

SECTION 3.0 PROJECT DESCRIPTION

The purpose of the Project Description is to describe the proposed Inglewood Oil Field Specific Plan Project (Project) in a way that allows for meaningful review by the public, reviewing agencies, and decision makers. Section 15124 of the California Environmental Quality Act (CEQA) Guidelines (14 *California Code of Regulations* Section 15124) requires that the project description for an environmental impact report (EIR) contain (1) a statement of objectives sought by the proposed project including the underlying purpose of the project (see Section 3.3 of this Draft EIR); (2) the precise location and boundaries of a proposed project (see Section 2.2 of this Draft EIR); (3) a general description of the project's technical, economic, and environmental characteristics (see Sections 2.0 and 3.0 of this Draft EIR); and (4) a statement briefly describing the intended uses of the Draft EIR, including a list of the agencies that are expected to use the Draft EIR in their decision making, a list of the permits and other approvals required to implement the project, and a list of related environmental review and consultation requirements required by federal, State, or local laws, regulations, or policies (see Sections 2.4 and 3.4 of this Draft EIR).

3.1 OVERVIEW OF THE INGLEWOOD OIL FIELD SPECIFIC PLAN

The primary entitlement action associated with the Project includes the adoption of the proposed *Inglewood Oil Field Specific Plan* (Specific Plan or Project). Secondary entitlement actions include modifications to the City's existing plans and regulations affecting oil drilling and oil operations activity to ensure consistency between the proposed new requirements and existing policies and standards. The Specific Plan includes a set of oil drilling regulations designed to protect the public health, safety and welfare of the environment and citizens of the City of Culver City and surrounding communities. This Draft EIR addresses the potential environmental impacts associated with developing all of the allowable activities and components that could be implemented on the Project Site under the Specific Plan. The Inglewood Oil Field Specific Plan is included in Appendix B-1 of this Draft EIR.

A Specific Plan is a comprehensive planning and zoning document for a defined geographical area. It provides the flexibility to establish site-specific zoning regulations tailored to the type and intensity of uses in a specific location. In the case of the Inglewood Oil Field, a Specific Plan is particularly suitable because oil field operations require specialized regulations that differ from those applicable to typical commercial and industrial uses. Additionally, the geographic location is limited to a specific area within the City, as shown on Exhibit 2-3, Specific Plan Boundary and Adjacent Land Uses, located in Section 2.0 of this Draft EIR.

As oil and gas production is such a specialized land use, a Specific Plan would be appropriate and useful to further address the special needs and conditions of the area surrounding the Inglewood Oil Field. The Specific Plan would update and supersede the City's existing oil drilling regulations and is intended to address the changes in the last decade in oil production-related technology, legislation, public concerns, and environmental considerations.

Development of the portion of the Inglewood Oil Field located within the City of Culver City (Project Site), in accordance with the Specific Plan, would occur over a period of 15 years, assumed to range from 2018 through 2032. However, once the maximum cap on new wells has been met, no further drilling would be allowed. Under an accelerated drilling schedule, it is possible that the span of development could be as short as 11 years, rather than 15 years as otherwise allowed under the Specific Plan. Ultimately, the actual span of development would be based on future market conditions and other factors as determined by the holder of the lease of the Inglewood Oil Field. At the time of the preparation of the Notice of Preparation (NOP) of this Draft EIR, Freeport McMoRan Oil and Gas (FM O&G) was the Oil Field Operator for the oil and gas facilities

throughout the entire Inglewood Oil Field within the City boundaries and within the unincorporated County of Los Angeles. Freeport McMoRan Inc. sold its onshore California oil and gas properties (including the Inglewood Oil Field) to Sentinel Peak Resources California LLC. As such, Sentinel Peak Resources, effective January 2017, is the Oil Field Operator on record for the Inglewood Oil Field.

Throughout this Draft EIR, the City's portion of the Inglewood Oil Field (77.8 acres) is referred to as the "Project Site" or the "City IOF." The entire surface boundary limits¹ of the Inglewood Oil Field, including lands within both the City and County, is referred to as "Inglewood Oil Field." The portion of the Inglewood Oil Field that is only within the jurisdiction of the County of Los Angeles is referred to as the "County IOF."

The Specific Plan Drilling Regulations contain several administrative items, requirements for permits, plans, wells, supporting facilities, equipment, and operations to help reduce health and safety impacts on the surrounding community. A summary of each Section in the Drilling Regulations is provided below, categorized into topical areas. The descriptions below are not a verbatim repetition of the Drilling Regulations. The Inglewood Oil Field Specific Plan is included in Appendix B of this Draft EIR.

3.1.1 ADMINISTRATIVE ITEMS

The Specific Plan contains several administrative items as described below:

- **Section 1, Purpose and Intent**, describes how the provisions in the Specific Plan establish safeguards and controls for activities related to drilling for and production of oil, gas and other hydrocarbon substances within the City of Culver City. These provisions are described below under Section 3.3, Project Objectives of the Draft EIR.
- **Section 2, Acronyms and Definitions**, provides a list of terms and acronyms and their definitions used throughout the Specific Plan.
- **Section 3, Applicability**, provides a list of plans and permits for which the Specific Plan applies.
- **Section 9, Other Administrative Items**, describes other administrative requirements of the Plan. These include the following requirements: a Draw-Down Account; bond and insurance requirements; indemnification; written consent requirements; operator responsibility for cost of implementing, monitoring, and enforcing conditions; penalty for violation of conditions; schedule of fees; periodic review; and copy of DOGGR records requirements.
- **Section 56, Conflict of Provisions**, explains that the Specific Plan shall prevail if there is a conflict between the Specific Plan and any other provisions of the Culver City Municipal Code.

¹ Surface boundary limit refers to the physical extent of the ground surface for which the Oil Field Operator has access and land owner permission to establish and conduct oil drilling activity. Subsurface and mineral right limits may have different boundaries than the surface boundary.

3.1.2 REQUIRED PERMITS AND PLANS

The Specific Plan also contains requirements for the various permits and plans as described below:

- **Section 4, Application Filing, Processing, Review, Plan Amendments and Fees**, provides filing requirements for the Comprehensive Drilling Plan, Annual Drilling Plan, and the Drilling Use Permit. This section also outlines the permit application and renewal fees; plans, permits and environmental conditions for approval for plans and permits; plan approval and permit issuance requirements.
- **Section 5, Findings and Decision**, explains the findings which must be present in the Comprehensive Drilling Plan prior to the City Council approving the Comprehensive Drilling Plan.
- **Section 6, Conditions on Assignment of Drilling Use Permit and Drilling Plans**, lists the various conditions on the assignment of permits including transfers.
- **Section 7, Condition Compliance**, outlines the details of the requirement for a Condition Compliance Plan, which details how and when measures would be implemented to ensure effective implementation of all requirements of the Specific Plan and the adopted Mitigation Monitoring and Reporting Program (MMRP). This section also details the requirements for an On-Site Monitor to monitor compliance with the Specific Plan.
- **Section 8, Expiration, Revocation or Modification of Permits**, outlines the terms for expiration, revocation or modification of permits. If a permit is to be revoked or modified by the Community Development Director, a public hearing must be held to determine whether the permit should be revoked or modified. This decision may be appealed to the City Council.
- **Section 10, Construction and Grading Permits**, outlines the requirements for obtaining construction permits from the City's Building and Safety Division and grading permits from the City's Department of Public Works.
- **Section 31, Consolidation and Annual Drilling, Redrilling, Well Abandonment and Well Pad Restoration Plan**, describes the requirements for submittal of an Annual Consolidation and Drilling, Redrilling, Well Abandonment and Well Pad Restoration Plan (the "Annual Drilling Plan") describing all drilling, schedules, and related activities to avoid over concentration of such activities in any particular year and in any one area. The Specific Plan limits the maximum number of wells to be drilled or redrilled on an annual basis to no more than two wells per year for the first two years and no more than three wells per year thereafter. No more than one drilling rig or redrilling rig can be in place at any one time. The approximate location of all wells proposed to be drilled or redrilled shall be provided with the Annual Drilling Plan. The approximate location of all proposed new well pads including their size and dimensions as well as the estimated target depth of all proposed wells shall be included along with other details outlined in the Specific Plan. Deep-Zone and Mid-Zone Supplements shall be provided where the Top Hole is within 800 feet of a Sensitive Developed Area.

3.1.3 OIL FIELD OPERATIONS

Oil field operations are outlined in the Specific Plan in the following sections:

- **Section 11, Operating Standards**, outlines the requirements for operating standards including general operating standards, new technology requirements, compliance with laws and regulations, nuisance requirements, and maintenance of the premises.
- **Section 32, Well Stimulation Treatments**, states that, “In taking action on the Specific Plan, the City Council will consider the available information, including the Specific Plan EIR, in making a determination as to whether and upon what terms the adopted Specific Plan would allow Well Stimulation Treatments to be conducted within the Oil Field.”
- **Section 33, Well Reworking**, provides details of when reworking rigs can be used including no more than two rigs used at one time; operations not being allowed (except in emergencies) between 7:00 p.m. and 7:00 a.m., nor on Saturdays, Sundays or legal holidays; and such rigs shall be removed within seven days unless it is to be used again within five days.
- **Section 34, Processing**, provides provisions for limits on processing operations, well pump motors, well pumps, products to be removed by pipeline; provisions for new as well as existing pipelines; the requirement for an Active Pipeline Plot Plan and Transportation Risk Management and Prevention Plan; and provisions for machinery enclosures and opening protections.
- **Section 40, Equipment Removal and Maintenance**, has the requirement for an Abandoned and Unused Equipment Removal Plan, revegetation of areas where equipment removal has occurred; and proper maintenance requirements for equipment.
- **Section 47, Injection Wells**, requires that existing injection wells comply with all DOGGR requirements and shall be properly abandoned according to DOGGR requirements.
- **Section 57, Schedule for Abandonment of Wells or Oil Field**, states that, “In taking action on the Specific Plan, the City Council will consider the available information, including the Specific Plan EIR, in making a determination as to whether and upon what terms the adopted Specific Plan would require the closure of wells and/or the Oil Field.”

3.1.4 SUPPORTING EQUIPMENT, FACILITIES AND STANDARDS

Various supporting equipment, facilities, and standards would be required for operations at the Project Site portion of the Inglewood Oil Field. The Specific Plan provides guidance and requirements for these facilities and equipment as follows:

- **Section 13, Sumps**, restricts the use or construction of sumps.
- **Section 14, Major Facilities Prohibited**, prohibits the construction of Major Facilities within the City of Culver City.
- **Section 15, Tanks**, requires that tanks meet API Standards; comply with the California Fire Code; are equipped with a vapor recovery systems; tank piping, valves, fittings and connections including normal and emergency relief venting meet API standards; a Leak Detection and Control Plan be submitted to and approved by the City’s Fire Chief; and provides standards for dikes and walls surrounding storage tanks, and pressure monitoring and venting.

- **Section 16, Location of Tanks**, limits the size and distance to nearest tank. No activity that creates an open flame can be conducted within 100 feet of a storage tank containing flammable liquids, and no new storage tanks can be constructed closer than 500 feet from any Developed Area, closer than 200 feet from a public road, be placed on ridgelines, be located where they are visible from residences, parks or other public areas (where feasible) and no building shall be constructed within 50 feet of any oil storage tank.
- **Section 17, Piping and Electrical Equipment**, requires that the Operator maintain and implement a Pipeline Management Plan and provides provisions for piping and electrical equipment.
- **Section 18, Dikes and Retaining Walls**, details requirements for dikes and retaining walls.
- **Section 19, Toilets and Wash Facilities**, provides provisions for permanent and temporary employees.
- **Section 35, Well Cellars**, requires that well cellars be constructed in accordance with the most current API Standards and DOGGR requirements and comply with provisions concerning cellar fluids, access to multi-well cellars, single-cellar covers, and cellar ladder openings.
- **Section 36, Lighting**, provides provisions concerning screening and requires preparation of a Lighting Plan to be approved by the Community Development Director.
- **Section 37, Landscaping**, requires that a Landscaping Plan be developed and provides provisions for irrigation and inspection and maintenance of landscaping and vegetation.
- **Section 38, Public Roadways and Private Road Construction**, describes necessary approvals and restrictions on deliveries; and requires approval of a Private Road Construction Plan prior to construction of any new private roads.
- **Section 39, Signs**, provides provisions for perimeter and entrance identification signs, signs on derricks and rigs, fire prevention, well identification signs, no littering signs, other required signs, and the requirement of City approval of all signs.
- **Section 41, Other Standards**, provides provisions for security, fencing, storage of equipment, and painting of operations-related structures.

