

Appendix G

Summary of Oil and Gas Regulations in Other Southern California Jurisdictions

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G.1. Introduction

This appendix provides a summary of oil and gas permitting regulations within various jurisdictions in California. This synopsis includes information on how different jurisdictions have approached the permitting of oil and gas facilities, the types of permits issued and the general development standards used for permitting of facilities. The summaries attempt to capture the main intent of the regulations and contain much of the same language used in the ordinance, but it does not necessarily contain all the language imbedded in the regulations. For specific language the reader is referred to the referenced ordinance as published by the different jurisdictions.

This summary focuses on 13 different jurisdictions, including both counties and cities that have had extensive experience with oil and gas production and its regulations. The cities include Beverly Hills, Huntington Beach, Redondo Beach, Long Beach, Newport Beach, Seal Beach, Bakersfield, Signal Hill, and Santa Fe Springs. The counties reviewed and included in the summary are Santa Barbara County, Ventura County, Kern County, and Orange County. The Tables below compile information on development standards for the different issue areas and whether or not they are addressed in the oil and gas regulations by the various jurisdictions.

Table G.1 includes information on whether the oil and gas regulations for the various jurisdictions address issue areas or development standards that focus on general nuisance areas, such as odor, noise, light, dust, and vibration, or also as a general nuisance category.

Table G.1 General Nuisance

Jurisdiction	Issue Areas Addressed					
	Nuisance	Odor	Noise	Light	Dust	Vibration
Beverly Hills		√	√		√	√
Huntington Beach	√		√	√	√	
Redondo Beach	√	√	√	√	√	√
Long Beach			√	√	√	√
Newport Beach	√	√	√			
Seal Beach	√	√	√			√
Bakersfield	√		√	√		√
Signal Hill			√	√		√
Santa Fe Springs	√		√		√	
Santa Barbara County		√	√			
Ventura County	√	√	√	√	√	
Kern County	√		√		√	
Orange County			√	√		

Table G.2 compiles information on whether the various jurisdiction address health and safety issues within their jurisdictions. The areas reviewed include Fire, Air Quality, Setbacks, Fencing and the handling of Old Well Sites (or idle wells).

Table G.2 Health and Safety

Jurisdiction	Issue Areas Addressed				
	Fire	Air Quality	Setbacks	Fencing	Old Well Sites
Beverly Hills	√	√		√	√
Huntington Beach	√		√	√	√
Redondo Beach	√	√	√	√	√
Long Beach	√		√	√	√
Newport Beach	√				√
Seal Beach	√			√	√
Bakersfield	√	√	√	√	√
Signal Hill	√	√	√	√	√
Santa Fe Springs	√	√	√	√	√
Santa Barbara County	√	√	√		√
Ventura County		√	√	√	√
Kern County	√		√	√	√
Orange County	√		√	√	√

Table G.3 focuses on development standards that address visual or aesthetic issues such as landscaping, screening, paint and signage.

Table G.3 Aesthetics

Jurisdiction	Issue Areas Addressed			
	Landscaping	Screening	Paint	Signs
Beverly Hills	√	√		√
Huntington Beach	√	√	√	
Redondo Beach	√	√	√	
Long Beach	√		√	√
Newport Beach	√	√		
Seal Beach	√	√		
Bakersfield	√	√		√
Signal Hill	√		√	
Santa Fe Springs	√		√	
Santa Barbara County				
Ventura County	√	√	√	√
Kern County	√		√	√
Orange County	√		√	√

Finally, Table G.4 compiles information on miscellaneous development standards and whether they are included or not by the various jurisdictions. They include bonds, insurance, land stability, drill site size and worker facilities.

Table G.4 Miscellaneous

Jurisdiction	Issue Areas Addressed				
	Bond	Insurance	Land Stability & Grading	Drill Site Size	Parking & Worker Facilities
Beverly Hills		√	√		√
Huntington Beach		√			
Redondo Beach			√		
Long Beach					√
Newport Beach	√				
Seal Beach					
Bakersfield					√
Signal Hill	√	√	√	√	√
Santa Fe Springs	√				√
Santa Barbara County	√	√	√		
Ventura County	√	√	√	√	
Kern County					√
Orange County	√		√	√	√

Detailed information on the development standards for the different jurisdictions is provided below, including ordinance numbers, date of adoption of the ordinance and relevant excerpts of the development standards.

G.2. Beverly Hills

The City of Beverly Hills within Division 10, Chapter 5 of its Municipal Code includes regulations dedicated to oil and gas production. Specifically, Article 3 prohibits any oil operation unless permitted by the City, and seeks reasonable and uniform limitations and controls for the drilling of oil and gas. The Code was last amended in 1979. The more salient regulations are described as follows:

G.2.1 Drilling Restrictions

Subsurface areas within the city may be explored for oil and gas, and they may be produced by directional or slant drilling methods from surface locations outside the city and from designated locations within the city. Regulations are necessary in order to protect the citizens and residents of the city from oil odors, noise, dust, and the spreading of oil, dirt, and debris upon the public streets of the city, and to protect buildings and structures from vibrations, sinking, or other damages caused by the drilling for and production of oil and gas.

G.2.2 Permit Conditions

All drilling operations on a controlled drill site shall be conducted within closed buildings or structures in compliance with city standards. To the extent permitted by law, temporary drilling derricks and temporary foundations may be installed and used. Not more than one drilling derrick shall be in use at any one time.

All buildings, structures, equipment, systems, and operations located on a controlled drill site shall comply with, "Noise Regulations".

Buildings, structures, drill site enclosures, derrick enclosures, derricks, drill collars, dampers, landscaping, and the surrounding wall on a controlled drill site shall be completed in accordance with plans reviewed by the architectural commission and approved by the city.

No pump for the production of oil may be installed above the surface of the earth.

All tanks located on a drill site shall be approved by the American Petroleum Institute.

Any drilling derrick shall be completely covered inside and out with a fire retardant, soundproofing material in a manner and with materials approved by the fire department.

Soundproofing shall be installed around the drilling floor and work platform of any drilling derrick in a manner approved by the city.

Any drilling derrick shall be mounted on vibration isolators or springs to minimize the transmission of drilling vibrations to the ground and to surrounding areas. No drilling shall be commenced until the building official has approved the vibration isolators or springs. Drilling shall be discontinued at any time the building official determines that the vibration isolators or springs are not effectively isolating the vibrations from transmission to the ground.

All access doors to any drilling derrick shall be constructed to "seal" close. At all times when drilling is underway, the access doors shall be closed.

Within 30 days after commercial production has been established, adequate landscaping and screening, either with shrubbery, masonry, or concrete walls or their equal, shall be provided. All tanks shall be depressed so that the top of any tank and other equipment and appurtenances shall not extend more than five feet above the surface of any drill site.

Within six months after the completion of the drilling and the removal of the drilling derrick, any controlled drill site shall be landscaped with suitable shrubbery and trees in accordance with a plan approved by the architectural commission.

At all times after any drilling is started on a drill site, parking facilities shall be provided for use by vehicles employed in the drilling and maintaining of wells on the controlled drill site.

At all times vehicular access to a drill site shall be provided in accordance with the plans for vehicular access reviewed by the city.

All entrances to a drill site shall be equipped with sliding gates which shall be kept closed at all times except when authorized vehicles are entering or leaving the drill site.

Trucking for the delivery of equipment and supplies and for the removal of materials from a controlled drill site shall be limited to the hours between 8:00 A.M. and 6:00 P.M., Monday through Friday; provided, however, the city may further restrict the hours and days as a condition of issuing a permit if such trucking may interfere with traffic or be detrimental to the surrounding area.

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G.2.3 Noise

No permittee shall produce from any well or combination of wells in any manner so as to create any noise which would cause the noise level at any point on the exterior boundary of any controlled drill site to exceed the ambient noise level by more than five (5) decibels based upon a reference sound pressure of 0.0002 microbars, as measured in any octave band center frequency, in cycles per second as follows: 63, 125, 250, 500, 1,000, 2,000, 4,000, and 8,000, and for the combined frequency bands (all pass). The permittee shall shut down and discontinue production from as many wells as is necessary to reduce the noise to such limits at any time the building division notifies the permittee that its operation exceeds such noise limits.

a. All equipment, such as cathead motors, mud pump motors, and shakers, and all equipment used for the production of oil and gas or the operation of the production units, such as hydraulic pumps, shipping pumps, and compressors, shall be housed in buildings which have been acoustically treated so as to be soundproof in order not to permit any sound to be emitted.

b. All equipment located on any drill site which emits noise when operating shall be equipped with manufacturer supplied noise control devices or modifications of such devices that more effectively suppress noise levels.

All workover operations where permitted shall be restricted to normal daylight working hours of 8:00 A.M. to 6:00 P.M.

G.2.4 Pipelines

All oil and gas or oil or gas produced from any well on a controlled drill site shall be shipped and transported from a controlled drill site solely through pipelines.

a. All pipelines outside of such drill site shall be laid to a depth of at least three feet below the surface of the ground.

b. As soon as commercial production has been established in any new well, the acquisition of a right of way or the construction of a pipeline shall be started within ten days and work diligently until such pipeline is completed.

c. Any water or brine produced shall be disposed of in reinjection wells or by other means approved in writing by the city.

d. The permittee shall not install any pipeline in the city without the prior written approval.

Pipeline construction in the city shall be confined to normal daylight hours. Excavations shall be covered with plating to permit traffic use during construction. The permittee shall comply with the regulations of the city concerning the stacking or removal of fill generated during excavating.

G.2.5 General

All draw-works and pumps shall be electric powered.

All drill cuttings, rotary mud, and wastewater generated during drilling operations on a controlled drill site shall be disposed of by vacuum trucks. Any wastewater reinjection shall be accomplished by

approved API methods. No sump hole shall be permitted. All drill cuttings, rotary mud, and waste materials shall be removed from the controlled drill site upon the completion of drilling operations.

Private roads for ingress and egress to and from the drill site shall be surfaced with gravel, oiled and maintained in good condition at all times during drilling and production operations. No sign shall be erected on the drill site, except those required by law.

The permittee shall monitor drilling mud during drilling on any drill site for odorous substances and take such measures to eliminate any odor which would be perceptible outside the drill site.

In addition to conventional design features incorporated in construction plans and guidelines, the permittee shall provide automatic vapor detection sensors for hydrocarbons coupled to automatic shutdown mechanisms on any drill site.

All tools, pipes and other equipment in connection with the drilling and production activities at a controlled drill site shall be stored and kept on the drill site.

The permittee shall undertake no refining process or any process for the extraction of products from natural gas at a drill site, except for minor processes as necessary to make natural gas acceptable to city gas mains for domestic use.

The permittee shall protect the public water supply system on any controlled drill site against backflow in a manner approved in writing by the building official in conformity with the requirements of the Uniform Plumbing Code.

All utility services for any controlled drill site shall be provided underground.

All drilling operations shall be carried on diligently from the commencement of the drilling until the completion of the well or until such well is abandoned.

Within 90 days after the completion of drilling operations or the abandonment of further drilling, the derrick and all drilling equipment, including temporary tanks, shall be removed from any controlled drill site.

Well abandonment shall be in accordance with the requirements of the division of oil and gas of the state. Upon such well abandonment, the permittee shall restore the property as nearly as possible to its original condition and shall remove all concrete foundations, oil soaked soil, and debris, and all holes or depressions shall be filled to the natural surface.

Unless otherwise permitted by the city, no permanent derrick shall be installed or maintained on any drill site or used for the drilling or production of any oil or gas well.

Oil produced from such wells may be stored in steel tanks on a drill site. Unless otherwise permitted by the city, the total amount of storage for production, recycling, and all storage and operational purposes shall not exceed 2,000 barrels, and no tank shall exceed one 1,000 barrels capacity.

All firefighting equipment as required and approved by the fire chief shall be installed and maintained on any controlled drill site at all times during the drilling and production operations.

The council may restrict the use of certain streets, alleys, or roadways in connection with the permittee's operations. In the event any street, alley, or roadway is damaged by the permittee's operations, such damages shall be paid for by the permittee.

G.3. Huntington Beach

The Huntington Beach Oil Code was Codified as Title 15 of the Huntington Beach Municipal Code and was last updated in May of 1990.

The purpose of the code as stated by the City is to establish reasonable and uniform limitations, safeguards and controls for present and future operations related to the drilling for and production of oil, gas and other hydrocarbons so that this activity may be conducted in harmony with other uses of land, thus protecting the people in the enjoyment and use of their property and providing for their comfort, health, safety and general welfare.

G.3.1 Setbacks

It shall be unlawful to drill any well, the center of which at the surface of the ground is located within 25 feet

- (a) From any property boundary line, or
- (b) From any recovery heater, oil storage tank, or source of ignition, or
- (c) Within 100 feet of any building not necessary to the operation of the well, or
- (d) Within 300 feet of any building used for public assembly, institution or school, or
- (e) Within 25 feet of any public street, road or highway or future street right-of-way.

G.3.2 Lights

No person shall permit or allow any lights located on any oil operation site so that they shine directly on adjacent property or developed property in the general vicinity of the oil site.

