
Concrete Pump	82
Concrete Vibrator	76
Crane, Derrick	88
Crane, Mobile	83
Dozer	85
Generator	82
Grader	85
Jackhammer	88

Equipment	Typical Noise Level (dBA) at 50 Feet from Source
Loader	80
Paver	85
Pile-driver (Impact)	101
Pile-driver (Sonic)	95
Pneumatic Tool	85
Pump	77
Roller	85
Saw	76
Scarifier	83
Scraper	85
Shovel	82
Truck	84

Sources: FTA 2018

Sensitive receivers are located throughout the city and could be exposed to noise associated with construction activities from reasonably foreseeable development under the project. As discussed in Section 4.10.1, *Environmental Setting*, sensitive receivers in the city consist of residences, schools, churches, and hospitals. This analysis assumes that construction activities would occur within 50 feet from sensitive receivers throughout the course of a typical construction day. As shown in Table 4.10-9, sensitive receivers would be exposed to instantaneous noise levels ranging from 76 to 88 dBA at 50 feet from typical construction equipment and could reach as high as 101 dBA through the use of pile drivers. However, a typical construction day includes the operation of multiple pieces of equipment at once with noise levels averaged over the construction day. For assessment purposes, a construction noise level at 50 feet from the source was estimated using RCNM and was based on an excavator, dozer, and jackhammer operating simultaneously. These pieces of equipment generate some of the highest noise levels during demolition and grading phases of construction. As shown in Table 4.10-10, the combined noise level (dBA  $L_{eq}$ ) from these pieces of equipment is estimated at 84 dBA  $L_{eq}$  at 50 feet.

**Table 4.10-10 Typical Construction Noise Level at 50 Feet**

Equipment	dBA $L_{eq}$ (8-hour) at 50 Feet
Excavator, Dozer, Jackhammer	84

See Appendix D for RCNM results.

Construction noise levels would vary depending on the type of equipment, the duration of use, the distance to receivers, and the potential for pile driving. Engine noise reduction technology, including silencers, continues to improve, but heavy construction equipment would still generate noise exceeding ambient levels that could cause intermittent annoyance to nearby receivers. Noise associated with construction of development under the project would be typical of residential construction, but as shown in Table 4.10-10, could exceed the 80 dBA  $L_{eq}$  (8-hour) daytime significance threshold at residences.

The city has adopted specific limitations in CMC Chapter 8.48 for construction activities that requires compliance with the provisions of the Noise Ordinance for all construction activities

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occurring outside the hours of 7:00 a.m. to 6:00 p.m. on weekdays and 8:00 a.m. to 6:00 p.m. on Saturdays; no work shall be conducted on Sundays and any federal holiday. CMC Chapter 8.48 also outlines exceptions that may be granted by the city for circumstances such as emergency repairs required to protect the health and safety of the community. These standards would ensure that construction noise impacts do not occur during noise-sensitive hours of sleep.

As previously discussed in *Methodology* of this section, development accommodated under the project that could result in construction noise would tend to include larger projects with the following components within 500 feet of a noise-sensitive land uses (e.g., residences, schools, libraries, hospitals):

- Two subterranean levels or more (generally more than 20,000 cubic yards of excavated soil material);
- Construction durations of 18 months or more (excluding interior finishing);
- Use of large, heavy-duty equipment rated 300 horsepower or greater; or
- The potential for pile driving.

While these larger projects are not considered typical, they could potentially result in significant noise impacts, particularly upon potentially adjacent residential zones or other nearby sensitive receivers, and temporarily increase ambient noise levels above FTA noise limits. The type of construction equipment, proximity of sensitive receivers to the site, and the overall duration of construction are key factors in determining whether construction-related noise would be significant at the project-level as opposed to determining construction noise impacts at the programmatic level. Based on typical construction equipment noise levels, the anticipated duration of construction activities, and type of equipment used for larger developments, the project could result in potentially significant construction noise impacts on a project-specific basis at nearby sensitive receivers. This impact is potentially significant.

**Mitigation Measures**

The following mitigation measure is required to reduce construction-related noise impacts to sensitive receivers near subsequent development projects that include one or more of the following components within 500 feet of a noise-sensitive land uses (e.g., residences, schools, libraries, hospitals):

- Two subterranean levels or more (generally more than 20,000 cubic yards of excavated soil material);
- Construction durations of 18 months or more (excluding interior finishing);
- Use of large, heavy-duty equipment rated 300 horsepower or greater; or
- The potential for pile driving.

If a project is not within 500 feet of a noise-sensitive or does not include one or more of the components listed above, construction noise impacts would be less than significant and the following mitigation measure is not required.

*NOI-1 Construction Noise Reduction Measures*

The following construction noise reduction measures shall be implemented during project construction:



- **Shielding and Silencing.** Power construction equipment (including combustion engines), fixed or mobile, shall be equipped with noise shielding and silencing devices consistent with manufacturer's standards or the Best Available Control Technology. Equipment shall be properly maintained, and the project applicant or owner shall require construction contractors to keep documentation on-site during earthwork or construction activities demonstrating that the equipment has been maintained in accordance with manufacturer's specifications.
- **Enclosures and Screening.** Outdoor fixed mechanical equipment shall be enclosed or screened from off-site noise-sensitive uses to the extent feasible. The equipment enclosure or screen shall be impermeable (i.e., solid material with minimum weight of 2 pounds per square feet) and break the line-of-sight from the equipment and off-site noise-sensitive uses.
- **Construction Staging Areas.** Construction staging areas shall be located as far from noise-sensitive uses as reasonably feasible in consideration of site boundaries, topography, intervening roads and uses, and operational constraints.
- **Smart Back-Up Alarms.** Mobile construction equipment shall have smart back-up alarms that automatically adjust the sound level of the alarm in response to ambient noise levels. Alternatively, back-up alarms shall be disabled and replaced with human spotters to ensure safety when mobile construction equipment is moving in the reverse direction.
- **Equipment Idling.** Construction vehicles and equipment shall not be left idling for longer than five minutes when not in use.
- **Workers' Radios.** All noise from workers' radios, including any on-site music, shall be controlled to a point that they are not audible at off-site noise-sensitive uses.
- **Use of Driven Pile Systems.** Driven (impact), sonic, or vibratory pile drivers shall not be used, except in locations where the underlying geology renders alternative methods infeasible, as determined by a soils or geotechnical engineer and documented in a soils report.
- **Temporary Sound Barriers.** Temporary sound barriers, such as walls or sound blankets, shall be positioned between construction activities and noise-sensitive uses when construction equipment is located within a line-of-sight to and within 500 feet of the ground-floor exterior use areas of off-site noise-sensitive uses. Sound barriers shall break the line-of-sight between the construction noise source and the ground-floor exterior use area receiver where modeled levels exceed applicable standards. Placement, orientation, size, and density of acoustical barriers shall be specified by a qualified acoustical consultant.
- **Noise Complaint Response.** Project applicants shall designate an on-site construction project manager who shall be responsible for responding to any complaints about construction noise. This person shall be responsible for responding to concerns of neighboring properties about construction noise disturbance and shall be available for responding to any construction noise complaints during the hours that construction is to take place. They shall also be responsible for determining the cause of the noise complaint (e.g., bad silencer) and shall require that reasonable measures be implemented to correct the problem. A toll-free telephone number and email address shall be posted in a highly visible manner on the construction site at all times and provided in all notices (mailed, online website, and construction site postings) for receiving questions or complaints during construction and shall also include procedures requiring that the on-site construction manager to respond to callers and email messages. The on-site construction project manager shall be required to track complaints pertaining to construction noise, ongoing throughout demolition, grading, and/or construction and shall notify the city's Community Development Director of each complaint occurrence.

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- **Project-Specific Construction Noise Study.** A Construction Noise Study shall be prepared by a qualified noise expert. The Construction Noise Study shall characterize sources of construction noise, quantify noise levels at noise-sensitive uses (e.g., residences, schools, churches, and hospitals) and identify measures to reduce noise exposure. The Construction Noise Study shall identify reasonably available noise reduction devices or techniques to reduce noise levels to acceptable levels and/or durations including through reliance on any relevant federal, state or local standards or guidelines or accepted industry practices. Noise reduction devices or techniques may include but not be limited to silencers, enclosures, sound barriers, and/or placement of restrictions on equipment or construction techniques (e.g., alternative installation methods to pile driving such as cast-in-place systems or pile cushioning). Each measure in the Construction Noise Study shall identify anticipated noise reductions at noise-sensitive land uses.

Project applicants shall be required to comply with all requirements listed above in addition to any additional requirements identified and recommended by the Construction Noise Study and shall maintain proof that notice of, as well as compliance with, the identified measures have been included in contractor agreements.

**Significance After Mitigation**

Mitigation Measure NOI-1 would reduce construction noise impacts whenever a development project is located within 500 feet of a noise-sensitive land use. For example, measures such as a temporary noise barrier can reduce noise levels from 5 dBA to 15 dBA, which would reduce construction noise levels from typical development to below 80 dBA  $L_{eq}$  during an 8-hour period. However, given that exact details of future construction projects are unknown at this time, it is conservatively assumed that construction noise may exceed applicable thresholds, even with implementation of Mitigation Measure NOI-1, and this impact would be significant and unavoidable.

<p><b>Threshold 1:</b> Would the project result in generation of a substantial permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?</p>
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**Impact NOI-2 OPERATIONAL ACTIVITIES (E.G., HVAC UNITS, DELIVERY AND TRASH TRUCKS) WOULD BE TYPICAL OF THE URBAN ENVIRONMENT AND WOULD BE REQUIRED TO COMPLY WITH APPLICABLE NOISE STANDARDS IN THE CARLSBAD MUNICIPAL CODE. FURTHERMORE, WHILE DEVELOPMENT WOULD GENERATE VEHICLE TRIPS IN THE CITY, THE INCREASE IN MOBILE NOISE WOULD NOT RESULT IN A PERCEPTIBLE 3-DBA INCREASE. THEREFORE, NOISE INCREASES DUE TO PROJECT OPERATION WOULD BE LESS THAN SIGNIFICANT.**

Development accommodated under the project would include residential development at increased intensity and density throughout the city that would generate on-site operational noise from stationary sources and off-site operational noise from vehicle trips. Typical noise sources associated with residential uses include stationary HVAC equipment, on-site vehicle movement (e.g., delivery and trash hauling), outdoor activities, and off-site traffic.

*On-site Operational Noise*

**HVAC EQUIPMENT**

Future development would place HVAC units on ground-level or rooftops of residences. With typical setbacks from nearby properties, HVAC units would typically be located at a distance of 30 feet or

more from adjacent sensitive uses. Based on manufacturer's specifications, a Carrier 38HDR060 split-system with a sound power level of 72 dBA would generate a noise level of approximately 45 dBA at a distance of 30 feet. This would not exceed the city's performance standard for non-transportation sources of 55 dBA  $L_{eq}$  (one-hour) during the daytime hours or 45 dBA  $L_{eq}$  (one-hour) during the nighttime hours and would be well below the maximum allowable noise level of 65 dBA. Therefore, operation of HVAC equipment would have a less than significant noise impact.

### **VEHICLE ACTIVITY (DELIVERY AND TRASH HAULING)**

Future residential development would increase the number of delivery and trash hauling trucks traveling through the city to individual development sites. Increased delivery and trash hauling trucks could intermittently expose various sensitive receivers to increased truck noise. Section 23130 of the California Motor Vehicle Code establishes maximum sound levels of 86 dBA  $L_{eq}$  at 50 feet for trucks operating at speeds less than 35 miles per hour. While individual delivery truck and/or loading or trash pick-up operations would likely be audible at properties adjacent to individual development, such operations are already a common occurrence in the urban environment. In addition, solid waste pick-up operations are typically scheduled during daytime hours when people tend to be less sensitive to noise. Furthermore, these noise events from trucks are typically transient and intermittent, and do not occur for a sustained period of time. Therefore, the project would not result in a substantial permanent increase in ambient noise levels from trash and delivery trucks due their prevalence in the city and the existing ambient noise environment, resulting in a less than significant impact.

### **OUTDOOR ACTIVITY AREAS**

Housing developments would generate noise from conversations, music, television, or other outdoor sound-generating equipment (e.g., leaf blowers), particularly in the event future residents maintain open windows or such activities take place on balconies. However, these noise-generating activities would be similar to those of the existing urban environment. Moreover, Section 8.48.020 of the CMC permits an owner or tenant of residential property to engage in a home improvement or home construction project between the hours of 8:00 a.m. and 6:00 p.m. on Sundays and holidays, subject to modification by subsection B of this section, provided such project is for the benefit of said residential property and is personally carried out by said owner/occupant or resident/tenant. Required compliance with code enforcement would reduce operational noise impacts related to conversations and sound-generating equipment to a less than significant level.

#### *Off-site Operational Noise*

The overall increase in traffic noise from the project was estimated using VMT data from the Transportation Modeling Considerations and Results Memorandum prepared by Fehr & Peers (Appendix E) for future without Project and future with Project conditions. These scenarios are shown in Table 4.10-11.

**Table 4.10-11 Daily VMT Summary**

	Total VMT
Future without project, with adopted General Plan (2035)	3,661,216
Future with project (2035)	3,733,018
<b>Change in VMT</b>	<b>+71,802</b>
<b>Percent Change in VMT (%)</b>	<b>2%</b>

Source: Fehr & Peers 2023

As shown in Table 4.10-11, daily VMT under the future with project scenario would increase by approximately 2 percent over the future without project scenario. A 2 percent increase in VMT on a roadway would equate to an increase of approximately 0.1 dBA. Therefore, the project would not double the existing mobile noise source and would not increase noise levels by even the most conservative threshold of 3 dBA, which is considered a barely perceptible noise increase. Although a 2 percent or more increase in VMT may occur at local level in areas where substantial new housing is proposed, a doubling of VMT is still not anticipated to occur based on the citywide increase of 2 percent. Therefore, off-site traffic noise impacts would be less than significant.

*Land Use Compatibility*

Agencies subject to CEQA generally are not required to analyze the impact of existing environmental conditions on a project’s future users or residents. In *California Building Industry Association v. Bay Area Air Quality Management District (2015) 62 Cal. 4th 369*, the California Supreme Court explained that an agency is only required to analyze the potential impacts to future residents if the project would exacerbate those existing environmental hazards or conditions. CEQA analysis is therefore concerned with a project’s impact on the environment, rather than with the environment’s impact on a project and its users or residents. Therefore, bringing a population into an area where noise currently exists is not a significant environmental impact under CEQA unless doing so would exacerbate noise conditions. Nonetheless, the following analysis of potential exposure to excessive noise is provided for informational purposes.

Implementation of the project would expose future housing development to ambient noise levels that characterize the city, predominantly associated with vehicular traffic. Figure 4.10-3 and Figure 4.104 display land uses along major arterial roadways exposed to noise levels of 65 CNEL. Based on the city’s land use compatibility standards shown in Table 4.10-5, noise up to 60 CNEL is allowable for outdoor activity areas of residential uses and 45 CNEL is allowable for interior spaces of residential uses. Sites that may be within these noise contours for the roadways include Sites 1, 2, 3, 4, 5, 9, 10, 11, 12, 16, and 17. In addition, sites located adjacent to the rail line, such as Sites 5, 14, 15, 17, and 18, could be exposed to high noise levels. Therefore, new housing development could be exposed to noise levels above the allowable range for residences. This would potentially be in conflict with Policy 5-P.1, which states to not permit new noise-sensitive uses—including schools, homes—where noise levels are “normally unacceptable” or higher, if alternative locations are available for the uses in the city. The 18 sites that are a part of the proposed project did consider alternative locations; the subset of sites chosen are the ones that met City criteria for the updates. Even though several sites would be in the “normally unacceptable” criteria, they meet the other required criteria for rezoning and including in the sites inventory and thus were retained. In addition, these sites would be subject Policies 5-P.2, 5-P.3, and 5-P.4, that would require noise analysis, noise attenuation to meet standards, and if noise levels cannot be reduced to below

acceptable levels, the city would not approve the project unless one or more of the findings under Policy 5-P.4 are determined.

The city also has an interior noise standard of 45 CNEL for residences, which is consistent with the State's interior noise standard. According to the CBC, Title 24, Part 2, Section 1206.4, the proposed multi-family residences must be constructed and designed such that interior noise levels do not exceed 45 CNEL. Generally, any large structure blocking the line of sight (e.g., a concrete block wall on a property's boundary) will provide at least a 5-dBA reduction in source noise levels at the receiver (FHWA 2011). Building materials can also substantially reduce occupants' exposure to noise. The FHWA's guidelines indicate that modern building construction generally provides an exterior-to-interior noise level reduction of 20 to 35 dBA with closed windows (FHWA 2011).

Modern residential buildings in California are typically constructed with storm windows, single- or double-glazed, that achieve the required energy saving on heating and cooling, which also provide an exterior-to-interior noise level reduction of at least 20 dBA. Based on a noise exposure level of approximately 70 CNEL and a noise attenuation of at least 20 dBA, the interior noise level within new housing development could be up to 50 CNEL. Nonetheless, housing development would be required to comply with the General Plan Environmental Hazards Element policies and CBC, Title 24, Part 2, Section 1206.4, which would collectively govern excessive noise exposure and require that sensitive uses achieve an interior noise level of 45 dBA or less in any habitable room through appropriate sound insulation (e.g., dual-paned windows, exterior doors with solid core and perimeter weather stripping).

### Mitigation Measures

No mitigation measures are required because, like under the 2015 General Plan EIR, impacts would be less than significant without mitigation.

<b>Threshold 2:</b> Would the project result in generation of excessive groundborne vibration or groundborne noise levels?
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**Impact NOI-3 PROJECT DEVELOPMENT WOULD NOT INVOLVE OPERATIONAL ACTIVITIES THAT WOULD RESULT IN SUBSTANTIAL VIBRATION LEVELS. HOWEVER, USE OF PILE DRIVING OR A VIBRATORY ROLLER COULD POTENTIALLY GENERATE VIBRATION EXCEEDING THRESHOLDS FOR BUILDINGS OR STRUCTURES SUSCEPTIBLE TO DAMAGE (E.G., HISTORIC STRUCTURES). THIS IMPACT WOULD BE LESS THAN SIGNIFICANT WITH MITIGATION.**

Project development would not involve activities that would result in substantial vibration levels, such as use of heavy equipment. Operational groundborne vibration in the vicinity of development associated with the project would be primarily generated by vehicular travel on the local roadways. According to the FTA *Transit Noise and Vibration Impact Assessment* (2018) guidance document, rubber tires and suspension systems dampen vibration levels from trucks to a level that is rarely perceptible. Therefore, traffic vibration levels associated with the expected additional trips from the project would not be perceptible by sensitive receivers. Impacts related to operational groundborne vibration would be less than significant. The remainder of this analysis focuses on impacts related to construction activities associated with future housing development.

Construction activities associated with housing development accommodated by the project would result in varying degrees of groundborne vibration depending on the equipment and methods employed. Operation of construction equipment causes vibration that spreads through the ground and diminishes in strength with distance. Buildings with foundations in the soil in the vicinity of a construction site respond to these vibrations with varying results ranging from no perceptible

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effects at the lowest levels, low rumbling sounds and perceptible vibrations at moderate levels, and slight damage at the highest levels. Construction vibration is a localized event and is typically only perceptible to a receiver that is in close proximity to the vibration source. Construction for housing development would require heavy equipment, particularly development with certain geologic conditions that may require pile driving. Such heavy equipment could potentially operate within 25 feet of nearby buildings when accounting for equipment setbacks. As shown in Table 4.10-12, general construction equipment such as a vibratory roller would generate vibration levels up to 0.21 in./sec. PPV at 25 feet, while more intensive equipment such as pile driving could generate a vibration level of approximately 0.64 in./sec. PPV at 25 feet. Vibration levels shown in bolded and underlined text exceed one or more of the Caltrans criteria shown in Table 4.10-1 and Table 4.10-2.

**Table 4.10-12 Construction Equipment Noise Levels**

Equipment	PPV (in./sec.)				
	25 Feet	50 Feet	75 Feet	100 Feet	125 Feet
Pile Driver (Impact)	<b><u>0.644</u><sup>1,2,3,5</sup></b>	<b><u>0.300</u><sup>1,5</sup></b>	<b><u>0.192</u><sup>1</sup></b>	<b><u>0.140</u><sup>1</sup></b>	<b><u>0.110</u><sup>1</sup></b>
Pile Driver (Sonic)	<b><u>0.170</u><sup>1</sup></b>	0.079	0.051	0.037	0.029
Vibratory Roller	<b><u>0.210</u><sup>1</sup></b>	0.098	0.063	0.046	0.036
Hoe Ram	0.089	0.042	0.027	0.019	0.015
Large Bulldozer	0.089	0.042	0.027	0.019	0.015
Caisson Drilling	0.089	0.042	0.027	0.019	0.015
Loaded Truck	0.076	0.036	0.023	0.017	0.013
Jackhammer	0.035	0.016	0.011	0.008	0.006
Small Bulldozer	0.003	0.001	<0.001	<0.001	<0.001

Notes: Vibration levels shown in bolded and underlined text exceed one or more of the Caltrans criteria shown in Table 4.10-1 and Table 4.10-2. Superscripts specify the threshold exceeded by each piece of equipment.

<sup>1</sup> Exceeds the 0.1 in./sec. Caltrans damage threshold for historic sites (and other critical locations).

<sup>2</sup> Exceeds the 0.5 in./sec. Caltrans damage threshold for historic and other/similar old buildings.

<sup>3</sup> Exceeds the 0.5 in./sec. Caltrans damage threshold for older residential structures.

<sup>4</sup> Exceeds the 1.0 in./sec. Caltrans damage threshold for newer residential structures.

<sup>5</sup> Exceeds the 0.25 in./sec. Caltrans human annoyance threshold.

Sources: FTA 2018; Caltrans 2020

According to Caltrans impact criteria shown in Table 4.10-1, the damage threshold for historic sites (which are most sensitive to impacts from groundborne vibration) is 0.12 in./sec. PPV. Groundborne vibration from hoe rams, bulldozers, caisson drilling, loaded trucks, and jackhammers would not exceed the 0.1 in./sec. PPV threshold for sensitive historic sites. While groundborne vibration from vibratory rollers would only exceed the threshold for building damage for historic sites at 25 feet from the source, vibration levels from pile driving would exceed one or more of the building damage thresholds shown in Table 4.10-1 for historic sites, general old buildings, and older and newer residential structures. Furthermore, vibration levels associated with pile driving would also exceed the threshold of 0.25 in./sec. PPV for human annoyance at various distances up to 75 feet, as shown in Table 4.10-12.

As discussed in Section 4.4, *Cultural and Tribal Cultural Resources*, a review of National Register of Historic Places, California Office of Historic Preservation (OHP) website, the Built Environment Resources Directory, City of Carlsbad historic property list, and previous historical resources documentation prepared in or for the City of Carlsbad identified four known individual historical

resources on or immediately adjacent to one of the 18 sites making up the project area. All buildings would be subject to potential impacts from construction vibration; buildings with historic significance would each have varying degrees of susceptibility to groundborne vibration damage depending on the structural integrity of said buildings. Therefore, new development accommodated under the project could result in a potentially significant impact related to construction vibration.

### **Mitigation Measure**

The following mitigation measure is required.

#### *NOI-2      Vibration Control Plan*

For construction activities involving vibratory rollers within 50 feet of a structure or pile drivers (impact or sonic) within 140 feet of a structure, the applicant shall prepare a Vibration Control Plan prior to the commencement of construction activities. The Vibration Control Plan shall be prepared by a licensed structural engineer and shall include methods required to minimize vibration, including, but not limited to:

- Alternative installation methods for pile driving (e.g., pile cushioning, drilled piles, cast-in-place systems) within 140 feet of a building to reduce impacts associated with seating the pile
- Vibration monitoring prior to and during pile driving operations occurring within 140 feet of a building
- Use of rubber-tired equipment rather than metal-tracked equipment
- Avoiding the use of vibrating equipment when allowed by best engineering practices

The Vibration Control Plan shall include a pre-construction survey letter establishing baseline conditions at potentially affected extremely fragile buildings/historical resources and/or residential structures. The survey letter shall determine conditions that exist prior to the commencement of construction activities for use in evaluating potential damages caused by construction. Fixtures and finishes susceptible to damage shall be documented photographically and in writing prior to construction. The survey letter shall provide a shoring design to protect such buildings and structures from potential damage. At the conclusion of vibration causing activities, the qualified structural engineer shall issue a follow-up letter describing damage, if any, to impacted buildings and structures. The letter shall include recommendations for any repair, as may be necessary, in conformance with the Secretary of the Interior Standards. Repairs shall be undertaken and completed by the contractor and monitored by a qualified structural engineer in conformance with all applicable codes including the California Historical Building Code (Part 8 of Title 24).

A Statement of Compliance signed by the applicant and owner shall be submitted to the city' Building and Safety Division at plan check and prior to the issuance of any permit. The Vibration Control Plan, prepared as outlined above shall be documented by a qualified structural engineer, and shall be provided to the city upon request.

### **Significance After Mitigation**

Through a Vibration Control Plan, Mitigation Measure NOI-2 would reduce vibration impacts associated with construction activities involving vibratory rollers within 50 feet of a structure or pile drivers (impact or sonic) within 140 feet of a structure. Therefore, vibration impacts from construction activities would be less than significant with mitigation.

**Threshold 3:** For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?

**Impact NOI-4 FUTURE DEVELOPMENT UNDER THE PROPOSED PROJECT WOULD NOT BE EXPOSED TO EXCESSIVE NOISE LEVELS FROM OVERHEAD FLIGHT PATTERNS FROM THE MCCLELLAN-PALOMAR AIRPORT DUE TO THE DISTANCE OF THE DEVELOPMENT FROM THE AIRPORT OR WITH IMPLEMENTATION OF AIRPORT LAND USE COMPATIBILITY PLAN AND GENERAL PLAN POLICIES. IMPACTS WOULD BE LESS THAN SIGNIFICANT.**

The McClellan-Palomar Airport is located in the central portion of the city. Sites 4, 6, 7, 8, 9, and 10, 11, 12 and 16 are within two miles of the airport. As shown on Figure 4.10-5, Sites 6, 8, 9, and 16 are located within the 60 to 65 dB CNEL noise contour of the McClellan-Palomar Airport. None of the sites are located within the noise contours above 65 dB CNEL except for a small portion of northern corner of Site 9 which is within the 65-70 dB CNEL noise contour. The McClellan-Palomar ALUCP includes development policies regarding the compatibility of development areas and exposure to noise (e.g., residential infill development shall not be allowed where exposure to noise levels of more than 65 dBA CNEL may occur). Although a small portion of Site 9 is within the 65-70 dB CNEL noise contour, a project has been approved at this site for 192 units that included its own project-level CEQA review. The portion of the project site in the 65-70 dB CNEL noise contour is also within Safety Zone 3 and would include low density units to comply with ALUCP policies. The project was found not to conflict with ALUCP policies related to safety or noise.

Therefore, overall, except for a small portion of Site 9, none of the sites would be exposed to noise levels of more than 65 dBA CNEL due to airport noise. At Site 9, future development would not be exposed to excessive noise levels. Furthermore, policies 5-P.12 through 5-P.16 in the city's current General Plan Noise Element (listed above under Regulatory Setting) serve to guide new development projects located near the McClellan-Palomar Airport. Compliance with the McClellan-Palomar Airport ALUCP development policies would maintain acceptable noise levels for the appropriate land uses discussed above in Table 4.10-4 and would not exceed the interior or exterior noise levels displayed in Table 4.10-5.

Therefore, except for Site 9, none of the sites would be subject to airport noise levels greater than 65 dBA CNEL. For Site 9, with compliance with the ALUCP and the General Plan Policies, the proposed project would not expose people residing or working in the plan area to excessive noise levels. This impact would be less than significant.

**Mitigation Measures**

No mitigation measures are required because, like under the 2015 General Plan EIR, impacts would be less than significant without mitigation.

**d. Cumulative Impacts**

The geographic area to analyze cumulatively considerable noise impacts includes the city and immediately adjacent areas that could be indirectly affected by noise generated in the city.

**Construction Noise**

Construction of future development projects in the city would produce temporary noise impacts that would be localized to a project site and sensitive receivers within the immediate vicinity.



Therefore, only sensitive receivers located in close proximity to each construction site would be potentially affected by each activity. Nonetheless, construction activities associated with individual housing development projects accommodated under the project may overlap for some time with construction activities for other development projects. Typically, if a development site is 500 feet or more away from another site then noise levels would have attenuated to a point that they would not combine to produce a cumulative noise impact. Therefore, construction noise levels would typically become cumulative only if two development sites were to have construction occurring within 500 feet of each other. However, under a worst-case scenario, noise from construction activities for two projects within 1,000 feet of each other could contribute to a cumulative noise impact for sensitive receivers located equidistant between the two construction sites with concurrent on-site activities.

Construction activities associated with future development would comply with Chapter 8.48 of the CMC and would occur Monday through Friday from 7 a.m. to 6 p.m. and Saturday 8 a.m. to 6 p.m.; no work shall be conducted on Sundays and any federal holiday. It is anticipated that, with implementation of Mitigation Measure NOI-1, construction noise levels associated with housing development could be reduced below the applicable FTA noise limits for construction noise on a case-by-case basis. Nonetheless, larger development projects could combine together, or combine with smaller development projects, to substantially increase noise levels at specific neighboring noise-sensitive receivers. Mitigation Measure NOI-1 would reduce construction noise impacts from developments to the extent feasible. However, as exact construction details are unknown at this time, even with mitigation the project's contribution to a cumulative noise impact could be considerable.

### **On-site Operational Noise**

On-site operational noise impacts are localized to an individual development site and sensitive receivers within the immediate vicinity. Future development in the city would include mechanical equipment, loading, trash pick-up, and other noise-generating activities. However, such activities would be typical of the urban environment in the city and on-site activities would be required to comply with applicable provisions of the CMC. The incremental effect of the project with respect to on-site operational noise would not be cumulatively considerable and cumulative impacts would be less than significant.

### **Off-site Operational Noise**

Cumulative development through the year 2035 would generate vehicle trips, thereby increasing VMT on area roadways. As shown in Table 4.10-11, daily VMT from the future with project scenario, which accounts for cumulative residential development in the city, would not double existing trip levels or increase mobile noise by more than 3 dBA over the future without project scenario. Therefore, the effect of the project on off-site traffic noise would not be cumulatively considerable and cumulative impacts would be less than significant.

### **Groundborne Vibration**

New residential development within the city would not include substantial sources of operational ground-borne vibration. Therefore, impacts related to operational groundborne vibration would not be cumulatively considerable and cumulative impacts would be less than significant.

Construction of future development projects in the city would produce temporary vibration impacts that would be localized to a project site and sensitive receivers in the immediate vicinity. Therefore,

only sensitive receivers located in close proximity to each construction site would be potentially affected by each individual activity. Nonetheless, construction activities associated with individual housing development projects from the project may overlap for some time with construction activities for other development projects. For the combined vibration impact from simultaneous construction projects to reach cumulatively significant levels, intense construction from these projects would have to occur simultaneously in close proximity to a sensitive receiver, which would be unlikely. In addition, potential construction vibration that would exceed thresholds would be mitigated to less than significant through Mitigation Measure NOI-2; therefore, construction vibration from the project would not be cumulatively considerable.

### **Airport Noise**

Aircraft-related noise impacts occur only in the vicinity of airports or airstrips. Although citywide growth could increase the number of people who are exposed to aircraft-related noise impacts, such impacts would be localized in nature. In addition, new residential development would not result in a direct increase to aircraft operations that would increase noise exposure to aircraft overflight patterns within and outside the city. The project would have no contribution to a cumulative impact related to airport hazards or noise. Impacts related to airport or airstrip noise would not be cumulatively considerable and cumulative impacts would be less than significant.

## 4.11 Population and Housing

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This section evaluates the impacts on the regional housing supply and population growth associated with implementation of the proposed project.

### 4.11.1 Setting

#### **a. Existing and Forecasted Population, Housing, and Employment**

Based on information collected by the City of Carlsbad, as of January 1, 2023, Carlsbad had 47,003 housing units, excluding accessory dwelling units, and as of June 30, 2022, Carlsbad had a population of 117,800 residents. According to the city's 2021 to 2029 Housing Element Update, as of 2018, the city contains a total of 57,491 jobs (City of Carlsbad 2021).

The City of Carlsbad's Fiscal Year (FY) 2021-22 GMP Report estimates the number of dwelling units that will exist at buildout based on the 2015 General Plan land use designations. According to the FY 2021-22 GMP Report, by the year 2035, Carlsbad would have 52,263 dwelling units and a population of 133,515 people. The buildout population discussed in the FY 2021-22 GMP Report does not take into account future residential density increases that would result from development projects and Housing Element programs (City of Carlsbad 2023a).

The FY 2021-22 GMP Report does not analyze employment. Therefore, data from the San Diego Association of Governments (SANDAG) is used to forecast employment. SANDAG's most recent Series 14 Regional Growth Forecast (RGF) has a horizon year of 2050, and takes into account the adopted general plans and policies from the 18 incorporated cities and the unincorporated County, including the City of Carlsbad. The Series 14 RGF is used to support regional planning efforts such as the 2021 Regional Plan/Sustainable Communities Strategy as well as local planning such as the development of general plans and long-range plans. The Series 14 RGF predicts that employment is predicted to increase from 75,912 jobs in 2016 to 103,979 jobs in 2050 (approximately 37 percent increase) (SANDAG 2019).

### 4.11.2 Regulatory Setting

#### **a. State**

##### **California Housing Law**

California Housing Element law (Government Code Sections 65580 to 65589.8) requires that local jurisdictions outline the housing needs of their community, the barriers or constraints to providing that housing, and actions proposed to address these concerns over an eight-year planning period. In addition, Housing Element law requires each city and county to accommodate its "fair share" of the region's projected housing need over the Element planning period. Cities and counties must demonstrate that adequate sites are available to accommodate this need, and that the jurisdiction allows for development of a variety of housing types. This housing need requirement is known as the Regional Housing Needs Allocation (RHNA) and apportions to each jurisdiction's projected need.

## **The Sustainable Communities and Climate Protection Act of 2008 (SB 375, Steinberg)**

Senate Bill (SB) 375 focuses on aligning transportation, housing, and other land uses to achieve regional greenhouse gas (GHG) emission reduction targets established under the California Global Warming Solutions Act, also known as Assembly Bill (AB) 32. SB 375 requires Metropolitan Planning Organizations (MPO) to develop a Sustainable Communities Strategy (SCS) as part of the Regional Transportation Plan (RTP), with the purpose of identifying policies and strategies to reduce per capita passenger vehicle-generated GHG emissions. As set forth in SB 375, the SCS must: (1) identify the general location of land uses, residential densities, and building intensities within the region; (2) identify areas within the region sufficient to house all the population of the region, including all economic segments of the population, over the course of the planning period; (3) identify areas within the region sufficient to house an eight-year projection of the regional housing need; (4) identify a transportation network to service the regional transportation needs; (5) gather and consider the best practically available scientific information regarding resource areas and farmland in the region; (6) consider the state housing goals; (7) establish the land use development pattern for the region that, when integrated with the transportation network and other transportation measures and policies, will reduce GHG emissions from automobiles and light-duty trucks to achieve GHG emission reduction targets set by the California Air Resources Board (CARB), if there is a feasible way to do so; and (8) comply with air quality requirements established under the Clean Air Act.

The City of Carlsbad is located in the jurisdiction of SANDAG, a Joint Powers Agency established under California Government Code Section 6502 et seq. Pursuant to federal and State law, SANDAG serves as a Council of Governments, a Regional Transportation Planning Agency, and the MPO for San Diego County. SANDAG is responsible for preparing the RTP/SCS and RHNA in coordination with other State and local agencies. These documents include population, employment, and housing projections for the region.

Existing law requires local governments to adopt a housing element as part of their general plan and update the housing element every four to eight years. SB 375 requires the RHNA to allocate housing units within the region in a manner consistent with the development pattern adopted by the SCS.

### **AB 1763**

AB 1763, effective January 1, 2020, amends the State Density Bonus Law (Section 65915) to allow for taller and denser 100 percent affordable housing developments, especially those near transit, through the creation of an enhanced affordable housing density bonus.

### **California Housing Accountability Act**

This State law, originally enacted in 1982 and last amended in 2017, prevents localities from disapproving proposed developments that comply with “all applicable, objective general plan, zoning, and subdivision standards and criteria,” unless they find that the development would have an unavoidable impact on public health or safety that can only be mitigated by rejecting the project or reducing its size (Hernandez and Golub 2017). Compliance with objective standards and criteria is defined as “substantial evidence that would allow a reasonable person to conclude” that a project complies. The Housing Accountability Act also prevents localities from disapproving or reducing the size of developments that have a minimum amount of affordable housing (either 20 percent of units for lower-income households or 100 percent of units for moderate-income households), except

under specific circumstances. Mixed-use developments with at least two-thirds of their square footage devoted to residential use also qualify for this protection.

### **Senate Bill 35**

In 2017, California enacted SB 35 to streamline the approval of affordable housing projects. This law applies in localities that are not meeting their RHNA goals for construction of above-moderate income housing units or units for households below 80 percent of the area median income (AMI). These thresholds under SB 35 apply to the City of Carlsbad. Applicable localities are required to streamline the approval of eligible housing projects by providing a ministerial approval process. To qualify for streamlining, a project must meet all of a range of criteria related to affordability, including but not limited to the number of units, residential zoning, floor area dedicated to residential uses, environmental constraints, demolition of residential units, historic buildings, and consistency with objective zoning standards (California Legislative Information 2017). CEQA review is not required for eligible projects because they are subject to a ministerial approval process.

### **Housing Crisis Act**

The Housing Crisis Act of 2019 (SB 330) seeks to speed up housing production in the next half decade by eliminating some of the most common entitlement impediments to the creation of new housing, including delays in the local permitting process and cities enacting new requirements after an application is complete and undergoing local review—both of which can exacerbate the cost and uncertainty that sponsors of housing projects face. In addition to speeding up the timeline to obtain building permits, the bill prohibits local governments from reducing the number of homes that can be built through down-planning or down-zoning or the introduction of new discretionary design guidelines. The bill is in effect as of January 1, 2020, and expires on January 1, 2030.

SB 330 also regulates demolition of existing housing. It prohibits urbanized jurisdictions from approving a housing development that requires demolition of residential units unless the project creates at least as many units as would be demolished (California Legislative Information 2019). Local jurisdictions also are prohibited from approving a project that would demolish occupied or vacant “protected units,” unless the project meets several criteria (e.g., replacing all protected units, providing relocation benefits, and giving a right of first refusal to displaced residents for comparable units in the new development). Protected units are defined as subject to a covenant, ordinance, or law that restricts rent to levels affordable to persons and families of lower or very low income; subject to rent control; or occupied by low or very low-income households; among other factors. These requirements for demolition do not supersede local demolition controls that are more protective of lower income households.

## **b. Regional and Local**

### **Regional Housing Needs Assessment (RHNA)**

SANDAG prepares the RHNA mandated by State law so that local jurisdictions can use this information during their periodic updates of the General Plan Housing Element. The RHNA identifies the housing needs for very low income, low income, moderate income, and above moderate-income groups, and allocates these targets among the local jurisdictions that comprise SANDAG. The RHNA addresses existing and future housing needs based on the most recent U.S. Census, data on forecasted household growth, historical growth patterns, job creation, household formation rates, and other factors. The need for new housing is distributed among the four income groups so

that each community moves closer to the regional average income distribution, referred to as a “social equity adjustment.” During the most recent RHNA allocation, SANDAG and its member agencies were required to plan for a total of 171,685 housing units through the 2021-2029 planning period to address the region’s housing needs. The City of Carlsbad was assigned a RHNA of 3,873 units for the 2021-2029 planning period. Local jurisdictions are required by State law to update their General Plan Housing Elements based on the most recently adopted RHNA allocation.

### **SANDAG’s 2021 Regional Plan**

SANDAG’s Final 2021 Regional Plan was adopted on December 10, 2021, and provides a long-term blueprint for the San Diego region that seeks to meet regulatory requirements, address traffic congestion, and create equal access to jobs, education, healthcare, and other community resources. The 2021 Regional Plan includes a SCS, as required by SB 375. The SCS describes coordinated transportation and land use planning that exceeds the State’s target for reducing per capita GHG emissions set by the CARB. The State-mandated target is a 19 percent reduction compared to 2005 levels in per capita GHG emissions from cars and light-duty trucks by 2035, and the 2021 Regional Plan aims to achieve a 20 percent reduction by then (SANDAG 2021).

### **City of Carlsbad 2021-2029 Housing Element**

The City of Carlsbad 2021-2029 Housing Element contains the following applicable policies aimed at protecting existing and facilitating development of affordable housing.

- Policy 10-P.1** Ensure the availability of sufficient developable acreage in all residential densities to accommodate varied housing types and income levels as required to meet Carlsbad’s 2021-2029 RHNA, as discussed in Section 10.3.
- Policy 10-P.7** Encourage distribution of development of affordable housing throughout the city to avoid over concentration in a particular area, excluding areas lacking necessary infrastructure or services.
- Policy 10-P.13** Pursuant to the Inclusionary Housing Ordinance, require affordability for lower-income households of a minimum of 15 percent of all residential projects. For projects that are required to include 10 or more units affordable to lower-income households, at least 10 percent of the lower-income units should have three or more bedrooms (lower-income senior housing projects exempt).
- Policy 10-P.15** Work with the community to modify or replace Measure E (Growth Management Plan) relative to the residential growth caps and development moratorium to be in compliance with SB 330.
- Policy 10-P.17** Encourage the development of an adequate number of housing units suitably sized to meet the needs of lower- and moderate-income larger households.
- Policy 10-P.29** Support ongoing efforts by federal and State agencies and continue city efforts, in the enforcement of fair housing laws prohibiting discrimination in the development, financing, rental, or sale of housing.
- Policy 10-P.30** Support ongoing efforts of federal, State, regional, and local efforts to affirmatively further fair housing.
- Policy 10-P.32** Contract with a fair housing service provider to monitor and respond to complaints of discrimination in housing.

## **City of Carlsbad Growth Management Plan (Proposition E)**

The City adopted the Growth Management Plan (GMP) in July 1986 to address the concerns of rapid growth and its impacts on quality of life, which was ratified by voter approval of Proposition E in November 1986.

The GMP requires adequate public facilities be provided concurrent with new growth. To ensure this, the GMP identifies performance standards for 11 public facilities – city administration, library, wastewater treatment, parks, drainage, circulation, fire, open space, schools, sewer collection, and water distribution. The facility performance standards were based on the city’s residential dwelling unit capacity (existing and future units), which in 1986 was estimated to be 54,599 dwelling units.

Through Proposition E, voters limited the maximum number of dwelling units that can be constructed citywide to 54,599 units, spread out between the Northwest Quadrant (15,370 units), Northeast Quadrant (9,042 units), Southwest Quadrant (12,859 units), and Southeast Quadrant (17,328 units). However, recent State housing laws have preempted the city’s ability to require compliance with the dwelling caps or to stop development due to noncompliance. In April 2021, the Carlsbad City Council adopted Resolution No. 2021-074, which states “Consistent with Updated Housing Element Program 2.2, the City Council finds that Government Code Sections 65583(a)(3) and 65863(a) (SB 166 [2017]) and Government Code Section 66300(b)(1)(D) (SB 330 [2019]) preempt the city from implementing residential growth management plan caps, residential quadrant limits, and residential control points. Consequently, the City finds that it cannot and will not enforce these residential caps, quadrant limits, and control points, including but not limited to those contained in the General Plan (including, but not limited to the Land Use and Community Design Element Table 2-3, Section 2.6, Policy 2-P.8(a) and (b), Policy 2- P.16(d), and Policy 2-P.57), Growth Management Plan (Proposition E); City Council Policy Statement No. 43, Carlsbad Municipal Code Chapter 21.90 including but not limited to CMC §§ 21.90.030 (b), 21.90.045 and 21.90.185.”

### 4.11.3 Impact Analysis

#### **a. Methodology and Significance Thresholds**

Appendix G of the *CEQA Guidelines* identifies the following criteria for determining whether a project’s impacts would have a significant impact to population and housing:

- 1) Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure); and/or
- 2) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere.

#### **b. Prior Environmental Analysis**

The 2015 General Plan EIR addressed potential population and housing impacts in Section 3.9, *Land Use, Housing, and Population*. The 2015 General Plan EIR found that the General Plan would not directly or indirectly induce substantial population growth in excess of the GMP and would not displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere. Rather, the 2015 General Plan EIR found that the General Plan would improve connectivity within and between existing neighborhoods and provide more linkages within the city and the region, resulting in beneficial impacts. Population and Housing impacts were found to be less than significant.

The proposed project involves land use changes to encourage development on 18 rezone sites beyond what was anticipated in the 2015 General Plan EIR and could therefore result in new impacts related to population and housing. Therefore, all the CEQA checklist items listed above under Methodology and Significance Thresholds are addressed in this analysis.

### **c. Project Impacts and Mitigation Measures**

Some components associated with the proposed project, including updates to the Local Coastal Plan, Public Safety Element, and Master and Specific Plans for consistency between the city’s planning documents, in and of themselves would not result in physical changes to the environment such that impacts to population and housing would occur. Therefore, this analysis focuses on impacts associated with implementation of the rezone program which would facilitate the development of 18 rezone sites listed in Table 2-4 in Section 2, *Project Description*.

