California Public Resources Code Section 21003 (f) states: "...it is the policy of the state that...[a]ll persons and public agencies involved in the environmental review process be responsible for carrying out the process in the most efficient, expeditious manner in order to conserve the available financial, governmental, physical, and social resources with the objective that those resources may be better applied toward the mitigation of actual significant effects on the environment." This policy is reflected in the California Environmental Quality Act (CEQA) Guidelines (Guidelines) Section 15126.2(a), which states that "[a]n EIR [environmental impact report] shall identify and focus on the significant environmental impacts of the proposed project" and Section 15143, which states that "[t]he EIR shall focus on the significant effects on the environment." Guidelines Section 15128 requires that an EIR contain a statement briefly indicating the reasons that various possible significant effects of a project were determined not to be significant and were therefore not discussed in detail in the Draft EIR.

Impacts to aesthetics, agriculture and forestry resources, biological resources, energy, geology and soils (except paleontological resources), hydrology and water quality, mineral resources, recreation, utilities and service systems, and wildfire were determined to be less than significant during scoping for the EIR. The following sections provide the thresholds of significance and a brief analysis supporting the determination of no impact or less than significant impacts. Threshold letters correspond to the lettering in Appendix G of the CEQA Guidelines.

8.1 AESTHETICS

Would the project:

a) Have a substantial adverse effect on a scenic vista?

Less Than Significant Impact. Vistas provide visual access or panoramic views to a large geographic area. The Community Resources Element of the City's general plan states, "Scenic resources enhance the visual character of the community and provide distinguishing characteristics, an invaluable asset that benefits a community" (Brea 2003). The project site is in an urban area that is generally flat. The General Plan states that "vista points can be found throughout Brea both from urban areas toward the hills and from wilderness areas looking back onto Brea" (Brea 2003).

Chino Hills State Park offers views throughout the park, such as the views from Telegraph Canyon, Sonome Canyon, Soquel Canyon, and Lions Canyon; however, Gilman Peak is called out as a "viewpoint of particular interest" and is denoted as a scenic viewpoint in Figure CR-4 of the general plan (Brea 2003). Gilman Peak is approximately 7.5 miles east of the project site. Due to the distance and varying topography of the city, views of and from Chino Hills State Park, particularly Gilman Peak, would not likely be impacted. Therefore, impacts to scenic vistas would be less than significant.

b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?

Less Than Significant Impact. The closest designated state scenic highway is the portion of SR-91 from SR-55 to east of the Anaheim city limit, approximately 6.9 miles southeast (Caltrans 2011). The closest eligible state scenic highway is the northern portion of SR-57, which is approximately 2.4 miles northeast of the project site (Caltrans 2011). Due to the distance and because of the highly urbanized nature of the surrounding area, development of the proposed project would not impact scenic resources within a designated or eligible state scenic highway. Therefore, impacts would be less than significant.

c) In nonurbanized 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 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?

Less Than Significant Impact. The project site is in a heavily urbanized area that is primarily surrounded by light industrial, general industrial, and commercial office uses. Currently, the project site is a vacant lot with sand, gravel, one California pepper tree, weeds, four truck trailers, two small sheds (one metal and one plastic), and one porta-potty. Project implementation would result in a five-story, 114-unit residential development. The project would improve the site with a modernized residential development (see Figures 3-1 and 3-2) and hardscaping and landscaping (see Figures 3-3 and 3-4). Project implementation would not substantially degrade the existing character or quality of the site and its surroundings. The proposed project would require a zone change to the PC Zone; prior to approval, the proposed project would meet the requirements of the PC Zone and would not conflict with regulations governing scenic quality. Impacts would be less than significant.

d) Create a new source of substantial light or glare, which would adversely affect day or nighttime views in the area?

Less Than Significant Impact. The two major causes of light pollution are glare and spill light. Spill light is caused by misdirected light that illuminates areas outside the area intended to be lit. Glare occurs when a bright object is against a dark background, such as oncoming vehicle headlights or an unshielded light bulb. The project site is in an urban setting that is fully developed. Surrounding land uses also generate light from street lights, vehicle lights, and lights from commercial and industrial spaces. The proposed project would not significantly increase nighttime lighting onsite. Security and/or path lights, if installed, would be directed so as not to cause light to spill outside of the project site. Since the proposed project would include parking in a parking structure, lights from vehicles would be limited on-site. The proposed residential building, as well as landscaping, would block glare from parked cars and traffic on Mercury Lane and Berry Street. Therefore, impacts would be less than significant.

8.2 AGRICULTURE AND FORESTRY RESOURCES

In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the

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California Dept. of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment project; and forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board (CARB).

Would the project:

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

No Impact. The project site has no agricultural or farm use on it, nor is there agricultural or farm use in its immediate proximity. No project-related farmland conversion impact would occur. The project site is zoned C-M (Commercial/Industrial) (Brea 2018a). The project site is listed as Urban and Built-up Land and is not mapped as important farmland by the Division of Land Resource Protection (DLRP 2014). Therefore, no impact would occur.

b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?

No Impact. The zoning designation for the project site is C-M (Commercial/Industrial). The proposed project would not conflict with agricultural zoning or a Williamson Act contract because it is not zoned for agricultural use. Williamson Act contracts restrict the use of privately owned land to agriculture and compatible open-space uses under contract with local governments; in exchange, the land is taxed based on actual use rather than potential market value. Since the project site is zoned for C-M (Commercial/Industrial), there is no Williamson Act contract in effect onsite. Therefore, no impact would occur.

