

CHAPTER 5

Alternatives

5.1 CEQA Requirements

The identification and analysis of alternatives to a project is a fundamental aspect of the environmental review process under the California Environmental Quality Act (CEQA). The Public Resources Code (PRC) Section 21002 establishes the need to address feasible alternatives in an EIR. The *CEQA Guidelines* provides direction regarding the consideration and discussion of project alternatives in an EIR in Section 15126.6 as follows:

An EIR shall describe a range of reasonable alternatives to the project, or to the location of the project, which would feasibly attain most of the basic objectives of the project but would avoid or substantially lessen any of the significant effects of the project, and evaluate the comparative merits of the alternatives. An EIR need not consider every conceivable alternative to a project. Rather it must consider a reasonable range of potentially feasible alternatives that will foster informed decision making and public participation. An EIR is not required to consider alternatives which are infeasible.

The *CEQA Guidelines* emphasizes that the selection of project alternatives be based primarily on the ability to avoid or substantially lessen significant impacts relative to the proposed project, “even if these alternatives would impede to some degree the attainment of the project objectives, or would be more costly.” The *CEQA Guidelines* further directs that the range of alternatives be guided by a “rule of reason,” such that only those alternatives necessary to permit a reasoned choice are addressed. In selecting project alternatives for analysis, potential alternatives must be feasible. *CEQA Guidelines* Section 15126.6(f)(1) states that:

Among the factors that may be taken into account when addressing the feasibility of alternatives are site suitability, economic viability, availability of infrastructure, general plan consistency, other plans or regulatory limitations, jurisdictional boundaries ... and whether the proponent can reasonably acquire, control or otherwise have access to the alternative site.

Beyond these factors, *CEQA Guidelines* Section 15126.6(e) requires the analysis of “no project” alternative. Based on the alternatives analysis, an environmentally superior alternative is to be identified. If the environmentally superior alternative is the No Project Alternative, then the EIR is required to identify an environmentally superior alternative among the other alternatives.

5.2 Criteria for Selecting Alternatives

Upon review of the impacts analyzed for the proposed project (refer to Sections 3.1 through 3.18), there were several criteria used to select alternatives to the proposed project. These criteria are described below.

5.2.1 Ability to Achieve Project Objectives

As described above, *CEQA Guidelines* Section 15126.6(f) states: “The range of alternatives required in an EIR is governed by a ‘rule of reason’ ... [O]f those alternatives, the EIR need examine in detail only the ones that the lead agency determines could feasibly attain most of the basic objectives of the project.” For purposes of the alternative analysis, each alternative assessed in this EIR was evaluated to determine the extent to which it could attain the basic objectives set forth by the Applicant for the proposed project. As described in Chapter 2, *Project Description*, under Section 2.4, *Project Objectives*, the following objectives have been established for the proposed project and serve as a basis for developing a reasonable range of alternatives to evaluate in the EIR.

- Restore historic tidal connection to a greater portion of the degraded Los Cerritos Wetlands through establishing a wetlands mitigation bank that will result in restoration and creation of a self-sustaining 76.52-acre restored coastal wetlands habitat, including habitat for special-status plant and animal species.
- Restore tidal salt marsh habitat and associated subtidal, intertidal, transitional, and upland habitats, taking into consideration potential sea level rise due to climate change.
- Provide public access and education opportunities through construction of a trail and interpretive facility, and future conveyance of privately owned property into public ownership through a land exchange.
- Reduce the footprint of oil production operations on both privately owned and City-owned portions of the Los Cerritos Wetlands to less than 10 acres of property with minimal habitat impacts.
- Improve the efficiency of oil production operations through the eventual phase out of early-20th century oil production equipment and replacement with more efficient and modern equipment and operations that will utilize the latest technology and operational advancements related to safety, energy, and production efficiency and concentrate production on a smaller footprint.
- Protect coastal dependent energy development by optimizing oil and gas production from the oil reserves within the City’s jurisdiction that will help fund the costs of wetlands restoration and continue to provide a source of revenue to the City of Long Beach as well as short-term and long-term employment opportunities.
- Provide environmental clean-up of old landfills on private property proposed for oil production and wetlands protection, and contaminated soils on the oil field site.
- Assist the Los Cerritos Wetlands Authority (LCWA) in accomplishing its purpose “to provide for a comprehensive program of acquisition, protection, conservation, restoration, maintenance and operation and environmental enhancement of the Los Cerritos Wetlands area consistent with the goals of flood protection, habitat protection and restoration, and improved water supply, water quality, groundwater recharge, and water conservation” by providing for the eventual transfer through a land exchange of an approximately 156-acre, privately owned oil field into the Authority’s ownership, the construction of a new visitors/interpretive center, and new public access trail.
- Help implement the Los Cerritos Wetlands Conceptual Restoration Plan by relocating existing oil production activities and making available the former oil field for wetlands restoration and future transfer of the property from private ownership to LCWA stewardship.
- Enhance gateway entry points to the City over existing industrial conditions and improve pedestrian walkability.
- Help achieve statewide goal of sustainability by reducing reliance on foreign oil and inter-state natural gas pipelines by developing locally sourced and consumed resources using energy-efficient technology.

- Reduce energy use environmental impacts, efficiently use project-sourced natural gas, and increase project reliability/safety with a microgrid that integrates multiple on-site energy sources with high-efficiency controls on energy using equipment.

5.2.2 Elimination/Reduction of Significant and Unavoidable Impacts

As described above, *CEQA Guidelines* Section 15126.6(b) states that “[B]ecause an EIR must identify ways to mitigate or avoid the significant effects that a project may have on the environment (PRC Section 21002.1), the discussion of alternatives shall focus on alternatives to the project or its location which are capable of avoiding or substantially lessening any significant effects of the project, even if these alternatives would impede to some degree the attainment of the project objectives, or would be more costly.” Therefore, the alternatives evaluated in this EIR have been selected because they are anticipated to reduce and/or eliminate one or more significant impacts associated with the proposed project. Potentially significant environmental impacts that would result from the project are evaluated in Sections 3.1 through 3.18 in Chapter 3, *Environmental Setting, Impacts, and Mitigation Measures*, and Chapter 4, *Other CEQA Considerations*. With implementation of the mitigation measures identified for each issue, many of the potentially significant impacts resulting from the project would be reduced to a level considered less than significant. The proposed project impacts listed below would remain significant and unavoidable even after implementation of feasible mitigation measures.

5.2.2.1 Air Quality

If all phases of construction occurred simultaneously, the emissions for nitrogen oxides (NO_x) would exceed air quality standard thresholds. Mitigation Measure AQ-2 is recommended to reduce NO_x emissions during construction; however, there are no reasonable and feasible measures that can reduce NO_x emissions to below the acceptable threshold of 100 pounds per day. Therefore, impacts from project construction pertaining to NO_x emissions would be significant and unavoidable (Impact AQ-2).

Based on SCAQMD’s cumulative air quality impact methodology, SCAQMD recommends that if an individual project results in air emissions of criteria pollutants (including NO_x) that exceed the SCAQMD’s recommended daily thresholds for project-specific impacts, then it would also result in a cumulatively considerable net increase of these criteria pollutants for which the project region is in nonattainment under an applicable federal or state ambient air quality standard. Even following implementation of Mitigation Measure AQ-2, impacts related to an increase of a criteria pollutant for which the region is in nonattainment would remain significant and unavoidable (Impact AQ-3).

Construction would still potentially exceed the regional threshold for NO_x of 100 pounds per day even after implementation of Mitigation Measure AQ-2. Therefore, short-term cumulative impacts to air quality during proposed project construction would be significant and unavoidable (Cumulative Air Quality Impacts).

5.2.3 Feasibility

CEQA Guidelines Section 15126.6(f)(1) (14 California Code of Regulations) states the following: “Among the factors that may be taken into account when addressing the feasibility of alternatives are site suitability, economic viability, availability of infrastructure, general plan consistency, other plans or regulatory limitations, jurisdictional boundaries (projects with a regionally significant impact should consider the regional

context), and whether the proponent can reasonably acquire, control or otherwise have access to the alternative site (or the site is already owned by the proponent). No one of these factors establishes a fixed limit on the scope of reasonable alternatives (*Citizens of Goleta Valley v. Board of Supervisors* (1990) 52 Cal.3d 553; see *Save Our Residential Environment v. City of West Hollywood* (1992) 9 Cal.App.4th 1745, 1753, fn. 1).”

Each alternative was evaluated for its feasibility, its ability to attain most of the proposed project’s objectives, and its ability to reduce and/or eliminate significant impacts associated with the project.

5.3 Alternatives Considered and Rejected

The *CEQA Guidelines* recommend that an EIR identify any alternatives that were considered by the Lead Agency but were rejected as infeasible and briefly explain the reasons underlying the Lead Agency’s determination. *CEQA Guidelines* Section 15126.6(c) states the following:

The EIR should also identify any alternatives that were considered by the lead agency but were rejected as infeasible during the scoping process and briefly explain the reasons underlying the lead agency’s determination ... Among the factors that may be used to eliminate alternatives from detailed consideration in an EIR are: (i) failure to meet most of the basic project objectives, (ii) infeasibility, or (iii) inability to avoid significant environmental impacts.

The analysis of alternatives started with an identification of a number of potential alternatives to the proposed project that would reduce or eliminate the project’s significant environmental impacts. Of the alternatives evaluated, seven were eliminated from further consideration. Those alternatives eliminated are discussed in below.

5.3.1 Reduced Project Area Alternative

The Reduced Project Area Alternative would limit development to the Synergy Oil Field site. Oil operations on the southern half of the Synergy Oil Field site would continue and/or be expanded; and only wetland restoration on the northern 76.52 acres of the Synergy Oil Field site would occur. Existing oil production uses would continue on the City Property site. The Reduced Project Area Alternative would eliminate the proposed new development on the Pumpkin Patch and LCWA sites. These sites would continue their current operations (a temporary staging area and a seasonal pumpkin and Christmas tree lot, respectively).

This alternative would fail to achieve multiple project objectives, including: restoration of a self-sustaining 78-acre coastal wetland habitat, reduction of the footprint of oil production operations on both privately owned and City-owned portions of the Los Cerritos Wetlands, phasing out old oil production equipment and replacement with modern efficient equipment, optimizing oil and gas production from the oil reserves within the City to fund wetlands and provide revenue, providing environmental clean-up of old landfills, relocating existing oil production activities and making available former oil field for wetlands restoration, and increasing project reliability/safety with a microgrid. Without revenue generated via oil production from the Pumpkin Patch and LCWA sites, no restoration would be funded, including funding for the restoration of the northern 76.52-acres of the Synergy Oil Field site; therefore, this alternative would be economically infeasible. Also, as the Pumpkin Patch and LCWA sites are owned by different entities, each entity may develop their respective parcel absent this project. For the reasons described, this alternative was eliminated from further consideration.

5.3.2 Buried Pipeline Alternative

The Buried Pipeline Alternative would result in the burying of the 2,200-foot oil and natural gas pipeline proposed to cross the City Property site to connect the Pumpkin Patch and LCWA sites. Under this alternative, the pipeline would cross the Newport-Inglewood Fault below ground. A buried pipeline has a greater potential for rupture or leaks during an earthquake event than an aboveground pipeline. Due to the potential damage that could occur during a seismic event if a rupture or leak of oil and/or natural gas occurred in the pipeline from between the Pumpkin Patch and LCWA sites, this alternative was eliminated from further consideration.

5.3.3 Seasonal Depression Avoidance Alternative

The Seasonal Depression Avoidance Alternative would reduce the area that could be developed as a part of the proposed project on the Pumpkin Patch site. There is a seasonal depression on the central/ eastern portion of the Pumpkin Patch site which would be impacted by development of the oil production facilities, specifically the oil well cellars, and landfill remediation, if deemed necessary. The seasonal depression may be considered “wetland” under the California Coastal Act (CCA). Although mitigation has been identified that would reduce this potential impact to a less-than-significant level, this alternative examines the feasibility of avoiding impacts to the seasonal depression. Under this alternative, none of the well cellars proposed on the Pumpkin Patch site plan could be developed. This reduction in development compared to the proposed project would remove the construction of the office and warehouse structures, because absent new oil facilities, these facilities would not be necessary on this site. Under this alternative, oil production uses would remain on the City Property site. Only accessing oil on one side of the Newport Inglewood Fault would make the project infeasible, because it would no longer be economically feasible to not be able to extract oil from both sides of the fault. Also, without oil production facility development on the Pumpkin Patch site, it may not be feasible to undertake the proposed wetland restoration efforts with limited oil production. This alternative was eliminated because it would not achieve some of the project objectives, including providing potential clean-up of old landfills on private property and optimizing oil and gas production from the existing oil reserves and to contribute to funding the costs of wetland restoration. For these reasons, this alternative was eliminated from further consideration.

5.3.4 Off-Site Location Alternative

Alternative off-site locations have been considered in accordance with CEQA, specifically the “Bryant” property located across 2nd Street from the Synergy Oil Field site and adjacent to the Marketplace Marsh. This alternative was eliminated from further analysis because it would not achieve many of the proposed project objectives, and would result in greater environmental impacts to biological resources than development on the Pumpkin Patch and LCWA sites, specifically because there is more sensitive habitat located on a larger site. Additionally, there are no other parcels in the project vicinity under the Applicant’s ownership or control. For these reasons, this alternative was eliminated from further consideration.

5.3.5 No Pipeline Alternative

The No Pipeline Alternative would eliminate construction of the proposed aboveground pipeline across the City Property site. Without a pipeline connecting the sites, the Pumpkin Patch and LCWA sites would need to be independently developed. Instead of the sites sharing oil processing facilities, each site would have its own

well field and oil processing facilities. Both sites are too small to feasibly accommodate these facilities in addition to the proposed oil production facilities from an economic standpoint. Inclusion of oil processing facilities on the Pumpkin Patch site would also not allow efficient room for buffering of the site's wetland habitat area from oil operations. For these reasons, this alternative was eliminated from further consideration.

5.3.6 Reduced Development Footprint Alternative

The Reduced Development Footprint Alternative would limit all new oil operations to either the Pumpkin Patch or LCWA site. Oil production facilities would still be removed from the Synergy Oil Field and City Property sites, and restoration would still occur on the Synergy Oil Field site. This alternative would limit oil production to only one side of the Newport Inglewood Fault. This alternative would fail to meet the policy direction to not leave resources stranded, which would occur if drilling was done on only one side of the Newport-Inglewood fault. Also, it would not achieve the project objective of optimizing oil and gas production from the existing oil reserves that would assist in funding the cost of wetland restoration. This alternative would also not fully achieve the project's objective pertaining to the future transfer of the property of private ownership of the Synergy Oil Field site to LCWA stewardship, because the revenue generated from accessing oil and gas from one side of the fault would not generate enough revenue to fund the restoration of the northern portion of the Synergy Oil Field site. For these reasons, this alternative was eliminated from further consideration.

5.3.7 Accelerated Wetland Restoration Alternative

The Accelerated Wetland Restoration Alternative would restore wetland habitat throughout the entire Synergy Oil Field site rather than just the northern portion of the site. The proposed visitors center would still be included, but would be located in the southeast corner near the Studebaker Road and 2nd Street intersection to reduce potential impacts associated with sea-level rise on the visitors center. Oil production facilities would still be developed on the Pumpkin Patch and LCWA sites. This alternative would fail to meet the project objective of maintaining the amount of oil operations to help fund the wetland restoration. This alternative would require the plugging and abandonment of all existing oil production operations on the Synergy Oil Field site followed by wetland restoration of the entire Synergy Oil Field site prior to new oil operations being fully constructed and in production. Given the timing of wetlands restoration and plugging and abandonment of existing operations, this alternative would be too costly to be funded by future development of the Pumpkin Patch and LCWA sites. Moreover, this alternative does not reduce or eliminate any impacts associated with the proposed project. For these reasons, this alternative was eliminated.

5.4 Alternatives Considered and Further Evaluated

As described above, the intent of the alternatives analysis in an EIR is to identify a range of reasonable alternatives to the project that would feasibly attain most of the basic project objectives and would avoid or substantially lessen the significant impacts of a project. Based on the significant environmental impacts of the project, the aforementioned objectives established for the project, and the feasibility of the alternatives considered, the following alternatives to the project are evaluated in this section. As some impacts associated with the alternatives analyzed below would be the same or similar to the proposed project (depending upon the resource area), this chapter should be read in conjunction with the impact analyses contained in Chapter 3, *Environmental Setting, Impacts, and Mitigation Measures*, which provides more detailed information on the

individual resource areas and impacts of the proposed project. The Significance Thresholds and the methodology utilized in this chapter are the same as those utilized in Chapter 3, *Environmental Setting, Impacts, and Mitigation Measures*. Therefore, for additional information regarding methodology, reviewers should reference the individual resource chapters for further details.

5.4.1 Alternative 1: No Project (No Build) Alternative

CEQA Guidelines Section 15126.6(e) requires that an EIR evaluate and analyze the impacts of the “No-Project” Alternative. Under the No Project (No Build) Alternative, none of the proposed project components would be constructed and implemented and existing conditions would remain unchanged. The following would occur under the No Project Alternative:

- The Synergy Oil Field site would continue to operate the existing oil production facilities and no restoration of the wetlands on the northern portion of the site would occur. There would be no removal of abandoned pipeline and tank farms on the site. Plugging and abandonment of the oil wells would not occur. Well removal would not occur during the 40 years from establishment of the New Occupancy Date. The Bixby Ranch Field Office building would not be rehabilitated and would remain in its current location on the site within the Newport-Inglewood fault zone and the visitors center, overlook terrace and picnic areas, trail, and associated parking lot would not be constructed. None of the proposed bikeway and sidewalk improvements on 2nd Street, Studebaker Road, and Pacific Coast Highway (PCH) would occur under this alternative. The Synergy Oil Field site would not be transferred to LCWA as part of the land exchange proposed by the project.
- The City Property site would continue to operate its existing oil production facilities concentrated in the southwestern portion and northern perimeter of the site. There would be no removal of abandoned pipeline and tank farms on the site. Plugging and abandonment of the oil wells would not occur. Well removal would not occur during the 40 years from establishment of the New Occupancy Date. The aboveground pipeline system and utility corridor through the site along the western oil service road (to connect the Pumpkin Patch and LCWA sites) would not be constructed. Neither of the two routes for the cased bored crossing for the utility bundle across the intersection of Studebaker Road and 2nd Street would occur. None of the proposed bikeway and sidewalk improvements on Westminster Avenue/2nd Street would occur under this alternative.
- The Pumpkin Patch site would continue to be used seasonally for the sale of pumpkins and Christmas trees and closed to the public for the remainder of the year, and would continue to operate its one active oil well. Plugging and abandonment of the single active oil well would not occur. The 24-foot oil tanks, tank storage area, well cellars, and oil processing facilities would not be constructed. A new office building and warehouse would also not be constructed. Up to 50 new wells would not be drilled. Additionally, landfill removal, if deemed necessary, would not occur. No gateway monuments would be constructed on PCH as a part of this alternative. None of the proposed bikeway and sidewalk improvements on PCH, Studebaker Road would occur under this alternative.
- The LCWA site would remain undeveloped and used on a temporary lease basis for equipment storage and staging under this alternative. The 70-foot oil tank, 35-foot water tank, 50-foot multi-use tanks, tank storage area, well cellars, oil processing facilities, and energy system microgrid (including photovoltaic, electric charging stations, and four gas turbines) would not be constructed. Up to 70 new wells would not be drilled. None of the proposed bikeway and sidewalk improvements on Studebaker Road and Westminster Avenue/2nd Street would occur under this alternative.