G.3.3 Waste Removal

Rotary mud, drill cutting, oil or liquid hydrocarbons and all other oil field wastes derived or resulting from, or connected with the drilling or reworking of any well shall be discharged into a portable steel tank. Waste materials shall be removed from the operation site within 30 days from the completion of drilling, and shall be processed or disposed of according to all applicable regulations.

G.3.4 Sumps

Unlined sumps are prohibited. All such sumps shall be emptied, and all contaminated materials in and around the sump shall be excavated and processed or disposed of in accordance with all applicable regulations.

Primary lined sumps are prohibited. Secondary and tertiary lined sumps are permitted if they have a minimum construction of three inch thick reinforced concrete walls and bottom, and are maintained in sound condition. Covers for these sumps shall be provided according to specifications.

Covers for secondary and tertiary sumps, and waste water separators shall meet all of the following requirements:

- (1) The cover material shall be impermeable to volatile organic compounds and free from holes, tears, or openings.
- (2) Drains on covers shall be provided with a slotted membrane fabric cover, or equivalent, over at least 90%percent of the open area.
- (3) Gauging or sampling devices on the compartment cover shall be covered. The latter cover shall be kept closed, with no visible gaps between the cover and the compartment, except when the sampling device is being used.
- (4) Hatches on covers shall be kept closed and free of gaps, except when required for inspection, maintenance or repair.
- (5) The perimeter of a cover, except for rigid floating cover, shall form a seal free of gaps with the foundation to which it is attached.

These provisions do not apply to pits or catch basins which exclusively receive, hold, or discharge rainwater, storm water runoff, or non-contact cooling water, or to lined pits, cellars, and basins which are normally empty but used for the containment of spilled or leaked fluids.

G.3.5 Roads

All private roads used for access to the drill site and the drill site itself shall be surfaced with crushed rock, gravel or decomposed granite and maintained to prevent dust and mud.

G.3.6 Timing

No work can be conducted on any oil operation site within 300 feet of a dwelling unit, church, hospital, rest home, school, preschool, nursery, or other place of public assembly, except in the following situations:

- (1) When such work consists of minimum maintenance or surveillance on the oil operation site and the work is conducted between the hours of 7 a.m. and 10 p.m.; or
- (2) In case of emergency; or
- (3) When so ordered by the Division of Oil and Gas; or
- (4) Where the work being so conducted is soundproofed and such soundproofing is approved by the Fire Chief.

When operations are conducted beyond a distance of 300 feet from the aforementioned facilities, the Fire Chief may, in cases of disturbance such as excessive noise or vibration, require the oil operator to:

- (1) Enclose the derrick and all drilling machinery with fire resistant soundproofing material. No operations other than well logging shall be conducted outside the enclosure; or

(2) Enclose all drilling machinery used in connection with the drilling, redrilling, or reworking operations with fire resistant soundproofing material including the drilling mast or derrick,

No work can be conducted between the hours of 10 p.m. and 7 a.m. in connection with pulling a well which is within 200 feet of any residential building, except where circulation must be maintained, or the well would be endangered if the pulling work were not continued.

G.3.7 Wellhead Safety

All wells shall be connected to the casing string a two (2) inch steel valve with a rated working pressure equal to that of the corresponding casing head for the purpose of bleeding off casing pressure and for hookup to kill the well in case of an emergency.

Protection shall be provided to prevent blowout during oil operations as required by and in conformance with the requirements of the DOGGR.

G.3.8 Cellars

The following regulations apply to cellars:

- (a) Every cellar shall be constructed in accordance with the Huntington Beach Building Code and with the requirements of the California Division of Industrial Safety;
- (b) Except during drilling and servicing operations, cellars shall be kept covered, free from water, oil drilling fluids, rubbish, debris, and other substances;
- (c) All multiwell cellars exceeding three feet in depth and 25 feet in length shall have two separate means of exit or entrance. If the cellar exceeds 200 feet in length, a third means of entrance and exit shall be provided.
- (d) Multiwell cellars shall have a steel grate or covering with no unobstructed openings in excess of three inches.

G.3.9 Fencing

All oil operation sites, oil heaters and tanks, and idle wells shall be completely enclosed by a chain link fence, masonry wall, or other approved fencing material according to City requirements in combination with all applicable DOGGR requirements.

- (a) All chain link fence enclosures shall have a minimum height of six feet, topped with three strands of barbed wire, spaced four inches apart;
- (b) There shall be at least one gated opening for access;
- (c) There shall be no opening below the fence greater than four inches;
- (d) Support posts shall be set in concrete and shall be imbedded into the ground to a depth sufficient to maintain the stability of the fence as approved by the Building Division, but in no event less than 12 inches;
- (e) Fencing constructed of individual chain link panels shall be securely latched, pinned or hinged to prevent unauthorized persons from gaining access to such operation or drilling site;

(f) The chain link fabric shall be eleven (11) gauge galvanized steel and may be coated with vinyl or plastic material;

(g) Posts and rails shall be standard galvanized, welded pipe.

All masonry walls used to enclose in whole or in part any oil well site, oil operation site or drilling island site shall be constructed to the following specifications:

(a) The wall shall be of a design compatible with the facilities, buildings and structures on and adjacent to the site;

(b) The wall shall be at least six feet in height, topped with three strands of barbed wire, spaced four inches apart;

(c) It shall be constructed in accordance with the provisions of the Building Code.

(d) Barbed wire may be excluded from masonry perimeter walls if each individual pumping unit, oil heater, tank, and each piece of other oil operation equipment is protected with a fence that meets the same standards.

G.3.10 Recovery Heaters

All oil field recovery heaters shall have a valid State of California "permit to operate" and shall be equipped with and operated by safety controls which monitor essential operating conditions and which will shut down the boiler and require manual restart when any of the conditions vary from prescribed limits. An emergency shutdown switch shall be installed a minimum of 50 feet from the oil field recovery heater.

The distance between oil field recovery heaters and residential, commercial, and public assembly buildings shall be as follows:

(a) Oil-fired recovery heaters: 500 feet. The distance may be reduced to 100 feet when the heater is enclosed by a six foot high masonry wall;

(b) Gas-fired recovery heaters: 300 feet. The distance may be reduced to 50 feet when the heater is enclosed by a six foot high masonry wall;

(c) All oil field recovery heaters shall be separated a minimum of 25 feet from any oil storage tank, wellhead or public right-of-way;

(d) Oil field recovery heaters being operated in a developed area, shall be completely fenced, including the wellhead, with a six foot high chain link or other approved fence. All pumping units located within a developed area shall be operated by electric motors. Power for all electrical equipment shall be from the local electric utility distribution system and shall not be generated on site.

According to the ordinance, it is unlawful for any owner or operator to discharge into the open air the exhaust from any steam engine, internal combustion engine, stationary or mounted on wheels, used in connection with the drilling of any well or for use on any production equipment unless it is equipped with an exhaust muffler, or mufflers sufficient to suppress noise and prevent the escape of obnoxious gases, fumes or ignited carbon or soot.

G.3.11 Public Nuisance

No person shall conduct any oil operation in a manner that would create a noise, odor, or vibration detrimental to the health, safety or welfare of the surrounding neighborhood or any considerable number of persons. Such operation constitutes a public nuisance.

G.3.12 Fire Prevention

All electrical equipment used, installed or maintained within 50 feet of a drilling rig, or within 25 feet of any other oil operation shall be installed and maintained in accordance with all applicable regulations.

No boiler, pass-through boiler, steam generator, direct-fired heater, gas or oil-burning device, or other open flame shall be located closer than 25 feet to a wellhead or oil storage tank.

G.3.13 Oil Storage Tanks

All tanks used for the storage, production of oil, or the disposal of waste water shall conform to the following:

- (a) All tanks shall conform to American Petroleum Institute (API) specifications.
- (b) Structure used or operated in connection with any oil operation must be structurally sound.
- (c) All persons owning, operating or having control of storage tanks, clarifying tanks or tanks used in connection with the production of oil shall construct and maintain dikes around the tanks. Drainage dikes and walls shall be constructed and maintained to meet the standards of the National Fire Protection Association.

New tanks, replacement tanks, and permanent structures shall be set back pursuant to the standards of the National Fire Protection Association, but in all cases shall be at least a minimum of 25 feet from an ultimate right-of-way.

Setbacks-- With the exception of pumping units, no oil production equipment over 42 inches high shall be located or relocated within the safety-sight angle at street intersections.

G.3.14 Pipelines

Operators shall submit to the Fire Department a plot plan indicating the approximate location of all active onshore pipelines used in his operation which are located off the leasehold, including waste water, and trunk and gathering lines to transport crude oil or petroleum products.

G.3.15 Screening

All oil wells and tanks located in developed areas, as defined in this title, shall be screened by a fence enclosure constructed of one of the following materials:

- (a) A solid masonry wall;

- (b) A chain link fabric with three and one-half (3 1/2) inch mesh interwoven with redwood slats.
- (c) Any other material, compatible with surrounding uses, which effectively screens the oil operation site;
- (d) All fencing, masonry walls, redwood slatting, or other comparable materials for use with chain link fabric shall be of a solid neutral color, compatible with surrounding uses, and properly maintained. Neutral colors shall include sand, grey, and unobtrusive shades of green, blue and brown.

Within 60 days of completion of drilling or redrilling, or within 60 days of activation of an idle well if such well is located in a developed area, the well shall be screened by a fence enclosure which conforms to the requirements above.

Prior to the issuance of any drilling or activation permit, a landscaping plan shall be submitted for review and approval by the Fire Dept and Community Development. Within 60 days after completion of drilling or redrilling or within 60 days after activation of an idle well, any oil operation site in a developed area, shall be landscaped in conformance with the plan submitted and approved.

Landscaping shall not be required for any well which is not visible from a public street unless the well is within a public park, beach or recreation area which has been developed and open for public use.

Landscape Irrigation. When landscaping is required, the landscaped areas are to be irrigated by an automatic watering system which provides complete coverage to all landscaped areas. Maintenance shall include proper pruning, mowing, disease and rodent control, weeding, litter removal, fertilizing, watering, and plant replacement as necessary.

Trees shall be at least 15 gallon size, and shrubs shall be at least five gallon size. Minimum landscaping shall also include suitable ground cover. Dead vegetation and litter shall not be allowed to gather.

Painting. All production equipment on the oil operation site shall be kept painted and maintained at all times, including pumping units, storage tanks, heaters, and buildings or structures. Paint shall be of a neutral color, compatible with surrounding uses. Neutral colors shall include sand, grey and unobtrusive shades of green, blue and brown, or other colors approved by the Fire Chief.

Gas Emission or Burning Prohibited. No gases from production operations are to be vented into the atmosphere or to be burned by open flame except as provided by law or as permitted by the DOGGR and the appropriate air pollution control district.

G.4. Redondo Beach

Oil and gas regulations for the City of Redondo Beach are found within Title 4 of their Municipal Code and Chapter 11, Oil Wells. Redondo Beach regulations were adopted in 1970 for the purpose of establishing an uniform set of regulations for all applicants and protect the public.

G.4.1 Use of Engines

Either an internal combustion engine or electrical equipment may be used in the drilling operations of a well. If an internal combustion engine is used, mufflers shall be installed so as to reduce noise to a minimum. All tools, pipes, and other equipment used in connection with any drilling or production operations shall be screened from view. All drilling operations shall be conducted or carried on behind a solid fence which shall be maintained in good condition at all times and be painted or stained so as to render such fence as unobtrusive as practicable. Upon completion of drilling operations, all pumping units shall be operated by either electrical or hydraulic means. All existing pumping equipment, whether for the extraction, heating, or shipment of hydrocarbon substances, shall be accomplished with either electrical or hydraulic means.

G.4.2 Blowout Prevention.

During the drilling operations of any well, the following equipment shall be provided:

- (a) A drilling or master gate for closing the well in completely when the drill pipe is out of the hole;
- (b) A ram type gate or packing head assembly for closing the well in with the drill pipe or kelly in the hole;
- (c) In addition to the manual controls for closing the blind rams and the pipe rams, there shall be an approved type hydraulic closing system to activate both blind rams and pipe rams. There shall be two (2) points of control for the hydraulic shutoff system, one to be located in an easily accessible place immediately adjacent to the driller's platform where he can reach it in case of emergency; the second shutoff shall be located in an easily accessible place, but no closer than 50 feet to the nearest point of the derrick floor;
- (d) A high pressure gate for closing in the mud flow line when the packing head assembly is being used;
- (e) A high pressure mud fill-up line, with a high pressure gate, into the casing below the blowout preventer;
- (f) All master gates and ram type gates mounted on the casing shall have controls extending beyond the derrick floor;
- (g) All fittings shall be of sufficient strength to withstand one and one-half times the "top hole shut in pressure" of the well;
- (h) A minimum of one-hour fire protection shall be maintained between the manual control wheels and the well hole. Such protection shall extend overhead and on both sides to a minimum of four feet. All manual control valves shall be in an easily accessible place;
- (i) Any time during the drilling operation when the tools are out of the hole, the blowout prevention valve shall be closed; and
- (j) All fuel lines shall have shutoffs immediately adjacent to the derrick and a second shutoff a minimum of 100 feet or at a distance approved by the Fire Chief.