3.1.5 ENVIRONMENTAL CONSIDERATIONS

The Specific Plan contains guidance for several environmental considerations to help protect the public health, safety and welfare, and the environment. These include the following:

- **Section 21, Air Quality, Public Health and Climate Change**, provides an extensive list of provisions concerning air quality, public health and climate change. This Section provides requirements for emission offsets; an Odor Minimization Plan; and air monitoring, which includes an Air Monitoring Plan requiring monitoring for hydrogen sulfide and total hydrocarbon vapors, with specific actions to be taken when specified alarm levels are reached. There are provisions for grab sample testing by the City; a portable flare for drilling; oil tank pressure monitoring and venting; odor suppressants for drilling and redrilling operations; closed systems for produced oil and water; requirements for off-road diesel construction equipment engines; drill rig engines; drilling and redrilling setbacks that require drilling to be at least 400 feet from Developed Areas and at least 75 feet from any public roadway; slant drilling for Deep-Zone and Mid-Zone Wells; a requirement for a Fugitive Dust Control Plan; inspection and maintenance program information

requirements; and greenhouse gas recordkeeping and cap and trade program information.

- **Section 22, Noise Attenuation**, provides provisions for noise limits for daytime and nighttime hours; backup alarm requirements; the requirement for a Quiet Mode Drilling Plan; requirements for engines and equipment servicing; deliveries; providing time limits for construction; low noise output requirements for construction equipment; prohibition of unnecessary idling for construction equipment idling; worker education of requirements; and monitoring requirements for continuous monitoring and digitally recording of noise levels.
- **Section 23, Vibration Reduction**, provides provisions for minimizing vibration including setting vibration levels, notification and shut down of activities exceeding these vibration levels, and the hiring of an independent qualified engineer by the Operator to install monitoring and recording equipment.
- **Section 24, Geotechnical**, provides provisions for a site-specific geotechnical investigation to be completed for permanent structures; the requirement of an Accumulated Ground Movement Plan and an Accumulated Ground Movement Study/Survey; ground movement threshold limits that are equal to or greater than 0.6 inches; requirements of a Fault Investigation Report; seismic activity tracking and infrastructure inspection; preparation of an Erosion Control Plan; and requirements for slope restoration.
- **Section 25, Groundwater Monitoring**, provides provisions for a Groundwater Monitoring Program for the Drilling Project Site or Oil Field. The Program shall address water level and water quality and shall include deep zone water level monitoring within the Pico Formation and other cap rock units on both sides of the Newport Inglewood Fault Zone.
- **Section 26, Surface Water Management**, provides provisions for a Water Management Plan which will document best water management practices including water conservation measures, the use of a drip irrigation system, and provisions for the use of surface water runoff in the retention basins for dust suppression and landscaping. The Plan will also prohibit the use of Produced Water from Wells that have undergone a Well Stimulation Treatment for irrigation, and address the availability of reclaimed water at the Drilling Project Site.
- **Section 27, Stormwater and Drainage Management**, provides provisions for a Stormwater Pollution Prevention Plan (SWPPP); a Spill Prevention, Control, and Countermeasure Plan (SPCCP); and a Hydrologic Analysis, which will be used to evaluate anticipated changes in drainage patterns and associated increases in runoff for any new grading.
- **Section 28, Storage of Hazardous Materials and Oil Field Waste Removal**, provides provisions for storage of hazardous materials and waste discharge and collection; and a requirement for a Recycling and Removal Plan that will identify, among other things, how recycling will be incorporated into operations and creation of an employee participation recycling program.
- **Section 29, Biological Resources**, provides provisions to minimize impacts to biological resources. These provisions include: oil spill response that is covered in an Emergency Response Plan; requirement of a Special Status Species and Habitat Protection Plan; conducting project-specific surveys; providing compliance with US Fish and Wildlife and California Department of Fish and Wildlife requirements for listed species or wildlife species; providing monitoring if nesting birds or sensitive plant or wildlife species are found

during surveys; avoidance of tree and riparian scrub removal during nesting season; and habitat restoration consistent with the Special Status Species and Habitat Protection Plan.

- **Section 30, Cultural Resources**, provides provisions for archeological training for personnel involved with ground disturbing activities; conducting a Cultural Resources Assessment prior to conducting ground disturbing activities; a qualified paleontologist to monitor all rough grading and other significant ground disturbance activities in paleontological sensitive areas, and actions to be taken in the event of discovering human remains.

3.1.6 REPORTING REQUIREMENTS

Reporting requirements are outlined in the following sections:

- **Section 42, Directional Drilling Surveys Required on Certain Wells**, provides provisions for directional surveys that will be required on certain wells. These surveys will be required when the Operator drills, re-drills, or deepens any well, or well hole, and the Top Hole or Bottom Hole location is within 400 feet of any exterior boundary line of any City-owned property.
- **Section 43, Duplicate Notices**, provides provisions that copies of all notices required by any State regulatory agency be filed with the Community Development Director.
- **Section 44, Inspection of Premises**, requires that the Operator allow authorized City officials, or their designees, reasonable access to the Oil Field for the purpose of making inspections to ensure compliance with all provisions of the Specific Plan.
- **Section 45, Well and Production Reporting**, requires annual Production Reports be provided to the Community Development Director. Information to be contained in the Reports is also detailed.
- **Section 46, Idle Well Testing and Maintenance**, requires compliance with Title 14, Section 1723.9 of the California Code of Regulations regarding testing and maintenance of idle wells.
- **Section 48, Abandoned Well Testing**, provides provisions for testing of abandoned wells for hydrocarbon vapor leaks.
- **Section 49, Well and Well Pad Abandonment**, provides provisions for abandonment of idle wells; closure of sumps; well pad site cleanup; removal, treatment and/or disposal of contaminated materials; and well pad revegetation requirements.
- **Section 50, City Request for Review of Well Status**, provides provisions for the periodic review and status of the Operator's wells, and the City's right to request DOGGR's review of idle wells.
- **Section 51, Oil Field Abandonment Procedures**, requires that 180 days prior to permanent facility shut down, an Abandonment Plan be submitted to DOGGR and to the Community Development Director. This Section also provides additional details of shut down procedures including removal of all oil facilities within the Oil Field; quarterly progress updates; posting of a performance bond; and recontouring and revegetation of the site.
- **Section 54, Complaints**, provides details on how the Operator shall handle complaints received related to oil operations. This includes reporting requirements to the Community Development Director, Fire Chief, SCAQMD, and DOGGR.

- **Section 55, Community Outreach**, requires that the Operator hold an annual community meeting to provide updates on oil operations at the Oil Field.

3.1.7 SAFETY

Safety requirements are outlined in the following sections:

- **Section 12, Fire Operating Permit, Protection and Emergency Response**, provides requirements for: obtaining an Annual Operating Permit; on-site fire extinguishing equipment; responsibility for costs and expenses of City incurred fire training and equipment; fire prevention; an audit of fire-fighting capabilities; conducting annual spill containment response training and having sufficiently trained personnel with an adequate amount of properly maintained equipment and/or facilities to respond to a spill of the entire contents of the largest oil tank on the Oil Field; an Emergency Response Plan; establishing, maintaining and testing of a community alert notification system; conducting annual emergency response drills; and completion of a site assessment in the event of a spill, leak or discharge from a tank system.
- **Section 20, Safety and Risk of Upset**, requires the Operator to comply with the following provisions: notification of reportable accidents; having adequate blow out preventer equipment installed and maintained as required; well casing requirements; compliance with safety precautions; belt guard requirements; secondary containment for oil requirements; and retention basin requirements.
- **Section 52, Safety Inspection, Maintenance, and Quality Assurance Program (SIMQAP)**, requires a SIMQAP be prepared and submitted for review and approval by the Community Development Director and the Fire Chief. It also includes provisions related to the SIMQAP including review and revisions of the SIMQAP; SIMQAP requirements; worker notification for compliance with the SIMQAP; inspections required by the SIMQAP.
- **Section 53, Compliance and Safety Audits**, provides that the Community Development Director can require the Operator to fund a comprehensive third-party Compliance and Safety Audit of all or a portion of the Oil Operations within the jurisdiction of the City along with a Comprehensive Facilities Safety Audit, and contains provisions for such audits.

3.2 OIL FIELD CONSTRUCTION, DEVELOPMENT, AND OPERATIONAL ASSUMPTIONS

Information in this section came from multiple sources. Primary sources of information include, but is not limited to, the California Department of Conservation's *Final Environmental Impact Report, Analysis of Oil and Gas Well Stimulation Treatments in California* (SB4 EIR), which was used primarily for information related to typical oil field operations and for information related to well stimulation treatments. The Los Angeles County Department of Regional Planning's *Final Environmental Impact Report, Baldwin Hills Community Standards District* was used as guidance for characterizing current operations and construction activities at the Inglewood Oil Field, along with defining typical oil field operations associated with the City IOF. Additionally, the Inglewood Oil Field Operator at the time of the issuance of the NOP for this Draft EIR, Freeport McMoRan Oil and Gas (FM O&G), also provided information for this section (FM O&G 2016).

The following subsections describe the key oil field activities typical to oil field operations within the Inglewood Oil Field and also sets forth the assumptions for those activities reasonably expected to occur under the Project. For each key oil field activity described below, the section first describes "typical oil field operations" (as defined in Section 3.2.1) within the Inglewood Oil

Field, and then describes operations assumed under the Project's "Maximum Buildout Scenario" (as defined in Section 3.2.2).

3.2.1 TYPICAL OIL FIELD OPERATIONS

Typical oil field operations described for each key oil field activity below are those that could reasonably be expected to occur within the Inglewood Oil Field, both in the City and County portions. The "typical oil field operations" discussions under each key oil field activity heading below are not specific to any individual company or operator. Rather, it is intended to provide a general overview of typical oil and gas field construction, operations, and maintenance activities. This information is provided for context and for providing an overview of how oil fields are generally constructed, maintained, and operated.

3.2.2 MAXIMUM BUILDOUT SCENARIO ASSUMPTIONS

Implementation of the Specific Plan would result in the administration of a new regulatory framework that would govern future oil and gas development in the City IOF. There is not a "project applicant" and therefore, there is not a specific proposal or articulation of proposed activities that can be analyzed at this time. As previously discussed, FM O&G was the leaseholder and operator of the Project Site and the larger Inglewood Oil Field at the time of the issuance of the NOP for this Draft EIR; however, the new Oil Field Operator is Sentinel Peak Resources California LLC. There is no assumption that Sentinel Peak Resources California LLC will remain the leaseholder into the future.

As such, this Draft EIR analyzes the "Maximum Buildout Scenario," which is defined as a set of assumptions that identify and quantify potential oil field related activities that are reasonably foreseeable through the implementation of and conformance with the proposed Specific Plan. Defining oil field related activities based on the practices (past, present, or future) of a specific leaseholder or operator is not reliable, as these may change over time. The Maximum Buildout Scenario sets forth a combination of activities (e.g., construction, maintenance, and operation) that conservatively represents the potential impacts of oil field development in the context of the requirements and restrictions set forth in the Specific Plan and its related Drilling Regulations.

The Specific Plan would permit development of the City IOF over a period of 15 years, assumed to range from 2018 through 2032. However, once the maximum cap on new/re drilled wells has been met, no further development would be allowed. Drilling Regulation Section 31.B.1 provides that up to two wells may be drilled or re drilled each year, with the possibility of a third well included annually (subject to City approval) following the first year, provided that the total number of new or re drilled wells does not exceed the maximum cap of 30 wells. Under an accelerated development scenario (i.e., drilling three wells per year), it would be possible that the span of development could be as short as 11 years, rather than 15 years as allowed under the Specific Plan. Ultimately, the actual span of development would be based on future market conditions and other factors determined by the holder(s) of the lease of the Oil Field, but would not exceed 15 years. Because the Project would allow for activities in the City IOF to occur over time at an unknown rate of implementation through 2032, construction, maintenance, and operational activities would likely be occurring at the same time. Therefore, there would not be a defined short-term construction period and a defined long-term operational period, like there is for most land development projects. Hence, the impact analyses in this Draft EIR rely on the Maximum Buildout Scenario to set forth a conservative development scenario for activities in the City IOF for the purposes of assessing environmental impacts. These include the assumption that development activity would be consolidated into a shorter 11-year timeframe, which represents a conservative "worse-case" scenario for most environmental issues because this assumption

infers an overlap of multiple activities occurring concurrently that might otherwise be spread out as non-concurrent events. This Maximum Buildout Scenario discussed below is assumed for all topical impact areas (EIR Sections 4.1 through 4.15) unless otherwise specified in the topical section.