5.4.2 Alternative 2: No Project/ Development Consistent with Existing Zoning Alternative

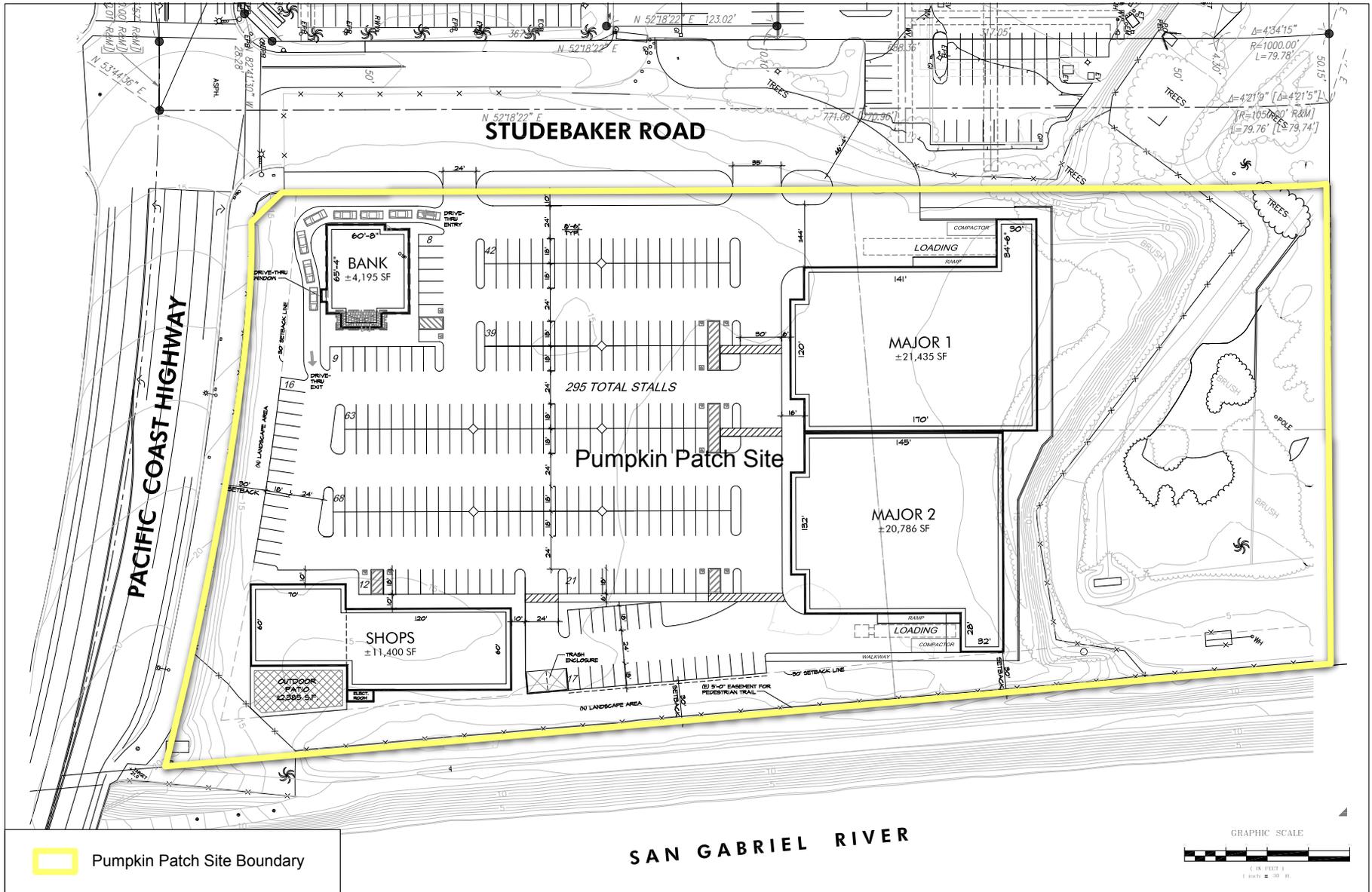
The No Project/Development Consistent with Existing Zoning Alternative would involve no change to the existing operations on the Synergy Oil Field and City Property sites. As no new development would be proposed on the Synergy Oil Field or City Property site, bikeway and sidewalk improvements along 2nd Street, Studebaker Road, and PCH (adjacent to the Synergy Oil Field and City Property sites) would not be provided. All other project components, including the wetland restoration, visitors center, overlook terrace, and Studebaker Trail on the Synergy Oil Field site and the City Property site would not be implemented as a part of Alternative 2. Furthermore, the aboveground pipeline/utility corridor would not be constructed on the City Property site under Alternative 2, which would avoid potential impacts to the wetland areas on the City Property site.

Alternative 2 would involve development consistent with existing City zoning (SEADIP) on the Pumpkin Patch and LCWA sites. This could result in commercial development (business park, office commercial, light industrial, restaurants and hotel) on the Pumpkin Patch site, similar to what is shown in **Figure 5-1a, Alternative 2: No Project/ Development Consistent with Existing Zoning Alternative, Pumpkin Patch Site**, and light industrial development on the LCWA site, similar to what is shown in **Figure 5-1b, Alternative 2: No Project/ Development Consistent with Existing Zoning Alternative, Los Cerritos Wetlands Authority (LCWA) Site**. This alternative would still maintain the buffer area as shown in Figure 5-2a, Alternative 5: Relocated Pipeline Alternative, on page 5-12. Based on allowable development intensity, coupled with the development standards of the City's zoning, Alternative 2 could include the construction of nearly 58,000 square feet (sf) of retail and service uses (such as grocery stores, general retail, banks, personal services, etc.), along with 295 parking spaces on the Pumpkin Patch site. Under this alternative, the LCWA site could be developed with an approximately 26,900 sf of industrial warehouse/office uses and approximately 123 parking spaces. Bikeway and sidewalk improvements may be implemented adjacent to the Pumpkin Patch and LCWA sites in connection with the proposed development on those sites.

5.4.3 Alternative 3: Reduced Production Alternative

Alternative 3 would develop the project; however, the number of new oil wells installed would be reduced on the Pumpkin Patch and LCWA sites. Given the reduction in oil production on the Pumpkin Patch and LCWA sites, the phasing duration for relocating and plugging and abandoning the existing oil wells on the Synergy Oil Field and City Property sites could be extended beyond 40 years under this alternative. The remaining project components, including the wetland restoration, visitors center, new office building, overlook terrace, Studebaker Trail on the Synergy Oil Field site, aboveground pipeline and utility corridor on the City Property site, and bikeway and sidewalk improvements, would be implemented as a part of Alternative 3.

Given the reduced production, the storage tank heights on both the Pumpkin Patch and LCWA sites would be less than 35 feet to be consistent with the current SEADIP height restrictions. The number of turbines on the LCWA site would also be reduced from four to three. The reduced number of new oil wells on the Pumpkin Patch and LCWA sites would result in the reduction of potential oil production of the project under Alternative 3.

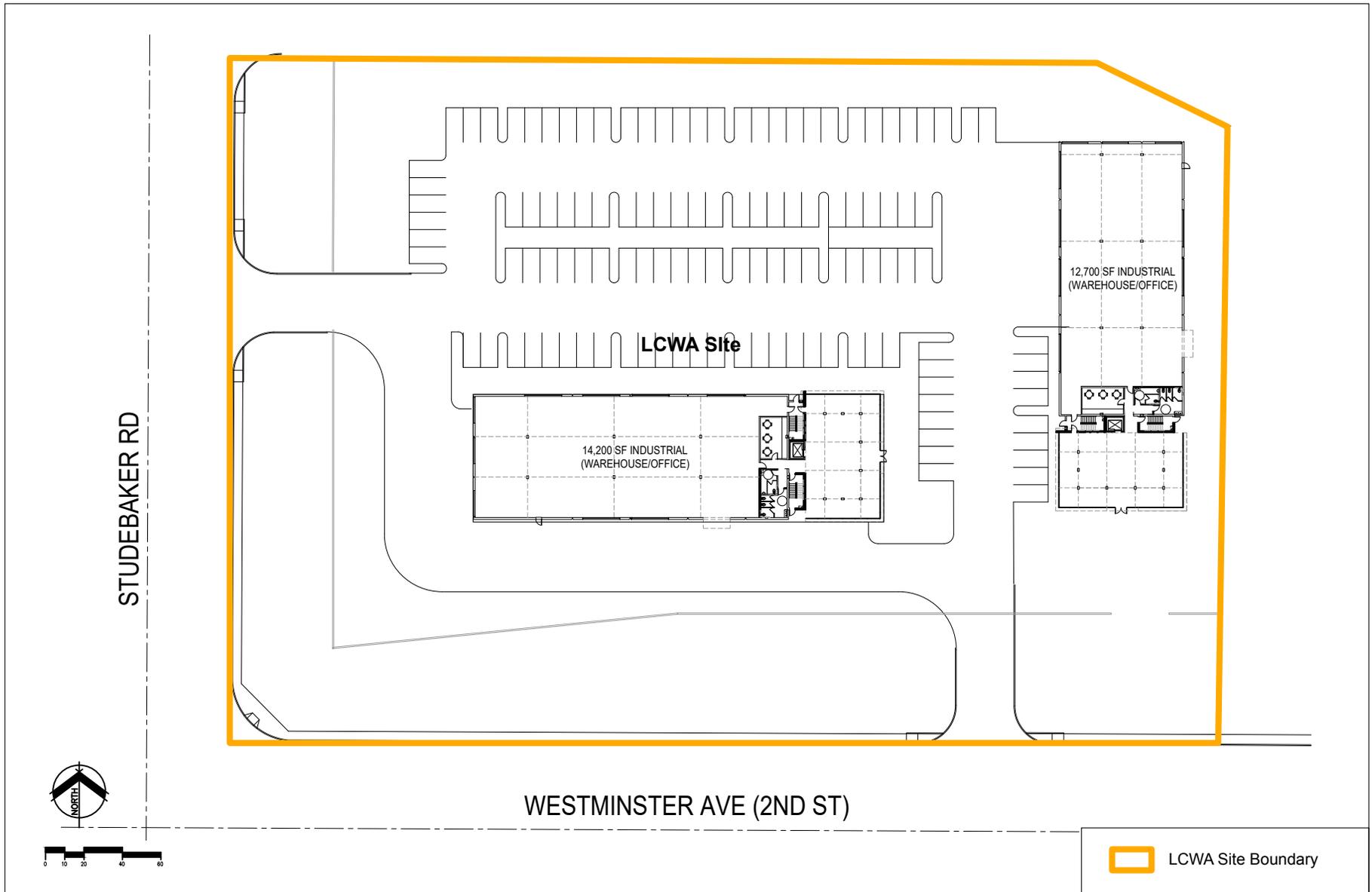


SOURCE: McKenty Malak Architects

Long Beach Cerritos Wetland . 150712

Figure 5-1a

Alternative 2: No Project/Development Consistent with Existing Zoning Alternative, Pumpkin Patch Site



SOURCE: McKently Malak Architects

Long Beach Cerritos Wetland . 150712

Figure 5-1b

Alternative 2: No Project/Development Consistent with Existing Zoning Alternative, Los Cerritos Wetlands Authority (LCWA) Site

5.4.4 Alternative 4: SCE Substation Alternative

Under Alternative 4, a large Southern California Edison (SCE) substation would be constructed at the LCWA site. The Synergy Oil Field Site and City Property sites would be developed with the same project components as the proposed project, including the well plugging and abandoning, wetland restoration, visitors center, new office building, overlook terrace, Studebaker Trail on the Synergy Oil Field site, aboveground pipeline and utility corridor on the City Property site, and bikeway and sidewalk improvements.

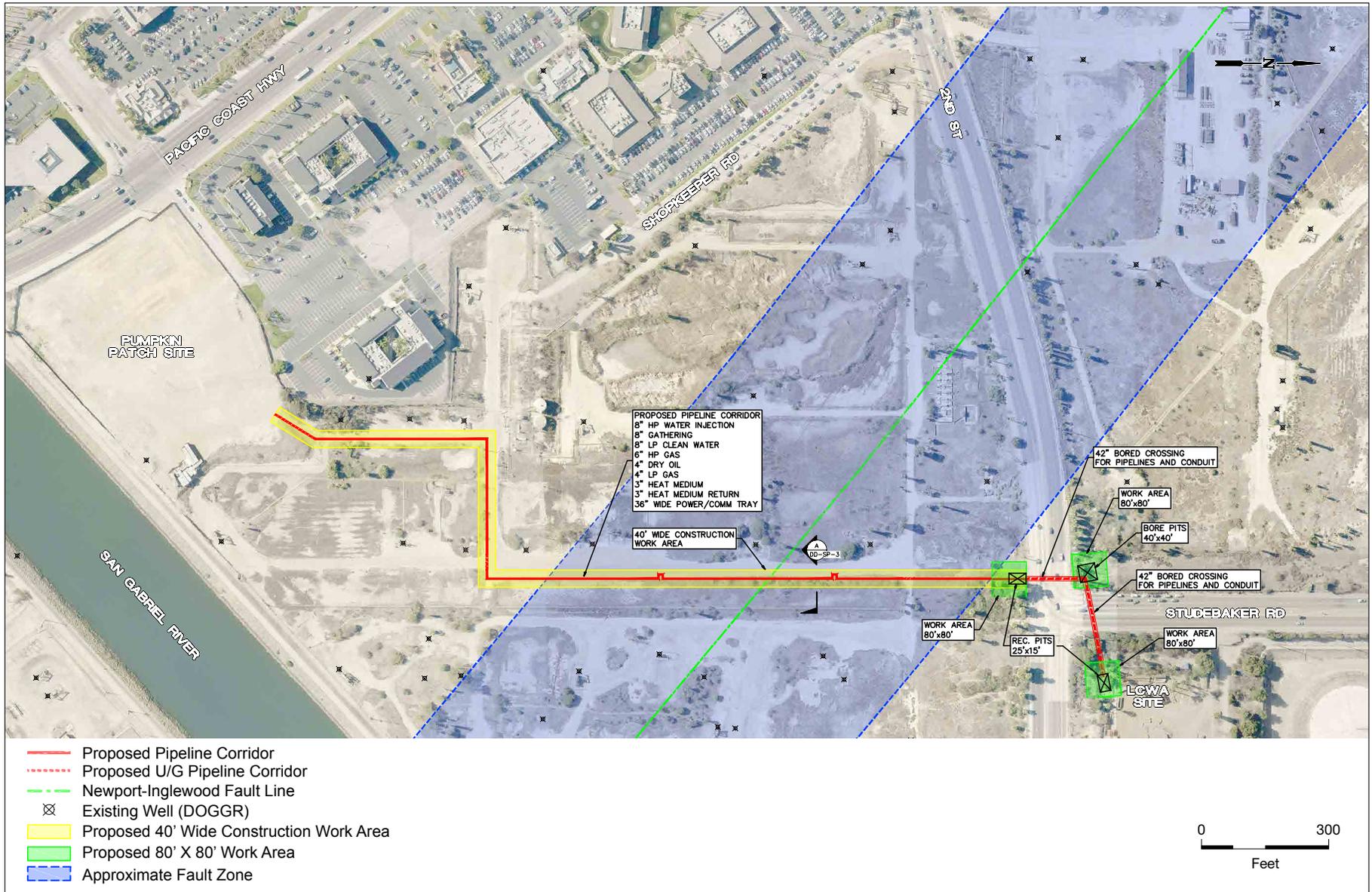
The Pumpkin Patch site would be developed with the same project components as the proposed project, including 24-foot oil tanks, a tank storage area, well cellars, oil processing facilities, new office building and warehouse, and bikeway and sidewalk improvements on PCH and Studebaker Road. In addition, transmission lines providing electricity to the Pumpkin Patch site would be required under Alternative 4. Although it is not known, it is possible that a second substation on the Pumpkin Patch site may also be required under this alternative.

The LCWA site would be developed with a large SCE substation, rather than the microgrid including the turbine power generation and photovoltaic components of the proposed project. Natural gas produced as byproduct of oil extraction would not be used on site, but instead sold into the regional grid or trucked off site. Although the project characteristics at the remaining sites would remain unchanged under this alternative, upgrades to SCE transmission lines connecting to the SCE substation on the LCWA site would be required.

5.4.5 Alternative 5: Relocated Pipeline Alternative

The Relocated Pipeline Alternative would relocate the aboveground pipeline and utility corridor to the wider oil service road located on the eastern portion of the City Property site, as shown in **Figure 5-2a, Alternative 5: Relocated Pipeline Alternative**. This alternative would reduce impacts to habitat areas on the City Property site that would occur with construction of the aboveground pipeline and utility corridor under the proposed project. As shown in **Figure 5-2b, Alternative 5: Relocated Pipeline Alternative Habitat**, this alternative would avoid sensitive habitat areas and would still allow for consistency with the LCWA's Conceptual Restoration Plan. In addition, this alternative would provide a larger buffer between future tidal wetlands and existing freshwater wetlands that should be protected from salt water influence. Furthermore, this alignment would create more area for alkali meadow habitat to be restored, which is important since approximately 30 acres of alkali meadow would be lost due to tidal flooding that is proposed by the LCWA's Conceptual Restoration Plan.

Similar to the proposed project, this alternative proposes two routes for boring between the City Property and LCWA sites. Figure 2-20, Aboveground Pipeline Corridor and Utility Corridor, in Chapter 2, *Project Description*, depicts one option for the cased bored crossing. As shown, the 42-inch cased bored crossing would travel diagonally from the southwest corner of the LCWA site, cross under 2nd Street, to the northeast corner of the City Property site, "day lighting" once it reaches the City Property. The second option for boring is shown in Figure 5-2a, which shows the 42-inch cased bored crossing would initiate at the southwest corner of the LCWA site, cross under Studebaker Road perpendicularly, "day light" at the southeast corner of the Synergy Oil Field site, cross under 2nd Street perpendicularly, and "day light" again at the northeast corner of the City Property site.



SOURCE: Los Cerrito Wetlands Oil Consolidation & Restoration Project

Long Beach Cerritos Wetland . 150712

Figure 5-2a
 Alternative 5: Relocated Pipeline Alternative



SOURCE: Glenn Lukos Associates

Long Beach Cerritos Wetland . 150712

Figure 5-2b

Alternative 5: Relocated Pipeline Alternative Habitat

In order to avoid impacts due to the presence of the Newport-Inglewood Fault that traverses the City Property site, the project could not place the pipeline underground. Therefore, an aboveground alignment for the pipeline was proposed. Under the proposed project, the pipeline and utility corridor would be situated along the alignment of the western oil service road in order to maximize the amount of freshwater wetlands that could be restored in the future. This would be consistent with the LCWA Conceptual Wetlands Restoration Plan goal of maximizing freshwater wetland restoration opportunities; however, the eastern oil service road is wider and contains larger areas that have been previously disturbed and is lacking in vegetation as compared to the western oil service road. Thus, locating the Relocated Pipeline Alternative on the eastern oil service road would minimize disturbance to existing wetlands and sensitive vegetation that are present along the alignment of the western oil service road. Although Alternative 5 would result in less saltwater wetland restoration opportunities, it would increase freshwater wetland restoration opportunities and, thus, would also be consistent with the LCWA Conceptual Restoration Plan. The remaining components proposed as a part of the project would remain the same under this alternative.