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

No Impact. Project development would not conflict with existing zoning for forest land, timberland, or timberland production. Forest land is defined as "land that can support 10-percent native tree cover of any species, including hardwoods, under natural conditions, and that allows for management of one or more forest resources, including timber, aesthetics, fish and wildlife, biodiversity, water quality, recreation, and other public benefits" (California PRC § 12223 [g]). Timberland is defined as "land...which is available for, and capable of, growing a crop of trees of any commercial species used to produce lumber and other forest products, including Christmas trees" (California PRC § 4526). The project site is zoned C-M (Commercial/Industrial). Therefore, no impact would occur.

d) Result in the loss of forest land or conversion of forest land to non-forest use?

No Impact. Vegetation on-site is limited to one California pepper tree and nonnative vegetation. Project construction would not result in the loss or conversion of forest land. Therefore, no impact would occur.

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?

No Impact. Maps from the Division of Land Resource Protection indicate that there is no important farmland or forest land on the project site or in the surrounding vicinity. Project development would not indirectly cause conversion of such land to nonagricultural or nonforest use. Therefore, no impact would occur.

8.3 BIOLOGICAL RESOURCES

Would the project:

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

Less Than Significant Impact. Most of the project site is bare land; vegetation on the balance of the site is sparse, including grasses and one mature pepper tree (*Schinus* sp.). The site is vacant, with occasional use by a truck to sort clothing, and it is not frequently disturbed by movements of trucks and other vehicles. There is no native habitat and no habitat suitable for sensitive species on-site. Any use of the site by sensitive species would be incidental foraging, which does not constitute habitat use. Impacts would be less than significant.

b) 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?

No Impact. Sensitive natural communities are natural communities that are considered rare in the region by regulatory agencies, are known to provide habitat for sensitive animal or plant species, or are known to be important wildlife corridors. Riparian habitats occur along the banks of rivers and streams. No sensitive natural community or riparian habitat is present on-site, and no impact would occur.

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

No Impact. Wetlands are defined under the federal Clean Water Act as land that is flooded or saturated by surface water or groundwater at a frequency and duration sufficient to support, and that normally does support, a prevalence of vegetation adapted to life in saturated soils. Wetlands include playas, ponds, and wet

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meadows; lakes and reservoirs; rivers, streams, and canals; estuaries; and beaches and rocky shores (SCWRP 2018). Site soils consist of Sorrento loam and Sorrento clay loam, neither of which is identified as hydric soil—that is, saturated long enough during the growing season so that upper soils become oxygen depleted (NRCS 2018a; NRCS 2018b). No wetlands were observed on the project site during a site visit by PlaceWorks on May 7, 2018. No impact would occur.

d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?

Less Than Significant Impact. The pepper tree on-site could be used for nesting by birds protected under the California Fish and Game Code Sections 3503 et seq. In compliance with the California Fish and Game Code, birds and their active nests are protected; thus, the tree onsite would be removed outside of the nesting season, either prior to February 15 or after August 15. Impacts would be less than significant with compliance with the California Fish and Game Code.

e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?

No Impact. The City of Brea does not have an ordinance protecting biological resources on private property. Street trees are protected under the Municipal Code, Chapter 12.20 (Brea 2018b). The pepper tree on-site is on private property and is not a street tree. No impact would occur.

f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?

No Impact. The project site is in not within a Natural Community Conservation Plan or Habitat Conservation Plan area. The project site does not contain sensitive biological resources, and there are no local policies protecting biological resources applicable to the site. No impact would occur.

8.4 ENERGY

Would the project:

a) Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?

Less Than Significant Impact. The proposed project would consume energy from long-term operational activities and short-term construction activities. In accordance with Appendix F of the State CEQA Guidelines, this analysis includes relevant information and analyses that address the energy implications of the proposed project. This section represents a summary of the proposed project's anticipated energy needs, impacts and conservation measures that have the potential to reduce the project's long-term energy demand. Information found herein, as well as other aspects of the proposed project's energy implications and regulations regarding building energy use, the state's renewable portfolios standard, and

transportation/transportation fuels, are also discussed in Sections 5.1, Air Quality, 5.3, Greenhouse Gas Emissions, and 5.9, Transportation and Traffic, of this DEIR.

Construction

The construction of the proposed project would consume energy in the short term through electricity use, construction vehicles and equipment fuel consumption, and bound energy in construction materials (e.g., such as asphalt, steel, concrete, pipes, and manufactured or processed materials such as lumber and glass).

Electricity

Construction of the proposed project would require electricity to power equipment. The electricity use during construction would vary during different phases of construction—the majority of construction equipment during grading would be gas or diesel powered, and later construction phases would require electricity-powered equipment, such as for interior construction and architectural coatings. The use of electricity would be temporary and would fluctuate according to the phase of construction. The proposed project would not result in wasteful or unnecessary electricity demands. Therefore, the proposed project would not result in a significant impact related to electricity.

Transportation

Transportation energy use depends on the type and number of trips, vehicle miles traveled, fuel efficiency of vehicles, and travel mode. Transportation energy use during construction would come from the transport and use of construction equipment (off-road), delivery and haul trucks (on-road), and construction employee passenger vehicles (on-road). The majority of construction equipment during grading would be diesel powered. The use of fuel by on-road and off-road vehicles would be temporary and would fluctuate according to the phase of construction. Construction fuel use for the proposed project would cease upon completion of project construction. No unusual project characteristics would necessitate the use of construction equipment that would be less energy efficient than at comparable construction sites in the region or state. The construction contractors are anticipated to minimize idling of construction equipment in accordance with the CARB's off-road airborne toxic control measure. Such required practices would limit wasteful and unnecessary energy consumption. Therefore, it is expected that construction fuel consumption associated with the proposed project would not be any more inefficient, wasteful, or unnecessary than similar development projects.