When appropriate, a quantifiable Maximum Buildout Scenario is articulated that assumes activities would occur simultaneously. If allowed under the Specific Plan and if it is reasonably foreseeable that the activities could occur simultaneously within the Project Site boundaries, then they are assumed to occur at the same time in order to set forth a conservative development scenario. These assumptions of simultaneous activities are summarized below and provided in more detail in each topical impact section of this Draft EIR. Additionally, some topical impact areas would require an assessment of impacts over time (e.g., annually) rather than in a discrete “peak” moment in time. When appropriate, an annualized quantification of impacts is described in the applicable topical impact areas (EIR Sections 4.1 through 4.15).

3.2.3 WELL PAD GRADING AND OTHER EARTHMOVING ACTIVITIES

Typical Oil Field Operations

Well pads are graded areas that contain oil pumps and/or injection wells, and they must be large enough to accommodate vehicular access and well drilling equipment. Well pads can be unpaved, with the slope of the earth angled in such a way that stormwater runoff is directed into a drainage channel or other stormdrain facility to capture the flows.

Well pads can vary greatly in size and the size depends on various factors, including topography and the number of wells that would be located on a pad (DOC 2015). Well pads in the Inglewood Oil Field, which includes the Project Site, have been up to 0.5 acre in size (LACDRP 2008).

The first step in preparing a well pad site is to clear vegetation (known as grubbing) and then to grade the site to level the surface area. Grading usually takes a maximum of four days to complete (LACDRP 2008). Equipment used for this operation is typically a bulldozer or backhoe. The soil is then cut or filled, watered, and compacted. The amount of cut/fill material is approximately 2,000 cubic yards (LACDRP 2008). In some cases gravel is also used to stabilize the site. Water and/or non-toxic soil stabilizers are used during site preparation to control dust, as required by the South Coast Air Quality Management District (DOC 2015). Site preparation, including grading and drill rig set-up, typically takes 14 days (LACDRP 2008).

Other graded pads may be required for tanks, piping and electrical equipment. If new storage tanks are found to be necessary to support activities allowed by the Specific Plan, Section 15 of the Specific Plan outlines requirements for construction of tanks and their supporting equipment. Section 15.G, Section 18, and Section 20.E provide requirements for dikes, retaining walls and secondary containment required around storage facilities, including storage tanks.

Section 20.E.2 of the Specific Plan requires all new pipelines to be above ground; therefore, there should be no trenching activities for pipelines. Access roads are located on the Project Site to ensure vehicular access, including emergency vehicle access, and must be able to accommodate fire trucks, drill rigs, and other large equipment. Section 21.K requires a Fugitive Dust Control Plan and regulates road and grading dust control measures.

Maximum Buildout Scenario Assumptions

This Draft EIR assumes that in the Maximum Buildout Scenario, one well pad would be graded on the Project Site. Development of the well pad would include grading equipment, on-site workers, and earthmoving of cut materials (presumed to be reused on site). It is assumed that no new access roads would need to be constructed to support any well pad construction. Table 3-1 summarizes the assumptions for equipment and personnel for well pad development on the peak day of construction.

**TABLE 3-1
PEAK DAY: EQUIPMENT AND PERSONNEL ASSUMPTIONS
FOR WELL PAD CONSTRUCTION**

Activity	Peak Values
Number of workers commuting* (day shift only)	7
Bull dozer or backhoe (day shift only)	1
5,000 gallon water truck (day shift only)	1
* Workers includes operator employees, contractors, inspectors, and other workers supporting construction activities Source: LACDRP 2008.	

3.2.4 NEW WELL DRILLING AND WELL COMPLETION ACTIVITIES

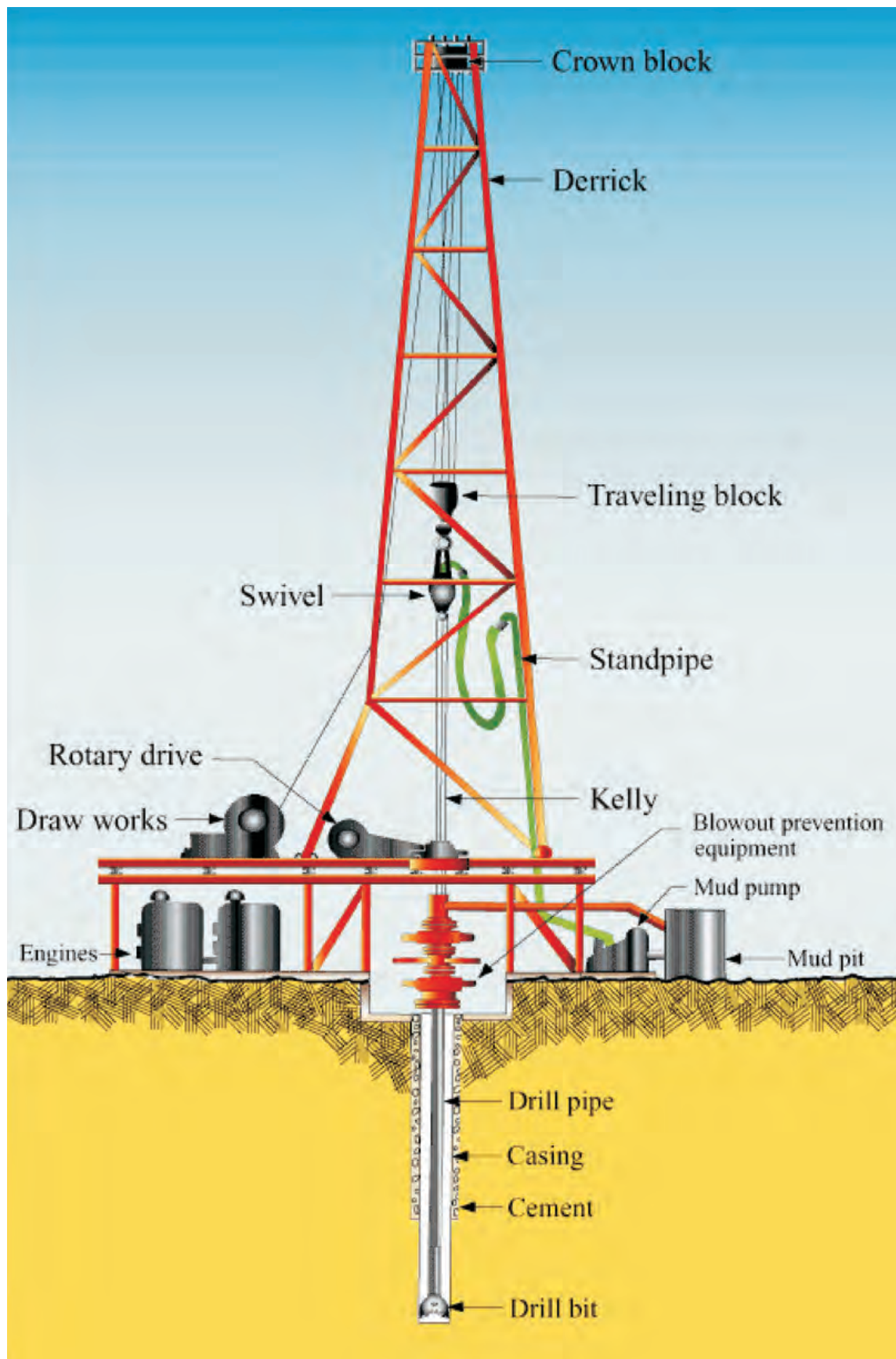
Typical Oil Field Operations

Well Drilling

Well drilling is the process of drilling a hole in the ground for the purpose of either extracting crude oil or natural gas resources, or for the injection of a fluid from surface to a subsurface reservoir or formation. Well drilling results in a new well, while re-drilling is performed on an existing well, although the equipment required and the process for re-drilling can be much the same as for drilling a new well. Well construction standards and drilling operation requirements are specified in the *California Code of Regulations* (see Title 14, Division 2, Chapter 4, Sections 1722.2-1722.6; DOC 2015). An example of the size and components included in a typical drilling rig is shown in Exhibit 3-1, Typical Drilling Rig. Drill rigs used at the Project Site could be as tall as 180 feet. Mobilization and rigging up of the drill rig typically takes five days (LACDRP 2008).

Oil wells are drilled using a drill string which consists of a drill bit, drill collars (heavy weight pipes that put weight on the bit), and a drill pipe. The drill string is assembled and suspended at the surface on a drilling derrick and run into the hole in the ground (see Exhibit 3-1). It is then rotated using a turntable, or motor, in order to cause the drill bit to advance downward through the formations and thereby extend the hole deeper into the ground. An initial spud hole is drilled, to a depth of about 30 feet, with a rat hole driller, and conductor pipe set. The conductor pipe is used to hold the initial “spud hole” open (DOC 2015).

While drilling, drilling fluid (i.e., mud, water, and soil) is pumped down the inside of the drill string and pushes the drill cuttings up the space between the casing and the drilled hole (wellbore), which is called the annulus, to the surface, where the cuttings are removed from the drilling fluid (drilling mud) by shale shakers. As the well is drilled and drilling fluid is removed by the cementing process, a series of steel pipes (known as “casings”) are inserted and cemented to prevent the



Source: CDC 2015

Typical Drilling Rig

Inglewood Oil Field Specific Plan Project

Exhibit 3-1

PSOMAS

boring from closing in on itself. The annulus is filled with cement, permanently holding the casing in place and further sealing off the interior of the well from the surrounding formation (DOC 2015).

Each length of casing along the well is commonly referred to as a “casing string”. Cemented steel casing strings are a key part of a well design and are essential to isolating the formation zones and ensuring integrity of the well. A cement barrier around the casing strings protects against migration of methane, fugitive gas, and any formation fluid, and it protects potential groundwater resources by isolating them from the oil, gas, and produced water inside the well. When initial drilling extends just below the base of fresh water, the casing is placed into the drilled hole. The surface casing is cemented from the shoe of the casing to the surface. Subsequent casing strings are cemented only as required through the oil and gas zones and anomalous pressure intervals. Casing strings are cemented at 500 feet above and at 100 feet above the base-of-fresh-water (BFW). Not all casings are cemented entirely. As surface casing is set and cemented, blowout prevention equipment is installed at the wellhead and tested (DOC 2015). A graphic depiction of a typical oil well is shown in Exhibit 3-2, Typical Well.

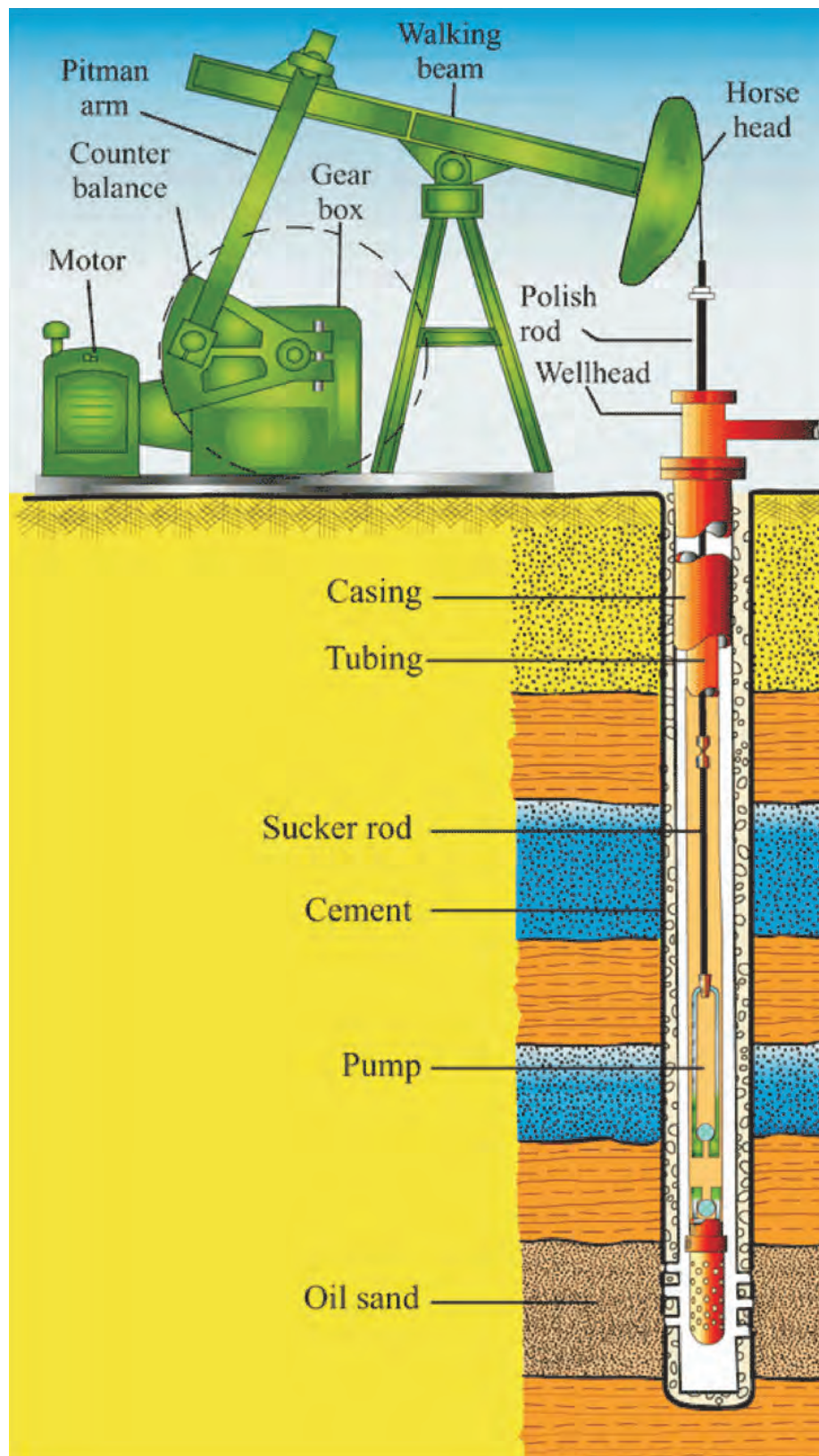
All drilling activities occur on a well pad that has been constructed to support drilling the well. Drilling equipment and materials are brought on site once well pad site preparation has been completed. This equipment includes a drilling rig, diesel-powered mud pumps; trailers for drill workers; storage racks for drill pipe and casing; oil storage tanks; water tanks; and a drilling mud tank. Drilling rigs generally require 500 to 3,000 horsepower, supplied by one or more diesel engines. Drilling is continuous until the target depth is reached (DOC 2015). The drilling rig and associated pumps typically used the Inglewood Oil Field are powered directly by diesel engines (LACDRP 2008).