5.5 Analysis Format

In accordance with *CEQA Guidelines* Section 15126.6(d), each alternative is evaluated in sufficient detail to determine whether the overall environmental impacts would be less, similar, or greater than the corresponding impacts of the project. Furthermore, each alternative is evaluated to determine whether the project objectives identified in Chapter 2, *Project Description*, would be mostly attained by the alternative. The project's impacts that form the basis of comparison in the alternatives analysis are those impacts that represent a conservative assessment of project impacts. The evaluation of each of the alternatives follows the process described below:

- a) The net environmental impacts of the alternative after implementation of reasonable mitigation measures are determined for each environmental issue area analyzed in this EIR.
- b) Post-mitigation significant and non-significant environmental impacts of the alternative and the project are compared for each environmental issue area as follows:
 - Less: Where the impact of the alternative after feasible mitigation would be clearly less adverse than the impact of the project, the comparative impact is said to be "less."
 - Greater: Where the impact of the alternative after feasible mitigation would be clearly more adverse than the impact of the project, the comparative impact is said to be "greater."
 - Similar: Where the impacts of the alternative after feasible mitigation and the project would be roughly equivalent, the comparative impact is said to be "similar."
- c) The comparative analysis of the impacts is followed by a general discussion of whether the underlying purpose for the project, as well as the project's basic objectives would be substantially attained by the alternative.

Table 5-1, Summary of Project and Alternative Impacts, provides a summary matrix that compares impacts of the proposed project with the impacts of each of the alternatives analyzed. It is important to note that none of the project alternatives reduces the significant unavoidable impacts associated with Air Quality.

Table 5-1 Summary of Project and Alternative Impacts

Environmental Issue	Project Impact	Alternative 1: No Project (No Build)	Alternative 2: No Project/ Development Consistent with Existing Zoning	Alternative 3: Reduced Production	Alternative 4: SCE Substation	Alternative 5: Relocated Pipeline
Aesthetics						
Impact AES-1: Scenic Vistas	LTS	Similar	Greater	Similar	Similar	Similar
Impact AES-2: Scenic Resources	LTS	Similar	Similar	Similar	Similar	Similar
Impact AES-3: Visual Character	LTS with MM	Less	Similar	Similar	Similar	Similar
Impact AES-4: Light and Glare	LTS with MM	Less	Greater	Similar	Similar	Similar
Air Quality						
Impact AQ-1: Air Quality Plan	LTS	Less	Greater	Less	Greater	Similar
Impact AQ-2: Air Quality Standards	SU for construction; LTS with MM for operation	Less; Less	Less; Potentially Greater	Less; Less	Similar; Greater	Similar; Similar
Impact AQ-3: Criteria Pollutants	SU for construction; LTS with MM for operation	Less; Less	Less; Potentially Greater	Less; Less	Similar; Greater	Similar; Similar
Impact AQ-4: Sensitive Receptors	LTS with MM	Less	Greater	Less	Less	Similar
Impact AQ-5: Odors	LTS with MM	Greater	Greater	Greater	Similar	Similar
Biological Resources						
Impact BIO-1: Sensitive Species	LTS with MM	Less	Similar	Similar	Similar	Similar
Impact BIO-2: Special-Status Species	LTS with MM	Less	Similar	Similar	Similar	Similar
Impact BIO-3: Sensitive Natural Communities	LTS with MM	Less	Similar	Similar	Similar	Less
Impact BIO-4: Wetlands	LTS with MM	Less	Similar	Similar	Similar	Less
Impact BIO-5: Wildlife Corridors	LTS	Less	Similar	Similar	Similar	Similar
Impact BIO-6: Biological Resources Protection Policies	LTS with MM	Less	Less	Similar	Similar	Similar
Cultural Resources						
Impact CUL-1: Historical Resources	LTS with MM	Similar	Similar	Similar	Similar	Similar
Impact CUL-2: Archaeological Resources	LTS with MM	Less	Similar	Similar	Similar	Similar
Impact CUL-3: Paleontological Resources	LTS with MM	Less	Similar	Similar	Similar	Similar
Impact CUL-4: Human Remains	LTS with MM	Less	Similar	Similar	Similar	Similar

Table 5-1 Summary of Project and Alternative Impacts

Environmental Issue	Project Impact	Alternative 1: No Project (No Build)	Alternative 2: No Project/ Development Consistent with Existing Zoning	Alternative 3: Reduced Production	Alternative 4: SCE Substation	Alternative 5: Relocated Pipeline
Geology, Seismicity, and Soils						
Impact GEO-1: Fault Rupture	LTS	Similar	Greater	Similar	Similar	Similar
Impact GEO-2: Groundshaking	LTS with MM	Similar	Similar	Similar	Similar	Similar
Impact GEO-3: Liquefaction	LTS with MM	Similar	Similar	Similar	Similar	Similar
Impact GEO-4: Landslides	LTS	Similar	Similar	Similar	Similar	Similar
Impact GEO-5: Topsoil Loss	LTS	Less	Greater	Similar	Similar	Similar
Impact GEO-6: Geologic Instability	LTS with MM	Similar	Similar	Similar	Similar	Similar
Impact GEO-7: Expansive Soil	LTS with MM	Less	Similar	Similar	Similar	Similar
Greenhouse Gas Emissions						
Impact GHG-1: GHG Emissions	LTS	Less	Less	Less	Greater	Similar
Impact GHG-2: GHG Regulations	LTS	Similar	Similar	Similar	Similar	Similar
Hazards and Hazardous Materials						
Impact HAZ-1: Use of Hazardous Materials	LTS	Less	Less	Similar	Similar	Similar
Impact HAZ-2: Hazardous Materials Near Schools	No Impact	Similar	Similar	Similar	Similar	Similar
Impact HAZ-3: List of Hazardous Materials	LTS with MM	Less	Similar	Similar	Similar	Similar
Impact HAZ-4: Emergency Response Plan	LTS	Less	Similar	Similar	Similar	Similar
Impact HAZ-5: Wildland Fires	No Impact	Less	Similar	Similar	Similar	Similar
Hydrology and Water Quality						
Impact HY-1: Water Quality	LTS	Less	Similar	Similar	Similar	Similar
Impact HY-2: Groundwater	LTS	Less	Similar	Similar	Similar	Similar
Impact HY-3: Drainage Patterns	LTS	Less	Similar	Similar	Similar	Similar
Impact HY-4: Runoff	LTS	Less	Similar	Similar	Similar	Similar
Impact HY-5: Sea Level Rise	LTS	Greater	Greater	Similar	Similar	Similar
Impact HY-6: Levee or Dam Flooding	LTS	Less	Greater	Similar	Similar	Similar
Impact HY-7: Seiche, Tsunami, Mudflow	LTS	Similar	Similar	Similar	Similar	Similar

Table 5-1 Summary of Project and Alternative Impacts

Environmental Issue	Project Impact	Alternative 1: No Project (No Build)	Alternative 2: No Project/ Development Consistent with Existing Zoning	Alternative 3: Reduced Production	Alternative 4: SCE Substation	Alternative 5: Relocated Pipeline
Land Use and Planning						
Impact LU-1: Community Division	LTS	Less	Similar	Similar	Similar	Similar
Impact LU-2: Applicable Land Use Plan Confliction	LTS	Similar	Reduced	Similar	Similar	Similar
Mineral Resources						
Impact MR-1: Mineral Resource Loss	No Impact	Similar	Greater	Similar	Similar	Similar
Noise						
Impact NOI-1: Noise Standard Exceedance	LTS with MM	Less	Similar	Similar	Similar	Similar
Impact NOI-2: Groundborne Vibration	LTS	Less	Less	Similar	Similar	Similar
Impact NOI-3: Permanent Noise Increase	LTS	Less	Greater	Similar	Similar	Similar
Impact NOI-4: Temporary Noise Increase	LTS with MM	Less	Less	Similar	Similar	Similar
Population and Employment						
Impact PH-1: Population Growth	LTS	Less	Greater	Similar	Similar	Similar
Public Services						
Impact PS-1: Fire and Emergency Services	LTS with MM	Less	Greater	Similar	Similar	Similar
Impact PS-2: Police Protection Services	LTS	Less	Greater	Similar	Similar	Similar
Recreation						
Impact RE-1: Increased Existing Recreation Use	LTS	Less	Similar	Similar	Similar	Similar
Impact RE-2: Expansion of Recreational Facilities	LTS	Less	Greater	Similar	Similar	Similar
Transportation and Traffic						
Impact TR-1: Transportation Plan	LTS	Less	Greater	Similar	Similar	Similar
Impact TR-2: Congestion Management Program	LTS	Less	Greater	Similar	Similar	Similar
Impact TR-3: Air Traffic	No Impact	Similar	Similar	Similar	Similar	Similar
Impact TR-4: Traffic Hazards	LTS	Less	Greater	Similar	Similar	Similar
Impact TR-5: Emergency Access	LTS	Less	Greater	Similar	Similar	Similar

Table 5-1 Summary of Project and Alternative Impacts

Environmental Issue	Project Impact	Alternative 1: No Project (No Build)	Alternative 2: No Project/ Development Consistent with Existing Zoning	Alternative 3: Reduced Production	Alternative 4: SCE Substation	Alternative 5: Relocated Pipeline
Tribal Cultural Resources						
Impact TCR_1: Tribal Cultural Resource	LTS with MM	Less	Less	Similar	Similar	Similar
Utilities and Service Systems						
Impact UT-1: Wastewater Treatment Requirements	LTS	Less	Greater	Similar	Similar	Similar
Impact UT-2: Water or Wastewater Treatment Facilities	LTS / No Impact	Less	Similar	Similar	Similar	Similar
Impact UT-3: Stormwater Drainage Facilities	LTS	Less	Greater	Similar	Similar	Similar
Impact UT-4: Water Supplies	LTS	Less	Greater	Similar	Similar	Similar
Impact UT-5: Wastewater Treatment Capacity	LTS	Less	Greater	Similar	Similar	Similar
Impact UT-6: Landfill Capacity	LTS	Less	Greater	Similar	Similar	Similar
Impact UT-7: Solid Waste Regulations	LTS	Similar	Similar	Similar	Similar	Similar
Energy Consumption						
Impact EN-1: Energy Consumption	LTS	Greater	Greater	Greater	Greater	Similar
Impact EN-2: Energy Supplies	LTS	Similar	Similar	Similar	Greater	Similar
Impact EN-3: Energy Regulations	LTS	Similar	Similar	Similar	Similar	Similar

5.6 Impact Analysis

5.6.1 Alternative 1: No Project (No Build)

Aesthetics

Under Alternative 1, the proposed project would not be implemented and existing conditions would remain unchanged. Thus, this alternative would result in fewer impacts to scenic vistas than the proposed project, as it would avoid temporary impacts to scenic vistas from project construction. In addition, it would not improve the Los Cerritos Wetlands complex scenic vista, which is considered a beneficial impact under the proposed project. Therefore, although construction impacts to a scenic vista would be less than the proposed project, overall operational impacts would be greater since conditions would remain the same. Therefore, these impacts would offset each other and overall impacts to scenic vistas would be similar to the less-than-significant impacts identified for the proposed project.

Similar to the proposed project, this alternative would not result in impacts related damaging a scenic resource within a state scenic highway, as no state scenic highways are designated within the vicinity of the project. While PCH is identified as an eligible state scenic highway, construction would not occur under this alternative and, thus, no scenic resources (Bixby Ranch Field Office building, Steamshovel Slough, and wetland areas) on the Synergy Oil Field and Pumpkin Patch sites, as viewed from PCH, would be damaged. In addition, given that there would be no construction or new development, this alternative would avoid the temporary impacts to visual character or quality of the site and light and glare impacts associated with proposed project during construction and operation. Therefore, there would be no impacts related to damaging a scenic resource within a state scenic highway, visual character or quality of the site, or light and glare, and impacts would be less than the less-than-significant impacts identified for the proposed project.

Air Quality

Under Alternative 1, the proposed project would not be implemented and existing conditions would remain unchanged. The existing office building and existing oil production facilities would continue to operate. Thus, this alternative would result in fewer impacts to implementation of the South Coast Air Quality Management District (SCAQMD) Air Quality Management Plan (AQMP) compared to the project. Under Alternative 1, the proposed project would not generate emissions associated with construction of the visitors center, new office building, new oil production facilities and microgrid with four natural gas co-generation turbines. Thus, this alternative would result in no construction emissions, eliminating the significant and unavoidable construction emission impact associated with the proposed project. Thus, Alternative 1 would result in less construction impacts than those identified for the proposed project.

Under Alternative 1, the proposed project would not generate emissions associated with operation of the visitors center, new office building, new oil production facilities and microgrid with four natural gas co-generation turbines; therefore, there would be no net increases in emissions under this alternative. Although the existing facilities would continue to generate emissions, this alternative would result in fewer overall operational emissions than the proposed project; thus, operational emissions generated under Alternative 1 would be less than those identified for the proposed project.

Under Alternative 1, the proposed project would not generate construction non-attainment pollutant emissions compared to existing conditions, eliminating the significant and unavoidable construction emission impact associated with the proposed project. Thus, Alternative 1 would result in less construction impacts than those identified for the proposed project.

Under Alternative 1, the proposed new facilities would not be constructed and existing facilities would continue to operate as they do under existing conditions. Therefore, the proposed project would not result in a net increase of any criteria pollutant. Although existing facilities would continue to generate emissions, operation of the existing office building and oil production facilities would result in fewer overall operational emissions; thus, operational non-attainment pollutant emissions generated under Alternative 1 would be less than those identified for the proposed project.

Under Alternative 1, the proposed project would not generate construction or operational criteria pollutant or toxic air contaminant (TAC) emissions associated with the visitors center, new office building, new oil production facilities and microgrid with four natural gas co-generation turbines, but would continue to generate operational emissions associated with existing office building and existing oil production facilities. Thus, this alternative would result in fewer construction and operational impacts to localized air quality standards, health risks from TAC emissions, and CO hotspots as compared to the project.

Under Alternative 1, the proposed project would not generate odorous construction or operational emissions over existing conditions. However, the existing oil production facilities that would be replaced as part of the project consists of old equipment with minimal emission controls at well heads, flanges, pumps, and other equipment that has seen many years of use. Under Alternative 1, this older equipment would continue to be used and continue to age resulting in greater potential for odorous fugitive emissions. The project would use new equipment that must meet all of the latest SCAQMD regulations. For example, tanks used at other facilities may have been open or had floating roofs. All of the tanks for this project would have fixed roof tanks that drastically reduce fugitive emissions and would be expected to virtually eliminate off-site odors. Therefore, the project would be expected to reduce the potential for odors compared to existing site conditions. Thus, this alternative would result in greater odor impacts as compared to the project. Similar to the project, the existing site would still be required to comply with SCAQMD regulations including Rule 402, Nuisance. Thus, impacts would be less than significant.

Under Alternative 1, oil production facilities would continue to operate under existing conditions on the project site. Under this alternative, health risks associated with short-term construction air quality impacts would not occur; thus, impacts to sensitive receptors would be less than the proposed project. Similar to the proposed project, this alternative would not conflict with the air quality management plan in place. Because this alternative would not require any construction, this alternative would result in fewer impacts related to air quality standard violation and criteria pollutant increases, thereby eliminating significant unavoidable project and cumulative air quality impacts that would occur as a result of development of the proposed project. This alternative would eliminate the potential odors generated from construction and operation of new oil production facilities on the Pumpkin Patch and LCWA sites and would result in less impacts to odors. Therefore, impacts to air quality would be less under the No Project Alternative than those identified for the proposed project.

Biological Resources

Under Alternative 1, the proposed project would not be implemented and existing conditions would remain unchanged. Thus, there would be no impacts to candidate, sensitive, or special-status plant, wildlife, and/or riparian species or other sensitive natural communities within the project site. Given the lack of development under this alternative, no wetlands would be restored and no environmentally sensitive habitat areas (ESHA) would be impacted. This alternative would not interfere with the movement of any native resident, migratory fish, wildlife species, established native resident, wildlife corridors, or impede the use of native wildlife nursery sites. In addition, this alternative would not conflict with any local policies or ordinances protecting biological resources. Therefore, there would be no impacts related to biological resources, and impacts would be less than the less-than-significant impacts identified for the proposed project.

Cultural Resources

The No Project (No Build) Alternative would not relocate the California Register-eligible Bixby Ranch Field Office as proposed under the project and, thus, there would be no impacts from relocation. In addition, there would be no change to the Bixby No. 2 Discovery Well, which is also eligible for California Register listing. However, the Bixby Ranch Field Office structure is currently located within the Newport-Inglewood fault zone, and by not moving the structure, there would be a greater risk from seismic activity. In addition, in its current location, the Bixby Ranch Field Office is under threat from sea level rise. Under the proposed project, the structure would be relocated further south and raised by 5 feet, to address the threat of sea level rise. Thus, although impacts from relocation of the historic structure would be less than the proposed project, overall impacts would be greater due to existing seismic hazards and the threat of sea level rise. Therefore, these impacts would offset each other and overall impacts to historic resources would be similar to the less-than-significant impacts identified for the proposed project.

Given that there would be no ground disturbance, this alternative would avoid the potential impacts associated with project construction and the discovery of undocumented cultural resources that were determined to be archaeological resources, destruction of a unique paleontological resource or unique geologic feature, and discovery of human remains. Therefore, there would be no impacts related to archaeological resources, paleontological resources, and human remains, and impacts would be less than the less-than-significant with mitigation impacts identified for the proposed project.

Geology, Seismicity, and Soils

Under Alternative 1, the proposed project would not be implemented and existing conditions would remain unchanged. Thus, no additional structures would be constructed which could expose people or structures to potential adverse effects related to fault rupture, strong seismic ground shaking, ground failure, including liquefaction, or seismic induced landslides. However, as discussed above under Cultural Resources, the Bixby Ranch Field Office structure is currently located within the Newport-Inglewood fault zone. Thus, by not relocating this structure, the threat of fault rupture, strong seismic ground shaking, ground failure, including liquefaction, or seismic induced landslides would be greater than it would be under the proposed project. Nevertheless, given this alternative would not construct new structures on the project site, impacts would be similar to the less-than-significant impacts identified for the proposed project.

No construction or ground disturbance would occur under Alternative 1 and, thus, impacts related to soil erosion, the loss of topsoil, or expansive soils would be similar to conditions today. Thus, there would be no

soil impact from implementation of this alternative and impacts would be less than the less-than-significant impacts identified for the proposed project.