G.4.3 Mud Tanks

Portable metal tanks shall be used for the storage, mixing, or circulating of all drilling fluids, mud, oil, chemicals, or water used in drilling or production operations and, within 30 days of the completion of any well, shall be removed from the premises and the area restored to a clean condition. No earthen sumps or pits shall be used at any time for any purpose except that a small pit or hole may be used for cuttings coming from the well. This shall comply with all the safety rules and regulations and other provisions of this article.

G.4.4 Construction of Derricks

All derricks shall be constructed of noncombustible material; provided, however, derrick floors, double board, fourable board, pipe racks, sills, postings, walkways, mud ditches, bull wheels, calf wheels, and bank wheels may be of wooden construction. Derricks used with the drilling of the well shall be enclosed with fire-resistant and soundproof materials; provided, however, the City Manager may revise this provision if the derrick is more than 500 feet from any residence and operated in such a manner as not to constitute a noise or other nuisance. All portable masts shall meet the requirements of the API.

G.4.5 Enclosure of Site

Every oil well site shall be completely enclosed by a chain link fence or a masonry wall so constructed as to prevent any person, other than those legally authorized to enter, from having free access thereto; provided, however, the wellhead, storage tanks, and other facilities may be separately so enclosed in accordance with the provisions of this section.

- (a) If, in the opinion of the City, the enclosure of an entire oil well site or the enclosure of the separate facilities on such site would result in the inability of the operator to properly service or maintain the facilities on the site, the City may authorize the construction of separate fencing facilities with a different formula which would enable such operator to properly service or maintain such facilities.
- (b) Whenever any separator tank, storage tank, or other oil well production facility is required by the provisions of the Uniform Fire Code adopted by the City to be diked, such fence shall be constructed outside the periphery of such dike, except that fencing may be permitted on top of a dike, or portion thereof, where the dike is a solid concrete retaining wall.
- (c) Where existing fences, walls, grade differentials, or unusual circumstances prevail on or adjacent to any oil well site, required fences may be modified by the City, subject to site plan review. In the event of the subsequent removal of existing walls or fences or changes of existing grades on or adjacent to an oil well site previously approved by the City, a new site plan shall be submitted to the City for review and approval.

G.4.6 Masonry Wall Specifications

All masonry walls used to enclose in whole or in part any oil well site shall be constructed in accordance with the Standard Specifications for Public Works Construction.

- (a) Such walls shall be of a decorative design approved by the City as being compatible with the facilities, building, and structures on and adjacent to the site.
- (b) Such walls shall be at least six 6 feet in height.
- (c) Such walls shall be topped with a “V” shaped support carrying six strands of barbed wire.
- (d) Such walls shall be constructed in accordance with the provisions of the Uniform Building Code adopted by the City.

G.4.7 Gate Specifications

All chain link fences and masonry walls shall be equipped with at least one gated area. The gated areas shall meet the following specifications:

- (a) Each gated area shall be 12 feet wide where vehicle access is or may be necessary and shall be composed of two gates, each of which is six feet wide. The gates shall latch and lock in the center of the 12 foot span.
- (b) The gates shall be of chain link construction which meets the applicable city provisions.
- (c) The gates shall be provided with a combination catch and locking attachment device for a padlock, which shall be approved by the Fire Chief and kept locked except when being used for access to the site. In making his determination, the Fire Chief shall consider whether or not, and the degree to which, such device interferes with the ability of the Fire Department to obtain ingress into the site in case of an emergency

G.4.8 Setback Areas

- (a) Fences and walls shall not be placed in the front and exterior side yard setback areas of any lot or parcel of land as presently constituted, or as planned for future use, as shown on any element of the City’s general plan, or any master zoning plan or area zoning plan adopted by the Council.
- (b) Provided, however, any oil well, storage tank, or heater which is located in such a setback area shall be fenced or walled in accordance with a plan submitted to and approved by the City Manager. The fence or wall shown on such plan shall be in accordance with the other provisions of this article and shall not extend into any dedicated right-of-way.

G.4.9 Tank Standards and Storage of Oil.

The construction and placement of tanks, valves, and fittings and the storage of flammable or combustible liquids shall be in accordance with the provisions of Divisions I, II, and III of Article 15 of the Uniform Fire Code and any amendments thereto as adopted by the City. In addition, every person operating or maintaining any oil storage tank shall construct and maintain around and outside the tank a wall or dike constructed of a size sufficient to hold the full capacity of all storage tanks within such wall or to hold the full capacity of all storage tanks within such wall or dike, plus an amount of oil equal to ten (10%) percent of the capacity of such storage tank. Such wall or dike shall be constructed under the supervision of and to the satisfaction of the Fire Chief.

G.4.10 Annoyance and Injury.

All production equipment used shall be so constructed and operated that no noise, vibration, dust, odor, or other harmful or annoying substances or effects which can be eliminated or diminished by the use of greater care shall be permitted to result from anything incident thereto to the injury or annoyance of persons living in the vicinity; nor shall the site or structure thereon be permitted to become dilapidated, unsightly, or unsafe. Proven technological improvements in methods of production shall be adopted as they, from time to time, become available if capable of reducing factors of nuisance or annoyance.

G.4.11 Restriction of Hours of Operation.

If any nuisance is created by any noise caused by hammering on pipe, racking pipe, making up joints or connections, or the acceleration or deceleration of motors, or if any other sounds are created to disturb the neighborhood, such as by drilling, redrilling, reconditioning, workover operations, transporting drill pipe, running drill pipe into or out of holes, picking up or laying down pipe casing, tubing, or rods, running casing, tubing, or rods, or cementing or logging operations, drilling or production operations may be restricted to the hours of 8:00 a.m. to 6:00 p.m.

(a) Except in cases of emergency, no materials, equipment, tools, or pipe used for drilling operations shall be delivered to or removed from the drilling site except between the hours of 8:00 a.m. and 6:00 p.m.

(b) No oil shall be removed by truck from the well site except between the hours of 6:00 a.m. and 6:00 p.m.

G.4.12 Extinguishing Lines.

When required in the judgment of the Fire Chief or his duly authorized representative, every steam boiler located within 100 feet of any oil well or oil storage tank shall be equipped with a water or steam line not less than one inch in diameter, piped from a point outside the retaining wall where required into the boiler fire box. Such water or steam line shall be controlled by an emergency valve to be located as designated by the Fire Chief.

G.4.13 Emergency shutoff valves.

Where required in the judgment of the Fire Chief, every steam boiler located within 100 feet of any oil well or oil storage tank shall be equipped with an emergency quick acting valve so located, outside the retaining wall where required, as to completely shut off all fuel feed lines to each and every boiler. Such valve shall be located not more than two feet from the valve controlling the steam or water line to the fire box.

On all dry gas lines used for the purpose of furnishing fuel to boilers, or for the agitation of petroleum products within tanks, holders, or containers, there shall be installed a positive shutoff valve at or near the point of entry to the lease or at a suitable location designated by the Fire Chief or his duly authorized representative.

G.4.14 Number of Production Tanks.

Not more than two portable production tanks shall be installed for each well, neither one of which shall have a rated capacity in excess of 1,000 barrels; provided, however, if in the opinion of the City Manager it is necessary in order to provide for the maximum safety of operations or to decrease the number of individual production tank settings on any property, the City Manager may increase the number of such production tanks to not more than three, having a greater capacity not to exceed 2,000 barrels each. Such portable production tanks shall be permitted only during drilling operations and shall be removed within 30 days after the drilling is discontinued or completed.

G.4.15 Waste Control.

All waste oil and weeds shall be controlled in accordance with the provisions of Section 15.1003 of the Uniform Fire Code and any amendments thereto as adopted by the City. In addition to the requirements of said Section 15.1003, all property on which is located an oil well site shall be kept free of: debris; pools of oil, water, or other liquids; weeds, brush, and trash.

G.4.16 Dehydrating Tanks.

Tanks used for heat treating petroleum, or products thereof, shall not be of the open type, nor shall the capacity of any such tank exceed 1,000 barrels. Tanks into which petroleum or any products thereof exceeding a temperature of 170 degrees Fahrenheit are discharged or stored shall be equipped with a suitable vent. Such vent shall be tightly connected to a vapor recovery system of a type approved by the Fire Chief or his duly authorized representative.

G.4.17 Paint.

(a) All pumping units, storage tanks, heaters, and exposed pipelines, and any building or structure located on any oil well site, shall be painted at least every three years with a top coat and a rust preventative base coat.

(b) All oil production facilities and any structure, or any oil well site, shall be kept reasonably free from rust at all times.

(c) The top coat shall be any color which has been approved by the City for compatibility with the neighborhood.

G.4.18 Screening Oil Storage.

All oil shall be stored in underground tanks constructed so that no portion thereof will be above the surface of the ground, unless such storage above the ground will not deter with the aesthetic value of the surrounding property, and may be allowed upon the proper permission by the City if the area is fully landscaped and the tanks are enclosed by trees of adequate size so as to screen them from public view and are more than 300 feet from the nearest residences and properly fenced as required. All trees, landscaping, and shrubs shall be kept in good condition.

G.4.19 Burial of Lines.

All gathering and injection lines outside the fenced or walled area shall be buried, except in oil well sites located in areas zoned for industrial uses.

G.4.20 Storage of Equipment.

(a) No equipment shall be stored on the site which equipment is not essential to the everyday operation of the oil well located thereon.

(b) All storage facilities shall be subject to the approval of the City Manager.

(c) No equipment shall be stored except within the fenced area of the site.

G.4.21 Landscaping.

All oil well sites shall be landscaped in accordance with the following requirements:

(a) The front and exterior side yard setbacks which are left open in accordance with the provisions shall be landscaped in a manner in keeping with the character of the neighborhood with ground cover, trees, and shrubs.

(b) The area along the periphery of, and within the wall or fence, shall be landscaped with trees and shrubs in an attractive manner so as to screen the facilities therein from view. Artificial screening may be used to supplement such landscaping.

(c) All ground cover, bushes, and trees shall be maintained in a healthy, neat, clean, and attractive condition.

(d) All landscape materials shall be watered with a fully automatic, clock operated, irrigation system.

The City Manager may grant an exception to the landscaping provisions for any oil well site where any of the following conditions apply:

(a) The site is located on land zoned for industrial uses;

(b) The site is located more than 300 feet from any residence; and

(c) The absence of landscaping will not be materially detrimental to the property of other persons located in the vicinity.

G.4.22 Abatement of Dilapidated Structures.

Any storage tank, heater, or other oil producing facility, or any building or structure used as an accessory to an oil producing facility and which is located on any oil well site, shall be demolished and removed from the site if, in the opinion of the City Manager, the useful life of such facility or structure has been substantially completed or such facility or structure is no longer structurally capable of withstanding the forces required by the Uniform Building Code.

G.5. Long Beach

Long Beach has been producing oil and gas since early in the 20th century and developed a number of regulations to guide oil and gas drilling and production in the area. The regulations used by the City of Long Beach are known as the “Long Beach Oil Code.” The main purpose of the code is to regulate drilling and re-drilling for the production of petroleum products so that these activities may be consistent with the Uniform Fire Code. It also attempts to ensure harmony with other land uses and minimize the potential economic effect of lessening land values in areas where oil production may not be the predominant land use. The Long Beach Oil Code (Title 12, Oil Production Regulations), was last updated in 1980. The sections below summarize the most salient points of the current Long Beach oil and gas regulations.

G.5.1 Well Permit.

No person shall operate or maintain any well for petroleum operations, whether active or suspended, without obtaining a permit from the director. This permit shall be designated as a well permit.

To the extent provided by State or Federal law or regulation, the Zoning Regulations shall apply to all development including development by the City of Long Beach or use of property within the City, whether public or private, tidal or submerged. The regulations provide as follows:

G.5.2 General.

Take into account their relation to any existing hospital, sanitarium, church, rest home, school or dwelling unit or guest room within the distances set forth in this code.

G.5.3 Lights.

All lights shall be shielded or directed so as to confine direct rays to the drill site.

G.5.4 Vibration.

Vibration from equipment shall be kept to a minimum, and in such cases as it is required, vibration dampening equipment of the best available technology shall be installed so as to reduce vibration to a minimum.

G.5.5 Aesthetics and Improvements

All surfaces of permanent installations within the site shall be painted a neutral color.

The drill site and all installations thereon shall be fenced with a fence not less than six feet in height, fencing shall be constructed of solid masonry or solid wood walls with solid gates or an alternate material equally as effective in concealing oil operations. Fencing required under this subsection shall be painted a neutral color compatible with the immediate surrounding area. Such fencing shall be maintained in a neat and orderly condition.

Landscaping and irrigation shall be in compliance with a landscape plan and approved by the director prior to issuance of the drilling permit. The minimum landscaping shall consist of one tree of not less than fifteen-gallon size for each one hundred square feet of area outside the drill site fence; three shrubs for each tree and suitable groundcover.

Offsite improvements shall be required for all drilling projects and include plans for gutters, curbs, and sidewalks.

All equipment or materials related to petroleum operations shall be stored within the fenced area of the site.