In general, approximately 100 barrels (4,200 gallons) of water, which is typically fresh water, are used per day for the drilling process. Water is used for drilling the well, mixing mud, mixing cement, and displacing cement inside the casing of the well once the annulus has been filled. Although it varies between wells, the overall quantity of water required for drilling is based on the volume of the drilled area, which is calculated with the size of the hole and the depth of the well. Additional water is also required to replace water lost into the formation. The water would be brought to the site by water trucks (e.g., 5,000-gallon capacity). Drilling activities and the transport of labor and materials occurs on a 24-hour basis due to the complexity and hazards associated with leaving a well in the process of being drilled unattended. The drilling site would be lit at night to allow for 24 hour operation of the drill rig and the rig mast would be lit for aircraft safety (DOC 2015). The rig mast would be lit with at least one red flashing (L-864) light and two or more flashing (L-810) lights, which would be configured to flash simultaneously with the L-864 flashing light on the top of the structure at a rate of 30 flashes per minute (FAA 2016).

The total drilling operation (site preparation, drilling and testing) can take as much as six months to complete (DOC 2015). The time required for drilling operations (i.e., 24-hour drilling for the well hole) varies greatly depending on numerous variables, including the equipment being used, the well depth, the subsurface strata, etc., and can require up to 30 days.

Portable tanks are used to store drilling fluids, wellbore cuttings, and waste, which are a result of the drilling process. Portable tanks may be used to mix and store other needed liquids or slurries, such as drilling fluids, resin-coated sand, and completion fluids. Drilling fluids, generally bentonite mud, are used in the drilling process (DOC 2015).

Wastes related to oil and gas well drilling consist of earth formation materials (drill cuttings) mixed with the drilling fluid consisting of water and bentonite clay and other additives. Additionally, biocides, anti-corrosives, clarifiers, heavy metals, petroleum hydrocarbons, and brine can be



Source: CDC 2015

Typical Well

Inglewood Oil Field Specific Plan Project

Exhibit 3-2

PSOMAS

found in the produced water associated with drilling operations. Occasionally, a barite additive is used to increase the weight of the fluid, or a polymer is added to enhance other fluid characteristics. These polymer additives are degradable (DOC 2015). Analytical sampling of the drill cuttings (as known as mud cuttings) are sent to a state certified laboratory. When sampling analyses of the mud cuttings are produced from the laboratory, a review is completed to determine the preliminary remediation goals, as established by the EPA. If the mud cuttings are deemed non-hazardous, the mud cuttings are typically mixed with fill dirt to be reused onsite. If the mud cuttings are determined to be hazardous, they would be transported to an approved disposal facility offsite (LACDRP 2008).

Well Completion

Well completion follows the drilling phase. It is a separate phase that takes place after the well is drilled and cemented. A workover rig sometimes replaces the drilling rig for well completion, or the completion design may be rigless. Well completion, including the location of perforation, must be in accordance with the conditions identified on the Permit to Drill New Well that is issued to the owner/operator by DOGGR (DOC 2015).

The first step to complete a well is to perforate the casing to allow hydrocarbon fluid from the producing formation to enter the well. Perforations are simply holes that are made through the casing. Perforation uses a series of small, specially designed shaped charges, which are lowered to the desired depth in the well and activated by a perforating gun. These shaped charges create the holes in the steel production casing that connect its inside to the targeted geological formation, or production zone. This step is usually performed to create a channel between the producing formation and the wellbore. Each individual perforation is isolated by the cement surrounding the hole through which the perforation was cut. Additionally, the producing zone itself is isolated outside the production casing by cement above and below the zone. This isolation ensures that hydrocarbons and other fluids are unable to migrate anywhere except between the perforations and the wellbore (DOC 2015).

While hydraulic fracturing and other well stimulation treatments are described in some literature as synonymous with well completion or as definitely occurring during the well completion phase, this is not always the case. While well stimulation can and does occur as an additional operation during the well completion phase, it can also occur on existing wells to enhance the productivity of that well. Therefore, well stimulation treatments are discussed further below.

Testing, Production, Maintenance

Following well completion, well testing occurs. Testing and production are specified by the conditions of the Permit to Drill a New Well or the Permit to Rework a Well by DOGGR. The testing phase involves onsite separation of oil, gas, and water via gravity or centrifugal separation and measurement of their respective percentages of total production (DOC 2015).

An oil well is completed with a pumping unit (unless it is free flowing), and connected by pipeline (flow lines and gathering lines) to production facilities, which are located in the County IOF, but are not located at the Project Site. A gas well is completed with a separator and connected by pipeline to production equipment, which are located in the County IOF, but are not located at the Project Site (DOC 2015).

Production operations would occur 24 hours per day, seven days per week, and 365 days per year (LACDRP 2008). From the production facility, oil and gas is piped through a large network of existing crude oil pipelines to refineries in the Los Angeles area (DOC 2015).

Maximum Buildout Scenario Assumptions

As listed in Table 2-2, List of On-Site Wells located in Section 2.0, Environmental Setting of this Draft EIR, based on DOGGR data available at the time of the issuance of the Notice of Preparation (NOP) of this Draft EIR, there are 69 wells (i.e., active, idle, and abandoned) having top-hole locations within the Specific Plan boundary, of which 41 are active/potentially active (including 26 production, 10 injection, and 5 idle wells) and 28 are abandoned (DOGGR 2015). The baseline condition addressed in this Draft EIR is the operation of the documented 36 active wells, as this was the condition of the Project site at the time the NOP was issued. As discussed in Section 2.0, because the Oil Field Operator has the ability to alternate well status between active and idle in compliance with DOGGR regulations without any additional approvals from Culver City, the 5 idle wells may become active again at any time, with or without the proposed Project.

Drilling Regulations Section 31.B. would require a Drilling Use Permit prior to the commencement of any drilling, redrilling, or abandonment activities. Further, Drilling Regulations Section 31.B.1 restricts the maximum number of wells to be drilled or redrilled on an annual basis would be two wells per year for the first two years. If the Community Development Director determines that the Project is protective of the public health, safety and welfare, and the environment, then three wells per year may be drilled. Portable temporary tanks (e.g., Baker tanks) would be used to collect drilling fluids. No pits would be constructed or used to store drilling fluids. It is assumed that 100 barrels (4,200 gallons) of potable water would be used per day for the drilling process (Culver City 2017).

The maximum total number of 30 wells may be drilled (i.e., new wells) or redrilled (i.e., work on existing wells that does not meet the definition of “rework”) on the Project Site. This Draft EIR assumes that in the Maximum Buildout Scenario, the allowable maximum of 30 wells are drilled and that no wells are decommissioned during this time. Table 3-2 provides the assumed schedule of the well drilling activities in the context of existing, active (not idle) wells that are assumed to be operational in future years.

**TABLE 3-2
ANNUAL MAXIMUM NEW WELLS**

Year	Annual Maximum Number of New Wells	Existing/Future Conditions (Active Production and Injection)	Cumulative Total of Wells (Active Production and Injection)
Year 1: 2018	2	36	38
Year 2: 2019	2	38	40
Year 3: 2020	3	40	43
Year 4: 2021	3	43	46
Year 5: 2022	3	46	49
Year 6: 2023	3	49	52
Year 7: 2024	3	52	55
Year 8: 2025	3	55	56
Year 9: 2026	3	58	61
Year 10: 2027	3	61	64
Year 11: 2028	2	64	66

Drilling Regulations Section 21.J. requires a setback of at least 400 feet from Developed Areas and at least 75 feet from any public roadway within the City IOF for drilling or redrilling. Drilling Regulations Section 33.A. requires that no more than two rigs for reworking, maintenance and/or abandonment shall be present on the Project Site at any one time unless an emergency condition requires additional rigs (Culver City 2017).

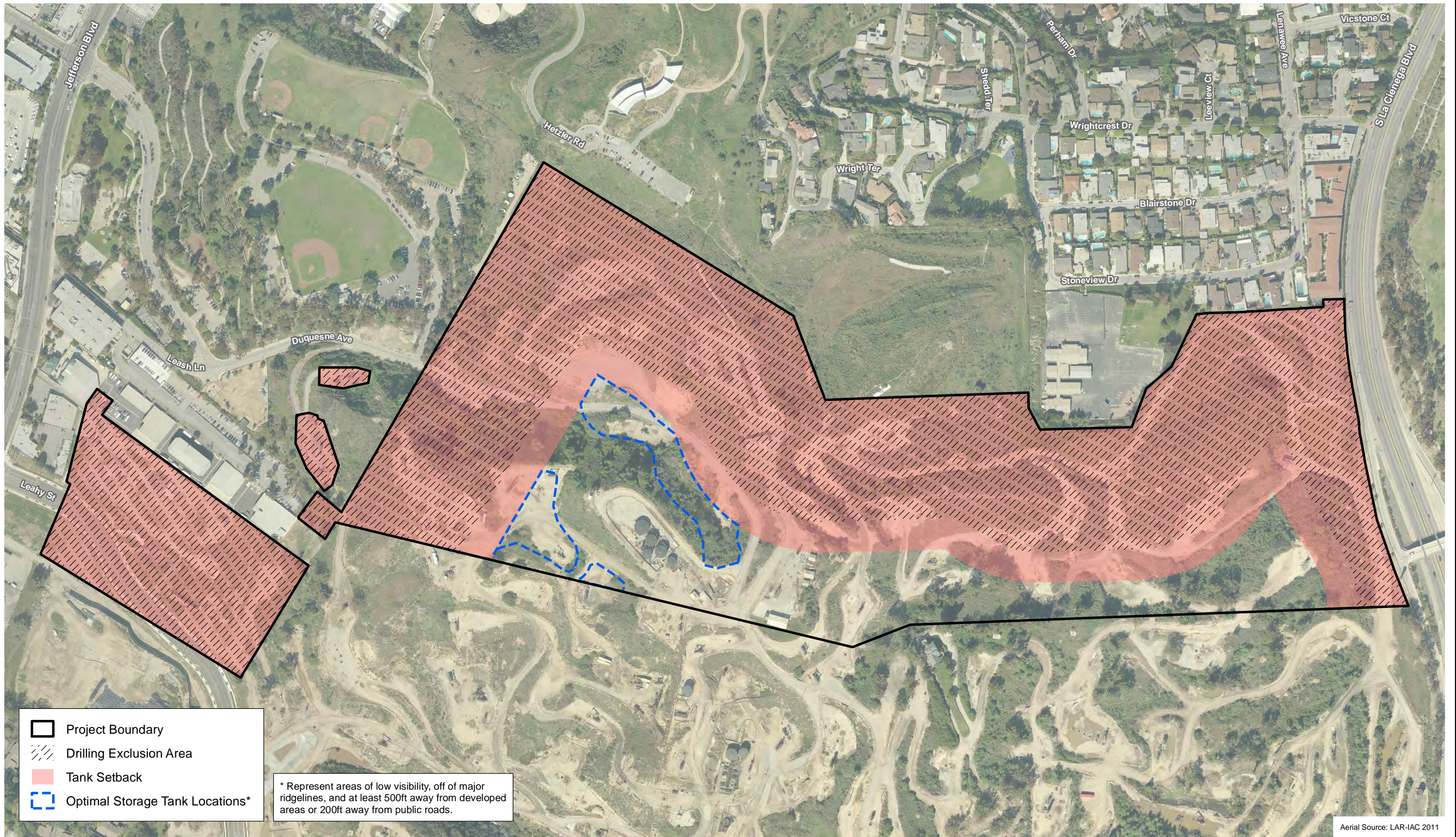
This Draft EIR assumes that in the Maximum Buildout Scenario, a 400-foot buffer would prohibit new drilling and redrilling activities within the buffer and would only allow drilling and redrilling in the areas shown on Exhibit 3-3, Maximum Buildout Scenario Constraints. Limits on simultaneous activity include one drill rig occurring at the same time as two rigs for reworking (see discussion above). New tanks may not be located within the shaded area depicted on Exhibit 3-3, Maximum Buildout Scenario Constraints, and the ideal locations for future tanks that have minimal visibility from surrounding land uses are outlined on the graphic. Table 3-3 below summarizes the assumptions for equipment and personnel for new well drilling on the peak day of construction. Redrilling activities are expected to be slightly lower than the values listed in Table 3-3 for new well drilling assumptions. Therefore, new well drilling assumptions were used for the Maximum Buildout Scenario. While the volume of mud and cuttings would vary depending upon the depth of the well being drilled, average daily generation rates were used because it is not known at this time to what depth the deepest new well may be drilled.