Construction Materials

Construction building materials may include recycled materials and products originating from nearby sources in order to reduce the costs of transportation. With increasing transportation costs and fuel prices, contractors and owners have a strong financial incentive to avoid wasteful, inefficient, and unnecessary consumption of energy during construction. The type of construction is conventional and would be similar to other residential developments in the City of Brea. Substantial reductions in energy inputs for construction materials can be achieved by building with recycled materials, which require substantially less energy to produce than nonrecycled materials. The California Green Building Standards code requires construction

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contractors to reduce construction waste by recycling and/or salvaging a minimum of 65 percent of the construction and demolition debris. The incremental increase in the use of energy bound in construction materials such as asphalt, steel, concrete, pipes, and manufactured or processed materials (e.g., lumber and gas) would not substantially increase demand for energy compared to overall local and regional demand for construction materials. It is reasonable to assume that production of building materials such as concrete, steel, etc., would employ reasonable energy conservation practices in the interest of minimizing the cost of doing business.

Operation

Operation of the proposed project would create additional demands for building electricity and natural gas compared to existing conditions, and would result in increased transportation energy use.

Building Energy Use

Operation of the proposed project would create additional demands for electricity and natural gas compared to existing conditions, and would result in increased transportation energy use. Operational use of energy would include heating, cooling, and ventilation of buildings; water heating; operation of electrical systems, security, and control center functions; use of on-site equipment and appliances; and indoor, outdoor, perimeter, and parking lot lighting. Table 8-1, *Building Energy Use*, shows the annual natural gas and electricity usage for the proposed project. As shown in this table, the residential building component of the proposed project would use 1,371,300 kilo-British Thermal Units (kBTU) of natural gas annually, while the residential building and parking structure would use a total of 649,217 kilowatt-hours (kWh) of electricity annually.

Table 8-1 Building Energy Use

	Natural Gas (kBTU/yr)	Electricity (kWh/yr)
Apartments Mid-rise	1,371,300	477,036
Unenclosed Parking with Elevator		172,181
Total	1,371,300	649,217

Source: CalEEMod 2016.3.2.

Notes KBTU: kilo British Thermal Units; kWh: kilowatt-hour. Energy estimates of the project are conservative because it is based on a previous site plan with a larger building (171,433 square feet) with more unit (120 units), that would generate higher energy use; and therefore, the proposed project would result in less energy emissions than shown in this table.

Electrical service to the proposed project would be provided by Southern California Edison through connections to existing off-site electrical lines and new on-site infrastructure. The proposed project would be required to comply with the current California Building Energy Efficiency Standards. The Building and Energy Efficiency Standards are updated on a triennial basis to incorporate new energy efficiency technologies. The 2019 Building Energy Efficiency Standards were adopted on May 9, 2018, and go into effect for new construction starting January 1, 2020. The 2019 standards focus on four key areas: 1) smart residential photovoltaic systems; 2) updated thermal envelope standards (preventing heat transfer from the interior to exterior and vice versa); 3) residential and nonresidential ventilation requirements; 4) and nonresidential lighting requirements (CEC 2018a). Under the 2019 standards, nonresidential buildings (which include residential buildings four stories and higher) will be 30 percent more energy efficient compared to the 2016 standards (CEC 2018b).

Additionally, the state's electricity grid is transitioning to renewable energy under California's Renewable Energy Program. Renewable sources of electricity include wind, small hydropower, solar, geothermal, biomass, and biogas. Electricity production from renewable sources is generally considered carbon neutral. Executive Order S-14-08, signed in November 2008, expanded the state's renewable portfolios standard (RPS) to 33 percent renewable power by 2020. This standard was adopted by the legislature in 2011 (SB X1-2). Senate Bill 350 (de Leon) was signed into law September 2015 and establishes tiered increases to the RPS—40 percent by 2024, 45 percent by 2027, and 50 percent by 2030. Senate Bill 350 also set a new goal to double the energy-efficiency savings in electricity and natural gas through energy efficiency and conservation measures. On September 10, 2018, Governor Brown signed Senate Bill 100 (SB 100), which raises California's RPS requirements to 60 percent by 2030, with interim targets, and 100 percent by 2045. The Bill also establishes a state policy that eligible renewable energy resources and zero-carbon resources supply 100 percent of all retail sales of electricity to California end-use customers and 100 percent of electricity procured to serve all state agencies by December 31, 2045. Under SB 100 the state cannot increase carbon emissions elsewhere in the western grid or allow resource shuffling to achieve the 100 percent carbon-free electricity target.

The proposed project would be consistent with the requirements of these energy-related regulations and would not result in wasteful or unnecessary electricity demands. Therefore, the proposed project would not result in a significant impact related to electricity.

Transportation

The proposed project would consume transportation energy during operations from the use of motor vehicles. Estimates of transportation energy use are assessed based on the overall vehicle miles traveled (VMT) and related transportation energy use. Table 8-2, *Project Operation-Related Vehicle Fuel/Energy Usage*, shows the proposed project's use of energy based on VMT. As shown in this table, the project's transportation sector would consume 86,935 gallons of fuel (gasoline, diesel, or compressed natural gas) and 9,861 kWh of electricity.