As identified in Section 3.5, *Geology, Seismicity, and Soils*, there is no identified risk for landslides or lateral spreading within the project area and, thus, similar to the proposed project, there would be no impact related to landslides or lateral spreading. Given that oil production activities would still occur under this alternative, similar to the proposed project, it would continue the current practice of returning the groundwater to the depth levels from which it was extracted, reducing the potential for subsidence. Therefore, impacts related to subsidence would be similar to the less-than-significant with mitigation impacts identified for the proposed project.

Greenhouse Gas Emissions

Under Alternative 1, the proposed project would not generate greenhouse gas (GHG) emissions associated with the construction and operation of the visitors center, new office building, new oil production facilities and microgrid with four natural gas co-generation turbines, but would continue to generate emissions associated with existing office building and existing oil production facilities. This alternative would result in fewer overall GHG emissions; thus, GHG emissions generated under the No Project Alternative would be less than those identified for the proposed project.

Both the proposed project and Alternative 1 would be consistent with all applicable plans, policies, and regulations related to the reduction of GHG emissions as required by the City and State. Therefore, impacts associated with GHG emission reduction plans and policies would be similar under the No Project Alternative to those identified for the proposed project.

The No Project (No Build) Alternative would not result in the generation of emissions associated with the operation of the visitors center, new office building, new oil production facilities and microgrid with four natural gas co-generation turbines, but would continue to generate emissions associated with existing office building and oil production facilities. This would result in fewer overall GHG emissions; thus, GHG emissions generated under the No Project Alternative would be less than those identified for the proposed project. Both the proposed project and the No Project Alternative would be consistent with all applicable regulations related to the reduction of greenhouse gas emissions as required by the State. Therefore, impacts associated with greenhouse gas emission reduction plans and policies would be similar under the No Project Alternative to those identified for the proposed project.

Hazards and Hazardous Materials

Under Alternative 1, existing oil production uses would remain unchanged and there would be no potential to create a significant hazard through the routine transport, use, disposal, or upset and accident conditions that release hazardous materials. Thus, there would be no construction impacts and impacts would be less than the less-than-significant impacts identified for the proposed project. During operation, uses would generally be similar to what would operate under the proposed project and, thus, impacts would be similar to those identified for the proposed project.

As discussed in Section 3.7, *Hazards and Hazardous Materials*, there are no schools located within 0.25 mile of the project site. Therefore, there would be no impacts related to hazardous materials near schools, similar to the proposed project. While all four sites are listed on one or more hazardous materials lists for the presence of active, idle, or plugged oil wells, historical releases of petroleum or PCBs, and/or the presence of landfill

materials, this alternative would not result in new development and, thus, this alternative would not create new significant hazards to the public or environment. Therefore, there would be no impact and impacts would be less than the less-than-significant impacts identified for the proposed project.

This alternative would not physically interfere with an emergency response or evacuation plan and impacts would be less than the less-than-significant impact identified for the proposed project. Similar to the proposed project, this alternative would not expose people or structures to significant risk involving wildland fires and there would be no impact.

Hydrology and Water Quality

The No Project (No Build) Alternative would continue existing uses and, thus, water use and wastewater discharge would not increase under this alternative. Therefore, this alternative would have no impact on water quality standards, waste discharge requirements, or would not otherwise degrade water quality, and impacts would be less than the less-than-significant impacts identified for the proposed project. Given that there would be no ground disturbance, there would be no impact on groundwater supplies or groundwater recharge. Thus, groundwater impacts would be less than the less-than-significant impacts identified for the proposed project. Unlike the proposed project, this alternative would not alter the drainage patterns and, thus, would not result in substantial erosion or siltation, and would not contribute to polluted runoff, nor would it increase surface runoff in a manner that would result in flooding.

While this alternative would not place new structures or infrastructure within areas anticipated to be inundated due to sea level rise, it would not improve Steamshovel Slough and would not relocate and raise the Bixby Ranch Field Office structure and, thus, existing structures and infrastructure would be susceptible to sea level rise. Therefore, impacts would be greater than the less-than-significant impacts identified for the proposed project.

No new structures would be constructed under this alternative; thus, there would be no impacts related to flooding, and impacts would be less than the less-than-significant impacts identified for the proposed project. This alternative would result in similar less-than-significant impacts related to seiche, mudflow and tsunami risks since both this alternative and the proposed project would operate facilities in a tsunami inundation area.

Land Use and Planning

Given that there would be no change to the existing land uses under Alternative 1, this alternative would not physically divide an established community and there would be no impact. Thus, impacts would be less than the less-than-significant impact identified for the proposed project. Because this alternative fails to address existing non-conformities and land use conflicts in the existing SEADIP ordinance it would have greater impacts than the proposed project with respect to conflicts with applicable land use plans and policies. The proposed project would address these conflicts because it proposes amendments to the SEADIP and Oil Map. Additionally, given that there would be no change to existing uses, the alternative would be consistent with the Local Coastal Program (LCP) and applicable CCA policies, and impacts would be similar to the less-than-significant impacts identified for the proposed project.

Mineral Resources

Under Alternative 1, none of the proposed project's new oil production facilities would be constructed on the Pumpkin Patch and LCWA sites; however, extraction of the existing resources would continue to occur. Similar

to the proposed project, this alternative would not result in the loss of availability of oil and natural gas resources and there would be no impact.

Noise

Given that existing conditions would remain the same and no new development would occur under Alternative 1, impacts related to noise levels in excess of standards established in the local general plan or noise ordinance would not occur. Thus, there would be no impact related to noise levels in excess of established standards, and impacts would be less than the less-than-significant impacts identified for the proposed project. In addition, this alternative would not expose people to excessive groundborne vibrate or noise levels and would not result in a temporary, periodic, or permanent increase in ambient noise levels. Therefore, noise related impacts would be less than the less-than-significant impacts identified for the proposed project.

Population and Employment

Under the No Project (No Build) there would be no new development and, thus, new employment opportunities would not occur, which could indirectly induce population growth. Therefore, would be no impact associated with this alternative, and impacts would be less than the less-than-significant impact identified for the proposed project.

Public Services

Under Alternative 1, existing conditions would remain the same and new development would not occur; thus, the potential increase in demand for police protection and fire protection services would not occur. The proposed project would result in a small incremental increase in demand for police and fire protection services. Neither this impact nor the No Project Alternative would require the new or physically altered government facilities and both the proposed project and this alternative would have a less-than-significant impact on public services. However, impacts under this alternative would be less than the less-than-significant impacts identified for the proposed project.

Recreation

Under the No Project (No Build) there would be no new development and, thus, new employment opportunities would not occur, which could indirectly induce population growth and cause in indirect increase in the use of existing parks and recreational facilities such that substantial physical deterioration of facilities could occur or be accelerated. The No Project (No Build) Alternative would maintain the site's existing operations and new recreational facilities, including the visitors center, overlook terrace, Studebaker Trail, and sidewalk and bikeway improvements, would not be developed. Thus, the City would not benefit from the increase in recreational uses. However, because this alternative would not increase the use of existing parks and recreational facilities, there would be no impact and impacts would be less than the less-than-significant impacts identified for the proposed project.

Transportation and Traffic

The No Project (No Build) Alternative would not result in the construction-related traffic or additional operations-related traffic associated with the proposed project; therefore, this alternative would not conflict with an applicable plan, ordinance, or policy establishing measures of effectiveness for the performance of the roadway system, nor would it conflict with the congestion management program. This alternative does not

have the potential to affect air traffic patterns; thus, similar to the proposed project, there would be no impact. Given that there would be no new development, this alternative would not increase hazards due to a design feature or incompatible uses and would not affect existing emergency access. Given that there would be no increase in traffic, there would be no impacts, and, thus, impacts would be less than the less-than-significant impacts identified for the proposed project.

Tribal Cultural Resources

Given the cultural resources sensitivity of the project site, construction activities associated with the proposed project could impact tribal cultural resources. This alternative would not include the construction of any facilities or structures and, thus, would not result in potential construction-related impacts to tribal cultural resources that could occur under the proposed project. No impacts to tribal cultural resources are expected in association with continued operation of existing facilities at the project site. Therefore, this alternative would result in no impact, and overall impacts would be less than the less-than-significant with mitigation impact identified for the proposed project.

Utilities and Service Systems

The No Project (No Build) Alternative would not result in an increase in water use and would not generate additional wastewater. Therefore, this alternative would not exceed wastewater treatment requirements, would not result in the construction of water or wastewater treatment facilities or the expansion of existing facilities, and would have sufficient water supply; thus, there would be no impact. In addition, this alternative would not require the construction of new stormwater drainage facilities or expansion of existing facilities and there would be no impact.

Given that there would be no change under this alternative, solid waste disposal needs would not increase and this alternative would continue to comply with all regulations pertaining to solid waste. Therefore, there would be no impact, and impacts would be less than the less-than-significant impacts identified for the proposed project.

Energy Consumption

Under Alternative 1, the proposed project would not require energy associated with the visitors center, new office building, new oil production facilities and microgrid with four natural gas co-generation turbines, but would continue to require energy associated with existing office building and existing oil production facilities. The project would replace the old oil production facilities with more energy-efficient equipment on the proposed Pumpkin Patch and LCWA sites and would install a microgrid system, including four turbines with cogeneration, to increase energy efficiency. The No Project (No Build) Alternative would not install the energy-efficient microgrid system or turbines with cogeneration. Thus, Alternative 1 would not be as energy efficient as the project and would have greater impacts relative to the project. However, Alternative 1 would not require additional energy compared to existing conditions; thus, impacts would be less than significant.

The No Project (No Build) Alternative would not require additional energy compared to existing conditions. Although the proposed project would increase overall energy consumption due to energy associated with the visitors center, new office building, new oil production facilities and microgrid with four natural gas co-generation turbines, and existing oil production facilities prior to their complete plugging and abandonment, both the proposed project and this alternative would represent a marginal effect on regional energy supplies and impacts would be similar.

Since both the proposed project and this alternative would comply with applicable energy standards, policies, regulations, impacts to energy standards, policies, and regulations would be similar.

Although the proposed project would eventually replace old oil production facilities with more energy-efficient equipment on the proposed Pumpkin Patch and LCWA sites and would install a microgrid system to increase energy efficiency, the proposed project would still require an overall increase in energy consumption required to power both the existing oil facilities prior to their plugging and abandonment and the newly proposed oil production facilities, visitors center, and office building and warehouse. The No Project (No Build) Alternative would avoid these consumptive energy impacts and would result in less impacts than the proposed project. Although the proposed project would increase overall energy consumption, both the proposed project and this alternative would represent a marginal effect on regional energy supplies and impacts would be similar. Since both the proposed project and this alternative would comply with existing energy regulations, impacts to energy regulations would be similar.

5.6.1.2 Comparison of Impacts

The No Project (No Build) Alternative would avoid the proposed project's significant and unavoidable construction air quality impacts. With the exception of impacts related to objectionable odors, energy consumption, sea level rise and conflicting with an applicable land use plan (SEADIP) that would be greater under this alternative, all impacts associated with the remaining environmental issues would be similar or less than those of the proposed project.

5.6.1.3 Relationship of the Alternative to the Project Objectives

No new development would be introduced on the project site under Alternative 1 and existing oil production and office building uses would continue. No new oil production facilities would be installed with energy-efficient technology. No visitors center, new office building, or public access trail would be constructed, and no wetlands habitat restoration would occur. As a result, none of the proposed project objectives would be achieved by Alternative 1.

5.6.2 Alternative 2: No Project/Development Consistent with Existing Zoning Alternative

Aesthetics

Under Alternative 2, existing oil production facilities would continue to operate on the Synergy Oil Field, City Property, and Pumpkin Patch sites; commercial uses could be developed at the Pumpkin Patch site; and industrial uses could be developed at the LCWA site. This represents more building construction efforts and more permanent structures developed on the Pumpkin Patch and LCWA sites than under the proposed project. However, given the continued oil production operations on the Synergy Oil Field and City Property sites, the benefit of removing the existing oil production facilities and infrastructure would not occur, and the overall improvement of the Los Cerritos Wetlands complex scenic vista would not be achieved. While impacts would still be less than significant, they would be greater than those identified for the proposed project given the overall increase in density of development and the lack of improvement to the Los Cerritos complex scenic vista.

Similar to the proposed project, this alternative would not result in impacts related damaging a scenic resource within a state scenic highway, as no state scenic highways are designated within the vicinity of the project. While PCH is identified as an eligible state scenic highway, construction would not occur on the Synergy Oil Field site under this alternative and, thus, no scenic resources (Bixby Ranch Field Office building, Steamshovel Slough, and wetland areas), as viewed from PCH, would be damaged. Similarly, given the disturbed and undeveloped nature of the Pumpkin Patch site, there are no scenic resources on the site that could be disturbed during construction and, thus, impacts would be less than significant, similar to the proposed project.

Because the Pumpkin Patch and LCWA sites are currently undeveloped, the commercial and industrial uses that could be added to these sites under this alternative would be more consistent with the sites' surrounding existing visual character than the facilities proposed by the project. However, there would be no change to the visual character or quality of the Synergy Oil Field and City Property sites, as both would retain their current uses. Therefore, impacts would be similar to the less-than-significant impacts identified for the proposed project.

While this alternative could increase the potential for lighting sources on the Pumpkin Patch and LCWA sites, this increase would not be significantly greater than what is proposed under the project. Nevertheless, given this increase, impacts would be slightly greater than the less-than-significant impacts identified for the proposed project.

Air Quality

Under Alternative 2, existing oil production facilities would continue to operate under existing conditions on the Synergy Oil Field, City Property, and Pumpkin Patch sites; commercial uses could be developed at the Pumpkin Patch site; and industrial uses could be developed at the LCWA site. Because this alternative could result in the addition of up to 58,000 sf of commercial and 26,900 sf of industrial warehouse/office uses, this alternative could result in greater employment growth and greater vehicle trips to and from the site as compared to the project. Although the specific amount of employment growth and vehicle trips would depend on the specific types of commercial and industrial uses developed, growth consistent with existing land use designations would likely be within Southern California Association of Government (SCAG) employment growth projections for the region, which are incorporated into the AQMP. Thus, impacts could be greater than the project but would still be less than significant.

Under Alternative 2, emissions associated with construction of the visitors center, new office building, new oil production facilities, and microgrid with four natural gas co-generation turbines would not occur. However, this alternative could generate emissions from construction of up to 58,000 sf of commercial and 26,900 sf of industrial warehouse/office uses and associated parking spaces, which could require the use of heavy-duty construction equipment and haul trucks. This alternative could also result in a greater number of construction worker trips and associated construction worker vehicle emissions compared to the project. However, this alternative would not include wetland restoration, the visitors center, or other components, as no new development would be proposed on the Synergy Oil Field or City Property site. Therefore, the maximum daily construction emissions would be less than the project, as there would be fewer simultaneous construction activities required on a peak day. However, there would be still the potential for construction emissions under this alternative to exceed the SCAQMD significance thresholds, even after implementation of mitigation measures, given that site preparation, building construction, and landfill excavation on the Pumpkin Patch site

could occur. Thus, impacts could still be significant and unavoidable for regional NO_x emissions even with implementation of mitigation measures.

Under Alternative 2, emissions associated with operation of the visitors center, new office building, new oil production facilities, and microgrid with four natural gas co-generation turbines would not occur, but the operation of existing facilities to be left in place would continue to generate emissions. This alternative could generate additional emissions from the operation of up to 58,000 sf of commercial and 26,900 sf of industrial warehouse/office uses. This alternative could also result in a greater number of vehicle trips to and from the site and greater mobile source emissions compared to the project. This alternative would not include wetland restoration, the visitors center, or other components, as no new development would be proposed on the Synergy Oil Field or City Property site.

However, since this alternative would involve no change to the existing operations on the Synergy Oil Field and City Property sites, the maximum potential regional operational emissions could be greater than the project depending on the specific types of commercial and industrial uses developed and if these uses would involve substantial numbers of vehicle and trucks trips, such as a warehouse. Unlike the project, this alternative would not result in the plugging and abandonment of the existing wells or EPA-certified Tier IV emission controls on new drilling rigs. As a result, there would be no net reduction in operational emissions from eliminating existing site activities and implementing emission controls. Therefore, this alternative could result in potentially greater operational emissions as compared to the project.

Under Alternative 2, construction of up to 58,000 sf of commercial and 26,900 sf of industrial warehouse/office uses and associated parking spaces could generate emissions from the use of heavy-duty construction equipment and haul trucks. This alternative would not include wetland restoration, the visitors center, or other components, as no new development would be proposed on the Synergy Oil Field or City Property site. Therefore, the maximum potential construction emissions would be less than the project, as there would be fewer construction activities required. However, there would be still the potential for construction non-attainment pollutant emissions under this alternative to exceed the SCAQMD significance thresholds, even after implementation of mitigation measures, given that site preparation, building construction, and landfill excavation on the Pumpkin Patch site could occur. Thus, impacts could still be significant and unavoidable for regional NO_x emissions (an ozone precursor), even with implementation of mitigation measures.

Under Alternative 2, the proposed project could generate emissions from the operation of up to 58,000 sf of commercial and 26,900 sf of industrial warehouse/office uses and generate a greater number of vehicle trips to and from the site in addition to emissions from existing site operations. This alternative would not include wetland restoration, the visitors center, or other components, as no new development would be proposed on the Synergy Oil Field or City Property site.

However, since this alternative would involve no change to the existing operations on the Synergy Oil Field and City Property sites, the maximum potential regional operational emissions could be greater than the project depending on the specific types of commercial and industrial uses developed and if these uses would involve substantial numbers of vehicle and trucks trips, such as a warehouse. Unlike the project, this alternative would not result in the plugging and abandonment of the existing wells or the installation of EPA-certified Tier IV emission controls on new drilling rigs. As a result, there would be no net reduction in operational emissions from eliminating existing site activities and implementing emission controls. Therefore,

this alternative could result in potentially greater operational non-attainment pollutant emissions as compared to the project.

Under Alternative 2, construction of up to 58,000 sf of commercial and 26,900 sf of industrial warehouse/office uses and associated parking spaces could generate emissions from the use of heavy-duty construction equipment and haul trucks, as well as operational stationary sources from the commercial and industrial uses. This alternative would not include wetland restoration, the visitors center, or other components, as no new development would be proposed on the Synergy Oil Field or City Property site.

However, as discussed above, since this alternative would involve no change to the existing operations on the Synergy Oil Field and City Property sites, the maximum potential net localized and TAC emissions could be greater than the project. Unlike the project, this alternative would not result in the plugging and abandonment of the existing wells or the installation of EPA-certified Tier IV emission controls on new drilling rigs. As a result, there would be no net reduction in operational emissions from eliminating existing site activities and implementing emission controls. The existing older drilling rigs would continue to generate localized and TAC emissions. As discussed in Section 3.2, *Air Quality*, the existing site health risk impacts would be substantially greater than the mitigated proposed project. Therefore, this alternative could result in potentially greater net localized and TAC emission impacts as compared to the project. Thus, impacts could be greater than the project.