**TABLE 3-3
PEAK DAY: NEW WELL DRILLING ASSUMPTIONS**

Activity	Peak Values
Number of workers commuting (day shift) per drill rig	14
Number of workers commuting (night shift) per drill rig	14
Work trucks per drill rig	6
Drilling rig	1
Diesel powered mud pumps	2
5,000 gallon water truck	1
Daily average generation of mud	11,340 gallons
Daily average generation of cuttings	2,520 gallons
* Workers includes operator employees, contractors, inspectors, and other workers supporting construction activities. Source: LACDRP 2008.	

3.2.5 WELL STIMULATION TREATMENTS

The DOGGR defines a well stimulation treatment as “a treatment of a well designed to enhance oil and gas production or recovery by increasing the permeability of the formation” (Section 1761(a) of Title 14 of the California Code of Regulations) (DOGGR 2016). Importantly, the DOGGR specifies that well stimulation treatments do not include steam flooding, water flooding, or cyclic steaming operations, and do not include certain routine well maintenance and other routine activities that do not affect the integrity of the well or formation (DOGGR 2017a). Hydraulic fracturing is the most common type of well stimulation treatment. Other types of well stimulation treatments include acid matrix and acid fracturing. The SB4 EIR states that acid matrix stimulation and acid fracturing are not anticipated to be used for well completion during future operations in the Inglewood Oil Field (DOC 2015). Acid fracturing is suitable for petroleum reservoirs made of carbonate, which can be dissolved by the acids. This technique would not be efficient on the nodular shale formation found in the Inglewood Oil Field. Therefore, other forms of well



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Aerial Source: LAR-IAC 2011

Maximum Buildout Scenario Constraints

Inglewood Oil Field Specific Plan Project

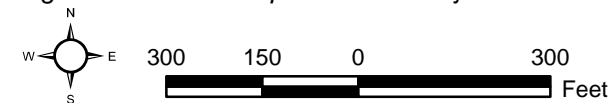


Exhibit 3-3



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stimulation, such as acid matrix stimulation, are not anticipated to be used in the Inglewood Oil Field and are not analyzed within this Draft EIR.

In California, hydraulic fracturing is by far the most common form of well stimulation treatment. During 2014, approximately 97.5 percent of the 652 well stimulation treatments in California were conducted using hydraulic fracturing (DOGGR 2017b). The DOGGR defines hydraulic fracturing as “a well stimulation treatment that, in whole or in part, includes the pressurized injection of hydraulic fracturing fluid or fluids into an underground geologic formation in order to fracture or with the intent to fracture the formation, thereby causing or enhancing, for the purposes of this division, the production of oil or gas from a well” (Section 3152 of Title 14 of the California Code of Regulations). Therefore, for purposes of this Draft EIR, well stimulation treatment is defined as a treatment that creates an exceedance of the fracture pressure of the targeted geological formation such that fractures are generated in the formation to facilitate the flow of hydrocarbons into the wellbore.

There are two types of well stimulation treatments that have occurred at the Inglewood Oil Field, although not in the City IOF. They are (1) conventional hydraulic fracturing and (2) high-volume hydraulic fracturing (Cardno Entrix 2012). Additionally, as discussed in Section 2.0, Environmental Setting, high-rate gravel packing has occurred in the Inglewood Oil Field and causes fractures in the geologic formation, but the purpose of the fractures is not to enhance production. Because hydraulic fracturing is more environmentally impactful than high-rate gravel packing, it has been assumed as the well stimulation activity that would occur on the Project site and evaluated in the Maximum Buildout Scenario, and is discussed in detail below.

Typical Oil Field Operations

Hydraulic fracturing consists of injecting water, sand, and chemical additives into the well over a short period of time at pressures sufficient to fracture the rocks to enhance fluid movement through the perforations and into the wellbore. When using conventional hydraulic fracturing as a well completion technique, water, sand and additives are used to fracture and stimulate the producing formation itself to a distance of up to several hundred feet from a well. This method is intended to affect the formation surrounding the perforated zone of the well, and enhance the permeability of the target producing zone itself. It is typically applied in sandstone, limestone, or dolomite formations. High-volume hydraulic fracturing is a higher energy well completion approach. It is generally applied to shales rather than sandstones that typically require a greater pressure to fracture. Sand and additives are used in the process, similar to conventional hydraulic fracturing; however, the primary distinguishing factor is the amount of fluid used in the process (Cardno Entrix 2012).

Hydraulic fracturing is not part of the drilling process. It is a well stimulation treatment applied to stimulate the well and maximize the extraction of underground resources from the target zone. Initial design of the well takes into consideration whether the well is planned to be hydraulically fractured. After the well is drilled and casing is cemented through the producing interval, perforations are made through the casing with small, specially designed charges which fracture the surrounding formation to allow hydrocarbon fluid from the producing formation to enter the well. Well stimulation may not be used until months or years after a well's production has been started (DOC 2015).

Site Preparation

At the request of an Oil Field Operator, hydraulic fracturing is performed by a service company that brings all of the necessary equipment onsite, except for water and flowback² tanks, which are provided by the well owner/operator. All onsite work is performed within an existing well pad. A well pad may contain more than one well that is hydraulically fractured during the same operation (DOC 2015).

Prior to arrival of the service company, site preparation is completed by the owner/operator and may include disassembly (“rig down”) and removal or repositioning of the drilling and other treatment equipment, delivery of water, and set-up of tanks to capture flowback fluids following the hydraulic fracturing process. The majority of treatments in California are pumped without a drilling rig (“rigless”) down the casing. However, some treatments are pumped down through tubing and require a workover or completion rig for running tubing into and out of the well hole (DOC 2015). It is unknown at this time, which, if any treatment methods, would be used at the Project Site. Exhibit 3-4, Typical Hydraulic Fracturing Operation includes a photograph of the type of trucks, storage tanks, and pumps required for a fracturing event on a typical well site.

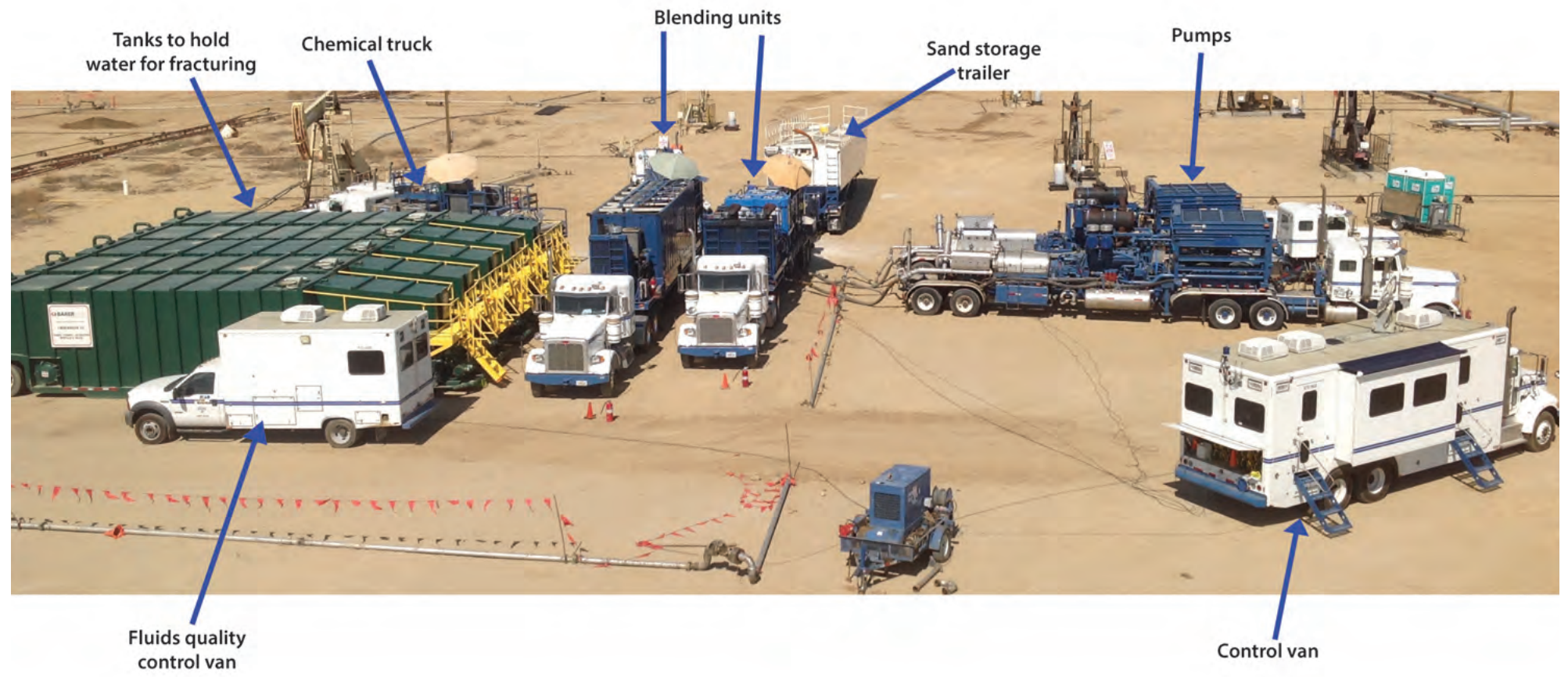
Hydraulic Fracturing Activities

There are several steps during the hydraulic fracturing process that together make up one “stage.” The fracturing treatments are delivered, one section or “stage” at a time, starting at the deepest extent in a vertical well, or at the farthest end of a horizontal well, and then working back towards the top of the producing zone, or where a directional well curves from horizontal to vertical (e.g., a well’s “heel”) and the entire horizontal length of the well has been fractured. After each stage is complete, the pressure in the well is reduced, and the downhole equipment is moved along the wellbore to set up the next stage. When ready, the well pressure is increased again for the next stage. A cement or cast iron bridge plug is put in place between each stage to keep the well from producing until each stage has been fractured (DOC 2015).

A typical hydraulic fracturing “job” contains one to five stages. Each stage takes between 30 to 60 minutes. For a typical job, the total on location time is approximately 16 hours. This includes two to four hours each for both setting up and disassembling the rig, two to four hours for pumping (20 minutes to one hour per stage), and the remaining time for a crew to set bridge plugs and perforate prior to each stage. Pumping is the loudest activity during the hydraulic fracturing process and the output noise is typically about 107 decibels (dB) in between the pumps. Depending on the size of the well pad, the noise attenuates to 80 to 90 dB at the edge of the site. The service companies have hearing protection plans in place for the crew, including use of noise cancelling headphones during pumping (DOC 2015). Table 3-4 lists the various hydraulic fracturing treatment steps.

² Flowback is a water-based solution that flows back to the surface during and after the completion of hydraulic fracturing. The fluid contains clays, chemical additives, dissolved metal ions and total dissolved solids (TDS).