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

**Impact PH-1 THIS SEIR ASSUMES A FULL BUILDOUT OF 3,295 RESIDENTIAL UNITS IN CARLSBAD ASSOCIATED WITH THE PROPOSED PROJECT, WHICH EQUATES TO A POPULATION INCREASE OF AN ESTIMATED 8,260 RESIDENTS COMPARED TO THE EXISTING POPULATION. HOWEVER, GROWTH RESULTING FROM THE PROJECT IS ANTICIPATED AND WOULD NOT CONSTITUTE SUBSTANTIAL UNPLANNED POPULATION GROWTH. THIS IMPACT WOULD BE LESS THAN SIGNIFICANT.**

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Based on information collected by the City of Carlsbad, as of January 1, 2023, Carlsbad had 47,003 housing units, excluding accessory dwelling units, and as of June 30, 2022, Carlsbad had a population of 117,800 residents. As discussed in Section 2, *Project Description*, the proposed project would facilitate the development of 18 rezone sites to accommodate residential development. Future development under the project would add approximately 3,295 new residential units and 8,260<sup>1</sup> new residents to the city. Therefore, the addition of the proposed project compared to existing population and housing estimates would result in 50,298 housing units and a population of 126,060.

According to the 2015 General Plan EIR, by the General Plan horizon year 2035 (buildout), Carlsbad was estimated to have approximately 52,320 units. Since the 2015 General Plan EIR, the city has approved residential development that has resulted in a net increase in the projected housing units to 53,221 at buildout (City of Carlsbad 2023a). Therefore, as of release of this SEIR, the city had an available housing unit capacity of 6,218 (53,221 – 47,003) units through buildout under the existing General Plan. With implementation of the proposed project, Carlsbad would have 56,516 housing units at buildout (47,003 [current housing units] + 6,218 [housing units remaining to be built under the existing General Plan] + 3,295 [housing units under the proposed project]). The proposed project involves land use changes and rezoning to add additional housing capacity compared to what was analyzed in the 2015 General Plan EIR; therefore, it would exceed the housing units at buildout assumed in the 2015 General Plan EIR.

However, the State requires that all local governments adequately plan to meet the housing needs of their communities (HCD 2023). Given that the State is currently in an ongoing housing crisis due

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<sup>1</sup> The population determined for the 3,295 new residential units are based on calculations developed by the city for the 2015 General Plan EIR to estimate population at buildout. The estimate assumes 2.63 persons per household, with a 5.5 percent vacancy rate, and 0.86 percent of residents as group quarters (3,295 \* 2.63 \* 0.945 \* 1.0086 = 8,260).



to an insufficient housing supply, the additional units under the proposed project would further assist in addressing the existing crisis and meeting the housing needs of the city's communities. Therefore, the objectives of this project include implementing the city's Housing Element (which was certified by HCD) in order to meet projected population and housing growth. The Housing Element is designed to accommodate regional growth anticipated by SANDAG's RHNA projections. Therefore, the proposed project is intended to plan for anticipated population growth. The proposed project would not constitute unplanned growth because it would be consistent with the City's RHNA and is being planned for and analyzed in this SEIR.

It should be noted that under the GMP set by Proposition E, the city's residential dwelling unit capacity was limited to 54,599 units. Development under the proposed project would exceed the GMP limit of 54,599 units. As recent State law and State mandated housing goals preempt voter approved housing limits such as those under the GMP, the city is developing a new approach to managing growth. The preemption of implementing residential GMP caps, residential quadrant limits, and residential control points is acknowledged in adopted City Council Resolution 2021-074 (City of Carlsbad 2023b).

Further, the proposed project itself does not involve project components that would extend roads or other infrastructure that could indirectly lead to population growth. Therefore, the project would not result in substantial unplanned population growth, either directly or indirectly. This impact would be less than significant, as concluded in the 2015 General Plan EIR.

### **Mitigation Measures**

No mitigation measures are required because, like under the 2015 General Plan EIR, impacts would be less than significant without mitigation.

<b>Threshold:</b> Would the project displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?
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**Impact PH-2 IMPLEMENTATION OF PROPOSED PROJECT WOULD NOT RESULT IN THE DISPLACEMENT OF SUBSTANTIAL NUMBERS OF PEOPLE OR HOUSING. THE PROPOSED PROJECT WOULD FACILITATE THE DEVELOPMENT OF NEW HOUSING IN ACCORDANCE WITH STATE AND LOCAL HOUSING REQUIREMENTS. THIS IMPACT WOULD BE LESS THAN SIGNIFICANT.**

"Substantial" displacement would occur if the proposed project would displace more residences than would be accommodated through growth facilitated by the project. A goal of the proposed project includes facilitating the development of 18 rezone sites and adding the R-35 and R-40 land use designations to accommodate higher density housing as identified in the Housing Element. The proposed project addresses the need for future housing development beyond that required by the RHNA to account for a reasonable sites buffer. This buffer of additional units, which is considered in the inventory of housing sites analyzed in this SEIR, is intended to help the city address future "no net loss." Therefore, overall, the proposed project would add to the city's housing stock to meet housing goals.

On an individual site basis, it is possible that some redevelopment projects could result in displacement of current housing. Currently, Site 4, which consists of two properties, has one existing unit and Site 8 has 24 existing units. However, the proposed project includes land use changes to

facilitate development of 154 units on Site 4 (on the property containing the unit)<sup>2</sup> and 150 units on Site 8 which would provide additional housing opportunities for any displaced residents.

Additionally, future development would be required to comply with goals and policies under Section 10.7.4 of the 2021-2029 Housing Element which aims to affirmatively further fair housing and ensure all housing opportunities are offered in conformance with open housing policies and free of discriminatory practices (City of Carlsbad 2021). Furthermore, Program 4.3 and other programs of the 2021-2029 Housing Element ensures the minimization of the occurrence of displacement, especially within groups facing disproportionate housing needs, including but not limited to those with lower incomes (City of Carlsbad 2021).

In summary, the proposed project would facilitate the development of up to 3,295 additional dwelling units throughout Carlsbad. Proposed residential units would provide additional housing opportunities for residents if residents are displaced during buildout of the proposed project. Therefore, the proposed project would not result in the net loss or displacement of housing, necessitating the construction of replacement housing elsewhere. This impact would be less than significant, as concluded in the 2015 General Plan EIR.

### **Mitigation Measures**

No mitigation measures are required because, like under the 2015 General Plan EIR, impacts would be less than significant without mitigation.

### **d. Cumulative Impacts**

#### **Inducement of Substantial Population Growth**

The impact analysis under Impact PH-1 takes into account cumulative population and housing growth in Carlsbad through 2035 (project growth plus other growth under the 2015 General Plan). However, as discussed in Section 3, *Environmental Setting*, the topic of population and housing has cumulative implications on the entire San Diego region, not just on the City of Carlsbad. Nonetheless, the proposed project would accommodate projected citywide population and housing growth through 2035. The Housing Element is designed to accommodate regional growth anticipated by SANDAG's RHNA projections. Therefore, the proposed project is intended to plan for anticipated population growth, including growth in the region. By its nature, the impact analysis under Impact PH-1 considers cumulative impacts associated with population growth throughout the city and consistent with the city's RHNA. The proposed project would not considerably contribute to a significant impact associated with unplanned population growth.

#### **Displacement of People and Housing**

Implementation of the proposed project would accommodate the city's forecasted population and housing demand. The proposed project would result in an overall net increase of housing units in the city, including affordable housing, and would not result in substantial displacement of people or housing. Similar to Carlsbad, other jurisdictions in the region have updated their respective Housing Elements to increase the region's overall housing stock to accommodate growth and substantial cumulative displacement in the region would not occur. For individual displacements that may occur on redevelopment of sites with existing residences, similar to Carlsbad, other jurisdictions have

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<sup>2</sup> The property containing the single unit is within a floodplain. While land use changes proposed for that property could yield 154 units, the proposed project recognizes no unit yield for the property because of the floodplain constraint. The other Site 4 property could yield another 212 units beyond its current designation. See Table 2-4 in Section 2, Project Description, for further details.

policies and programs to assist those at risk of displacement. As a result, implementation of the proposed project would not considerably contribute to a significant cumulative impact from the displacement of substantial numbers of existing housing units or people.

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## 4.12 Public Services and Recreation

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This section evaluates the impacts on public services and recreational facilities associated with implementation of the proposed project.

### 4.12.1 Setting

#### a. Fire Protection Services

The Carlsbad Fire Department (CFD) serves the approximately 117,800 Carlsbad residents in a 39-square mile service area within Carlsbad. The CFD is divided into two bureaus: Emergency Operations and Community Risk Reduction. Emergency Operations is the largest bureau within CFD and is responsible for fire suppression, rescue, emergency medical service (EMS) delivery, lifeguard service/marine safety and disaster mitigation. The Emergency Operations Bureau is led by the assistant fire chief, with three shift battalion chiefs leading A, B and C platoons, one training battalion chief who supervises training and safety and an EMS division chief who oversees training and EMS. Approximately 32 personnel make up each shift who are housed within six permanent and one temporary fire stations located throughout the city. Emergency Operations personnel are a highly trained, professional workforce that respond annually to more than 14,000 calls for service. The City of Carlsbad maintains a fleet of emergency vehicles that respond to emergency incidents. In addition to the front-line apparatus, the city has reserve apparatus which can immediately be placed in service when additional staffing is needed or when front-line apparatus experience mechanical issues (City of Carlsbad 2023a).

The CFD recently completed a “Standards of Cover” evaluation, looking at current and future emergency response needs based on Carlsbad’s size, demographics and other factors. The evaluation found that to meet industry standards, the Fire Department needed a seventh fire station, ideally west of I-5, as well as more ambulances and personnel. In January 2023, the city completed construction of temporary Fire Station 7 on part of the old Encina power plant site as part of a City Council goal to improve emergency response times and ensure fire and emergency medical services are ready to meet the community’s needs as the city’s demographics and population change. The CFD also has a goal to establish a permanent Fire Station 7 in the area of Cannon Road west of Interstate 5 (I-5) by 2026 to 2028 (City of Carlsbad 2023b). Since July 1, 2021, the city has also placed two additional ambulances in service to increase the total number of city ambulances in service from three to five; and reconstructed Fire Station 2 in La Costa to accommodate larger crews and more equipment (City of Carlsbad 2023c).

#### *Response Times and Standards*

The performance standard established by the Citywide Facilities and Improvements Plan in the City’s Growth Management Plan (GMP) requires that no more than 1,500 dwelling units be located outside of a 5-minute response time (City of Carlsbad 1986). The CFD currently has one fire station per district and the construction of Fire Station 7 would ensure compliance with the GMP standard. Additionally, according to the Fiscal Year (FY) 2021-22 GMP Monitoring Report, fire services were adequate and met the GMP performance standard (City of Carlsbad 2021). In the CFD’s 2021 Annual Performance Report, the city lists a benchmark standard of 6 minutes from dispatch to arrival. The city’s annual average time from dispatch to arrival in 2021 was 8 minutes and 23 seconds (City of Carlsbad 2023e). This increase in response time can be attributed to population increase in Carlsbad and neighboring jurisdictions, increased call volume, drive time, and delays at hospitals and in

traffic. The CFD continues to monitor response times to emergency incidents to determine any additional significant contributing factors to changes in response times.

### **b. Police Protection Services**

The Carlsbad Police Department (CPD) conducts its safety services primarily out of the Carlsbad Police and Fire Headquarters, a 53,600-square-foot facility built in 1986, located on Orion Way. The CPD currently employs 187 full-time personnel. Of the 187 authorized full-time positions, 132 are sworn and 55 are civilian. The CPD is made up of services that include: patrol, investigations, traffic enforcement, family services unit with school resource officers, property crimes unit, vice narcotics unit, violent crimes unit, crime suppression team, homeless outreach team, rangers and dispatch. The patrol division is the core of the CPD's law enforcement services, responding to more than 100,000 calls for service annually. Although street patrols are the majority of the division's activity, other special details and services include canine units, Special Weapons and Tactics (SWAT), bicycle patrol, crisis negotiations, bilingual services, and mental health assistance teams (City of Carlsbad 2023f). The CPD has a response time for priority one calls that is lower than the national average of six minutes. There is currently no GMP standard for police services.

### **c. Schools**

Carlsbad is served by four school districts: Carlsbad Unified School District (CUSD), San Marcos Unified School District (SMUSD), Encinitas Union Elementary School District (EUESD) and San Dieguito Union High School District (SDUHSD). Although the Vista Unified School District overlaps with two small areas of Carlsbad, these areas do not contain any residential uses (City of Carlsbad 2015a). Most of Carlsbad (approximately 62 percent) is served by CUSD, which comprises nine elementary schools (Aviara Oaks Elementary, Buena Vista Elementary, Calavera Hills Elementary, Hope Elementary, Jefferson Elementary, Kelly Elementary, Magnolia Elementary, Pacific Rim Elementary, and Poinsettia Elementary) that feed into three middle schools (Aviara Oaks Middle, Calavera Hills Middle, and Valley Middle) and two high schools (Carlsbad High, Sage Creek High), and accommodates more than 11,000 students (CUSD 2023). Carlsbad Seaside Academy and Carlsbad Village Academy are also within CUSD and provide alternative schooling options for students. Carlsbad Seaside Academy has a grade range of 9th to 12th grade and offers an Independent Study program. Carlsbad Village Academy has a grade range of 10th to 12th grade and is a continuation high school serving students 16 years or older (Carlsbad Village Academy 2023). The CUSD's overall enrollment for the 2021-2022 school year was 11,027 students, which was a 1.5 percent increase from the overall enrollment for the 2020-2021 school year of 10,863 students (California Department of Education 2023a; 2023b).

Other schools serving Carlsbad within the SMUSD include the La Costa Meadows Elementary, Carillo Elementary, San Elijo Middle, and San Marcos High; within the EUESD include La Costa Heights Elementary, El Camino Creek Elementary, Capri Elementary, Mission Estancia Elementary, Olivenhain Pioneer Elementary; and within the SDUHSD include Oak Crest Middle, Diegueno Middle, and La Costa Canyon High (City of Carlsbad 2015a).

The performance standard established by the Citywide Facilities and Improvements Plan in the city's GMP requires school capacity to meet projected enrollment within the Local Facility Management Zone (LFMZ) as determined by the appropriate school district must be provided prior to projected occupancy. All new residential development is required to verify that school capacity can meet the projected enrollment from the school district serving the development. To date, all school districts

serving Carlsbad have verified they have capacity to serve development in the city (City of Carlsbad 2023d).

## **d. Parks and Recreational Facilities**

### **Park Classifications**

The city's General Plan and Park and Recreation Master Plan establishes three park classifications: community parks, special use areas, and special resource areas.

#### *Community Parks*

Community parks are typically 20-50 acres in size (though there are several smaller parks "grandfathered" into this classification) and designed to serve the recreational needs of several neighborhoods, with a focus on serving families from the vicinity with daily frequency. Community parks generally provide active and passive use amenities; however, they are not limited to the exclusive use of either (City of Carlsbad 2015b). Minimum facilities should include:

- Family-oriented picnic areas
- Group picnic areas
- Turfed open space areas for free play
- Multi-purpose playfield(s) (lighted when appropriate)
- Playground areas
- Structures for lectures, meetings, skills, instructions, etc.
- Buffer areas
- Special use facilities such as community gardens, swimming pools, tennis courts, basketball courts, horseshoes, handball and racquetball courts, pickleball courts, bicycle paths, skate parks, dog parks, etc. as per specific community demand may be located within these parks if appropriate to the interests and needs of the community in which the park is located (City of Carlsbad 2015b).

#### *Special Use Areas*

Special use areas are typically between one and five acres in size, with only one or two basic uses, which can be either active or passive in orientation. Examples include, but are not limited to, swim facilities, skate parks, dog parks, tennis courts or picnic areas. School sites that operate under a joint-use facility agreement between the City of Carlsbad and a school district are also included as special use areas. Adequate access should be a primary siting criteria utilized in determining the location of special use areas (City of Carlsbad 2015b).

#### *Special Resource Areas*

Special resource areas have citywide and potentially regional significance related to the quality of the site or service that it provides. This quality may be a natural feature (geological, ecological, hydrological), historical resource (architectural, archaeological), or some combination thereof. Special resource areas are typically larger than community parks (City of Carlsbad 2015b).

**Existing Park and Recreation Areas**

Carlsbad currently has 14 community parks: Alga Norte Community Park, Aviara Community Park, Calavera Hills Community Park, Hidden Canyon Community Park, Holiday Park, Hosp Grove Park, La Costa Canyon Park, Laguna Rivera Park, Leo Carrillo Ranch Historic Park, Magee Park, Pine Avenue Community Park, Poinsettia Community Park, Stagecoach Park, and Veterans Memorial Park (City of Carlsbad 2023g). The city also has 28 special use areas (84.2 acres) and five special resource areas (more than 1,300 acres). The 28 special use areas include: Aviara Oaks School Field, Buena Vista Elementary School Field, Buena Vista Reservoir Park, Business Park Recreational Facility (Zone 5 Park), Cadencia Park, Calavera Hills Trailhead, Cannon Lake Park, Car Country Park, Carlsbad High School Tennis Courts, Chase Field, Harding Community Center, Harold E. Smerdu Community Garden, Hope Elementary School Field, Hosp Grove Trailheads, Jefferson Elementary School Field, Kelly Elementary School Field, La Costa Meadows Elementary/El Fuerte Park, La Costa Heights Elementary School Field, Magnolia Elementary School Field, Maxton Brown Park, Monroe Street Swim Complex, Oak Park, Ocean Street Sculpture Park and Tamarack Picnic Facilities, Pio Pico Park, Senior Center Complex, Skate Park, Terramar Northern Bluff, and Valley Junior High School Field. The five special resource areas include: Agua Hedionda Lagoon, Batiquitos Lagoon, Beaches, Buena Vista Lagoon, and Lake Calavera. Special resource areas do not count towards the GMP (City of Carlsbad 2015b) in terms of helping to meet the park facility standard. Figure 4.12-1 shows parks and recreational areas in relation to the 18 rezone sites.

**Parks and Recreation Standards**

The GMP Citywide Facilities and Improvements Plan outlines a park facility standard of three acres of community parks or special use areas per 1,000 population within the park district. There are four park districts within Carlsbad, which correspond to the city’s four quadrants. Parks and special use areas must be scheduled for construction within a five-year period beginning at the time the need is first identified but beginning no sooner than August 22, 2017. According to City Council Resolution No. 97-435, “scheduled for construction” means that the improvements have been designed, a park site has been selected, and a financing plan for construction of the facility has been approved (City of Carlsbad 2015b). Carlsbad has a total of 432.4 acres of community parks and special use areas. As shown in Table 4.12-1, based on the June 30, 2022 population estimate in each park district (quadrant) and as discussed in the city’s FY 2021-22 GMP Monitoring report, the parkland in each park district exceeds the parkland required by the city’s park standard.

**Table 4.12-1 Parkland Acreage by Park District**

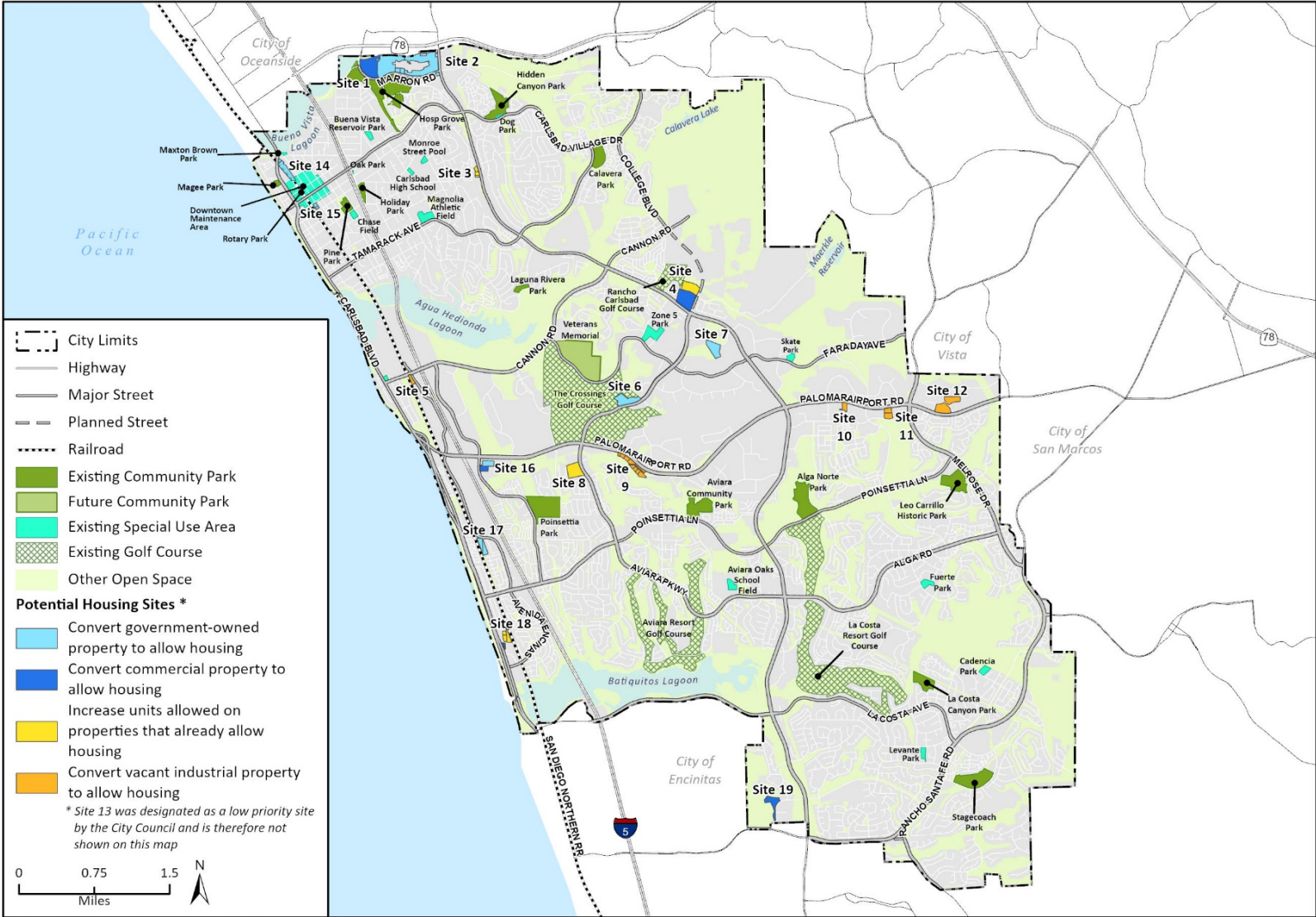
Park District Quadrant	Current Population	Current Park Acreage Required <sup>1</sup>	Current Park Acreage
NW	31,778	95.3	131.7
NE	19,355	58.0	68.7
SW	26,483	79.4	93.6
SE	40,183	120.5	138.3
<b>Total</b>	<b>117,800</b>	<b>353.2</b>	<b>432.4</b>

<sup>1</sup> Assuming a goal of 3 acres per 1,0000 residents within the park district

Source: City of Carlsbad 2023d



**Figure 4.12-1 Rezone Sites Proximity to Parks and Recreational Areas**



Imagery provided by Esri and its licensors © 2023.  
 Additional data provided by City of Carlsbad, 2022.

CSB Housing Sites Posters  
 Fig 4.12-2 Parks and Housing Sites

## **e. Libraries**

Three library facilities are located within the City of Carlsbad: Carlsbad City Library, Georgina Cole Library, and Carlsbad City Library Learning Center. In addition to its diverse collection of resource materials, the municipal library system offers services and programs for all ages. It also houses the William D. Cannon Art Gallery, the Ruby G. Schulman Auditorium, and the George and Patricia Gowland Meeting Room.

Under the GMP, the Citywide Facilities and Improvements Plan establishes a performance standard for library space equal to 800 square feet per 1,000 population, which must be scheduled for construction within a five-year period or prior to construction of 6,250 dwelling units, beginning at the time the need is first identified. According to the City's FY 2021-22 GMP Monitoring Report, based on the June 30, 2022 population estimate of 117,800, the GMP standard requires 94,240 square feet of public library space. The city currently has 99,993 square feet of library facilities, or 849 square feet per 1,000 residents,<sup>1</sup> which meets the GMP standard of 800 square feet per 1,000 population.

### 4.12.2 Regulatory Setting

#### **a. State**

##### **California Fire and Building Code**

The State of California provides minimum standards for building design through the California Building Code (CBC, Part 2 of Title 24, and the California Fire Code (CFC, Part 9 of Title 24) of the California Building Standards Code, of the CCR. The CBC and CFC are based on the International Building and Fire Codes, but have been amended for California conditions. It is generally adopted on a jurisdiction-by-jurisdiction basis, subject to further modification based on local conditions. Commercial and residential buildings are plan-checked by local building and fire officials for compliance with the CBC and CFC. Typical fire safety requirements of the CBC and CFC include: the installation of sprinklers in all high-rise buildings; the establishment of fire resistance standards for fire doors, building materials, and particular types of construction; and the clearance of debris and vegetation within a prescribed distance from occupied structures in wildfire hazard areas.

##### **California Code of Regulations**

The California Code of Regulations, Title 5 Education Code, governs all aspects of education within the State. California State Assembly Bill 2926 (AB 2926) – School Facilities Act of 1986 – was enacted by the State of California in 1986 and added to the California Government Code (Section 65995). It authorizes school districts to collect development fees, based on demonstrated need, and generate revenue for school districts for capital acquisitions and improvements. It also established that the maximum fees which may be collected under this and any other school fee authorization are \$1.50 per square foot (\$1.50/ft<sup>2</sup>) for residential development and \$0.25/ft<sup>2</sup> for commercial and industrial development. AB 2926 was expanded and revised in 1987 through the passage of AB 1600, which added Section 66000 et seq. of the Government code. Under this statute, payment of statutory fees by developers serves as total mitigation under CEQA to satisfy the impact of development on school

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<sup>1</sup> 99,993 square feet x 1,000 / 117,800 residents = 849 square feet per 1,000 residents

facilities. However, subsequent legislative actions have alternatively expanded and contracted the limits placed on school fees by AB 2926.

### **California Senate Bill 50**

As part of the further refinement of the legislation enacted under AB 2926, the passage of SB 50 in 1998 defined the Needs Analysis process in government Code Sections 65995.5-65998. Under the provisions of SB 50, school districts may collect fees to offset the costs associated with increasing school capacity as a result of development. SB 50 generally provides for a 50/50 State and local school facilities match. SB 50 also provides for three levels of statutory impact fees. The application level depends on whether State funding is available; whether the school district is eligible for State funding; and whether the school district meets certain additional criteria involving bonding capacity, year-round schools, and the percentage of moveable classrooms in use.

California Government Code sections 65995-65998 sets forth provisions to implement SB 50. Specifically, in accordance with section 65995(h), the payment of statutory fees is “deemed to be full and complete mitigation of the impacts of any legislative or adjudicative act, or both, involving, but not limited to, the planning, use, or development of real property, or any change in governmental organization or reorganization...on the provision of adequate school facilities.” The school district is responsible for implementing the specific methods for mitigating school impacts under the Government Code.

Pursuant to Government Code section 65995(i), “A State or local agency may not deny or refuse to approve a legislative or adjudicative act, or both, involving, but not limited to, the planning, use, or development of real property, or any change in governmental organization or reorganization as defined in section 56021 or 56073 on the basis of a person's refusal to provide school facilities mitigation that exceeds the amounts authorized pursuant to this section or pursuant to section 65995.5 or 65995.7, as applicable.”

California Education Code section 17620(a)(1) states that the governing board of any school district is authorized to levy a fee, charge, dedication, or other requirement against any construction within the boundaries of the district, for the purpose of funding the construction or reconstruction of school facilities.

### **State Public Park Preservation Act (California Public Resource Code Section 5400 – 5409)**

The State Public Park Preservation Act is the primary instrument for protecting and preserving parkland in California. Under the Act, cities and counties may not acquire any real property that is in use as a public park for any non-park use unless compensation or land, or both, are provided to replace the parkland acquired. This ensures a no net loss of parkland and facilities.

### **Quimby Act (California Government Code Section 66477)**

The Quimby Act allows cities and counties to adopt park dedication standards/ordinances requiring developers to set aside land, donate conservation easements, or pay fees towards parkland only when property is subdivided. This does not apply to development of apartments. Residential development projects not involving a subdivision or parcel map are not subject to the Quimby Act but may instead be required to pay impact fees for park land acquisition as governed by the Mitigation Fee Act.

## b. Local Regulations

### City of Carlsbad Growth Management Plan (Proposition E)

The City adopted the GMP in July 1986 to address the concerns of rapid growth and its impacts on quality of life, which was ratified by voter approval of Proposition E in November 1986.

The GMP requires adequate public facilities be provided concurrent with new growth. To ensure this, the GMP identifies performance standards for 11 public facilities – city administration, library, wastewater treatment, parks, drainage, circulation, fire, open space, schools, sewer collection, and water distribution. The facility performance standards were based on the city’s residential dwelling unit capacity (existing and future units), which in 1986 was estimated to be 54,599 dwelling units.

Through Proposition E, voters limited the maximum number of dwelling units that can be constructed citywide to 54,599 units, spread out between the Northwest Quadrant (15,370 units), Northeast Quadrant (9,042 units), Southwest Quadrant (12,859 units), and Southeast Quadrant (17,328 units). Pursuant to Proposition E, the city cannot approve any General Plan amendment, zone change, subdivision map or other discretionary permit that could result in residential development that exceeds the dwelling unit limit in each quadrant. To increase the Proposition E dwelling unit limit in any city quadrant requires approval by Carlsbad voters (City of Carlsbad 2015a). However, recent State housing laws have preempted the city’s ability to require compliance with the dwelling caps or to stop development due to noncompliance, as acknowledged in adopted City Council Resolution 2021-074 (City of Carlsbad 2023d). The city is currently developing a new approach to managing growth.

### Carlsbad General Plan

#### *Fire and Police Protection*

The current Carlsbad General Plan, adopted in 2015, lists several policies related to fire and police protection in the Public Safety Element. The existing Public Safety Element policies would be replaced by the updated Public Safety Element policies as part of this project; therefore, policies from the 2015 General Plan that are being removed as part of the Public Safety Element Update are not included in this section but are discussed in the Impact Analysis.

#### *Schools*

The Arts, History, Culture, and Education of the City’s General Plan has the following policies and actions related to schools (City of Carlsbad 2015d):

- Policy 7-G.10.** Work with school districts to ensure educational facilities with sufficient permanent capacity are available to meet the needs of current and future projected enrollment. Consult with the school districts on policies and projects that affect the provision of educational facilities and services.
- Policy 7-P.28.** Support efforts by the Carlsbad Unified School District, other school districts that serve Carlsbad residents, and childcare service providers to establish, maintain, and improve educational facilities and services.
- Policy 7-P.29.** Coordinate with the school districts to ensure that school facilities have adequate capacity to accommodate projected enrollment resulting from the city’s population growth and development.

**Policy 7-P.30.** Continue to partner with local school districts to optimize the joint-use of school facilities for community use.

*Parks and Recreation*

The Open Space, Conservation, and Recreation Element of the City's General Plan contain the following policies related to parks and recreation (City of Carlsbad 2015b):

- Policy 4-G.6.** Offer a wide variety of recreational activities and park facilities designed to encourage educational benefits and active or passive participation by users of all ages and interests.
- Policy 4-G.7.** Operate a financially self-supportive system of recreational facilities and programs.
- Policy 4-G.8.** Coordinate the planning of park facilities and trails with other recreation-oriented land uses such as open space.
- Policy 4-G.9.** Improve and maintain high quality beaches for residents and visitors.
- Policy 4-G.10.** Increase public access to and use of the Cannon Road Open Space, Farming and Public Use Corridor (see Figure 4-5) primarily through the incorporation of public trails and active and passive recreation.
- Policy 4-P.5b.** Require compliance with the Growth Management Plan open space performance standard specified in the Citywide Facilities and Improvements Plan, and maintain appropriate criteria, standards, and classifications. The following open space areas shall not be utilized to meet the open space performance standard: Parks, public or private; however, credit may be granted for private parks if the granting of the open space credit will not adversely impact the city's ability to obtain all of the applicable open space priorities identified for the local facilities management zone (LFMZ) by the Open Space and Conservation Resource Management Plan (OSCRMP).
- Policy 4-P.20.** Implement and periodically update the Parks and Recreation Needs Assessment and Comprehensive Action Plan that identifies appropriate programming for the city's parklands, prioritizes future parkland development, reflects the needs of residents at the neighborhood and citywide level and of an increasingly diverse and aging population, and in concert with the citywide trails program, creates new linkages to neighborhoods.
- Policy 4-P.21.** Acquire and develop park areas in accordance with the Growth Management Plan park standard of 3.0 acres of community park or special use area per 1,000 residents within each of the four city quadrants. Park acreage requirements shall be determined on a quadrant basis.
- Policy 4-P.22.** Maintain appropriate recreational standards (e.g., payment of park mitigation fees) for employment areas.
- Policy 4-P.23.** Utilize the provisions of the Quimby Act, Growth Management Plan and Planned Community Zone to ensure the timely construction of parks so that they are provided concurrent with need.
- Policy 4-P.24.** Prefer in-lieu fees to dedication of parkland, unless sites offered for dedication provide features and accessibility similar in comparison.

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- Policy 4-P.25.** Consider accessibility, housing density, proximity to schools, general public access, local resident access, adjacent residential area traffic impacts, safe pedestrian access, and compatible use with the surrounding environment when determining park locations. Wherever possible, park sites should be located near schools or natural areas.
- Policy 4-P.26.** Locate new public or private parks, plazas, or alternative parks (such as greenways) in existing infill neighborhoods—the Village and Barrio—where new residential development is contemplated, within Growth Management Program requirements and city budgetary limitations.
- Policy 4-P.27.** Provide for joint-use facility agreements with local school districts to meet neighborhood and community recreational needs.
- Policy 4-P.28.** Require, where possible, developers of master planned communities to provide pocket parks and active recreational facilities unique to each development. Maintenance of pocket parks shall be accomplished through homeowners’ association dues. Pocket parks shall remain in private ownership.
- Policy 4-P.29.** Require that any development of recreational facilities on public land by developers, service clubs, civic groups, individual donors or organizations be consistent with the goals and policies of this element.
- Policy 4-P.30.** Consider the following during the development/re-development of parkland: protection and enhancement of sensitive natural habitat by expanding minimum buffers around sensitive resources; utilizing native plant species in park projects; incorporating plant species that provide food such as seeds, nuts and berries for wildlife and bird species; protecting and buffering drinking water sources such as small ponds and wetland areas; and limiting turf grass use to recreational areas. Use the Carlsbad Landscape Manual in landscape refurbishment and new park development projects.
- Policy 4-P.31.** Design parks to protect public safety by ensuring adequate lighting, signage, and maintenance.
- Policy 4-P.34.** Promote expansion of recreational and educational use opportunities in areas of significant ecological value, such as lagoons, where discretionary use of the resource allows. Consider partnering with private foundations for the conservation of such lands and the development of educational programming.
- Combine historically significant sites with recreational learning opportunities, where possible.
  - Utilize community parks in support of historical and cultural programs and facilities when feasible and appropriate.
  - Coordinate the efforts of the Historic Preservation Commission on the siting and care of historic ruins within parks.
- Policy 4-P.35.** Seek funding opportunities from state, federal, and local agencies to provide additional access points or improve the recreational and educational potential of the city’s three lagoons and other special resource areas.

- Policy 4-P.37.** Explore ways to increase access to the beach and lagoons from the city’s eastern neighborhoods.
- Policy 4-P.38.** Work cooperatively with state officials on a development plan for South Carlsbad State Beach so as to maximize public recreational opportunities.

### *Libraries*

The Arts, History, Culture, and Education of the City’s General Plan has the following policies and actions related to libraries (City of Carlsbad 2015d):

- Policy 7-G.8.** Ensure the city’s library facilities, services and programs are adequate and appropriate to meet the community’s needs for education and lifelong learning services, as well as the demands of an increasingly digital world.
- Policy 7-P.23.** Ensure that Carlsbad library facilities and programs are expanded commensurate with the city’s population growth in order to maintain compliance with the Growth Management Plan.
- Policy 7-P.24.** Provide adequate library facilities and programs that align with the community’s learning needs, abilities and demographics, and changes in technology, such as through facility design, services and service delivery methods, and partnerships with educational and learning institutions.
- Policy 7-P.26.** Renovate or replace the Cole Library to provide a facility that effectively serves the community’s need for library services.

## **Carlsbad Municipal Code**

### *Fire Prevention Code (Carlsbad Municipal Code Title 17)*

The purpose of this code is to establish the minimum requirements consistent with nationally recognized good practices to safeguard the public health, safety and general welfare from the hazards of fire, explosion or dangerous conditions in new and existing buildings, structures and premises, and to provide safety and assistance to fire fighters and emergency responders during emergency operations. This code incorporates by reference the California Fire Code, which is developed and updated every three years by the California Building Standards Commission. The city’s Fire Prevention Code also incorporates a number of local amendments necessary to respond to local climatic, geographical, or topographic conditions.

## 4.12.3 Impact Analysis

### **a. Methodology and Significance Thresholds**

Appendix G of the *CEQA Guidelines* identifies the following criteria for determining whether a project’s impacts would have a significant impact to public services and recreation:

- 1) Result in substantial adverse physical impacts associated with the provision of new or physically altered fire protection facilities, or the need for new or physically altered fire protection facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives; and/or
- 2) Result in substantial adverse physical impacts associated with the provision of new or physically altered police protection facilities, or the need for new or physically altered police protection

- facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives; and/or
- 3) Result in substantial adverse physical impacts associated with the provision of new or physically altered schools, or the need for new or physically altered schools, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios or other performance objectives; and/or
  - 4) Result in substantial adverse physical impacts associated with the provision of new or physically altered parks, or the need for new or physically altered parks, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios or other performance objectives; and/or
  - 5) 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; and/or
  - 6) Include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment; and/or
  - 7) Result in substantial adverse physical impacts associated with the provision of new or physically altered public facilities, or the need for new or physically altered public facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives.

## **b. Prior Environmental Analysis**

The 2015 General Plan EIR addressed potential parks and recreational facilities impacts in Chapter 11, *Public Facilities and Services*. The 2015 General Plan EIR found that although the General Plan would increase demand for fire service, police service, schools, and libraries, implementation of the General Plan would not result in the need for construction of new or physically altered public service facilities in order to maintain acceptable standards. The 2015 General Plan EIR also found that the General Plan would result in an additional demand of 393.5 acres of parkland citywide at buildout. However, development of planned parks under the General Plan would increase the city's parkland by 443.9 acres, resulting in a surplus distributed among all four of the city's quadrants. Therefore, public services and recreational facilities under the General Plan would be sufficient to accommodate an increase in demand from future residents. Public services and parks and recreational impacts were found to be less than significant.

The proposed project involves land use changes on 18 rezone sites that would facilitate development beyond what was anticipated in the 2015 General Plan EIR and could therefore result in new impacts related to public services and recreation. Therefore, all the CEQA checklist items listed above under Significance Criteria are addressed in this analysis.

## **c. Project Impacts and Mitigation Measures**

Some components associated with the proposed project, including updates to the Local Coastal Plan and master and specific plans for consistency between the city's planning documents, in and of themselves would not result in physical changes to the environment such that impacts to public services and recreation would occur. Therefore, this analysis focuses on impacts associated with implementation of the rezone program which would facilitate the development of 18 rezone sites listed in Table 2-4 in Section 2, *Project Description*, as well as updates to the Public Safety Element which includes policies related to fire and police protection services.



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

**Impact PS-1 DEVELOPMENT FACILITATED BY THE PROPOSED PROJECT WOULD RESULT IN AN INCREASE IN POPULATION WITHIN CARLSBAD. THE PROJECTED POPULATION INCREASE WOULD INCREASE DEMAND FOR FIRE PROTECTION SERVICES AND POTENTIALLY CREATE THE NEED FOR A NEW OR ALTERED FIRE STATION. HOWEVER, COMPLIANCE WITH POLICIES IN THE GENERAL PLAN WOULD REDUCE IMPACTS RELATED TO FIRE SERVICE FACILITIES TO A LESS THAN SIGNIFICANT LEVEL.**

The proposed project would facilitate development of up to 3,295 housing units would result in approximately 8,260 additional persons in Carlsbad and the CFD districts (see Section 4.11, *Population and Housing*, for population estimation methodology). The increase in residents associated with the project could increase demand for fire protection and emergency medical services such that additional staff, equipment or facilities would be needed to meet response time goals. The proposed project would not expand the CFD service area but would result in an increased population within the existing service area.

As shown below in Figure 4.12-2, similar to the analysis in the 2015 General Plan EIR, all new development on the proposed 18 rezone sites except for Site 19 would be located within one mile of an existing fire station. Although Site 19 would be located approximately 1.5 miles south of Fire Station 2, the site would be well served by fire services as it is accessible via El Camino Real. The CFD has expressed the need to upgrade a number of its existing fire stations in order to meet increased service demands, changes in staffing, and the increased size of fire apparatus, and indicated that three out of six of the fire stations are only minimally meeting the needs of the city. Since adoption of the 2015 General Plan, the CFD has rebuilt Fire Station 2 to accommodate a larger crew, modern firefighting equipment, and a larger number emergency response vehicles (City of Carlsbad 2023h). The City has also completed temporary Fire Station 7 on part of the old Encina power plant site in order to improve emergency response times and ensure fire and emergency medical services are ready to meet the community's needs as the city's demographics and population change. The CFD also has a goal to establish a permanent Fire Station 7 in the area of Cannon Road west of Interstate 5 (I-5) by 2026 to 2028, which would further ensure the adequacy of fire protection facilities and services (City of Carlsbad 2023c).

The proposed project also includes an update to the city's Public Safety Element. The following policies are proposed in the Public Safety Element Update:

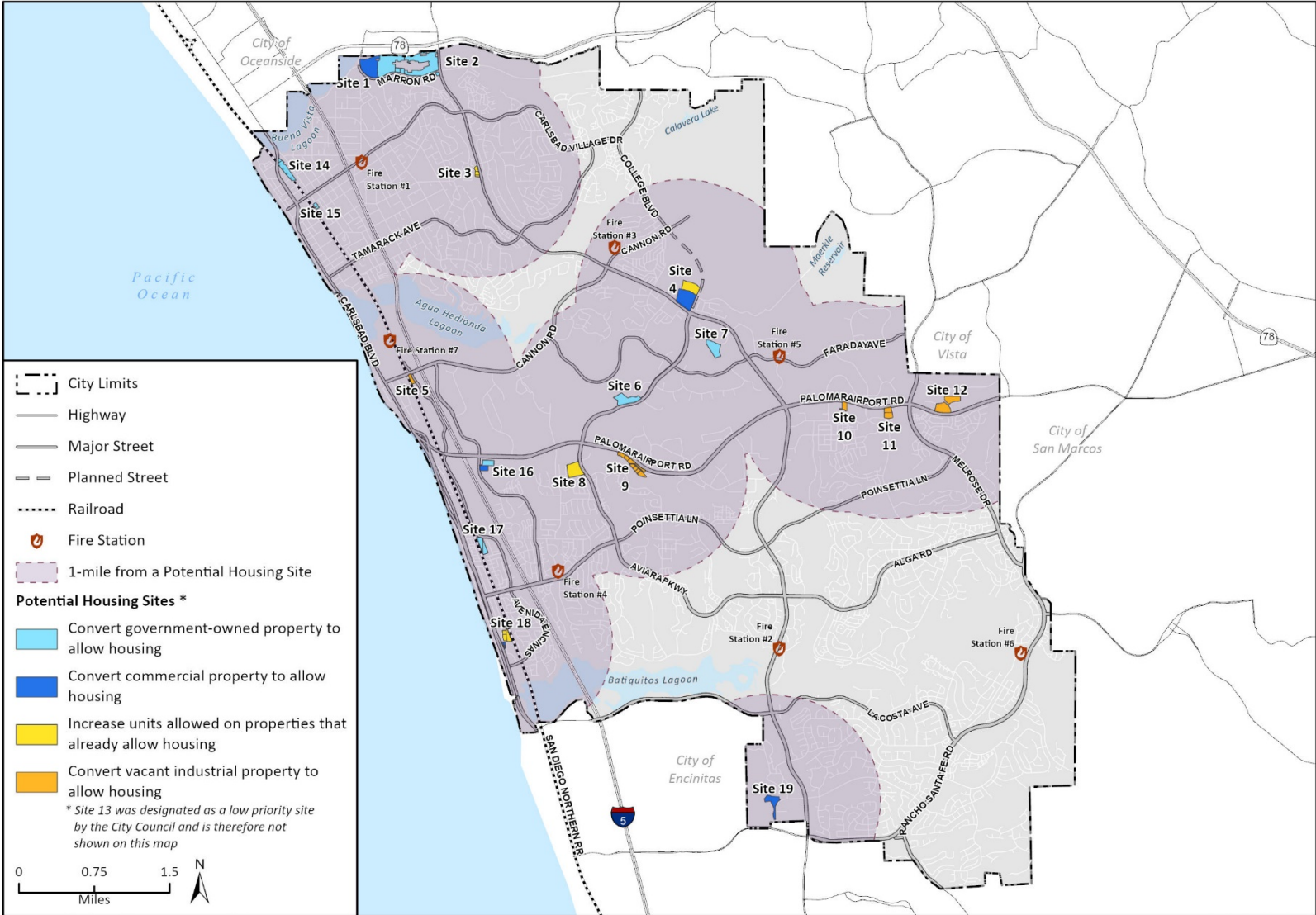
- Policy 6-P.43** Maintain adequate Police and Fire Department staff to provide adequate and timely response to all emergencies according to department standards, as well as continuous community outreach providing education for emergency situations.
- Policy 6-P.44** Encourage physical planning and community design practices that deter crime and promote safety.
- Policy 6-P.45** Maintain close coordination between planned improvements to the circulation system within the city and the location of fire stations to assure adequate levels of service and response times to all areas of the community.