G.5.6 General

When pipeline connections are available, petroleum produced at the well site may be removed by underground pipeline or pipelines. Petroleum produced at well sites where pipeline connections are not available shall be removed by truck. Such trucking shall be limited to Monday through Saturday, excluding legal holidays, between the hours of seven-thirty a.m. and six-thirty p.m..

Delivery or removal of equipment or material from the well site shall be limited to Monday through Saturday, excluding legal holidays, between the hours of seven-thirty a.m. and six-thirty p.m..

The number of tanks shall be kept to a minimum and new tanks shall be installed so that the height of the tank does not exceed sixteen feet above grade.

Gas shall not be vented to the atmosphere, nor burned by open flame, unless prior approval therefore is obtained from the State Division of Oil and Gas.

G.5.7 Wells

No well permit shall be issued unless landscaping is installed and maintained to screen and buffer the full perimeter of the well site from adjoining nonindustrially zoned properties.

No oil well shall be drilled within seventy-five feet of the exterior boundary of any dedicated public street, highway, railroad right-of-way or private street.

No well shall be located within one hundred feet of any building, nor shall any such building be erected within one hundred feet of any well not abandoned, except buildings incidental to the operation of the well.

No well shall be located within three hundred feet of any building used as an auditorium, institution or school; nor shall any such building be erected within three hundred feet of any well not abandoned.

To encourage the consolidation of oil production facilities whenever feasible so as to make surface land areas available for productive non-oil surface use, special consideration shall be given to modification of well setback requirements when necessary to make feasible the use of sites for consolidated oil drilling surface facilities.

During drilling and redrilling operations, protection against blowout shall be provided in accordance with DOGGR.

G.5.8 Natural Gas Processing Facilities

Prior to establishing or expanding any natural gas processing facility, the applicant shall submit fencing and landscaping plans to the satisfaction of the director. Such plans shall contain as a minimum a solid block fence not less than eight feet in height separating the use or the expansion from the public right-of-way (plus any transition necessary to reasonably enclose an expansion area).

G.5.9 Noise

No person, either as owner, agent, or operator, shall conduct any drilling, or redrilling operation at any well located within certain oil operating areas in any manner so as to create any noise which causes the exterior noise level when measured at the property line of any single or multiple-family dwelling unit, guest room, commercial building, school, hospital, church, or public library to exceed the noise level standards set forth in Table 1. The exterior noise level generated by the drilling or redrilling operation shall be continuously monitored to ensure conformance to the noise level standards. The costs of such monitoring shall be borne by the operator conducting such operation.

Table 1 Noise Levels

Cumulative Number	Noise Level	Standards, dBA
of Minutes	Daytime	Nighttime
In any One- hour Time Period	7:30 a.m. to 9:30 p.m.	9:30 p.m. to 7:30 a.m.
30	50	45
15	55	50
5	60	55
1	65	60
0	70	65

If the existing ambient noise level, exclusive of existing drilling activity, at the nearest adjacent dwelling unit, guest room, commercial building, school, hospital, church or public library property line to the requested oil drilling site does not exceed the permitted nighttime noise levels in Table 1 for any period, then the following regulations shall apply:

1. The only activity permitted between the hours of nine-thirty p.m. and seven-thirty a.m. will be “on bottom” drilling, with single joint connections. None of the following will be done during the hours of nine-thirty p.m. and seven-thirty a.m.:
 - a. Hammering on pipe;

- b. Racking of pipe;
- c. Acceleration and deceleration of engines or motors;
- d. Use of drilling assembly rotational speeds that cause more noise than necessary and could reasonably be reduced by use of a slower rotational speed;
- e. Picking up or laying down drill pipe, casing, tubing or rods into or out of the drill hole.

2. If the measured ambient level exceeds that permissible within any of the first four noise limit categories in Table 1 above, the allowable noise exposure standard shall be increased in five-decibel increments in each affected category as appropriate to encompass or reflect the ambient noise level. In the event the ambient noise level exceeds the fifth noise limit category, the maximum allowable noise level under said category shall be increased to equal the maximum ambient noise level.

3. If the difference between the noise levels with noise source operating and not operating is four decibels or greater, then the noise measurement of the alleged source can be considered valid with a correction applied to account for the contribution of the ambient noise.

Drilling or redrilling operations on any well located within the oil operating areas shall be enclosed with soundproofing material. Soundproofing shall comply with accepted A.P.I. standards and shall be subject to fire department regulations. All doors and similar openings shall be kept closed during drilling operations, except for ingress and egress and necessary logging and well completion operations. Alternate materials or methods of soundproofing may be used, provided that such alternative has been approved by the director and the fire department.

G.5.10 Storage

Oil or other liquid storage facilities are established incidental to a producing well on a drill site, the total capacity of such storage facilities shall not exceed two thousand barrels per well.

Tanks shall be designed, constructed, installed and maintained in accordance with provisions of Title 8 of the California Administrative Code.

Loading by truck from production tank sites shall be in accordance with the Fire Dept. regulations.

G.5.11 Fire Prevention

All electrical equipment used, installed or maintained within 50 feet of a drilling well and within 25 feet of a producing well shall be in accordance with the provisions of NFPA Standard No70, Article 501 governing class 1, division 2, hazardous locations.

No internal combustion engine (except those used for the drilling, redrilling, or servicing of a well), storage tank, boiler, fired equipment or open flame shall be located closer than 25 feet to a producing well nor closer than 100 feet to a drilling well.

Flammable waste gases or vapors shall not be discharged to atmosphere.

Maintain a minimum of two fire extinguishers at all well locations where drilling, redrilling, workover or well servicing is taking place.

G.5.1 Pipelines

Conduct pressure tests with at least 125% of the actual pipeline pressure.

Operators need to provide to the City a map with the location of all pipelines.

G.6. Newport Beach

Oil and gas regulations are described as part of Section 20.81.010 of the City Code as amended in 1997. Generally it states that no person shall erect or construct oil drilling derricks or oil drilling equipment within the City, or shall drill from the surface or by subterranean drilling, for oil, petroleum, tar, gas or other hydrocarbon substances within the City, or shall build or establish refineries for the purpose of refining petroleum, oil, gas, tar or other hydrocarbon substances within the City; except, that it shall be lawful under the provisions hereof to drill for oil and gas or other hydrocarbon substances by slant drilling or subterranean drilling in and under the area hereinafter described; provided, that the drilling sites shall be located outside of the City limits and that such drilling shall be at a vertical depth of at least four hundred (400) feet below the ground surface within the area mentioned and hereafter described. The area in the City in which slant drilling or subterranean drilling shall be permitted is limited to certain geographical areas per the City code.

G.6.1 Election Required for Permitted Area Alteration--Intent and Purpose

A. Any proposed change in or expansion of the area within the City in which slant drilling or subterranean drilling is allowed by Section 20.81.010, shall first be submitted to the qualified electors of the City for approval or disapproval. If a majority of the qualified electors vote in favor of such a question, then and only then shall the City Council have the power to act on such question. This section shall apply only to the boundaries of the City as they exist on April 13, 1954, together with any territory in the process of annexation on said date. This section shall not apply retroactively to any drilling operation or contract entered into prior to the effective date of this section.

B. It is specifically declared that it is the intention of this section that it shall apply solely to the question of a change in or expansion of the area in which slant or subterranean drilling is permitted and shall not apply to any other question involving the drilling for or production of oil, gas or other hydrocarbon substances within or under the City, or its tide and submerged lands.

G.6.2 Fire Prevention

Every person who was at the effective date of Ordinance 372 conducting, carrying on, maintaining or engaging in any of the businesses designated in Section 20.81.010, and who continues such operation, shall conduct the same so as to prevent fire hereby or therefrom which may endanger, injure or destroy the property of any person within the City.

G.6.3 Creating Nuisances Prohibited

A. No person shall conduct within the City any of the businesses enumerated in Section 20.81.010 in such manner that the noise, smell, odor or gas produced thereby obstructs the free use and enjoyment by others of their property.

B. No person shall permit any of the businesses enumerated in Section 20.81.010 to become offensive to the senses or to permit the same to interfere with the complete enjoyment of life or property by others.

G.6.4 Watchman Required

No person shall permit or allow a standing derrick or other oil drilling equipment upon any lands within the City without a watchman in constant charge and attendance, and the leaving of any well, whether in operation or not, without a watchman in constant charge and attendance, shall be and constitute a nuisance within the meaning of this Chapter, which nuisance may be abated.

G.7. Seal Beach

The Seal Beach Code was last amended and adopted in 2004 under Title 5 of the Municipal Code, Business Licenses and Regulations, Chapter 5.55. The more important aspects of the Oil regulations are detailed below.

No oil/gas production permit shall be considered by the city council until the city council has approved the boundaries of the final exploratory area.

An application for approval of the boundaries of the proposed exploratory area shall be required and the applicant shall describe the real property in and outside the city that the applicant proposes to explore for oil and gas purposes. The main regulations are summarized as follows:

All drilling shall be done by means of a steel derrick enclosed with fire proofed and soundproofed material, and operations shall be carried on diligently from the commencement of the drilling until the completion of the well or until the well is abandoned.

All drilling and production equipment shall be operated by either electric or muffled internal combustion engines. All engines shall be equipped with Maxim Silencers or other types of mufflers satisfactory to the city.

No sump holes shall be permitted, and rotary mud, drill cuttings, and other waste material from drilling operations shall be discharged into a steel tank. Such tank, drill cuttings, rotary mud, and waste material shall be removed from the controlled drill site upon completion of drilling operations.

During all drilling or production operations, except in the case of emergency, all equipment or supplies to be delivered to the drill site shall be transported, trucked, or conveyed to the drill site and unloaded only on Monday through Saturday between the hours of 8:00 a.m. and 6:00 p.m. As soon as commercial production has been established in any new well, acquisition of a right-of-way or the construction of a pipeline shall be started within 10 days and work thereon diligently prosecuted until such pipeline is completed in order to eliminate the trucking of oil. Except in cases of emergency, all oil and gas shall be shipped and transported through pipelines when completed. All pipelines outside of the drill site shall be laid to a depth of at least 3 feet below the surface of the ground.

Private roads for ingress and egress to and from the drill site shall be surfaced with gravel and maintained in good condition at all times during drilling and production operations.

Within 90 days after the completion of drilling operations or abandonment of further drilling, the derrick and all drilling equipment, including temporary tanks, shall be removed from the drill site. Well abandonment shall be in accordance with the requirements of the DOGGR. Upon well abandonment, the permittee shall restore the property to its original condition and shall remove all concrete foundations, oilsoaked soil, and debris; all holes or depressions shall be filled to the natural surface.

Within 30 days after commercial production has been established, there shall be completion on each controlled drill site adequate landscaping and screening, either with shrubbery, masonry, or concrete wall or their equal. All tanks shall be depressed so that the top of any tank and other equipment and appurtenances shall not extend more than 5 feet above the surface of any controlled drill site.

Oil produced from wells may be stored in steel tanks on the site. The total amount of storage for production, recycling, and all storage and operational purposes shall not exceed 2,000 barrels, and no tank shall exceed 1,000 barrel capacity.

All drilling and production equipment installed or operated upon any controlled drill site shall be constructed, operated, and maintained so that no noise, vibration, odor, or other harmful or annoying substances or effects are produced. Proven technological and mechanical improvements in methods of drilling and production and in the type of equipment used shall be adopted from time to time, as they become available.

The city council may amend any permit at any time, and require the permittee to abate any noise or vibration which constitutes a nuisance and is detrimental to persons or property in the vicinity where equipment is being operated.

All of the operations at the drill site shall be conducted in a careful and orderly manner, and the premises shall at all times be maintained in a neat, clean, and orderly manner.

All fire-fighting equipment as required and approved by the fire chief shall be installed and maintained on the controlled drill site during the drilling and production operations.

No earthen sump shall be used or maintained on any controlled drill site, and all waste water, mud, oil, or other waste products from drilling and producing operations shall be accumulated in steel tanks.

The city may restrict the use of streets, alleys, or roadways in connection with the permittee's operations. In the event any street, alley, or roadway is damaged by the permittee's operations, such damage shall be paid for by the permittee.

No permanent derrick shall be installed or maintained on any controlled drill site or used for the drilling or production of any oil or gas well.

After an oil and gas well is placed on production, all equipment with moving parts in use at such well shall be securely enclosed in a building or by an adequate type of fence or approved wire screen or housing, sufficient to prevent the entry of unauthorized persons to such moving parts.

G.8. Bakersfield

The intent and purpose of the Bakersfield Oil and Gas code is to regulate the drilling, redrilling and recovery of oil, gas and other hydrocarbons, including injection wells, so that these activities may be conducted in a manner that: a) protects public health, safety and welfare; b) conforms with established codes and regulations; c) minimizes the potential impact to property and mineral rights owners; d) encourages drill site consolidation; and e) protects the quality of the environment. The Chapter is contained within the Title 15, Building and Construction, Miscellaneous Regulations, Chapter 15.66 Drilling for and Production of Petroleum. The code was last amended in 2002. The general provisions are summarized below.