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Source: CDC 2015

Typical Hydraulic Fracturing Operation

Exhibit 3-4

Inglewood Oil Field Specific Plan Project



**TABLE 3-4
HYDRAULIC FRACTURING TREATMENT STEPS**

Step/Treatment	Compound	Purpose	Duration
1 Acid Treatment*	Hydrochloric acid (HCl) (diluted with water to a 15% acid solution)	Cleans out wellbore and perforation holes; dissolves carbonate minerals and extra cement	3 minutes to 1 hour (if performed)
2 Pad (fluid without proppant)	Water plus additives	Opens fissures in the formation	2 to 30 minutes
3 Proppant	Water and progressively coarser natural or synthetic (ceramic) sand plus additives	Holds open the new fissures	30 minutes to 2 hours depending on volume
4 Flushing	Water	Flushes excess proppant back up the well	2 minutes to 1 hour
5 Flowback	Fracturing fluid then oil/gas over time	Removes fracturing fluid and begins pumping of oil/gas	3 to 14 days
* The Acid Treatment step is not generally used in California. Its use depends on the well and formation being treated. Source: DOC 2015.			

During a standard hydraulic fracturing operation, there are approximately eight to 15 employees on each shift and usually no more than one shift is needed per day. Additional personnel may be on site to observe and run ancillary equipment, as necessary. The pumping pressure is modeled and monitored on the well's annulus.³ Monitoring of the annulus pressure is key to assessing the condition and integrity of the well tubulars and to detect downhole problems. If the pressure rises above pre-set pressure limits, or in the event of an unexpected spike in pressure, operations automatically shut down. Likewise, in the event of an emergency or a leak on the surface, operations are immediately shut down (DOC 2015). The flowback of a well is the responsibility of the owner/operator, not the service company. At the conclusion of the final flush stage, the fracturing crew bleeds the pressure off of the treatment lines, breaks down and removes the equipment, and leaves the site (DOC 2015).

Water and Proppant Use

Water and proppants (solid materials designed to keep an induced hydraulic fracture open, during or following a fracture treatment) make up approximately 99.5 percent of the fluid used in hydraulic fracturing. Of that, 75 percent is typically water and 25 percent is typically sand. This proportion of water is based on the targeted formation. Much of the water and sand used remains in the hydrocarbon formation and is recovered slowly over time during production. The portion that flows back out of the well is typically either transported to water treatment facilities for recycling with produced water, or otherwise disposed (DOC 2015).

There have been high-volume hydraulic fracturing events within the County IOF. During these two events, approximately 94,248 gallons and 123,000 gallons of water were used per well (Cardno ENTRIX, 2012). However, the average water usage of 140,000 gallons per well for hydraulic fracturing activities within the state of California was used. This value was determined to be more

³ The annulus of a well is defined as any void between any piping, tubing or casing and the piping, tubing, or casing immediately surrounding it (e.g., the void between the drill string and the surrounding formation). The annular void forms the principal barriers between the produced oil and gas and its surroundings, thus providing pressure containment.

conservative because it is not known at this time to what depth or to what length wells may be stimulated within the City IOF (CCST 2015).

Stimulation Fluid and Chemical Additives

Chemical additives used in the stimulation fluid consist of a blend of common chemicals that increase water viscosity, help extend the fracture, and suspend/transport the proppant and water mixture farther out into the fractures. Additives also control bacterial growth; minimize swelling of clay particles in the formation; and inhibit corrosion to help maintain the integrity of the well. Additives include gels, foams, and other compounds. These other liquid and solid additives that may be incorporated in the fracturing fluid consist of the following: surfactants, a soap-like product designed to enhance water recovery; friction reducers; biocides to prevent microorganism growth; oxygen scavengers and other stabilizers to prevent corrosion of metal pipes; and acids to remove drilling mud damage (Cardno Entrix 2012).

Table 4.7-4, Typical Chemicals Use for Hydraulic Fracturing included in Section 4.7, Hazards, Hazardous Materials, Risk of Upset of this Draft EIR, lists chemicals used for hydraulic fracturing that was developed from disclosures in FracFocus. Although there are dozens to hundreds of chemicals which could be used as additives, there are a limited number which are routinely used in hydraulic fracturing. Table 4.7-4 lists the chemicals used most often. The CAS number is listed to avoid the issue of multiple names for the same chemical (FracFocus 2017).

Of the chemicals reported for well stimulation treatments in California for which toxicity information is available (compiled from the voluntary industry database, FracFocus), most are considered to be of low toxicity or non-toxic. However, a few reported chemicals present concerns for acute toxicity. These include biocides (e.g., tetrakis [hydroxymethyl] phosphonium sulfate; 2,2-dibromo-3-nitripropionamide; and glutaraldehyde), corrosion inhibitors (e.g., propargyl alcohol), and mineral acids (e.g., hydrofluoric acid and hydrochloric acid). Potential risks posed by chronic exposure to most chemicals used in well stimulation treatments are unknown at this time (CCST 2015).

On-Site Storage and Handling of Hydraulic Fracturing Additives

In addition to water and proppant storage, the major storage containers at any given site during the period of time between delivery and completion of continuous fracturing operations typically consist of all or some of the following (DOC 2015):

- Stainless steel vessels or plastic poly totes encased in metal cages, ranging in volume from 220 gallons to 375 gallons, which are strapped on to flatbed trucks pursuant to federal and State regulations;
- Tank trucks;
- Palletized 50- to 55-gallon bags, made of coated paper or plastic (40 bags per pallet, shrink-wrapped as a unit and then wrapped again in plastic);
- One-gallon jugs with perforated sealed twist lids stored inside boxes on the flat-bed; and
- Smaller double-bag systems stored inside boxes on the blending u.

Equipment Required

Table 3-5 lists the equipment used on a typical hydraulic fracturing job in California.

**TABLE 3-5
EQUIPMENT REQUIRED FOR EXISTING HYDRAULIC FRACTURING ACTIVITIES**

Equipment	Activity
Control Van	Fluid Quality and Data Monitoring*
Pump Truck	Pumping
Flatbed	Chemical Storage (holds approximately 10 tote tanks)
Manifold/Treating Iron Trailer	Haul Pipes
Tanker/Mixer (5,000 gallon)	Gel Storage and Hydration Unit
Blender	Blend Fluid and Proppant
Crane	Lifting Heavy Equipment
Sand Chief (150 ton capacity)	Sand Storage
Pickup Truck or Van	People/Tools Transport
Water Tanks (500 barrel laydown tanks or 400 barrel upright tanks)	Water Storage
Water Trucks (4,000 or 5,000 gallon) (if not available via pipeline)	Supplies Water
Sand Trucks (25 ton capacity)	Hauls Sand
* Workers in the monitoring van include individual personnel responsible for: (1) status of equipment; (2) monitoring blending; (3) engineering; (4) quality control of the fluid being pumped; and (5) observation (from the operator company). Source: DOC 2015.	

Fracturing additives are transported typically on flat-bed trucks that carry a number of various strapped on plastic or stainless steel totes which contain the liquid additive products. Liquid products used in smaller quantities are typically transported in one-gallon sealed jugs carried in the side boxes of the flatbed. Some liquid constituents, such as raw hydrochloric acid, are transferred in tank trucks that are lined and vented (DOC 2015).

Dry additives are transported on flat-bed bulk style tractor trailer units in 50- or 55-pound bags which are set on pallets containing 40 bags each and shrink-wrapped, or in sealed 5-gallon plastic buckets. When smaller quantities of some dry products, such as powdered biocides, are used, they are contained in a double-bag system and may be transported in the side boxes of the truck that constitutes the blender unit (DOC 2015).

The number of pumps used on any given job varies and is dependent primarily on the rate and pressure required for the treatment. In general, the same pumps are used for each of the treatment steps. The pumps generally range from 2,000 to 2,700 hydraulic horsepower (HHP) units and are able to pump up to 15,000 pounds per square inch (psi). Average dimensions of a 2,250 HHP pump and the fracturing and acid blenders, which are currently the largest features in use during hydraulic fracturing operations, are both approximately 43.0 feet in length, 8.5 feet in width, and 13.0 feet in height. The pump, blenders, and other hydraulic fracturing equipment are either powered directly by the diesel or gas engines, or indirectly by onsite electrical generators or distribution lines (DOC 2015).

Maximum Buildout Scenario Assumptions

According to the SB4 Draft EIR, the future well stimulation activities based on industry projections within the Inglewood Oil Field and its buffer area (i.e hydraulic fracturing and high-rate gravel packing combined) would be used on 0 to nearly 70 percent of new production wells, and none of the new injection wells. Of the new production wells it is projected that no more than 25 percent

would be hydraulically fractured. Acid matrix stimulation and acid fracturing are not anticipated to be used for well completion during future operations in the Inglewood Oil Field because this method is not optimum given the underlying geologic units (i.e., shale) in the Project area (DOC 2015).

The Specific Plan currently does not have any restrictions on the number of wells that may be hydraulically fractured annually or in total. Instead, a determination as to whether and upon what terms the adopted Specific Plan would allow well stimulation treatments to be conducted on the Project Site would be determined by the City Council after having reviewed the information available, including this Specific Plan EIR. To that end, and given the expectations set through SB4 Draft EIR regarding the anticipated frequency of well stimulation events within the Inglewood Oil Field, the maximum number of wells assumed to be hydraulically fractured at one time for the purpose of the Maximum Buildout Scenario is one. It is also possible that the number of wells that would be subject to hydraulic fracturing within the City IOF would also be one per year. While it is also likely that wells within the City IOF would be subject to high-rate gravel packing, the potential for application of hydraulic fracturing is possible, as this method has been utilized for at least three well locations within the County IOF (see Section 2.5 of this Draft EIR). Because hydraulic fracturing is more environmentally impactful than high-rate gravel packing, it has been assumed as the activity that would occur on the Project site and evaluated in the Maximum Buildout Scenario.

Table 3-6 provides a summary of well stimulation activities.

**TABLE 3-6
SUMMARY OF HYDRAULIC FRACTURING ACTIVITIES**

Equipment	Activity	Number	Duration of Use (days)
Number of Workers Commuting* (day shift only)	Operator employees, contractors, inspectors, and other workers supporting fracturing activities	18	2
Water	Water for Fracturing	140,000 gallons	Per Well
Control Van	Fluid Quality and Data Monitoring*	2	2
Pump Truck	Pumping	4	2
Flatbed	Chemical Storage (holds approximately 10 tote tanks)	1	2
Manifold/Treating Iron Trailer	Haul Pipes	1	2
Tanker/Mixer (5,000 gallon)	Gel Storage and Hydration Unit	1	2
Blender	Blend Fluid and Proppant	1	2
Crane	Lifting Heavy Equipment	1	2
Sand Chief (150 ton capacity)	Sand Storage	4	7
Pickup Truck or Van	People/Tools Transport	2	1
Water Tanks (500 barrel laydown tanks or 400 barrel upright tanks)	Water Storage	7	7
Water Trucks (5,000 gallon)	Supplies Water	28 round trips	Prior to hydraulic fracturing activities
Sand Trucks (25 ton capacity)	Hauls Sand	20 round trips	Prior to hydraulic fracturing activities
*Well stimulation activities are only performed during the day shift. Source: DOC 2015			

3.2.6 WELL REWORK ACTIVITIES

Typical Oil Field Operations

With any active oil field, maintenance activities must occur on active wells, and in particular the downhole portion of the well (i.e., the wellbore). In addition, as wells reach the end of their economically productive life, they are shut-in (i.e., idled) and eventually have to be plugged and abandoned as required by the DOGGR (specifically, *California Code of Regulations*, Title 14, Division 2, Chapter 4).

During the life of a well, rework may be necessary to restore production from an existing formation when it has fallen off substantially or ceased altogether. In compliance with the California Public Resources Code (Division 3, Section 3203), operators proposing to deepen or permanently alter the casing in a well must submit a Notice of Intention to Rework/Redrill Well (OG107) and receive a Permit to Rework/Redrill Well from DOGGR prior to commencing operations. Under DOGGR permitting requirements, all operations other than drilling new wells and abandoning existing wells are under the general classification “rework” (DOC 2015). Rework rigs used at the Project Site are typically 80 feet in height, whereas drilling/redrilling rigs used within the City’s portion of Inglewood Oil Field can be as high as 180 feet (LACDRP 2008).

Maximum Buildout Scenario Assumptions

Drilling Regulations Section 33.A. requires that no more than two rigs for reworking shall be present within the Project Site at any one time unless an emergency condition requires additional rigs (Culver City 2017). Table 3-7 summarizes the peak day rework activities that may occur at the Project Site. For the purpose of distinguishing “rework” from “drilling” under Specific Plan-defined Project activities, the redrilling of existing wells for the purpose of deepening or creating a new bore hole would have characteristics more similar to drilling than reworking.