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- Policy 6-P.46** Consider site constraints in terms of hazards and current levels of emergency service delivery capabilities when making land use decisions. In areas where population or building densities may be inappropriate to the hazards present, take measures to mitigate the risk of life and property loss.
- Policy 6-P.47** Coordinate the delivery of fire protection services through auto aid and mutual aid agreements with other agencies when appropriate.
- Policy 6-P.48** Enforce the most current California Building and Fire codes, adopted by the city, to provide fire protection standards for all existing and proposed structures.
- Policy 6-P.49** When future development is proposed to be intermixed with fire hazard severity zones and/or adjacent to fire hazard severity zones, require applicants to comply with the city's adopted Landscape Manual, which includes requirements related to fire protection, and calls for preparation of a fire protection plan when a proposed project contains or is bounded by hazardous vegetation or is within an area bounded by a Very High Fire Hazard Severity Zone, or as determined by the Fire Code official or his representative. Wildfires
- Policy 6-P.50** Coordinate with Carlsbad Municipal Water District, Olivenhain Municipal Water District, and Vallecitos Water District to ensure that water pressure for existing developed areas is adequate for firefighting purposes during the season and time of day when domestic water demand on a water system is at its peak.
- Policy 6-P.51** Permit development only within areas that have adequate water resources available, to include water pressure, onsite water storage, or fire flows.
- Policy 6-P.52** Maintain and implement Wildland/Urban Interface Guidelines for new and existing development within neighborhoods that are proximal to existing fire severity zones. Decrease the extent and amount of edge or wildland urban interface where development is adjacent to fire hazard severity zones.
- Policy 6-P.53** Use strategies, such as community organization volunteer partnerships and environmentally friendly fuel reduction and weed abatement approaches, as prevention measures to minimize the risk of fires. Engage in fire hazard reduction projects, including community fire breaks and private road and public road clearance.
- Policy 6-P.54** To increase resistance of structures to heat, flames, and embers, review current building code standards and other applicable statutes, regulations, requirements, and guidelines regarding construction, and specifically the use and maintenance of non-flammable materials (both residential and commercial). Promote the use of building materials and installation techniques beyond current building code requirements, to minimize wildfire impacts as well as fire protection plans for all development.

These policies would require the continuation of fire prevention practices and ensure circulation improvements account for the location of fire stations to assure adequate levels of service and response times to all areas of the community. Additionally, future development at the 18 rezone sites would be required to comply with Chapter 17.04 of the CMC, which outlines requirements under the city's Fire Prevention Code.

**Figure 4.12-2 Rezone Sites Proximity to Fire Stations**



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 Additional data provided by City of Carlsbad, 2022.

CSB Housing Sites Posters  
 Fig 4.12-1 Fire Stations and Housing Sites

Should the CFD and the city determine that new or expanded facilities are needed to provide fire protection services to Carlsbad; it is not known where such facilities would be located. No location has been identified for a new fire station as part of the proposed project. Nonetheless, when and if the CFD proposes a new station and identifies an appropriate site and funding, the city would be required to conduct a complete evaluation of the station’s environmental impacts under CEQA. Therefore, this impact would be less than significant, similar to what was analyzed in the 2015 General Plan EIR.

### **Mitigation Measures**

No mitigation measures are required because, like under the 2015 General Plan EIR, impacts would be less than significant without mitigation.

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

**Impact PS-2 DEVELOPMENT FACILITATED BY THE PROPOSED PROJECT WOULD RESULT IN AN INCREASE IN THE CITY’S POPULATION. THE PROJECTED POPULATION INCREASE WOULD INCREASE DEMAND FOR POLICE PROTECTION SERVICES AND POTENTIALLY CREATE THE NEED FOR NEW OR ALTERED POLICE SERVICE FACILITIES. HOWEVER, COMPLIANCE WITH POLICIES IN THE GENERAL PLAN WOULD REDUCE IMPACTS RELATED TO POLICE FACILITIES TO A LESS THAN SIGNIFICANT LEVEL.**

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Implementation of the proposed project would increase the population served by the CPD. Although CPD does not factor in population increases when determining its staffing needs, population growth in Carlsbad could result in an increase in reported incidents, leading to longer response times unless the CPD increases staffing. Police protection services are not typically “facility-driven,” meaning such services are not as reliant on facilities in order to effectively patrol a beat. An expansion of, or intensification of development within a beat does not necessarily result in the need for additional facilities if police officers and patrol vehicles are equipped with adequate telecommunications equipment in order to communicate with police headquarters. However, if the geographical area of a beat is expanded, population increases, or intensification/redevelopment of an existing beat results in the need for new police officers, new or expanded facilities may be needed.

As discussed in the 2015 General Plan EIR, the CPD has expressed growing the department in order to accommodate increases in demand from a growing population. However, meeting facilities needs for an expanded Police Department would not necessarily require new construction or physically altering an existing facility and would have a limited impact on the city’s built environment. Since adoption of the 2015 General Plan EIR, the City has constructed a Safety Training Center that allows police, fire, utility workers, and other first responders to have access to important emergency training (Carlsbad Chamber of Commerce 2023).

Further, policies included in the Public Safety Element Update, including Policy 6-P.43 included under Impact PS-1, would ensure that there is adequate staffing to meet existing service demands. Police protection service levels would continue to be evaluated and maintained by CPD accordance with existing policies, procedures and practices as development occurs over the lifetime of the project. Should the CPD and the city determine that new or expanded facilities are needed to provide police protection services to Carlsbad; it is not known where such facilities would be

located. No location has been identified for a new police station as part of the proposed project. Nonetheless, when and if the CPD proposes a new station and identifies an appropriate site and funding, the City would be required to conduct a complete evaluation of the station's environmental impacts under CEQA. Therefore, this impact would be less than significant, similar to what was analyzed in the 2015 General Plan EIR.

### Mitigation Measures

No mitigation measures are required because, like under the 2015 General Plan EIR, impacts would be less than significant without mitigation.

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

**Impact PS-3 DEVELOPMENT FACILITATED UNDER THE PROPOSED PROJECT WOULD RESULT IN AN INCREASE IN POPULATION IN CARLSBAD, RESULTING IN THE NEED FOR ADDITIONAL OR EXPANDED SCHOOL FACILITIES. HOWEVER, GOVERNMENT CODE 65995 (B) WOULD REQUIRE FUNDING FOR THE PROVISION OR EXPANSION OF NEW SCHOOL FACILITIES TO OFFSET IMPACTS FROM NEW RESIDENTIAL DEVELOPMENT. THIS IMPACT WOULD BE LESS THAN SIGNIFICANT.**

The proposed project would not directly affect local schools but would generate new students entering the CUSD, SMUSD, EUESD, and SDUHSD. These students would be distributed throughout the schools that serve Carlsbad depending on their grade level and on their location. As discussed in Section 2, *Project Description*, the proposed project could result in 3,295 new dwelling units and 8,260 additional persons in Carlsbad by 2035. As of 2021, approximately 22.8 percent of Carlsbad's population is 18 years old or younger (US Census Bureau 2023). Applying this ratio to the maximum addition of residents facilitated by the proposed project, the project would add approximately 1,883 school-aged residents to Carlsbad in a maximum population increase scenario.<sup>2</sup>

As discussed in the FY 2021-22 GMP Report, the CUSD would be able to accommodate current enrollment levels and expected future growth under the 2015 General Plan through renovating and replacing a variety of school facilities, outlined in their Long Range Facility Master Plan (CUSD 2018); the SMUSD although currently at maximum capacity would issue will-serve letters for proposed developments that would be served by SMUSD schools, and would be able to accommodate expected future growth in the area; the EUESD would have sufficient capacity for future growth; and the SDUHSD would also have sufficient capacity of future growth (City of Carlsbad 2023d). In order to offset a project's potential impact on schools, Government Code 65995(b) establishes the base amount of allowable developer fees a school district can collect from development projects located within its boundaries. The fees obtained by CUSD, SMUSD, EUESD, and SDUHSD are used to maintain the desired school capacity and the maintenance and/or development of new school facilities.

Future development facilitated by proposed project would be required to pay school impact fees which, pursuant to Section 65995 (3) (h) of the California Government Code (Senate Bill 50, chaptered August 27, 1998), are "deemed to be full and complete mitigation of the impacts of any

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<sup>2</sup> 8,260 potential residents multiplied by the current proportion of school-aged students (8,299 x 22.8 percent) is approximately 1,883.

legislative or adjudicative act, or both, involving, but not limited to, the planning, use, or development of real property, or any change in governmental organization or reorganization.”

The city would also continue to implement policies 7-G.9 and 7-P.23 of the Arts, Culture, History, and Education Element of the 2015 General Plan, which would facilitate coordination with school districts to ensure school facilities have adequate and permanent capacity to accommodate projected future enrollment. There are no planned improvements to add capacity through expansion. In the event that CUSD, SMUSD, EUESD, or SDUHSD construct a new school or physically alters an existing facility, a project-specific environmental analysis would be required under CEQA to address site-specific environmental concerns. As described above, existing laws and regulations would require funding for the provision or expansion of new school facilities to offset impacts from new residential development. This impact would be less than significant, similar to what was analyzed in the 2015 EIR.

### **Mitigation Measures**

No mitigation measures are required because, like under the 2015 General Plan EIR, impacts would be less than significant without mitigation.

<b>Threshold 4:</b>	Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered parks, or the need for new or physically altered parks, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios or other performance objectives?
<b>Threshold 5:</b>	Would the proposed project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?
<b>Threshold 6:</b>	Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?

**Impact PS-4 DEVELOPMENT ASSOCIATED WITH THE PROPOSED PROJECT WOULD INCREASE THE POPULATION OF CARLSBAD AND THE USE OF EXISTING PARKS AND RECREATIONAL FACILITIES. HOWEVER, NO PLANS FOR THE EXPANSION OR CONSTRUCTION OF NEW PARKS OR RECREATIONAL FACILITIES ARE ANTICIPATED WITH THE PROPOSED PROJECT. THEREFORE, THIS IMPACT WOULD BE LESS THAN SIGNIFICANT.**

The proposed project would facilitate the development of 3,295 new residential units and add an estimated 8,260 residents to the city’s population. The project does not include recreational facilities. Similar to the analysis in the 2015 General Plan EIR, without the development of new parks, this increase in population would place additional physical demands on existing parks and facilities. An increase in the number of park users would cause parks to be in active use for longer periods of time and/or used more intensively over the course of a typical day. As a result, vital park elements such as vegetation, water resources, built structures, walking/biking paths, sport facilities, and others would face increased wear-and-tear over the course of the planning period and, without proper maintenance, their useful life could be shortened (City of Carlsbad 2015a).

As discussed above under Section 4.12.1d, Carlsbad currently has a sufficient parkland in each park district to meet the city’s GMP standard of three acres of parkland per 1,000 residents in each park district.

As stated in Section 4.11, *Population and Housing*, with implementation of the proposed project, Carlsbad would have 56,516 housing units at buildout. This equates to a population of 141,670.<sup>3</sup> With the increased population resulting from the project, the required park acreage compared to the current park acreage is shown in Table 4.12-2. Based on current population estimates at buildout, with the proposed project, two of the park districts, the northeast and southwest districts, would not meet the GMP standard of three acres per 1,000 residents.

**Table 4.12-2 Parkland Acreage by Park District with the Proposed Project**

Park District Quadrant	Population at Project Buildout	Park Acreage Required at Project Buildout <sup>1</sup>	Current Park Acreage
NW	43,086	129.2	131.7
NE	24,065	72.2	68.7
SW	31,229	93.7	93.6
SE	43,291	129.9	138.3
<b>Total</b>	<b>141,670</b>	<b>425.0</b>	<b>432.4</b>

<sup>1</sup> Assuming a goal of 3 acres per 1,000 residents within the park district

On July 26, 2022, the City Council approved the Veterans Memorial Park Master Plan and the park is funded; therefore, the park is “scheduled for construction.” Because of its size, centralized location, and citywide significance, the park will help fulfill citywide park facility needs. The city’s intention is for the park to be a citywide park facility, and for the total park acreage to be applied equally to all city quadrants dates to the Citywide Facilities and Improvements Plan approved in 1986 (See Resolution 8797, adopted September 23, 1986, Exhibit A at pp. 33–35). The park acreage in each park district includes 23.425 acres for Veterans Memorial Park. The city also has plans to construct a 11.2-acre Robertson Ranch Community Park located on the northeast corner of El Camino Real and Cannon Road in the future, which would help to accommodate the increase in population in the northeast quadrant. In addition, the future South Carlsbad Coastline Park of approximately 60 acres will help accommodate the increase in population in the southwest quadrant. Overall, with the planned park improvements, the city is projecting that there will be 519.7 acres of parkland and special use areas. The addition of the 11.2-acre Robertson Ranch Community Park in the northeast quadrant would address the deficiency in that district with the proposed project. Further, the addition of South Carlsbad Coastline Park would address the deficiency in the southwest quadrant. Therefore, with implementation of the project and planned parks and recreational facilities and improvements, the city GMP standard of three acres per 1,000 residents for each park district.

Further, future development involving a subdivision would be required to comply with Chapter 20.44 of the CMC, which requires future project applicants to either dedicate land or pay the applicable parkland dedication in-lieu fee in order to mitigate impacts to parks and recreational facilities. Additionally, future development would be required to comply with policies 4-P.5b and 4-P.20 through 4-P.39 of the Open Space, Conservation, and Recreation Element of the General Plan, which would ensure the city actively seeks to preserve and expand parks to meet the needs of Carlsbad residents as well as meet the park standards outlined in the Citywide Facilities and Improvements Plan of the GMP.

<sup>3</sup> The population is based on calculations developed by the city for the 2015 General Plan EIR to estimate population at buildout. The estimate assumes 2.63 persons per household, with a 5.5 percent vacancy rate, and 0.86 percent of residents as group quarters (56,516 \* 2.63 \* 0.945 \* 1.0086 = 141,670).

Therefore, the proposed project would not require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment. Impacts would be less than significant, similar to the 2015 General Plan EIR.

### **Mitigation Measures**

No mitigation measures are required because, like under the 2015 EIR, impacts would be less than significant without mitigation.

**Threshold 7:** Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered public facilities, or the need for new or physically altered public facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives?

**Impact PS-5 DEVELOPMENT ASSOCIATED WITH THE PROPOSED PROJECT WOULD INCREASE THE POPULATION OF CARLSBAD AND THE USE OF EXISTING LIBRARY FACILITIES. HOWEVER, EXISTING LIBRARY FACILITIES WOULD HAVE SUFFICIENT CAPACITY TO ACCOMMODATE THE INCREASE IN POPULATION. ADDITIONALLY, COMPLIANCE WITH GENERAL PLAN POLICIES WOULD REDUCE IMPACTS RELATED TO LIBRARY FACILITIES TO A LESS THAN SIGNIFICANT LEVEL.**

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As discussed above under Section 4.12.1e, the city currently has 99,993 square feet of library facilities, and a ratio of 849 square feet of library space per 1,000 residents which meets the standard of 800 square feet per 1,000 population.

The proposed project would facilitate the development of 8,260 new residents which would increase Carlsbad's population from a current population of 117,800 people to 141,670 people in 2035, when also including growth that would be realized under the existing General Plan (see calculation under Impact PS-4). Therefore, in 2035 when accounting for project growth plus growth under the existing General Plan, the library ratio would be 705 square feet of library space per 1,000 residents. Under the GMP, the Citywide Facilities and Improvements Plan establishes a performance standard for library space equal to 800 square feet per 1,000 population. Therefore, with the project and expected growth under the 2015 General Plan, Carlsbad would be deficient in meeting the library space performance standard.

Pursuant to policies 7-G.8 and 7-P.23 of the Arts, History, Culture, and Education Element of the General Plan, the City would be required to ensure library facilities are expanded commensurate with the city's population growth.

As discussed in the GMP FY 2021-22 GMP Monitoring Report, even without implementation of the proposed project, existing library facilities are expected to fall short of the growth management standard at buildout. Complete replacement of the Cole facility is included in the Capital Improvement Program budget between the years 2023 and buildout, as part of the new City Hall project. The City Hall project will most likely inform the timing, design, and opportunities for a new Cole library facility. Therefore, the city is contemplating replacing and modernizing library facilities and this would continue with implementation of the proposed project. At such time as the design and timing is finalized, a project-specific environmental analysis would be required under CEQA to address site-specific environmental concerns.



Overall, the proposed project itself would not result in substantial adverse physical impacts associated with the construction of new library facilities, and impacts would be less than significant, similar to the 2015 EIR.

### **Mitigation Measures**

No mitigation measures are required because, like under the 2015 EIR, impacts would be less than significant without mitigation.

### **d. Cumulative Impacts**

For these issue areas, cumulative development involves development under the proposed project in addition to growth projected under the 2015 General Plan.

#### **Fire Protection**

The project in combination with growth and buildout under the General Plan could increase population such that there is an increase in reported incidents, leading to longer response times unless the CFD increases staffing. As described above under Impact PS-1, with continued implementation of General Plan policies and Fire Code requirements, it is not anticipated that a new fire station is needed to serve cumulative development in Carlsbad. Therefore, the cumulative impacts related to fire protection facilities would be less than significant, and the proposed project's contribution to these impacts would not be cumulatively considerable.

#### **Police Protection**

The project in combination with growth and buildout under the General Plan could increase population such that there is an increase in reported incidents, leading to longer response times unless the CPD increases staffing. Should additional staffing be needed to serve the areas around the project sites accounting for future cumulative development, staffing is reviewed each budget cycle and considers historical and current year information related to police services. Overall, although additional staffing may be needed, it is not anticipated that additional police department facilities would be needed to serve cumulative growth in the project areas. Therefore, the cumulative impacts related to police protection facilities would be less than significant, and the proposed project's contribution to these impacts would not be cumulatively considerable.

#### **Schools**

Cumulative development would increase the number of children attending CUSD, SMUSD, EUESD, and SDUHSD schools. However, as stated in Impact PS-3, compliance with Senate Bill 50 would require applicants for future development in Carlsbad to pay school impact fees established to offset potential impacts from new development. Therefore, pursuant to CGC Section 65994(h), the cumulative impact relating to school capacity would be less than significant, and the project's contribution to this impact would not be cumulatively considerable.

#### **Parks and Recreational Facilities**

Cumulative projects also would increase demand for park and recreational facilities. As discussed in Impact PS-4, existing parkland in and near Carlsbad is adequate to serve overall demand, and it is not anticipated that population growth from cumulative development would result in substantial deterioration of existing park facilities. The city also has plans to expand parkland and recreational

facilities within the Carlsbad such as the construction of Robertson Ranch Community Park which results in the park inventory for all city quadrants exceeding the projected required acreage at buildout. Additionally, future development involving a subdivision would be required to either dedicate land or pay the applicable parkland dedication in-lieu fee in order to mitigate impacts to parks and recreational facilities pursuant to Chapter 20.44 of the CMC. Therefore, cumulative development would not result in a significant impact related to parks, and the project would not make a considerable contribution to a cumulative impact.

### **Libraries**

Cumulative development would increase the demand for library facilities. However, as discussed in Impact PS-5, the analysis takes into account development under the proposed project and growth under the 2015 General Plan. Although the city anticipates that cumulative growth would result in a deficiency of library space, the city is considering replacing and modernizing library facilities to meet changing community demand. Therefore, cumulative development would not result in a significant impact related to libraries beyond what is discussed under Impact PS-5, and the project would not make a considerable contribution to a cumulative impact.

## 4.13 Transportation

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This section builds off the 2015 General Plan EIR and evaluates effects on transportation in the Carlsbad region that would result from implementation of the proposed project. This section is based on the Fehr & Peers Transportation Modeling Considerations and Results memo, which is included in Appendix E.

### 4.13.1 Setting

#### **a. Existing Road System**

Regional accessibility to the city is provided primarily by local freeways (Interstate [I]-5 and State Route [SR]-78) via interchanges with local streets. Sub-regional accessibility is provided by regional arterial streets, such as El Camino Real, College Boulevard, Melrose Drive, Cannon Road, Palomar Airport Road, La Costa Avenue, and Rancho Santa Fe Road. Other key facilities, such as Carlsbad Village Drive, Carlsbad Boulevard, Poinsettia Lane, Aviara Parkway/Alga Road, serve some sub-regional traffic, but are primarily used to access unique areas of the city such as the Village, the lagoons, and the city's coastline (City of Carlsbad 2014).

#### **b. Transit Service**

Transit in Carlsbad includes North County Transit District (NCTD) bus service, Americans with Disabilities Act (ADA) paratransit service, the COASTER commuter rail, and Amtrak rail service; indirectly, transit service is also provided by the NCTD Sprinter light rail system and Metrolink commuter rail.

#### **Bus Service**

NCTD bus service is referred to as their BREEZE service. BREEZE currently operates approximately nine bus routes within the city, including routes 101, 302, 304, 309, 323, 315/325, 444, 445, and 632. Buses generally operate on 30-minute to 60-minute headways depending on the day of the week. NCTD also offers LIFT, a curb-to-curb service for disabled persons who are unable to utilize the BREEZE service and are certified as eligible to use the service, as required by the ADA.

#### **COASTER Commuter Rail**

This is a north-south commuter rail transit service connecting from Oceanside to Santa Fe Depot in San Diego. Carlsbad is served by two COASTER stations, one located north of Poinsettia Lane (just west of I-5) and the other is located in the Village area. The COASTER service primarily operates southbound on approximately 60-minute headways between 5:15 AM and 8:40 PM Monday through Friday. It operates northbound on approximately 60-minute headways between 6:40 AM and 10:20 PM. It operates on reduced service hours on weekends and holidays with longer headways.

#### **Sprinter**

This is an east-west hybrid rail transit service connecting Oceanside to Escondido and many educational destinations such as Mira Costa College and California State University San Marcos. Although the Sprinter does not run within the city limits, it runs just north of Carlsbad and connections are provided via the COASTER and Breeze services in addition to bicycle accessibility.

## **Amtrak**

Amtrak is a national passenger rail service connecting San Diego to San Luis Obispo. The nearest Amtrak stop is in Oceanside, approximately 3 miles north of Carlsbad.

## **Metrolink**

Metrolink is a commuter rail service serving Los Angeles, Orange, Riverside, and San Bernardino counties. The Orange County line connects to the COASTER line in Oceanside.

### **c. Bicycle/Pedestrian Facilities**

Bike facilities are categorized into four different classifications:

- Class I Shared-Use Paths are bikeway facilities designated for exclusive use by bicycles and pedestrians. They are separated from roadways, usually designed for two-way travel, and are designed to minimize cross-flow by motor vehicles. Whenever practical, these paths should be at least 8 feet wide, paved with asphalt concrete, and have two-foot wide, graded shoulders made of aggregate base.
- Class II Bike Lanes are areas within paved streets. They usually consist of adjacent one-way lanes on either side of the roadway for exclusive and semi-exclusive use by bicycles. At minimum, Class II bike lane facilities require four-foot wide lanes on both sides of the roadway where shoulders are present and five-foot wide lanes where curb and gutters are present. These facilities are for the exclusive use of bicycles where they are separated from the motor vehicle lane by a six-inch painted white stripe and designated with signs and permanent pavement markings. Shared use by motor vehicles within these facilities is only permissible where indicated by broken or dashed striping.
- Class III Bike Routes are located in shared-use travel lanes with sufficient width for both motor vehicle and bicycle usage. Class III bike routes are usually only designated by signs or permanent pavement markings indicating the route.
- Class IV Separated Bikeways are on-street facilities reserved for use by bicyclists, with physical separation between the bikeway and travel lanes. Separated bikeways – also known as cycle tracks – can be one-way facilities on both sides of the street or two-way facilities on one side of the street. Physical separation can include concrete curbs, landscaping, parking lanes, bollards, or other vertical elements. They differ from Class I shared-use paths and Class II bike lanes, as they are on-street but physically separated from vehicle traffic.

Bicycle travel in Carlsbad is currently provided via trails, Class I off-street bicycle paths, Class II on-street bicycle lanes, and Class III on-street bicycle routes. New Class IV separated bikeways are planned for in the city's Sustainable Mobility Plan (discussed in Section 4.13.2, *Regulatory Setting*). Class II bike lanes are the most common in Carlsbad and are present on main streets throughout the city. Pedestrian travel within the city is provided via sidewalks, crosswalks, and dedicated pedestrian trails. There are approximately 651 miles of sidewalk and 3.2 miles of multi-use path within the city (City of Carlsbad 2020). In total, 73 miles of roadway throughout the city are without sidewalks or with substandard sidewalks. These areas include small neighborhood streets and wide, high-speed corridors (City of Carlsbad 2020). Additionally, the city's design criteria have provided sidewalks along most facilities within the city, but some streets that were developed prior to the city's incorporation lack sidewalks.

Additionally, several pedestrian and bicycle barriers exist in Carlsbad that prohibit direct travel in the city. Although some of these barriers are natural in nature (such as the topography of the inland area and the city's three lagoons), some of the barriers are man-made (such as I-5 and the railroad).

## 4.13.2 Regulatory Setting

### a. Federal

There are no federal regulations that are relevant to the proposed project.

### b. State

#### **California Department of Transportation Planning Documents**

Caltrans is responsible for planning, designing, constructing, operating, and maintaining the State highway system. Federal highway standards are implemented in California by Caltrans. Any improvements or modifications to the highway system, including ramps and access points, within the study area would need to be approved by Caltrans. The following Caltrans planning documents emphasize the State of California's focus on transportation infrastructure that supports mobility choice through multimodal options, smart growth, and efficient development.

- Smart Mobility 2010: A Call to Action for the New Decade (Smart Mobility Framework)
- Caltrans Deputy Directive 64-R1
- Local Development Intergovernmental Review
- Strategic Plan 2020-2024
- California Transportation Plan 2050

#### *Smart Mobility Framework*

The purpose of the Smart Mobility Framework, published in February 2010, is to address the State mandate to find solutions to climate change, reduce VMT per resident, and create a safe and equitable transportation system (Caltrans 2010). The Smart Mobility Framework includes 10 implementing themes to achieve its purpose, including integration into Caltrans and other transportation agencies' policy and practice, collection of data and tools to implement the Smart Mobility Framework, undertaking of major cross-functional initiatives, and integration into local government land use and transportation planning.

#### *Caltrans Deputy Directive 64-R1: Complete Streets – Integrating the Transportation System*

In 2001, Caltrans adopted Deputy Directive 64; a policy directive related to non-motorized travel throughout the State. In October 2008, Deputy Directive 64 was strengthened to reflect changing priorities and challenges. Deputy Directive 64-R1 states:

The Department views all transportation improvements as opportunities to improve safety, access, and mobility for all travelers in California and recognizes bicycle, pedestrian, and transit modes as integral elements of the transportation system. Providing safe mobility for all users, including motorists, bicyclists, pedestrians and transit riders, contributes to the Department's mission/vision: "Improving Mobility across California."

Successful long-term implementation of this directive is intended to result in more options for people to go from one place to another, less traffic congestion and greenhouse gas emissions, more walkable communities (with healthier, more active people), and fewer barriers for older adults, children, and people with disabilities.

#### *Local Development Intergovernmental Review (LDIGR) Safety Practitioners*

In December 2020, Caltrans issued Traffic Safety Bulletin 20-02-R1 announcing the release of the “Interim Local Development Intergovernmental Review Safety Review Practitioners Guidance (LDIGR Safety Review Practitioners Guide).” This new guidance material provides instructions to Caltrans personnel, lead agencies, developers, and consultants for conducting safety impact analysis for proposed land use projects and plans in compliance with CEQA. The guidance sets expectations for Caltrans staff and lead agencies about what information and factors to consider in safety impact analysis with a focus on potential safety impacts affecting the California State Highway System (SHS). Integrating safety in the Caltrans land development and intergovernmental review process helps to solidify a culture of safety in California through the Safe System approach.

Caltrans recommends lead agencies use systemic safety plans, specifically Local Roadway Safety Plans (LRSPs), Systemic Safety Analysis Reports (SSARs), and Vision Zero plans, as models for safety analysis of the local transportation network. These plans can help local jurisdictions obtain resources to improve safety in their communities, and they will now be an input to assessing the potential safety impacts of new land use projects and land use plans.

#### *Strategic Plan 2020-2024*

Caltrans’ 2020-2024 Strategic Plan weaved sustainability principles through all of its goals. Goals of the Strategic Plan are related to safety, enhancing and connecting the multimodal transportation network, lead climate action, and advancing equity in all communities (Caltrans 2021a).

#### *California Transportation Plan 2050*

Caltrans completed the California Transportation Plan to comply with Title 23, Code of Federal Regulation Section 450.214 and pursuant to California Government Code Title 7 Division 1 Chapter 2.3. The California Transportation Plan provides a roadmap for making effective, equitable, transparent, and transformational transportation decisions in California. The vision of the California Transportation Plan is: “California’s safe, resilient, and universally accessible transportation system supports vibrant communities, advances racial and economic justice, and improves public and environmental health,” which is supported by goals related to safety, climate, equity, accessibility, public health, economy, environment, and infrastructure (Caltrans 2021b).

#### *California Encroachment Permits*

Any work within the existing right of way would have to comply with Caltrans permitting requirements. This includes a traffic control plan that adheres to the standards set forth in the California Manual of Uniform Traffic Control Devices (MUTCD). As part of these requirements, there are provisions for coordination with local emergency services, training for flagmen for emergency vehicles traveling through the work zone, temporary lane separators that have sloping sides to facilitate crossover by emergency vehicles, and vehicle storage and staging areas for emergency vehicles. MUTCD requirements also provide for construction work during off-peak hours and flaggers.

## **AB 1358 – California Complete Streets Act of 2008**

Supporting some of the previously referenced regulations/requirements, the California Complete Streets Act of 2008 (AB 1358) requires circulation elements as of January 1, 2011, to accommodate the transportation system from a multi-modal perspective, including public transit, walking and biking, which have traditionally been marginalized in comparison to autos in contemporary American urban planning.

## **SB 375**

The Sustainable Communities Strategy and Climate Protection Act of 2008, SB 375, is a law passed in 2008 by the California legislature that requires each Metropolitan Planning Organization (MPO) to demonstrate, through the development of a Sustainable Communities Strategy (SCS), how its region will integrate transportation, housing, and land use planning to meet the GHG reduction targets set by the state. In addition to creating requirements for MPOs, it also creates requirements for the California Transportation Commission and California Air Resources Board (CARB). For Carlsbad, the MPO is San Diego Association of Governments (SANDAG).

## **SB 743**

SB 743 resulted in several statewide CEQA changes. It required the Governor's Office of Planning and Research (OPR) to establish new metrics for determining the significance of transportation impacts of projects within transit priority areas (TPAs) and allows OPR to extend use of the metrics beyond TPAs. OPR selected VMT as the preferred transportation impact metric and applied their discretion to require its use statewide. This legislation also established that aesthetic and parking effects of residential, mixed-use residential, or employment center projects on an infill site within a TPA are not significant impacts on the environment. The revised *CEQA Guidelines* that implement this legislation became effective on December 28, 2018, and state that vehicle level of service (LOS) and similar measures related to delay shall not be used as the sole basis for determining the significance of transportation impacts. Finally, the legislation establishes a new CEQA exemption for a residential, mixed-use, and employment center project a) within a TPA, b) consistent with a specific plan for which an EIR has been certified, and c) consistent with an SCS. This exemption requires further review if the project or circumstances change significantly.

To aid in SB 743 implementation, the following state guidance has been produced:

- Technical Advisory on Evaluating Transportation Impacts in CEQA (OPR 2018)
- The 2022 Scoping Plan-Identified VMT Reductions and Relationship to State Climate Goals (CARB 2022)
- Interim Land Development and Intergovernmental Review (LDIGR) Safety Review Practitioners Guidance (July 2020)

OPR's guidance on application of SB 743 indicates that a VMT impact is significant if VMT per resident remains above 15 percent below the existing regional average or the existing citywide average for residential projects consistent with the SCS. The CARB 2022 Scoping Plan for Achieving Carbon Neutrality identified VMT reductions and relationship to state climate goals and is relevant for transportation impact analysis of the project. It provides recommendations for VMT reductions that would be necessary to achieve the state's GHG reduction goals and acknowledges that the SCS targets alone are not sufficient to meet climate goals.

## c. Local

### SANDAG Regional Plan

SANDAG is the regional transportation planning agency in San Diego County. As such, they are responsible for planning and funding transportation projects throughout the region. SANDAG adopted its most recent regional plan on December 10, 2021. The following projects have been identified in the Carlsbad area to improve mobility:

- Peak period bus rapid transit (BRT) on I-5 and along an east-west corridor somewhere near, on or parallel to, Palomar Airport Road
- Managed lanes on I-5 and SR-78 (including upgrades to the I-5/SR-78 interchange)

### City of Carlsbad Vehicle Miles Traveled (VMT) Analysis Guidelines

The City of Carlsbad's VMT Analysis Guidelines for CEQA were updated on October 3, 2022. The guidelines describe a methodology for compliance with the requirements of SB 743 regarding analysis of VMT for land use projects that are subject to the CEQA. This guidance is intended to provide methodology by which Land Use Projects will be evaluated and assist the City of Carlsbad in its CEQA VMT analyses. It indicates that a VMT impact is significant for a residential project if the project VMT per resident exceeds a level 15 percent below the city average VMT per resident.

### Carlsbad General Plan

The current Carlsbad General Plan, adopted in 2015, includes multiple policies related to transportation in the Mobility Element. The following policies are applicable to the proposed project (City of Carlsbad 2015):

#### *Mobility Element*

- Policy 3-P.1** Implement a comprehensive livable streets network. This network, as outlined in Table 3-1 and shown on Figure 3-1 [of the 2015 General Plan], identifies the transportation modes that shall be accommodated, based on street typology, to ensure accessibility to the city's street system to persons of all ages and abilities.
- Policy 3-P.2** Integrate livable streets in all capital improvement projects, where applicable, as well as new development projects.
- Policy 3-P.3** Apply and update the city's multi-modal level of service (MMLOS) methodology and guidelines that reflect the core values of the Carlsbad Community Vision related to transportation and connectivity. Utilize the MMLOS methodology to evaluate impacts of individual development projects and amendments to the General Plan on the city's transportation system
- Policy 3-P.4** Implement the city's MMLOS methodology and maintain LOS D or better for each mode of travel for which the MMLOS standard is applicable, as identified in Table 3-1 and Figure 3-1.
- Policy 3-P.5** Require developers to construct or pay their fair share toward improvements for all modes consistent with this Mobility Element, the Growth Management Plan, and specific impacts associated with their development.



- Policy 3-P.8** Utilize transportation demand management strategies, non-automotive enhancements (bicycle, pedestrian, transit, train, trails, and connectivity), and traffic signal management techniques as long-term transportation solutions and traffic mitigation measures to carry out the Carlsbad Community Vision.
- Policy 3-P.16** Design new streets, and explore funding opportunities for existing streets, to minimize traffic volumes and/or speed, as appropriate, within residential neighborhoods without compromising connectivity for emergency first responders, bicycles, and pedestrians consistent with the city's Carlsbad Active Transportation Strategies. This should be accomplished through management and implementation of livable streets strategies and such programs like the Carlsbad Residential Traffic Management Plan.
- Policy 3-P.17** Consider innovative design and program solutions to improve the mobility, efficiency, connectivity, and safety of the transportation system. Innovative design solutions include, but are not limited to, traffic calming devices, roundabouts, traffic circles, curb extensions, separated bicycle infrastructure, pedestrian scramble intersections, high visibility pedestrian treatments and infrastructure, and traffic signal coordination. Innovative program solutions include, but are not limited to, webpages with travel demand and traffic signal management information, car and bike share programs, active transportation campaigns, and intergenerational programs around schools to enhance safe routes to schools. Other innovative solutions include bicycle friendly business districts, electric and solar power energy transportation systems, intelligent transportation systems, semi-or full autonomous vehicles, trams, and shuttles.
- Policy 3-P.19** Encourage Caltrans, SANDAG, NCTD, and adjacent cities to improve regional connectivity and service consistent with regional planning efforts. This includes expansion of Interstate-5 with two HOV lanes in each direction and associated enhancements, a Bus Rapid Transit (BRT) route along Palomar Airport Road, shuttle bus services from COASTER stations, and other enhancements to improve services in the area.
- Policy 3-P.20** Engage Caltrans, the Public Utilities Commission, transit agencies, the Coastal Commission, and railroad agency(s) regarding opportunities for improved connections within the city, including: • Improved connections across the railroad tracks at Chestnut Avenue and other locations • Completion and enhancements to the Coastal Rail Trail and/or equivalent trail along the coastline • Improved connectivity along Carlsbad Boulevard for pedestrians and bicyclists, such as a trail • Improved access to the beach and coastal recreational opportunities • Improved crossings for pedestrians across and along Carlsbad Boulevard
- Policy 3-P.22** Support pedestrian and bicycle facilities at all Interstate-5 and State Route 78 interchanges.
- Policy 3-P.24** Update the pedestrian, trails and bicycle master plans, as necessary, to reflect changes in needs, opportunities and priorities.
- Policy 3-P.25** Implement the projects recommended in the pedestrian, trails and bicycle master plans through the city's capital improvement program, private development conditions and other appropriate mechanisms.

**Housing Element Implementation and Public Safety Element Update**

- Policy 3-P.26** Identify and implement necessary pedestrian improvements on pedestrian prioritized streets with special emphasis on providing safer access to schools, parks, community and recreation centers, shopping districts, and other appropriate facilities.
- Policy 3-P.27** Implement the Safe Routes to School and Safe Routes to Transit programs that focus on pedestrian and bicycle safety improvements near local schools and transit stations. Prioritize schools with access from arterial streets for receiving Safe Routes to School projects.
- Policy 3-P.28** Improve and enhance parking, connectivity, access, and utilization for pedestrians and bicycles to COASTER stations, utility corridors, and open spaces consistent with city planning documents.
- Policy 3-P.29** Evaluate incorporating pedestrian and bicycle infrastructure within the city as part of any planning or engineering study, private development, or capital project where bicyclists or pedestrians are a prioritized or non-prioritized mode.
- Policy 3-P.30** Complete the Carlsbad Active Transportation Strategies to assist in identifying livable street implementation parameters within the city.
- Policy 3-P.32** Require developers to improve pedestrian and bicycle connectivity consistent with the city's pedestrian and bicycle master plans and trails master planning efforts. In addition, new residential developments should demonstrate that a safe route to school and transit is provided to nearby schools and transit stations within a half mile walking distance.
- Policy 3-P.33** Work with existing neighborhoods and businesses to improve pedestrian and bicycle connectivity and safety consistent with the city's pedestrian and bicycle master plans and trails master planning efforts.
- Policy 3-P.34** Actively pursue grant programs such as SANDAG's Active Transportation Grant Program and Smart Growth Incentive Program to improve non-automotive connectivity throughout the city. The emphasis of grant-funded projects shall be on implementation, which includes planning documents that guide and prioritize implementation, programs that encourage the use of active transportation modes, education for the use of active transportation modes, or physical improvements themselves.
- Policy 3-P.35** Partner with other agencies and/or developers to improve transit connectivity within Carlsbad. As part of a comprehensive transportation demand management (TDM) strategy and/or with transit-oriented development (TOD), a shuttle system could be established that connects destinations and employment centers like LEGOLAND, hotels, the Village, McClellan-Palomar Airport, business parks, the COASTER and Breeze transit stations, and key destinations along the coast. The system could incorporate shuttle service in adjacent cities to maximize connectivity.
- Policy 3-P.36** Encourage NCTD, SANDAG and other transit providers to provide accessibility for all modes of travel to the McClellan-Palomar Airport area.
- Policy 3-P.37** Coordinate with NCTD to improve the quality of bus stop facilities in the city.

## City of Carlsbad Sustainable Mobility Plan (SMP)

This plan was adopted by the City Council in 2021. It guides implementation of the General Plan Mobility Element, with the goal of improving traffic safety, reducing greenhouse gas emissions and increasing travel choices. The SMP integrates 12 previous planning documents including the 2007 Bikeway Master Plan, the 2008 Pedestrian Master Plan, the 2013 ADA Transition Plan, the 2015 Carlsbad Active Transportation Strategy, and the 2015 Climate Action Plan. A key goal of the SMP is to integrate planned, unbuilt projects from all of these plans into a single database; prioritize these planned, unbuilt projects; and provide a tool to city staff for facilitating implementation of these multiple planned networks.

### 4.13.3 Impact Analysis

Since adoption of SB 743 and revisions to the *CEQA Guidelines* in December 2018, VMT is the metric for determining the significance of transportation impacts. Unlike the 2015 General Plan EIR, which relied on LOS as a metric to discuss transportation impacts, analysis in this SEIR utilizes VMT as a metric in compliance with SB 743. VMT provides a measure of travel efficiency and helps depict whether people are traveling more, or less, by vehicle over time.

VMT measures the amount of driving that a project generates or causes. For example, a project generating 100 total (inbound and outbound) vehicle trips per day that travel an average of 5.0 miles per trip results in 500 project-generated VMT per day. VMT has historically been used in CEQA as an input for the Air Quality and Greenhouse Gas sections, but VMT can also show how environmentally efficient the connection is between the transportation system and existing or proposed land uses. For the purposes of analyzing the CEQA Transportation impacts of residential projects, the total VMT generated by the project is converted to an efficiency metric by dividing the amount of VMT generated by the number of residents; efficiency metrics are used in CEQA transportation VMT analysis because the goal of the analysis is to show whether or not a particular development will generate low enough VMT to aid the State in meeting its climate targets relative to projected growth in population, employment, etc.

Fehr & Peers prepared a memo that includes VMT modeling considerations and results, which is included as Appendix E.

#### a. Significance Thresholds and Methodology

##### Significance Thresholds

Pursuant to Appendix G of the *CEQA Guidelines*, potentially significant impacts to transportation would result if the project would:

- 1) Conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities. (A significant impact would occur if an element of the project conflicts with existing or planned facilities.)
- 2) Conflict or be inconsistent with *CEQA Guidelines* Section 15064.3(b)<sup>1</sup>. (According to the *City of Carlsbad VMT Analysis Guidelines* for CEQA Review, for residential projects, the project

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<sup>1</sup> Section 15064.3 describes specific considerations for evaluating a project's transportation impacts. Generally, vehicle miles traveled is the most appropriate measure of transportation impacts. For the purpose of this section, "vehicle miles traveled" refers to the amount of distance of automobile travel attributable to a project. Other relevant considerations may include the effects of the project on transit and non-motorized travel. Except as provided in subdivision (b)(2) regarding lead agency discretion in determining the appropriate measure of

generated residential VMT per resident does not constitute a significant impact if it is less than 15 percent below city-wide average VMT per resident. For the cumulative year, the project's performance under future cumulative conditions is compared to the baseline year citywide average residential VMT per resident.)

- 3) Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment). (A significant impact would occur if development facilitated by the project does not conform to applicable City and industry design standards)
- 4) Result in inadequate emergency access. (A significant impact would occur if development facilitated by the project did not conform to California Fire Code standards for emergency access.)

## **VMT Analysis Methodology**

### *Project Screening for VMT*

The City of Carlsbad VMT Analysis Guidelines includes six (6) screening criteria that can be applied to screen projects out of conducting project-level VMT analysis.

1. **Small Projects.** Small projects can be presumed to cause a less-than-significant VMT impact. Small projects are defined as generating less than 110 trips per day.
2. **Projects Located Near Transit.** Projects located within a Transit Priority Area (TPA) can be presumed to have a less-than-significant impact absent substantial evidence to the contrary. This exemption would not apply if the project:
  - Has a Floor Area Ratio (FAR) of less than 0.75;
  - Includes more parking for use by residents, customers, or employees than required by the lead agency (if the agency allows but does not require the project to supply a certain amount of parking);
  - Is inconsistent with the applicable SCS (as determined by the lead agency, with input from the SANDAG); or
  - Results in a net reduction in multi-family housing units.
3. **Local-Serving Retail and Similar Land Uses.** Projects that consist of local-serving retail uses can generally be presumed to have a less-than-significant impact absent substantial evidence to the contrary, since these types of projects will primarily draw users and customers from a relatively small geographic area that will lead to short-distance trips and trips that are linked to other destinations.
4. **Local-Serving Public Facilities.** Similar to retail land uses, local-serving public facilities can generally be presumed to have a less-than-significant impact.
5. **Affordable Housing Projects.** According to City Guidelines, residential projects consisting of 100% affordable housing located in infill areas may be considered to have insignificant transportation impacts.
6. **Redevelopment Projects That Result in a Net Reduction of VMT.** Under CEQA regulations, projects are deemed to have a less than significant impact if they result in a reduction in VMT

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transportation impacts for transportation projects, a project's effect on automobile delay shall not constitute a significant environmental impact. For the purposes of the EIR, consistency with CEQA Section 15064.3, implementation of the project would result in a significant impact under CEQA if it would substantially interfere with achievement of the VMT reductions set forth in CARB's 2017 Scoping Plan.

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measure. In this context, redevelopment projects in Carlsbad that generate less VMT compared to the existing project they replace would be considered to have a less than significant effect on VMT.