Table 8-2 Project Operation-Related Vehicle Fuel/Energy Usage

Gas		Diesel		CNG		Energy ¹	
VMT	Gallons	VMT	Gallons	VMT	Gallons	VMT	kWh
2,322,653	84,576	36,301	2,284	164	75	29,512	9,861

Sources: CalEEMod 2016.3.2; EMFAC2017.

Notes CNG: compressed natural gas; VMT: vehicle miles traveled; kWh: kilowatt-hour. Fuel use estimates of the project are conservative because it is based on a previous site plan with more units (120 units). Therefore, the project would generate less average daily vehicle trips than identified in the traffic report; and the proposed project would result in less fuel use than shown in this table.

Electricity use from electric vehicles is based on the average electricity consumption available from the Federal Highway Administration (FHWA 2017)

Fuel consumption in passenger vehicles and trucks is regulated by federal and state laws regarding average corporate fuel economy of vehicles. As vehicles turn over, the overall fuel economy of California's vehicle fleets are improved. Additionally, one of the primary goals of the CARB's 2017 Scoping Plan is to provide clean transportation options for California residents. California is home to nearly half of the country's zero-emission vehicles. Alternative fuel producers and oil companies are bringing more low carbon fuels to market

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than required by the Low Carbon Fuel Standard and the state has invested in zero-emission vehicles and infrastructure, land use planning, and active transportation options such as walking and biking (CARB 2017). In January 2012, CARB approved the Advanced Clean Cars program for model years 2017 through 2025. The program combines the control of smog, soot, and greenhouse gases with requirements for greater numbers of zero-emission vehicles into a single package of standards. Under California's Advanced Clean Car program, by 2025 new automobiles will emit 34 percent less greenhouse gas and 75 percent less smogforming emission (CARB 2011).

The proposed project would be consistent with the requirements of these energy-related regulations and would not result in wasteful or unnecessary fuel demands. Therefore, the proposed project would not result in a significant impact related to transportation energy.

Summary

The proposed project would not result in inefficient, wasteful, and unnecessary consumption of energy. The City of Brea and its surroundings are highly urbanized, with numerous gasoline fuel facilities and infrastructure. Consequently, the proposed project would not result in a substantial demand for energy that would require expanded supplies, the construction of other infrastructure, or expansion of existing facilities. Additionally, the proposed project would be required to comply with the 2016 Building and Energy Efficiency Standards and CALGreen. Therefore, impacts to construction and operation energy would be less than significant.

a) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?

Less Than Significant. Operational use of energy would include heating, cooling, and ventilation of the building; water heating; operation of electrical systems; use of on-site equipment and appliances; indoor, outdoor, perimeter, and parking lot lighting; and transportation energy. The proposed project would not conflict with state or local plans for renewable energy or energy efficiency (see Section 8.4 (a)). The proposed project would comply with applicable policies for energy efficiency, including the Brea Sustainability Plan; Title 14, Sustainable Provisions, of the City of Brea Municipal Code; the current Building and Energy Standards; and CALGreen. Therefore, impacts would be less than significant.

8.5 GEOLOGY AND SOILS

Appendix G checklist question (f) regarding paleontological resources is addressed in Section 5.2, *Cultural Resources*.

Would the project:

- a) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:
 - i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning map, issued by the State Geologist for the area or based on other

substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.

No Impact. Based on a review of the Alquist-Priolo Earthquake Fault Zoning Map, the project site is not in an Alquist-Priolo Zone (CDC 1998). There is no potential for ground rupture on the project site caused by a known earthquake fault. Therefore, no impact would occur.

ii) Strong seismic ground shaking?

Less Than Significant Impact. As with the rest of southern California, the project site is expected to experience strong seismic ground shaking. According to the California Department of Conservation's Earthquake Zones Map of the La Habra Quadrangle, the site is approximately one mile south of an earthquake fault zone (CDC 1998). Although seismic activity from this fault could potentially affect the project site, the site is at no greater risk than the surrounding development and infrastructure.

Additionally, all structures built for the project would adhere to the 2016 California Building Code (California Code of Regulations, Title 24, Part 2), which provides minimum standards to protect property and public welfare by regulating design and construction to mitigate the effects of seismic shaking and adverse soil conditions. Compliance with the standards of the 2016 California Building Code would reduce impacts from seismic ground shaking to a less than significant level.

iii) Seismic-related ground failure, including liquefaction?

Less Than Significant Impact. Liquefaction refers to loose, saturated sand or gravel deposits that lose their load supporting capability when subjected to intense shaking. Parts of the City of Brea are in the liquefaction zone, including the project site (CDC 1998). Liquefaction-induced differential settlements are expected to be on the order of approximately 2.2 inches, and can occur across a distance of 50 feet (SCG 2018a). These differential settlements are considered within the structural tolerances of a typical building supported on a shallow foundation, provided that structural measures identified in the Geotechnical Report to meet the California Building Code requirements (see Appendix D) are implemented (SCG 2018a). Minor to moderate repairs, including releveling repair of damaged drywall and stucco, would likely be required after liquefaction-induced settlements (SCG 2018a). The post-liquefaction damage to the buildings of the proposed project would be typical of similar buildings in the vicinity of the project site (SCG 2018a). Impacts of seismic-related ground failure to the proposed project would be less than significant.

iv) Landslides?