No person shall drill, operate or maintain any well or well site for petroleum, natural gas, or related drilling, nor operate or maintain any production operation without first obtaining a permit from the City. Applications for drilling/production permits shall be made in writing to the director of prevention services. Permits are classified as follows:

1. Class 1. The well site and/or production operation is:

- a. Within an area zoned for residential development; or
- b. Located less than five hundred feet from a dwelling except those for use by a caretaker or night security on the same parcel, or public assembly as defined in this chapter.

2. Class 2. The well site and/or production operation is:

- a. Within an area zoned for commercial, light manufacturing or open space, or
- b. Located between five hundred and one thousand feet from a dwelling unit except those for use by a caretaker or night security on the same parcel, or public assembly as defined in this chapter, provided no well or related structure for production is located less than five hundred feet from said uses.

3. Class 3. The well site and/or production operation is:

- a. Within an area zoned for general manufacturing, heavy manufacturing, or agricultural, or is within the primary floodplain, or the secondary floodplain, provided no well or related structure for production is located less than five hundred feet from a dwelling except those for use by a caretaker or night security on the same parcel, or public assembly as defined in this chapter; or
- b. Located within the state approved boundaries of the following state designated oil fields as defined by the state DOGGR, regardless of the zone district or distance from dwellings or public assembly uses as defined in this chapter.

- i. Kern River Oil Field (DOGGR Map 457).
- ii. Kern Bluff Oil Field (DOGGR Map 439).
- iii. Portion of the Fruitvale Oil Field (DOGGR Map 435).

c. An area zoned Drilling Island District zone or Petroleum Extraction zone.

Drilling by Conditional Use Permit. Class 1 permits shall not be issued until a conditional use permit is granted by the board of zoning adjustment.

G.8.1 Class 3 Permits—Development Standards

1. Setbacks. No petroleum well shall be drilled nor shall any storage tank and other production related structures be located within:

- a. 75 feet of the right-of-way of any dedicated public street, highway, railroad or private street, or adopted specific plan line of any street or highway;
- b. 100 feet of any building including dwellings, except buildings incidental to the operation of the well;
- c. 300 feet of any public assembly as defined in this chapter;
- d. 25 feet of a storage tank or boilers, fired heaters, open flame devices or other sources of ignition pursuant to the U.F.C.

2. Fire Safety. All drilling and production activities shall be subject to all fire and safety regulations as required by the city, pursuant to the U.F.C. Blowouts, fires, explosions and other life threatening or environmental emergencies shall be reported immediately.

3. Division of Oil and Gas and Geothermal Resources. All drilling and production operations shall be subject to all regulations of the DOGGR.

4. Production Operations. For producing sites, only storage of hydrocarbon production, vapor recovery on storage vessels, dehydration and separation of produced hydrocarbon products and other processes associated with production are permitted unless otherwise required by the DOGGR. All derricks, boilers, and other drilling equipment employed to drill any well hole or to repair, clean out, deepen, or redrill any completed well shall be removed within 90 days after completion of production tests.

5. Signs. Signs relating to drilling and/or production operations shall be limited to directional and warning signs, and signs for identification of wells and facilities as required by the U.F.C. and DOGGR to ensure employee and public safety.

6. Sanitary Facilities. Sanitary toilet and washing facilities shall be installed and maintained at any well site and/or production operation where personnel are stationed pursuant to the Kern County Health Department.

7. Equipment Storage. There shall be no storage at the well site of material, equipment, machinery or vehicles which is not intended for prompt use in connection with petroleum operations. Any equipment or machinery not used for a consecutive period of more than 60 days shall be removed from the site.

8. Derricks. Drilling derricks, if idle for a consecutive period of more than 60 days, shall be lowered and removed from the site unless a longer period is approved by the director of prevention services, or designee. Any derrick used for servicing operations shall be of the portable type, unless proof is provided that the well is of such depth or has some other characteristics such that a portable type derrick will not properly service such well.

9. Grading and Drainage. Unless otherwise required by Fish and Game or the U.S. Fish and Wildlife Service for those areas that they deem environmentally sensitive, well sites, including vehicle parking

and maneuvering areas, shall be graded in a manner so that ponding will not occur. Within 90 days after any well has been placed in production, or after its abandonment, earthen sumps used in drilling and/or production shall be filled and the drilling site restored as nearly as practicable to a uniform grade. Normal wetting or other dust control procedures shall be employed throughout the grading period to control dust. Upon completion of grading, the site shall be compacted and all graded surfaces either paved, covered with gravel of aggregate base, treated with a dust binder, or other method approved by the director of prevention services, or designee. The Regional Water Quality Control Board may have some jurisdiction relative to drainage and water quality.

10. Waste. Drainage containing drilling muds, cuttings, wastewater, waste oil, grease and other oilfield wastes found to be hazardous associated with drilling and/or production including servicing, shall not be discharged into or upon any streets, canals, storm drains or flood control channels. These wastes shall be contained in leak-proof containers, lined earthen sumps or other method as approved by the State Regional Water Quality Control Board, to prevent contamination of potable groundwater supplies.

Facilities for disposal of nonhazardous oilfield liquid waste, production water and USEPA Class II wastes are considered an accessory facility only if the facility complies with the following:

- a. The nonhazardous oilfield liquid waste or production water is produced and disposed of within the same designated oilfield; or
- b. The nonhazardous oilfield liquid waste or production water disposed of outside the designated oilfield of origin is produced by and disposed of solely and only by the same individual, corporation, or entity.

11. Light and Glare. Lighting shall be limited to that necessary for safety and security purposes and shall be directed away from adjacent properties and road rights-of-way. All flares shall be shielded from adjacent properties and road rights-of-way.

12. Blowouts. Protection against blowouts shall be provided in accordance with the DOGGR and U.F.C.

13. Storage Tanks. Storage tanks shall be in accordance with the DOGGR and U.F.C. Whenever oil or gas is produced into and shipped from tanks located on the premises, such tanks, whenever located within 500 feet of any dwelling or commercial building, shall be surrounded by shrubs or trees, planted and maintained to provide attractive landscaping or be fenced in such a manner as to, insofar as practicable, screen such tanks from public view.

14. Height. The height of all pumping units, excluding derricks, shall not exceed a height of 35 feet. All other structures shall be regulated by the zone district in which they are located. All heights of structures shall comply with the Federal Aviation Administration.

15. Site Condition. The well site and all associated structures shall be maintained in a neat and clean condition at all times. Proven technological improvements generally accepted and used in drilling and production methods shall be employed as they become available if they are cost effective in reducing nuisances or annoyances. Pumping units and storage tanks shall be painted. Pumping wells shall be operated by electric motors or muffled internal combustion engines.

16. Air Quality. Flaring, venting and odor control shall be subject to the regulations of the San Joaquin Unified Air Pollution Control District, DOGGR and U.F.C.

17. Building Permits. Building permits, as required by the city building official, shall be secured for all permanent structures to be used in connection with the production and processing of hydrocarbon or related substances in conformance with the U.B.C. Electrical permits shall be required for all electrical connections for drilling and/or pumping units if electrical motors are utilized.

18. Vibration. Vibration from equipment shall not create a nuisance or hazard to nearby land uses.

19. Site Restoration. Site restoration shall commence within 90 days upon completion of all drilling and/or production activities or upon abandonment of the well site. Well abandonment will be conducted in accordance with the regulations of the DOGGR. Before final abandonment, all drilling/production equipment shall be removed from the site. Fences shall be dismantled, all signage removed, and the site regraded so as to break up impermeable surfaces and fill in all sumps to restore the site as nearly as practicable to a uniform grade. Temporary earthen sumps may be used for clean-out or remedial work on an existing well or other production facility. However, these sumps shall be filled and the site restored as nearly as practicable to a uniform grade within ninety days after the clean-out or other remedial work is completed. The Regional Water Quality Control Board also has additional jurisdiction over sumps. Prior to filling of sumps, all waste shall be cleaned and disposed of at an appropriate authorized disposal site as regulated by the state of California. Waste cleanup shall be to the satisfaction of the Kern County Department of Environmental Health. The site shall be restored to the surrounding condition, or to the satisfaction of Fish and Game or U.S. Fish and Wildlife Service for those areas that they deem environmentally sensitive. Site restoration activities shall be completed within 90 days of commencement.

20. Floodplain Development. The city must ensure that wells drilled in the primary or secondary floodplain are consistent with the National Flood Insurance Program and with the requirements of the State Department of Water Resources and Regional Water Quality Control Board.

21. Vehicles. All vehicle parking and maneuvering areas shall be treated and maintained with oiled sand or a similar dust binding material consistent with regulations of the local air pollution control agency.

22. Fencing. Permanent chain-link fencing a minimum of six feet but not to exceed eight feet in height with solid screening shall be installed encompassing the entire well site as approved by the director of prevention services, or designee. At least three strands of barbed wire shall be mounted on top of the fence. This fence shall be constructed of chain link with wood or metal slats or other screening materials as may be approved by the director of prevention services, or designee. This fencing and screening requirement shall apply only to those pump sites located within 500 feet of any dwelling or in an OS (Open Space) zone. Such fencing shall comply with the requirements of the DOGGR. The front yard and side yard setbacks of the zone district in which it is located shall regulate the location of fencing.

G.8.2 Class 2 Permits—Development Standards

1. Class 3 Requirements. In addition to the following development standards, Class 3 permit development standards described above shall apply to all Class 2 permits.

2. Off-site Improvements. Where adjacent properties are similarly improved, within 180 days of commencement of commercial production or one year from the completion of drilling of any well on the well site, off-site improvements including street paving, curbs, gutters, sidewalks, and related dedications for such improvements shall be completed in accordance with the requirements of the city.

3. Noise. Noise levels from any drilling and/or production operation shall not exceed 65 dB(A) CNEL at the property line of a noise sensitive receptor, except in a case of emergency. Exterior noise levels generated by drilling, redrilling, or production operations shall be monitored as required by the city building official to ensure conformance to the noise level standards. The costs of such monitoring shall be borne by the operator conducting such operation. Records of the results of monitoring shall be maintained and provided to the city building official upon request.

4. Pipelines. Pipelines utilized for all petroleum related operations shall be buried a minimum of three feet below grade.

G.8.3 Class 1 Permits—Development Standards

1. Class 3 Requirements. In addition to the following development standards, Class 3 permit development standards shall apply to all Class 1 permits.

2. Fencing. A solid masonry wall a minimum of six feet but not to exceed eight feet in height of a color approved by the B.Z.A. consistent with adjacent or nearby development, shall be installed encompassing the entire well site. Any additional fencing required by the DOGGR shall be inside the area enclosed by the wall. The front yard and side yard setbacks of the zone district in which it is located shall regulate the location of the wall.

3. Landscaping. Landscaping shall be required along all street frontages of the well site and around well site as required by the board of zoning adjustment under the approved conditional use permit. Landscape and irrigation plans shall be submitted for approval to the B.Z.A. Landscaping shall be designed to camouflage the full height of petroleum related structures, with the exception of derricks, and create an aesthetically pleasing environment managed in a healthy condition.

4. Off-site Improvements. Where adjacent properties are similarly improved, within one hundred eighty days of commencement of commercial production or one year from the completion of drilling of any well on the well site, off-site improvements including street paving, curbs, gutters, sidewalks, and related dedications for such improvements shall be completed in accordance with the requirements of the city public works director.

5. Vehicle Routes. Vehicles associated with drilling and/or production in excess of three tons shall be restricted to those public roads specified by the city public works director.

6. Work Hours. Truck deliveries of equipment and materials associated with drilling and/or production, well servicing, site preparation, and other related work conducted on the well site shall be limited to between the hours of 7 a.m. and 6 p.m. Monday through Saturday, and prohibited on Sunday and all legal holidays, except in cases of fires, blowouts, explosions and other emergencies where the director of prevention services, or designee, and DOGGR were notified. Drilling activities shall be permitted twenty-four hours a day.

7. Noise. No drilling, producing, or other operations (including workover operations) shall produce noise at the property line of a noise sensitive receptor in excess of the following standards, with respect to these basic reference levels:

Basic Reference Levels	
7 a.m. to 10 p.m.	55 dB(A)
10 p.m. to 7 a.m.	50 dB(A)

a. Noise measurements and acoustical analysis shall be conducted by a qualified acoustical consultant experienced in the fields of environmental noise assessment and architectural acoustics.

b. All parts of a derrick above the derrick floor including the elevated portion used as a hoist, shall be enclosed with fire-resistive soundproofing material. Such soundproofing shall comply with accepted API standards and shall be subject to fire department regulations. All doors and similar openings shall be kept closed during drilling operations, except for ingress and egress and necessary logging, testing and well completion operations. Alternative materials or methods of soundproofing may be used, provided that such alternative has been approved by B.Z.A. The B.Z.A. may approve any such alternative if they find that the proposed material and method have equal sound proofing properties and fire resistive qualities to the aforesaid specifications. Either may require the submission of evidence to substantiate any claims that may be made regarding the use of such alternative.

8. Pipelines. Pipelines utilized for all petroleum related operations shall be buried a minimum of three (3) feet below grade.