A project that meets one or more of the screening criteria is presumed to have a less than significant VMT impact. A project that has not been excluded from the VMT analysis screening process outlined above must undergo a quantitative VMT analysis to determine whether it will have a significant impact on VMT.

As the project does not meet any of the above screening criteria, a VMT analysis is required as explained below. The screening test for small projects generating less than 110 trips per day must be applied to individual housing development projects rather than the project program as a whole. The screening criterion for local-serving retail or public facilities applies only to commercial and public facility uses and not to residential project types. The TPA screening test does not apply to the project program as a whole, but could be applied on a project-by-project basis. Additionally, as the project is not a redevelopment project or an affordable housing program, the affordable housing test does not apply.

### *VMT Analysis Scenarios*

Based on the city's Guidelines, the evaluation of residential projects is conducted using the residential VMT per resident metric. This evaluation applies even in the case of redevelopment projects, such as the replacement of an office use with a residential project. When analyzing a residential land use, an efficiency metric is used as the basis of the analysis, which disregards the previous land use on the site. Consequently, no credit is given to the existing land use, as the focus is solely on assessing the efficiency of the new land use for the residents, without considering the efficiency of the prior land use.

Residential VMT is defined as all resident's automobile vehicle trips traced back to the residence of the trip-maker. This VMT includes the entire length of the trip or tour. This residential VMT is then divided by the number of residents to calculate residential VMT per resident.

The calculations are done to include all trips, including trips that leave the travel model area (the SANDAG region). VMT for trips that leave the travel model area is adjusted to account for the part of the trip that occurs outside of the travel model area.

To generate daily forecasts for vehicle miles traveled (VMT) in this project, Fehr & Peers relied on data from the SANDAG Activity-Based Model 2+ (ABM2+). On September 23, 2022, the SANDAG Board instructed their staff to exclude the "road user charge" from the 2021 Regional Plan and prepare a focused amendment to it. Please refer to Appendix E for more detail on the model versions. The analysis considered two model years: the base year of 2016 and the future year of 2035. The SANDAG modeling team provided a full set of SANDAG model files in 2022, which incorporated the latest updates as of December 2021.

After carefully evaluating various model options along with their respective land use and policy assumptions, the No build DS41 scenario was used. The SANDAG no build scenario assumes that the infrastructure outlined in the 2019 Regional Transportation Plan has been implemented and does not factor in the SANDAG 2021 Road User Charge (as it is not reasonably foreseeable and requires additional political considerations). Thus, this particular option aligns closely with the city's General Plan and excludes the road user charge policy. By selecting this option, the analysis incorporates realistic land use assumptions while considering reasonably foreseeable regional transportation

network investments and policies. Ultimately, this approach yields the reasonably foreseeable results in terms of VMT. Fehr & Peers then ran the model for various land use scenarios to determine the VMT per resident for 2035. The 2035 VMT per resident is compared to the base year model VMT per resident to assess impacts.

Fehr & Peers analyzed four distinct scenarios, each serving a unique purpose. These scenarios include:

1. Base Year 2016 No Project Condition (i.e., land use assumptions based on off-the-shelf SANDAG Model specific land use may not be consistent with the 2015 General Plan.)
2. Year 2035 Alternative 1 (No Project Alternative as outlined in Section 6.0, *Alternatives* (i.e., continuation of conditions adopted under the 2015 General Plan)
3. Year 2035 Proposed Project (i.e., implementation of the project)
4. Year 2035 with Project Alternative 2 (i.e., reduced sites under the project as further detailed and discussed under Alternative 2 in Section 6.0, *Alternatives*).

The first scenario, known as the Base Year 2016 No Project Condition, remains unchanged from the original SANDAG off-the-shelf base year model with no modifications. The only base year available for the SANDAG ABM2+ model is 2016.

The second scenario, the Year 2035 No Project Condition scenario (also called Alternative 1 in section 6.0, *Alternatives* of this SEIR), integrates the land use data from the SANDAG 2035 model. However, it has been adjusted to align with the city's currently adopted General Plan, which was thoroughly analyzed in the 2015 General Plan EIR. This adjustment was crucial to ensure that the analysis could incorporate the most reasonable and reliable land use assumptions available consistent with the city's General Plan. The third and fourth scenarios, Year 2035 Proposed Project and Year 2035 with Project Alternative 2, respectively, both feature the project land use assumptions based on each scenario. Note that the third scenario is the project itself, while the fourth scenario is discussed in detail in Section 6, *Alternatives*.

## **b. Prior Environmental Analysis**

The 2015 General Plan EIR determined that transportation impacts related to LOS would be significant and unavoidable. Since LOS is no longer a metric under CEQA, this SEIR does not include a comparison to the significant and unavoidable finding in the 2015 EIR. Impacts to pedestrian, bicycle, and transit facilities, air traffic safety, hazards or incompatible uses, and emergency access would be less than significant (Section 3.13, *Transportation*: 3.13-25 through 3.13-37). Air traffic safety is no longer addressed under Transportation under CEQA, and is discussed in Section 4.7, *Hazards and Hazardous Materials*, of this SEIR. It further stated that individual development projects would be subject to project-specific development and planning review, including adherence to standards for transportation impacts.

The proposed project involves land use changes to allow additional development on 18 rezone sites beyond what was anticipated in the 2015 General Plan EIR and could therefore result in new impacts related to transportation. Therefore, all the CEQA checklist items listed above under Methodology and Significance Thresholds are addressed in this analysis.

## **c. Project Impacts and Mitigation Measures**

Some components associated with the proposed project, including updates to the Local Coastal Plan, Public Safety Element, and Master and Specific Plans for consistency between the city's

planning documents, in and of themselves would not result in physical changes to the environment such that impacts to transportation would occur. Therefore, this analysis focuses on impacts associated with implementation of the rezone program which would facilitate the development of 18 rezone sites listed in Table 2-4 in Section 2, *Project Description*.

**Threshold 1:** Would the project conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?

**Impact T-1**      **SIMILAR TO THE DEVELOPMENT ANALYZED IN THE 2015 GENERAL PLAN EIR, DEVELOPMENT FACILITATED BY THE PROPOSED PROJECT WOULD NOT RESULT IN ADDITIONAL CONFLICTS WITH PROGRAMS AND PLANS RELATED TO THE CIRCULATION SYSTEM, RELATIVE TO THE 2015 GENERAL PLAN. THIS IMPACT WOULD BE LESS THAN SIGNIFICANT.**

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### **Roadway Facilities**

The project does not include proposed modifications to roadway facilities in the city. However, the project would amend the city's Land Use Map to accommodate higher density residential developments on 18 rezone sites. This increased density could cause existing and future local and regional traffic to circulate differently. The expected influence on existing and future traffic would be minimal because any roadway modifications included as a part of the new residential developments facilitated by the project would need to conform to State and local standards. Additionally, interruption of regular functioning of roadway facilities due to construction would be temporary in nature and not cause conflicts. Overall, growth associated with the project would not conflict with existing or planned roadway facilities, because the proposed changes do not specifically propose any reduction in roadway vehicle lanes. Unlike the 2015 General Plan EIR, which found significant and unavoidable conflicts with roadway facilities in relation to the LOS metric, the SEIR does not consider LOS pursuant to SB 743 (codified in Public Resources Code Section 21099(b)(2), which states that level of service or similar measures of vehicle capacity or traffic congestion are not considered significant impacts on the environment). Therefore, policies related to LOS are not considered in this analysis; the project would not conflict with programs and plans related to the roadway network and impacts associated with the project would be less than significant.

### **Transit, Bicycle, and Pedestrian Facilities**

Development under the project would not obstruct existing transit, bicycle, or pedestrian services or facilities, nor would it conflict with existing or planned facilities. All new development would be subject to city discretionary review, allowing the city to ensure that project designs would not interfere with transit operations or bicycle and pedestrian infrastructure. Buildout would increase the number of potential transit, bicycle, and pedestrian users on the various transit, bicycle, and pedestrian systems serving the city. Increased users would result in a correlated increase in demand for transit and bicycle and pedestrian infrastructure. Additionally, roadway traffic congestion caused from population growth in the city facilitated by the project could affect transit corridors by increasing travel times and decreasing headway reliability for transit vehicles. However, like development under the 2015 General Plan EIR, any roadway modifications included as a part of the new residential developments facilitated by the project would need to conform to State and local standards. Policies 3-P.1 through 3-P.5, 3-P.8, 3-P.16, 3-P.17, 3-P.19, 3-P.20, 3-P.22, 3-P.24 through 3-P.30, and 3-P.32 through 3-P.37 from the 2015 General Plan would reduce impacts to transit facilities and bicycle and pedestrian infrastructure by discouraging use of single occupancy vehicles

and supporting multi-modal transportation, similar to the 2015 General Plan EIR. Therefore, the project would not introduce a new impact relative to the 2015 General Plan EIR and impacts would remain less than significant.

### Mitigation Measures

No mitigation measures are required because, like under the 2015 EIR, impacts would be less than significant without mitigation.

**Threshold 2:** Would the project conflict or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b)?

**Impact T-2 DEVELOPMENT FACILITATED BY THE PROPOSED PROJECT HAS THE POTENTIAL TO INTERFERE WITH ACHIEVEMENT OF THE VMT REDUCTIONS SET FORTH IN CITY OF CARLSBAD VMT ANALYSIS GUIDELINES. THIS IMPACT WOULD BE SIGNIFICANT AND UNAVOIDABLE.**

As described above, residential projects are evaluated based on the residential VMT per resident VMT metric consistent with the methodology in the *City of Carlsbad VMT Analysis Guideline*.

The SANDAG Model assumptions were adjusted to reflect the relevant housing unit numbers according to the city’s adopted General Plan and the project for 2035 conditions, and the resulting VMT metrics are reported. Table 4.13-1 presents the VMT per resident for the entire city. Figure 4.13-1 depicts the Traffic Analysis Zones (TAZs) that contain rezone sites.

**Table 4.13-1 Citywide Average Project Generated VMT per Resident**

Model Scenario	City of Carlsbad VMT/Resident
2016 Base Year	24.0
Year 2035 Alternative 1 (No Project) <sup>1</sup>	24.0
2035 with Proposed Project	23.6
Impact Assessment	
Residential VMT per Resident Threshold <sup>2</sup>	20.4
<b>Impact Conclusion for Project (Scenario 1)</b>	<b>Significant Impact</b>

Source: SANDAG; Fehr & Peers, 2023

Note:

<sup>1</sup> The off-the-shelf 2035 model was adjusted according to the adopted Housing Element land use assumptions.

<sup>2</sup> 85% of city-wide VMT per resident average in base year 2016.

While VMT rates would decrease with the project compared to the No Project condition, reflecting the benefits that increased density of residential land uses have on reducing VMT per capita, Carlsbad’s VMT per resident would continue to exceed the VMT per resident threshold. The transportation impact analysis indicates that the project would result in a significant impact to VMT.





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In addition to the city-wide average VMT per resident, residential VMT per resident for each housing development site was determined. Specifically, the VMT for the TAZ containing a housing site was used to determine the individual housing site’s VMT per Resident. Each housing site’s VMT per resident is compared against significance thresholds to determine whether the housing site individually would have a significant impact and to determine the appropriate type of mitigation. As these rezone sites have diverse land use and travel characteristics resulting in significantly different VMT characteristics, they are compared against thresholds individually. The individual project TAZs VMT per resident are shown in Table 4.13-2.

**Table 4.13-2 VMT per Resident for Project TAZs**

TAZ	Housing Site Number(s)	2035 with Project		
		VMT/Resident	Percent of City Average	Percent Difference from City Average
709	1 and 2	20.2	86%	-14%
793	14	15.3	65%	-35%
815	3	21.4	90%	-10%
841	15	17.1	72%	-28%
916	4	21.7	92%	-8%
969	7	24.0	102%	+2%
1002	6	20.7	88%	-12%
1049 <sup>1</sup>	5	25.1	106%	+6%
1068	10	22.7	96%	-4%
1097	12	24.1	102%	+2%
1105	11	24.1	102%	+2%
1161	9	24.8	105%	+5%
1182	16	21.1	89%	-11%
1188	8	19.6	83%	-17%
1276	17	23.3	99%	-1%
1345	18	21.7	92%	-8%
1434 <sup>1</sup>	19	23.7	100%	0%

Source: SANDAG; Fehr & Peers, 2023

Note:

<sup>1</sup> TAZs with minimal development (<300 Residents) or no data available defaults to Census Tract value.

As shown, the individual sites have VMT per residential values that range from 15.3 to 25.1 VMT per resident. Areas where residential land uses generate lower levels of VMT generally have a higher density of residential development; a mix of land uses so that residents need to travel shorter distances to visit shops, essential businesses, and places of employment; have good proximity to high-quality transit; and have more affordable housing options, so that lower-income families can live in close proximity to job centers. This assessment is helpful to determine the types of VMT mitigation measures that would be applicable at various development sites. As stated above, overall, the project has a significant VMT impact.

## Mitigation Measure

The following mitigation measure is required:

### *Mitigation Measure T-1 Achieve VMT Reductions for Development Projects*

During the project design and project-level review phases of development projects at the 18 rezone sites, the city shall review each project compared to the City of Carlsbad VMT Analysis Guidelines screening criteria to determine if the submitted project is eligible to be screened out of conducting project-level VMT analysis. If a project meets one or more of the screening criteria, the project is determined to have a less than significant impact to VMT in accordance with the city's VMT Analysis Guidelines. A project that has not been excluded from the VMT analysis screening process outlined above must undergo a quantitative VMT analysis to determine whether it will have a significant impact on VMT. If it is determined that the project would have a significant impact on VMT (i.e., it does not result in at least a 15 percent reduction in VMT compared to existing conditions), the city shall require the project to implement project-level VMT reduction measures, as noted below, prior to project approval and issuance of construction permits.

Transportation Demand Management (TDM) measures and physical measures to reduce VMT are outlined in the city's VMT Analysis Guidelines *and* have been identified as potentially VMT reducing in the California Air Pollution Control Officers Association (CAPCOA) *Handbook for Analyzing Greenhouse Gas Emission Reductions, Assessing Climate Vulnerabilities, and Advancing Health and Equity* (December 2021). The CAPCOA Handbook provides detailed requirements, calculation steps, and limitations for assessing the VMT reduction effectiveness of each measure, including reductions from combinations of measures.

Trip reduction strategies may include, but are not limited to, the following:

1. Provision of bus stop improvements or on-site mobility hubs
2. Pedestrian improvements, on-site or off-site, to connect to nearby transit stops, services, schools, shops, etc.
3. Bicycle programs including bike purchase incentives, storage, maintenance programs, and on-site education program
4. Enhancements to the citywide bicycle network
5. Parking reductions and/or fees set at levels sufficient to incentivize transit, active transportation, or shared modes
6. Cash allowances, passes, or other public transit subsidies and purchase incentives
7. Providing enhanced, frequent bus service
8. Implementation of shuttle service

Other measures not listed in CAPCOA but are proven to be effective means of reducing the amount of VMT generated by residents include increasing the mix of uses by adding retail or services within a site or within convenient walking distance.<sup>2</sup> Although it is unlikely that TDM measures will fully mitigate the impact of the program to a less-than-significant level, CEQA mandates the implementation of feasible mitigation measures to reduce a project or program's level of impact. In this context, Fehr & Peers identified a list of recommended TDM measures from Appendix E of the city's VMT Analysis Guidelines to mitigate the project VMT impact to the extent feasible, as

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<sup>2</sup> American Planning Association PAS Memo, 2013. "Getting Trip Generation Right: Eliminating the Bias Against Mixed Use Development" by Jerry Walters, Brian Bochner, and Reid Ewing, May.

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presented in Table 4.13-3. The summary provides an estimate of the effectiveness of these measures and specifies which ones are applicable to areas that have adjacent or near transit.

**Table 4.13-3 TDM Measures for Rezone Sites in Carlsbad**

Measures	Maximum Percent Reduction in VMT <sup>1</sup>	Applicable to Sites Adjacent to or Near Transit
Implement Commute Trip Reduction Marketing	4%	-
Implement Subsidized or Discounted Transit Program	5.50%	Yes
Provide Ridesharing Program	8%	-
Integrate Affordable and Below Market Rate Housing (Construct the affordable housing at the city’s requirement, no payment of in lieu fees)	Approx. 4% if meeting city’s requirement. 28.60% if 100% affordable	-
Provide Bike Parking	Not Quantified	-
Improve Transit Access, Safety, and Comfort	Not Quantified	Yes
Provide Bike Parking Near Transit	Not Quantified	Yes
Orient Project Toward Non-Auto Corridor	Not Quantified	Yes

Source: City of Carlsbad Vehicle Miles Traveled (VMT) Analysis Guidelines, 2022; Fehr & Peers, 2023

Individual rezone sites (if their location based on the TAZ exceeds the city’s VMT threshold) should include all feasible mitigation measures from Table 4.13-3. Projects that are within a half mile of a transit stop should incorporate the measures that are applicable to encouraging transit.

**Significance After Mitigation**

Because the uncertainty relating to the feasibility of on-site TDM measures and the implementation process for individual development projects in diverse project settings, the timing that it will take to implement those measures, and the lack of an off-site mitigation option, the effectiveness of reducing an individual project’s VMT impact to a less than significant level cannot be determined as part of this SEIR. As a result, this impact is identified conservatively as significant and unavoidable with mitigation given the possibility that some projects may not be able to identify and implement measures to reduce the VMT impact to a less-than-significant level.

**Threshold 3:** Would the project substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?

**Impact T-3** SIMILAR TO DEVELOPMENT ANALYZED IN THE 2015 GENERAL PLAN EIR, DEVELOPMENT FACILITATED BY THE PROJECT WOULD NOT SUBSTANTIALLY INCREASE HAZARDS DUE TO GEOMETRIC DESIGN FEATURES (E.G., SHARP CURVES OR DANGEROUS INTERSECTIONS) OR INCOMPATIBLE USES (E.G., FARM EQUIPMENT). THIS IMPACT WOULD BE LESS THAN SIGNIFICANT.

Development facilitated by the project would increase the number of users on the city’s transportation system, which could increase transportation circulation design safety hazards

associated with future projects in Carlsbad. Primary operational vehicular access to and through the General Plan area would be provided by existing signalized intersections and highways.

Improvements to the transportation and circulation system in the city would be implemented over time through buildout year of 2035. Carlsbad maintains improvement standards that guide the construction of new transportation facilities to minimize design hazards for all users of the system. Through the environmental review process, land use proposals that would add traffic to streets not designed to current standards are evaluated consistent with Carlsbad standard processes and the Caltrans recommended guidance, LDIGR Safety Review Practitioners Guide. If needed, mitigation measures are identified therein, and the project is conditioned to construct or provide funding for an improvement that would minimize or eliminate the hazard. Typical improvements include shoulder widening, adding turn pockets, adding sidewalks or crosswalks, realigning sharp curves, prohibiting certain turning movements, signalizing intersections, and increasing sight distance, among other measures. New and upgraded roadways needed to accommodate new development would be designed according to applicable Federal, State, and local design standards. Additionally, as found in the 2015 General Plan EIR, policies 3-P.10, 3-P.12, 3-P.13, and 3-P.16 would reduce impacts related to safety. Therefore, the project would not introduce a new impact relative to the 2015 General Plan EIR and impacts would remain less than significant.

### **Mitigation Measures**

No mitigation measures are required because, like under the 2015 EIR, impacts would be less than significant without mitigation.

<b>Threshold 4:</b> Would the project result in inadequate emergency access?
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**Impact T-4**      **SIMILAR TO DEVELOPMENT ANALYZED IN THE 2015 GENERAL PLAN EIR, DEVELOPMENT BY THE PROJECT WOULD NOT RESULT IN INADEQUATE EMERGENCY ACCESS. THIS IMPACT WOULD BE LESS THAN SIGNIFICANT.**

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In the short-term, implementation of the project would have the potential to affect emergency access during construction of individual projects facilitated by the project. Carlsbad or project applicants would coordinate with the emergency service providers to ensure that emergency routes remain available. In the long-term, development facilitated by the project would be required to provide adequate accommodation of fire access to structure frontages, multiple access points to development, as well as adequate width, height, and turning radius of roadways and access points, pursuant to California Building Code and California Fire Code requirements. Development facilitated by the project would be required to comply with city and San Diego County standards and requirements and would undergo review by public safety officials as part of the approval process. Additionally, as found in the 2015 General Plan EIR, policies 3-P.12, 3-P.29, 3-P.30, and 3-P.33 would reduce impacts related to emergency access. Therefore, the project would not introduce a new impact relative to the 2015 General Plan EIR and impacts would remain less than significant.

### **Mitigation Measures**

No mitigation measures are required because, like under the 2015 EIR, impacts would be less than significant without mitigation.

#### **d. Cumulative Impacts**

##### **Compatibility with Programs, Plans, Ordinances, and Policies Related to Circulation**

Cumulative plans and projects, including the project, would be required to comply with local regulations and policies. The plans' incremental contribution to cumulative impacts would be less than significant.

##### **Vehicle Miles Traveled**

Because the analysis for the project is based on VMT per resident, the significant VMT impact finding implies that the project would also have a cumulatively considerable contribution to a significant cumulative impact. Since project-level significance thresholds were designed to support long-term environmental goals, they inherently also address potential cumulative VMT impacts. As such, VMT would be cumulatively considerable. Therefore, the cumulative impact related to VMT would be significant and unavoidable.

##### **Roadway Safety and Emergency Vehicle Access**

Roadways constructed as a result of implementation of the project, in conjunction with other cumulative plans and projects, would be constructed to meet current design standards in respective cities. Modifications to public rights-of-way would be consistent with appropriate regulations and design standards set forth by the respective city's applicable plans, programs, and policies. Similarly, cumulative development would also be required to comply with the respective city's regulations and policies. Trucks necessary to construct cumulative development would utilize truck routes designated by the respective cities and would not conflict with the automobile traffic and bicycle and pedestrian activity along respective city streets. If cumulative development would redesign city streets in such a way that would significantly impact roadway safety, they would be required by the respective city to mitigate such impacts. Nevertheless, Carlsbad's contribution to potential cumulative roadway safety impacts would not be cumulatively considerable. In addition, driveways and emergency vehicle access points associated with cumulative development would be constructed in compliance with the California Fire Code and other applicable regulations related to roadway safety and emergency access. Therefore, cumulative impacts related to roadway safety and emergency vehicle access would be less than significant.

## 4.14 Utilities and Service Systems

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This section addresses impacts related to utilities and service systems. It considers potential impacts with respect to water supply and infrastructure, wastewater conveyance and treatment facilities, stormwater and drainage facilities, solid waste disposal, and electricity, natural gas, and telecommunications facilities. The assessment of impacts is based on review of site information and conditions; analysis provided in the 2020 Urban Water Management Plan (UWMP), Recycled Water Master Plan, Sewer Master Plan, Water Master Plan, and Drainage Master Plan; and city information regarding utility-related issues, including water supply and facilities, wastewater facilities, storm drainage, electric power, natural gas, telecommunications facilities, and solid waste.

### 4.14.1 Setting

The following section describes the existing setting with respect to water suppliers, wastewater treatment providers, stormwater drainage facilities, electricity and natural gas providers, telecommunications facilities, and solid waste facilities serving the project site.

#### **a. Water Sources, Supply, Demand, and Distribution**

##### **Water Sources**

San Diego County imports approximately 90 percent of its water from Northern California and the Colorado River. This water is imported to San Diego County by the San Diego County Water Authority (SDCWA) and the Metropolitan Water District (MWD) of Southern California. SDCWA was formed in 1944 and became a member of MWD in 1946 to obtain Colorado River water for San Diego County. SDCWA currently has 24 member agencies, which include six cities, five water districts, three irrigation districts, eight municipal water districts, one public utility district, and one federal agency (a military base). Its service area encompasses approximately 1,438 square miles and a population of approximately three million people. SDCWA receives 90 percent of its imported water from the MWD. SDCWA is MWD's largest member agency, purchasing up to 30 percent of MWD's supplies annually (SDCWA 2017). SDCWA member agencies in the vicinity of Carlsbad include the Carlsbad Municipal Water District (CMWD), Vallecitos Water District (VWD), and Olivenhain Municipal Water District (OMWD)—all three of which provide water service to the City of Carlsbad. The city uses imported water, recycled water, and seawater desalination (CMWD 2021).

##### **Water Supply and Demand**

###### *Carlsbad Municipal Water District*

In 2020, the CMWD supplied approximately 17,693 acre-feet (AF) of water purchased from SDCWA, desalinated water, and recycled water (CMWD 2021). The residential sector accounts for an average of 54 percent of total water use (44 percent for single-family residences and 10 percent for multi-family residences), while the commercial, landscape, and other sectors account for the remaining 46 percent of use (CMWD 2021).

The CMWD projects in its 2020 Urban Water Management Plan (UWMP) that annual water demand for the service area will be 21,737 acre-feet per year (AFY) in 2040 under normal year conditions, which includes potable and recycled water (CMWD 2021). Table 4.14-1 through Table 4.14-3 show forecast water supplies under normal, single dry year, and multiple dry year conditions. The CMWD

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projects that, under non-drought conditions, water supplies will increase to 22,263 AFY by 2045 (see Table 4.14-1). The minimum available annual water supply for a scenario involving multiple dry years is estimated at 23,901 AF in 2045, as shown in Table 4.14-3 (CMWD 2021). The CMWD planned supply accommodates the projected demand for the service area under both normal, single year, and multiple year drought conditions.

**Table 4.14-1 CMWD Normal Year Supply and Demand Comparison (AFY)**

Sources	2025	2030	2035	2040	2045
SDCWA Purchases	13,802	14,155	14,586	15,019	15,545
Seawater Desalination	2,500	2,500	2,500	2,500	2,500
Normal Year Potable Supply	16,302	16,655	17,086	17,519	18,045
Recycled Water	4,218	4,218	4,218	4,218	4,218
Total Existing Supplies	20,520	20,873	21,304	21,737	22,263
Demand	20,520	20,873	21,304	21,737	22,263
<b>Total Surplus</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>

Source: CMWD 2021

**Table 4.14-2 CMWD Single Dry Year Supply and Demand Comparison (AFY)**

Sources	2025	2030	2035	2040	2045
Supplies	21,929	22,307	22,767	23,230	23,792
Demand	21,929	22,307	22,767	23,230	23,792
<b>Total Surplus</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>

Source: CMWD 2021

**Table 4.14-3 CMWD Multiple Dry Year Supply and Demand Comparison (AFY)**

Sources	2025	2030	2035	2040	2045
<b>First Year</b>					
Supplies	22,030	22,409	22,871	23,336	23,901
Demand	22,030	22,409	22,871	23,336	23,901
<b>Total Surplus</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>Second Year</b>					
Supplies	22,108	22,489	22,953	23,420	23,986
Demand	22,108	22,489	22,953	23,420	23,986
<b>Total Surplus</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>Third Year</b>					
Supplies	22,189	22,570	23,036	23,505	24,073
Demand	22,189	22,570	23,036	23,505	24,073
<b>Total Surplus</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>Fourth Year</b>					
Supplies	22,270	22,653	23,121	23,591	24,162
Demand	22,270	22,653	23,121	23,591	24,162
<b>Total Surplus</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>



Sources	2025	2030	2035	2040	2045
<b>Fifth Year</b>					
Supplies	22,344	22,728	23,198	23,669	24,242
Demand	22,344	22,728	23,198	23,669	24,242
Total Surplus	0	0	0	0	0

Source: CMWD 2021

CMWD covers an area of 20,682 acres (approximately 32 square miles) and provides potable and recycled water supply to most of the City of Carlsbad. The existing distribution system consists of 455 miles of pipeline and 73 major pressure regulating stations, three pump stations, and nine reservoirs. The CMWD water distribution system supplies recycled water from two supply sources, which include 95 miles of pipeline, six pressure zones, three storage tanks, four pumping stations, and five pressure regulating stations (CMWD 2021).

#### *Vallecitos Water District*

VWD is responsible for supplying water, wastewater collection, and recycled water service to a 45-square mile area within northern San Diego County that includes the City of San Marcos, parts of the cities of Vista, Carlsbad, Escondido, and unincorporated areas within the County of San Diego. In 2020, the VWD supplied approximately 4,835 acre-feet (AF) of water purchased from SDCWA, desalinated water, and recycled water (VWD 2021). The residential sector accounts for an average of 60 percent of total water use (44 percent for single-family residences and 15 percent for multi-family residences), while the commercial, landscape, losses and other sectors account for the remaining 40 percent of use (VWD 2021).

The VWD projects in its 2020 UWMP that annual water demand for the service area will be 8,055 acre-feet per year (AFY) in 2045 under normal year conditions, which includes potable and recycled water (VWD 2021). The VWD projects that, under non-drought conditions, water supplies will increase to 8,072 AFY by 2045 (VWD 2021). The VWD planned supply accommodates the projected demand for the service area under both normal, single year, and multiple year drought conditions.

#### *Olivenhain Municipal Water District*

Site 19 is located outside of CMWD and VWD service areas. Water to Site 19 would be supplied by OMWD. OMWD provides potable water, wastewater services, recycled water, hydroelectricity, and park services and is headquartered in Encinitas, San Diego County. In 2020, the OMWD supplied approximately 19,582 acre-feet (AF) of water purchased from SDCWA, and recycled water (OMWD 2021). The residential sector accounts for an average of 80 percent of total water use (76 percent for single-family residences and 4 percent for multi-family residences), while the commercial, landscape, and other sectors account for the remaining 20 percent of use (OMWD 2021).

The OMWD projects in its 2020 UWMP that annual water demand for the service area will be 19,165 acre-feet per year (AFY) in 2040 under normal year conditions, which includes potable and recycled water (OMWD 2021). The OMWD projects that, water supply will meet the water demand through 2040 (OMWD 2021). The OMWD planned supply accommodates the projected demand for the service area under both normal, single year, and multiple year drought conditions.

## **b. Wastewater**

The city's Wastewater Division is responsible for managing the city's wastewater collection system. The system consists of approximately 288 miles of sewer pipes. The city's local sewer collection system is delivered to Encina Wastewater Authority, who is responsible for wastewater treatment and discharge in Carlsbad. In addition, Leucadia Wastewater District or Vallecitos Water District provide wastewater collection services in some areas within the southern portion of Carlsbad (City of Carlsbad 2023a). The wastewater is treated and either released into the ocean or treated further and used as recycled water. Encina Wastewater Authority provides a current design treatment capacity of 40.5 mgd of wastewater. The facility has an average daily flow of 23 mgd. Treated effluent is discharged to the Pacific Ocean or reused (Encina Wastewater Authority 2021).

## **c. Stormwater Drainage**

Stormwater discharges consist of surface water runoff generated from various land uses. The quality of these discharges varies and is affected by geology, land use, season, hydrology, and sequence and duration of hydrologic events. Stormwater is generally directed to a series of public street catch basins and drainage area catch basins located throughout Carlsbad. Water flow in the catch basins is correlated with stormwater runoff and generally limited to periods during and following precipitation events. Public street catch basins and drainage area catch basins within Carlsbad are maintained by the Storm Drain Maintenance Department (City of Carlsbad 2023b). Stormwater ultimately runs off to downstream wetlands, creeks, and eventually the Pacific Ocean.

## **d. Electric Power**

### **Electric Power Supply**

#### *State*

In 2021, California's in-state electricity generation totaled 277,764 gigawatt-hours (California Energy Commission [CEC] 2023a). Primary fuel sources for the state's electricity generation in 2021 included natural gas, hydroelectric, solar photovoltaic, wind, nuclear, geothermal, biomass, and solar thermal. According to the 2020 Integrated Energy Policy Report, California's electric grid relies increasingly on clean sources of energy such as solar, wind, geothermal, hydroelectricity, and biomass. In addition, by 2025 the use of electricity sourced from out-of-state coal generation will be eliminated. As this transition advances, the grid is also expanding to serve additional loads produced by building and vehicle electrification among other factors (EIA 2022).

#### *San Diego Gas and Electric Company*

San Diego Gas and Electric (SDG&E) provide electric power to Carlsbad. SDG&E's service area spans San Diego County and Orange County. SDG&E serves approximately 3.7 million customers with approximately 1.5 million electric meters. SDG&E has a service area of approximately 4,100 square miles (SDG&E 2022a).

### **Electric Power Demand**

As shown in Table 4.14-4, communitywide development in San Diego County (the smallest scale at which electricity consumption data is readily available) consumed approximately 19,765 gigawatt-hours in 2021, which was approximately seven percent of statewide electricity consumption (CEC 2021a). In comparison, the population of San Diego County is approximately eight percent of

California’s population (California Department of Finance 2023). Therefore, per capita electricity consumption in San Diego County is lower than the statewide average.

**Table 4.14-4 2021 Electricity Consumption**

Energy Type	San Diego County (GWh)	San Diego Gas and Electric (GWh)	California (GWh)	Proportion of San Diego Gas and Electric Consumption <sup>1</sup>	Proportion of Statewide Consumption <sup>1</sup>
Electricity	19,765	17,560	277,764	>100%	7.1%

GWH = gigawatt-hours

<sup>1</sup> For reference, the population of San Diego County (3,269,755 persons) is approximately 8.4 percent of the population of California (39,078,674 persons) (California Department of Finance 2023).

Source: CEC 2021a

## e. Natural Gas

### Natural Gas Supply

#### State

California’s natural gas consumption for 2021 was approximately 11.9 billion British thermal units (Btu; CEC 2021b). The state relies on out-of-state natural gas imports for nearly 90 percent of its supply (CEC 2023b). The CEC estimates that approximately 45 percent of the natural gas burned across the state is used for electricity generation, and the remainder is consumed in the residential (21 percent), industrial (25 percent), and commercial (9 percent) sectors (CEC 2023b).

#### San Diego Gas and Electric Company

SDG&E also provides natural gas to Carlsbad. SDG&E has approximately 900,000 natural gas meters.

### Natural Gas Demand

As shown in Table 4.14-5, communitywide development in San Diego County (the smallest scale at which gas consumption data is readily available) consumed approximately 523 million US therms in 2021, which was 100 percent of natural gas consumption by SDG&E customers (CEC 2021b). The majority of natural gas uses are for residential and commercial purposes. Currently, California imports 87 percent of natural gas needs from out of state, while in-state natural gas production is decreasing.

**Table 4.14-5 2021 Natural Gas Consumption**

Energy Type	San Diego County (millions of US therms)	San Diego Gas and Electric (millions of US therms)	California (billions of US therms)	Proportion of San Diego Gas and Electric Consumption <sup>1</sup>
Natural Gas	523	523	11.9	100%

<sup>1</sup> For reference, the population of San Diego County (3,269,755 persons) is approximately 8.4 percent of the population of California (39,078,674 persons) (California Department of Finance 2023).

Source: CEC 2021b

## **f. Telecommunications**

In California, approximately 98 percent of households have access to telecommunication infrastructure, including telephone and cable access (California Cable & Telecommunications Association 2021). Numerous private local, wireless, and cellular phone service providers serve the city.

## **g. Solid Waste Collection and Disposal**

Republic Services provides solid collection and disposal services in Carlsbad. Most solid waste in Carlsbad is transported to the Republic Services Palomar Transfer Station. The transfer station is located at 5960 El Camino Real in the City of Carlsbad. The transfer station accepts construction/demolition, industrial, mixed municipal, and green material waste from the surrounding cities (California Department of Resources Recycling and Recovery [CalRecycle] 2019a). Carlsbad diverts approximately 61 percent of the solid waste generated within its jurisdiction from landfills through recycling and composting. Solid waste that is not diverted from Carlsbad is hauled to two landfills in San Diego County. The majority (approximately 98 percent) of the solid waste is sent to the Otay Landfill. The other 2 percent is sent to Sycamore Landfill.

According to its Solid Waste Facility Permit, the total capacity of the Palomar Transfer Station is 2,733 tons per day, and the maximum permitted daily throughput is 2,250 tons. In addition, the Otay Landfill has a permitted daily capacity of 6,700 tons but is receiving approximately 5,000 tons daily. The Otay Landfill had a remaining capacity of 21 million cubic yards as of May 2016. Based on the remaining capacity and disposal rates, the Otay Landfill is expected to close in 2030 (CalRecycle 2019b). The Sycamore Landfill has a maximum permitted daily throughput of 5,000 tons. The Sycamore Landfill had a remaining capacity of 113 million cubic yards as of 2016. Based on the remaining capacity and disposal rates, the Sycamore Landfill is expected to close in 2042 (CalRecycle 2019c).

The city promotes solid waste reduction through numerous diversion programs aimed at reducing the amount of solid waste going to landfills. These programs include residential and commercial site pickup, business/government source reduction, greenwaste reduction, backyard and on-site composting/mulching, electronic disposal, recycling, economic incentives, and educational programs.

### 4.14.2 Regulatory Setting

#### **a. Water**

##### **Federal**

###### *Clean Water Act*

The Federal Clean Water Act, enacted by Congress in 1972 and amended several times since, is the primary federal law regulating water quality in the United States and forms the basis for several State and local laws throughout the country. The Clean Water Act establishes the basic structure for regulating discharges of pollutants into the waters of the United States. The Clean Water Act gave the United States Environmental Protection Agency (USEPA) the authority to implement federal pollution control programs, such as setting water quality standards for contaminants in surface water, establishing wastewater and effluent discharge limits for various industry contaminants in surface water, establishing wastewater and effluent discharge limits for various industry categories,

and imposing requirements for controlling nonpoint-source pollution. At the federal level, the Clean Water Act is administered by the USEPA and the United States Army Corp of Engineers (USACE). At the state and regional levels in California, the act is administered and enforced by the State Water Resources Control Board (SWRCB) and the nine Regional Water Quality Control Boards (RWQCB).

### *Safe Drinking Water Act*

The Safe Drinking Water Act (SDWA) regulates public water systems (PWSs) that supply drinking water (42 United States Code [U.S.C.] Section 300(f) et seq.; 40 Code of Federal Regulations [CFR] Section 141 et seq.). The principal objective of the federal SDWA is to ensure that water from the tap is potable (safe and satisfactory for drinking, cooking, and hygiene). The main components of the federal SDWA are to:

- Ensure that water from the tap is potable
- Prevent contamination of groundwater aquifers that are the main source of drinking water for a community
- Regulate the discharge of wastes into underground injection wells pursuant to the Underground Injection Control program (see 40 CFR Section 144)
- Regulate distribution systems

## **State**

### *Senate Bill 610*

Senate Bill 610 (SB 610) amended California Water Code to require detailed analysis of water supply availability for certain types of development projects. This law requires cities and counties to develop water supply assessments (WSA) when considering approval of applicable development projects in order to determine whether projected water supplies can meet the project's anticipated water demand. Projects requiring the preparation of a WSA include the following:

- Residential developments of more than 500 dwelling units
- Shopping centers or business establishments employing more than 1,000 persons or having more than 500,000 square feet of floor space
- Commercial office buildings employing more than 1,000 persons or having more than 250,000 square feet of floor space
- Hotels or motels with more than 500 rooms
- Industrial, manufacturing, or processing plants, or industrial parks planned to house more than 1,000 persons, occupying more than 40 acres of land, or having more than 650,000 square feet of floor area
- Mixed-use projects that include one or more of the projects listed above
- Projects that would demand an amount of water equivalent to, or greater than, the amount of water required by a 500-dwelling unit project

A General Plan update is not subject to preparation of a Water Supply Assessment (WSA) because (1) it is not expressly listed as a project which is subject to a WSA under Water Code Section 10912; (2) General Plan law sets forth an alternative process for local governments to consult with water supply agencies during General Plan preparation (see Government Code Section 65352.5); and (3) the California Legislature envisioned the General Plan being considered during preparation of long-

term Urban Water Management Plan preparation, to serve as the first tier of land use and water supply planning coordination, prior to consideration of individual development projects. Furthermore, the County of San Bernardino Superior Court rules in *Citizens for Responsible Equitable Environmental Development v. City of Chino* (2011) that a “General Plan is not the type of actual development project identified in Water Code 10912 triggering the WSA requirement.” Therefore, the proposed project does not require preparation of a WSA pursuant to SB 610. Nevertheless, water supply availability is assessed under Impact UTIL-2.

#### *Senate Bill 221*

Whereas SB 610 requires a written assessment of water supply availability, SB 221 requires lead agencies to obtain an affirmative written verification of sufficient water supply prior to approval of certain specified subdivision projects. For this purpose, water suppliers may rely on an Urban Water Management Plan (UWMP) if the proposed project is accounted for within the UWMP, a WSA or other acceptable information that constitutes “substantial evidence.” “Sufficient water supply” is defined in SB 221 as the total water supplies available during normal, single-dry and multiple-dry water years within the 20-year (or greater) projection period that are available to meet the projected demand associated with the proposed project, in addition to existing and planned future uses. WSAs are required for residential projects of more than 500 units or a proposed shopping center or business establishment employing more than 1,000 persons or having more than 500,000 square feet of floor space. Because the proposed project is not a subdivision project, it does not require affirmative written verification of sufficient water supply. Nevertheless, water supply availability is assessed under Impact UTIL-2.

#### *California Safe Drinking Water Act*

The California SDWA (Health & Safety Code Section 116270 et seq.; 22 Cal. Code Regs. Section 64400 et seq.) regulates drinking water more rigorously than the federal law. Like the federal SDWA, California requires that primary and secondary maximum contaminant levels (MCLs) be established for pollutants in drinking water; however, some California MCLs are more protective of health. The California SDWA also requires the SWRCB to issue domestic water supply permits to public water systems.

The SWRCB enforces the federal and State SDWAs and regulates more than 7,500 PWSs across the state (implementation of the federal SDWA is delegated to the State of California.) The SWRCB Division of Drinking Water oversees the State’s comprehensive Drinking Water Program (DWP). The DWP is the agency authorized to issue PWS permits.

#### *Sustainable Groundwater Management Act*

In September 2014, the governor signed legislation requiring that California’s critical groundwater resources be sustainably managed by local agencies. The Sustainable Groundwater Management Act (SGMA) gives local agencies the power to sustainably manage groundwater and requires groundwater sustainability plans to be developed for medium- and high-priority groundwater basins, as defined by California Department of Water Resources (DWR). Pursuant to California Water Code Section 10933, prioritizations are assigned by DWR to each groundwater basin based on the overlying population, the current and projected rates of population growth, the number of public supply wells that draw from the basin, the total number of wells that draw from the basin, the irrigated acreage overlying the basin, the degree to which people overlying the basin rely on groundwater as their primary source of water, documented impacts on the groundwater within the

basin (e.g., overdraft, subsidence, saline intrusion, water quality degradation), and any other relevant information (e.g., adverse impacts to local habitat and streamflows). Carlsbad is located within the semi-arid San Diego region, which experiences a slow rate of groundwater recharge by rainfall. The Batiquitos Lagoon Valley Groundwater Basin underlies Carlsbad. The basin is bounded on the northeast by impermeable crystalline rocks, on the west by Batiquitos Lagoon, and otherwise by semipermeable rocks on the La Jolla Formation.

Only high- and medium-priority groundwater basins are required by SGMA to form a groundwater sustainability agency and adopt a groundwater sustainability plan (or alternative). Low and very-low priority basins may adopt a groundwater sustainability plan (or alternative) but are not required to do so.

### *California Building Standards Code*

The California Code of Regulations (CCR) Title 24 is referred to as the California Building Standards Code. It consists of a compilation of several distinct standards and codes related to building construction including plumbing, electrical, interior acoustics, energy efficiency, and handicap accessibility for persons with physical and sensory disabilities. The current iteration is the 2022 Title 24 standards. The California Building Standards Code's water conservation standards are outlined below.

### *Part 5 – California Plumbing Code*

The California Plumbing Code is codified in Title 24, California Code of Regulations, Part 5. The Plumbing Code contains regulations including, but not limited to, plumbing materials, fixtures, water heaters, water supply and distribution, ventilation, and drainage. More specifically, Part 5, Chapter 4, contains provisions requiring the installation of low flow fixtures and toilets. Existing development will also be required to reduce its wastewater generation by retrofitting existing structures with water efficient fixtures (SB 407 [2009] Civil Code Sections 1101.1 et seq.).

### *Part 11 – California Green Building Standards*

The California Green Building Standards Code, referred to as CALGreen, was added to Title 24 as Part 11, first in 2009 as a voluntary code, which then became mandatory effective January 1, 2011 (as part of the 2010 California Building Standards Code). The 2022 CALGreen includes mandatory minimum environmental performance standards for all ground-up new construction of residential and non-residential structures. It also includes voluntary tiers (Tiers I and II) with stricter environmental performance standards for these same categories of residential and non-residential buildings. Local jurisdictions must enforce the minimum mandatory CALGreen standards and may adopt additional amendments for stricter requirements. With regard to water conservation and stormwater drainage, the mandatory standards include water conserving plumbing fixtures and fittings, compliance with the Model Water Efficient Landscape Ordinance (MWELo) for landscaping, and other indoor and outdoor water efficiency and conservation measures such as separate water submeters for subsystems and specific fixtures and fittings. The voluntary standards include stricter water conservation requirements for specific fixtures as well as 20 percent permeable paving for the Tier 1 standards and 30 percent permeable paving for the Tier II standards.

### *Water Conservation in Landscaping Act*

The Water Conservation in Landscaping Act, enacted in 2006, required the DWR to update the MWELo. In 2009, the Office of Administrative Law approved the updated MWELo, which required a

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retail water supplier or a county to adopt the provisions of the MWELo by January 1, 2010, or enact its own provisions equal to or more restrictive than the MWELo provisions. The MWELo is contained in Chapter 2.7 of the California Water Code.

*Water Conservation Act of 2009 (Senate Bill X7 7 (2009))*

State law (SB-X7 7) mandates the reduction of per capita water use and agricultural water use in throughout the State by 20 percent by 2020.