Less Than Significant Impact. Susceptibility of slopes to landslides and other slope failures depend on several factors that are usually present in combination—steep slopes, condition of rock and soil materials, presence of water, formational contacts, geologic shear zones, seismic activity, etc. The project site is in a low to moderately low landslide zone (CDC 1976). The project site is relatively flat; therefore, it is unlikely that the site would be susceptible to landslide hazards.

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b) Result in substantial soil erosion or the loss of topsoil?

Less Than Significant Impact. Erosion is a normal and inevitable geologic process whereby earthen materials are loosened, worn away, decomposed, or dissolved, and removed from one place and transported to another. The project site is undeveloped, covered with sand and gravel, and has one California pepper tree and nonnative vegetation. There are also two small storage sheds (one plastic and one metal), four truck trailers, and one porta-potty. The project would implement structural and nonstructural best management practices before and during construction to control surface runoff and erosion to retain sediment on the project site. Once the proposed project is constructed, soil erosion would be controlled with improvements installed on the project site. Unlike existing conditions, there would be limited if no exposed sand. Therefore, a less than significant impact would occur.

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

Less Than Significant Impact. As discussed in Section 8.1.7.a.iv, the project site is in a low to moderately low landslide zone. According to the Preliminary Hydrology Report, the project site is underlain by Sorrento loam with 0 to 2 percent slopes, which is classed as well-drained natural drainage and low runoff, and Sorrento clay loam with 2 to 9 percent slopes, which is classed as well-drained natural drainage and medium runoff (Fuscoe 2019a).

Lateral spreading is a phenomenon where large blocks of intact, nonliquefied soil move downslope on a large liquefied substratum. The mass moves toward an unconfined area, such as a descending slope or stream-cut bluff, and has been known to move on slope gradients as little as one degree. The topography of the site is relatively flat with slopes of approximately 1 to 2 percent (SCG 2018b). Thus, impacts from lateral spreading would be less than significant.

Subsidence of basins attributed to overdraft of groundwater aquifers or over pumping of petroleum reserves has been reported in various parts of southern California. According to the City of Brea General Plan, oil fields in Brea today contain wells and associated petroleum and natural gas facilities (Brea 2003). Minor ground subsidence of approximately 0.1 foot is expected to occur in the soils below the zone of removal due to settlement and machinery (SCG 2018a). Impacts to subsidence would be less than significant.

Strong ground shaking can cause settlement of soils underlying a site by allowing sediment particles to become more tightly packed. Artificial fills, if not adequately compacted, may also experience seismically induced settlement. The recommended remedial grading would remove a portion of the existing fill soils and replace these materials as compacted structural fill; provided that the recommended remedial grading is completed, the post-construction static settlement of the proposed structure is expected to be within tolerable limits (SCG 2018a). Therefore, construction of the proposed project, in accordance with the recommended remedial grading, would reduce impacts from seismic settlement to less than significant.

d) 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?

Less Than Significant Impact. Highly expansive soils swell when they absorb water and shrink as they dry, and can cause structural damage to building foundations and roads. Thus, they are less suitable for development than nonexpansive soils. The expansion index test performed on representative soil samples indicate that the on-site soils possess a very low to low expansion potential (EIs = 2 and 47) (SCG 2018a). However, expansive soils may be present in the subgrade soils. The project would require overexcavation of soils to a depth of at least five feet below existing grade. Due to the substantial amount of grading expected to be performed at the site, additional expansion index testing would be performed subsequent to grading to confirm the actual conditions at the building pad subgrade elevations (SCG 2018a). Based on the varied expansion potentials and because of the relatively large volume of grading which is proposed, it is expected that the finished subgrade soils would possess a low to medium expansion potential (SCG 2018a). Therefore, impacts from expansive soils would be less than significant.

e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?

No Impact. The proposed project would not require the installation of a septic tank or alternative wastewater disposal system, but would utilize the local sewer system. Therefore, no impacts would result from soil conditions in relation to septic tanks or other on-site water disposal systems.

8.6 HYDROLOGY AND WATER QUALITY

Would the project:

a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?

Less Than Significant Impact. The project site is within the jurisdiction of the Santa Ana Regional Water Quality Control Board (RWQCB). Drainage and surface water discharges during construction and operation of the proposed project would not violate any water quality standards or waste discharge requirements. However, site preparation and other soil-disturbing activities during construction of the project could temporarily increase the amount of soil erosion and siltation entering the local stormwater drainage system.

The project site is 1.01 acres. Pursuant to Section 402 of the Clean Water Act, the US Environmental Protection Agency has established regulations under the National Pollution Discharge Elimination System (NPDES) program to control direct stormwater discharges. In California, the State Water Resources Control Board administers the NPDES permitting program and is responsible for developing permitting requirements. The NPDES program regulates industrial pollutant discharges, including construction activities for sites larger than one acre. Since implementation of the proposed project would disturb more than one acre, the proposed project would be subject to the NPDES Construction General Permit requirements (Order No. 2009-0009-DWQ).

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Construction

Clearing, grading, excavation, and construction activities associated with the project have the potential to impact water quality through soil erosion and increasing the amount of silt and debris carried in runoff. Additionally, the use of construction materials such as fuels, solvents, and paints may present a risk to surface water quality. To minimize these potential impacts, the proposed project would be required to comply with the NPDES Construction General Permit as well as the best management practices (BMPs) to control erosion and prevent any discharge of sediments from the site, as detailed in the Preliminary Water Quality Management Plan (WQMP) (Fuscoe 2018), to reduce potential impacts to less than significant levels.