G.9. Santa Barbara County

The County of Santa Barbara has codified its regulations for the development of onshore oil and gas wells under Chapter 25 of the Santa Barbara County Code. The main purpose of the ordinance is to protect the health, safety, public welfare, physical environment and natural resources of the county by the reasonable regulation of onshore petroleum facilities and operations, including but not limited to: exploration; production; storage; processing; transportation; disposal; plugging and abandonment of wells; and of operations and equipment accessory and incidental thereto.

G.9.1 Permits

A permit from the petroleum administrator must be obtained for drilling a new well or reentering a well previously abandoned, prior to commencing said operation. A copy of the well permit must be conspicuously posted at the well site throughout the operation for which the permit was issued.

G.9.2 Pollution Control Plan

Each operator shall have on file with the petroleum administrator a copy of their spill prevention, control and countermeasure plan(s) (SPCC plan) required by the United States Environmental Protection Agency (USEPA). In the event that an operation is exempt from the requirement to

develop an SPCC plan or the plan does not cover all the operator's leases in Santa Barbara County a pollution control plan (PCP) shall be developed. Said SPCC/PCP shall meet the requirements of county, state, and federal authorities. The SPCC plan will be subject to review by the petroleum administrator. PCP plans will be subject to review and approval by the petroleum administrator. The PCP will describe how the operator will control spillage from the operator's facilities in the county.

G.9.3 Spacing and Location

No new wells or lease tanks shall be located within two hundred feet of the nearest edge of the normally traveled portion of any major street, highway, railroad track, or building (except as may be incidental to the operation thereof). No building shall be erected within two hundred feet of any well or tanks. Spacing requirements for seldom used roadways or un-maintained rights-of-way shall be set by the petroleum administrator based on the particular circumstances associated with each such situation.

In any area adjacent to an existing or proposed well, or tank setting, the petroleum administrator shall suspend provisions of this section in whole or in part, or impose less restrictive requirements if such provisions are rendered unnecessary or unreasonable by the then existing special features (such as topography, nature of the use, proximity to buildings on adjoining property, height, type of buildings, proposed mitigation features and the nature of the oil field development) or may impose additional safety requirements rendered necessary because of the special features. (Ord. No. 4648, § 1)

G.9.4 Blowout Equipment

All drilling wells and wells being worked over will be equipped with adequate blowout equipment. The controls of which must be located outside of the sub-base of the drilling rig, or such greater distance as may be specified by the administrator for special circumstances, and must be capable of closing off the well with pipe in or out of the hole. DOGGR Publication MO7 or as amended, specifications will be a minimum guideline.

G.9.5 Emission Control

- (a) All petroleum facilities shall be operated and maintained so as to prevent excessive or unusual noise, the escape of hazardous or noxious vapors and any other hazardous emissions.
- (b) Petroleum operations associated with hydrogen sulfide, organic sulfides, any combination thereof, or any other hazardous gas, conducted in the vicinity of any residence or place of public gathering, which could affect the safety or well being of others, shall be declared by the petroleum administrator, for good cause shown, to be within a potentially hazardous emission area. Potentially hazardous emission areas shall be defined as, but not limited to, areas containing oil and gas facilities handling produced gases containing more than eight hundred twenty-five ppm of hydrogen sulfide, organic sulfides, or a combination thereof where, in the judgment of the petroleum administrator, there is a reasonable potential of risk or odor nuisance to residents or persons at public gatherings from releases of hydrogen sulfide, organic sulfides or other hazardous gases. Any oil and gas facility within a potentially hazardous emission area, but producing gas containing less than eight hundred twenty-five ppm of hydrogen sulfide, organic sulfides or a combination thereof, and not constituting a potential risk or odor nuisance to the public, may be exempted from the provisions of subsection (b) of this section, in writing, by the petroleum administrator.

(c) Personnel safety and protection shall comply with the requirements of the state division of industrial safety and/or the regulations of the state occupational safety and health act, whichever is the more restrictive. Any violation coming to the attention of the petroleum administrator shall be referred to the appropriate agency.

(d) Odor nuisances may be referred by the petroleum administrator to the APCD for enforcement.

G.9.6 Storage

Containment facilities including walls and berms shall be designed and constructed so as to prevent the escape of fluids from the immediate storage area and be of sufficient size to contain one and one-half times the capacity of the largest tank.

(a) Petroleum storage tanks shall be designed, constructed, installed, and maintained in accordance with all applicable laws and regulations.

(b) New storage facility tank locations shall install an impervious, not less than forty ml liner, or equivalent, to prevent seepage. This requirement may be modified at the discretion of the petroleum administrator.

G.9.7 Piping

All piping systems shall be designed, constructed, operated and maintained in accordance with all applicable laws and regulations.

If the pipeline systems are found to be unreliable or deficient, the petroleum administrator may order the repair or replacement of the pipeline section or system, as necessary to remedy the situation. The petroleum administrator may require tests and inspections to establish the reliability of pipeline systems including those not specifically regulated by state or federal authority (including testing, treating, and storage facilities).

G.9.8 Fire Prevention and Control Equipment

A minimum of two fire extinguishers shall be maintained at each tank battery and at all well locations where drilling, servicing or repair work is being conducted. Each such extinguisher shall have a minimum classification of 10 ABC as set forth in N.F.P.A. No. 10, "Standard for the Installation for Portable Fire Extinguishers," and any amendments or successors thereto.

The California Fire Code, Article 79, is applicable hereto. Specifically, no smoking will be permitted within fifty feet of any well, tank or area where hydrocarbons are present and no waste gas venting will be permitted. The petroleum administrator shall inform the county fire department when an oil well drilling permit has been filed.

G.9.9 Well Abandonment and Lease Restoration Procedure

(a) Well Abandonment. Prior to starting the plugging and abandonment of any well, the operator shall furnish the petroleum administrator with copies of the DOGGR notices required in section 25-8, a copy of the DOGGR permit to conduct abandonment operations and the anticipated date the plugging and abandonment operations are to commence. Any substantial changes in procedure or schedule shall likewise be furnished to the petroleum administrator by the operator.

(1) The subsurface plugging and abandonment of the well shall be done in accordance with current DOGGR regulations. The operator shall furnish the petroleum administrator with the DOGGR notice required in section 25-8(g) to verify compliance with all DOGGR requirements.

(2) All drilling, production and appurtenant equipment, including pipelines, designated for the exclusive use of the subject well shall be removed. Existing pipelines and equipment designated for current operations may be left in place. The operator may petition the petroleum administrator to leave equipment and pipelines, designated for future use, in place.

(3) The well casing shall be cut off at least five feet below the ground level. Nothing shall be placed in the excavation above the point of cutoff until the cutoff has been inspected by the petroleum administrator.

(4) The surface cement plug depth shall conform to the requirements of the DOGGR.

(5) A steel cap of not less than the same thickness as the well casing shall be welded to the casing. The steel cap shall be located via GPS and the well number and API number shall be welded on the top of the casing.

(6) An investigation shall be conducted to determine if a sump or pit is present. If a sump or pit is found to be present it will be remediated per an approved plan.

(7) All Cellars and Surface Concrete Structures Shall be Removed. Tie downs shall be removed to a minimum of six feet below ground surface. Soil below the cellars shall be tested for hydrocarbon contamination. If contamination is found to be present the area shall be remediated. All excavations and depressions shall be filled with clean soil. All oil, waste oil, refuse and waste material shall be removed from the drill site pursuant to all applicable laws and regulations.

(b) Lease Restoration.

(1) The Petroleum Unit will be the Coordinating Agency. The petroleum unit will coordinate with grading, planning and development, the fire department and other agencies, as required, to ensure all lease restoration requirements have been addressed.

(2) Schedule. Prior to the abandonment of the last well on a lease, the operator shall file with the petroleum administrator a plan, for approval, to restore the lease to a condition in conformance with state, county, and local ordinances.

(A) Partial lease restoration/remediation activities may be conducted at any time as detailed in this chapter. The record of any partial lease restoration shall be kept on file by the petroleum administrator as part of the final restoration package.

(B) Facilities idle for over fifteen years that have no reasonable potential of future use and:

(i) Are a potential threat to public health; or

(ii) Are a potential threat to the environment; or

(iii) At the request of the surface owner shall be removed in a timely manner. For the purposes of this paragraph, a lack of reasonable potential of future use may be indicated by the cancellation of APCD permits, a continuous lack of maintenance around the facility, or similar indications as determined by the petroleum administrator of de facto abandonment. Upon request, the operator shall submit to the petroleum administrator a list of all facilities that have been idle for over ten years. To retain such facilities after the fifteen year limitation, the operator shall submit to the petroleum administrator for approval a letter justifying why said facility is of value and should not be removed.

(C) Equipment Removal.

(i) Tank batteries, production islands, gas treating/compression areas, all appurtenant equipment areas, pipelines and foundations shall be removed. An investigation shall be conducted to determine if soil contamination is present. If soil contamination is found, the area will be remediated per the approved plan.

(ii) Flow Lines and Utilities. All flow lines, gathering lines and other lease pipelines shall be flushed

with water and removed, unless due to location the removal will cause more environmental damage than the potential benefit by its removal. The soil shall be sampled along the lines at a rate specified in the approved plan. Power and telephone lines shall be removed. Transformer locations that existed prior to 1970 shall be tested for PCBs.

(iii) All Buildings Shall be Removed from the Lease. Buildings and areas used for storage and/or testing shall have an investigation to determine if soil contamination exists. If soil contamination is found the impacted area shall be remediated per an approved plan.

(iv) Sumps, pits and areas of soil contamination. An investigation shall be conducted in locations of historic sumps, pits and known soil contamination. If soil impacts are identified, the areas shall be remediated per the approved plan. The original soil contamination locations shall be determined by GPS coordinates and shall be permanently kept on file by the petroleum administrator.

(v) Roads and Well Site. Roads and well sites shall be removed and the areas re-contoured to as close to natural slope as reasonable.

(vi) Completion. Upon completion of full site restoration the petroleum administrator will furnish a closure letter to the operator.

(vii) Modification of Conditions of Lease Restoration. Any of the above conditions may be waived by the petroleum administrator for appropriate purposes such as, but not limited to, requests to leave in place:

- a. Roads and well site pads;
- b. Power and telephone lines;
- c. Pipelines;
- d. Concrete pads;
- e. Buildings.

(c) The operator shall furnish the petroleum administrator with sufficient evidence to verify compliance with all state requirements.

(d) Exception. The petroleum administrator may modify any of the above conditions upon demonstration of good cause by the applicant that the intent of the above conditions has been met.

G.9.10 Surface Inspections

Inspections will be performed as discussed by other sections of this chapter. Any noncompliance items noted during an inspection will be brought to the attention of the operator, agent, or their representative for corrective action. Failure to correct noncompliance items is a violation of the provisions of this Code, and thereby constitutes grounds for an order to cease noncompliant operations and/or other penalties as specified in sections 25-7 and 25-15.

G.9.11 Hazardous Conditions or Nuisances

(a) In the event that the petroleum administrator determines at any time that any operations covered under this chapter constitute an imminent threat to public health, safety or the environment, he/she shall have the right to compel the operator to take appropriate action, within a time frame identified by the petroleum administrator, to mitigate the situation. In the event that the operator cannot be located, the petroleum administrator may take the necessary steps to mitigate the immediate threat and stabilize the situation, until such time as the operator can respond. The operator shall be responsible for reimbursement of all reasonable costs to the county associated with the mitigation activities.

(b) In the event that substantial damage to the environment and/or public health results from the

activity listed above, the operator shall be responsible for remediation of such damage within a reasonable period of time. If, in the judgment of the petroleum administrator, such remediation activities are not initiated within a reasonable period of time, the petroleum administrator may issue a notice of intent to initiate remediation and that the operator shall be responsible for funding the remediation. The county shall issue said notice at least thirty days prior to commencement of remedial activities. The operator may respond by: (1) initiating remedial activities within the thirty-day period, or (2) filing an appeal. In the absence of one of these actions the county may order the remediation at the cost of the operator.

G.9.12 Pollution

Any discharge of oil or wastes to surface or subsurface waters or land, by oil field operations, shall not be allowed except when authorized by permit, ordinance or law. Oil spills or wastes shall be kept to a minimum and shall be prevented from entering stream courses or adjacent property by the construction of dams, levees, ditches or other structures consistent with requirements of county, state and federal authorities.

G.9.13 Sumps

Rotary mud, drill cuttings, petroleum and all oil field wastes derived or resulting from, or connected with, the drilling or producing of any well, shall be discharged into a sump impervious to fluids. Such discharges shall be removed from the drill site within a reasonable period of time to authorized locations upon completion of drilling, testing or work over operations. Tanks used as sumps shall be removed and sumps shall be pumped out, their fluids disposed in a properly designated area and properly backfilled within a reasonable period of time. No unlined or unscreened skimming ponds, separation basins or storage reservoir for salt water, oil field wastes or oil field products will be permitted.

G.10. Signal Hill

The set of regulations for oil and gas permitting in Signal Hill are known as the "City of Signal Hill Oil Code." (Ord. 90-08-1074 § 4 (part) Title 16 Oil Code. The Code was adopted in 1990.