Under Alternative 2, existing equipment at the existing oil production facilities would not be replaced, resulting in continued operation of old equipment with minimal emission controls at well heads, flanges, pumps, and other equipment that has seen many years of use. Under Alternative 2, this older equipment would continue to be used and continue to age, resulting in greater potential for odorous fugitive emissions. The proposed project would use new equipment that must meet all of the latest SCAQMD regulations. For example, tanks used at other facilities may have been open or had floating roofs. All of the tanks for this project would have fixed roof tanks that drastically reduce fugitive emissions and would be expected to virtually eliminate off-site odors. Therefore, the project would be expected to reduce the potential for odors compared to existing site conditions. Thus, this alternative could result in greater odor impacts as compared to the project. Similar to the project, the existing site would still be required to comply with SCAQMD regulations including Rule 402, Nuisance. Thus, impacts would be less than significant.

Biological Resources

Under Alternative 2, existing conditions on the Synergy Oil Field and City Property sites would remain unchanged. Thus, there would be no impacts to candidate, sensitive, or special-status plant, wildlife, and/or riparian species or other sensitive natural communities within the Synergy Oil Field and City Property sites. Given the lack of development on the Synergy Oil Field and City Property sites under this alternative, no wetlands would be restored and no environmentally sensitive habitat areas (ESHA) would be impacted.

The Pumpkin Patch site could be developed with commercial uses, and the LCWA site could be developed with industrial uses. Given that development could occur under both this alternative and the proposed project, impacts to candidate, sensitive, or special-status plant, wildlife, and/or riparian species or other sensitive natural communities on these sites would be similar. In addition, under this alternative, wetland areas on the Pumpkin Patch site would be buffered from development, similar to the proposed project.

Similar to the proposed project, this alternative would not interfere with the movement of any native resident, migratory fish, wildlife species, established native resident, wildlife corridors, or impede the use of native wildlife nursery sites on any of the four sites. In addition, this alternative would not conflict with any local policies or ordinances protecting biological resources on all four sites. Therefore, impacts would be less than the less-than-significant impacts identified for the proposed project.

Cultural Resources

Compared to the project, Alternative 2 would not result in the relocation and rehabilitation of the California Register-eligible Bixby Ranch Field office and the memorialization of the Bixby No. 2 Discovery well; therefore, this alternative would not require mitigation to avoid the potential historical resources impact associated with the relocation and the rehabilitation of these resources. Similar to the proposed project, under this alternative, there would be potential impacts during construction related to the potential discovery of undocumented cultural resources, including the destruction of a unique paleontological and archaeological resources and discovery of human remains. If these impacts were to occur, the mitigation measures identified for the proposed project would apply.

Geology, Seismicity, and Soils

Under Alternative 2, the existing Bixby Ranch Field Office building would continue to operate within the Alquist-Priolo fault zone and would remain exposed to fault rupture during operation. Given that the proposed project would relocate this structure, fault rupture impacts would be greater under this alternative than under the proposed project. Similarly, because this alternative would not relocate the existing Bixby Ranch Field Office building, this alternative would expose people and structures to potential substantial adverse effects as a result of strong seismic ground shaking.

Alternative 2 would result in similar impacts to the proposed project for other geology, seismicity, and soils issues. This alternative would involve operation of aboveground structures within a seismically active region and a liquefaction risk area. Alternative 2 would not expose people or structures to landslides, since the project area is relatively flat. However, structures added to the site under this alternative could be exposed to geologic instability or soil expansion during operation. This alternative would result in similar amounts of ground disturbing activities as the proposed project, resulting in similar impacts related to topsoil loss under this alternative. This alternative would not result in substantial soil erosion or the loss of topsoil because this alternative would be required to comply with the, NPDES Construction General Permit. Alternative 2 would not 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. Lastly, Alternative 2 would also not be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code, creating substantial risks to life or property. Overall, impacts related to groundshaking, liquefaction, landslides, geologic instability, and expansive soil would be similar to the proposed project under this alternative, and impacts to fault rupture and topsoil loss would be greater under this alternative than those identified for the proposed project.

Greenhouse Gas Emissions

Under Alternative 2, emissions associated with operation of the visitors center, new office building, new oil production facilities, and microgrid with four natural gas co-generation turbines would not occur; however, the existing office building and existing oil production facilities would continue to generate emissions. This

alternative could also generate emissions from the construction and operation of up to 58,000 sf of commercial and 26,900 sf of industrial warehouse/office uses and associated vehicle trips to and from the site. This alternative would not include wetland restoration, the visitors center, or other components, as no new development would be proposed on the Synergy Oil Field or City Property site.

However, since this alternative would not generate GHG emissions from the proposed project's four natural gas co-generation turbines, which generate over 67,500 metric tons of carbon dioxide equivalents (MTCO_{2e}) per year, it would not be likely that potential commercial and industrial uses under this alternative would generate emissions that approach this level. Therefore, this alternative could result in GHG emissions impacts that would be less than the project.

Both the proposed project and Alternative 2 would be required to demonstrate consistency with all applicable plans, policies, and regulations related to the reduction of GHG emissions as required by the City and State. Therefore, impacts associated with GHG emission reduction plans and policies would be similar under this alternative to those identified for the proposed project.

Hazards and Hazardous Materials

Similar to the proposed project, Alternative 2 would include the construction-related hazard impacts associated with the potential removal of hazardous materials during disturbance of excavated soils or landfilled materials and also the use of hazardous materials during construction and operations; however, this alternative would avoid hazards associated with the relocation of the Bixby Ranch Field Office building, which includes asbestos-containing materials and lead-based paint that could be released during the building's relocation. This alternative would not develop a pipeline and utility corridor on the City Property site, and impacts associated with potential leaks in the corridor would be avoided. Further, the industrial and commercial facilities proposed under this alternative could generate less hazardous materials than those associated with operation of the new proposed oil production facilities because operation of the commercial and industrial facilities would not involve the extraction and production of oil. Similar to the proposed project, this alternative could result in development on the Pumpkin Patch and LCWA sites, which both contain landfills with the potential to contain hazardous materials.

Similar to the proposed project, Alternative 2 would not emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within 0.25 mile of an existing or proposed school. Also similar to the proposed project, this alternative would be located on a site that is included on a list of hazardous materials sites, but with mitigation impacts would be less than significant. Since the project site is not located in an area designated for wildland fires, this alternative would also result in similar impacts related to wildland fires.

The industrial and commercial uses associated with this alternative could add a permanent increase of traffic onto surrounding roads; however, similar to the proposed project, development would be required to coordinate with the local emergency teams and not impact a response plan.

Hydrology and Water Quality

Similar to the proposed project, Alternative 2 would result in ground disturbance greater than an acre and would, thus, also require compliance with the Construction General Permit to protect water quality during construction. Although this alternative would not add any more oil production facilities, it could be developed with commercial and industrial uses, which could also affect water quality off site because site runoff would

be directed to the storm drain system and not the well cellars. With compliance with the Construction General Permit, Alternative 2 would not violate water quality standards or waste discharge requirements or otherwise substantially degrade water quality; therefore, impacts to water quality could be similar under this alternative.

Also, due to the development footprint being similar to the proposed project, impacts to groundwater recharge would be similar to the proposed project. Generally, this alternative would disturb the same development footprint and would not substantially alter the existing drainage pattern of a site or area with adherence to the Construction General Permit requirements. Similarly, Alternative 2 would not create or contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff.

This alternative would not include the construction of the proposed project's berm that would increase the level of flood and sea level rise protection from existing conditions at Steamshovel Slough; therefore, impacts associated with sea level rise would be greater under this alternative. Also, the Bixby Ranch Field Office building would not be relocated and raised to reduce impacts from sea level rise. Similar to the proposed project, this alternative could introduce structures into an area at risk for tsunami inundation within the flood zone and would not be at risk for inundation by seiche or mudflow. Since it could also introduce structures to the project site like the proposed project would, impacts could be similar to the proposed project. Lastly, Alternative 2 would not expose people or structures to a significant risk of loss, injury, or death involving inundation by seiche, tsunami, or mudflow; therefore, impacts would be similar to the proposed project under this alternative.

Land Use and Planning

There is no existing residential or other community on site; therefore, the introduction of the proposed commercial and industrial uses under Alternative 2 would not physically divide an established community and would result in impacts similar to the proposed project. The industrial and commercial uses that could be developed under this alternative would be consistent with the existing zoning for the Pumpkin Patch and LCWA sites. Because this alternative fails to address existing non-conformities and land use conflicts in the existing SEADIP ordinance on the Synergy Oil Field and City Property sites, it would have greater impacts than the proposed project with respect to conflicts with applicable land use plans and policies. The proposed project would address these conflicts because it proposes amendments to the SEADIP and Oil Map. Development of this alternative would not require an amendment to the SEADIP or oil map. Impacts related to land use would be less under this alternative compared to those identified for the proposed project. Additionally, due to the development of the project consistent with existing zoning, the project would be consistent with the LCP and applicable CCA policies.

Mineral Resources

Under Alternative 2, existing oil production facilities on the Synergy Oil Field and City Property sites would continue to operate, and none of the proposed project's new oil production facilities would be constructed on the Pumpkin Patch and LCWA sites. This alternative would continue to operate in the Seal Beach oil field with old oil production facilities; however, this alternative would limit the potential to fully access the mineral resources in the area. The proposed project would provide greater access to that area; therefore, this alternative would have a greater impact in terms of accessibility to mineral resources.

Noise

Under Alternative 2, existing oil production facilities on the Synergy Oil Field and City Property sites would continue to operate, and none of the proposed project's new oil production facilities would be constructed on the Pumpkin Patch and LCWA sites. The Pumpkin Patch site could be developed with commercial retail uses, and the LCWA site could be developed with industrial uses. This No Project/Development Consistent with Existing Zoning Alternative could result in similar impacts to the proposed project in regards to construction-related noise impacts. The operational vehicular traffic associated with the commercial and industrial development could result in greater traffic volumes and, therefore, a greater increase in ambient noise levels than would the operation of the proposed project's oil production facilities and vehicular traffic associated with the proposed project's visitors center and office building. However, similar to the proposed project, this alternative would be required to comply with all applicable noise standards.

Development of this alternative could result in lesser impacts associated with construction-related temporary noise and groundborne vibration impacts because this alternative would not require sheet pile driving; additionally, noise impacts associated with the implementation of oil production facilities would not occur. The operational vehicular traffic associated with the commercial and industrial development could result in greater traffic volumes and, therefore, a greater permanent increase in ambient noise levels than would the operation of the proposed project's oil production facilities and vehicular traffic associated with the proposed project's visitors center and office building. However, similar to the proposed project, this permanent increase would not be a substantial permanent increase in ambient noise levels. Additionally, it is assumed that, due to the development of commercial and industrial uses on the Pumpkin Patch site and the LCWA sites, respectively, they would not be located near sensitive receptors, and Alternative 2 would not result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project. Therefore, this alternative would result in fewer impacts associated with noise.

Population and Employment

Development of Alternative 2 has the potential to result in a greater increase in temporary construction workers and permanent full-time employment through its development of commercial and industrial uses, as compared to the proposed project. Although this alternative could increase available short-term and long-term employment opportunities on the Pumpkin Patch and LCWA sites through the development of commercial and industrial uses, neither this alternative nor the proposed project would exceed any of the thresholds identified for significant population and employment impacts.

Public Services

Under Alternative 2, commercial development could occur on the Pumpkin Patch site, and industrial development could occur on the LCWA site; thus, there could be an increase in demand for police protection and fire protection services. The proposed project would result in an incremental increase in demand for police and fire protection services. Similar to the proposed project, this alternative could require new or physically altered government facilities, and both the proposed project and this alternative would have a less-than-significant impact on public services. However, impacts under this alternative could have greater impacts than the proposed project, but impacts would remain less than significant.

Recreation

Alternative 2 could indirectly increase population growth in the project area by introducing new commercial uses on the Pumpkin Patch site and new industrial uses on the LCWA site, which could add more long-term employees to the project area. This could, in turn, introduce additional recreational users to the project area; however, the impact would still be considered less than significant, similar to the proposed project. In addition, new commercial development would be required to pay fees pursuant the Quimby Act to help fund parks and recreational improvements, including parks, within the City. This alternative would not include the construction of the proposed project's public access trail on the Synergy Oil Field site or bikeway and sidewalk improvements on both the Synergy Oil Field site and the City Property site. Because the new recreational facilities proposed by the project would not be constructed (i.e., visitors center, overlook terrace, Studebaker Trail, and sidewalk and bikeway improvements), impacts related to the recreational facilities would be greater under this alternative as compared to the proposed project, because the new improvements would not occur and the potential visitors would be required to go elsewhere.

Transportation and Traffic

Development of this alternative would not conflict with an applicable plan, ordinance, or policy establishing measures of effectiveness for the performance of the circulation system; however, unlike the proposed project, this alternative would only develop sidewalk and bikeway improvements on the Pumpkin Patch and LCWA sites. Alternative 2 could require more construction activities and a longer construction period, which could result greater construction-related traffic than the proposed project. This alternative could also result in greater operational traffic associated with the vehicle trips generated by commercial and industrial uses. Therefore, this alternative could result in greater impacts to the congestion management program. Neither this alternative nor the proposed project has the potential to affect air traffic patterns; therefore, impacts would be similar to the less-than-significant impacts identified for the proposed project. This alternative could introduce more structures and employees to the Pumpkin Patch and LCWA sites, but it would not introduce a dangerous design feature to the project area; therefore, impacts would be similar to the proposed project and would be less than significant. Due to the increase in operational vehicular trips, this alternative could result in greater impacts to emergency access, transportation congestion, and traffic hazards compared to the proposed project.

Tribal Cultural Resources

Similar to the proposed project, construction activities and development on the Pumpkin Patch and LCWA sites could impact tribal cultural resources because this alternative could involve the construction of various structures that would require ground disturbance and excavation. Because no new ground disturbing work is proposed on the Synergy Oil Field and City Property sites, construction-related impacts to tribal cultural resources would be less than the proposed project under this alternative. During operation, neither the proposed project nor this alternative would have an impact on tribal cultural resources.

Utilities and Service Systems

Alternative 2 could result in a greater long-term generation of wastewater associated with its commercial and industrial uses compared to the proposed project; therefore, impacts associated with wastewater treatment requirements and capacity could be greater under this alternative. Similar to the proposed project, this alternative would not require the construction of water or wastewater treatment facilities because the applicable Urban Water Management Plan (which contemplated this alternative's land uses) is anticipated to

be able to accommodate the commercial and industrial uses proposed under this alternative. The proposed development under this alternative could be expected to increase impervious surfaces and could generate greater amounts of runoff. Additionally, the well cellars would not be developed where stormwater would be directed under the proposed project; thus, construction of new stormwater drainage facilities could be required; however, similar to the proposed project, this alternative would also require the construction of stormwater drainage facilities in the form of bioretention basins; overall impacts could be greater under this alternative. The intensity of commercial and industrial uses proposed under this alternative could be expected to result in a greater water demand than the operation of the proposed project's visitors center, office building, and oil production facilities; therefore, impacts to water supplies could be greater under this alternative. Although development intensity could be expected to be greater under this alternative, it is not anticipated to result in a determination by the wastewater treatment provider of inadequate capacity to serve the development because the alternative would be consistent with the existing zoning contemplated for the site; therefore, impacts would be similar to the project. Similar to the proposed project, this alternative could generate debris and waste from construction of the proposed project facilities; however, generation of waste associated with the increase in intensity of operations of the commercial and industrial uses could be expected to be greater than the waste generated from operation of the proposed project. Thus, impacts associated with landfill capacity under this alternative could be greater than the proposed project. Similar to the proposed project, this alternative would comply with all regulations pertaining to solid waste generated during construction and operation.

Energy Consumption

Under Alternative 2, the project would not require energy associated with the visitors center, new office building, new oil production facilities, and microgrid with four natural gas co-generation turbines but would continue to require energy associated with existing office building and oil production facilities, as well as potential new commercial and industrial uses. The proposed project would replace the old oil production facilities with more energy-efficient equipment on the proposed Pumpkin Patch and LCWA sites and would install a microgrid system, including four turbines with cogeneration, to increase energy efficiency. While this alternative could develop new commercial and industrial uses that meet current energy-efficiency requirements, this alternative would not install the energy-efficient microgrid system or turbines with cogeneration. Thus, the existing oil production facility would not be as energy efficient as the project and would have greater impacts relative to the project. However, under this alternative, the existing oil production facility would not require additional energy compared to existing conditions, and new commercial and industrial uses could be required to incorporate energy-efficient designs to minimize impacts.

Alternative 2 could require additional energy compared to existing conditions from the construction and operation of the new commercial and industrial uses. The proposed project would also increase overall energy consumption due to energy associated with the visitors center, new office building, new oil production facilities, and microgrid with four natural gas co-generation turbines, and with existing oil production facilities prior to their complete plugging and abandonment. Both the proposed project and this alternative would represent a marginal effect on regional energy supplies, and impacts would be similar.

Since both the proposed project and this alternative would comply with applicable energy standards, policies, and regulations, impacts to energy standards, policies, and regulations would be similar.

5.6.2.2 Comparison of Impacts

Alternative 2 would not avoid or substantially lessen the proposed project's significant and unavoidable construction air quality impacts. Impacts related to biological resources protection policies, greenhouse gas emissions, the use of hazardous materials, groundborne vibration, temporary noise increases, and tribal cultural resources could be less under this alternative. All impacts associated with the remaining environmental issues could be greater than or similar to proposed project impacts.

5.6.2.3 Relationship of the Alternative to the Project Objectives

Alternative 2 would result in no change to the existing operations on the Synergy Oil Field and City Property sites. This alternative could add commercial development to the Pumpkin Patch site and industrial uses on the LCWA site and would include sidewalk and bikeway improvements adjacent to the Pumpkin Patch and LCWA sites, which would improve pedestrian accessibility, as stated in the Project Objectives. This alternative would not upgrade or modernize oil production facilities and would not relocate oil production facilities off the Synergy Oil Field and City Property sites. This alternative would not include any wetland habitat restoration. Furthermore, this alternative would not include development of public access trails, additional or relocated oil production facilities, increased oil production efficiency, sustainable energy sources or use reduction, and the clean-up of old landfills. Therefore, other than the improved pedestrian accessibility via upgraded sidewalks and bikeways, none of the other proposed project objectives would be achieved by this alternative.

5.6.3 Alternative 3: Reduced Production Alternative

Aesthetics

Under Alternative 3, there would be a reduced number of wells and turbines that would be constructed on the Pumpkin Patch and LCWA sites compared to the proposed project. Although newly constructed storage tank heights would be lower due to reduced oil production capacity under this alternative, overall impacts to scenic vistas would be similar to the proposed project because the reduction in height would only be to 35 feet, and because there is no scenic vista identified on or around the LCWA site, where the tanks would be located.

Under the proposed project wetland habitat restoration would improve the scenic vistas associated with the Los Cerritos Wetlands complex, Los Cerritos Channel, and Steamshovel Slough, and this would occur under this alternative. Similar to the proposed project, this alternative would not result in impacts related to scenic highways since there are no scenic highways in the project area. This alternative would result in similar temporary less-than-significant impacts to visual character on all individual sites during construction and similar less-than-significant impacts to visual character during operation of the production facilities proposed under the alternative because reduced production would result in the same construction and operational activities occurring on the project site, except the duration for relocating and plugging and abandoning the existing oil wells would extend beyond 40 years. This alternative would result in similar less-than-significant light and glare impacts associated with security lighting during construction and new permanent lighting sources.