Operation

For site operations, the Preliminary WQMP details site design BMPs, including minimizing impervious areas by incorporating landscaping throughout the site, maximizing natural infiltration capacities, preserving existing drainage patterns and time of concentration, and disconnecting impervious areas. Low impact development BMPs are required in addition to site design measures and source controls to reduce pollutants in stormwater discharges. Post-construction BMPs include, but are not limited to, distributing educational materials to residents, property owners, tenants, and occupants; activity restrictions; common area landscape management; BMP maintenance; employee training; and using efficient irrigation systems, as stated in the Preliminary WQMP. Therefore, a less than significant impact to water quality standards would occur.

Provided that the standard BMPs and those mentioned in the Preliminary WQMP are implemented, the proposed project would not substantially degrade water quality (Fuscoe 2018). A less than significant impact would occur. The proposed project would also be required to comply with applicable federal, state, and local regulations.

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

Less Than Significant Impact. The project site is in the Coastal Plain of Orange County subbasin (DWR 2018). The project does not propose groundwater wells that would extract groundwater from the aquifer, nor would the proposed project affect recharge capabilities for the basin, as there are no wetlands onsite. Thus, a less than significant impact would occur.

- c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:
 - i) Result in a substantial erosion or siltation on- or off-site;

Less Than Significant Impact. Currently, there are no existing underground storm drain facilities on the site. The proposed project would not alter the course of a stream or river. According to the Preliminary Hydrology Report (Fuscoe 2019a), the proposed project would drain to the discharge location at the southeast corner of the property and outlet into an existing gutter, which is within an easement. Drainage from the gutter would be conveyed to the Brea Canyon Channel approximately 400

feet east of the project site. A proposed roof drain and area drain system would convey the stormwater to the discharge location via an underground detention system, which would be designed to ensure that the proposed condition flows do not exceed those of the existing condition for the discharge location at the southeast corner of the site. Construction of the project would increase the potential for erosion and siltation. However, the improvements would be constructed over a short period of time, and BMPs would be implemented to reduce erosion and siltation impacts. Therefore, a less than significant impact to drainage would occur.

ii) Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite;

Less Than Significant Impact. The project would not alter the course of a stream. Project implementation would result in construction of a new residential development with landscaping onsite. Impervious surfaces would increase onsite; however, through the use of BMPs pertaining to site design and low impact development, the proposed roof drain and area drain system would convey the stormwater to the southeast discharge location via an underground detention system, which would be designed to ensure that the proposed drainage flows do not exceed the existing drainage flows (Fuscoe 2019a). Therefore, a less than significant impact to surface runoff would occur.

iii) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or

Less Than Significant Impact. Although project implementation would increase impervious surfaces, site design BMPs, such as incorporating landscaping throughout the site, would minimize the impacts associated with impervious surfaces. Runoff flows from the rooftop of the proposed development would drain to raised planter boxes for biotreatment and flow to the southeast discharge location. Under the proposed conditions, flows would be conveyed in a similar manner as existing conditions (Fuscoe 2018). Therefore, the proposed project would not result in on- or off-site flooding, and impacts would be less than significant.

iv) Impede or redirect flood flows?

Less Than Significant. The project site is vacant and undeveloped. The proposed project would take place within the footprint of the project site, which is within Zone X (0.2 percent/500-year flood hazard) (Flood Insurance Rate Map ID #06059C0041J) (FEMA 2009). Since the likelihood of floods in the project area is low, the proposed project would have a less than significant impact on impeding or redirecting flood flows.

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

Less Than Significant Impact. A seiche is a surface wave created when a body of water is shaken, usually by earthquake activity. Seiches are of concern relative to water storage facilities, because inundation from a seiche can occur if the wave overflows a containment wall, such as the wall of a reservoir, water storage tank, dam or other artificial body of water. Although there are no large water tanks in the area that could impact

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the proposed project site, there are dams in the region that could create flooding impacts. Thirteen dams in the greater Los Angeles area moved or cracked during the 1994 Northridge earthquake. However, none were severely damaged. This low damage level was due in part to completion of the retrofitting of dams and reservoirs pursuant to the 1972 State Dam Safety Act. According to Figure PS-3 of the City of Brea General Plan, the closest reservoir to the site, Berry Street Reservoir and Booster Pump Station, has a capacity of 30 million gallons, is approximately 0.40 mile northwest of the project site, and is separated from the site by urban development (Brea 2003).

A tsunami is earthquake-induced flooding that is created from a large displacement of the ocean floor. The site is approximately 16.8 miles northeast of the Pacific Ocean and is not in a tsunami inundation area. The project is not at risk for tsunami impacts.

A mudflow is a landslide event in which debris, land mass, and soils are saturated during their displacement. The project site is relatively flat, with no slopes near the site that are capable of generating a mudflow. No mudflow impacts would occur.

Provided that the standard BMPs and those mentioned in the Preliminary WQMP are implemented, the proposed project would not substantially degrade water quality (Fuscoe 2018). As impacts related to the occurrence of site inundation by seiche, tsunami, or mudflow are less than significant, the release of pollutants would be less than significant.

e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?

Less Than Significant Impact. The proposed project would not obstruct or conflict with the implementation of a water quality control plan or sustainable water management plan. The proposed project would comply with the water quality and use requirements of these plans through the implementation of BMPs. Therefore, impacts would be less than significant.