The intent and purpose of the Oil Code is to regulate the drilling for production, processing, and storage and transport by pipeline of petroleum and other hydrocarbon substances so that these activities may be conducted in conformance with federal, state, and local requirements, and to mitigate the impact of oil-related activities on urban development.

To accomplish this purpose, the regulations outlined are determined to be necessary for the preservation of the public health, safety, and general welfare.

G.10.1 Drilling or Redrilling Permit

No person shall erect, construct, enlarge, alter, remove, demolish, or use within the city any structure, appurtenant equipment, or tank proposed, intended to be used, or used for or in connection with the drilling for or production of oil, gas, or other hydrocarbon substances, including the fixed storage of such substances without first obtaining a permit.

No person shall drill or redrill any well without first obtaining a permit, referred to as a drilling permit from the D.O.G and the city.

G.10.2 Permit Submittal Requirements

In addition to typical requirements for drawings, plans and design details, this additional information would be required.

Information concerning the source, quantity, and quality of water to be utilized in the drilling production program, the manner in which the water will be transported and stored on site, and the method of disposal of wastewater and other drilling wastes, including the location of backflow preventers.

An oil spill contingency plan that specifies the location, type of cleanup equipment, description of responsibilities for monitoring equipment, disposition of wastes, and reporting incidents.

A phasing plan for the staging of the drilling operations, including but not limited to, an estimated timetable for project construction, operation, completion, and abandonment, as well as location and amount of land reserved for future expansion.

An acoustical study prepared by a qualified acoustical engineer documenting existing ambient noise levels over a 24-hour period on the drill site and within a 300-foot radius.

G.10.3 Wells

A well(s) may be drilled in any zoning district, with the exception of a residential zoning district.

No well shall be drilled where the center of the well bore, at ground surface, will be less than the following distances:

1. 50 feet to any adjacent interior property line not part of an oil and gas lease;
2. 100 feet from a non-oil-related building for human occupancy;
3. 100 feet from existing tanks used for storage of flammable materials;
4. 75 feet from any public right-of-way;
5. 300 feet from any place of public assemblage, institution, hospital, or school;
6. 200 feet from any public park.

With the exception of engines used in the drilling or servicing of wells no internal combustion engine, storage, tank or boiler, fired heater, open flame device, or other source of ignition, except welding, shall be located within 25 feet of any well.

Access roads and other excavations related to the drill site shall be designed, planned, and maintained so as to minimize erosion, provide stability or fill, minimize disfigurement of the landscape, and maintain natural drainage.

No slope of cut or fill shall have a gradient steeper than a one foot rise in a two foot horizontal measurement.

There shall be erosion control of all slopes, and on banks which are creased by any drill site construction, so that no mud or other substances are washed onto public streets or surrounding property. This control may consist of effective planting and irrigation, check dams, cribbing, riprap, sand bagging, netting, berms, or other devices or methods to control erosion previously approved for the oil operation site by the oil services coordinator pursuant to a landscape and irrigation plan.

Drainage facilities, including but not limited to concrete catchbasins, swales, interceptor drains, or clarifiers shall be designed and installed as necessary to contain all mud or other substances on the drill site.

All derricks or masts, which are used in either drilling, redrilling, rework operations, or for use in production, within 200 feet of a public right-of-way, building or residence, shall have derrick crown(s) shrouded to prevent oil and water spraying into the air.

All derricks and masts erected for drilling, redrilling or rework operations, shall be removed within thirty days after completion of the work.

Blow-out prevention equipment shall be maintained in good condition and shall be required to be tested at intervals as requested by DOGGR.

If drilling or redrilling operations are located within 600 feet of an occupied building, noise sources associated with the operation shall be enclosed with soundproofing sufficient to ensure that expected noise levels do not exceed the noise limits and may include but shall not be limited to the following:

1. Blanket covering for the first 12 feet above the working platform;
2. Blanket covering of all housing, including engines, pumps, and generators;

Additional blanket covering, including the top of rig, crown block, or at ground level as necessary.

All acoustical blankets or panels used for required soundproofing shall be of fire-proof materials, shall comply with the fire and building codes of the city and California Industrial Safety Standards, whichever are more restrictive and shall be maintained in good repair.

Internal combustion engines shall only be used during drilling in those applications for which electrical motors are not appropriate and power generation for these motors require diesel or gasoline generators or engines.

Within 60 days of completion of the first well, unless action has been initiated by the operator to abandon the well(s), all drill sites shall be enclosed with a chain link fence with slates or solid masonry wall eight feet high on all sides, except those sides on which exists a natural or artificial barrier of equal or greater solidity and height. Gates shall be installed and equipped with keyed locks, kept locked at all times when unattended.

Within 60 days of completion of drilling for the first drill well on any site, a border of landscaping shall be installed along the periphery of the drill site to provide adequate screening for all facilities on the site.

Rotary mud, drill cuttings, chemicals, oil or liquid hydrocarbons, and all other oil field wastes derived or resulting from, or connected with the drilling, redrilling or rework of any well shall be discharged into an above ground steel tank, constructed per the API standards, and removed from the drill site of leasehold within 30 days from completion of drilling, redrilling or rework.

Open earth pits for waste disposal are prohibited

Cement slurry or dry cement shall not be disposed of on the surface.

Access roads and other excavations related to all oil operation sites shall be designed, planned, maintained and repaired when necessary so as to minimize erosion, provide stability of fill, minimize disfigurement of the landscape, and maintain natural drainage.

Drainage facilities, including but not limited to concrete catchbasins, swales, or interceptor drains shall be designed and installed where necessary to carry waters from any oil operation site to the nearest practical drainage-way approved by the city.

There shall be erosion control on all oil operation sites so that no water; muds, or other substances are washed onto public streets or surrounding property.

Where required by the city, private roads used for access to operation site shall be temporarily or permanently surfaced and maintained with materials approved by the city to control dust, mud, erosion, and drainage.

All pumping units shall not exceed a height of 36 feet at the top of the stroke from ground level.

All units shall be maintained in such a manner as to be free of unusually annoying squeaks or grinding noises, and maintained in a clean, painted condition. All surface areas around pumping units shall be kept free of spilled oil, grease, or other materials spilled during the operation of the oil well.

It shall be unlawful to decorate any pumping unit or other moving part of any equipment enclosed or required to be enclosed on an oil well site with any display or representation which may constitute a nuisance or attraction to children.

No well servicing derrick or mast shall be used on any oil well that is within 100 feet of a structure used for human occupancy or a public right-of-way unless there is available a steel mat pulling pad, sufficient to prevent tipping under pressure.

All masts or derricks within 100 feet of any structure used for human occupancy shall have secured tie downs concreted into the ground for wind guys and guy lines prior to pulling pipe, rods, or tubing. Screw-in tie downs may be used to secure rope lifelines from the tubing board to a point safely away from the well bore. All tie downs shall conform to API standards or to an alternate plan approved by the city.

Masts or derricks shall be equipped with soft lay cables sufficient in strength to secure mast as wind guys or guy wires for protection against collapse.

Except in case of emergency well work, well servicing and truck deliveries are prohibited except Monday through Friday, inclusive, from 7 a.m. to 7 p.m.

All lighting shall be directed or shielded so as to confine direct rays on the drill or operations site and shall be designed to assist in the discovery and prevention of spills. Colored, flashing, fluttering, or blinking lights shall not be used, with the exception of height warning lights as may be required by the Federal Aviation Administration.

Sumps for the collection of rain water, wastewater or oil shall be fully lined with impervious materials and shall be evacuated and cleaned after any spill. Unlined evaporation sumps are prohibited. Sumps shall be designed, constructed, and maintained so as to not be a hazard to people, livestock, or wildlife including bird life.

Vibration from equipment shall be kept to a minimum level, and as required, vibration dampening equipment of the best available technology shall be to reduce vibration to a minimum.

All wells and tanks, will be enclosed by a fence or wall constructed in accordance with DOGGR regulations. All fencing and wall enclosures shall be equipped with at least one gated area. The colors of all walls, fencing, slats, or other comparable materials shall be compatible with surrounding uses, and maintained in a neat, orderly, secure condition. Repairs, repainting and or replanting shall be made to maintain the oil field.

G.10.4 Landscaping

Operators of well sites, production related tanks and oil operation sites shall submit for approval by the planning director a complete landscape plan including the following:

1. A site plan of the oil operation site as defined by the outer boundary lines including adjacent public streets, well and tank sites, and the following:

- a. The precise location of the outer boundary property lines;
- b. Proposed landscaped areas including dimensions;
- c. An irrigation plan providing for automatic irrigation or manual watering;
- d. Proposed trees, shrubs, and ground covers including size, quantity, and spacing;

Instructions for the preparation of soils, quantities of soils amendments, staking of trees, etc.

Landscaping shall be designed to screen the perimeter of oil operations sites and create buffers between oil field facilities and urban uses. Landscaping shall be arranged to improve the visual appearance of oil field activities. The following minimum landscaping standards apply:

- A. Four fifteen gallon size trees and six five gallon size shrubs for each oil well.

B. Four fifteen gallon size trees and six five gallon size shrubs for each tank.

C. Automatic irrigation systems or other provisions for regular watering shall be provided. The use of drought tolerant trees and shrubs is recommended.

D. All landscaping and irrigation shall be properly maintained in accordance with an approved landscaping plan and maintenance agreement.

It is the responsibility of the city to inspect landscaping and order the operator to repair, prune, or replant as necessary to maintain a high quality standard of landscaping appearance.

G.10.5 Painting

All pumping units, storage tanks, heaters, exposed pipelines, and buildings or structures located on an oil operation site shall be painted as may be regularly needed, and be maintained reasonably free of rust, oil and stains.

G.10.6 Discharges

No discharge of any chemicals, oil, or liquid hydrocarbons and other oil field waste or refuse, including wastewater and brine to be deposited, placed, or discharged in, into, or upon a public right-of-way, storm drain, sanitary drain or sewer, drainage canal or ditch, flood control channel or onto private property including any oil leasehold property.

Open earth pits, sumps, skim ponds, or any other area where there is storage of oils or liquid hydrocarbons, brines, or other waste liquids open to the sky are prohibited and shall be removed, evacuated of all foreign or contaminated materials, and filled with compatible clean earth.

Flammable waste gases or vapors shall not be discharged to the atmosphere or burned by open flame except by written approval of DOGGR and the South Coast Air Quality Management District.

Cement slurry or dry cement shall not be disposed of on the surface.

All oil operation sites shall at all times be kept free and clear of debris, weeds, brush, trash, or other waste or combustible material.

G.10.7 Pipelines

All pipelines or electrical lines appurtenant to well sites other than those within the containment of tank wells, or within the fencing of the well bore, shall be buried a minimum of twelve inches below the surface of the ground.

All aboveground pipelines containing flammable materials located in tank farms and tank batteries shall be of noncombustible, heat-resistant material.

G.10.8 Storage Tanks

If oil or other liquid storage facilities are established incidental to a producing well on a well or drill site, the total capacity of such storage facilities shall not exceed two thousand barrels per well.

The minimum distance between any aboveground tank to the nearest property line, or public right-of-way shown on the city's official plan lines map, shall not be less than the height of the tank. No building shall be erected closer than 50 feet from any storage tank.

The maximum height for tanks of crude oil on oil production-related sites shall be limited to sixteen feet. An additional three feet in excess of the maximum tank height may be permitted and approved by the director for the following: appurtenant facilities, piping, safety rails, or similar equipment required to operate and maintain the tank.

Tanks shall rest directly on the ground or on foundations or supports of gravel, concrete, masonry, piling, or steel. Supports for tanks storing Class I, II, or III-A liquids shall be of concrete, masonry, or protected steel. Tank foundations shall be elevated, level, and larger in diameter than the tank itself.

Exposed piling or steel tank supports shall be protected by fire-resistive materials to provide a fire-resistance rating of not less than two hours. Tank supports and connections shall be designed and installed to resist damage as a result of seismic activity.

Stairs, platforms, and walkways shall be non-combustible and constructed in accordance with DOGGR, API, OSHA, and California Division of Industrial Safety standards.

No tank for the storage of any flammable, liquid shall be located closer than three feet to any other such tank.

The minimum separation between a liquefied petroleum gas container and any other tanks for the storage of any flammable liquids shall be 20 feet. Means shall be taken to prevent the accumulation of flammable liquids under adjacent liquefied petroleum gas containers such as by diking, diversion curbs, or grading. When flammable liquid storage tanks are diked, the liquefied petroleum gas containers shall be outside the diked area and at least 10 feet away from the centerline of the dikes.

New tanks used for the storage of crude petroleum and other flammable liquids shall be diked or provided with diversion walls and catchment basins and shall meet the requirements of the DOGGR.

No catchment basin or diked impounding area shall be located closer to the outer boundary line or to any building designated for human occupancy than the diameter or height, whichever is greater, of the largest tank served by such basin or area.

The volumetric capacity of a diked area shall not be less than one and one-half times the capacity necessary to hold the full volume of the largest tank below the height of the dike.

The capacity of a separate catchment basin may not be used to reduce the required capacity of a diked impounding basin.

Walls of the diked area shall be of concrete, solid masonry or earth designed and maintained to be liquid-tight and to withstand a full hydrostatic head, all walls of diked areas in residential zones shall be solid masonry or poured in place concrete.