Air Quality

Under Alternative 3, the number of new oil wells installed would be reduced on the Pumpkin Patch and LCWA sites, resulting in the reduction of potential oil production of the project. The number of turbines on the LCWA site would also be reduced from four to three. The remaining project components would be

implemented as a part of Alternative 3. Thus, Alternative 3 would result in slightly less emissions than the project given the reduced number of new oil wells. Like the project, this alternative would not result in growth in excess of the AQMP assumptions.

The number of new oil wells installed would be reduced on the Pumpkin Patch and LCWA sites under Alternative 3, resulting in the reduction of potential oil production of the project. The number of turbines on the LCWA site would also be reduced from four to three. The remaining project components would be implemented as a part of Alternative 3. Thus, Alternative 3 would result in slightly less construction emissions than the project given the reduced number of new oil wells and turbines. However, regional NO_x emissions would still likely exceed the SCAQMD significance thresholds given that heavy-duty equipment would still be required for the development of remaining project components, which would be of the same size and intensity as the proposed project. Additionally, multiple construction activities could potentially occur simultaneously on a maximum activity day.

Under Alternative 3, the number of new oil wells installed would be reduced on the Pumpkin Patch and LCWA sites, resulting in the reduction of potential oil production of the project. The number of turbines on the LCWA site would also be reduced from four to three. In addition, given the reduction in oil production on the Pumpkin Patch and LCWA sites, the phasing duration for relocating and plugging and abandoning the existing oil wells on the Synergy Oil Field and City Property sites could be extended beyond 40 years under this alternative, although 75 percent of the existing wells would be plugged and abandoned upon issuance of building permits. The remaining project components would be implemented as a part of Alternative 3. Thus, Alternative 3 would result in less operational emissions than the project given the reduced number of new oil wells. Operation of this alternative would still likely require mitigation to reduce emissions to below the SCAQMD significance thresholds.

The number of new oil wells installed would be reduced on the Pumpkin Patch and LCWA sites under Alternative 3, resulting in the reduction of potential oil production of the project. The number of turbines on the LCWA site would also be reduced from four to three. Thus, Alternative 3 would result in slightly less construction emissions than the project given the reduced number of new oil wells. However, non-attainment pollutant emissions of NO_x (an ozone precursor) would still likely exceed the SCAQMD significance thresholds given that heavy-duty equipment would still be required and that multiple construction activities could potentially occur simultaneously on a maximum activity day.

Under Alternative 3, the number of new oil wells installed would be reduced on the Pumpkin Patch and LCWA sites, resulting in the reduction of potential oil production of the project. The number of turbines on the LCWA site would also be reduced from four to three. Thus, Alternative 3 would result in less operational emissions than the project given the reduced number of new oil wells and turbines. Operation of this alternative would still likely require mitigation to reduce non-attainment pollutant emissions to below the SCAQMD significance thresholds.

Under Alternative 3, construction and operational localized and TAC emissions would be less than the project, given the reduced number of new oil wells and turbines installed. Therefore, the maximum potential construction and operational localized and TAC emissions would be less than the project as there would be less localized emissions. This alternative would likely still require mitigation to reduce health risk impacts. Thus, impacts would be less than the project and less than significant with mitigation.

Under Alternative 3, existing oil production facilities would be replaced; however, the plugging and abandoning of existing oil wells on the Synergy Oil Field and City Property sites could be extended beyond 40 years under this alternative (although 75 percent of the existing wells would be plugged and abandoned upon issuance of building permits). The existing oil wells consist of old equipment with minimal emission controls at well heads, flanges, pumps, and other equipment that has seen many years of use. Under Alternative 3, this older equipment would continue to be used for a longer period of time and continue to age resulting in greater potential for odorous fugitive emissions. The project would use new equipment that must meet all of the latest SCAQMD regulations. For example, tanks used at other facilities may have been open or had floating roofs. All of the tanks for the project would have fixed roof tanks that drastically reduce fugitive emissions and would be expected to virtually eliminate off-site odors. Therefore, the project would be expected to reduce the potential for odors compared to existing site conditions. Thus, this alternative would result in slightly greater odor impacts as compared to the project due to the potential for an extended abandonment schedule. Similar to the project, this alternative would still be required to comply with SCAQMD regulations including Rule 402, Nuisance. Thus, impacts would be less than significant.

Biological Resources

Because this alternative would implement the same project components as the proposed project, similar to the proposed project, this alternative would have less-than-significant impacts with mitigation to either directly or through habitat modifications, on southern tarplant, estuary seablite and woolly seablite, which are special-status plant 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. Similarly, because this alternative would have the same project components as the proposed project, with mitigation, this alternative would not have a substantial adverse effect, either directly or through habitat modifications, on any special-status wildlife species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations. Similar to the proposed project, with mitigation this alternative would not have a substantial adverse effect on 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. Also, similar to the proposed project, with mitigation, this alternative would not have a substantial adverse effect on federally or state protected wetlands as defined by Clean Water Act Section 404. Similar to the proposed project, this alternative would not interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites. Lastly, similar to the proposed project, this alternative would not conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.

Cultural Resources

Alternative 3 would result in fewer oil production facilities constructed compared to the proposed project. Compared to the project, this alternative would also result in the relocation and rehabilitation of the Bixby Ranch Field Office building and the memorialization of the Bixby No. 2 Discovery well; therefore, with mitigation, this alternative would avoid the potential historical resources impact associated with the relocation and the rehabilitation of these resources, which are California Register-eligible.

This alternative would be subject to the same mitigation measure as the proposed project, which entails the preparation of a historical recordation document for the building, and would reduce impacts to a less-than-

significant level. Since this alternative has the same project components as the proposed project, it would still require construction activities, such as drilling and excavation, it would also have the potential to result in significant impacts to cultural resources if it uncovers subsurface archaeological resources. Moreover, similar to the proposed project, with mitigation this alternative would not directly or indirectly destroy a unique paleontological resource or site or unique geologic feature. Lastly, similar to the proposed project, Alternative 3 would not disturb any human remains, including those interred outside of formal cemeteries.

Geology, Seismicity, and Soils

Similar to the proposed project, Alternative 3 would involve the relocation of the Bixby Office Building proposed by the project out of the Alquist-Priolo zone; impacts related to exposure of persons or structures to resulting in the rupture of a known earthquake fault would be similar and less-than significant. Similar to the proposed project, this alternative would not expose people or structures to potential substantial adverse effects as a result of strong seismic ground shaking. Because development would be the same as the proposed project under this alternative, with mitigation Alternative 3 would not expose people or structures to potential substantial adverse effects as a result of seismic-related ground failure, including liquefaction. Moreover, this alternative would be required to develop consistent with the requirements of the CBC, Alternative 3 would not expose people or structures to potential substantial adverse effects as a result of seismic-induced landslides. Also, similar to the proposed project, this alternative would be required to comply with the Construction General Permit and would not result in substantial soil erosion or the loss of topsoil.

Greenhouse Gas Emissions

Under Alternative 3, the number of new oil wells installed would be reduced on the Pumpkin Patch and LCWA sites, resulting in the reduction of potential oil production of the project. The number of turbines on the LCWA site would also be reduced from four to three. In addition, given the reduction in oil production on the Pumpkin Patch and LCWA sites, the phasing duration for relocating and plugging and abandoning the existing oil wells on the Synergy Oil Field and City Property sites could be extended beyond 40 years under this alternative, although 75 percent of the existing wells would be plugged and abandoned upon issuance of building permits. The remaining project components would be implemented as a part of Alternative 3. Thus, Alternative 3 would result in less GHG emissions than the project given that three instead of four turbines would be installed, reducing annual GHG emissions by nearly 16,900 MTCO_{2e} per year. Operation of this alternative would still generate turbine-related GHG emissions that exceed 25,000 MTCO_{2e} per year; thus, Alternative 3 would be required to implement mitigation to obtain GHG allowances or offsets pursuant to the California Air Resources Board (CARB) Cap-and-Trade Program to reduce GHG emissions to below the significance thresholds.

Both the proposed project and Alternative 3 would be required to demonstrate consistency with all applicable plans, policies, and regulations related to the reduction of GHG emissions as required by the City and State. The three turbines would generate GHG emissions that exceed 25,000 MTCO_{2e} per year; thus, Alternative 3 would be required to obtain GHG allowances or offsets pursuant to the CARB Cap-and-Trade Program. Under the Cap-and-Trade Program, CARB would require this alternative to obtain GHG allowances or offsets for the alternative's total emissions. Therefore, impacts associated with GHG emission reduction plans and policies would be similar under this alternative to those identified for the proposed project.

Hazards and Hazardous Materials

Alternative 3 would reduce the number of wells and turbines constructed, but would implement all other proposed project components including the wetland restoration, visitors center, overlook terrace, Studebaker Trail, aboveground pipeline/utility corridor, and sidewalk and bikeway improvements. Similar to the proposed project, this alternative would include the construction-related hazard impacts associated with the potential removal of hazardous materials during disturbance of excavated soils or landfilled materials and also using hazardous materials during construction and operations. Also, this alternative would relocate the Bixby Ranch Field Office building, which includes asbestos-containing materials and lead-based paint that could be released during the building's relocation. Further, the reduced wells proposed under this alternative would generate less hazardous materials than those associated with operation of the new proposed oil production facilities. Reduction in the number of oil production facilities would still require substantial construction on all four individual sites and would result in similar impacts associated with the use of hazardous materials and listed hazardous material sites. Similar to the proposed project, implementation of this alternative would not create a significant hazard to the public or the environment through the routine transport, use, or disposal, or reasonable foreseeable upset and accident conditions that release hazardous materials.

The project is not located near schools, and similar to the proposed project, this alternative would not emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within 0.25 mile of an existing or proposed school. Also, similar to the proposed project, this alternative would be located on a site that is included on a list of hazardous materials sites; however, with mitigation, impacts would be less than significant. Similar to the proposed project, this alternative would implement the same project components and would not impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan. Lastly, this alternative would be located in the same locations and would not be located in an area at risk for wildland fires; related impacts would be similar under this alternative. Overall, impacts related to hazardous materials, hazardous sites, emergency response, and wildland fires would be similar under this alternative to those identified for the proposed project.

Hydrology and Water Quality

Similar to the proposed project, this alternative would result in ground disturbance greater than an acre and would, thus, also require compliance with the Construction General Permit to protect water quality during construction. This alternative would implement the same project components overtime and would direct runoff to the well cellars also. Similar to the proposed project, Alternative 3 would not violate water quality standards or waste discharge requirements or otherwise substantially degrade water quality, impacts to water quality would be similar under this alternative. Also, due to the development footprint being similar to the proposed project, impacts to groundwater recharge would be similar to the proposed project. Generally, this alternative would disturb the same development footprint and would not substantially alter the existing drainage pattern of a site or area with adherence to the Construction General Permit requirements. Similarly, Alternative 3 would not 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.

This alternative would include the construction of the proposed project's berm to protect the Synergy Oil Field site from flood and sea level rise protection from existing conditions at Steamshovel Slough; therefore, impacts associated with sea level rise would be the same as the proposed project under this alternative. Similarly, the Bixby Ranch Field Office building would be relocated and raised to reduce impacts from sea

level rise. Similar to the proposed project, this alternative would introduce structures into an area at risk for tsunami inundation within the flood zone and would not be at risk for inundation by seiche or mudflow. Since it would also introduce structures to the project site like the proposed project would, impacts would be similar to the proposed project. Lastly, Alternative 3 would not expose people or structures to a significant risk of loss, injury or death involving inundation by seiche, tsunami, or mudflow would be similar to the proposed project under this alternative.

Land Use and Planning

Similar to the proposed project, construction and operation of Alternative 3 would not divide an existing community or conflict with applicable land uses on the site. Development of this alternative would not require an amendment to the SEADIP to address the 35 feet height limit for structures; however, amendments to address land use and infrastructure policies similar to the proposed project would be required. Additionally, similar to the project, this alternative would be required be consistent with the LCP and applicable CCA policies. This alternative would also require an amendment to the oil map. Therefore, all land use and planning impacts would be similar under Alternative 3 when compared with the proposed project.

Mineral Resources

Construction and operation of fewer wells and turbines on the project site would result in less overall oil production by the new oil production facilities over time. In addition, the facilities on the Synergy Oil Field and City Property sites would continue to be used beyond 40 years to extract the oil resources, since extraction would be reduced on the Pumpkin Patch and LCWA sites. Therefore, Alternative 3 would result similar impacts to mineral resources when compared with the proposed project because extraction of the resource would still occur, only over a longer period of time, impacts to mineral resource availability would be similar under this alternative.

Noise

Alternative 3 would result in the construction of fewer wells and turbines. Since this alternative would construct fewer oil production facilities than the proposed project, it is anticipated that construction activities would be less intensive and require less construction equipment than the proposed project's construction activities. Temporary or periodic exceedances of applicable noise standards could still occur during construction under this alternative, resulting in a potentially significant noise impact; however, implementation of mitigation measures such as staging construction away from sensitive receptors and prohibiting impact sheet pile driving, would reduce temporary noise impacts to a less-than-significant level, similar to the proposed project. Therefore, similar to the proposed project, with the implementation of mitigation measures, Alternative 3 would not result in exposure of persons to, or generation of, noise levels in excess of standards established in the local general plan or noise ordinance. Because this alternative would implement all of the same components as the proposed project, similar to the proposed project, this alternative would not result in exposure of persons to, or generation of, excessive groundborne vibration or groundborne noise levels.

Furthermore, the operation of fewer wells and turbines under this alternative would be consistent with the proposed project and would be designed to reduce noise from the oil extraction facilities and to ensure that with mitigation, operational noise does not result in substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project. Similarly, as with the proposed project, with the implementation of mitigation measures, Alternative 3 would not result in a substantial temporary or periodic

increase in ambient noise levels in the project vicinity above levels existing without the project. Therefore, all noise and vibration impacts would be similar under this alternative, with mitigation incorporated, as the proposed project.

Population and Employment

Similar to the proposed project, neither Alternative 3 nor the proposed project would result in population growth. Although fewer wells and turbines would be constructed and operated, this reduction would not materially reduce the number of construction workers required. The proposed project would create up to 33 new permanent employment opportunities, in addition to the 15 existing oil-production employees. This includes the visitors center, which would generate 3 full-time employees and additional volunteers as needed. Because of the reduced number of oil wells, the number of full time employees associated with oil production may be incrementally reduced. Similar to the proposed project, this alternative would provide new permanent full-time employment opportunities; however, these are considered a slight increase when compared with the existing employment available in the project area. Therefore, this alternative would result in similar impacts to population and employment when compared to the proposed project.

Public Services

Similar to the proposed project, Alternative 3, would develop the same project components as the project, there would be a potential increase in demand for police protection and fire protection services. The proposed project would result in a small incremental increase in demand for police and fire protection services. Similar to the proposed project, this alternative, would require the new or physically altered government facilities and both the proposed project and this alternative would have a less-than-significant impact on public services. Impacts under this alternative would have similar impacts than the proposed project and impacts would remain less than significant.

Recreation

Although, this alternative may result in an incremental reduction in full time employees, this alternative would have similar impacts to recreational facilities as the proposed project and would not cause a substantial physical deterioration of recreational facilities beyond what would occur without the project. Alternative 3 would still include the construction of the proposed project's visitors center and public access trail, as well as bikeway and sidewalk improvements and similar to the proposed project, although this alternative would include recreational facilities it would not require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment. Therefore, this alternative would result in similar impacts related to the construction of new and expansion of existing recreational facilities.

Transportation and Traffic

This alternative would develop all of the project components with a reduction in wells and turbines and similar to the proposed project, Alternative 3 would not conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system. Although Alternative 3 would construct fewer wells and turbines, it would result in incrementally less construction-related traffic and operations-related traffic associated with the proposed project oil production facilities, visitors center, and office building. Therefore, this alternative would result in similar impacts to the congestion management program. Neither this alternative nor the proposed project has the potential to affect air traffic patterns; thus, impacts would be similar. This alternative would still require construction of new driveways with the potential to result in traffic

hazards; thus, impacts associated with traffic hazards would be similar under this alternative when compared to the proposed project. Lastly, similar to the proposed project, this alternative would not result in inadequate emergency access.

Tribal Cultural Resources

Although Alternative 3 would construct fewer wells and turbines, the alternative would require ground disturbing activities over the same project area as the proposed project. Thus, would have the same impact on tribal cultural resources as the proposed project. This alternative would also be required to mitigate potential impacts. Neither the proposed project nor this alternative are expected to have operational impacts to tribal cultural resources. Therefore, impacts to tribal cultural resources would be the same under this alternative as the proposed project.

Utilities and Service Systems

Because Alternative 3 would result in similar project components, long-term generation of wastewater associated with development would be similar under this alternative. Similar to the proposed project, this alternative would not require the construction of water or wastewater treatment facilities. Similar to the proposed project, the proposed development under this alternative would be expected to increase impervious surfaces and would generate greater amounts of runoff. However, similar to the proposed project, the well cellars would be developed where stormwater is conveyed and bioretention basins would be developed; overall impacts would be similar under this alternative. Due to the reduction in production under this alternative, demand for water would be incrementally reduced. Similar to the proposed project, it is not anticipated that this alternative would result in a determination by the wastewater treatment provider inadequate capacity to serve the development. Similar to the proposed project, this alternative would generate debris and waste from construction of the proposed project facilities; however, generation of waste associated with Alternative 3 would be incrementally reduced from the waste generated from operation of the proposed project. Thus, impacts associated with landfill capacity under this alternative would be slightly reduced from the proposed project. Similar to the proposed project, this alternative would comply with all regulations pertaining to solid waste generated during construction and operation.

Energy Consumption

Similar to the project, Alternative 3 would require energy associated with the visitors center, new office building, new oil production facilities and microgrid but with three instead of four natural gas co-generation turbines. The project would replace the old oil production facilities with more energy-efficient equipment and would install a microgrid system, including three turbines with cogeneration, to increase energy efficiency. However, the plugging and abandoning of existing oil wells on the Synergy Oil Field and City Property sites could be extended beyond 40 years under this alternative (although 75 percent of the existing wells would be plugged and abandoned upon issuance of building permits). Thus, Alternative 3 would not be as energy efficient as the project and would have greater impacts relative to the project. However, Alternative 3 would eventually plug and abandon the existing wells; thus, impacts would be less than significant.

Alternative 3 would require slightly less energy compared to the project given the reduced number of new oil wells installed. However, the plugging and abandoning of existing oil wells on the Synergy Oil Field and City Property sites could be extended beyond 40 years under this alternative. Both the proposed project and this alternative would represent a marginal effect on regional energy supplies and impacts would be similar.

Since both the proposed project and this alternative would comply with applicable energy standards, policies, regulations, impacts to energy standards, policies, and regulations would be similar.