8.7 MINERAL RESOURCES

Would the project:

a) Result in the loss of availability of a known mineral resource that would be a value to the region and the residents of the state?

No Impact. There are four mineral resource zones (MRZ):

- MRZ-1. Adequate information indicates that no significant mineral deposits are present or likely to be present.
- MRZ-2. Adequate information indicates that significant mineral deposits are present or there is a high likelihood for their presence, and development should be controlled.
- MRZ-3. The significance of mineral deposits cannot be determined from the available data.

■ MRZ-4. There is insufficient data to assign any other MRZ designation.

The project site is in MRZ-1, where significant mineral deposits are unlikely or not present (CDC 1994). Mineral resource designations are intended to prevent incompatible land use development on areas determined to have significant mineral resource deposits. The project site and its surrounding areas are not developed for mineral extractions. The areas surrounding the project site are developed with buildings, and therefore no loss of known resources would result from project implementation. No impact would occur.

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?

No Impact. No mining sites are identified in the City of Brea General Plan (Brea 2003). Therefore, development of the proposed project would not cause a loss of availability of a mining site. No impact would occur.

8.8 RECREATION

Would the project:

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

Less Than Significant Impact. Project development would create a demand for 1.03 acres¹ of park space in the City of Brea (see Section 5.8, *Public Services*). However, as substantiated in Impact 5.8-4, the City of Brea would continue to have an excess 754 acres of park space with project implementation. The closest park, separated from the project site by Imperial Highway, is Arovista Park, 0.21 mile to the south. The proposed project would include approximately 22,285 square feet of amenities and landscaped areas, which would reduce potential impacts to Arovista Park. Thus, the proposed project would have a less than significant impact on regional and neighborhood parks.

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?

Less Than Significant Impact. The proposed project would feature approximately 22,285 square feet of landscaped areas as well as recreational facilities within the development. As indicated in the response to Section 8.8(a), project implementation would not require the construction or expansion of recreational facilities. Therefore, a less than significant impact would occur.

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⁵ acres / 1,000 persons = 0.005 acre / person 0.005 acres/person x 44,890 (population CDF 2018) = 224.5 acres (needed) 980 acres of park space (14 % of 7,000 acres) – 224.45 acres = 755.55 acres (excess) 114 units x 1.81 (average household) = 206 persons 206 persons x 0.005 acre/person = 1.03 acres (project need) 755.55 acres (excess) – 1.03 acres/person (project need) = 754.52 acres

8.9 UTILITIES AND SERVICE SYSTEMS

Would the project:

a) Require or result in the relocation or construction of new or expanded water, wastewater treatment or stormwater drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?

Less Than Significant Impact. The water and wastewater treatment needs of the proposed project would be served by the Orange County Sanitation District (OCSD). OCSD treats over 200 million gallons of sewage daily, operates 2 treatment/reclamation plants and 15 off-site pump stations, and maintains 572 miles of pipelines throughout its service area (OCSD 2018). The current available capacity of Wastewater Treatment Plant 1 is 76 million gallons per day (mgd), and the plant would be able to accommodate the sewer flows generated from the proposed project, which would be 23,940 gallons per day (gpd) (Fuscoe 2019b). Therefore, the implementation of the proposed project would result in a less than significant impact.

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

Less Than Significant Impact. The City of Brea is in Region 8 under the jurisdiction of the Santa Ana RWQCB. Project implementation would increase the amount of water needed to serve the project site compared to existing conditions. Water supply would be provided by the California Domestic Water Company and the Municipal Water District of Orange County through the City of Brea Water Division. Water demands within the Brea water system are expected to increase from 9,823 acre-feet per year (afy) (8.8 mgd) in 2020 to 10,452 afy (9.3 mgd) in 2040 (Fuscoe 2019b). Table 8-3, *Proposed Water Demand*, identifies the estimated water needs of the proposed project. The proposed project would represent less than 1 percent of the total water demand in 2020. Project impacts related to water supply availability and capacity would be less than significant.

Table 8-3 Proposed Water Demand

Land Use	Land Use Unit Count	Water Demand Factor	Water Demand (gpd)	Water Demand (afy)
Residential Units	206 people ¹	220.8 gpcd ²	45,485	50.95
Landscaped Area	6,387 sf	ETWU Method ³	399	0.45
		Total Proposed	45,884	51.40

Source: Fuscoe 2019b.

Notes: sf: square feet, gpcd: gallons per capita per day, ETWU: Estimated Total Water Use; AFY: acre-feet per year

¹ Based on a population density of 1.81 persons per unit (Census 2018).

² Based on City of Brea 2020 per capita water use goals, City of Brea 2015 Urban Water Management Plan

³ Based on Estimated Annual Water Use equation: (Eto*plant factor*landscaped area* 0.62)/irrigation efficiency. Utilizing CIMIS Reference Evapotranspiration Zones Map ET of 49.7 in/yr; conservative plant factor of 0.6; and irrigation efficiency of 0.81 for existing and proposed conditions.

c) Result in a determination by the waste water 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?

Less Than Significant Impact. The increase in water demands—45,884 gpd or 0.046 mgd—would be within the active design capacity of 21.6 mgd for City booster pumps (i.e., less than 1 percent of the available capacity of Wastewater Treatment Plant 1) (Fuscoe 2019b). The existing wastewater treatment provider would be able to accommodate the proposed project. Therefore, impacts to wastewater facilities would be less than significant

d) Generate solid waste in excess of state or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?