*Executive Order B-40-17*

On April 7, 2017, the governor issued Executive Order B-40-17, which lifts the drought emergency in California counties, except for Fresno, Kings, Tulare, and Tuolumne, where emergency drinking water projects continue to address diminished groundwater supplies. The executive order retains a prohibition on wasteful practices and advances measures to make conservation a way of life (State of California 2017). These wasteful practices include:

- Hosing off sidewalks, driveways and other hardscapes;
- Washing automobiles with hoses not equipped with a shut-off nozzle;
- Using non-recirculated water in a fountain or other decorative water feature;
- Watering lawns in a manner that causes runoff, or within 48 hours after measurable precipitation; and
- Irrigating ornamental turf on public street medians

*Executive Order N-5-23*

On March 24, 2023, the governor issued Executive Order N-5-23, which further rolls back numerous drought-related restrictions issued during the most recent drought in California. This order aims to:

- End the voluntary 15% water conservation target, while continuing to encourage that Californians make conservation a way of life;
- End the requirement that local water agencies implement level 2 of their drought contingency plans;
- Maintain the ban on wasteful water uses, such as watering ornamental grass on commercial properties;
- Preserve all current emergency orders focused on groundwater supply, where the effects of the multi-year drought continue to be devastating;
- Maintain orders focused on specific watersheds that have not benefited as much from recent rains, including the Klamath River and Colorado River basins, which both remain in drought;
- Retain a state of emergency for all 58 counties to allow for drought response and recovery efforts to continue.

**Local**

*City of Carlsbad Growth Management Plan (Proposition E)*

The city adopted the Growth Management Plan (GMP) in July 1986 to address the concerns of rapid growth and its impacts on quality of life, which was ratified by voter approval of Proposition E in November 1986.



The GMP requires adequate public facilities be provided concurrent with new growth. To ensure this, the GMP identifies performance standards for 11 public facilities – city administration, library, wastewater treatment, parks, drainage, circulation, fire, open space, schools, sewer collection, and water distribution. The facility performance standards were based on the city’s residential dwelling unit capacity (existing and future units), which in 1986 was estimated to be 54,599 dwelling units.

Through Proposition E, voters limited the maximum number of dwelling units that can be constructed citywide to 54,599 units, spread out between the Northwest Quadrant (15,370 units), Northeast Quadrant (9,042 units), Southwest Quadrant (12,859 units), and Southeast Quadrant (17,328 units). Pursuant to Proposition E, the city cannot approve any General Plan amendment, zone change, subdivision map or other discretionary permit that could result in residential development that exceeds the dwelling unit limit in each quadrant. To increase the Proposition E dwelling unit limit in any city quadrant requires approval by Carlsbad voters (City of Carlsbad 2015). However, recent State housing laws have preempted the city’s ability to require compliance with the dwelling caps or to stop development due to noncompliance, as acknowledged in adopted City Council Resolution 2021-074 (City of Carlsbad 2023c). The city is currently developing a new approach to managing growth.

The GMP standard for water distribution services states that line capacity to meet demand as determined by the appropriate water district must be provided concurrent with development. A minimum of 10-day average storage capacity must be provided prior to any development.

### *Carlsbad General Plan*

The current Carlsbad General Plan, adopted in 2015, lists several policies related to water supply and infrastructure in its Sustainability Element. The following policies are applicable to the proposed project (City of Carlsbad 2015):

- Policy 9-P.3**      Develop and implement a water sub-metering ordinance for new multi-family rental and mixed-use buildings.
- Policy 9-P.4**      Utilize irrigation and landscape design measures for the municipal golf course (Crossings at Carlsbad) that will result in decreased water consumption.
- Policy 9-P.5**      Undertake measures to expand the use of recycled water for landscape irrigation and commercial and industrial process water. Encourage potential future customers identified in the latest Recycled Water Master Plan to retrofit their water systems to utilize recycled water as it becomes available and cost-effective to do so.
- Policy 9-P.6**      Promote the use of on-site gray water and rainwater collection systems through education, expedited permitting review, fee exemptions and other measures.
- Policy 9-P.7**      Investigate the feasibility of developing full-functioning groundwater and sub-groundwater systems in the San Luis Rey River Mission Groundwater Basin and Cannon Well Field within or near Rancho Carlsbad in order to reduce the city’s reliance on imported water.

### **City of Carlsbad Climate Action Plan**

The City of Carlsbad Climate Action Plan (CAP) was adopted in September 2015 and amended in May 2020. The plan identified GHG emissions targets for the years 2020 and 2035; established a communitywide emissions inventory and forecasts; and included measures to reduce GHG

emissions in the areas of energy efficiency, renewable energy, transportation, and water conservation (City of Carlsbad 2020). Through implementation of the existing CAP, the city surpassed its 2020 GHG reduction targets established by AB 32. The following 2020 CAP goals and measures would be applicable to the proposed project (City of Carlsbad 2020):

**Measure N:** Reduce GHG Intensity of Water Utilities Supply Conveyance, Treatment, and Distribution.

**Goal:** Reduce the intensity of GHG emissions from water utilities (including water supply, wastewater, and recycle water) conveyance, treatment, and distribution by 8 percent by 2035.

The city is currently in the process of updating the CAP to better align with updated state targets and further pursue the community's goal of promoting a sustainable environment. The updated CAP will include revisions to current GHG reduction measures, evaluation of existing GHG reduction targets and forecasts, and expanded implementation monitoring procedures.

#### *Carlsbad Municipal Code*

Carlsbad Municipal Code (CMC) Chapter 18.50 requires implementation of water conservation measures specifically for landscaping. These measures include clustering landscaping areas to maximize the efficiency of irrigation systems, eliminating the watering of impervious surfaces by irrigation systems, and installation of recycled water systems for irrigation purposes when recycled water is or can be made feasible available.

#### *City of Carlsbad Landscape Manual*

The City of Carlsbad adopted its Landscape Manual in February 2016 which outlines policies and requirements for landscaping and provides guidance for the implementation of CMC Chapter 18.50, Water Efficient Landscape Ordinance. Policies within the Landscape Manual are related to sustainability, water conservation, planting, irrigation, streetscape, fire protection, and soil revegetation or erosion control (City of Carlsbad 2016).

#### *Carlsbad Municipal Water District*

The CMWD currently has water rules in effect, which include the following measures applicable to the project (City of Carlsbad 2023):

- Irrigation is not allowed between the hours of 10 a.m. and 6 p.m. unless using a drip or micro-irrigation system
- Keep all irrigation water on your property. Runoff from irrigation is prohibited by the Carlsbad Municipal Code.
- Use recycled or non-drinking water for construction purposes when available.

#### *Carlsbad Potable Water Master Plan*

The Carlsbad Potable Water Master Plan was adopted on June 17, 2019, and provides a system evaluation and capacity assessment of the potable water system and recommends a capital improvement program to provide for continued reliable water service through buildout conditions, which are projected to occur by 2040 (CMWD 2019a).

Water is supplied to the CMWD through four separate Water Authority treated water turnouts. Two of the turnouts, Water Authority Connections No. 6 and No. 2, are direct connections to the Water Authority Second Aqueduct. Connection No. 6 supplies only the CMWD, and Connection No. 2

supplies the Vallecitos Water District (VWD) and the Olivenhain Municipal Water District (OMWD) in addition to the CMWD. Water supply to the CMWD from Water Authority Connection No. 2 is delivered through a VWD transmission main. Connections No. 3 and No. 4 to the aqueduct system are on the Water Authority owned and operated Tri-Agency Pipeline (TAP), which is also supplied from the Water Authority Second Aqueduct. The TAP also serves the City of Oceanside and the Vista Irrigation District (VID) (CMWD 2019b). CMWD has connection capacity to the Water Authority aqueduct system that significantly exceeds its average day demand and maximum day delivery rates. This surplus capacity also provides operational flexibility to accommodate peaking and may allow for one or more of the connections to be off-line. Connection No. 2 has a capacity of 10 mgd, and an existing daily maximum delivery of 3.8 mgd; Connection No. 3 has a capacity of 13 mgd, and an existing daily maximum delivery of 7 mgd; Connection No. 4 has a capacity of 10 mgd, and an existing daily maximum delivery of 6.1 mgd; and Connection No. 6 has a capacity of 18 mgd, and an existing daily maximum delivery of 8.1 mgd (CMWD 2019a).

Using the baseline year of 2014, the existing water system demand for the Carlsbad Potable Water Master Plan is approximately 16,860 AFY or 15.1 mgd. The Plan forecasts an annual average demand of 20,700 AFY or 18.5 mgd by the year 2040. As discussed in the Plan, the CMWD is well positioned to respond to and manage interruptions and shortages of imported water supplies. CMWD is required to deliver the maximum day demand (1.6 times the average) to the water system, which was determined to be 33,100 AFY (29.6 mgd). The available water supply from the future SDCWA connections are estimated to be 53 mgd. The projected demand of 32.4 mgd is significantly less than the supply capacity. In summary, the SDCWA Connections provide sufficient rated capacity to meet the build out maximum day demands of CMWD, as the SDCWA connections only need to operate at 60 percent of rated capacity (CMWD 2019a).

#### *Carlsbad Recycled Water Master Plan Update*

The Carlsbad Recycled Water Master Plan Update was adopted on July 15, 2019, as an update to the 2012 Recycled Water Master Plan. The Recycled Water Master Plan Update provides a system evaluation and capacity assessment of the recycled water system and recommends a capital improvement program to provide for continued reliable recycled water service through buildout conditions, which are projected to occur by 2040 (CMWD2019a).

Carlsbad's service areas for recycled water do not coincide with the City's municipal boundary. The potable and recycled water service areas are governed by the Carlsbad Municipal Water District (CMWD), a subsidiary district of the City of Carlsbad operating under the Municipal Water District Act of 1911. CMWD covers an area of 20,682 acres, approximately 32 square miles, and provides potable and recycled water supply to most of the City of Carlsbad. CMWD supplies potable water within its service area and currently receives 100 percent of its potable water supply from SDCWA. The potable water distribution system consists of 450 miles of pipeline, 71 pressure regulating stations, three pump stations, eight storage tanks, and one reservoir. CMWD supplies recycled water through two recycled water distribution systems, which include 77 miles of pipeline, six pressure zones, three storage tanks, three booster pumping stations, three supply sources with pumping stations, and five pressure regulating stations. Land uses within the service area are primarily residential with a mix of agricultural, light industrial and commercial (CMWD 2019a).

CMWD receives recycled water from reclamation plants within the Encina Wastewater Authority (EWA) service area. CMWD receives recycled water from three reclamation plants: Carlsbad Water Recycling Facility (CWRF), Meadowlark Water Reclamation Facility (WRF), and Gafner Water Reclamation Plant (WRP). CWRF has a permitted capacity of 7 mgd, Meadowlark WRF has a permitted capacity of 5 mgd, and the Gafner WRP has a permitted capacity of 1 mgd, for a total

capacity of 13 mgd. Using the baseline year of 2014, the recycled water system demand for the Recycled Water Master Plan Update is approximately 4,650 AFY or 4.1 mgd. Assuming a peaking factor of 1.7 for maximum month, required WRF supplies would be approximately 7 mgd. CMWD is currently operating at about two-thirds capacity of their potential recycled water supplies. CMWD has sufficient available supply capacities, under its current agreements and assuming CMWD continues to purchase up to 3 mgd from VWD, to reliably meet existing and future demands of the recycled water system (CMWD 2019b).

#### *Carlsbad Sewer Master Plan Update*

The Carlsbad Sewer Master Plan Update was adopted on July 10, 2019 as an update to the 2012 Sewer Master Plan. The Sewer Master Plan Update provides a system evaluation and capacity assessment of the wastewater collection system and recommends a capital improvement/replacement program to provide for continued reliable wastewater service through buildout conditions, which are projected to occur by 2040 (City of Carlsbad 2019).

Carlsbad currently operates and maintains approximately 265 miles of wastewater pipelines, including gravity flow collector pipelines, inverted siphons and City-owned interceptors. Wastewater generated within the Carlsbad sewer service area (CSSA) is treated at the Encina Water Pollution Control Facility (EWPCF). The EWPCF provides full secondary treatment, sludge handling, and disposal through a deep ocean outfall. The treatment levels meet current State and Federal requirements for secondary treatment. The EWPCF is owned and operated by the EWA, a joint powers authority made up of six northern San Diego County agencies, including the City of Carlsbad. The EWPCF has a treatment plant capacity of 40.5mgd (City of Carlsbad 2019).

The Carlsbad Water Reclamation Facility (CWRF) is located adjacent to the EWPCF site. Secondary effluent from the EWPCF is conveyed to the CWRF where it undergoes additional treatment to produce up to 7 mgd of disinfected tertiary recycled water. CWRF was designed and constructed in 2005 to produce up to 4.0 mgd, and its capacity was expanded to 7 mgd in 2016. The goals of the expansion were to increase filtration reliability, enhance operational flexibility, and improve stored recycled water quality (City of Carlsbad 2019).

As discussed in the Sewer Master Plan Update, the total buildout flow for the CSSA is projected to be 8.31 mgd which is approximately 33 percent higher than current flows. Four gravity mains were found to exceed capacity including Poinsettia Lane deficiencies, Harding Street deficiencies, Kelly Drive deficiencies, and Basswood Avenue deficiencies. All lift stations within the collection system satisfied the evaluation criteria of conveying peak wet weather flows with their firm capacity with the exception of the Poinsettia LS which experienced peak flows exceeding the station's firm capacity, however there were no upstream spills, indicating that the upstream capacity was able to absorb the peak flows and convey wet weather flows without overflow. The Plan also found that the interagency interceptors had sufficient capacity to convey existing flows. Nonetheless, the CIP would result in system improvements to Carlsbad's sewer system which would improve hydraulic capacity (City of Carlsbad 2019).

#### *Carlsbad Drainage Master Plan*

The Carlsbad Drainage Master Plan was adopted on July 3, 2008, and includes an assessment of existing PLDA facilities, identification of infrastructure deficiencies, and identification of additional PLDA facilities required to accommodate new stormwater runoff flows from future developments. The City is divided into four major watersheds: the Buena Vista Creek Watershed, the Agua Hedionda Creek Watershed, the Encinas Creek Watershed, and the Batiquitos Lagoon Watershed.

Three of the listed watersheds become lagoons that support a variety of flora and fauna prior to discharging to the Pacific Ocean. The Encinas Creek watershed is the only one among the four listed watersheds that discharges directly to the Pacific Ocean. The City is made up of four basins: Basin A, Basin B, Basin C, and Basin D. Basin A encompasses all areas in the City that drain into the Pacific Ocean via the Buena Vista Creek and the Buena Vista Lagoon; the Buena Vista Creek originates northeast of the City of Vista; Basin B includes the area of the City that drains to Agua Hedionda Creek and Lagoon; Basin C encompasses the area of Carlsbad that drains into Encinas Creek; and Basin D includes the part of the City that drains to Batiquitos Lagoon and its tributaries (City of Carlsbad 2008).

## **b. Wastewater**

### **Federal**

#### *Clean Water Act*

The federal Clean Water Act is described above in *Water*.

### **State**

Standards for wastewater treatment plant effluent are established using State and federal water quality regulations. After treatment, wastewater effluent is either disposed of or reused as recycled water. The RWQCBs set the specific requirements for community and individual wastewater treatment and disposal and reuse facilities through the issuance of Waste Discharge Requirements, required for wastewater treatment facilities under the California Water Code Section 13260.

California Code of Regulations Title 22, Division 4, Chapter 3, Sections 60301 through 60355 are used to regulate recycled wastewater and are administered by the RWQCBs. Title 22 contains effluent requirements for four levels of wastewater treatment, from un-disinfected secondary recycled water to disinfected tertiary recycled water. Higher levels of treatment have higher effluent standards, allowing for a greater number of uses under Title 22, including irrigation of freeway landscaping, pasture for milk animals, parks and playgrounds, and vineyards and orchards for disinfected tertiary recycled water.

### **Local**

#### *City of Carlsbad Growth Management Plan (Proposition E)*

The GMP standard for wastewater treatment states that sewer plant capacity should be adequate for at least a five-year period. According to the FY 2021-22 GMP Report, the Encina Water Pollution Control Facility currently provides adequate capacity in excess of the performance standard. Carlsbad's FY 2021-22 annual daily average dry weather sewer flow was 5.72 mgd, representing 56 percent of the city's 10.26 mgd capacity rights (City of Carlsbad 2023c).

#### *Carlsbad General Plan*

The current Carlsbad General Plan, adopted in 2015, lists some policies related to wastewater in its Sustainability Element. The following policies are applicable to the proposed project (City of Carlsbad 2015):

**Policy 9-P.5** Undertake measures to expand the use of recycled water for landscape irrigation and commercial and industrial process water. Encourage potential future customers identified in the latest Recycled Water Master Plan to retrofit their water systems to utilize recycled water as it becomes available and cost-effective to do so.

**Policy 9.P-6** Promote the use of on-site gray water and rainwater collection systems through education, expedited permitting review, fee exemptions and other measures.

## **City of Carlsbad Climate Action Plan**

The following 2020 CAP goal and measure would be applicable to the proposed project (City of Carlsbad 2020):

**Measure N:** Reduce GHG Intensity of Water Utilities Supply Conveyance, Treatment, and Distribution.

**Goal:** Reduce the intensity of GHG emissions from water utilities (including water supply, wastewater, and recycle water) conveyance, treatment, and distribution by 8 percent by 2035.

### *Carlsbad Municipal Code*

The City of Carlsbad's public sewer system is regulated by Chapter 13 of the city's Municipal Code entitled Sewers. Chapter 13 requires the use of public sewers where connections are available with required permits, prohibits unsanitary deposits and sewer overflow, and includes general prohibitions.

### **c. Stormwater Drainage**

Regulations and policies pertaining to stormwater drainage are discussed in Section 4.8, *Hydrology and Water Quality*.

### **d. Electric Power and Natural Gas**

#### **Federal**

##### *Energy Independence and Security Act of 2007*

The Energy Independence and Security Act of 2007 set energy efficiency standards for lighting (specifically light bulbs) and appliances.

##### *Energy Star Program*

Energy Star is a voluntary labeling program introduced by the United States Environmental Protection Agency (U.S. EPA) to identify and promote energy-efficient products to reduce GHG emissions. The program applies to major household appliances, lighting, computers, and building components such as windows, doors, roofs, and heating and cooling systems. Under this program, appliances that meet specifications for maximum energy use established under the program are certified to display the Energy Star label. In 1996, the U.S. EPA joined with the Energy Department to expand the program, which now also includes certifying commercial and industrial buildings as well as homes.

## **State**

### *California Energy Commission*

As the State's primary energy policy and planning agency, the California Energy Commission (CEC) collaborates with State and federal agencies, utilities, and other stakeholders to develop and implement State energy policies. Since 1975, the CEC has been responsible for reducing the State's electricity and natural gas demand, primarily by adopting new Building and Appliance Energy Efficiency Standards that have contributed to keeping California's per capita electricity consumption relatively low. The CEC is also responsible for the certification and compliance of thermal power plants 50 megawatts and larger, including all project-related facilities in California (CEC 2021b).

### *California Public Utilities Commission*

The California Public Utilities Commission (CPUC) regulates investor-owned electric and natural gas utilities operating in California. The energy work responsibilities of the CPUC are derived from the California State Constitution, specifically Article XII, Section 3 and other sections more generally, numerous State legislative enactments and various Federal statutory and administrative requirements. The CPUC regulates natural gas utility service for approximately 10.8 million customers that receive natural gas from SoCal Gas and other natural gas utilities across California (CPUC 2021a).

### *Energy Action Plan*

In 2003, the CEC and CPUC set forth their energy policy vision in the Energy Action Plan. The CEC adopted an update to the Energy Action Plan in February 2008 (EAP II) that supplements the earlier Energy Action Plan and examines the state's ongoing actions in the context of global climate change. The nine major action areas in the Energy Action Plan include energy efficiency, demand response, renewable energy, electricity adequacy/reliability/ infrastructure, electricity market structure, natural gas supply/demand/infrastructure, transportation fuels supply/demand/infrastructure, research/development/demonstration, and climate change (CPUC 2008b).

### *Bioenergy Action Plan (Executive Order S-06-06)*

Executive Order (EO) S-06-06 establishes targets for the use and production of biofuels and biopower and directs state agencies to work together to advance biomass programs in California while providing environmental protection and mitigation. The EO S-06-06 calls for the state to meet a target for use of biomass electricity. The 2011 Bioenergy Action Plan identifies potential barriers and recommends actions to address them so the state can meet its clean energy, waste reduction, and climate protection goals. The 2012 Bioenergy Action Plan updates the 2011 Plan and provides a more detailed action plan to achieve the following goals:

- Increase environmentally and economically sustainable energy production from organic waste
- Encourage development of diverse bioenergy technologies that increase local electricity generation, combined heat and power facilities, renewable natural gas, and renewable liquid fuels for transportation and fuel cell applications
- Create jobs and stimulate economic development, especially in rural regions of the state
- Reduce fire danger, improve air and water quality, and reduce waste

### *Senate Bill 350*

The Clean Energy and Pollution Reduction Act of 2015 (SB 350) requires a doubling of the energy efficiency savings in electricity and natural gas for retail customers through energy efficiency and conservation by December 31, 2030.

### *2022 Climate Change Scoping Plan*

The California Air Resources Board (CARB) 2022 Scoping Plan for Achieving Carbon Neutrality lays out a path to achieve targets for carbon neutrality and reduce anthropogenic greenhouse gas (GHG) emissions by 85 percent below 1990 levels no later than 2045, as directed by Assembly Bill 1279. The actions and outcomes in the plan will achieve: significant reductions in fossil fuel combustion by deploying clean technologies and fuels, further reductions in short-lived climate pollutants, support for sustainable development, increased action on natural and working lands to reduce emissions and sequester carbon, and the capture and storage of carbon (CARB 2022).

### *California Renewable Portfolio Standard and Senate Bill 100*

Approved by former Governor Brown on September 10, 2018, SB 100 accelerates the state's Renewable Portfolio Standard program, which was last updated by SB 350 in 2015. SB 100 requires electricity providers to increase procurement from eligible renewable energy resources to 33 percent of total retail sales by 2020, 60 percent by 2030, and 100 percent by 2045.

### *California Energy Efficiency Action Plan*

The CEC is responsible for preparing the California Energy Efficiency Action Plan, which covers issues, opportunities, and savings estimates related to energy efficiency in California's building, industrial, and agricultural sectors. The 2019 California Energy Efficiency Action Plan focuses on three goals:

- Doubling energy efficiency savings by 2030 (SB 350)
- Removing and reducing barriers to energy efficiency in low-income and disadvantaged communities
- Reducing GHG emissions from the building sector

The plan offers several recommendations to advance these goals, including expanding funding sources for energy efficiency programs beyond ratepayer portfolios, improving energy efficiency data, integrating energy efficiency into long-term utility planning, enhancing the energy efficiency workforce, improving demand flexibility, and expanding building decarbonization (CEC 2019).

### *California Building Standards Code*

The California Building Standards Code's standards related to energy use are outlined below.

## **PART 6 – BUILDING ENERGY EFFICIENCY STANDARDS/ENERGY CODE**

CCR Title 24, Part 6 is the Building Energy Efficiency Standards or California Energy Code. This code, originally enacted in 1978, establishes energy-efficiency standards for residential and non-residential buildings in order to reduce California's energy demand. New construction and major renovations must demonstrate their compliance with the current Energy Code through submittal and approval of a Title 24 Compliance Report to the local building permit review authority and the



CEC. The 2022 Title 24 standards are the applicable building energy efficiency standards for the project because they became effective on January 1, 2023.

## **PART 11 – CALIFORNIA GREEN BUILDING STANDARDS**

The California Green Building Standards Code, referred to as CALGreen, was added to Title 24 as Part 11, first in 2009 as a voluntary code, which then became mandatory effective January 1, 2011 (as part of the 2010 California Building Standards Code). The 2022 CALGreen includes mandatory minimum environmental performance standards for all ground-up new construction of residential and non-residential structures. It also includes voluntary tiers with stricter environmental performance standards for these same categories of residential and non-residential buildings. Local jurisdictions must enforce the minimum mandatory CALGreen standards and may adopt additional amendments for stricter requirements.

The mandatory standards require:

- 20 percent reduction in indoor water use relative to specified baseline levels;<sup>1</sup>
- Waste Reduction:
  - Non-residential and multi-family dwellings with five or more units: Provide readily accessible areas identified for the depositing, storage and collection of nonhazardous materials for recycling, including (at a minimum) paper, corrugated cardboard, glass, plastic, organic waste, and metals; and/or
  - Non-residential: Reuse and/or recycling of 100 percent of trees, stumps, rocks, and associated vegetation soils resulting from primary land clearing;
- Inspections of energy systems to ensure optimal working efficiency;
- Low-pollutant emitting exterior and interior finish materials such as paints, carpets, vinyl flooring, and particleboards;
- Electric Vehicle (EV) Charging for New Construction:<sup>2</sup>
  - One- and two-family dwellings and town houses with attached private garages: Dedicated circuitry to facilitate installation of electric vehicle (EV) charging;
  - Multi-family dwellings and hotels/motels with less than 20 units/rooms: Designation of at least 10 percent of the total number of parking spaces shall be EV capable and at least 25 percent of the total number of parking spaces shall be EV-ready;
  - Multi-family dwellings and hotels/motels with greater than 20 units/rooms: Designation of at least 10 percent of the total number of parking spaces shall be EV capable, at least 25 percent of the total number of parking spaces shall be EV-ready, and at least 5 percent of the total number of parking spaces shall be equipped with a Level 2 charging station;
  - Non-residential land uses shall comply with the following EV charging requirements based on the number of passenger vehicle parking spaces:
    - 0-9: no EV capable spaces or charging stations required;

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<sup>1</sup> Similar to the compliance reporting procedure for demonstrating Energy Code compliance in new buildings and major renovations, compliance with the CALGreen water-reduction requirements must be demonstrated through completion of water use reporting forms. Buildings must demonstrate a 20 percent reduction in indoor water use by either showing a 20 percent reduction in the overall baseline water use as identified in CALGreen or a reduced per-plumbing-fixture water use rate.

<sup>2</sup> EV Capable = a vehicle space with electrical panel space and load capacity to support a branch circuit and necessary raceways to support EV charging; EV-ready = a vehicle space which is provided with a branch circuit and any necessary raceways to accommodate EV charging stations, including a receptacle for future installation of a charger (see 2022 California Green Building Standard Code, Title 24 Part 11 for full explanation of mandatory measures, including exceptions).

**Housing Element Implementation and Public Safety Element Update**

- 10-25: 4 EV capable spaces but no charging stations required;
- 26-50: 8 EV capable spaces of which 2 must be equipped with charging stations;
- 51-75: 13 EV capable spaces of which 3 must be equipped with charging stations;
- 76-100: 17 EV capable spaces of which 4 must be equipped with charging stations;
- 101-150: 25 EV capable spaces of which 6 must be equipped with charging stations;
- 151-200: 35 EV capable spaces of which 9 must be equipped with charging stations; and
- More than 200: 20 percent of the total available parking spaces of which 25 percent must be equipped with charging stations;
- Non-residential land uses shall comply with the following EV charging requirements for medium- and heavy-duty vehicles: warehouses, grocery stores, and retail stores with planned off-street loading spaces shall install EV supply and distribution equipment, spare raceway(s) or busway(s) and adequate capacity for transformer(s), service panel(s), or subpanel(s) at the time of construction based on the number of off-street loading spaces as indicated in Table 5.106.5.4.1 of the California Green Building Standards;
- Bicycle Parking:
  - Non-residential short-term bicycle parking for projects anticipated to generate visitor traffic: permanently anchored bicycle racks within 200 feet of visitor entrance for 5 percent of new visitor motorized vehicle parking spaces with a minimum of one 2-bike capacity rack; and/or
  - Non-residential buildings with tenant spaces of 10 or more employees/tenant-occupants: secure bicycle parking for 5 percent of the employee/tenant-occupant vehicle parking spaces with a minimum of one bicycle parking facility.
- Shade Trees (Non-Residential):
  - Surface parking: minimum No. 10 container size or equal shall be installed to provide shade over 50 percent of the parking within 15 years (unless parking area covered by appropriate shade structures and/or solar);
  - Landscape areas: minimum No. 10 container size or equal shall be installed to provide shade of 20 percent of the landscape area within 15 years; and/or
- Hardscape areas: minimum No. 10 container size or equal shall be installed to provide shade of 20 percent of the landscape area within 15 years (unless covered by applicable shade structures and/or solar or the marked area is for organized sports activities).

The voluntary standards require:

- Deconstruct existing buildings and reuse applicable salvaged materials;
- Residential – Cool Roofs: have a thermal mass over the roof membrane, including green roofs weighing a minimum of 25 pounds per square foot or roof areas covered by solar photovoltaic panels and building integrated solar thermal panels;
- Residential – Reduce nonroof heat island for 50 percent of sidewalks, patios, driveways or other paved areas;
- One- and two-family dwelling units and townhouses with attached garages: install a dedicated 208/250-volt branch circuit for EV charging;
- Residential Bicycle Parking:

- Surface parking: minimum No. 10 container size or equal shall be installed to provide shade over 50 percent of the parking within 15 years (unless parking area covered by appropriate shade structures and/or solar);
- Multi-family/hotel/motel short-term parking: provide permanently anchored bicycle racks within 100 feet of visitor's entrance for 5 percent of visitor motorized vehicle parking capacity (minimum one 2-bike capacity rack);
- Multi-family buildings long-term parking: provide acceptable on-site bicycle parking for at least one bicycle per every two dwelling units; and/or
- Hotel/motel long-term parking: provide one acceptable on-site bicycle parking space for every 25,000 square feet but not less than two spaces;
- Tier I:
  - Stricter energy efficiency requirements;
  - Stricter water conservation requirements for specific fixtures;
  - minimum 65 percent reduction in construction waste with third-party verification, Minimum 10 percent recycled content for building materials;
  - Minimum 20 percent permeable paving;
  - Minimum 20 percent cement reduction;
  - Multi-family developments/hotels/motels: minimum 35 percent of total parking spaces shall be EV ready and for projects with 20 or more dwelling units/rooms a minimum of 10 percent of the total number of parking spaces shall be equipped with EV charging stations.
- Tier II:
  - Stricter energy efficiency requirements,
  - Stricter water conservation requirements for specific fixtures;
  - Minimum 75 percent reduction in construction waste with third-party verification,
  - Minimum 15 percent recycled content for building materials;
  - Minimum 30 percent permeable paving;
  - Minimum 25 percent cement reduction; and/or
  - Multi-family developments/hotels/motels: minimum 40 percent of total parking spaces shall be EV ready and for projects with 20 or more dwelling units/rooms, a minimum of 15 percent of the total number of parking spaces shall be equipped with EV charging stations.

## **Local**

### *City of Carlsbad Growth Management Plan (Proposition E)*

The GMP standard for stormwater states that drainage facilities must be provided as required by the city concurrent with development. According to the FY 2021-22 GMP Report, all areas of the city met the GMP drainage standard, and the city would require appropriate drainage facilities as individual development plans are finalized and approved (City of Carlsbad 2023c).

### *Carlsbad General Plan*

The current Carlsbad General Plan, adopted in 2015, lists some policies related to electric power and gas in its Sustainability Element. The following policies are applicable to the proposed project (City of Carlsbad 2015):

- Policy 9-P.8** Promote energy conservation and retrofitting of existing buildings. Measures the city should consider for improving energy performance of existing buildings include, but are not limited to:
- Developing and implementing point-of-sale residential energy and water efficiency audits or upgrade requirements and/or incentives if necessary;
  - Providing financial incentives and low-cost financing products and programs that encourage investment in energy efficiency and renewable energy within existing residential buildings; and
  - Educating residents about the availability of free home energy audit programs and encourage implementation of audit findings.
- Policy 9-P.12** Continue pursuit of sustainable energy sources—such as hydroelectricity, geothermal, solar, and wind power—to meet the community’s needs.

### **City of Carlsbad Climate Action Plan**

The following 2020 CAP goals and measures would be applicable to the proposed project (City of Carlsbad 2020):

**Measure N:** Reduce GHG Intensity of Water Utilities Supply Conveyance, Treatment, and Distribution.

**Goal:** Reduce the intensity of GHG emissions from water utilities (including water supply, wastewater, and recycle water) conveyance, treatment, and distribution by 8 percent by 2035.

**Measure O:** Encourage the Installation of Greywater and Rainwater Collection Systems.

**Goal:** Encourage the installation of greywater and rainwater collection systems with a goal of 15 percent of homes by 2035.

### **e. Telecommunications**

#### **State**

The CPUC develops and implements policies for the telecommunication industry. The Communications Division is responsible for licensing, registration and the processing tariffs of local exchange carriers, competitive local carriers, and non-dominant interexchange carriers. It is also responsible for registration of wireless service providers and franchising of video service providers. The Communications Division tracks compliance with commission decisions and monitors consumer protection and service issues and Commission reliability standards for safe and adequate service. The Communications Division is responsible for oversight and implementation of the six public purpose Universal Service Programs (CPUC 2021b).

## **f. Solid Waste**

### **Federal**

#### *Resource Conservation and Recovery Act*

40 CFR Part 258 (Resource Conservation and Recovery Act, Subtitle D) contains regulations for municipal solid waste landfills and requires states to implement their own permitting programs incorporating the federal landfill criteria.

### **State**

#### *Assembly Bill 939*

Assembly Bill (AB) 939 (Public Resources Code 41780) requires cities and counties to prepare integrated waste management plans and to divert 50 percent of solid waste from landfills beginning in calendar year 2000 and each year thereafter. AB 939 also requires cities and counties to prepare source reduction and recycling elements as part of the integrated waste management plans. These elements are designed to develop recycling services to achieve diversion goals, stimulate local recycling in manufacturing, and stimulate the purchase of recycled products. In 2019, the City's solid waste diversion rate was 51.3 percent, which meets the requirement of AB 939

#### *Assembly Bill 341 and Senate Bill 1383*

The purpose of AB 341 of 2011 (Chapter 476, Statutes of 2011) is to reduce greenhouse gas (GHG) emissions by diverting commercial solid waste to recycling efforts and to expand the opportunity for additional recycling services and recycling manufacturing facilities in California. In addition to Mandatory Commercial Recycling, AB 341 sets a statewide goal for 75 percent disposal reduction by the year 2020.

In addition, SB 1383 of 2016 (Chapter 395, Statutes of 2016) established the following goals: a 50 percent reduction in the level of the statewide disposal of organic waste from 2014 levels by 2020 and a 75 percent reduction in the level of the statewide disposal of organic waste from 2014 levels by 2025. This bill also authorized CalRecycle to adopt regulations, to take effect on or after January 1, 2022, to achieve these targets.

#### *Assembly Bill 1826*

AB 1826 of 2014 (Chapter 727, Statutes of 2014) requires businesses that generate a specified amount of organic waste per week to arrange for recycling services for that waste, and for jurisdictions to implement a recycling program to divert organic waste from businesses subject to the law, as well as report to CalRecycle on their progress in implementing an organic waste recycling program. As of 2020, businesses that generate two cubic yards or more of organic waste per week must engage in one of the following:

- Source separate organic waste from other waste and participate in a waste recycling service that includes collection and recycling of organic waste
- Recycle organic waste on-site, or self-haul organic waste off-site for recycling
- Subscribe to an organic waste recycling service that may include mixed waste processing that specifically recycles organic waste

*Senate Bill 1016*

SB 1016 of 2007 (Chapter 343, Statutes of 2007) requires that the 50 percent solid waste diversion requirement established by AB 939 be expressed in pounds per person per day. SB 1016 changed the CalRecycle review process for each municipality's integrated waste management plan. After an initial determination of diversion requirements in 2006 and establishing diversion rates for subsequent calendar years, the Board reviews a jurisdiction's diversion rate compliance in accordance with a specified schedule. As of January 1, 2018, the Board is required to review a jurisdiction's source reduction and recycling element and hazardous waste element once every two years.

**Local**

*Carlsbad General Plan*

The current Carlsbad General Plan, adopted in 2015, lists some policies related to solid waste in its Sustainability Element. The following policies are applicable to the proposed project (City of Carlsbad 2015):

**Policy 9-P.9** Adopt a construction and demolition waste recycling ordinance that requires, except in unusual circumstances, all construction, demolition and renovation projects meeting a certain size or dollar value, to divert from landfills 100 percent of all Portland cement concrete and asphalt concrete and an average of at least 50 percent of all remaining non-hazardous debris from construction, demolition, and renovation projects.

*Carlsbad Municipal Code*

The city's Municipal Code Chapter 6.8 outlines policies and regulations regarding solid waste receptacles and disposal services.

4.14.3 Impact Analysis

**a. Methodology and Significance Thresholds**

The following thresholds of significance were developed based on the *CEQA Guidelines*, specifically, Appendix G. The project would have a significant impact with respect to utilities and service systems if it would:

1. Require or result in the relocation or construction of new or expanded water, wastewater treatment or stormwater drainage, electric power, natural gas, or telecommunication facilities, the construction or relocation of which could cause significant environmental effects;
2. Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years;
3. Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand, in addition to the provider's existing commitments;
4. Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals; and/or
5. Comply with Federal, State, and local management and reduction statutes and regulations related to solid waste.

## b. Prior Environmental Analysis

The 2015 General Plan EIR determined that impacts to utilities and service systems were less than significant and General Plan implementation would not cause substantial environmental effects to utilities and service systems (Section 3.12, Public Utilities and Infrastructure: 3.12-27 through 3.12-45). All developments must comply with 2015 General Plan requirements, including development service impact fees for residential development that help pay for storm water, utilities, and other public infrastructure improvement projects. The General Plan incorporates policies and implementation programs for minimizing future utilities and service system impacts.

The proposed project involves development on sites beyond what was anticipated in the 2015 General Plan EIR and could therefore result in new impacts related to utilities and service systems. Therefore, all the CEQA checklist items listed above under Methodology and Significance Thresholds are addressed in this analysis.

## c. Project Impacts and Mitigation Measures

Some components associated with the proposed project, including updates to the Local Coastal Plan, Public Safety Element, and Master and Specific Plans for consistency between the city's planning documents, in and of themselves would not result in physical changes to the environment such that impacts to utilities and service systems would occur. Therefore, this analysis focuses on impacts associated with implementation of the rezone program which would facilitate the development of 18 rezone sites listed in Table 2-4 in Section 2, *Project Description*.

**Threshold 1:** Would the project require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?

**Impact UTIL-1** SIMILAR TO THE DEVELOPMENT ANALYZED IN THE 2015 GENERAL PLAN EIR, DEVELOPMENT UNDER THE PROJECT MAY REQUIRE THE RELOCATION OR CONSTRUCTION OF NEW OR EXPANDED WATER, WASTEWATER TREATMENT, STORMWATER DRAINAGE, ELECTRIC POWER, NATURAL GAS, AND TELECOMMUNICATIONS FACILITIES. HOWEVER, SUCH RELOCATION AND CONSTRUCTION WOULD NOT CAUSE SIGNIFICANT ENVIRONMENTAL EFFECTS BEYOND THOSE ALREADY IDENTIFIED IN THIS SEIR. THIS IMPACT WOULD BE LESS THAN SIGNIFICANT.

### Water

Carlsbad is served by existing CMWD potable water facilities, with the exception of Site 19 which is served by OMWD potable water facilities. Development facilitated by the project may require installation of additional water mains and appurtenances, increasing the size of existing mains, lateral connections, and hydrants at the individual rezone sites. Future development on the rezone sites would be reviewed by the city's Public Works Department, who would determine what upgrades would be needed based on specific project designs. Future projects would be required to complete improvements as determined by Public Works staff. Facility improvements would be installed during individual project construction and mostly within the disturbance area of such projects or the rights-of-way of previously disturbed roadways; therefore, the construction of these infrastructure improvements would not substantially increase the proposed project's disturbance area or otherwise cause significant environmental effects beyond those identified throughout this SEIR.

As described below under Impact UTIL-2, development facilitated by the project would be served by existing and planned CMWD and OMWD supplies, which are not anticipated to require major CMWD or OMWD treatment facility improvements. Additionally, as discussed in the Carlsbad Potable Water Master Plan, projected water demand is significantly less than the supply capacity, and the CMWD as well as OMWD would have sufficient capacity to accommodate an increase in population (CMWD 2019b; OMWD 2021).

Furthermore, as found in the 2015 General Plan EIR, development would be subject to 2015 General Plan policies 9-P.3 through 9-P.6, which would reduce impacts to water services and facilities by promoting water saving measures such as water sub-metering, using recycled water for landscape irrigation, and using on-site gray water and rainwater collection systems. Therefore, although development on the rezone sites may involve some infrastructure upgrades, overall, the proposed project will not require or result in the relocation or construction of new or expanded water facilities such that significant environmental effects beyond those already identified throughout this SEIR would occur. Impacts related to water would be less than significant.

### *Recycled Water*

The CMWD also produces and sells recycled water. Recycled Water is used for irrigation and this reduces the amount of drinking water that is used. The recycled water is produced by CMWD at the Carlsbad Water Reclamation Facility (WRF). CMWD purchases additional recycled water from VWD's Meadowlark Water Recycling Facility. According to the 2020 UWMP, by the year 2040, the CMWD would supply 4,218 AFY of recycled water, and have a demand of 4,218 AFY of recycled water (CMWD 2021). Additionally, as discussed in the Carlsbad Recycled Water Master Plan Update, the CMWD has sufficient available supply capacities to reliably meet existing and future demands of the recycled water system (CMWD 2019a). Irrigation demands for future development facilitated by the proposed project and located adjacent to recycled water distribution mains would be accommodated by recycled water.

### **Wastewater**

Carlsbad is served by existing city wastewater conveyance facilities, including local sewer collection lines and trunk sewer lines. Development facilitated by the project may require increasing the size of existing facilities, installation of additional sewer mains, and new lateral connections on or adjacent to the rezone sites. Future development on the rezone sites would be reviewed by the city's Public Works Department, who would determine what upgrades would be needed. Future projects would be required to complete improvements as determined by Public Works staff. As with water facilities, sewer line extensions necessary to serve the future development would generally be installed within the already disturbed rights-of-way of existing roads or within the disturbance footprints of such projects. As such, the construction of these infrastructure improvements would not substantially increase the project's disturbance area or otherwise cause significant environmental effects beyond those identified throughout this SEIR.

The project would result in an increase in wastewater generation relative to existing conditions. Wastewater generated by future development would be treated at the Encina Wastewater Authority in Carlsbad, which has a design treatment capacity of 40.5 mgd, and a remaining available capacity of 17.5 mgd. Based on a wastewater generation rate of 200 gallons per equivalent dwelling unit per day (City of Carlsbad 2023a), development under the project would generate a gross increase of approximately 659,000 gallons, or 0.66 mgd, average daily flow of wastewater (200 gallons per residential unit per day x 3,295 units). This analysis conservatively assumes all project-



generated wastewater would be new wastewater generation and does not account for wastewater generation associated with existing development that would be demolished to accommodate new residential units.

Table 4.14-6 summarizes the available capacity at the Encina Wastewater Authority and the percentage used by anticipated project wastewater generation based on average daily flow conditions. As shown therein, the project’s gross increase in wastewater generation would comprise approximately 4 percent of the Encina Wastewater Authority’s remaining available wastewater treatment capacity.<sup>3</sup> Even during peak flow conditions, where wastewater generation associated with development on the rezone sites could be up to 1.7 mgd (based on calculations from the City’s Public Works Department), this could be accommodated within the 17.5 mgd of remaining available capacity.

**Table 4.14-6 Wastewater Treatment Plant Capacity**

<b>Encina Wastewater Authority</b>	
Average Daily Treatment	23 MGD
Total Capacity <sup>1</sup>	40.5 MGD
Remaining Available Capacity	17.5 MGD
Project Wastewater Generation - Average Flow <sup>2</sup>	0.7 MGD
Percent of Remaining Available Capacity Used by Project – Average Flow	4%

mgd = million gallons per day

<sup>1</sup> The current design treatment capacity of the Encina Wastewater Authority is 40.5 mgd.

<sup>2</sup> Reasonably foreseeable development under the project would generate a net increase in average daily flow of approximately 659,000 gallons, or 0.7 mgd (200 gallons per residential unit per day x 3295 units).

Sources: Encina Wastewater Authority 2021

Therefore, the Encina Wastewater Authority would have adequate capacity to serve development under the project. In addition, development would be responsible for constructing on and offsite improvements to wastewater conveyance systems and paying standard sewer connection fees, as necessary. Individual developments would be required to prepare site specific sewer studies to reflect actual development conditions which would be reviewed by the city and the applicable wastewater providers to determine if sufficient sewer capacity exists to serve the additional population that would be generated by the future projects. The city will continue to coordinate with the wastewater districts to ensure that new development, when proposed, would not exceed the capacity of wastewater conveyance and treatment facilities, and that new development would pay development fees to increase capacity of those facilities. Furthermore, as was found in the 2015 General Plan EIR, development would be subject to 2015 General Plan policies related to the provision of adequate wastewater services and facilities. Therefore, although the project may involve some infrastructure improvements to serve individual rezone sites, the project would not result in the relocation or construction of new or expanded wastewater facilities such that significant environmental effects beyond those already identified throughout this SEIR would occur. Impacts to wastewater would be less than significant.