5.6.3.2 Comparison of Impacts

This alternative would still result in a significant and unavoidable air quality impact during construction, similar to the proposed project. Impacts associated with greenhouse gas emissions would be reduced, but both the project and the alternative would reduce their impacts to a less-than-significant level through participation in the Cap and Trade Program. Impacts associated with objectionable odors would be greater under the alternative compared to the project. All impacts associated with the remaining environmental issues would be similar or less than those of the proposed project.

5.6.3.3 Relationship of the Alternative to the Project Objectives

The Reduced Production Alternative would develop a reduced number of new oil wells in comparison to the proposed project and would achieve nearly all of the proposed project objectives, including wetlands habitat restoration, recreational access trails, educational opportunities, reduced oil productions on City-owned property, energy-efficient oil production operations, clean-up of old landfills, relocation of oil production wells, enhanced entry points and pedestrian walkability, reduced reliance on imported oil resources, and sustainable energy sourcing. The Reduced Production Alternative would not accomplish, however, the sixth objective, since a reduction in the number of wells and turbines as proposed by this alternative would not optimize oil and gas production from the City's reserves.

5.6.4 Alternative 4: SCE Substation Alternative

Aesthetics

Under Alternative 4, a large substation would be constructed on the LCWA site in place of the proposed project's microgrid system, including the turbine and photovoltaic components. Similar to the proposed project, development of the large substation would not impact scenic vistas. Similar to the proposed project, this alternative would not result in impacts related to scenic highways as there are no scenic highways in the project area. As an energy facility, the substation is similar in visual character to the proposed project's turbine, solar, and microgrid facilities and, similar to the proposed project, would be shielded by a wall surrounding the site; thus, visual character impacts would be similar under this alternative as the proposed project. This alternative would result in similar light and glare impacts associated with security lighting during construction and new permanent lighting sources for energy facilities.

Air Quality

Under Alternative 4, a large SCE substation would be constructed at the LCWA site, rather than the microgrid including the turbine power generation and photovoltaic components of the proposed project. Natural gas produced as byproduct of oil extraction would not be used on site, but instead sold into the regional grid or trucked off site. Alternative 4 would be expected to require a similar amount of construction effort when compared with the proposed project. Overall operational emissions would be greater because the natural gas sold into the regional grid or trucked off site would still be combusted elsewhere, and additional emissions could be generated by mobile sources if off-site trucking is required. Although, like the project, this alternative

would not result in growth in excess of the AQMP assumptions, impacts would be greater due to potentially greater overall operational emissions.

Alternative 4 would be expected to require a similar amount of construction effort when compared with the proposed project. Therefore, emissions would still exceed the SCAQMD significance thresholds given that heavy-duty equipment would still be required and that multiple construction activities could potentially occur simultaneously on a maximum activity day. This alternative would result in significant and unavoidable construction impacts for regional NO_x emissions, similar to the project.

Under Alternative 4, a large SCE substation would be constructed at the LCWA site, rather than the microgrid including the turbine power generation and photovoltaic components of the proposed project. Overall operational emissions would be greater because the natural gas sold into the regional grid or trucked off site would still be combusted by third parties. With respect to project-controlled emission sources, additional mobile source emissions from project activities could be generated if off-site trucking is required to transport the fuel to regional grid or to a third party. Like the project, Alternative 4 would still require mitigation to reduce project-related emissions from the on-site heavy-duty equipment.

Alternative 4 Under Alternative 4, a large SCE substation would be constructed at the LCWA site, rather than the microgrid including the turbine power generation and photovoltaic components of the proposed project. Overall operational emissions would be greater because the natural gas sold into the regional grid or trucked off site would still be combusted by third parties. With respect to project-controlled emission sources, additional mobile source emissions from project activities could be generated if off-site trucking is required to transport the fuel to regional grid or to a third party. Like the project, Alternative 4 would still require mitigation to reduce project-related non-attainment pollutant emissions from the on-site heavy-duty equipment.

Under Alternative 4, construction localized and TAC emissions would be similar to the project, given that a similar amount of construction effort would be required. However, Alternative 4 would generate less operational localized and TAC emissions because the electricity would be generated by SCE power plants somewhere else rather than at the turbines on the project site. The natural gas would not be used on site, but transported elsewhere via pipeline and/or trucks and sold to some other entity to use as fuel, and would ultimately be combusted elsewhere. Therefore, the maximum potential operational localized and TAC emissions would be less than the project as there would be less localized emissions. This alternative would likely still require mitigation to reduce health risk impacts. Thus, impacts would be less than the project and less than significant with mitigation.

Alternative 4 would replace equipment at the existing oil production facilities and result in the operation of the same number of new oil wells. Alternative 4 would use new equipment that must meet all of the latest SCAQMD regulations. All of the tanks for this project would have fixed roof tanks that drastically reduce fugitive emissions and would be expected to virtually eliminate off-site odors. Therefore, this alternative would be expected to reduce the potential for odors compared to existing site conditions. Thus, this alternative would result in similar odor impacts as compared to the project. Similar to the project, this alternative would still be required to comply with SCAQMD regulations including Rule 402, Nuisance. Thus, impacts would be less than significant.

Biological Resources

With the exception of the replacing the microgrid component with a large SCE substation, this alternative would implement the same project components as the proposed project, and similar to the proposed project, this alternative would have less-than-significant impacts with mitigation to either directly or through habitat modifications, on southern tarplant, estuary seablite and woolly seablite, which are special-status plant 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. Similarly, as with the proposed project, with mitigation, this alternative would not have a substantial adverse effect, either directly or through habitat modifications, on any special-status wildlife species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations. Similar to the proposed project, with mitigation this alternative would not have a substantial adverse effect on 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. Also, similar to the proposed project, with mitigation, this alternative would not have a substantial adverse effect on federally or state protected wetlands as defined by Clean Water Act Section 404. As with the proposed project, this alternative would not substantially interfere 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. Lastly, similar to the proposed project, this alternative would not conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.

Cultural Resources

Alternative 4 would result in similar levels of construction as the proposed project since this alternative would involve all of the same project components as the proposed project, except that a substation would be constructed instead of the microgrid system, including the photovoltaic and gas turbine components. This alternative would have the same impacts to historical resources associated with the relocation and the rehabilitation of the California Register-eligible Bixby Ranch Field Office building and the Bixby No. 2 Discovery Well as the proposed project. Similar to the proposed project, with mitigation, this alternative would not cause a substantial adverse change in the significance of an archaeological resource. This alternative would be required to implement mitigation measures in order to prevent potential impacts to paleontological resources. Lastly, this alternative would result in similar potential impacts to human remains during construction. Overall, this alternative would have the same impacts to cultural resources as the proposed project.

Geology, Seismicity, and Soils

Similar to the proposed project, Alternative 4 would involve the relocation of the Bixby Office Building proposed by the project out of the Alquist-Priolo zone; impacts related to exposure of persons or structures to resulting in the rupture of a known earthquake fault would be similar to the proposed project. Similar to the proposed project, this alternative would not expose people or structures to potential substantial adverse effects as a result of strong seismic ground shaking. Also, with the exception of replacing the microgrid with the SCE substation, development would be the same as the proposed project under this alternative, and with mitigation this alternative would not expose people or structures to potential substantial adverse effects as a result of seismic-related ground failure, including liquefaction. Moreover, this alternative would be required to develop consistent with the requirements of the CBC, Alternative 4 would not expose people or structures to potential substantial adverse effects as a result of seismic-induced landslides. Also, similar to the proposed project, this

alternative would be required to comply with the Construction General Permit and would not result in substantial soil erosion or the loss of topsoil.

Greenhouse Gas Emissions

Under Alternative 4, the project would result in greater overall GHG emissions because the natural gas sold into the regional grid or trucked off site would still be combusted by third parties. Under the project, the turbine emissions would be substantially lower than would otherwise be the case if all electricity were to be provided by SCE. Two examples are identified in the *Greenhouse Gas Assessment for the Los Cerritos Wetlands Oil Consolidation and Restoration Project* (Greve & Associates 2017). If the project did not invest in turbines, the use of turbine fuel (i.e., natural gas) elsewhere, via the regional natural gas grid, could increase GHG emissions up to approximately 143,975 MTCO_{2e}/year, more than doubling the project's GHG emissions. A second example is the investment in cogeneration design/equipment for the turbines. Without that cogeneration investment, the GHG emissions from the turbines would increase by approximately 14,345 MTCO_{2e}/year. Therefore, this alternative would result in greater impacts than the project. Similar to the project, the third parties that ultimately use the natural gas as fuel would be required to comply with applicable GHG emissions requirements.

Both the proposed project and Alternative 4 would be required to demonstrate consistency with all applicable plans, policies, and regulations related to the reduction of GHG emissions as required by the City and State. Since Alternative 4 would not install the turbines, the CARB Cap-and-Trade Program would not be implemented under this alternative. Nonetheless, the project and any third parties that ultimately use the natural gas as fuel would be required to comply with applicable GHG emissions reduction plans, policies, and regulations. Therefore, impacts associated with GHG emission reduction plans and policies would be similar under this alternative to those identified for the proposed project.

Hazards and Hazardous Materials

Alternative 4 would import power from SCE rather than using natural gas turbines to power the project, all other proposed project facilities including the wetland restoration, visitors center, overlook terrace, Studebaker Trail, aboveground pipeline/utility corridor, bikeway improvements, office, warehouse and oil production facilities would still occur. Similar to the proposed project, this alternative would include the construction-related hazard impacts associated with the potential removal of hazardous materials during disturbance of excavated soils or landfilled materials and also using hazardous materials during construction and operations. Also, this alternative would relocate the Bixby Ranch Field Office building, which includes asbestos-containing materials and lead-based paint that could be released during the building's relocation.

Similar to the proposed project, this alternative would generate some hazardous materials associated with operation of the new proposed oil production facilities. The development of the SCE Substation would still require substantial construction on all four individual sites and would result in similar impacts associated with the use of hazardous materials and listed hazardous material sites. Similar to the proposed project, implementation of this alternative would not create a significant hazard to the public or the environment through the routine transport, use, or disposal, or reasonable foreseeable upset and accident conditions that release hazardous materials.

The project is not located near schools, and similar to the proposed project, this alternative would not emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within 0.25 mile of

an existing or proposed school. Also, similar to the proposed project, this alternative would be located on a site that is included on a list of hazardous materials sites; however, with mitigation, impacts would be less than significant. Similar to the proposed project, this alternative would implement the same ingress and egress to the project and would not impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan. Lastly, this alternative would be located in the same locations and would not be located in an area at risk for wildland fires; related impacts would be similar under this alternative. Overall, impacts related to hazardous materials, hazardous sites, emergency response, and wildland fires would be similar under this alternative to those identified for the proposed project.

Hydrology and Water Quality

Construction of the substation proposed by Alternative 4 would not alter the project's required compliance with the Construction General Permit to protect water quality during construction since the substation would be developed on the same footprint as the turbines, solar, and microgrid components of the proposed project. Similar to the proposed project's energy facilities, this alternative's substation would not represent substantial impacts to water quality during its operation. The substation proposed by this alternative would be expected to require similar amounts of ground disturbance associated with the turbine, solar and microgrid facilities; therefore, this alternative would have similar impacts related to drainage pattern alteration and runoff generation, and a bioretention basin would still be constructed. Similar to the proposed project, this alternative would also convey runoff into the well cellars on the Pumpkin Patch and LCWA sites.

The development of a substation in place of the proposed project's microgrid would not change proposed impacts with respect to groundwater recharge; impacts to groundwater would be similar under this alternative. Both this alternative and the proposed project would involve the construction of a berm that would help avoid impacts related to flooding and sea level rise. Similar to the proposed project, this alternative would introduce facilities into a potential tsunami inundation area and would, thus, result in similar related impacts. Overall, all impacts related to hydrology and water quality would be similar under this alternative to those identified for the proposed project.

Land Use and Planning

There are no existing established communities on the Synergy Oil Field, City Property, Pumpkin Patch, or LCWA sites. Installation of an SCE substation as proposed by Alternative 4 rather than a microgrid component would not physically divide an established community or conflict with existing land uses. Similar to the proposed project, development of this alternative would require an amendment to the SEADIP. Additionally, similar to the project, this alternative would be required be consistent with the LCP and applicable CCA policies. This alternative would also require an amendment to the oil map. Therefore, all land use and planning impacts would be similar under Alternative 4 when compared with the proposed project.

Mineral Resources

Alternative 4 would not change the amount or efficiency of the oil production facilities themselves. Similar to the proposed project, this alternative would increase the availability of mineral resources through the introduction of new oil production facilities to the project site. Thus, similar to the proposed project, Alternative 4 would not result in the loss of availability of a known or locally important mineral resource that would be of value to the region and the residents of the state.

Noise

Construction of a large substation would require similar construction activities and would generate roughly the same level of construction noise associated with the construction of the proposed project's turbines, solar and microgrid facilities. Operation of the substation would produce noise from sources such as transformers, ventilation equipment and similar equipment typically found at substations and could potentially produce noise levels greater than the levels of noise produced by the microgrid system as part of the proposed project. However, similar to the proposed project, implementation of mitigation measures, which requires a detailed noise assessment at the LCWA site for operational noise levels and noise attenuation measures for any exceedances detected, would mitigate all potential significant noise and vibration impacts to a less-than-significant level under this alternative. Thus, under this alternative would not result in exposure of persons to, or generation of, noise levels in excess of standards established in the local general plan or noise ordinance. Also, similar to the proposed project, this alternative would not result in exposure of persons to, or generation of, excessive groundborne vibration or groundborne noise levels. Development of the large SCE substation in place of the microgrid would still require mitigation measures to reduce potential impacts related to a permanent increase in ambient noise levels in the project vicinity above existing levels. Lastly, similar to the propose project, with mitigation, this alternative would not result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project. Therefore, noise impacts pertaining to noise standard exceedance, groundborne vibration, permanent noise increase, temporary noise increases would be similar under this alternative to those identified for the proposed project.

Population and Employment

Construction of a proposed SCE substation under Alternative 4 would be expected to require the same number of construction workers as the microgrid system, including the turbine and photovoltaic components, proposed by the project. Neither a substation or the proposed project's microgrid system require permanent employees to operate. All other components of the proposed project would remain under this alternative, and impacts related to population growth and employment would be similar under this alternative when compared with the proposed project.

Public Services

Other than replacing the microgrid component with a large SCE substation, this alternative would develop the same project components as the project, there would be a potential increase in demand for police protection and fire protection services. The proposed project would result in a small incremental increase in demand for police and fire protection services. Similar to the proposed project, this alternative, would not require new or physically altered government facilities and both the proposed project and this alternative would have a less-than-significant impact on public services. Impacts under this alternative would have similar impacts than the proposed project and impacts would remain less than significant.

Recreation

Construction of a proposed SCE substation under Alternative 4 would be expected to require the same number of construction workers as the microgrid system, including the turbine and photovoltaic components, proposed by the project. Neither a substation or the proposed project's microgrid system require permanent employees to operate. All other components of the proposed project would remain under this alternative, and Alternative 4 would not increase the use of existing neighborhood and regional parks or other recreational

facilities such that substantial physical deterioration of the facilities would occur or be accelerated. Moreover, similar to the proposed project, this alternative would also introduce new recreational facilities to the project vicinity but would not require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment.

Transportation and Traffic

Other than replacing the microgrid component with the large SCE substation, this alternative would develop all of the project components and similar to the proposed project, Alternative 4 would not conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system. Construction of a SCE Substation in place of the natural gas turbines, solar facilities and microgrid system as proposed by Alternative 4 would be expected to require roughly the same level of construction activity and number of construction equipment since the substation would be developed in the same footprint as the proposed project energy production facilities and would, thus, result in similar impacts pertaining to the congestion management program for the surrounding roadways. It is anticipated this alternative would result in similar construction-related traffic and operations-related traffic associated with the proposed project oil production facilities, visitors center, and office building. Therefore, this alternative would result in similar impacts to the congestion management program. Neither this alternative nor the proposed project has the potential to affect air traffic patterns; thus, impacts would be similar. This alternative would still require construction of new driveways with the potential to result in traffic hazards; thus, impacts associated with traffic hazards would be similar under this alternative when compared to the proposed project. Lastly, similar to the proposed project, this alternative would not result in inadequate emergency access.

Tribal Cultural Resources

Similar to the proposed project, Alternative 4 would require ground disturbance during construction within the same footprint as the proposed project energy production facilities. Local tribes recommend monitoring for all ground-disturbing activities on the project site to prevent potential impacts to tribal cultural resources, this alternative would implement the same mitigation measures. Therefore, impacts to tribal cultural resources under this alternative would be similar to the proposed project.

Utilities and Service Systems

Similar to the proposed project's energy production facilities, the large substation proposed by Alternative 4 would result in a minimal amount of wastewater generated during its construction and would not generate wastewater during its operation. Therefore, wastewater treatment-related impacts would be similar under this alternative, and this alternative would not wastewater treatment requirements of the applicable Regional Water Quality Control Board nor would it require the construction of new wastewater treatment facilities. Construction and operation of the SCE substation would be expected to generate a similar and minimal water demand when compared with the proposed project's energy facilities, similar to the proposed project, this alternative would not require or result in the construction of new water treatment facilities or expansion of existing facilities and it is anticipated that water supplies are sufficient to serve the minimal water needs of the proposed project. Moreover, similar to the proposed project, bioretention basins would still be designed under this alternative to capture stormwater, resulting in similar stormwater drainage facility impacts when compared with the proposed project, and runoff on the Pumpkin Patch and LCWA sites would be conveyed to well cellars. Under this alternative a similar amount of debris would be generated by construction of the substation when compared with the proposed project's microgrid facilities. Thus, impacts associated with landfill

capacity would be similar to the proposed project; no solid waste would be expected to be generated during operation of either the substation or the proposed project's energy facilities. Similar to the proposed project, this alternative would comply with all solid waste regulations.

Energy Consumption

Alternative 4 would result in reduced energy efficiency on site by not making use of the combustion of natural gas collected as part of the oil extraction process. Additional energy could be required from mobile sources if off-site trucking is required to transport the fuel to the regional grid or to a third party. Thus, impacts would be greater than the project.

The substation as part of this alternative would require a greater overall energy demand and would not reuse the natural gas byproduct from the project implementation when compared with the proposed project and would result in greater energy consumption impacts. As discussed above, additional energy could be required from mobile sources if off-site trucking is required to transport the fuel to the regional grid or to a third party. Thus, impacts would be greater than the project.

Since both the proposed project and this alternative would comply with applicable energy standards, policies, regulations, impacts to energy standards, policies, and regulations would be similar.

5.6.4.2 Comparison of Impacts

Alternative 4 would result in greater impacts related to the applicable air quality plan, operational air quality, greenhouse gas emissions and energy consumption than the proposed project. All impacts associated with the remaining environmental issues would be similar to or less than impacts associated with the proposed project.