Less Than Significant Impact. Waste from the project site would be transported to the Olinda Alpha landfill, which has an average daily disposal rate of 7,000 tons per day (tpd), although it is permitted up to 8,000 tpd; thus, the landfill has a remaining daily intake capacity of 1,000 tpd (OCWR 2018). The landfill has the capacity to serve residents and businesses until 2030 (OCWR 2018). The remaining capacity of the landfill is 34,200,000 cubic yards (CalRecycle 2018).

The California Department of Resources Recycling and Recovery's (CalRecycle) sample solid waste generation rates for multifamily developments reflect the volume of refuse generated per dwelling unit (CalRecycle 2016). The proposed project would result in 114 dwelling units. Using a waste generation rate of 8.6 pounds per dwelling unit per day, project implementation would increase waste generation by approximately 980 pounds per day. This increase would be 0.0492 percent of the landfill's remaining daily allowable intake and could be accommodated. Therefore, the project impacts on landfill capacity would be less than significant.

e) Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?

Less Than Significant Impact. Solid waste would be generated during construction and operation of the proposed project. The proposed project would comply with all regulations pertaining to solid waste, such as the California Integrated Waste Management Act and the City's recycling and waste programs. The City and its construction contractor would comply with all applicable laws and regulations and make every effort to reuse and/or recycle the construction debris that would otherwise be taken to a landfill. Hazardous waste, such as paint used during construction, would be disposed of only at facilities permitted to receive them in accordance with local, state, and federal regulations. The proposed project would comply with all applicable federal, state, and local statutes and regulations related to solid waste disposal. Therefore, impacts would be less than significant.

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^{2 1,000} tons per day x 2,000 lbs (1 ton) = 2,000,000 lbs /day 980 lbs/day / 2,000,000 lbs/day = 0.00049 = 0.049%

8.10 WILDFIRE

If located in or near a state responsibility area (SRA) or lands classified as a very high fire hazard severity zones:

Would the project:

a) Substantially impair an adopted emergency response plan or emergency evacuation plan?

Less Than Significant Impact. The proposed project would not conflict with adopted emergency response or evacuation plans. The surrounding roadways would continue to provide emergency access to the project site and surrounding properties during construction and postconstruction. The proposed project would not result in inadequate emergency access, and impacts to adopted emergency response and evacuation plans are less than significant.

b) Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?

Less Than Significant Impact. There are three primary factors used in assessing wildfire hazards—topography, weather, and fuel. The project site is relatively flat and is in an urbanized environment. The proposed project would not impact weather or topography. At project completion, the project site would consist of 141,137 square feet of impervious surfaces and 6,387 square feet of landscaped area. According to Figure PS-2, *High Fire Hazard Areas*, of the City of Brea General Plan, the project site is in a low to very low fire area (Brea 2003). The project site is over 1.5 miles south of any wildfire severity hazard zone. Therefore, impacts of exposing project occupants to pollutant concentrations from or exacerbating a wildfire would be less than significant.

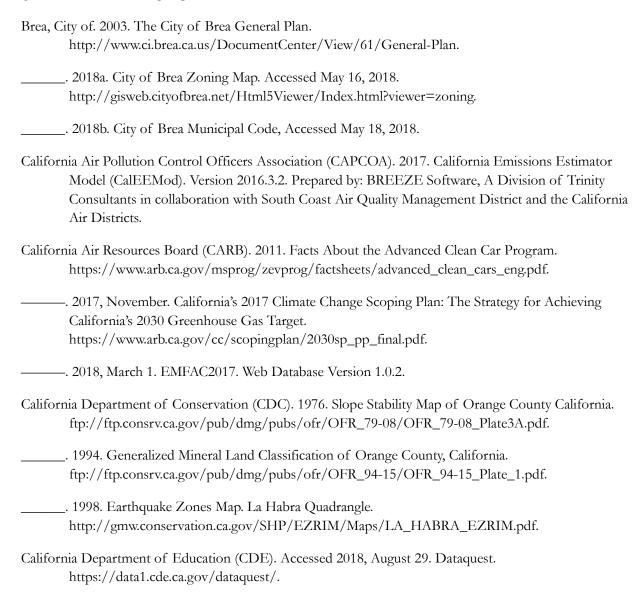
c) Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?

Less Than Significant Impact. The proposed project would require new infrastructure for electricity, natural gas, telecommunications, and cable service, which would be installed underground except for padmounted transformers and other utility boxes required by the utility provider. The utilities would be installed to meet service requirements and would be located in a utility room at the southwest corner of the project site. As substantiated in 8.1.11.b, the project site is located in a low to very low fire hazard area, and is over 1.5 miles south of a wildfire hazard severity zone. The project site is in a highly urbanized portion of Brea; the proposed project would not add infrastructure such as roads or overhead power lines in areas with wildland vegetation. Therefore, impacts to exacerbating fire risks to the environment would be less than significant.

d) 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?

Less Than Significant Impact. The project site is relatively flat. The project site is located in a low to moderately low landslide zone (CDC 1976). Further, the project site is within Zone X (0.2 percent/500-year flood hazard) (Flood Insurance Rate Map ID #06059C0041J) (FEMA 2009). Therefore, it is unlikely that the site would be susceptible to downslope or downstream flooding or landslides as a result of post-fire slope instability. The project site is located in a low to very low fire area and is over 1.5 miles south of a wildfire hazard severity zone (Brea 2003). Impacts would be less than significant.

8.11 REFERENCES



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