<sup>3</sup> 0.4 mgd / 17.5 mgd x 100 = 4percent

## **Stormwater Drainage**

Development under the project would potentially require new or modified stormwater drainage facilities for the rezone sites due to the introduction of new impervious surfaces. Specific development under the proposed project would primarily consist of infill development and development near transportation corridors. As with water and wastewater treatment facilities, stormwater drainage infrastructure necessary to serve future development would generally be installed within the already disturbed rights-of-way of existing roads or within the disturbance footprints of such projects. As such, the construction of these infrastructure improvements would not substantially increase the project's disturbance area or otherwise cause significant environmental effects beyond those identified throughout this SEIR.

In addition, as described in Section 4.8 *Hydrology and Water Quality*, development at the 18 sites facilitated by the project would adhere to existing regulatory requirements that instruct stormwater management, including management of rainfall at the source by infiltrating stormwater as close to the source as practicable. Per NPDES requirements, post-construction peak runoff must be maintained at or below pre-project levels. In addition, applicable regulations apply that would limit pollutant discharges, including sediment and silt, from development under the project. The CMC requires BMPs to control the volume, rate, and potential pollutant load of stormwater runoff from new development and redevelopment projects as a requirement of the Municipal Stormwater Permit. The CMC also sets forth requirements and BMPs pertaining to the mitigation of erosion, sediment control and runoff as outlined in CMC Chapter 15.12 and Chapter 15.16. The city incorporates such requirements in any land use entitlement and construction or building-related permit to be issued relative to such development or redevelopment. Furthermore, the city's LID ordinance in Chapter 15.12.080 aims to specifically reduce the amount of surface runoff and aid in groundwater recharge through techniques such as infiltration, evapotranspiration, bioretention and/or rainfall harvest and additional uses in accordance with the requirements set forth in the MS4 permit and the LID standards manual.

As was found in the 2015 General Plan EIR, compliance with policies 4-P.57, 4-P.58, and 4-P.64 of the General Plan Open Space, Conservation, and Recreation Element would further reduce impacts. Policy 4-P.57 would require compliance with the city's NPDES Municipal Stormwater Permit and preparation and implementation of applicable plans such as a Water Quality Improvement Plan, Integrated Regional Water Management Plan, or Load Reduction Plan; Policy 4-P.58 would require incorporation of structural and non-structural BMPs to mitigate or reduce pollutant loads, and prohibit post-development runoff that would cause an exceedance of receiving water quality objectives that has not been reduced to the maximum extent possible; and Policy 4-P.64 would require the preservation of natural watercourses or providence of naturalized drainage channels within the city. Given compliance with the above regulations and requirements, the project would not alter the existing drainage patterns or contribute runoff water in a manner which would result in substantial erosion, siltation, or flooding, nor would it exceed the capacity of existing or planned stormwater drainage systems. Impacts would be less than significant.

## **Electric Power and Natural Gas**

Carlsbad is served by existing SDG&E transmission and distribution facilities for electricity and natural gas. Development facilitated by the project may require installation of additional electrical and natural gas connections. Such facilities would be installed during individual project construction and within the disturbance area of such projects or the rights-of-way of previously disturbed

roadways; therefore, the construction of these infrastructure improvements would not substantially increase the project's disturbance area or otherwise cause significant environmental effects beyond those identified throughout this SEIR. Specific development under the project would primarily consist of infill development and development near transportation nodes; therefore, major upgrades to transmission lines and other facilities are not anticipated. Therefore, the project would not require or result in the relocation or construction of new or expanded water facilities, the construction or relocation of which could cause significant environmental effects beyond those already identified throughout this SEIR. Impacts would be less than significant.

## **Telecommunications**

No major telecommunications improvements are expected to be required to accommodate development facilitated by the project. Future development projects may require minor telecommunications improvements, such as undergrounding or extensions of telephone lines. Such improvements would be minor in nature and would generally occur within the disturbance area of individual projects. Therefore, the project would not require or result in the relocation or construction of new or expanded telecommunications facilities, the construction or relocation of which could cause significant environmental effects beyond those already identified throughout this SEIR. Impacts would be less than significant.

## **Mitigation Measures**

No mitigation measures are required because, like under the 2015 General Plan EIR, impacts would be less than significant without mitigation.

<p><b>Threshold 2:</b> Would the project have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?</p>
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**Impact UTIL-2** SIMILAR TO THE DEVELOPMENT ANALYZED IN THE 2015 GENERAL PLAN EIR, CONSTRUCTION AND OPERATION OF DEVELOPMENT UNDER THE PROJECT WOULD RESULT IN A NET INCREASE IN WATER DEMAND. HOWEVER, THIS INCREASE IN DEMAND CAN BE SERVED BY PROJECTED AND REASONABLY AVAILABLE WATER SUPPLIES. THIS IMPACT WOULD BE LESS THAN SIGNIFICANT.

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The project would generate both construction-related and operational water demand. The following subsections include discussions of both sources of water demand.

## **Construction Demand**

Water would be required for temporary construction activities at the rezone sites, including dust suppression, grading and grubbing, compaction, construction equipment wheel washing, and concrete mixing and casting. Water consumption by construction workers and cleaning of portable toilets on individual project sites may also account for a small portion of overall construction water demand.

Watering for dust suppression would demand the most water during construction. Demolition, site preparation, and grading are the activities anticipated to result in the greatest dust generation and, therefore, the greatest construction-related water demand. Water demand for dust suppression is highly dependent on a number of site-specific variables, including soil properties, antecedent moisture conditions, and other climatic factors. CMWD provides non-potable water for use as dust suppression during construction activities; therefore, the actual demand on potable water supplies

would be even lower than estimated. Given the temporary and minimal nature of construction water demand, impacts related to construction water consumption would be less than significant.

## **Operational Demand**

Development under the project would result in increased demand for potable water supplies for drinking; use by appliances and fixtures including toilets, showers, bathtubs, sinks, washing machines, and dishwashers; and landscape irrigation. Based on the CalEEMod land use-based water demand factors, development would generate a water demand of approximately 317,160 gallons per day (gpd), or 355 AFY). This analysis conservatively assumes all project-generated water demand would be new water demand and does not account for water demand associated with existing development that would be demolished or replaced to accommodate new residential units.

As discussed in Section 4.14.1, *Water Sources, Supply, Demand, and Distribution*, the CMWD, VWD, and the OMWD have water supply availability for normal, single-dry, and multiple-dry year scenarios from 2025 through 2045, as outlined in their 2020 UWMPs. For all years and all scenarios, the CMWD, VWD, and OMWD anticipate meeting forecast demand, but do not anticipate any excess supply. Therefore, the analysis of water supply availability focuses on whether or not the project is consistent with the water demand projections contained in the 2020 UWMPs.

The CMWD's 2020 UWMP projects future residential water demand through 2045. As shown in Table 4.14-1, the CMWD projects that water supply and demand will increase by approximately 1,743 AFY between 2025 and 2045. The proposed project would increase demand in the city by an estimated 355 AFY, or approximately a 1.5 percent increase from the 2030 CMWD service area demand estimate of 22,409 AFY as shown in Table 4.14-3. As discussed above, CMWD does not anticipate any excess supply, therefore, the current water supplies could potentially be insufficient to meet demand for the project. According to the CMWD 2020 UWMP, the CMWD service area had a 2015 per person drinking water demand target of 233 gallons per person per day (GPCD), and a 2020 target of 207 GPCD. In 2020, the CMWD reported a drinking water demand of 135 GPCD, which met and was significantly lower than the 2020 target of 207 GPCD. Based on the increase of approximately 1.5 percent from the projected 2030 water demand in the CMWD's 2020 UWMP, estimated GPCD with implementation of the project would be 203 GPCD, which would still be below the targeted 207 GPCD (CMWD 2021).<sup>4</sup> Similarly, according to the VWD 2020 UWMP, the VWD service area had a 2020 per person drinking water demand target of 159 GPCD, and reported an actual 2020 drinking water demand of 125 GPCD (VWD 2021); and according to the OMWD 2020 UWMP, the OMWD service area had a 2020 per person drinking water demand target of 282 GPCD, and reported an actual 2020 drinking water demand of 206 GPCD (OMWD 2021). Therefore, the CMWD, VWD, and OMWD are all within and below their 2020 per capita drinking water demand targets and the proposed project would not significantly increase the GPCD such that the targets are exceeded.

Since CWMD's local desalinated seawater supply and recycled water supplies would remain steady in all rainfall scenarios, changes in demands would change how much water CMWD purchases from SDCWA. In the rare case that the SDCWA was not able to supply as much water to CMWD, CMWD would know in advance and would implement water saving measures from the Water Shortage Contingency Plan (WSCP). The CMWD also has two ordinances in place to help manage demands during potential water shortages. Ordinance No. 44 (Drought Response Plan and Water Conservation Program) is CMWD's Drought Ordinance, which creates CMWD's drought response

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<sup>4</sup> 135 GPCD x 1.5 percent = 203 GPCD

levels and water saving steps that are enacted for each level. The higher the response level, the greater water saving measures will be enforced. Ordinance No. 46 (Water Schedules) is an amendment to CMWD's Drought Ordinance, and revised Drought Response Levels 2 and 3 to allow for increased flexibility for CMWD in starting water limits during these drought levels. The CMWD also works with SDCWA on multiple water saving efforts, including but not limited to, rain barrel rebates and discounts, smart irrigation devices rebates, a grass replacement program, and landscape education (CMWD 2021). Similarly, VWD has prepared a WSCP and adopted Ordinances No. 162 and No. 195 to establish implementation of regulations during times of declared water shortages or emergencies to conserve water. The VWD's WSCP contains a mix of shortage response actions such as prohibitions on end use, consumption reduction methods, supply augmentation, and operational change measures (VWD 2021). The OMWD has also prepared a WSCP under Ordinance No. 489 which would provide for progressively severe stages of water use restrictions necessary to accomplish service area-wide water use reductions of up to and over 50 percent (OMWD 2021).

Further, compliance with the water conservation regulations and policies would help to maintain sufficient supplies. The California Code of Regulations (CCR) Title 24, Part 11 (CALGreen) requires a 20 percent reduction in residential indoor water use that would lower potential water demand. New development would be subject to the CCR concerning water-efficient landscapes (Division 2, Title 23, CCR, Chapter 2.7, Sections 490 through 495). Implementation of the WELO would encourage water conservation for new development and in landscaped areas. Moreover, as was found in the 2015 General Plan EIR, future development would be subject to 2015 General Plan policies 9-P.3 through 9-P.6, which would reduce impacts to water services and facilities by promoting water saving measures such as water sub-metering, using recycled water for landscape irrigation, and using on-site gray water and rainwater collection systems.

The respective water districts would incorporate the increased population and housing forecasts from the project into their future water supply planning efforts, such as future updates to the UWMP, to account for the increased water demand. Therefore, with compliance with existing State and local regulations aimed at water conservation, as well as CMWD, VWD, and OMWD WSCPs and ordinances, water supplies would be sufficient to accommodate the increase in demand for the proposed project. Impacts would be less than significant.

### **Mitigation Measures**

No mitigation measures are required because, like under the 2015 General Plan EIR, impacts would be less than significant without mitigation.

**Threshold 3:** Would the project result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?

**Impact UTIL-3      SIMILAR TO THE DEVELOPMENT ANALYZED IN THE 2015 GENERAL PLAN EIR, WASTEWATER GENERATED BY DEVELOPMENT UNDER THE PROJECT WOULD BE TREATED AT THE ENCINA WASTEWATER AUTHORITY IN CARLSBAD. THE PLANT WOULD HAVE ADEQUATE CAPACITY TO SERVE THE ANTICIPATED WASTEWATER GENERATION IN ADDITION TO ITS EXISTING WASTEWATER TREATMENT COMMITMENTS. THIS IMPACT WOULD BE LESS THAN SIGNIFICANT.**

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As discussed under Impact UTIL-1, project-generated wastewater during average flow conditions would be adequately served by available capacity at the Encina Wastewater Authority in Carlsbad. Wastewater generated by the development under the project would account for approximately

4.6 percent of the remaining available capacity at the plant, which has approximately 17.5 MGD of remaining available treatment capacity. In addition, there would be capacity during peak flow conditions. As such, the Encina Wastewater Authority would have adequate capacity to serve the project's projected demand in addition to its existing commitments. Impacts would be less than significant.

### **Mitigation Measures**

No mitigation measures are required because, like under the 2015 General Plan EIR, impacts would be less than significant without mitigation.

<p><b>Threshold 4:</b> Would the project generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?</p>
<p><b>Threshold 5:</b> Would the project comply with federal, state, and local management and reduction statutes and regulations related to solid waste?</p>

**Impact UTIL-4** SIMILAR TO THE DEVELOPMENT ANALYZED IN THE 2015 GENERAL PLAN EIR, DEVELOPMENT UNDER THE PROJECT WOULD NOT GENERATE SOLID WASTE IN EXCESS OF STATE OR LOCAL STANDARDS, OR IN EXCESS OF THE CAPACITY OF LOCAL INFRASTRUCTURE, INCLUDING THE REPUBLIC SERVICES PALOMAR TRANSFER STATION. THE PROJECT WOULD NOT IMPAIR THE ATTAINMENT OF SOLID WASTE REDUCTION GOALS, AND DEVELOPMENT WOULD COMPLY WITH FEDERAL, STATE, AND APPLICABLE LOCAL STATUTES AND REGULATIONS RELATED TO SOLID WASTE. THIS IMPACT WOULD BE LESS THAN SIGNIFICANT.

As described in Section 4.14.1(g), *Solid Waste Collection and Disposal*, solid waste generated in Carlsbad is collected by Republic Services, and most solid waste is transported to the Republic Services Palomar Transfer Station, the Otay Landfill and the Sycamore Landfill for disposal (CalRecycle 2019a). The Otay Landfill currently has an estimated closure date of 2030; however, it has a remaining capacity of 21 million cubic yards. Approximately 98 percent of solid waste is disposed at the Otay Landfill while only about 2 percent is disposed at the Sycamore Landfill. Therefore, for the purposes of this analysis, it is assumed that solid waste generated by development under the project would be disposed of at the Otay Landfill. An average of 5,000 tons of waste is deposited in the landfill daily; therefore, the average daily surplus is 1,700 tons per day (CalRecycle 2019b).

### **Construction**

Demolition of existing development on several proposed housing sites and potential soil export would result in the generation of construction/demolition debris that would need to be disposed of at area landfills. Because the proposed housing sites consist of primarily infill sites with existing structures that would be redeveloped or on sites that have been graded, development under the project is not anticipated to result in major export of soil. Nevertheless, grading activities may result in export of some soil from individual project construction sites. The Otay Landfill accepts construction/demolition waste; therefore, it is likely that exported soil would be disposed of at this location. Grading activities associated with the project would not occur all at once, but rather would be spread across multiple projects implemented over the planning horizon of the project. Furthermore, exported soil could be transported to other area landfills that accept soil and construction debris San Diego County to further reduce impacts at any single solid waste disposal facility, or used beneficially as landfill cover or imported fill material at other construction sites.

Therefore, disposal of soils from grading of the individual project sites would not exceed the capacity of local solid waste disposal facilities.

In addition, as was found in the 2015 General Plan EIR, the handling of all debris and waste generated during construction of development under the project would be subject to 2022 CALGreen requirements and the California Integrated Waste Management Act of 1989 (AB 939) requirements for salvaging, recycling, and reuse of materials from construction activity. For example, pursuant to the CALGreen, future development projects would be required to recycle at least 65 percent of non-hazardous construction debris. Therefore, impacts related to solid waste generated during construction would be less than significant.

## **Operation**

According to CalEEMod outputs, development under the project would generate a net increase of approximately 2,199 tons of solid waste annually, or approximately 6.1 tons per day. Based on this information, the solid waste generation of development would account for approximately 0.4 percent of the Otay Landfill's average daily surplus throughput of 1,700 tons per day.<sup>5</sup> Given this small proportion of permitted throughput, the solid waste generated by operation of development under the project would be adequately accommodated by existing landfills.

For operational waste, in accordance with California's Integrated Waste Management Act of 1989 (AB 939), cities and counties are required to divert 50 percent of all solid wastes from landfills. Additionally, pursuant to AB 341, all businesses that generate four cubic yards or more of commercial solid waste per week including multi-family dwelling that consists of five units or more would be required to divert 75 percent of all solid wastes.

As was found in the 2015 General Plan EIR, development under the project would be required to comply with federal, State, and local statutes and regulations related to solid waste, including AB 939 and AB 341, as well as 2015 General Plan Policy 9-P.9. Therefore, because development would be served by landfills with sufficient capacity and would comply with applicable regulations related to solid waste, impacts would be less than significant.

## **Mitigation Measures**

No mitigation measures are required because, like under the 2015 General Plan EIR, impacts would be less than significant without mitigation.

### **d. Cumulative Impacts**

The geographic scope for cumulative utilities and service systems impacts is the CMWD, VWD, OMWD, and SDG&E service areas. This geographic scope is appropriate for utilities and service systems because utility impacts are localized in the service area where the impact occurs.

## **Extensions of Utility Facilities – Water, Wastewater, Stormwater, Electric Power, Natural Gas, and Telecommunications**

Impacts related to the extension of water supply, wastewater, electric power, natural gas, and telecommunications facilities to development are typically generated in the immediate vicinity of a project. Although several development sites would require off-site improvements to water and wastewater facilities, the impacts of the improvements would be analyzed on a project-by-project

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<sup>5</sup> 6.1 tpd / 1,700 tpd \* 100 = 0.4 percent

basis, would mostly be within project footprints and existing rights-of-way, or areas that are already disturbed such that new significant environmental effects beyond those identified in this SEIR would not occur. Other development projects in the vicinity of the rezone sites would also be reviewed by the Public Works Department and are expected to largely involve minor upgrades to existing infrastructure in places where infrastructure already is present. Therefore, cumulative impacts of development related to extensions of water supply, wastewater, stormwater, electric power, natural gas, and telecommunications facilities to individual projects sites are already addressed under UTIL-1. As discussed therein, cumulative impacts of extensions of utility facilities to individual project sites would be less than significant.

### **Water Supply**

Cumulative development in the CMWD, VWD, and OMWD service area would increase demand for water supplies and infrastructure. The project-level impact analysis contained under Impact UTIL-2 is cumulative in nature because it addresses the significance of water demand associated with development under the project in terms of whether this demand is accounted for in the water districts' 2020 UWMPs, which are plans that address cumulative impacts to water supply. The water districts project that future water supplies will meet cumulative water demand in normal, dry-year, and multiple-dry year scenarios, but do not anticipate any excess supply. As discussed under Impact UTIL-2, the respective 2020 UWMPs include guidelines that future development would be subject to during water shortages. Future development would also be required to comply with State and local regulations regarding water saving. Therefore, cumulative impacts to water supply would be less than significant.

### **Wastewater**

Cumulative development in the city's Wastewater Division service area would increase demand for wastewater, collection, treatment and discharge beyond existing conditions. New and expanded wastewater treatment facilities may result in environmental effects; however, because the location or scale of such future facilities cannot be known at this time, the evaluation of such facilities would be speculative. New or expanded facilities that may result from cumulative growth would require their own environmental analysis pursuant to the requirements of CEQA. At that time, any associated environmental effects would be disclosed and evaluated, and any required mitigation to reduce identified effects would be required through that process. Therefore, cumulative impacts related to wastewater collection and treatment would be less than significant.

### **Electric Power and Natural Gas**

As discussed under Section 4.14.1(d), Electric Power Supply and Demand, electricity demand in the SDG&E service area is projected to decrease annually through 2030 in the mid-energy demand/mid-Additional Achievable Energy Efficiency scenario, which will place additional demands on existing electricity generation facilities (CEC 2021c). Although development under the project would be constructed in accordance with the latest iteration of CALGreen, which would minimize energy usage, development would increase electricity demand in comparison to existing conditions and would contribute to the cumulative regional increase in electricity demand. However, as discussed in its Integrated Resource Plan, the SDG&E has existing plans in place to solicit additional long-term renewable contracts, including conventional and long-duration storage technologies (SDG&E 2022b). New and expanded electric power facilities and infrastructure may result in environmental effects; however, since the location or scale of such future facilities cannot be known at this time,



the evaluation of such facilities would be speculative. New or expanded facilities that may result from cumulative development would require their own environmental analysis pursuant to the requirements of CEQA. At that time, any associated environmental effects would be disclosed and evaluated, and any required mitigation to reduce identified effects would be required through that process. Therefore, cumulative impacts related to electric power would be less than significant.

As discussed under Section 4.14.1(e), Natural Gas Supply and Demand, natural gas demand in the SDG&E service area is projected to decline at a rate of 0.6 percent per year between 2020 and 2035 primarily due to increasing energy efficiency, modest economic growth, increasing building decarbonization, and statewide efforts to reduce greenhouse gas emissions from the electricity generation sector, even when accounting for moderate growth in the adoption of natural gas vehicles (California Gas and Electric Utilities 2020). Therefore, given that cumulative demand for natural gas is anticipated to decline, new or expanded natural gas facilities would not be required, and no cumulative impact related to natural gas would occur.

### **Solid Waste**

Cumulative development in the watershed of the Otay Landfill would increase the amount of solid waste generation beyond existing conditions. As stated in Section 4.14.1(g), Solid Waste Collection and Disposal, the total capacity of the Otay Landfill is 61.1 million cubic yards, and the maximum permitted daily throughput is 6,700 tons. An average of 5,000 tons of waste is deposited in the landfill daily; therefore, the average daily surplus is 1,700 tons per day, which means approximately 25 percent of the maximum permitted daily throughput is available (CalRecycle 2019b). Given the current built-out nature of the watershed and topographical and open space restrictions on much of the remaining vacant land, it is unlikely that cumulative development would double existing development such that the average daily surplus in maximum permitted daily throughput would be exceeded. Therefore, there would be no cumulative impact related to the maximum permitted daily throughput at the Otay Landfill.

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## 4.15 Wildfire

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This section analyzes impacts related to wildfires in Carlsbad. Wildfire was added as a separate section with new issues questions into CEQA in December 2018. Wildfire impacts were discussed in Section 3.6, *Hazardous Materials, Airport Safety, and Wildfire*, in the 2015 General Plan EIR.

### 4.15.1 Setting

#### a. Physical Setting

##### Wildfires

In California, responsibility for wildfire prevention and suppression is shared by federal, state and local agencies. Federal agencies are responsible for federal lands in Federal Responsibility Areas. California has determined that some non-federal lands in unincorporated areas with watershed value are of statewide interest and have classified those lands as State Responsibility Areas (SRA), which are managed by the California Department of Forestry and Fire Protection (CAL FIRE). All incorporated areas and other unincorporated lands are classified as Local Responsibility Areas (LRA).

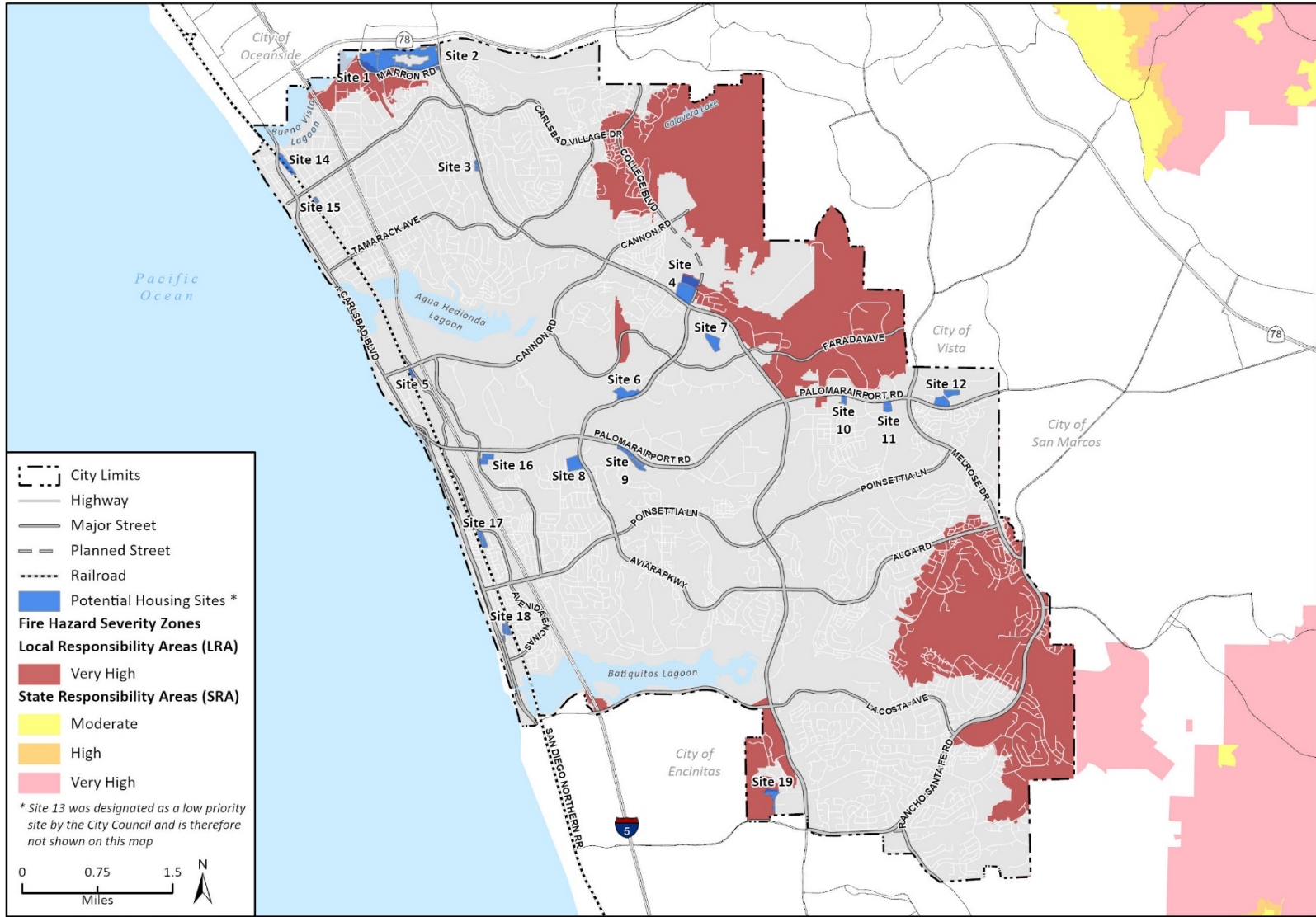
While all of California is subject to some degree of wildfire hazard, there are specific features that make certain areas more hazardous. CAL FIRE is required by law to map areas of significant fire hazards based on fuels, terrain, weather and other relevant factors (Public Resources Code [PRC] 4201-4204 and California Government Code 51175-89). Factors that increase an area's susceptibility to fire hazards include slope, vegetation type and condition and atmospheric conditions. CAL FIRE has identified two types of wildfire risk areas: 1) Wildland Areas That May Contain Substantial Forest Fire Risks and Hazards and 2) Very High Fire Hazard Severity Zones. Each hazard area carries with it code requirements to mitigate the severity of wildfires. Under state regulations, areas within very high fire hazard severity zones must comply with specific building and vegetation management requirements intended to reduce property damage and loss of life within these areas.

In Carlsbad, there are fire hazards as indicated in the applicable Fire Hazard Severity Zone Maps for the region. There are Very High Fire Hazard Severity Zones in the LRA along the eastern and southern borders of the city (CAL FIRE 2007)<sup>1</sup>. Figure 4.15-1 displays the Fire Hazard Severity Zones for the city. There are no lands in a SRA in Carlsbad.

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<sup>1</sup> CAL FIRE released new Fire Hazard Severity Zones in SRAs map on November 21, 2022; however, the 2022 map is not adopted as of May 2023 nor does it include maps of LRAs. Further, CAL FIRE indicates that Fire Hazard Severity Zones in SRAs around Carlsbad have not changed between 2007 and 2022. Therefore, for the purposes of analysis in this EIR, the 2007 map will be considered.

Figure 4.15-1 Carlsbad Fire Hazard Severity Zones and Responsibility Areas



Imagery provided by Esri and its licensors © 2023.  
 Additional data provided by City of Carlsbad, 2022; CalFire, 2007 & 2009.

Fig 4.17-1 Fire Hazard Severity Zones in Carlsbad

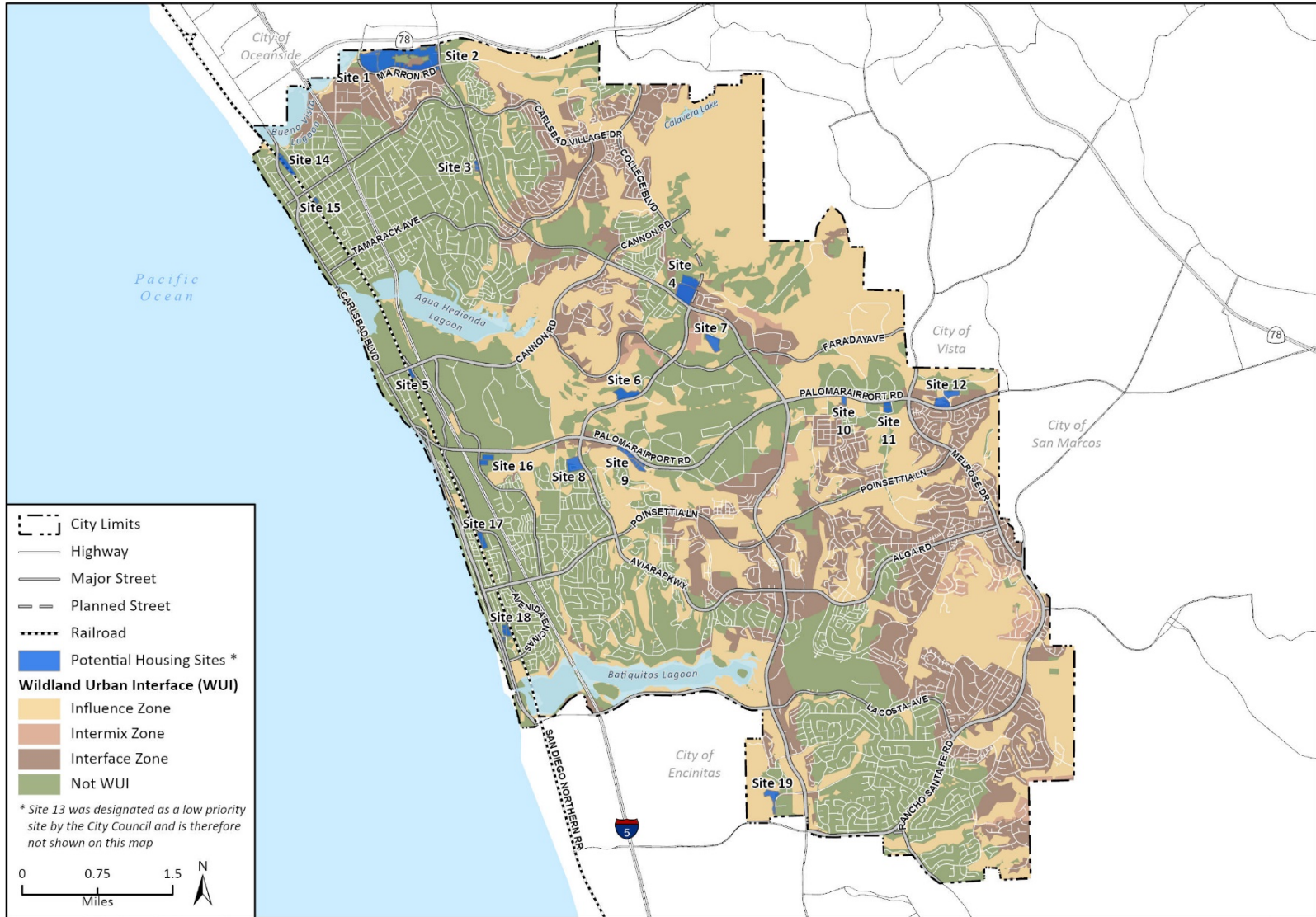
## Wildfire-conductive Conditions

Because of substantial open space areas and associated vegetation and wildlife habitats throughout the State, California is subject to fire hazards. Grassland or other vegetation in California is easily ignited, particularly in dry seasons. Wildfire is a serious hazard in high dry fuel load areas, particularly near areas of natural vegetation and steep slopes, since fires tend to burn more rapidly on steeper terrain. Wildfire is also a serious hazard in areas of high wind, given that fires will travel faster and farther geographically when winds are higher. Furthermore, wildfire is more likely in areas where electric power lines are located above ground and could ignite vegetation with which the power lines come into contact. Wildfire could also spread in areas with fuel lines (i.e., pipes carrying flammable fuels), which could fail (whether due to earthquake or error) and ignite a fire. Extreme wildfire events are expected to increase in frequency with the effects of increased global temperature, although changes in specific fire-prone areas are difficult to predict with any certainty (United States Forest Service 2023).

The Governor's Office of Planning and Research (OPR) has recognized that although high-density structure-to-structure loss can occur, structures in areas with low- to intermediate-density housing were most likely to burn, potentially due to intermingling with wildland vegetation or difficulty of firefighter access (OPR 2020). In general, increasing density decreases the risk of wildfire. The risk of loss of human life, property, natural resources, or economic assets from wildfire is highest at the Wildland Urban Interface (WUI), areas of urban development located adjacent to or even within wildland areas. Development that has spread into less densely populated, often hilly areas has increased the number of people living in heavily-vegetated areas that are prone to wildfire. Today approximately one-third of houses in California are within the WUI area (OPR 2020). It is important to note that there are varying definitions of what constitutes a WUI, and some local or regional agencies consider some areas to be WUI that are not defined as Wildland Interface or Intermix zones under the Wildland-Urban Interface Building Standards in Title 24, Part 2 of the California Code of Regulations (CCR); these standards are discussed under *Regulatory Setting* below. Approximately half of Carlsbad, mostly in the eastern and interior portions, is considered Wildland Urban Intermix, Interface, or Influence Zone on CAL FIRE's WUI map, as shown in Figure 4.15-2 (CAL FIRE 2019). Wildland Urban Interface is dense housing adjacent to vegetation that can burn in a wildfire; Wildland Urban Intermix is housing development interspersed in an area dominated by wildland vegetation subject to wildfire; Wildfire Influence Zone is wildfire susceptible vegetation up to 1.5 miles from Wildland Urban Interface or Wildland Urban Intermix (CAL FIRE 2019).

In addition to stripping the land of vegetation and destroying forest resources, large, intense fires can harm the soil, waterways, and the land itself. Soil exposed to intense heat may lose its capability to absorb moisture and support life. Exposed soils erode quickly and enhance siltation of rivers and streams, thereby enhancing flood potential, harming aquatic life, and degrading water quality. Lands stripped of vegetation are also subject to increased debris flow hazards. Slope instability from wildfire scarring of the landscape can result in slope instability in the form of more intensive flooding and landslides. Such post-fire slope soils and altered drainage patterns can result in soil creep on downslope sides of foundations and reduce lateral support.

Figure 4.15-2 Wildland Urban Interface



Imagery provided by Esri and its licensors © 2023.  
 Additional data provided by City of Carlsbad, 2022; CalFire, FRAP, 2022.

Erk Georger  
 Fig 4.15-2 WUI in Carlsbad and Housing Sites

### *Vegetation*

Vegetation is fuel to a wildfire, and it changes over time with seasonal growth and die-back. The relationship between vegetation and wildfire is complex, but generally some vegetation is naturally fire resistant, while other vegetation is extremely flammable. Some plant types in California landscapes are fire resistant, while others are fire-dependent for their seed germination cycles.

Wildfire behavior depends on the type of fuels present, such as ladder fuels, surface fuels, and aerial fuels. Surface fuels include grasses, logs, and stumps low to the ground. Ladder fuels, such as tall shrubs, young trees, and the lowest branches of mature trees, provide a path for fire to climb upward into the crowns of trees. Aerial fuels include upper limbs, foliage, and branches not in contact with the ground. Ample spacing in between tree crowns and trimming of lower branches close to the ground is effective at preventing fire from either igniting the crown of a tree or spreading from an ignited tree to adjacent trees; conversely, closely packed trees with low branches are especially susceptible to crown ignition and spread (CAL FIRE 2023). Weather and climate conditions, including drought cycles, can lead to dry vegetation with low moisture content, increasing its flammability.

Changes in precipitation patterns and increased temperatures associated with climate change will alter the distribution and character of natural vegetation and associated moisture content of plants and soils. An increase in frequency of extreme heat events and drought are also expected. These changes will lead to increased frequency and intensity of large wildfires.

### *Slope and Aspect*

According to CAL FIRE, sloping land increases susceptibility to wildfire because fire typically burns faster up steep slopes, and they may hinder firefighting efforts. Following severe wildfires, sloping land is also more susceptible to landslide or flooding from increased runoff during substantial precipitation events. Aspect is the direction that a slope faces, and it determines how much radiated heat the slope will receive from the sun. Slopes facing south to southwest will receive the most solar radiation and are warmer and drier than slopes facing a northerly to northeasterly direction, increasing the potential for wildfire ignition and spread (CAL FIRE 2023).

### *Weather and Atmospheric Conditions*

Wind, temperature, and relative humidity are the most influential weather elements in fire behavior and susceptibility (CAL FIRE 2023). Fire moves faster under hot, dry, and windy conditions. Wind may also blow embers ahead of a fire, causing its spread. Drought conditions lead to extended periods of excessively dry vegetation, increasing the fuel load and ignition potential.

Most precipitation is received from October through April, with an average annual rainfall of 11.39 inches from 1991 to 2020 (National Weather Service 2023). May through September is the driest time of the year and coincides with what has traditionally been considered the fire season in California. However, increasingly persistent drought and climatic changes in California have resulted in drier winters, and fires during the autumn, winter, and spring months are becoming more common.

### *Fuel and Energy Lines*

Electric power lines mostly occur in urban areas and along roadways. Electric power, natural gas, and petroleum lines pose a risk of causing fire in the event of failure (whether due to earthquake or

error). Natural gas poses a lower risk of causing a fire than petroleum products, because it is transported at lower pressures and, when released, rises and dissipates into the atmosphere (United States Department of Energy 2023).

## **Emergency and Evacuation Routes/Access**

The city's Emergency Operations Plan (EOP) defines the scope of the city's emergency preparedness and incident response activities. In general, the EOP establishes emergency organization, assigns tasks, specifies policies and general procedures, and provides for coordination of planning efforts of the various emergency staff and service elements utilizing the Standardized Emergency Management System, published by the California Office of Emergency Services (OES), and the National Incident Management System, published by the Federal Emergency Management Agency. The EOP identifies the city's Emergency Operations Center (EOC) as the location from which centralized emergency management would be performed during a major emergency or disaster, including receiving and disseminating information, maintaining contact with other EOCs, and providing instructions to the public through the City of Carlsbad's website, reverse-911 systems, social media including "sdemergency" mobile application, traditional media, public outreach and the EOC hotline, when activated. All City of Carlsbad employees are disaster service workers, and employees across multiple city departments are trained EOC responders and emergency shelter workers. Additionally, Carlsbad's Community Emergency Response Team (CERT) is made up of City of Carlsbad disaster volunteers and may be activated to support the Office of Emergency Management and/or (EOC) during an emergency.

Evacuation routes out of Carlsbad during a wildfire would be dependent on the location of the wildfire. Evacuation would likely occur utilizing Interstate 5 or El Camino Real to travel north or south of the city.

### **4.15.2 Regulatory Setting**

#### **a. Federal**

##### **Federal Disaster Mitigation Act**

The Disaster Mitigation Act of 2000 provided a new set of mitigation plan requirements that encourage state and local jurisdictions to coordinate disaster mitigation planning and implementation. States are encouraged to complete a "Standard" or an "Enhanced" Natural Mitigation Plan. "Enhanced" plans demonstrate increased coordination of mitigation activities at the state level and, if completed and approved, increase the amount of funding through the Hazard Mitigation Grant Program. The State of California Multi-Hazard Mitigation Plan (SHMP) complies with this act.

##### **National Fire Plan**

The National Fire Plan was developed in August 2000, following a historic wildfire season. Its intent is to establish plans for active response to severe wildfires and their impacts to communities while ensuring sufficient firefighting capacity. The plan addresses firefighting, rehabilitation, hazardous fuels reduction, community assistance, and accountability.



## b. State

### The California Fire Plan

The Strategic Fire Plan for California is the State's road map for reducing the risk of wildfire. The most recent version of the Plan was finalized in August 2018, and directs each CAL FIRE Unit to revise and update its locally-specific Fire Management Plan (CAL FIRE 2018). These plans assess the fire situation within each of the 21 CAL FIRE units and six contract counties. The plans address wildfire protection areas, initial attack success, assets and infrastructure at risk, pre-fire management strategies, and accountability within their geographical boundaries.

### California Office of Emergency Services

The California Office of Emergency Services prepares the SHMP, which identifies hazard risks and includes a vulnerability analysis and a hazard mitigation strategy. The SHMP is required under the Disaster Mitigation Act of 2000 in order for the State to receive federal funding. The Disaster Mitigation Act of 2000 requires a State mitigation plan as a condition of disaster assistance.

### California Code of Regulations Title 24 (California Building Code)

Updated every three years through a rigorous stakeholder process, Title 24 of the California Code of Regulations requires California homes and businesses to meet strong fire and safety measures. Title 24 contains numerous subparts, including Part 1 (Administrative Code), Part 2 (Building Code), Part 3 (Electrical Code), Part 4 (Mechanical Code), Part 5 (Plumbing Code), Part 6 (Energy Code), Part 8 (Historical Building Code), Part 9 (Fire Code), Part 10 (Existing Building Code), Part 11 (Green Building Standards Code), Part 12 (Referenced Standards Code). The California Building Code (CBC) is applicable to all development in California. (Health and Safety Code §§ 17950 and 18938(b).)

The regulations receive input from members of industry, as well as the public, with the goal of "[r]educing of wasteful, uneconomic, inefficient, or unnecessary consumption of energy." (Pub. Res. Code § 25402.) These regulations are scrutinized and analyzed for technological and economic feasibility (Pub. Res. Code § 25402(d)) and cost effectiveness (Pub. Res. Code § 25402(b)(2) and (b)(3)).

#### *Part 2 – California Building Code: Fire Safety Requirements*

The State of California provided a minimum standard for building design through the 2022 CBC, which is located in Part 2 of Title 24 of the California Code of Regulations. The 2022 CBC is based on the 2021 International Building Code, but has been modified for California conditions. It is generally adopted on a jurisdiction-by-jurisdiction basis, subject to further modification based on local conditions. Commercial and residential buildings are plan-checked by local City and County building officials for compliance with the CBC. Typical fire safety requirements of the CBC include the installation of sprinklers in all new high-rise buildings and residential buildings; the establishment of fire resistance standards for fire doors, building material; and particular types of construction.

#### *Part 2 – California Building Code: Wildland-Urban Interface Building Standards*

On September 20, 2005, the Building Standards Commission approved the Office of the State Fire Marshal's emergency regulations amending the CCR Title 24, Part 2, known as the 2007 CBC. These codes include provisions for ignition-resistant construction standards in the WUI.

Interface zones are areas with dense housing adjacent to vegetation that can burn and meeting the following criteria:

1. Housing density class 2 (one house per 20 acres to one house per 5 acres), 3 (more than one house per 5 acres to one house per acre), or 4 (more than one house per acre)
2. In Moderate, High, or Very High Fire Hazard Severity Zone
3. Not dominated by wildland vegetation (i.e., lifeform not herbaceous, hardwood, conifer, or shrub)
4. Spatially contiguous groups of 30-meter cells<sup>2</sup> that are 10 acres and larger

Intermix zones are housing development interspersed in an area dominated by wildland vegetation and must meet the following criteria:

1. Not interface
2. Housing density class 2
3. Housing density class 3 or 4, dominated by wildland vegetation
4. In Moderate, High, or Very High Fire Hazard Severity Zone
5. Improved parcels only
6. Spatially contiguous groups of 30-meter cells 25 acres and larger

Influence zones have wildfire-susceptible vegetation up to 1.5 miles from an interface zone or intermix zone (CAL FIRE 2019).

While the 2007 CBC creates WUI definitions for interface, intermix and influence zones in order to apply required construction standards, many local and regional entities use their own definitions of WUI areas for other purposes, ranging from simple resident awareness and public outreach to further municipal-level standards.

#### *Part 9 – California Fire Code*

The 2022 California Fire Code is Part 9 of CCR Title 24. It establishes the minimum requirements consistent with nationally recognized good practices to safeguard public health, safety, and general welfare from the hazards of fire, explosion, or dangerous conditions in new and existing buildings, structure, and premises, and to provide safety and assistance to firefighters and emergency responders during emergency operations. It is the primary means for authorizing and enforcing procedures and mechanisms to ensure the safe handling and storage of any substance that may pose a threat to public health and safety. The California Fire Code regulates the use, handling, and storage requirements for hazardous materials at fixed facilities. The California Fire Code and the CBC use a hazard classification system to determine what protective measures are required to protect fire and life safety. These measures may include construction standards, separations from property lines and specialized equipment. To ensure that these safety measures are met, the California Fire Code employs a permit system based on hazard classification. The provisions of this Code apply to the construction, alteration, movement, enlargement, replacement, repair, equipment, use and occupancy, location, maintenance, removal, and demolition of every building or structure or any appurtenances connected or attached to such building structures throughout California.

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<sup>2</sup> “30-meter cells” refers to satellite mapping or Geographic Information Systems (GIS) data, and indicates data is presented as 30-meter by 30-meter squares in the source maps used to determine zone types.