5.6.4.3 Relationship of the Alternative to the Project Objectives

Alternative 4 would replace the turbine power generation, solar and microgrid components of the proposed project that would improve the project's energy efficiency. Therefore, this alternative would not achieve the proposed project's fifth and tenth objectives relating to improving the efficiency of oil production operations, developing locally sourced oil and natural gas resources using energy-efficient technology. This alternative would also fail to achieve the proposed project's eleventh objective entirely, which is to reduce energy use environmental impacts, efficiently use project-sourced natural gas, and increase project reliability/safety with a microgrid that integrates multiple on-site energy sources with high efficiency controls on energy using equipment. Otherwise, this alternative would accomplish all other project objectives relating to wetland habitat restoration, recreational public access, educational opportunities, relocation of oil production operations, clean-up of old landfills, and improvement of pedestrian walkability.

5.6.5 Alternative 5: Relocated Pipeline Alternative

Alternative 5 would relocate the aboveground pipeline and utility corridor on the City Property site; however, the remaining components of this alternative would remain the same as the proposed project. Thus, the analysis contained herein focuses on impacts that could occur on the City Property site as a result of implementation of this alternative.

Aesthetics

Because the aboveground pipeline and utility corridor would remain on the City Property site under Alternative 5, similar to the project, it would result in no impact to scenic vistas. Similar to the proposed project, this alternative would also result in no impact to scenic resources within a scenic highway. Also, because the alignment would be changing within the City Property site, this alternative would have similar impacts to visual character when compared with the proposed project. Under this alternative, security lighting associated with construction on the City Property site would still occur, and similar to the proposed project, given the temporary nature of these lights, impacts would be less than significant. Therefore, all impacts related to aesthetics would be similar under this alternative to those identified for the proposed project.

Air Quality

Under Alternative 5, construction and operational activities would be similar to the project and generate similar emissions. Like the project, this alternative would not result in growth in excess of the AQMP assumptions. Therefore, impacts would be similar to the project and would be less than significant.

Although Alternative 5 would require the aboveground pipeline and utility corridor to follow the City Property site's eastern oil service road, the length of construction would be similar to the proposed project. Therefore, construction-related impacts related to air quality standards would remain significant and unavoidable for NO_x under this alternative and would be similar to the proposed project.

Alternative 5 would generate similar operational emissions as the project, as operational activities would be similar. Therefore, operational impacts pertaining to air quality standards would be similar to the project and would be less than significant with mitigation.

Although Alternative 5 would require the aboveground pipeline and utility corridor to follow the City Property site's eastern oil service road, the length of construction would be similar to the proposed project. Therefore, this alternative would result in similar construction-related non-attainment pollutant emissions as the project and impacts would remain significant and unavoidable for regional NO_x emissions (an ozone precursor), similar to the proposed project.

Alternative 5 would generate similar operational emissions as the project, as operational activities would be similar. Therefore, this alternative would result in similar operational-related non-attainment pollutant emissions as the project and impacts would be less than significant with mitigation, similar to the proposed project.

Under Alternative 4, construction and operational localized and TAC emissions would be similar to the project, given that construction and operational activities would be largely the same. This alternative would likely still require mitigation to reduce health risk impacts. Thus, impacts would be similar to the project and less than significant with mitigation.

Alternative 5 would replace equipment at the existing oil production facilities and result in the operation of the same number of new oil wells. Alternative 5 would use new equipment that must meet all of the latest SCAQMD regulations. Similar to the proposed project, all of the tanks for this project would have fixed roof tanks that drastically reduce fugitive emissions and would be expected to virtually eliminate off-site odors. Therefore, this alternative would be expected to reduce the potential for odors compared to existing site conditions. Thus, this alternative would result in similar odor impacts as compared to the project. Similar to

the project, this alternative would still be required to comply with SCAQMD regulations including Rule 402, Nuisance. Thus, impacts would be less than significant.

Biological Resources

Under Alternative 5, the aboveground pipeline and utility corridor route would be relocated to an oil service road on the eastern side of the City Property site. The eastern oil service road is wider and contains larger areas that have been previously disturbed and is lacking in vegetation as compared to the western oil service road, which is the alignment proposed under the project., relocation to the eastern oil service road would avoid freshwater/brackish wetlands and alkali meadow habitat, which would be impacted under the proposed project. As described in the *Biological Impact Analysis for Pipeline Crossing Option 1B and Pipeline Alignment Option 2B*, prepared by Glen Lukos and included as Appendix K to this EIR (GLA 2017), under the proposed project, impacts would occur to both upland and wetland vegetation alliances. The impacts to wetlands would occur because portions of the narrow access roads would require widening to accommodate both the pipeline corridor and vehicular access. However, it is important to note, there are no special-status vegetation areas or areas that meet the Coastal Commission definition of ESHA within the proposed project footprint. Under Alternative 5, Relocated Pipeline Alternative, implementation would result in impacts to ruderal uplands and vegetation free zones only. As shown in Figure 5-2b, under Alternative 5, 0.14 acre of ruderal wetlands and 0.15 acre of alkali meadow habitat would be avoided. Because of the western alignment, increased saltwater restoration opportunities would occur under the proposed project. Similar to the proposed project, there are no special-status vegetation areas or areas that meet the Coastal Commission definition of ESHA within the impact footprint.

This alternative would still be consistent with the LCWA's Conceptual Restoration Plan and would also provide a larger buffer between future tidal wetlands and existing freshwater wetlands that should be protected from salt water influence. Furthermore, as described above, this alignment would create more area for alkali meadow habitat to be restored, which is important since approximately 30 acres of alkali meadow habitat would be lost due to tidal flooding that is proposed by the LCWA's Conceptual Restoration Plan. Since the aboveground pipeline and utility corridor route proposed under Relocated Pipeline Alternative would result in less disturbance to existing wetlands and sensitive vegetation that are present along the alignment of the western service road on the City Property site, impacts would be less than identified under the proposed project.

As described above, with mitigation this alternative would not have a substantial adverse effect on riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations and impacts would be fewer than the proposed project. Similar to the proposed project, with mitigation, this alternative would not have a substantial adverse effect on federally or state protected wetlands as defined by Clean Water Act Section 404. As with the proposed project, this alternative would not substantially interfere 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. Lastly, similar to the proposed project, this alternative would not conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.

Overall, there would be impacts to fewer acres of wetlands and sensitive natural communities under this alternative, and all other impacts to biological resources would be similar under this alternative in comparison to those identified for the proposed project.

Cultural Resources

Alternative 5 would require the relocation of the aboveground pipeline and utility corridor across the City Property site to the site's wider eastern oil service road. This alternative would result in similar levels of construction as the proposed project since this alternative would involve all of the same project components as the proposed project. This alternative would have the same impacts to historical resources associated with the relocation and the rehabilitation of the California Register-eligible Bixby Ranch Field Office building and the Bixby No. 2 Discovery Well as the proposed project. Similar to the proposed project, with mitigation, this alternative would not cause a substantial adverse change in the significance of an archaeological resource. This alternative would be required to implement mitigation measures in order to prevent potential impacts to paleontological resources. Lastly, this alternative would result in similar potential impacts to human remains during construction. Overall, this alternative would have the same impacts to cultural resources as the proposed project.

Geology, Seismicity, and Soils

Similar to the proposed project, this alternative would involve the relocation of the Bixby Office Building proposed by the project out of the Alquist-Priolo zone; impacts related to exposure of persons or structures to resulting in the rupture of a known earthquake fault would be similar to the proposed project. Although the aboveground pipeline and utility corridor would be relocated to the City Property site's eastern oil service road and the length of pipeline directly located within the Newport-Inglewood fault zone would be reduced, it would still cross the fault zone to connect the Pumpkin Patch and LCWA sites, thus having similar related to fault rupture. Similar to the proposed project, this alternative would not expose people or structures to potential substantial adverse effects as a result of strong seismic ground shaking. Also, the pipeline development is the same as the proposed project under this alternative, and with mitigation this alternative would not expose people or structures to potential substantial adverse effects as a result of seismic-related ground failure, including liquefaction. Moreover, this alternative would also be required to develop consistent with the requirements of the CBC, Alternative 5 would not expose people or structures to potential substantial adverse effects as a result of seismic-induced landslides. Also, construction of the relocated pipeline would result in similar ground disturbance as the proposed project and has a similar risk to result in topsoil loss; however, implementation of regulatory measures to manage and control erosion would reduce that risk. Overall, impacts to geologic hazards and soils would be the same under this alternative to those identified for the proposed project.

Greenhouse Gas Emissions

Under Alternative 5, construction and operational GHG emissions would be similar to the project, given that construction and operational activities would be largely the same. Thus, impacts would be similar to the project and less than significant with mitigation.

Similar to the project, Alternative 5 would include the four turbines that would generate GHG emissions in excess of 25,000 MTCO₂e per year; thus, Alternative 5 would be required to obtain GHG allowances or offsets pursuant to the CARB Cap-and-Trade Program. Under the Cap-and-Trade Program, CARB would require this alternative to obtain GHG allowances or offsets for the alternative's total emissions. This alternative would comply with the same GHG reduction plans and policies as the proposed project. Therefore, GHG impacts would be similar under this alternative.

Hazards and Hazardous Materials

Similar to the proposed project, this alternative would include the construction-related hazard impacts associated with the potential removal of hazardous materials during disturbance of excavated soils or landfilled materials and also using hazardous materials during construction and operations. Similar to the proposed project, this alternative would generate some hazardous materials associated with the development of the pipeline across the City Property site. The development of this alternative would result in similar impacts associated with the use of hazardous materials and listed hazardous material sites. Similar to the proposed project, implementation of this alternative would not create a significant hazard to the public or the environment through the routine transport, use, or disposal, or reasonable foreseeable upset and accident conditions that release hazardous materials.

The project is not located near schools, and similar to the proposed project, this alternative would not emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within 0.25 mile of an existing or proposed school. Also, similar to the proposed project, this alternative would be located on a site that is included on a list of hazardous materials sites; however, with mitigation, impacts would be less than significant. Similar to the proposed project, this alternative would implement the same ingress and egress to the project and would not impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan, especially at the City Property site. Lastly, this alternative would be located at the same location just in a different alignment and would not be located in an area at risk for wildland fires; impacts would be similar under this alternative. Overall, impacts related to hazardous materials, hazardous sites, emergency response, and wildland fires would be similar under this alternative to those identified for the proposed project.

Hydrology and Water Quality

Under Alternative 5, the relocated aboveground pipeline and utility corridor would still disturb greater than an acre and, thus, would require compliance with the Construction General Permit. Similar to the proposed project, the aboveground pipeline and utility corridor would not have any impacts to water quality during its operation because all operations would be within a protected corridor. Regardless of location, the aboveground pipeline and utility corridor would not substantially alter the site's surface area; therefore, this alternative would have similar impacts related to drainage pattern alteration.

The development of the new alignment would not change proposed impacts with respect to groundwater recharge; impacts to groundwater would be similar under this alternative. Both this alternative and the proposed project would involve the construction of a berm that would help avoid impacts related to flooding and sea level rise. Similar to the proposed project, this alternative would introduce facilities into a potential tsunami inundation area and would, thus, result in similar related impacts. The City Property site is not located within a flood zone and is not at risk for inundation by seiche or mudflow or exposure to sea level rise, and impacts would be similar to the proposed project. Overall, relocation of the pipeline within the City Property site would result in similar impacts to hydrology and water quality to those identified for the proposed project.

Land Use and Planning

There are no existing established communities on site and the project site currently contains oil production facilities; relocation of the pipeline alignment would not physically divide an established community or conflict with existing land uses on the project site. Development of this alternative would also require an

amendment to the SEADIP. Additionally, similar to the project, this alternative would be required be consistent with the LCP and applicable CCA policies. This alternative would also require an amendment to the oil map. Therefore, all land use and planning impacts would be similar under this alternative compared with the proposed project.

Mineral Resources

Although the aboveground pipeline and utility corridor would be relocated within the City Property site itself under Alternative 5, it would still serve to connect the oil operations between the Pumpkin Patch and LCWA sites. Similar to the proposed project, this would allow for Alternative 5 to continue to operate and extract oil and natural gas resources; thus, maintaining the availability of mineral resources. Impacts to mineral resource availability would be similar under Alternative 5 when compared with the proposed project.

Noise

The aboveground pipeline and utility corridor alignment along the westernmost oil service road (under the proposed project) and along the eastern oil service road (under Alternative 5) are within close proximity to each other. Therefore, relocation of the proposed aboveground pipeline and utility corridor under Alternative 5 would not increase the noise impacts pertaining to noise standard exceedance and would not result in exposure of persons to, or generation of, noise levels in excess of standards established in the local general plan or noise ordinance. Similarly, as with the proposed project, Alternative 5 would not result in exposure of persons to, or generation of, excessive groundborne vibration or groundborne noise levels. Moreover, similar to the proposed project, with mitigation, this alternative would not result in substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project. Impacts under all noise-related impacts would be similar to those identified for the proposed project.

Population and Employment

The proposed pipeline and utility corridor under Alternative 5 would be expected to require the same construction effort as the proposed project. Regardless of its location, the proposed aboveground pipeline and utility corridor would not introduce permanent residents to the site or require permanent employees to operate. Impacts related to population growth inducement and employment would be similar under this alternative when compared with the proposed project.

Public Services

Other than relocating the pipeline alignment across the City Property site, this alternative would develop the same project components as the project, there would be a potential increase in demand for police protection and fire protection services. The proposed project would result in a small incremental increase in demand for police and fire protection services. Similar to the proposed project, this alternative, would not require new or physically altered government facilities and both the proposed project and this alternative would have a less-than-significant impact on public services. Impacts under this alternative would have similar impacts than the proposed project and impacts would remain less than significant.

Recreation

There are no existing recreational facilities on the City Property site. This alternative would improve bikeways and sidewalks on 2nd Street and Westminster Avenue in the area fronting the City Property site; thus, impacts

are similar to the proposed project and would improve recreational resources in this area. Impacts related to increased existing recreational facility use and expansion of recreational facilities would be similar under this alternative when compared with the proposed project.

Transportation and Traffic

Relocation of the aboveground pipeline and utility corridor alignment to the eastern oil service road under Alternative 5 would be expected to require roughly the same level of construction effort and number of construction vehicles as the proposed project and operations would also be the same as the proposed project. Similar to the proposed project, this alternative would not conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system. Also, as with the proposed project, this alternative would not conflict with an applicable plan, ordinance, or policy establishing measures of effectiveness for the performance of a congestion management program for the surrounding roadways. Similar to the proposed project, development of this alignment would not have the potential to affect air traffic causing a safety risk. In addition, similar to the proposed project, Alternative 5 would not implement design features that could result in hazards and construction associated with this alternative would be similar to the proposed project. Therefore, all transportation and traffic-related impacts would be similar under this alternative to those identified for the proposed project.

Tribal Cultural Resources

Similar to the proposed project, construction of the aboveground pipeline and utility corridor under this alternative would require ground disturbance; thus, there would be the potential to encounter tribal cultural resources. This alternative would also be required to monitor all ground-disturbing activities on the project site to prevent potential impacts to tribal cultural resources. Therefore, impacts to tribal cultural resources under Alternative 5 would be similar to the proposed project.

Utilities and Service Systems

Construction of the aboveground pipeline and utility corridor under Alternative 5 would require similar construction efforts and activities as the proposed project. Therefore, wastewater treatment requirements impacts would be similar to the proposed project. Similar to the proposed project, this alternative would not require the development of new wastewater treatment facilities. Under the proposed project and this alternative, construction of the aboveground pipeline and utility corridor would require a minimal amount of water for construction activities and no water would be used during operation. Alternative 5 would not require or result in the construction of new stormwater drainage facilities, or expansion of existing facilities, the construction of which could cause significant environmental effects.

A similar amount of solid waste would be generated by construction under Alternative 5 as the proposed project. Thus, impacts associated with landfill capacity and solid waste under this alternative would be similar to the proposed project. Therefore, all impacts related to wastewater treatment requirements, water or wastewater treatment facilities, stormwater drainage facilities, water supply, and solid waste would be similar under this alternative to those identified for the proposed project.

Energy Consumption

Relocation of the aboveground pipeline and utility corridor to the eastern oil service road would not alter the energy efficiency under Alternative 5 when compared with the proposed project, given that construction and

operational activities would be largely the same. Like the project, this alternative would replace the old oil production facilities with more energy-efficient equipment and would install a microgrid system, including three turbines with cogeneration, to increase energy efficiency. Thus impacts would be the same as the project.

Relocation of the aboveground pipeline and utility corridor to the eastern oil service road would not alter the overall energy consumption under Alternative 5 when compared with the proposed project, given that construction and operational activities would be largely the same. Thus impacts would be the same as the project.

Since both the proposed project and this alternative would comply with applicable energy standards, policies, regulations, impacts to energy standards, policies, and regulations would be similar.

5.6.5.2 Comparison of Impacts

Alternative 5 is similar to the proposed project in every regard except for the relocation of the pipeline on the City Property from the western oil service road to the eastern oil service road. With the exception of fewer impacts to sensitive natural communities and wetlands, all impacts associated with the remaining environmental issues would be similar to impacts associated with the proposed project.

5.6.5.3 Relationship of the Alternative to the Project Objectives

Similar to the proposed project, Alternative 5 would meet all of the Project Objectives, in that it contains the same components as the proposed project.

5.7 Environmentally Superior Alternative

CEQA Guidelines Section 15126.6(e)(2) indicates that an analysis of alternatives to a project shall identify an Environmentally Superior Alternative among the alternatives evaluated in the EIR. The *CEQA Guidelines* also state that should it be determined that the No Project Alternative is the Environmentally Superior Alternative, then the EIR shall identify another Environmentally Superior Alternative among the remaining alternatives.

A comparative summary of the environmental impacts anticipated under each alternative with the environmental impacts associated with the project is provided above in Table 5-1, Summary of Project and Alternative Impacts, on page 5-15. A more detailed description of the potential impacts associated with each alternative is provided above. Pursuant to *CEQA Guidelines* Section 15126.6(c), the analysis presented above addresses the ability of the alternatives to “avoid or substantially lessen one or more of the significant effects” of the project.

As previously stated, the intent of the alternatives analysis is to reduce the significant impacts of a project. Implementation of the proposed project would result in significant and unavoidable impacts on a project level with regard to NO_x emissions during construction.

The No Project Alternative would eliminate all of the significant impacts of the proposed project, including construction NO_x emissions, as there would be no change to the existing site conditions. As the No Project Alternative eliminates the proposed project’s significant impacts, it is determined to be the Environmentally Superior Alternative. In accordance with the *CEQA Guidelines* requirement to identify an Environmentally Superior Alternative other than the No Project Alternative, a comparative evaluation of the remaining

alternatives was conducted and indicates that Alternative 5, the Relocated Pipeline Alternative would reduce project impacts to Biological Resources to a greater degree than the remaining alternatives; however, Alternative 5 would not eliminate the significant impacts related to air quality. Alternative 5 reduces impacts to a greater degree than the proposed project, and thus it is selected as the Environmentally Superior Alternative.

5.8 References

Glenn Lukos Associates, Inc. (GLA). 2017. *Technical Memorandum—Biological Impact Analysis for Pipeline Crossing Option 1B and Pipeline Alignment Option 2B, Los Cerritos Wetlands Oil Consolidation and Restoration, Long Beach, California*, July 13.

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