**TABLE 3-7
PEAK DAY: REWORK ACTIVITIES**

Activity	Peak Values
Number of Workers Commuting per shift per well	4
Truck trips per day per well	4
Maximum number of Rework Drill Rigs	2
Source: LACDRP 2008.	

3.2.7 ROUTINE MAINTENANCE ACTIVITIES

Typical Oil Field Operations

Typical routine well maintenance consists of repair or replacement of wearable parts that have a limited service life or maintaining the tubing, wellbore or other downhole devices to maintain optimum efficiency. This routine maintenance includes the following types of activities (DOC 2015):

- Pump or rod replacement for production wells;
- Sand or fill removal from the wellbore or tubing;
- Replacement of downhole pumps and downhole power systems (electric or hydraulic);

- Tubing or packer replacement for injection or production wells;
- Scale or wax removal from tubing or casing;
- Adding a liner to an existing well; and
- Reperforating the existing zone(s).

Most maintenance activities are no longer in duration than seven days. The maximum number of hours for maintenance activities during the week is 12 hours. There are normally no maintenance activities occurring on the weekends.

Converting a well from an injection well to a production well or vice versa is considered maintenance as long as it conforms to an injection project approval and required testing is done and approvals are granted (DOC 2015).

Production operations would occur 24 hours per day, seven days per week and 365 days per year. Operational and maintenance activities at the Project Site involve extracting oil and gas from subsurface reservoirs. Processing the crude oil to remove water and processing the gas to remove hydrogen sulfide and gas liquids is done outside the Project Site but within the boundaries of the Inglewood Oil Field. Crude oil is then shipped by pipeline to area refineries to be processed into gasoline and other products. The gas is shipped by pipeline to The Southern California Gas Company (SoCalGas) for end use by consumers and industry or is shipped to area refineries for use in the refining processes (LACDRP 2008).

Well Plugging and Abandonment

If the well is not productive, it may be shut-in for a period of time (if over 6 months it becomes “idle”) and further evaluated. If a well does not have potential as a producer in a different subsurface or strata, it may be converted to an injection well, or it may be plugged and abandoned (as described later in this Section under Well Plugging and Abandonment) (DOC 2015).

In general, when a well is no longer capable of commercial production or service, it is plugged and abandoned with a combination of cement plugs, bentonite, and drilling mud. Occasionally, a production well must be plugged and abandoned because mechanical conditions, such as collapsed casing, have developed. Abandonment requirements are specified by DOGGR, and DOGGR staff witnesses all abandonment operations. The *California Code of Regulations* (specifically, Title 14, Division 2, Chapter 4, Section 1723) includes the requirements for the plugging and abandonment of wells (DOC 2015).

Maximum Buildout Scenario Assumptions

Section 31 of the Specific Plan outlines requirements for well abandonment under the Consolidation and Annual Drilling, Redrilling, Well Abandonment, and Well Pad Restoration Plan. Section 50 of the Specific Plan states that wells that remain idle for five (5) years shall be subject to abandonment and other requirements for well and well pad abandonment. However, for the Maximum Buildout Scenario, it is assumed that no wells are abandoned or plugged in order to provide the most conservative calculations for operations. Worker and other truck trips associated with routine operational and maintenance activities would occur. Table 3-8 summarizes the peak day activities for routine operations and maintenance.

**TABLE 3-8
PEAK DAY: ROUTINE OPERATION AND
MAINTENANCE ACTIVITIES**

Activity	Peak Values
Workers Commuting – General Facility Operations (weekday day shift)*	20
Workers Commuting – General Facility Operations (weekday night shift)*	1
Workers Commuting – General Facility Operations (weekend day shift)*	2
Workers Commuting – General Facility Operations (weekend night shift)*	1
Trucks – General Facility Operations	2
*The Culver City portion of the Inglewood Oil Field is approximately 10% of the entire field. These values are based on 10% of the maximum values estimated for the entire Oil Field.	
Source: LACDRP 2008.	

3.2.8 DECOMMISSIONING OF THE INGLEWOOD OIL FIELD

It is assumed that the Inglewood Oil Field, as a whole, would remain in operation until economic quantities of oil and gas are no longer available for recovery. The actual life of the Inglewood Oil Field would be based on the realized productivity of the site and economic conditions over time. Once the economic quantities of oil and gas are no longer available for recovery at the Inglewood Oil Field, the Oil Field Operator may choose to permanently shut down the facility. If, and when, that time comes, the Specific Plan has procedures the Oil Field Operator must follow before, during and after facility shut down.

As outlined in Section 52 of the Specific Plan, 180 days prior to permanent facility shut down, the Operator shall submit an Abandonment Plan to DOGGR and shall submit to the Community Development Director for review and approval a timeline for facility removal, site assessment, and remediation as necessary. The Operator shall begin abandonment of the site no later than 20 days after the Director's approval of the timeline. Quarterly updates on the abandonment process until such time as the Oil Field is abandoned and remediated are required by the Operator to be submitted to the Community Development Director. Immediately following permanent shut down of the facility, all facilities within the Oil Field shall be removed. The site shall be recontoured and revegetated in accordance with a City-approved plan within one year of shutdown. The Operator shall post a performance bond in an amount determined by the Community Development Director to ensure compliance with all provisions of this Section and the Operator and landowners shall continue to pay property taxes at the rates assessed during Oil Operations until all site restoration work has been fully completed, as determined by the Community Development Director. The Operator and landowners shall be jointly and severally liable for compliance with this Section. A partial closure of the facility, if feasible, shall be permitted as an interim step to full closure.

The activities associated with decommissioning of the Inglewood Oil Field, in particular within the City IOF, are expected to be less significant than those conditions resulting under construction, operation and maintenance activities. Also, since it is unknown at this time when the Inglewood Oil Field may be shut down, it is too speculative to attempt to estimate impacts associated with decommissioning. Although, it would be expected that generation of both air pollutant emissions and noise would be lower on future equipment, including equipment that would be used for decommissioning, than equipment being used today. Therefore, decommissioning of the Inglewood Oil Field is not specifically being analyzed in this EIR.

3.2.9 OTHER APPURTENANT FACILITIES

Typical Oil Field Operations

Processing Facilities

As mentioned in Section 3.2.5, Operation and Maintenance Activities, the crude oil is processed to remove water and the gas is processed to remove hydrogen sulfide and gas liquids. Oil extracted is routed from producing oil wells to automatic well test sites (20 total) and transferred via pipeline from the automatic well test sites to one of three main tank farms. The automatic well test sites contain small separators used to monitor production volumes from individual wells. There are also two smaller tank farm locations that gather emulsion and gas for transfer to the main tank farms and the gas plant. At the tank farms, oil and water is separated in large gravity settling tanks. The oil is skimmed off the tanks (continuous process) and routed to holding tanks. The water is pumped to a central water processing facility located in the County IOF (LACDRP 2008).

The majority of produced water is pumped from the tank farms to the central water plant in the County IOF where it is processed. This facility includes raw water tanks, clarifiers, multi-media filters, and filtered water tanks. Clarifier skimmings and filter backwash are routed to a settling tank where residual oil is skimmed, and solids settled. The remaining "clean" water is recycled back to the raw tanks (LACDRP 2008).

At the gas plant (located in the County IOF), the gas is compressed further and sent to the amine process unit where hydrogen sulfide and carbon dioxide are removed using an amine solution. The gas is then chilled via propane refrigeration or through a turboexpander (compression then de-compression of the gas to induce cooling) to condense gas liquids such as propane and butane. The "residual" or remaining gas is now of pipeline quality and is sold to either SoCalGas or the British Petroleum (BP) refinery in Carson, California. Both companies have pipelines that run directly to the gas plant (LACDRP 2008).

There currently are no processing facilities located in the City IOF and no new processing facilities would be allowed to be constructed on the Project Site as part of the Project.

Electrical

Extending existing electric power lines for the long-term operation of a new well may be necessary. A network of power lines traverses throughout the Inglewood Oil Field. There are three Southern California Edison (SCE) substations in proximity to the City IOF: the La Cienega Substation is located east of the West Los Angeles College campus; the Stanhill Substation is located 0.2-mile to the east of the La Cienega Substation within the County IOF; and the Windsor Hills Substation is located at the intersection of Stocker Street and La Brea Avenue (see Exhibit 2-3 in Section 2.0, Environmental Setting). Improvements and/or expansions to the existing electrical facilities within the City IOF may be required. Additionally, off-site improvements within the County IOF and/or at SCE facilities may be required.

If new distribution power lines are required in urban areas, they would tie into existing distribution lines or substations, which generally occurs in previously disturbed areas and along existing rights-of-way or roads where the existing line is located (DOC 2015). If expansions or improvements are required to electrical infrastructure, facilities would be built by the retail utility provider and would be regulated by the California Public Utilities Commission (CPUC). The local retail electricity utility provides the electric power supply, through the electric power load serving

entities, which are electrical corporations regulated primarily by the CPUC and Federal Energy Regulatory Commission (FERC). The CPUC has full authority over the operations of the investor-owned utilities. The local electricity service providers are obligated to maintain and extend electric distribution facilities and services to new customers upon request (DOC 2015). The CPUC (under CPUC General Order 131-D) specifically exempts installation of electric distribution and transmission lines less than 50 kilovolts from review under CEQA (State CEQA Guidelines Sections 15301, 15302, and 15303) (DOC 2015).

Lighting

Night-lighting that exists on-site is employed where needed to provide for essential nighttime operations and/or maintenance activities and/or as necessary to meet security needs at the Project Site. Where new oil wells are to be drilled, which require 24-hour drilling operations, lighting would be required on the work site drilling platforms to ensure a project's safety conditions. This may also create prominent sources of night lighting for the duration of drilling. The presence of light screening terrain features (e.g., hilly topography and existing vegetation) tends to limit the extent of potential spillover lighting from of the Inglewood Oil Field into surrounding properties (LACDRP 2008). New lighting would be installed for essential nighttime operations and/or maintenance activities and/or as necessary to continue to meet security needs at the Project Site. As discussed above, drill rigs require lighting to meet applicable regulations for aircraft safety.

Storm Water Basins

Runoff from the Project Site flows into the Dabney Lloyd Detention Basin. This basin is designed to capture storm water flows from developed areas of the City IOF and retain oil on site in event of a spill from process equipment or wells. A system of discharge piping and weirs at the basin allows the oil to be skimmed from the surface of the water, if necessary (LACDRP 2008). It is anticipated that no new detention basins would be required with implementation of the Project.

Waterflooding and Wastewater Disposal

Wastewater is a byproduct of many oil and gas extraction operations. At times these fluids can be cleaned and reused or applied for other purposes. Currently, the Oil Field Operator treats all produced water and injects it back into the subterranean oil producing formations, which is referred to as waterflooding. Waterflooding typically aims to keep the fluid pressure in the oil producing formation near original level in order to avoid the potential for subsidence. Waterflooding must continue in the oil producing formations in the City IOF and County IOF for subsidence mitigation to be successful.

Solid Waste

Solid waste can be generated in a number of ways during routine well operations and maintenance and drilling of new wells. During drilling operations, the major source of waste is the cuttings. As mentioned in Section 3.2.4, New Well Drilling Activities, the daily average generation of cuttings is 2,520 gallons per new well drilled (LACDRP 2008). The Specific Plan mandates that only one drill rig is allowed to be on site at one time (Culver City 2017). Therefore, only one new well would be drilled at one time. The average generation of cuttings at 2,520 gallons per well is not expected to change during future operations.

With implementation of the Specific Plan, it is anticipated that an additional 14 workers would be onsite during drilling activities. These additional workers are assumed to generate solid waste while at the Project Site. To estimate the volume of solid waste generated by the additional

workers, a generation rate of 8.93 pounds of solid waste per employee per day was applied, and is derived from the City of Los Angeles CEQA Thresholds Guide (2006) as provided on the California Department of Resources Recycling and Recovery (CalRecycle) webpage for Estimated Solid Waste Generation Rates (CalRecycle 2016). Based on this value, an additional 3.5 tons per year of solid waste would need to be disposed of in local landfills. Solid waste would be picked up within the County IOF by the Los Angeles County Sanitation District.

Maximum Buildout Scenario Assumptions

There would be no processing facilities constructed on the Project Site. Drilling Regulations Section 14, Major Facilities Prohibited, states that no Major Facilities shall be constructed in the City of Culver City. Major facilities include refineries, fractionation (such as distillation), absorption plants, gas plants, gas processing facilities, bioremediation facility, steam drive plant, oil cleaning plant, carbon dioxide separation or recovery plant, or water treating and processing facilities. Major facilities are, therefore, prohibited on the Project Site (Culver City 2017).