More specifically, the Fire Code is included in CCR Title 24. Title 24, part 9, Chapter 7 addresses fire-resistance-rated construction; CBC (Part 2), Chapter 7A addresses materials and construction methods for exterior wildfire exposure; Fire Code Chapter 8 addresses fire related Interior finishes; Fire Code Chapter 9 addresses fire protection systems; and Fire Code Chapter 10 addresses fire related means of egress, including fire apparatus access road width requirements. Fire Code Section 4906 also contains existing regulations for vegetation and fuel management to maintain clearances around structures. These requirements establish minimum standards to protect buildings located in FHSZs within SRAs and WUI Fire Areas. This code includes provisions for ignition-resistant construction standards for new buildings.

### **California Code of Regulations Title 14 – Fire Safe Roads**

The Board of Forestry maintains fire safe road regulations, as part of CCR Title 14. This includes requirements for road width, surface treatments, grade, radius, turnarounds, turnouts, structures, driveways, and gate entrances. These regulations are intended to ensure safe access for emergency wildland fire equipment and civilian evacuation.

### **California Assembly Bill 747 and Senate Bill 99**

California Assembly Bill (AB) 747 (2019) requires that the safety element be reviewed and updated to identify emergency evacuation routes and their capacity, safety, and viability under a range of emergency scenarios. This will be a requirement for all safety elements or updates to hazard mitigation plans completed after January of 2022.

California Senate Bill (SB) 99 (2019) requires review and update of the safety element to include information to identify residential developments in hazard areas that do not have at least two emergency evacuation routes. In essence, this legislation assists in identifying neighborhoods and households within a hazard area that have limited accessibility. This is intended to assist the city with identifying opportunities to improve connectivity and evacuation capacity (generally). The entire City of Carlsbad is subject to one or more hazards.

### **California Emergency Plan**

The foundation of California’s emergency planning and response is a Statewide mutual aid system, which is designed to ensure that adequate resources, facilities, and other support is provided to jurisdictions whenever their own resources prove to be inadequate to cope with a given situation.

The California Disaster and Civil Defense Master Mutual Aid Agreement (California Government Code Sections 8555–8561) requires signatories to the agreement to prepare operational plans to use within their jurisdiction, and outside their area. These plans include fire and non-fire emergencies related to natural, technological, and war contingencies. The State of California, all State agencies, all political subdivisions, and all fire districts signed this agreement in 1950.

Section 8568 of the California Government Code, the “California Emergency Services Act,” states that “the State Emergency Plan shall be in effect in each political subdivision of the State, and the governing body of each political subdivision shall take such action as may be necessary to carry out the provisions thereof.” The Act provides the basic authorities for conducting emergency operations following the proclamations of emergencies by the Governor or appropriate local authority, such as a City Manager. The provisions of the Act are reflected and expanded on by appropriate local emergency ordinances. The Act further describes the function and operations of government at all levels during extraordinary emergencies, including war.

All local emergency plans are extensions of the California Emergency Plan. The State Emergency Plan conforms to the requirements of California’s Standardized Emergency Management System (SEMS), which is the system required by Government Code 8607(a) for managing emergencies involving multiple jurisdictions and agencies. The SEMS incorporates the functions and principles of the Incident Command System (ICS), the Master Mutual Aid Agreement, existing mutual aid systems, the operational area concept, and multi-agency or inter-agency coordination. Local governments must use SEMS to be eligible for funding of their response-related personnel costs under State disaster assistance programs. The SEMS consists of five organizational levels that are activated as necessary, including: field response, local government, operational area, regional, and State. CalOES divides the State into several mutual aid regions. Carlsbad is in mutual aid region VI.

### **California Senate Bill 1241**

California SB 1241 requires cities and counties to address fire risk in SRAs and Very High FHSZs in the safety element of their general plans. The bill also amended CEQA to direct amendments to the *CEQA Guidelines* Appendix G environmental checklist to include questions related to fire hazard impacts for projects located in or near lands classified as SRAs and Very High FHSZs. In adopting these Guidelines amendments, OPR recognized that generally, low-density, leapfrog development may create higher wildfire risks than high-density, infill development.<sup>3</sup>

### **California Public Resources Code**

The California Public Resources Code (PRC) includes fire safety regulations that restrict the use of equipment that may produce a spark, flame, or fire; require the use of spark arrestors on construction equipment that use an internal combustion engine; specify requirements for the safe use of gasoline-powered tools in fire hazard areas; and specify fire suppression equipment that must be provided on-site for various types of work in fire-prone areas.

- These regulations include the following: Earthmoving and portable equipment with internal combustion engines would be equipped with a spark arrestor to reduce the potential for igniting a wildland fire (PRC § 4442);
- Appropriate fire suppression equipment would be maintained during the highest fire danger period—from April 1 to December 1 (PRC § 4428);
- On days when a burning permit is required, flammable materials would be removed to a distance of 10 feet from any equipment that could produce a spark, fire, or flame, and the construction contractor would maintain the appropriate fire suppression equipment (PRC § 4427); and
- On days when a burning permit is required, portable tools powered by gasoline-fueled internal combustion engines would not be used within 25 feet of any flammable materials (PRC § 4431).

### **California Public Utilities Commission General Order 166**

General Order 166 Standard 1.E requires that investor-owned utilities (IOU) develop a Fire Prevention Plan which describes measures that the electric utility will implement to mitigate the threat of power-line fires generally. Additionally, this standard requires that IOUs outline a plan to mitigate power line fires when wind conditions exceed the structural design standards of the line during a Red Flag Warning in a high fire threat area. Fire Prevention Plans created by IOUs are required to identify specific parts of the utility’s service territory where the conditions described

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<sup>3</sup> “Leapfrog development” describes the construction of new development at a distance from existing developed areas, with undeveloped land between the existing and new development.

above may occur simultaneously. Standard 11 requires that utilities report annually to the California Public Utilities Commission (CPUC) regarding compliance with General Order 166 (CPUC 2017).

### **c. Regional and Local**

#### **Carlsbad General Plan**

The current Carlsbad General Plan, adopted in 2015, lists several policies related to wildfire in the Public Safety Element. The existing Public Safety Element policies would be replaced by the updated Public Safety Element policies as part of this project; therefore, policies from the 2015 General Plan that are being removed as part of the Public Safety Element Update are not listed below. Proposed policies of the updated Safety Element are included in Section 4.7.3, *Impact Analysis*. A Land Use and Community Design Element goal listed below would apply (City of Carlsbad 2015):

**Goal 2-G.21** Ensure that adequate public facilities and services are provided in a timely manner to preserve the quality of life of residents.

#### **City of Carlsbad Landscape Manual**

Carlsbad published the latest version of the Landscape Manual in February 2016 to aid applicants, qualified professionals, and residents, in understanding the City's policies, programs and requirements for landscaping, and to provide guidance for implementation of Carlsbad Municipal Code Chapter 18.50 - Water Efficient Landscape Ordinance (WELO). The City's WELO implements the State of California Water Conservation in Landscaping Act to reduce water use associated with irrigation of outdoor landscaping by setting a maximum amount of water to be applied to landscaping and by designing, installing and maintaining water efficient landscapes not to exceed the maximum water allowance. The Landscape Manual is relevant for wildfire prevention since it is designed for consistency with policies regarding fire protection and slope erosion control (City of Carlsbad 2016).

#### **San Diego County Emergency Operations Plan**

The San Diego County EOP describes a comprehensive emergency management system which provides for a planned response to disaster situations associated with natural disasters, technological incidents, terrorism and nuclear-related incidents. It delineates operational concepts relating to various emergency situations, identifies components of the Emergency Management Organization, and describes the overall responsibilities for protecting life and property and assuring the overall wellbeing of the population. The plan also identifies the sources of outside support which might be provided (through mutual aid and specific statutory authorities) by other jurisdictions, state and federal agencies and the private sector. Annex B addresses emergency operations related to wildfire (San Diego County 2022).

#### **San Diego County Multi-Jurisdictional Hazard Mitigation Plan**

The San Diego County Multi-Jurisdictional Hazard Mitigation Plan (MJHMP) was prepared to comply with the Disaster Mitigation Act of 2000 to increase disaster planning funding. It is intended to educate the public, help serve as a decision-making tool, supplement and enhance local policies regarding disaster planning, and improve multi-jurisdiction coordination. Topics related to wildfire are addressed in the MJHMP. The San Diego County OES is responsible for coordinating with local jurisdictions and participating agencies to monitor, evaluate, and update the MJHMP as necessary.

The MJHMP identifies goals for hazard mitigation in Carlsbad and various actions are outlined in the MJHMP to assist the city in reaching this goal (San Diego County 2018).

### 4.15.3 Impact Analysis

#### **a. Methodology and Significance Thresholds**

##### **Significance Thresholds**

Pursuant to the *CEQA Guidelines*, potentially significant impacts to wildfire would result if the project, if located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would:

- 1) Substantially impair an adopted emergency response plan or emergency evacuation plan.
- 2) Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire.
- 3) Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment.
- 4) Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes.

In addition, pursuant to Section 9, Hazards and Hazardous Materials, of Appendix G of the *CEQA Guidelines*, a potentially significant impact would occur if the proposed project would:

- 1) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires.

The EIR prepared for the previous General Plan did not address wildfire impacts in an individual section, as this issue area was added to the CEQA Checklist as a standalone resource as part of the December 2018 *CEQA Guidelines* update. However, wildfire and evacuation was addressed in Section 3.6, *Hazards and Hazardous Materials* in the EIR for the 2015 General Plan.

##### **Methodology**

Cal FIRE Hazard Severity Maps were consulted in determining Carlsbad' proximity to SRAs or lands classified as very high fire hazard severity zones. Impacts related to wildfire hazards and risks were evaluated using FHSZ mapping for Carlsbad, aerial imagery, and topographic mapping. Additionally, weather patterns related to prevailing winds and precipitation trends were evaluated as they relate to the spread and magnitude of wildfire. It was assessed whether the proposed project would risk exacerbating those existing environmental conditions or causing new direct, indirect, or cumulative impacts to other aspects of the environment.

California Attorney General Best Practices for Analyzing and Mitigating Wildfire Impacts of Development Projects Under the California Environmental Quality Act restates the CEQA requirement that an EIR analyze "any significant environmental effects the project might cause or risk exacerbating by bringing development and people into the area affected," including by locating development in wildfire risk areas. As such, this evaluation assesses whether projects located in or near State responsibility areas or lands classified as very high fire hazard severity zones would

exacerbate wildfire risks, and thereby expose people or structures to significant risks during or post wildfire event; require the installation of emergency-related infrastructure; or result in temporary or ongoing impacts to the environment.

In addition, pursuant to California Attorney General Best Practices for Analyzing and Mitigating Wildfire Impacts of Development Projects Under the California Environmental Quality Act, this evaluation assesses whether projects located in or near State responsibility areas or lands classified as very high fire hazard severity zones would substantially impair an adopted emergency response plan or emergency evacuation plan.

## **b. Prior Environmental Analysis**

The 2015 General Plan EIR determined that impacts would be less than significant for interference with an adopted emergency response or evacuation plan and risk from wildland fire in lands adjacent to urbanized or residential areas (Section 3.6, Hazards and Hazardous Materials, Airport Safety, and Wildfires: 3.6-27 through 3.6-37). It further stated that individual development projects would be subject to project-specific development and planning review, including adherence to standards for wildfire safety.

The proposed project involves land use changes to encourage development on the 18 rezone sites beyond what was anticipated in the 2015 General Plan EIR and could therefore result in new impacts related to wildfire. Therefore, all the CEQA checklist items listed above under Methodology and Significance Thresholds are addressed in this analysis.

## **c. Project Impacts and Mitigation Measures**

Some components associated with the project, including updates to the Local Coastal Plan and master and specific plans for consistency between the city's planning documents, in and of themselves would not result in physical changes to the environment such that impacts to wildfire would occur. Therefore, this analysis focuses on impacts associated with implementation of the rezone program which would facilitate the development of 18 rezone sites listed in Table 2-4 in Section 2, *Project Description*. Where appropriate, updates to the Public Safety Element are discussed and analyzed, including new or revised policies or programs that address wildfire or emergency response/access or evacuation.

**Threshold 1:** If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project substantially impair an adopted emergency response plan or emergency evacuation plan?

**Impact WF-1**      **SIMILAR TO THE DEVELOPMENT ANALYZED IN 2015 GENERAL PLAN, DEVELOPMENT FACILITATED BY THE PROJECT WOULD RESULT IN ADDITIONAL POPULATION AND VEHICLE MILES TRAVELED IN THE CITY. THE PROJECT COULD RESULT IN CHANGES TO EMERGENCY EVACUATION ROUTES OR COULD INCREASE ROADWAY CONGESTION SUCH THAT THE USE OF AN EVACUATION ROUTE WOULD BE HINDERED. HOWEVER, IMPACTS WOULD REMAIN LESS THAN SIGNIFICANT.**

San Diego County implements the San Diego County EOP, which addresses the response to emergency incidents associated with emergencies affecting San Diego County, including Carlsbad. The County EOP establishes the emergency management organization for emergency response, establishes operational concepts associated with emergency management, and provides a flexible platform for planning emergency response in the County. Consistent with the County EOP purpose to provide a system for effective management of emergency situations, development facilitated by

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the project would provide emergency vehicle access points and adequate fire truck and apparatus turning radii and clearance for purposes of adequate emergency access and response within Carlsbad in compliance with California Fire Code. As such, implementation of emergency response and evacuation procedures may not be affected as a result of development facilitated by the project.

The project does not propose physical changes such as realigned or closed-off roadways or changes in general transportation circulation and access that would interfere or impair emergency response or evacuation citywide. As such, the project would also not result in changes to emergency evacuation routes such that use of an evacuation route, including Interstate 5, would be hindered.

Development facilitated by the project would accommodate future population growth and would increase vehicle miles traveled in the city by approximately two percent by 2035 (see Appendix E). This slight increase could lead to increased roadway congestion during emergency evacuations. However, the city would review and approve projects citywide, specifically development on the 18 rezone sites, to ensure that emergency access meets city standards. Development facilitated by the project would also comply with road standards and would be reviewed by the City of Carlsbad Fire Department to ensure development would not interfere with evacuation routes and would not impede the effectiveness of evacuation plans.

Additionally, as was found in the 2015 General Plan EIR, policies from the Public Safety Element would further reduce impacts related to emergency response. Policies listed below from the updated Public Safety Element would reduce impacts by improving emergency and evacuation preparedness:

- Policy 6-P.70** Implement and maintain the City of Carlsbad Emergency Operations Plan, the Multi-jurisdictional Hazard Mitigation Plan (MJHMP), and other relevant emergency plans, policies, and procedures.
- Policy 6-P.71** Promote public awareness of potential natural and man-made hazards, measures that can be taken to protect lives and property.
- Policy 6-P.72** Inform the public and contractors of the danger involved and the necessary precautions that must be taken when working on or near pipelines or utility transmission lines.
- Policy 6-P.73** Ensure all new development complies with all applicable regulations regarding the provision of public utilities and facilities.
- Policy 6-P.74** Maintain roadways that are likely to function as key evacuation routes.
- Policy 6-P.75** Provide resources to City of Carlsbad staff regarding appropriate emergency preparedness and response activities as well as designed roles and responsibilities as Disaster Service Workers. Conduct routine trainings for all-hazards emergency preparedness and response.
- Policy 6-P.76** Facilitate restriction of parking, construction permits or right-of-way encroachment permits on high fire days in neighborhoods in and near fire hazard zones and along critical evacuation routes.
- Policy 6-P.78** Develop and maintain emergency evacuation capabilities in conjunction with regional partners and regional plans such as the San Diego County Emergency Operations Plan.



**Policy 6-P.79** Continue to communicate to the public on essential resources and procedures through a variety of communication tools and in multiple languages on topics including:

- Education on the California Standard Statewide Evacuation Terminology.
- Emergency evacuation checklists for residents.
- Creation and education of the public on evacuation maps.
- Available transportation services.
- Evacuation shelter and support service options.

The Public Safety Element includes an update to evacuation routes, in compliance with AB 747 and SB 99. Pursuant to SB 99, the city identifies residential developments with fewer than two routes that can be used for emergency evacuation in the Public Safety Element. As illustrated in Figure 6-13 of the proposed Public Safety Element Update, there are six neighborhoods located throughout the city that are within or adjacent to wildfire hazard zones that lack more than one access routes for evacuation. Sites 4 and 19 are within one of these neighborhoods. However, all neighborhoods have points of ingress/egress outside of Very High Fire Hazard Severity Zones. As stated in the Public Safety Element Update, the City of Carlsbad has emergency operations plans and mutual aid agreements with other responsive agencies that can, to a large extent, utilize the roadway network effectively through operational changes to maximize existing capacity in the most effective manner. Further, Policies 6-P.70 through 6-P.79 as well as proposed Policies 6-P.66 and 6-P.67 listed below in the Public Safety Element Update would reduce impacts associated with emergency evacuation for sites with fewer than two access routes.

**Policy 6-P.66** Provide fire hazard education and fire prevention programs to Carlsbad residents and businesses with targeted outreach to vulnerable populations and occupants of Moderate, High, and Very High Fire Hazard Severity Zones neighborhoods and/or single access neighborhoods.

**Policy 6-P.67** Prioritize engagement with single access neighborhoods to encourage home retrofits to meet current standards on structure hardening and road standards, proactively enforce defensible space standards, and conduct emergency preparedness trainings.

Overall, because the County EOP would address emergency response and emergency evacuation, compliance with California Fire Code would occur (i.e., adequate emergency vehicle access and maneuverability), and new Public Safety Element policies would reduce impacts, the proposed project's impacts related to impairment of an adopted emergency response plan or emergency evacuation plan would be less than significant, as concluded in the 2015 General Plan EIR.

### **Mitigation Measures**

No mitigation measures are required because, like under the 2015 General Plan EIR, this impact would be less than significant without mitigation.

- Threshold 2:** If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project, due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?
- Threshold 3:** If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?
- Threshold 4:** If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?
- Threshold 5:** Would the project expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires?

**Impact WF-2 CARLSBAD IS LOCATED WITHIN A LOCAL RESPONSIBLY AREA VERY HIGH FIRE HAZARD SEVERITY ZONE AND ADJACENT TO A STATE RESPONSIBILITY AREA VERY HIGH FIRE HAZARD SEVERITY ZONE. COMPLIANCE WITH APPLICABLE POLICIES, CODES AND REGULATIONS WOULD REDUCE THE RISK OF LOSS, INJURY, OR DEATH FROM WILDFIRE ASSOCIATED WITH DEVELOPMENT FACILITATED BY THE PROJECT. THIS IMPACT WOULD REMAIN LESS THAN SIGNIFICANT.**

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Carlsbad contains some steep terrain and is located near open space areas in the easternmost portion. Carlsbad is located adjacent to an SRA Very High Fire Hazard Severity Zone and in a LRA Very High Fire Hazard Severity Zone. The LRAs, as shown in Figure 4.15-1, are mostly in the eastern and less developed area of the city. Sites 1, 2, 4, 6, 7, 11, 12, and 19 are either in or less than 0.25 miles from a LRA Very High Fire Hazard Severity Zone.

Development facilitated by the project would be subject to the California Fire Code, which includes safety measures to minimize the threat of fire, such as noncombustible or ignition-resistant building materials for exterior from the surface of the ground to the roof system and sealing any gaps around doors, windows, eaves, and vents to prevent intrusion by flame or embers. Construction would also be required to meet CBC requirements, including CCR Title 24, Part 2, which includes specific requirements related to exterior wildfire exposure. In addition, the Board of Forestry, via CCR Title 14, sets forth the minimum development standards for emergency access, fuel modification, setback, signage, and water supply; this help prevent loss of structures or life by reducing access limitations for purposes of accessing and suppressing wildfire locations. Furthermore, the Board of Forestry, via CCR Title 14, sets forth the minimum development standards for emergency access, fuel modification, setback, signage, and water supply, which help prevent loss of structures or life by reducing wildfire hazards. Sites 1, 2, 4, 6, 7, 11, 12, and 19 would be subject to these requirements prior to approval and development.

Additionally, as was found in the 2015 General Plan EIR, policies in the Public Safety Element and Goal 2-G.21 of the Land Use and Community Design Element would further reduce impacts of wildfire. Policies listed below from the Public Safety Element Update would be updated under the proposed project and were designed to account for California Attorney General Best Practices for Analyzing and Mitigating Wildfire Impacts of Development Projects Under the California

Environmental Quality Act. Therefore, implementation of these updated policies would help to reduce impacts.

- Policy 6-P.48** Enforce the most current California Building and Fire codes, adopted by the city, to provide fire protection standards for all existing and proposed structures.
- Policy 6-P.50** Coordinate with Carlsbad Municipal Water District, Olivenhain Municipal Water District, and Vallecitos Water District to ensure that water pressure for existing developed areas is adequate for firefighting purposes during the season and time of day when domestic water demand on a water system is at its peak.
- Policy 6-P.51** Permit development only within areas that have adequate water resources available, to include water pressure, onsite water storage, or fire flows.
- Policy 6-P.52** Maintain and implement Wildland/Urban Interface Guidelines for new and existing development within neighborhoods that are proximal to existing fire hazard severity zones. Decrease the extent and amount of edge or wildland urban interface where development is adjacent to fire hazard severity zones.
- Policy 6-P.53** Use strategies, such as community organization volunteer partnerships and environmentally friendly fuel reduction and weed abatement approaches, as prevention measures to minimize the risk of fires. Engage in fire hazard reduction projects, including community fire breaks and private road and public road clearance.
- Policy 6-P.54** To increase resistance of structures to heat, flames, and embers, review current building code standards and other applicable statutes, regulations, requirements, and guidelines regarding construction, and specifically the use and maintenance of non-flammable materials (both residential and commercial). Promote the use of building materials and installation techniques beyond current building code requirements, to minimize wildfire impacts as well as fire protection plans for all development.
- Policy 6-P.55** In planned developments that may occupy the wildland urban interface, High and Very High Fire Hazard Severity Zones, increase resilience during a potential wildfire evacuation through:
- Enforcing visible address numbers painted on sidewalks enforced through the city.
  - Applying special construction features found in California Building Code Chapter 7A for developments in Very High Fire Hazard Severity Zones & High Fire Hazard Severity Zones areas.
  - Developing and/or adapting multiple language accessible materials for how to prepare your family and home for an evacuation and go kit.
  - Identifying and preparing at risk and vulnerable populations that may need assistance to evacuate.
  - Maintaining critical evacuation routes, community fire breaks, emergency vehicle access.
  - Requiring adequate access (ingress, egress) to new development, including safe access for emergency response vehicles
  - Identification of anticipated water supply for structural fire suppression.

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- Developing fuel modification plans for all new developments.

**Policy 6-P.56** Evaluate soils and waterways for risks from flooding, water quality, and erosion to ensure that they are suitable to support redevelopment following a large fire.

**Policy 6-P.57** In the event of a large fire, evaluate re-development within the impacted fire zone to conform to best practice wildfire mitigation.

**Policy 6-P.58** Coordinate with telecommunication service entities and the San Diego County Communication Department to fire-harden communications.

**Policy 6-P.59** Limit new development along steep slopes and amidst rugged terrain to limit rapid fire spread and increase accessibility for firefighting.

**Policy 6-P.60** Develop and implement density management strategies that cluster residential developments and minimize low-density exurban development patterns to reduce amounts of flammable vegetation and collective exposure to wildfire risk. When feasible and practicable, require new residential development to be located outside of the Very High Fire Hazard Severity Zone (VHFHSZ). Should new residential development be located in VHFHSZ's, then require that it be built to the current California Building Code and Fire Code.

**Policy 6-P.61** When feasible, site new residential developments and critical facilities outside of the Very High Fire Hazard Severity Zone (VHFHSZ). Protect and harden critical facilities from natural hazards and minimize interruption of essential infrastructure, utilities, and services.

**Policy 6-P.62** Site structures to maximize low-flammability landscape features to buffer against wildfire spread.

**Policy 6-P.63** Require that new development have adequate fire protection, including proximity to adequate emergency services, adequate provisions for fire flow and emergency vehicle access and fire hardened communication, including high speed internet service.

**Policy 6-P.64** Ensure that the Carlsbad Fire Department has complete access to all locations in the City, including gated residential communities and critical infrastructure.

**Policy 6-P.65** Coordinate with San Diego Gas & Electric to implement an electrical undergrounding plan with a focus on critical evacuation roadways and areas with highest wildfire risk.

**Policy 6-P.66** Provide fire hazard education and fire prevention programs to Carlsbad residents and businesses with targeted outreach to vulnerable populations and occupants of Moderate, High, and Very High Fire Hazard Severity Zones neighborhoods and/or single access neighborhoods.

**Policy 6-P.67** Prioritize engagement with single access neighborhoods to encourage home retrofits to meet current standards on structure hardening and road standards, proactively enforce defensible space standards, and conduct emergency preparedness trainings.

**Policy 6-P.68** Continue to maintain and update the city's Water Master Plan to identify and secure resources to meet future fire suppression needs and require future

development to provide the water system improvements necessary to meet their demands.

**Policy 6-P.69** Continue to maintain/contribute to updates to the Urban Area Security Strategy and the MJHMP to identify and prepare for future emergency service needs. For fire preparedness, continue to prepare a Standards of Coverage study to evaluate risks and prepare recommendations to mitigate those risks.

Section 4.14, *Utilities and Service Systems*, discusses the Urban Water Management Plan for San Diego County Water Authority and determined that there are sufficient water supplies to accommodate the anticipated population growth throughout their service area (including Carlsbad) through 2045. In addition, Carlsbad is located in urbanized parts of the San Diego County Water Authority service area. As discussed under Impact UTIL-2, there would be sufficient water supplies available to serve the project during normal, dry, and multiple dry years. In compliance with the California Fire Code, Part 9 of the CBC, development facilitated by the project would follow standards for fire safety such as fire flow requirements for buildings, fire hydrant location, and distribution criteria. Further, as discussed in Section 4.14, *Utilities and Service Systems*, under Impact UTIL-1, major upgrades to electric power or natural gas and telecommunications transmission lines and other facilities are not anticipated; therefore, installation or maintenance of associated infrastructure with development facilitated by the project would not exacerbate fire risk. Impacts related to downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes would be reduced by compliance with the CBC and CMC, as well as applicable General Plan policies, as discussed and outlined under Impact GEO-2 in Section 4.5, *Geology and Soils*. Other impacts related to wildfire that would result from specific project development characteristics would be considered when the city reviews those specific development proposals.

While development facilitated by the project could be prone to and exacerbate wildfires, including impacts resulting from downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes, compliance with the CBC, CMC, and Public Safety Element policies outlined above would reduce impacts. These policies would make structures more fire resistant and less vulnerable to loss in the event of a wildfire as well as reduce the potential for construction to inadvertently ignite a wildfire. Therefore, the project's impact related to wildfire exposure and exacerbation risk would be less than significant, similar to the conclusion under the 2015 General Plan EIR.

### **Mitigation Measures**

No mitigation measures are required because, like under the 2015 General Plan EIR, this impact would be less than significant without mitigation.

### **d. Cumulative Impacts**

The geographic scope for cumulative wildfire impacts is all of the city and adjacent areas. This geographic scope is appropriate for wildfire because wildfires can cause impacts to large areas. Adjacent development that is considered part of the cumulative analysis includes buildout of General Plans for cities on Carlsbad's border, including Oceanside, Encinitas, Vista, and San Marcos. As discussed in this impact analysis, projects carried out under the project may increase the potential for wildfire, but implementation of the policies contained in the project, combined with compliance with existing laws and regulations would reduce project-level impacts. While cumulative

development in and near Very High Fire Hazard Severity Zones could also exacerbate wildfire risks in the geographic scope, the proposed project would not significantly exacerbate wildfire risk in Carlsbad's Very High Fire Hazard Severity Zone, a cumulative impact may occur but the proposed projects' contribution would not be cumulatively considerable, similar to the less than significant conclusion in the 2015 General Plan EIR.

## 4.16 Other Environmental Issue Areas Analyzed

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*CEQA Guidelines* Section 15128 requires an EIR (or an SEIR) to briefly describe any possible significant effects that were determined not to be significant and, therefore, were not discussed in detail. This section addresses the potential environmental effects of the proposed project that were determined not to be significant. The topics listed below are drawn from the environmental checklist form included in *CEQA Guidelines* Appendix G. CEQA topics not addressed in this section are included in Sections 4.1 through 4.15 of this SEIR.

### 4.16.1 Agricultural and Forestry Resources

The proposed project would have a significant impact with respect to agricultural and forestry resources if it would:

- a. Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use;
- b. Conflict with existing zoning for agricultural use or a Williamson Act contract;
- c. Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code Section 12220(g)); timberland (as defined by Public Resources Code Section 4526); or timberland zoned Timberland Production (as defined by Government Code Section 51104(g));
- d. Result in the loss of forest land or conversion of forest land to non-forest use; or
- 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.

The proposed project would not produce an adverse environmental impact concerning the conversion of Important Farmland to urban or other uses. There are no proposed land use changes that would affect the status of the Flower Fields, the sole property subject to Williamson Act contracts (DOC 2016). Additionally, there are no areas in Carlsbad zoned as forest or timberland.

### 4.16.2 Energy

The proposed project would have a significant impact with respect to energy resources if it would:

- a. Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation; or
- b. Conflict with or obstruct a State or local plan for renewable energy or energy efficiency.

Construction and maintenance on development facilitated by the proposed project would result in short-term consumption of energy resulting from the use of construction equipment and processes. During construction activities, energy would be needed to operate construction equipment. In addition, construction materials require energy to be produced, and would likely be used in projects that involve new construction or replacement of older materials. The California Green Building Standards Code (CALGreen) includes specific requirements related to recycling, construction materials, and energy efficiency standards, which would apply to construction projects envisioned by the proposed project and help to minimize waste and energy consumption. All construction

conducted pursuant to the proposed project would be required to comply with the CALGreen and would thus reduce energy consumption associated with buildout of the project.

All future development under the proposed project would be required to comply with the latest California Building Code (CBC) requirements, including CBC Energy Efficiency Standards, as well as all federal, state, and local rules and regulations pertaining to energy consumption and conservation. Through implementation of city policies as delineated in the General Plan, and concurrent implementation of the Climate Action Plan, the proposed project would support the San Diego Regional Energy Strategy renewable energy goals and would not conflict with any applicable plan, policy, or regulation adopted regarding renewable energy or energy efficiency.

### 4.16.3 Mineral Resources

The proposed project would have a significant impact with respect to mineral resources if it would:

- a. Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state, or
- b. Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan.

The City of Carlsbad does not have mineral resources of economic value or active mining sites (City of Carlsbad 2015).

Historically, the Quarry Creek Master Plan area within Carlsbad was previously utilized for aggregate minerals extraction and a hard rock quarry that was regionally valuable. Mining operations at the Quarry Creek site were terminated in 1995 because the mineral resources at the site were considered to be realized after the course of 34 years of mining operations. Currently, no mineral resources of economic value to the region and the residents of the state have been identified in Carlsbad. Carlsbad has not been delineated as a locally important mineral recovery site. Therefore, the proposed project would have no impact on any known mineral resources.



## 5 Other CEQA Required Discussions

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This section analyzes the impacts of the proposed project on growth inducing and long-term effects. A similar analysis was provided in the 2015 General Plan EIR; however, land use changes to the 18 rezone sites to implement the Housing Element and updates to the Public Safety Element, Local Coastal Program, and various Master and Specific Plans would occur under the proposed project, which requires an updated analysis.

### 5.1 Growth Inducement

*CEQA Guidelines* Section 15126.2(d) requires a discussion of a proposed project's potential to induce growth. Specifically, an EIR (or SEIR) must discuss the ways in which the proposed project could foster economic or population growth. Included in this are projects which would remove obstacles to population growth. In addition, the EIR (or SEIR) must discuss how the project may encourage and/or facilitate other activities that could significantly affect the environment. It must not be assumed that growth in any area is necessarily beneficial, detrimental, or of little significance to the environment. Economic and population growth do not necessarily create significant physical changes to the environment. However, depending upon the type, magnitude, and location of growth, it can result in significant environmental effects. A project's growth-inducing potential is therefore considered significant if growth generated by the project could result in significant effects in one or more environmental issue areas.

#### 5.1.1 Economic Growth

The proposed project would involve land use changes on the 18 rezone sites to facilitate housing. This would generate construction and maintenance employment opportunities. Because construction workers would be expected to be drawn from the existing regional work force, project construction would not be growth-inducing from an employment standpoint. The proposed project would not be expected to induce substantial economic expansion to the extent that direct physical environmental effects would result.

Although such growth may incrementally increase economic activity in Carlsbad, significant physical effects beyond those impacts discussed in this SEIR are not expected to result from economic growth generated by the proposed project. Impacts associated with such growth are discussed in Sections 4.1 through 4.16 of this SEIR.

#### 5.1.2 Population Growth

The project does not involve the expansion of existing urban service areas or extension of infrastructure outside of existing urban service areas; rather, it involves increased density within established urban service areas. In addition, the proposed project would not involve the extension of roads or other infrastructure that could indirectly lead to population growth.

As discussed in Section 4.11, *Population and Housing*, development facilitated by the proposed project would directly generate population growth. Specifically, the project would facilitate an estimated population growth of 8,260 persons based on the maximum project-facilitated buildout of 3,295 housing units. The addition of 8,260 new residents to the city, combined with remaining residential growth potential under current General Plan residential land use designations, would

increase Carlsbad's population from 117,800 residents to 141,670 residents<sup>1</sup> in 2035. However, as discussed in Section 4.11, the proposed project constitutes as planned population growth in accordance with the Regional Housing Needs Allocation (RHNA) as planned for the in the city's Housing Element. The city's RHNA is provided by the San Diego Association of Governments (SANDAG) to plan for expected growth in the region.

Impacts associated with population growth facilitated by the proposed project are analyzed throughout this SEIR. As discussed in Section 5.2 below, the proposed project would result in significant environmental effects with respect to air quality, cultural resources, noise, transportation, and wildfire.

### 5.1.3 Removal of an Impediment to Growth

The rezone sites are located in General Plan-designated urban service areas that are served by existing infrastructure. The project would not result in sewer or water services being extended outside existing urban service areas. As discussed in Section 4.14, *Utilities and Service Systems*, development is within existing utility service areas. Improvements to water, sewer, and drainage connection infrastructure would be needed at some of the rezone sites (including expanded pipeline and potentially new pumps) but would be sized to specifically serve the individual project and site. These water and sewer utility extensions would be limited in extent and would be contained within designated urban service areas. These extensions would not result in additional growth surrounding the rezone, as future development in urban service areas is already anticipated by the General Plan. No new roads would be required. Because the project would facilitate development within already established urbanized areas, project implementation would not remove an obstacle to growth.

## 5.2 Irreversible Environmental Effects

*CEQA Guidelines* Section 15126.2(c) requires a discussion of significant irreversible environmental changes that would occur as a result of a proposed project.

The proposed project would facilitate infill residential development on developed, underdeveloped or vacant sites in Carlsbad. Construction and operation of development facilitated by the project would involve an irreversible commitment of construction materials and non-renewable energy resources. Development would involve the use of building materials and energy, some of which are non-renewable resources, to construct new residential buildings and associated infrastructure and landscaping. Consumption of these resources would occur with any development in the region and are not unique to the proposed project. Temporary power may also be provided for construction trailers and electric construction equipment. On-site construction would irreversibly increase local demand for non-renewable energy resources such as petroleum and natural gas. In addition to on-site energy use during construction, the off-site production of building materials also may consume non-renewable energy sources. For instance, the manufacture of steel, cement, glass, and bricks relies on kiln processes that are fossil-fuel intensive. The consumption of non-renewable building materials and energy sources during construction and operation would occur with any development in the region and is not unique to Carlsbad or the project. Moreover, state and federal regulations would offset the increase in demand for non-renewable materials to some degree.

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<sup>1</sup> The population is based on calculations developed by the city for the 2015 General Plan EIR to estimate population at buildout. The estimate assumes 2.63 persons per household, with a 5.5 percent vacancy rate, and 0.86 percent of residents as group quarters (56,516 \* 2.63 \* 0.945 \* 1.0086 = 141,670).

Growth facilitated by the proposed project would require a long-term, irreversible commitment of law enforcement, fire protection, water supply, and wastewater treatment. As discussed in Section 4.12, *Public Services and Recreation* and 4.14, *Utilities and Service Systems*, impacts to public services and utilities would be less than significant level given compliance with existing laws and regulations as well as 2015 General Plan policies and policies in the Public Safety Element Update.

Long-term irreversible environmental changes are associated with increased asphalt or concrete paving from new related direct and cumulative impacts to aesthetics, biological resources, geology and soils, and hydrology and water quality. These types of environmental changes were evaluated in the 2015 General Plan EIR, and the effects of the proposed project would not be substantially different or more severe than previously identified in the 2015 General Plan EIR. Additionally, the mitigation measures prescribed to minimize these effects would be required.

The additional vehicle trips associated with the proposed project would incrementally increase local traffic, noise levels, greenhouse gas emissions, and regional air pollutant emissions. As discussed in Section 4.2, *Air Quality*, impacts associated with air pollution emissions would be significant and unavoidable. As described in Section 4.6, *Greenhouse Gas Emissions*, the proposed project would represent a cumulatively considerable impact related to GHG emissions. As discussed in Section 4.10, *Noise*, the increase in traffic noise from additional vehicle trips would have a less than significant impact on sensitive receptors. As discussed in Section 4.13, *Transportation*, development facilitated by the project would result in significant and unavoidable impacts with respect to vehicle miles traveled (VMT). Therefore, the proposed project would have significant irreversible environmental effects with respect to air quality, GHG emissions, and VMT.

As discussed in Section 4.4, *Cultural and Tribal Cultural Resources*, the proposed project may result in the demolition or significant modification of eligible historical resources which would cause significant and unavoidable impacts to historical resources. Therefore, the proposed project would have significant irreversible environmental effects with respect to historical resources.

### 5.3 List of Significant and Unavoidable Impacts

The 2015 General Plan found that implementation of the 2015 General Plan would result in significant and unavoidable impacts with respect to air quality and transportation. The proposed project would result in the following significant and unavoidable impacts:

- **Impact AQ-2.** Violate any air quality standard or contribute to an existing or projected air quality violation; Result in 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.
- **Impact CUL-1.** Cause a substantial adverse change in the significance of a historical resource pursuant to Section 15064.5.
- **Impact GHG-1.** The project may generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment and may conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases.
- **Impact NOI-1.** Result in generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies.
- **Impact T-2.** Conflict or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b) pertaining to vehicle miles traveled (VMT).

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## 6 Alternatives

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Pursuant to CEQA Section 15163 (b), “the supplement to the EIR need contain only the information necessary to make the previous EIR adequate for the project as revised.” There is no mandate to include project alternatives in a Supplemental EIR. The 2015 General Plan EIR included the evaluation of a range of alternatives selected for their potential to avoid or lessen environmental impacts of the 2015 General Plan. Although not required for a Supplemental EIR, in light of the impacts identified in this Draft SEIR for the proposed project in comparison to the 2015 General Plan, the city has elected to prepare an alternatives analysis.

The primary purpose of this section of the SEIR is to provide decision makers and the general public a reasonable number of feasible alternatives that could attain most of the basic objectives of the proposed project, while avoiding or reducing any of the significant adverse environmental effects of the project. As required by CEQA, this section also includes a discussion of the “environmentally superior alternative” among those studied.

The objectives for the proposed project are listed in Section 2.5 of Section 2, *Project Description*. Included in this analysis are two alternatives, including the CEQA-required “No Project” alternative, that involve changes to the project that may reduce the project-related environmental impacts as identified in this EIR. Alternatives have been developed to provide a reasonable range of options to consider that would help decision makers and the public understand the general implications of revising or eliminating certain components of the proposed project.

The following alternatives are evaluated in this EIR:

- Alternative 1: No Project Alternative
- Alternative 2: Reduced Number of Sites

The City Council may consider all feasible alternatives and has the discretion to adopt any of the alternatives proposed. The alternatives proposed are fully actionable in accordance with CEQA Guidelines Section 15126.6 and the analysis provided herein are adequate to enable the City Council to, if desired, select one of the alternatives and approve it rather than the proposed project.

### 6.1 Methodology

The implementation of the proposed project was analyzed for potentially significant impacts related to each of the environmental issues discussed in Sections 4.1 through 4.16. The results of the analysis indicate that the proposed plan would result in the following significant and unavoidable impacts:

- Impact AQ-2. Violate any air quality standard or contribute to an existing or projected air quality violation; Result in 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.
- Impact CUL-1. Cause a substantial adverse change in the significance of a historical resource pursuant to Section 15064.5.

- Impact GHG-1. Generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment and conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases.
- Impact NOI-1. Result in generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies.
- Impact T-2. Conflict or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b) pertaining to vehicle miles traveled (VMT).

Where feasible, mitigation measures were identified for the impacts identified above; however, the identified mitigation would not reduce the impacts to less than significant. Thus, even though the proposed project attempts to mitigate its impacts to the greatest extent feasible as required by CEQA, the mitigation is not technically feasible or sufficient or available to reduce impacts from significant and unavoidable.

Each alternative is described and analyzed below to determine whether environmental impacts would be similar to, less than, or greater than those of the project for each of the impact issue areas analyzed in this SEIR. It should be noted that because the alternatives analysis is focused on the potentially significant impacts specific to the project, the alternatives to the 2015 General Plan evaluated in the 2015 EIR were not used in this SEIR.

## 6.2 Alternative 1: No Project Alternative

### 6.2.1 Description

Section 15126.6 of the *CEQA Guidelines* requires analysis of the No Project Alternative. The No Project Alternative, Alternative 1, is defined as a land use pattern comprised of land use trends according to the 2015 General Plan. It assumes that regional growth trends and land use according to the 2015 General Plan would continue, without the Housing Element Implementation and Public Safety Element Update as proposed under the project. Under Alternative 1, population in the Plan Area for 2035 would be 133,410, consistent with the findings of the 2015 General Plan and acknowledging approved residential development since the General Plan's adoption. The 18 rezone sites would not be developed at the same capacity under this scenario as it would under the proposed project. Under existing zoning, Alternative 1 would result in the development of approximately 506 units on the 18 rezone sites, which would be 2,789 units fewer than the 3,295 units contemplated for the proposed project. Land use projects would be comprised of those that are currently in construction or are implemented through the 2015 General Plan updated to reflect current conditions. As land use under the current General Plan still has residential capacity (as well as capacity for new non-residential construction, such as new commercial and industrial buildings), the city would continue to grow in terms of housing units, population, non-residential square footage, and jobs. While not an environmental impact under CEQA, this alternative would not be consistent with the required programs of the 2021-2029 Housing Element and the city would be at risk of having the Housing Element "decertified" by the State if this program is not implemented.

## 6.2.2 Impact Analysis

### a. Aesthetics

Implementation of Alternative 1 and continued land use patterns of the 2015 General Plan would result in land uses similar to those envisioned under the land use scenario in the 2015 General Plan. Therefore, Alternative 1 would result in less than significant impacts to scenic vistas, scenic resources, public views, and light and glare as found in the 2015 General Plan EIR. Although some sites such as rezone sites 3 and 8 would still be developed as residential uses under the 2015 General Plan, aesthetic impacts would be slightly reduced when compared to the proposed project as there would be less overall development (2,789 fewer residential units though some of the uses would be for commercial or industrial development in accordance with the current land use designations)<sup>1</sup>. Similar to the 2015 General Plan EIR and the proposed project, no aesthetics mitigation would apply to Alternative 1.

### b. Air Quality

Although implementation of Alternative 1 would result in the development of the same sites as the proposed project, development would not occur in as high of a density or intensity compared to the proposed project, and Alternative 1 would result in the development of 2,789 fewer residential units compared to the proposed project. Therefore, fewer construction-related emissions would be emitted. Similar to the 2015 General Plan, the overall land use scenario envisioned by the Alternative 1 is intended to increase residential land use capacity within existing developed areas, ultimately increasing density. As shown below in Table 6-1, the regional VMT would be higher per capita for Alternative 1 (24.0 VMT per capita) than the proposed project (23.6 VMT per capita), since the proposed project would change land uses to concentrate growth and residences to jobs and services to reduce singular vehicle trips and encourage alternative modes of travel. Overall traffic (VMT) for Alternative 1 would be similar when compared to the traffic levels analyzed in the 2015 General Plan EIR.

Since Alternative 1 would result in the development of 2,789 fewer residential units compared to the proposed project, operational emissions would be less for most criteria pollutants than those produced with implementation of the proposed project. Alternative 1 would also result in fewer residents which would reduce the total VMT since there would be fewer vehicles. Nonetheless, although overall impacts to air quality would be decreased under Alternative 1 when compared to the proposed project, Alternative 1 would continue the land use scenario envisioned in the 2015 General Plan and would result in similar threshold exceedances as the 2015 General Plan, resulting in significant and unavoidable impacts. As stated in Section 3.2, *Air Quality*, of the 2015 General Plan EIR, no mitigation is available beyond the measures identified in the City's Storm Water Pollution Prevention Plan, Green Building Standards Code, and goals and policies in the General Plan that would reduce impacts to a level that is less than significant.

### c. Biological Resources

Implementation of Alternative 1 would result in fewer impacts to biological resources as compared to the proposed project, considering that Alternative 1 involves development at the same intensity as analyzed in the 2015 General Plan EIR, and would include 2,789 fewer residential units when

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<sup>1</sup> Under the 2015 General Plan Sites 3 (20 units) and 8 (117 units) would still be developed as residential uses. Site 9 is currently a residentially designated site and site 18 (50 units) has an approved project on the residential portion.

compared to the proposed project. Since Alternative 1 would also still result in development of the same sites as the proposed project, although mostly for commercial and industrial uses, it would result in similar ground disturbance and impacts to special status plants and animals, critical habitats, and wildlife movement. Therefore, impacts to biological resources would be the same as those found in the 2015 General Plan EIR. Impacts to sensitive plant and animal species, critical habitats and wildlife movement would be similar under Alternative 1 relative to the proposed project since disturbance at the 18 rezone sites would still occur, and adherence to goals and policies outlined in the 2015 General Plan would continue to be required to reduce impacts to a less than significant level.

#### **d. Cultural and Tribal Cultural Resources**

Implementation of Alternative 1 would result in similar impacts to cultural and tribal cultural resources as compared to the proposed project, considering that Alternative 1 involves development at the same intensity as analyzed in the 2015 General Plan EIR. Alternative 1 would result in development of the same sites as the proposed project, and therefore potential to impact known and unknown cultural resources would be the same as compared to the project. As such, the potential to disturb tribal cultural resources, including ancestral remains and sacred sites, would be the same. The similar amount of ground disturbance would occur from the completion of projects under the 2015 General Plan, and similar to the proposed project, development projects under Alternative 1 would be required to adhere to the *Carlsbad Tribal, Cultural, and Paleontological Resources Guidelines*, which would reduce impacts to archaeological resources to a less than significant level. Since this alternative would include development of the same 18 rezone sites, similar to the proposed project, impacts to historical resources would be significant and unavoidable. Overall, impacts related to cultural and tribal cultural resources would be increased to those found in the 2015 General Plan EIR and similar under this alternative as compared to the proposed project.

#### **e. Geology and Soils**

Implementation of Alternative 1 would result in the same impacts to geological and soil resources as compared to the proposed project, considering that Alternative 1 involves development at the same intensity as analyzed in the 2015 General Plan EIR. Alternative 1 would allow for development under existing zoning, which would involve construction or ground disturbance that could expose and loosen soils and increase the potential for erosion. Future construction on any of the sites would be required to comply with California Building Code requirements, ensuring the stability of new structures during seismic events or due to expansive soils. Development allowed under existing zoning, similar to development facilitated by the proposed project, would occur in areas of moderate and high paleontological sensitivity; however, because this alternative would include the same land use scenario as the 2015 General Plan, impacts would be less than significant. Overall, Alternative 1 would have similar impacts to geology and soils when compared to the proposed project.

#### **f. Greenhouse Gas Emissions**

Implementation of Alternative 1 would result in similar impacts associated with GHG emissions during construction activities as the same 18 rezone sites would be developed compared to the proposed project. However, overall regional VMT per capita would be higher for Alternative 1 than the proposed project since development under Alternative 1 would not have as high of a density or



intensity compared to the proposed project, which would place more residents in proximity to jobs, services, and transit, thereby reducing the need for single-occupancy vehicles and reducing VMT per capita.

As shown below in Table 6-1, the VMT per capita for Alternative 1 would be higher than for the proposed project. This increase in VMT per capita under Alternative 1 is a result of less residents in proximity to jobs, services, and transit under this scenario. Alternative 1 would have similar but slightly increased GHG impacts on per capita basis compared to the proposed project considering that all 18 rezone sites would still be developed, but fewer residents would be located in proximity to jobs, services, and transit. However, total GHG emissions would be lower under Alternative 1 and Alternative 1 would be consistent with the City's existing Climate Action Plan (CAP) and thus would be consistent with all applicable plans, policies, and regulations regarding GHG emissions. Therefore, impacts related to the implementation of Alternative 1 would be decreased, as it would be consistent with the current CAP, as compared to the proposed project, and would be similar to the impacts analyzed in the 2015 General Plan EIR.

### **g. Hazards and Hazardous Materials**

Under the Alternative 1, the transport, storage, and use of hazardous materials associated with construction of development allowed under existing zoning, and operation of housing, commercial and industrial uses, such as paints and solvents, would be required to comply with existing regulations, similar to the proposed project. Development sites under Alternative 1 containing existing contamination would continue to require remediation and compliance with State and local regulations to allow for development under existing zoning. Similar to the proposed project, the same 18 rezone sites would be developed under Alternative 1, where certain sites would be located within the Safety Zones and Airport Influence Areas of the McClellan-Palomar Airport. However, since Alternative 1 would continue the land use patterns of the 2015 General Plan, under this Alternative only 506 residential units would be developed compared to 3,295 under the proposed project. Therefore, Alternative 1 would expose fewer residents to safety hazards or excessive noise from the McClellan-Palomar Airport, and impacts related to airport safety hazards would be slightly reduced compared to the proposed project. Since Alternative 1 analyzes the same land use scenario as in the 2015 General Plan EIR, impacts to hazards and hazardous materials would be the same as those analyzed in the 2015 General Plan EIR. Impacts would be slightly reduced compared to the proposed project.

### **h. Hydrology and Water Quality**

Alternative 1 would allow development under existing zoning, which could include construction activities that would loosen and expose soils, otherwise increase the potential for soil erosion and sedimentation, and create new or additional impervious surfaces. Alternative 1 would be consistent with the land use and development scenario analyzed in the 2015 General Plan EIR and would include the 18 rezone sites included in the proposed project. However, Alternative 1 would develop some the 18 rezone sites as industrial or commercial uses, compared to residential uses under the proposed project, which has a higher potential for violating water quality standards or depleting groundwater supplies, resulting in slightly higher impacts compared to the proposed project. Nonetheless, similar to the proposed project, with compliance with applicable laws and regulations, Alternative 1 would not substantially decrease groundwater supplies or violate water quality standards. Impacts to hydrology and water quality would be the same as those in the 2015 General Plan EIR and similar to the proposed project.

### **i. Land Use and Planning**

Under Alternative 1, the selected rezone sites from the project would retain their existing zoning, and future buildout would be similar to the analysis in the 2015 General Plan EIR. Alternative 1 would not alter connectivity with adjacent areas or divide established communities. Future development under existing zoning would be required to comply with regulatory goals and policies, similar to the proposed project. Alternative 1 would not promote high-density housing opportunities to the extent that the proposed project would (since only 506 units would be developed compared to 3,295 with the proposed project). As noted above in the description of this alternative, this alternative would not be consistent with the required programs of the 2021-2029 Housing Element and the city would be at risk of having the Housing Element “decertified” by the State if this program is not implemented. As a result impacts to land use and planning would be similar, though slightly increased, to the proposed project and the 2015 General Plan EIR.

### **j. Noise**

Under Alternative 1, temporary construction-related noise impacts would continue to occur at the 18 rezone sites, as with the proposed project. Additionally, given that exact details of future construction projects are still currently unknown, it is conservatively assumed that construction noise may exceed applicable thresholds, and impacts would remain significant and unavoidable. Furthermore, since construction would be reduced, construction vibration impacts would also be reduced compared to the proposed project. With the continued implementation of Mitigation Measure NOI-2, vibration impacts associated with construction activities would be less than significant, similar to the proposed project.

Under Alternative 1, operational noise impacts would occur at the 18 rezone sites facilitated by the proposed project. Development activities permitted under the zoning and land use designations outlined in the 2015 General Plan EIR would result in less than significant impacts from operational noise activities as with the proposed project, such as noise generated from HVAC equipment, vehicle activity, and outdoor activity areas. Therefore, under this alternative, operational noise impacts would be similar to the proposed project and the 2015 General Plan EIR.

### **k. Population and Housing**

Since development would follow land uses consistent with the 2015 General Plan EIR, Alternative 1 would not induce substantial population growth, as the development allowed in accordance with the existing Land Use Element and Land Use Map is already accounted for in regional population and housing projections. As a result, Alternative 1 would not contribute to unplanned growth and would also not displace people or housing. Alternative 1 would have no impacts to population and housing, while the proposed project would have less than significant impacts. Impacts under this alternative would be less than those for the proposed project. However, Alternative 1 would not provide the benefits associated with the provision of housing that would occur under the proposed project. Further, Alternative 1 would not be consistent with state required housing targets under the Housing Element Program 1.1 and the Regional Housing Needs Allocation.

### **l. Public Services and Recreation**

Development allowed by land uses described in the 2015 General Plan EIR would occur under Alternative 1, and since Alternative 1 would mainly develop the same 18 rezone sites but only 506 residential units compared to the 3,295 under the proposed project, this alternative would result in

a smaller increase to emergency calls to the area, as well as a smaller increase in additional demand for schools, parks, libraries, recreational facilities, or other public services, since there would be fewer new residents introduced. Impacts under Alternative 1 would be slightly less than that under the proposed project.

**m. Transportation**

Alternative 1 would not include the rezone sites envisioned under the proposed project. Similar to the development analyzed for the proposed project and 2015 General Plan EIR, development facilitated by Alternative 1 would not result in additional conflicts with programs and plans related to the circulation system. Impacts to transportation systems would be similar and remain less than significant. As discussed in Section 4.13, *Transportation*, per capita VMT would be greater under Alternative 1 as compared to the proposed project, as Alternative 1 envisions the same land use scenario analyzed in the 2015 General Plan EIR (refer to Table 6-1, below). Since the land uses under Alternative 1 would include a mix of commercial and industrial uses and less dense residential uses (only 506 units compared to up to 3,295 units under the proposed project), Alternative 1 would not place as many residents in proximity to jobs, services, and transit, and therefore would result in a higher VMT per capita compared the proposed project. Similar to the proposed project, impacts would be significant and unavoidable and Mitigation Measure T-1 would also apply to Alternative 1.

**Table 6-1 Citywide Average Project Generated VMT per Resident**

Model Scenario	City of Carlsbad VMT/Resident
2016 Base Year	24.0
Alternative 1 (No Project Alternative)	24.0
Proposed Project (2035)	23.6
<b>Impact Assessment</b>	
Residential VMT per Resident Threshold	20.4
<b>Impact Conclusion for Alternative 1</b>	<b>Significant Impact</b>

**n. Utilities and Service Systems**

Development as analyzed under the 2015 General Plan EIR would occur under Alternative 1, and this would result in an increase in demand for water, wastewater, electricity, natural gas, telecommunications, and solid waste service. Similar to the proposed project, Alternative 1 would result in the development of 18 rezone sites. However, the 18 rezone sites would only include 506 residential units compared to the 3,295 units anticipated under the proposed project. Nonetheless, the expansion of water and wastewater infrastructure would still be required for sites not already adjacent to existing infrastructure. Impacts would be the same when compared to the proposed project.

**o. Wildfire**

Under the No Project Alternative, development under existing zoning would be allowed on sites that are mapped within or near Local Responsibility Areas (LRA) and fire hazard zones. Alternative 1 utilizes the same land use scenario analyzed in the 2015 General Plan EIR. Therefore, wildfire impacts resulting from Alternative 1 would be the same as those in the 2015 General Plan EIR. Similar to the proposed project, Alternative 1 would not conflict with an adopted emergency response plan or emergency evacuation plan. Construction would require building permits and

would be required to comply with applicable fire code regulations. While impacts were determined to be less than significant in the 2015 General Plan EIR, because development under Alternative 1 may have sites in close proximity to LRAs, impacts would be similar to the proposed project. There would be the same impacts under this alternative because the 18 rezone sites would still be developed, though this alternative would only include 506 residential units.

## 6.3 Alternative 2: Reduced Sites

### 6.3.1 Description

Alternative 2, Reduced Sites, would include development on most of the rezone sites as identified in the project. However, Alternative 2 would exclude development on rezone sites 3, 8, and 15, which, as identified in Table 2-4 of Section 2, *Project Description*, would accommodate a net increase (not including units already permitted under current designations) of 137 dwelling units total under the project. Additionally, the number of units on sites 14 and 17 would be increased to accommodate more housing (180 units more than analyzed under the project) near COASTER transit stations, which are operated by North County Transit District. Therefore, development under Alternative 2 would accommodate 43 more dwelling units than the proposed project. Alternative 2 would still achieve project objectives such as facilitating residential development to meet the 2021-2029 RHNA and pursuing an infill strategy to create walkable communities.

### 6.3.2 Impact Analysis

#### **a. Aesthetics**

Alternative 2 would increase the number of proposed housing units by 43 units by removing rezone sites 3, 8, and 15 while increasing density at rezone sites 14 and 17. Implementation of this alternative and continued land use patterns of the proposed project would result in land uses similar to those envisioned under the land use scenario in the 2015 General Plan. Therefore, Alternative 2 would result in less than significant impacts to scenic vistas, scenic resources, public views, and light and glare, similar to the proposed project, and would remain less than significant. Aesthetic impacts would be the same as those analyzed in the 2015 General Plan EIR but increased when compared to the proposed project. Specifically, some impacts to public views may be increased at rezone site 17 due to the potential for increased building heights. Similar to the 2015 General Plan EIR and proposed project, no mitigation would apply to Alternative 2.

#### **b. Air Quality**

Implementation of Alternative 2 would result in slightly more construction emissions when compared to the proposed project, as Alternative 2 would remove three rezoning sites (3, 8, and 15) from the project and increase density at two other sites (14 and 17), resulting in a net of 43 more residential units. Similar to the proposed project and 2015 General Plan, the overall land use scenario envisioned by Alternative 2 is intended to increase residential land use capacity within existing developed areas, ultimately increasing density through the rezoning of selected sites. As discussed below under *Transportation*, regional and per capita VMT for Alternative 2 would be slightly higher (+0.1 VMT) than that for the proposed project, but lower (-0.3 VMT) than that for the 2015 General Plan (the No Project Alternative).

Table 6-2 summarizes estimated daily operational emissions of criteria air pollutants and ozone precursors associated with full buildout under Alternative 2. Similar to the proposed project, buildout under Alternative 2 would generate daily mobile source air pollutant emissions in excess of SDAPCD’s project-level significance thresholds for volatile organic compounds (VOC), Carbon Monoxide (CO), PM<sub>10</sub>, and PM<sub>2.5</sub>. However, operational emissions under Alternative 2 would be higher than those produced with implementation of the proposed project since Alternative 2 would include development of 43 more housing units. Thus, even though construction air quality impacts would remain potentially significant under this alternative, operational emissions would be increased when compared to the proposed project.

**Table 6-2 Estimated Operational Criteria Air Pollutant Emissions (lbs/day)**

Emission Source	Maximum Daily Emissions (lbs/day)					
	VOC	NO <sub>x</sub>	CO	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Area	5,212	102	6,494	11	869	865
Energy	1	6	3	<1	<1	<1
Mobile	33	64	611	2	143	37
Alternative 2 Emissions	5,246	172	7,108	13	1,012	902
Proposed Project Emissions	5,136	177	7,063	13	917	862
SDAPCD Emissions Thresholds	137	250	550	250	100	55
<b>Threshold Exceeded?</b>	<b>Yes</b>	<b>No</b>	<b>Yes</b>	<b>No</b>	<b>Yes</b>	<b>Yes</b>

Notes: See Appendix B for modeling results. Some numbers may not add up precisely due to rounding considerations.

Overall, impacts to air quality would be increased under Alternative 2 when compared to the proposed project, and higher than the impacts analyzed in the 2015 General Plan EIR. All mitigation measures identified in Section 4.2, *Air Quality*, would still be required to reduce or avoid potentially significant impacts under Alternative 2.

**c. Biological Resources**

Implementation of Alternative 2 would result in fewer sites rezoned than under the proposed project. Alternative 2 would result in less ground disturbance and fewer impacts to special status plants and animals, critical habitats, and wildlife movement associated with development projects than anticipated in the proposed project.

The proposed project would have adverse impacts to special status species due to development at rezone sites 3, 6-9, and 18. Alternative 2 removes the development potential at rezone sites 3, 8, and 15 compared to the proposed project. However, there is still potential for these sites to be developed and therefore impacts to special status species would be similar to the proposed project. Nonetheless, Alternative 2 would still be required to incorporate Mitigation Measures BIO-1 and BIO-2 to mitigate impacts at other sites to a less than significant level. Development at rezone sites 6, 8, 9 and 18 under the proposed project could occur within riparian vegetation and/or native coastal scrub and result in potential direct impacts. Similarly, development at these sites under Alternative 2 would be similar, but slightly reduced, due to the reduced development potential of

Site 8. Mitigation Measures BIO-3 and BIO-4 would still be implemented to mitigate impacts to a less than significant level at other sites.

Similar to the proposed project, Alternative 2 could potentially adversely impact federally protected wetlands but those impacts could be mitigated to a less than significant level with implementation of Mitigation Measure BIO-5. Alternative 2 would also result in similar impacts to potential wildlife corridors. Similar to the proposed project, Alternative 2 would have impacts to protected trees. However, since Alternative 2 would be removing Site 3, impacts to the eucalyptus woodland at that site would be reduced and possibly avoided if development on the site occurred based on the lower density allowed under the existing General Plan designation. Alternative 2 would still be required to incorporate Mitigation Measure BIO-6 in order to maintain protection of other species at the remaining rezone sites. Similar to the proposed project, Alternative 2 could conflict with an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan and thus Mitigation Measure BIO-7 and Mitigation Measure BIO-8 would be required. Therefore, impacts would be similar to the proposed project.

Alternative 2 would have similar impacts to biological resources when compared to the impacts analyzed in the 2015 General Plan EIR since development is currently allowed on rezoning sites. But, when compared to the proposed project, impacts would be similar, but slightly reduced due to the removal of rezone sites 3, 8, and 15. Impacts would remain significant but mitigable and all related mitigation measures presented in Section 4.3, *Biological Resources*, would apply to Alternative 2.

#### **d. Cultural and Tribal Cultural Resources**

Implementation of Alternative 2 would involve less ground disturbance than would occur under the proposed project due to the removal of rezone sites 3, 8, and 15. Under this alternative, density at rezone sites 14 and 17 would be increased and result in a net increase of 43 units compared to the proposed project, but ground disturbance would not change substantially as compared to the proposed project. Therefore, the potential to impact known and unknown cultural resources would be the same as compared to the proposed project. Because this alternative would include fewer development sites than the proposed project and would exclude site 15 located within the Carlsbad Village Historic District, potential impacts to historic structures would also be slightly decreased. However, since Alternative 2 would continue to develop site 14 which is located within the Carlsbad Village Historic District and in proximity to locally significant properties, impacts would remain significant and unavoidable. The potential to disturb tribal cultural resources, including ancestral remains and sacred sites, would be similar under this alternative as compared to the proposed project as ground disturbance would not change substantially compared to the proposed project. Similarly, impacts related to unknown tribal cultural resources would remain less than significant. Alternative 2, like the proposed project, would result in greater levels of ground disturbance compared to the 2015 General Plan EIR due to the inclusion of the rezoning sites than that analyzed in the 2015 General Plan EIR. However, overall, impacts related to cultural and tribal cultural resources would be similar under this alternative than what could occur as a result of proposed project but would be greater than the impacts analyzed in the 2015 General Plan EIR.

#### **e. Geology and Soils**

Implementation of Alternative 2 would involve less ground disturbance than would occur under the proposed project, as this alternative removes the rezoning and development at rezone sites 3, 8, and 15 while increasing density at rezone sites 14 and 17. However, Alternative 2 involves development on sites beyond what was anticipated in the 2015 General Plan EIR, like the proposed

project. Alternative 2 would allow for development which would involve construction that could expose and loosen soils and increase the potential for erosion. Future construction on any of the sites would be required to comply with California Building Code requirements, ensuring the stability of new structures during seismic events or due to expansive soils. Development allowed under Alternative 2, similar to development facilitated by the proposed project, would occur in areas of moderate and high paleontological sensitivity; however, similar to the proposed project, impacts would be less than significant. Overall, Alternative 2 would have similar, but slightly lessened, impacts to geology and soils when compared to the proposed project and greater impacts to geology and soils and paleontological resources as compared to the 2015 General Plan EIR.

**f. Greenhouse Gas Emissions**

Implementation of Alternative 2 would result in more impacts associated with GHG emissions during construction activities as 43 more housing units would be developed. Alternative 2 involves development on sites beyond what was anticipated in the 2015 General Plan EIR. However, per capita VMT would be lower than that of the 2015 General Plan EIR, since Alternative 2 would place more residents in proximity to jobs, services, and transit thereby reducing the need for single-occupancy vehicles and alternative modes of transport.

When compared to the proposed project, Alternative 2 would result in marginally higher VMT. This increase is equal to approximately 0.1 VMT per capita and 56 VMT higher than the proposed project.<sup>2</sup> Overall, GHG emissions under Alternative 2 would increase, due to the development of 43 more housing units compared to the proposed project, as shown in Table 6-3. Both the proposed project and Alternative 2 would be inconsistent with the current CAP and 2015 General Plan since both would result in an increase in housing units and associated GHG emissions that were not accounted for in the CAP analysis. Therefore, impacts associated with Alternative 2 would be similar, but slightly increased as compared to the proposed project and compared to impacts analyzed in the 2015 General Plan EIR. Mitigation Measure GHG-1 would apply to Alternative 2 and like the proposed project, impacts would be significant and unavoidable until the updated Carlsbad CAP and any emission thresholds or updated checklists are adopted. If and when the city’s CAP is in accordance with statewide emissions targets and accounting for growth under the proposed project, this impact may be reduced to less than significant.

**Table 6-3 Combined Annual Emissions of Greenhouse Gases**

Emission Source	Annual Emissions (MT CO <sub>2</sub> e)
<b>Operational</b>	
Area	5,081
Energy	4,039
Mobile	27,240
Solid Waste	692
Water, Wastewater	268
Refrigerants	4
<b>Total (Alternative 2)</b>	<b>37,324</b>
<b>Total (Project)</b>	<b>36,735</b>

MT CO<sub>2</sub>e = metric tons of carbon dioxide equivalent. Source: Appendix B CalEEMod worksheets.

<sup>2</sup> 3,733,074 VMT under Alternative 2 compared to 3,733,018 VMT under the proposed project (Fehr & Peers 2023)

## **g. Hazards and Hazardous Materials**

Under the Alternative 2, the transport, storage, and use of hazardous materials associated with construction of development, and operation of housing, commercial and industrial uses, such as paints and solvents, would be required to comply with existing regulations, similar to the proposed project. Implementation of Alternative 2 would result in a net increase of 43 units by removing rezone sites 3, 8, and 15 and increasing density at rezone sites 14 and 17. As noted under Impact HAZ-1, rezone sites 7, 9, 10, 11, 12, and 15 are within or near industrial sites. With implementation of Alternative 2, Site 15 would be removed. Therefore, impacts regarding reasonably foreseeable use, transportation, disposal, and accidental release of hazardous materials would be slightly reduced.

Rezone sites containing existing contamination would continue to require remediation and compliance with State and local regulations to allow for development under existing zoning. Similar to the proposed project, rezone sites 14 and 16 each had one LUST which has now been designated inactive and case closed. This alternative would still include Site 16 and increase density at Site 14. Rezone sites 2, 4, 8, and 15 are located adjacent to a parcel which has a former LUST cleanup site or a Cleanup Program site. This alternative would remove rezone sites 8 and 15. Redevelopment of sites with existing soil or groundwater contamination could potentially pose a significant hazard to the public or the environment through releases of hazardous materials into the environment. However, with the removal of rezone sites 8 and 15 and compliance with General Plan Policy 4.P-51 and Safety Element Update Policy 6-P.38, Alternative 2 would have slightly reduced hazardous impacts and remain less than significant.

As with the proposed project, rezone sites 4, 6, 7, 9, 10, and 11 are within the Safety Zone of the McClellan-Palomar Airport would still be developed, and rezone sites 4, 5, 6, 7, 9, 10, 11, 16, 17, and 18 within the Airport Influence Area of the airport would also still be developed. Therefore, similar impacts related to airport safety hazards would occur under Alternative 2, as with the proposed project. Compliance with Policy 6-P.32 of the Public Safety Element Update, and Policy 2-P.37 of the Land Use and Community Design Element Update would reduce impacts to a less than significant level.

Since Alternative 2 maintains the majority of the rezone sites as imagined in the proposed project, impacts to hazards and hazardous materials would be greater than those analyzed in the 2015 General Plan EIR. However, due to the removal of rezone site 8, impacts to hazards and hazardous materials would be slightly decreased as compared to the proposed project.

## **h. Hydrology and Water Quality**

Alternative 2 would result in the same development at all rezoning sites except for rezone sites 3, 8, and 15, which would have a reduced development potential. Development of all the sites could include construction activities that would violate water quality standards, decrease groundwater supplies, alter the existing drainage pattern of the rezone sites, and create new or additional impervious surfaces. Due to the fewer number of development sites under Alternative 2, these impacts would be slightly less than those under the proposed project. Similar to the proposed project, development allowed under Alternative 2 would not substantially decrease groundwater supplies or violate water quality standards, following compliance with applicable laws and regulations. Impacts to hydrology and water quality would be slightly increased compared to those in the 2015 General Plan EIR but reduced when compared to the proposed project, remaining less than significant.



### **i. Land Use and Planning**

Under Alternative 2, rezone sites 3, 8, and 15 would be removed while density at rezone sites 14 and 17 would be increased. Similar to the proposed project, Alternative 2 would not alter connectivity with adjacent areas or divide established communities. Future development under Alternative 2 would be required to comply with regulatory goals and policies, similar to the proposed project. Alternative 2 would result in future development at a scale similar to that of the proposed project (a net increase of only 43 units) but on fewer sites. This alternative would promote higher-density housing opportunities than the proposed project would at sites 14 and 17, while development at sites 3, 8 and 15 could occur under their current designations. Impacts to land use and planning would be similar to the proposed project and greater than the 2015 General Plan EIR due to the inclusion of most of the rezoning sites.

### **j. Noise**

Under Alternative 2, impacts associated with temporary construction-related noise result from grading and construction of development allowed at all rezoning sites except for rezone sites 3, 8, and 15 which would have a reduced development potential. Under this alternative, density at rezone sites 14 and 17 would be increased. Construction noise could be reduced on rezone sites 3, 8, and 15, reducing impacts compared to the proposed project in the immediate vicinity; however, construction noise would still occur at the rest of the sites. Additionally, even though Mitigation Measure NOI-1 as specified in Section 4.10, *Noise*, would continue to be required under Alternative 2, given that exact details of future construction projects are still currently unknown, it is conservatively assumed that construction noise may exceed applicable thresholds, and impacts would remain significant and unavoidable.

Furthermore, since construction would be avoided on rezone sites 3, 8, and 15, construction vibration impacts would also be reduced compared to the proposed project. With the continued implementation of Mitigation Measure NOI-2, vibration impacts associated with construction activities would be less than significant, similar to the proposed project.

Similarly, operational noise from HVAC equipment, vehicle activity (delivery and trash hauling), and outdoor activity areas would be similar at the sites where development would occur, but impacts would be reduced at rezone sites 3, 8, and 15.

As discussed under Impact NOI-2 in Section 4.10, the proposed project's VMT increase over the estimated future increase without project of 71,802 VMT would correlate to an approximate 0.1 dBA increase in roadway noise levels, well below a barely perceptible noise level of 3 dBA. As shown in Table 6-6, VMT under Alternative 2 would increase over future without project by 71,858 for a two percent increase, which would correlate to a similar 0.1 dBA increase. Overall, operational noise impacts would be less than significant under Alternative 2, similar to the proposed project.

### **k. Population and Housing**

Alternative 2 would not induce substantial population growth, as the development allowed under Alternative 2 would be similar to that of the proposed project. Under this alternative, rezone sites 3, 8, and 15 would be removed from the project and density at sites 14 and 17 would be increased. As a result, the Alternative 2 would not contribute to unplanned growth and would also not displace people or housing. Under Alternative 2, approximately 3,338 new residential units and 8,367 new

residents would be added to the city.<sup>3</sup> According to the 2015 General Plan EIR, by the General Plan horizon year 2035, Carlsbad is estimated to have approximately 52,320 units. Based on information collected by city staff, since the 2015 General Plan EIR, the city has approved residential development that has resulted in a net increase in the projected housing units to 53,221. As of January 1, 2023, Carlsbad had 47,003 housing units. Therefore, as of release of this SEIR, the city had an available housing unit capacity of 6,218 units through horizon year 2035 under the existing General Plan. Compared to existing conditions, with implementation of Alternative 2, Carlsbad would have 50,341 housing units through 2035 compared to 50,298 housing units for the proposed project. The addition of 8,367 new residents to the city would increase Carlsbad's population from 117,800 residents (current as of June 30, 2022) to 126,167 residents, or by approximately 7.1 percent.<sup>4</sup> With implementation of Alternative 2, Carlsbad would have 56,559 units (47,003 [current housing units] + 6,218 [housing units remaining to be built under the existing General Plan] + 3,338 [housing units under Alternative 2]) at buildout, or through horizon year 2035. Although the estimated number of new residents would exceed the GMP limit of 54,499 units, Alternative 2 constitutes a planned population growth and would be consistent with State requirements for RHNA. Similar to the proposed project, Alternative 2 would not involve the extension of roads or other infrastructure that could indirectly lead to population growth. Therefore, Alternative 2 would not lead to substantial unplanned growth. Impacts would be less than significant, consistent with the findings for the proposed project and 2015 General Plan EIR.

Similar to the proposed project, it is possible that some redevelopment projects could result in displacement of current housing under Alternative 2. Currently, Site 4 has one existing unit and Site 8 has 24 existing units. However, no unit yield is anticipated on the portion of Site 4 with the unit due to its location on a flood plain; the remainder of the site along College Boulevard and El Camino Real is not similarly constrained and could be developed with housing. And because Site 8 would be removed under this alternative, the displacement impact would be reduced because none of the 24 units on the site would be removed. Additionally, future development would be required to comply with goals and policies under Section 10.7.4 of the 2021-2029 Housing Element which aims to affirmatively further fair housing and ensure all housing opportunities are offered in conformance with open housing policies and free of discriminatory practices (City of Carlsbad 2021). Furthermore, Program 4.6 of the 2021-2029 Housing Element ensures the minimization of the occurrence of displacement, especially within groups facing disproportionate housing needs, including but not limited to those with lower incomes (City of Carlsbad 2021). Substantial displacement would not occur under this alternative. Impacts would be less than significant, similar to the proposed project and 2015 General Plan EIR.

## **I. Public Services and Recreation**

Implementation of Alternative 2 would remove rezone sites 3, 8, and 15 from the project and increase density at rezone sites 14 and 17. These changes would result in an increase of 43 housing units when compared to the proposed project. This alternative would result in an overall population increase of 8,367 new residents, which is 107 higher than the proposed project. This alternative would result in a similar, but slightly increased, number of emergency calls to the area, as well as a slight increase in additional demand for schools, parks, libraries, recreational facilities, or other public services when compared to the proposed project. Impacts to public services and recreation would also be slightly greater than those determined in the 2015 General Plan EIR due to the

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<sup>3</sup> 3,338 new residential units x 2.63 persons per household x 0.945 x 1.0086 = 8,367 new residents (See Section 4.11, *Population and Housing*, for methodology).

<sup>4</sup> 8,367 new residents / 117,800 current residents x 100 = 7.1 percent.

inclusion of a greater number of housing units than previously analyzed. Compliance with all state and local policies, such as the Carlsbad Municipal Code, would ensure that adequate services and amenities are provided for all future development and residents under Alternative 2. Therefore, impacts would remain less than significant.

**e. Transportation**

Implementation of Alternative 2 would remove rezone sites 3, 8, and 15 from the project and increase density at rezone sites 14 and 17. These changes would result in a net increase of 43 housing units when compared to the proposed project. Similar to the development analyzed for the proposed project and 2015 General Plan EIR, development facilitated by Alternative 2 would not result in additional conflicts with programs and plans related to the circulation system. Impacts to transportation systems would be similar and remain less than significant. This alternative would include 43 more housing units than the proposed project and would result in a generally similar per capita VMT of 23.7. This is a slight increase compared to the proposed project by approximately 0.1 VMT (refer to Table 6-5, below). Additionally, as shown in Table 6-6. Alternative 2 would also result in a 2 percent increase in total VMT compared to the 2015 General Plan (generally the same as the proposed project).

Figure 6-1 below shows a map of rezone sites by transportation analysis zones (TAZ). Similar to the proposed project, impacts would remain significant and unavoidable and Mitigation Measure T-1 would continue to apply to Alternative 2. When compared to the 2015 General Plan EIR, Alternative 2 would have decreased transportation impacts as per capita VMT would be lower.

**Table 6-4 Citywide Average Project Generated VMT per Resident**

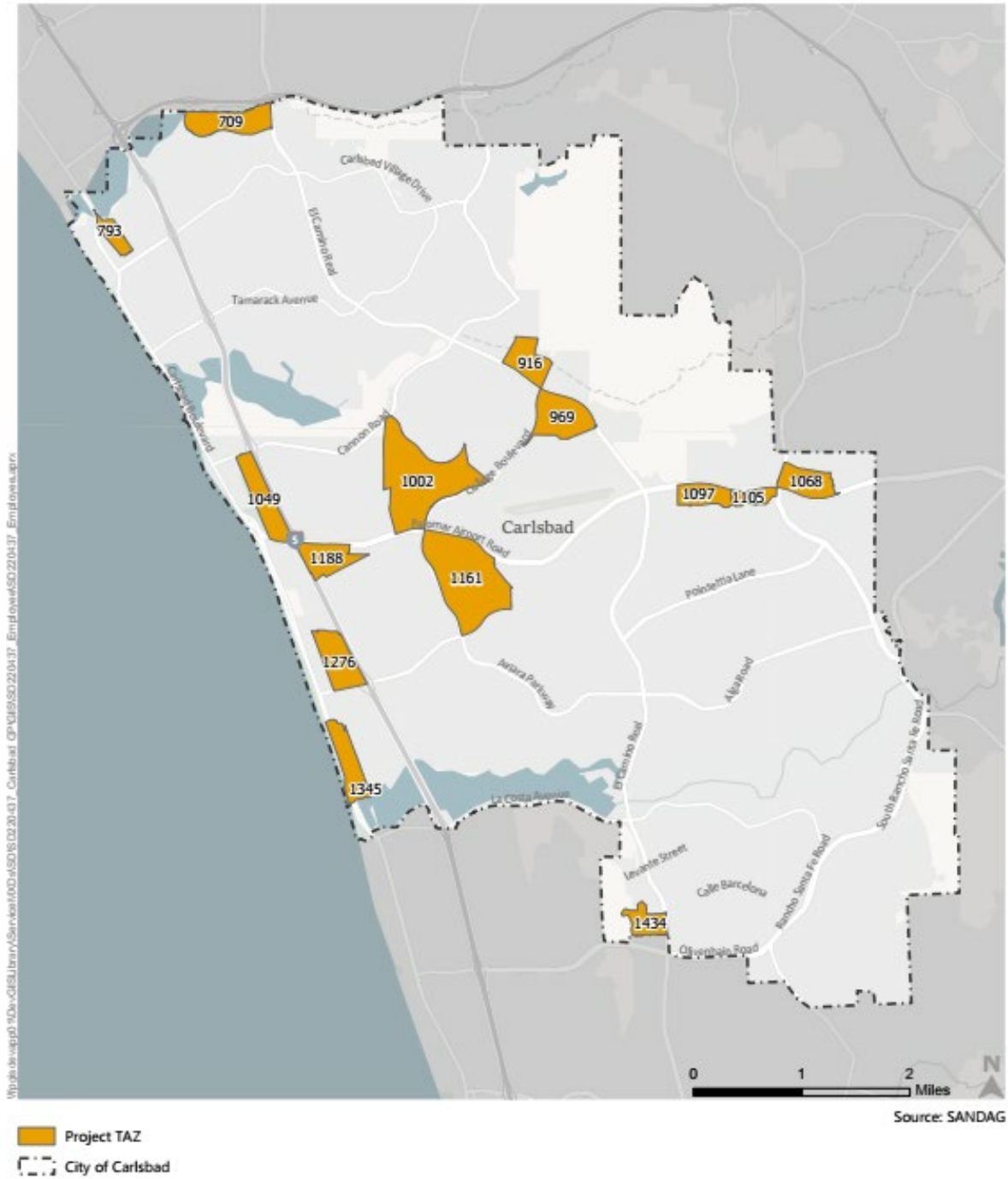
Model Scenario	City of Carlsbad VMT/Resident
Base Year (no project condition)	24.0
Year 2035 Alternative 1 (No Project) 2035	24.0
Alternative 2 (2035)	23.7
Proposed Project (2035)	23.6
<b>Impact Assessment</b>	
Residential VMT per Resident Threshold	20.4
<b>Impact Conclusion for Project (Alternative 2)</b>	<b>Significant Impact</b>

**Table 6-5 Daily VMT Summary for Alternative 2**

	Total VMT
Future without project, with adopted General Plan (2035) (Alt 1)	3,661,216
Future with Proposed Project	3,733,018
Future with Alternative 2 (2035)	3,733,074
<b>Change in VMT for Alternative 2 compared to Adopted General Plan</b>	<b>+71,858</b>
<b>Percent Change in VMT (%)</b>	<b>2%</b>

Source: Fehr & Peers 2023

Figure 6-1 Traffic Analysis Zones Containing Alternative 2 Rezone Sites



## p. Utilities and Service Systems

Alternative 2 would not induce substantial population growth, as the development allowed under Alternative 2 would be similar to that of the proposed project. Under this alternative, rezone sites 3, 8, and 15 would be removed from the project plans and density at rezone sites 14 and 17 would be increased for a total net increase of 43 housing units when compared to the proposed project. This alternative would result in a population increase of 8,367 new residents, which is 107 more than the proposed project. Development under Alternative 2 would result in an increase in demand for water, wastewater, electricity, natural gas, telecommunications, and solid waste service. Similar to the proposed project, although development facilitated by Alternative 2 may involve some infrastructure upgrades, existing water, wastewater, electricity, telecommunication, and waste facilities and services have adequate capacity to support future development. Therefore, impacts would be less than significant, consistent with the findings for the proposed project and 2015 General Plan EIR.

Water demand for construction would be similar to the proposed project, but slightly increased due to the increase of 43 units. Given the temporary and minimal nature of construction water demand, impacts related to construction water consumption would be less than significant. The proposed project would increase demand in the city by an estimated 355 acre-feet per year (AFY), or approximately a 1.58 percent increase from the 2030 Carlsbad Municipal Water District (CMWD) service area demand estimate of 22,409 AFY. Based on the CalEEMod land use-based water demand factors, Alternative 2 would increase demand in the city by an estimated 321,299 gallons per day (gpd), or 360 AFY, which is a 1.61 percent increase from the 2030 CMWD service demand estimate. Alternative 2's slight increase in total future population would result in a very slight increase in overall water demand compared to the proposed project. Therefore, with compliance with existing State and local regulations aimed at water conservation, as well as CMWD, Vallecitos Water District (VWD), and Olivenhain Municipal Water District (OMWD) Water Shortage Contingency Plans (WSCP) and ordinances, water supplies would be sufficient to accommodate the increase in demand for Alternative 2. Impacts would be less than significant, consistent with the findings for the proposed project and 2015 General Plan EIR.

Similarly, due to the reduction of the number of sites under Alternative 2, total wastewater and waste generation would be marginally higher than the proposed project. Based on a wastewater generation rate of 200 gallons per residential unit per day, development under the proposed project would generate a net increase of approximately 659,000 gallons of wastewater per day, while Alternative 2 would generate a net increase of approximately 667,600 gallons of wastewater per day.<sup>5</sup> There would be adequate wastewater capacity to support future wastewater generation under this alternative. All development under this alternative would be served by landfills that have sufficient capacity to manage future waste. Therefore, impacts to waste and wastewater facilities would be less than significant. This is consistent with the findings for the proposed project and 2015 General Plan EIR.

Overall, impacts to utilities and service systems would slightly increase when compared to the proposed project. However, since development Alternative 2 would be greater than that analyzed in the 2015 General Plan EIR, impacts to utilities would be slightly greater than those determined in the 2015 General Plan EIR. However, impacts would remain less than significant.

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<sup>5</sup> 200 gallons per residential unit per day x 3,338 units = 667,600 gallons of wastewater per day

## f. Wildfire

Implementation of Alternative 2 would remove rezone sites 3, 8, and 15 while increasing density at rezone sites 14 and 17. This would increase the number of units as compared to the proposed project by 43 units. Similar to the proposed project and development analyzed in the 2015 General Plan EIR, development facilitated by Alternative 2 would result in additional population and VMT in the city. This alternative could result in changes to emergency evacuation routes and could increase roadway congestion such that the use of an evacuation route could be hindered. However, compliance with the County Emergency Operations Plan (EOP), applicable City General Plan policies, AB 747, and SB 99 would reduce impacts to a less than significant level. Impacts would be similar to those of the proposed project and 2015 General Plan EIR.

Similar to the proposed project, rezone sites 1, 2, 4, 6, 7, 11, 12, and 19 are either in or less than 0.25 miles from a LRA Very High Fire Hazard Severity Zone. Development facilitated under Alternative 2 would not alter or change development at any of those sites. Sites 3, 8, 14, 15, and 17 are not within or near (within 0.25 miles of) a LRA Very High Fire Hazard Severity Zone. Thus, like the proposed project, all development under Alternative 2 would be subject to the California Fire Code and all applicable General Plan policies. Construction would also be required to meet CBC requirements, including CCR Title 24, Part 2, which includes specific requirements related to exterior wildfire exposure. Compliance with the CBC, CMC, and Safety Element Update policies 6-P.43 through 6-P.69 would reduce impacts. These policies would make structures more fire resistant and less vulnerable to loss in the event of a wildfire as well as reduce the potential for construction to inadvertently ignite a wildfire. Therefore, Alternative 2's impact related to wildfire exposure and exacerbation risk would be less than significant, similar to the proposed project and to the conclusion under the 2015 General Plan EIR.

## 6.4 Environmentally Superior Alternative

CEQA requires identification of the environmentally superior alternative among the alternatives to the proposed project. The environmentally superior alternative must be an alternative that reduces some of the project's environmental impacts, regardless of the financial costs associated. Identification of the environmentally superior alternative is an informational procedure and the alternative identified as the environmentally superior alternative may not be that which best meets the goals or needs of the proposed project. Table 6-1 indicates whether each alternative's environmental impact is greater than (in red), less than (in green), or similar to (no color) that of the proposed project for each of the issue areas studied.

Based on the analysis of alternatives in this section, the No Project Alternative (Alternative 1) is the environmentally superior alternative as it would lessen the severity of most impacts of the project and eliminate the significant and unavoidable GHG impact. Alternative 1 would facilitate the fewest number of residential units (506), and therefore result in the fewest construction-related impacts and impacts associated with ground disturbance to areas such as air quality, biological resources, cultural and tribal cultural resources, geology and soils, GHG, hazards and hazardous materials, and hydrology and water quality. However, it should be noted that development at the sites could still occur. And, as a consequence of less compact development as under this alternative, per capita VMT (see Table 6-1) would be greater with Alternative 1 as compared to the proposed project, which would increase operational impacts of air quality, noise, and traffic. Overall, Alternative 1 would eliminate the unavoidably significant GHG impact, but the significant and unavoidable impacts related to air quality, historical resources, construction noise, and transportation would

remain. While some environmental benefits may occur by implementing Alternative 1, this alternative would not fulfill the goals of the project as it would not provide additional housing opportunities that will assist the city in meeting its RHNA requirements.

Second to the No Project Alternative, Alternative 2, Reduced Sites, is the environmentally superior alternative, as it would reduce the severity of impacts related to biological resources, geology and soils, hazards and hazardous materials, and hydrology and water quality compared to the proposed project. Although Alternative 2 would increase the net number of units by 43, this would only result in a slight marginal increase in air pollutants and GHG. Alternative 2 would also only result in a negligible increase in VMT per capita compared to the proposed project by 0.1. Additionally, Alternative 2 would place more residents in proximity to COASTER transit stations compared to the proposed project (180 more units), which would reduce the need for single-occupancy vehicles and alternative modes of transport. Nonetheless, with Alternative 2 the significant and unavoidable impacts related to air quality, historical resources, GHG emissions, construction noise, and transportation would remain.

**Table 6-6 Comparison of Alternative's Impacts**

Issue	Project	2015 General Plan EIR	Alternative 1: No Project	Alternative 2: Reduced Sites
Aesthetics	LTS	LTS	LTS (+)	LTS (=)
Agricultural and Forestry Resources	NI	LTS	NI (=)	NI (=)
Air Quality	SAU	SAU	SAU (+)	SAU (-)
Biological Resources	LTSM	LTS	LTSM (=)	LTSM (=)
Cultural and Tribal Cultural Resources	SAU	LTS	SAU (=)	SAU (=)
Energy	LTS	LTS	LTS (=)	LTS (=)
Geology and Soils	LTS	LTS	LTS (+)	LTS (+)
Greenhouse Gas Emissions	SAU	LTS	LTS (+)	SAU (-)
Hazards and Hazardous Materials	LTS	LTS	LTS (+)	LTS (+)
Hydrology and Water Quality	LTS	LTS	LTS (+)	LTS (+)
Land Use and Planning	LTS	LTS	LTS (-)	LTS (=)
Mineral Resources	NI	NI	NI (=)	NI (=)
Noise	SAU	LTS	SAU (=)	SAU (=)
Population and Housing	LTS	LTS	LTS (+)	LTS (=)
Public Services and Recreation	LTS	LTS	LTS (+)	LTS (-)
Transportation	SAU	SAU	SAU (-)	SAU (-)
Utilities and Service Systems	LTS	LTS	LTS (=)	LTS (-)
Wildfire	LTS	LTS	LTS (=)	LTS (=)

NI = No Impact; LTS = Less than Significant; LTSM = Less than Significant with Mitigation; SAU = Significant and Unavoidable  
 Green: + Superior to the proposed project (reduced level of impact)  
 Red: - Inferior to the proposed project (increased level of impact)  
 No color: = Similar level of impact to the proposed project

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