Construction of new storage tanks would be in accordance with the Specific Plan. According to Section 16.C. of the Specific Plan, no new storage tanks shall be constructed closer than 500 feet from any Developed Area or closer than 200 feet from a public road. No building shall be constructed within 50 feet of any oil storage tank. Whenever feasible, new tanks would not be placed on ridgelines and would be located such that they are not visible from residences, parks or other public area. As with the current condition, wastewater generated through Project implementation is assumed to continue to be re-injected back into the producing formation.

Lighting on the Project Site would be in accordance with the Specific Plan. Section 36, Lighting, of the Specific Plan, provides provisions concerning screening and preparing a Lighting Plan.

3.2.10 SITE ACCESS AND TRUCK ROUTE

As outlined in Section 38 of the Specific Plan, in the event deliveries of new drilling, maintenance or other equipment or the removal of old drilling rigs would utilize Culver City roadways, all truck routes and oversize vehicle trips must be approved by the Public Works Director/City Engineer prior to construction. The Drilling Project traffic shall avoid peak hours and residential roadways to the maximum extent feasible. The exact route would be determined when the truck route permit is applied for and would be dependent on factors such as road construction.

Vehicular access for the Project Site is from the County IOF. The main vehicle access for the Inglewood Oil Field is located on Fairfax Avenue south of Stocker Street for the southern fields and from the north leg of the intersection at Fairfax Avenue and Stocker Street. The Fairfax/Stocker entrance provides on-site access through internal roadways and bridges over La Cienega Boulevard. These access locations would not be altered with implementation of the Specific Plan. All employee and truck parking is provided outside of the Project Site but within the County IOF. The site access and parking at the Inglewood Oil Field would not change with potential future development (LACDRP 2008). However, there is a locked gate that provides access to the Project Site within the City of Culver City. This gate is located at the end of Duquesne Avenue in the Culver City Park.

3.3 PROJECT OBJECTIVES

Section 15124(b) of the State CEQA Guidelines (Title 14 of the *California Code of Regulations*) requires "A statement of objectives sought by the proposed project. A clearly written statement of objectives would help the lead agency develop a reasonable range of alternatives to evaluate in

the EIR and would aid the decision makers in preparing findings or a statement of overriding considerations, if necessary. The statement of objectives should include the underlying purpose of the project". Not only is a project analyzed in light of its objectives, compatibility with project objectives is one of the criteria used in selecting and evaluating a reasonable range of project alternatives. Clear project objectives simplify the selection process by providing a standard against which to measure project alternatives.

Consistent with the proposed Inglewood Oil Field Specific Plan, the City of Culver City has identified the following objectives for the proposed Project:

1. To maximize the potential for Oil Operations are conducted in a comprehensively coordinated manner consistent with a programmatic plan for a defined physical and in harmony with adjacent land uses and in a manner that protects the public health, safety and welfare, and the environment;
2. To facilitate cooperation with affected and adjacent government agencies in implementing all reasonable measures to reduce impacts to the surrounding communities;
3. To facilitate cooperation and coordination for multi-agency response to Oil Field emergency situations;
4. To minimize or eliminate potential adverse environmental, public health and safety impacts of Oil Operations by the implementation of area-specific regulations and mitigation measures;
5. To ensure, that existing Oil Field facilities are in compliance with the requirements of this Specific Plan before any new Oil Field drilling activities are permitted;
6. To minimize Oil Field emergencies and ensure that appropriate regulations are in place to assist affected and adjacent government agencies in identifying all reasonable measures to reduce impacts to surrounding communities in the event that an emergency occurs;
7. To enhance the appearance of the Oil Field site is enhanced with landscaping and other property maintenance requirements in order to preserve and improve the visual character and quality of the surrounding uses; and
8. To ensure that new applications for oil and gas Drilling Use Permits address the consolidation of Oil Field facilities to reduce odor, visual, noise, safety, health, and environmental impacts from Oil Operations to surrounding land uses and City residents.

3.4 DISCRETIONARY ACTIONS

3.4.1 CITY OF CULVER CITY PERMITS AND APPROVALS

This Draft EIR is intended to cover future discretionary actions related to activities on the City IOF subject to the Specific Plan. The Maximum Buildout Scenario establishes a set of assumptions used to describe a reasonably foreseeable worst-case scenario for implementation of development allowed under the Specific Plan. The Maximum Buildout Scenario assumptions are conservative in order to provide a comprehensive environmental analysis of potential environmental impacts of Specific Plan implementation. If development is proposed that results in environmental impacts not assumed within the Maximum Buildout Scenario or covered under the impact analysis and mitigation measures set forth in this Draft EIR, or if substantial changes to the circumstances under which the Project is undertaken and/or new information of substantial importance becomes available after the certification of this EIR, the City will evaluate the need for supplemental environmental documentation per Sections 15162 to 15164 of the State CEQA Guidelines.

The following is a summary of discretionary actions the City of Culver City will consider:

- Certification of Environmental Impact Report (EIR), P2015-0086-EIR;
- Adoption of the Inglewood Oil Field Specific Plan (SP), P2015-0086-SP;
- Adoption of Culver City Zoning Code Amendment (ZCA), P2015-0086-ZCA, which would (1) amend Zoning Code Section 17.610.010.D to specify that the Specific Plan regulations will apply to oil and gas production uses in the City IOF and (2) amend Zoning Code Section 17.570 to add new Section 17.570.030, which would identify the Inglewood Oil Field Specific Plan as an adopted and established specific plan; and
- Adoption of the following CCMC Amendments: (1) Repeal CCMC Chapter 11.12, Oil, Gas and Hydrocarbons which will be updated and superseded by the “Drilling Regulations for the Culver City Portion of the Inglewood Oil Field” contained in the Inglewood Oil Field Specific Plan; and (2) Amend the CCMC Chapter 9.07.060 (Noise Regulations, Exemption from Provisions) to add that oil operations within the City IOF are exempt from the provisions of the Chapter 9.07 Noise Regulations, and instead shall comply with the provisions of the Inglewood Oil Field Specific Plan.

Other future actions that must be implemented by the Oil Field Operator in accordance with the Specific Plan requirements and which may be determined to be covered under this Draft EIR, include the following (approving agency is denoted in parentheses):

- Comprehensive Drilling Plan (City Council)
- Annual Consolidation and Drilling Plan (Community Development Director)
- Deep-Zone and Mid-Zone Supplement Plan (Community Development Director)
- Drilling Use Permit (Community Development Director)
- Condition Compliance Plan (Community Development Director)
- Construction Permits (Building and Safety Division)
- Grading Permits (Department of Public Works)
- Clean Technology Assessment (Community Development Director)
- Annual and Temporary Operational Permit (Fire Chief)
- Emergency Response Plan (Fire Chief)
- Community Alert Notification System (Fire and Police Chiefs)
- Leak Detection and Control Plan (Fire Chief)
- Hot Work Permits (Fire Chief)
- Pipeline Management Plan (Fire Chief)
- Emissions Offsets (or RECLAIM Credits) Program (Community Development Director)
- Odor Minimization Plan (Community Development Director)
- Air Monitoring Plan (Community Development Director)
- Fugitive Dust Control Plan (Public Works Director/City Engineer)
- Quiet Mode Drilling Plan (Community Development Director)
- Geotechnical Investigation (Public Works Director/City Engineer)
- Accumulated Ground Movement Plan (Public Works Director/City Engineer)
- Accumulated Ground Movement Survey (Public Works Director/City Engineer)

- Fault Investigation Report (Public Works Director/City Engineer)
- Seismic Activity Tracking (Public Works Director/City Engineer)
- Erosion Control Plan (Public Works Director/City Engineer)
- Groundwater Monitoring Program (Public Works Director/City Engineer)
- Surface Water Management Plan (Public Works Director/City Engineer)
- Stormwater Pollution Prevention Plan (SWPPP) (Public Works Director/City Engineer)
- Spill Prevention, Control, and Countermeasure Plan (SPCCP) (Fire Chief)
- Hydrologic Analysis (Public Works Director/City Engineer)
- Recycling and Removal Plan (Public Works Director/City Engineer)
- Special Status Species and Habitat Protection Plan (Public Works Director/City Engineer)
- Cultural Resources Assessment (Community Development Director)
- Annual Drilling, Redrilling, Well Abandonment, and Well Pad Restoration Plan (Community Development Director)
- Active Pipeline Plot Plan (Fire Chief)
- Transportation Risk Management and Prevention Plan (Public Works Director/City Engineer)
- Lighting Plan (Community Development Director)
- Landscaping Plan (Community Development Director)
- Private Road Construction Plan (Public Works Director/City Engineer)
- Abandoned and Unused Equipment Removal Plan (Public Works Director/City Engineer)
- Directional Drilling Surveys (Community Development Director)
- Abandoned Well Testing Procedure (Public Works Director/City Engineer)
- Abandonment Plan (Community Development Director)
- Safety Inspection, Maintenance, and Quality Assurance Plan (SIMQAP) (Community Development Director and Fire Chief)

3.4.2 RESPONSIBLE AGENCY PERMITS AND APPROVALS

Future activities on the Project Site must be conducted in accordance with the Specific Plan. The Inglewood Oil Field Operator may need to obtain permits or other approvals from a variety of federal, state, and local agencies. This Draft EIR may be used as the applicable CEQA document of the issuance or future permits or other approvals. If development is proposed on the Project Site that results in environmental impacts not assumed in the Maximum Buildout Scenario or covered under the impact analysis and mitigation measures set forth in this Draft EIR, or if substantial changes to the circumstances under which the Project is undertaken and/or new information of substantial importance becomes available after the certification of this EIR, the responsible and/or trustee agencies will evaluate the need for supplemental environmental documentation per Sections 15162 to 15164 of the State CEQA Guidelines. The anticipated permits and approvals required for future activities on the Project site are summarized below; this list is representative of the typical permits an onshore oil and gas production facility would require but is not necessarily exhaustive.

Federal

It is noted that many applicable federal regulations and other requirements are implemented by State and/or local agencies. For example, hazardous waste regulations are enforced by the

California Department of Toxic Substances Control (DTSC) and the U.S. Environmental Protection Agency's (USEPA's) Underground Injection Control Program is implemented by DOGGR. Therefore, the federal agency listed below has a primary action on the Project that is not replicated at the State or local level.

- **U.S. Army Corps of Engineers**
 - For possible impacts to related to Clean Water Act (Section 401 Permit)
- **U.S. Department of Transportation, Pipeline Hazardous Materials Safety Administration**
 - Monitor and enforce requirements of the *Code of Federal Regulations* (specifically, Title 49, Parts 190 - 199 during pipeline construction, testing, and operation)

State

- **California Department of Fish and Wildlife**
 - For possible impacts to Waters of the State (Streambed Alteration Agreement)
- **California Department of Oil, Gas, and Geothermal Resources**
 - Permit to Conduct Well Operations/Permit to Drill
 - Permit to Rework/Redrill Well
 - Permit for Class II Injection Wells (Underground Injection Control [UIC] program)
 - Pipeline Management Plan
 - Spill Contingency Plan
 - Oil and Gas Bonds
- **California Department of Transportation**
 - Approval of Traffic Control Plan compliant with the California Manual Uniform Traffic-Control Devices
 - Transportation Permit for oversized/overweight loads
- **California Department of Toxic Substances Control**
 - Hazardous Waste Generator Identification Number
- **California Division of Occupational Safety and Health**
 - Health and Safety Plan
 - Injury and Illness Prevention Program
 - Emergency Response Plan
- **California Fire Marshal Pipeline Safety Division**
 - Inspect intrastate pipelines for regulatory compliance
- **California Public Utilities Commission**
 - Permit to Construct or Extend Facilities (Rule 3.1k)

- **California Water Resources Control Board**
 - Coverage under National Pollutant Discharge Elimination System (NPDES) Permit No. CAS000002, General Construction Activity Storm Water Permit and Storm Water Pollution Prevention Plan (SWPPP)

Regional

- **Los Angeles Regional Water Quality Control Board**
 - For possible Water Quality Certification Section 401 permits.
- **South Coast Air Quality Management District**
 - For air quality permits to construct and operate equipment.
 - For notification and reporting requirements for oil and gas wells (Rule 1148.2)

County/Local

- **Los Angeles County Fire Department (Certified Unified Program Agency)**
 - Hazardous Materials Disclosure and Business Plan
 - California Accidental Release Prevention Program Risk Management Plan
 - Spill Prevention Control and Countermeasure Plan for aboveground storage tanks above threshold limit
 - Fire Prevention Plan

Utilities and Other Entities

- **Southern California Edison:** Provision of electrical service to new facilities

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