In addition to any venting requirements of the fire department, all storage tanks and loading on unloading facilities containing flammable or combustible liquids shall be equipped with approved vapor recovery systems in accordance with SCAQMD requirements.

Existing gasoline or refined products handling facilities with a capacity greater than 2,000 barrels shall be equipped with fire suppression systems. All newly installed facilities shall be installed with fire suppression systems. The provisions of this section shall not apply to crude oil, gas and water loading or unloading facilities.

Tank vehicle loading racks, loading platforms, or moveable loading spouts or arms dispensing flammable liquids shall be separated from tanks, warehouses, other buildings, public streets, and nearest line of property that may be built upon by a clear distance of not less than 100 feet, measured from the center of any fill stem or pipe.

All loading rack areas shall include an approved catchment basin, treatment facility, or containment systems designed to hold the maximum capacity of any single compartment of a tank truck. Provision shall be made for the safe disposal of the oils released by overflow and from loading spouts or lines.

G.11. Santa Fe Springs

The oil and gas production regulations for the City of Santa Fe Springs are codified in Chapter 117 of the Municipal Code and last amended in 1993. Some of the most salient regulations are provided below.

G.11.1 Applicability

In the manner and upon the terms and conditions set forth in this chapter, it shall be lawful for any person to drill a well for and to produce oil, gas or other hydrocarbon substances and to conduct any other lawful operations, including the installation and maintenance of any derrick, drilling and producing equipment and appurtenant structures or machinery proposed or intended to be used for or in connection with the drilling for or production of oil and gas on any land within the city which is zoned to permit such operations, and on any other land where such operations may be authorized pursuant to the provisions of the zoning ordinance of the city;

It shall be unlawful for any person to construct, commence to construct or maintain or use within the city any derrick or other structure, equipment or machinery proposed or intended to be used or used for or in connection with the drilling for or production of oil, gas or other hydrocarbon substances without first obtaining a written permit therefore, to be issued by the Fire Chief in accordance with the terms of this chapter. The redrilling of an existing well outside the confines of the existing well bore shall be subject to the permit requirements of this section.

G.11.2 Bond

(A) Except as provided elsewhere in this chapter, every application for a permit required by this subchapter, for which a bond is not on file, shall be accompanied by a faithful performance bond on a form approved by the City Attorney in a sum to be determined from time to time by resolution of the City Council or by state law, if applicable, for each well. Such bond shall be conditioned that the principal named in the bond shall faithfully comply with all of the provisions of this chapter. The bond shall secure the city against all costs, charges and expenses incurred by it by reason of the failure of the permittee to comply fully with the provisions of this chapter. The bond shall include a provision that the city be given written notice not less than 60 days prior to the cancellation or reduction in the coverage of the bond. ('64 Code, § 16-9)

(B) In lieu of filing the bond as required by division (A) of this section for each well, a blanket bond in an amount to be determined from time to time by resolution of the City Council or by state law, if applicable, to cover all operations under this chapter of a single permittee shall be filed. Riders to such blanket bond shall be filed with the city identifying each well to be covered by such blanket bond.

G.11.3 Location of Wells

(A) Well location shall be in accordance with the requirements of the State Division of Oil and Gas and the zoning ordinance of the city.

(B) No wells shall be drilled within 300 feet of the existing or planned street width line of any major or secondary highway as shown on the city's general plan.

(C) No well shall be drilled within 100 feet of existing buildings in Group R occupancy as defined by the County Building Code. This provision is reciprocal with respect to the location of new Group R buildings from existing wells.

(D) No well shall be drilled within 300 feet of existing buildings in Groups A, E and I occupancy as defined by the County Building Code. However, a building in Group A, E, or I may be built as close as 100 feet from an existing well at the discretion of the Fire Chief and subject to such fire prevention and protection measures as the Fire Chief may deem necessary for the safety of the occupants of any building for which a reduction in distance is approved.

(E) For all other building groups, no well shall be drilled within 35 to 50 feet of existing buildings unless the building wall which faces the well is of a two-hour fire resistant construction and any openings in the wall are fire protected with one and one-half hour Underwriters Laboratory rated assemblies. Alternatively, a two-hour fire wall acceptable to the Fire Chief may be erected between the well and the building, in which case the well shall not be closer than 35 feet from such wall. These provisions shall be reciprocal with respect to the location of new buildings from existing wells. These provisions shall not apply to a building or structure which is owned by the operator or his lessee and utilized as a part of oil field operations.

G.11.4 Blowout Prevention

Protection shall be provided to prevent the blowout of a well during drilling and redrilling operations, in accordance with the requirements of the Division of Oil and Gas.

G.11.5 Sumps

No sumps or sump holes shall be constructed or used and all existing sumps shall be removed. All fluids used for drilling and fluids produced shall be contained in approved tanks or containers.

G.11.6 Maximum Permitted Storage Capacity

(A) If oil and other liquid storage facilities are established incidental to a producing well on a drill site, such storage facilities shall not exceed a total of 2,000 barrels per well.

(B) The Fire Chief may require documentation certifying the flash point of the material proposed to be stored in such tanks. Storage of Class I and Class II liquids (liquids having a flash point of 140°F or less) in outside aboveground tanks is prohibited within the city limits.

G.11.7 Mufflers on Engines Required; Escape of Flames, Sparks, Ignited Carbon and Soot to be Prevented

The engines used in connection with the drilling of any oil well or in any production equipment of any oil well shall be equipped with an exhaust muffler to prevent excessive or unusual noise. Means shall be provided on all engines used during drilling operations to prevent the escape of flames, sparks, ignited carbon and soot.

G.11.8 Abandonment; Requirements, Timing and Penalty

(A) Within 120 days after notice of a public nuisance well has been sent by the City Manager as provided in § 117.123 or a notice of intention to abandon a well has been filed with the Division of Oil and Gas in accordance with the provision of § 117.127 by the owner or operator; said owner and operator shall abandon the well pursuant to § 117.127.

(B) If the owner or operator fails to abandon the well within the prescribed 120 days, the city may, at its option, perform abandonment. The cost thereof, plus an administrative charge in an amount to be determined from time to time by resolution of the City Council, may be recovered from the owner or operator by any means permitted by state law.

G.11.9 Enclosure of Site

(A) Every oil well site shall be completely enclosed by a chain link fence or a masonry wall. Perimeter fencing of the entire property or any portions thereof may be permitted as an alternative; provided, that such fencing is sufficient to prevent unauthorized persons from gaining access to the well or producing and storage facilities; as an alternative to perimeter fencing of storage tanks, fencing of access to the steps and ladders of storage tanks may be permitted subject to the approval of the Fire Chief.

(B) Fencing, walls, gates, and the like, shall comply with the requirements of the State Division of Oil and Gas.

(C) If chain link fence is used, the City Manager may require the installation of metal, plastic or wooden slats for screening purposes upon a finding that such screening is needed to provide greater compatibility with existing or future development of the land in the adjacent areas.

(D) Existing oil well sites shall be enclosed in accordance with this subchapter within one year after the effective date of this chapter (January 27, 1977).

G.11.10 Setback Areas

(A) Notwithstanding any other provisions of this subchapter to the contrary and except as provided in division (B) of this section, fences and walls shall not be placed in the front and exterior side yard setback area established by the zoning ordinance of the city.

(B) Provided that, however, any oil well, storage tank or related facility which, on the effective date of this chapter, is located in such a setback area shall be fenced or walled in accordance with the other provisions of this subchapter; except that such fence or wall shall not extend into any dedicated right-of-way.

G.11.11 Appearance

(A) All equipment and structures shall be painted and maintained in a neat and clean condition.

(B) Any oil well sites abutting a public street which is paved and open to traffic shall be subject to additional landscaping and screening requirements in the areas between the street right-of-way line and the enclosure fence or wall, if so determined by the City Manager.

(C) Landscaping shall be maintained in a neat and orderly manner as prescribed by the City Manager.

G.12. Ventura County

Ventura County's regulation are codified under Division 8, Planning and Development and contain a number of requirements summarized below. The purpose of this section is to establish reasonable and uniform limitations, safeguards and controls for oil and gas exploration and production facilities and operations within the County which will allow for the reasonable use of an important County resource. These regulations shall also ensure that development activities will be conducted in harmony with other uses of land within the County and that the rights of surface and mineral owners are balanced.

G.12.1 Required Permits.

No oil or gas exploration or production related use may commence without or be inconsistent with a Conditional Use Permit approved pursuant to this Chapter. Furthermore, a Zoning Clearance must be obtained by the permittee to confirm consistency with the Zoning Ordinance and/or Conditional Use Permit prior to drilling every well, commencing site preparation for such well(s), or installing related

appurtenances, as defined by the Planning Director. However, a single Zoning Clearance may be issued for more than one well or drill site or structure.

G.12.2 Oil Development Guidelines

The general guidelines that follow shall be used in the development of conditions which will help ensure that oil development projects generate minimal negative impacts on the environment. The guidelines shall be applied whenever physically and economically feasible and practicable, unless the strict application of a particular guideline(s) would otherwise defeat the intent of other guidelines. An applicant should use the guidelines in the design of the project and anticipate their use as permit conditions, unless the applicant can demonstrate that they are not feasible or practicable.

Permit areas and drill sites should generally coincide and should only be as large as necessary to accommodate typical drilling and production equipment.

The number of drill sites in an area should be minimized by using centralized drill sites, directional drilling and other techniques.

Drill sites and production facilities should be located so that they are not readily seen.

Permittees and operators should share facilities such as, but not limited to, permit areas, drill sites, access roads, storage, production and processing facilities and pipelines.

The following guidelines shall apply to the installation and use of oil and gas pipelines:

- a. Pipelines should be used to transport petroleum products off-site to promote traffic safety and air quality.
- b. The use of a pipeline for transporting crude oil may be a condition of approval for expansion of existing processing facilities or construction of new processing facilities.
- c. New pipeline corridors should be consolidated with existing pipeline or electrical transmission corridors where feasible, unless there are overriding technical constraints or significant social, aesthetic, environmental or economic reasons not to do so.
- d. When feasible, pipelines shall be routed to avoid important resource areas, such as recreation, sensitive habitat, geological hazard and archaeological areas. Unavoidable routing through such areas shall be done in a manner that minimizes the impacts of potential spills by considering spill volumes, durations, and projected paths. New pipeline segments shall be equipped with automatic shutoff valves, or suitable alternatives approved by the Planning Director, so that each segment will be isolated in the event of a break.
- e. Upon completion of pipeline construction, the site shall be restored to the approximate previous grade and condition. All sites previously covered with native vegetation shall be reseeded with the same or recovered with the previously removed vegetative materials, and shall include other measures as deemed necessary to prevent erosion until the vegetation can become established, and to promote visual and environmental quality. (Am. Ord. 3810--5/5/87; Am. Ord. 3900--6/20/89)

Cuts or fills associated with access roads and drill sites should be kept to a minimum to avoid erosion and visual impacts. They should be located in inconspicuous areas, and generally not exceed ten vertical feet. Cuts or fills should be restored to their original grade once the use has been discontinued.

Gas from wells should be piped to centralized collection and processing facilities, rather than being flared, to preserve energy resources and air quality, and to reduce fire hazards and light sources. Oil should also be piped to centralized collection and processing facilities, in order to minimize land use conflicts and environmental degradation, and to promote visual quality. (Am. Ord. 3810--5/5/87)

Wells should be located a minimum of 800 feet from occupied sensitive uses. Private access roads to drill sites should be located a minimum of 300 feet from occupied sensitive uses, unless this requirement is waived by the occupant.

Oversized vehicles should be preceded by lead vehicles, where necessary for traffic safety.

Lighting should be kept to a minimum to approximate normal nighttime light levels.

In the design of new or modified oil and gas production facilities, best accepted practices in drilling and production methods should be utilized, if capable of reducing factors of nuisance and annoyance.

G.12.3 Setbacks

No well shall be drilled and no equipment or facilities shall be permanently located within:

- a. 100 feet of any dedicated public street, highway or nearest rail of a railway being used as such, unless the new well is located on an existing drill site and the new well would not present a safety or right-of-way problem. If aesthetics is a problem, then the permit must be conditioned to mitigate the problem.
- b. 500 feet of any building or dwelling not necessary to the operation of the well, unless a waiver is signed pursuant to Sec. 8107-5.6.25, allowing the setback to be reduced. In no case shall the well be located less than 100 feet from said structures. (Am. Ord. 3730--5/7/85);
- c. 500 feet of any institution, school or other building used as a place of public assemblage, unless a waiver is signed pursuant to Sec. 8107-5.6.25, allowing the setback to be reduced. In no case shall any well be located less than 300 feet from said structures. (Am. Ord. 3730--5/7/85);
- d. 300 feet from the edge of the existing banks of "Red Line" channels as established by the Ventura County Flood Control District (VCFCD), 100 feet from the existing banks of all other channels appearing on the most current United States Geologic Services (USGS) 2,000' scale topographic map as a blue line. These setbacks shall prevail unless the permittee can demonstrate to the satisfaction of the Public Works Agency that the subject use can be safely located nearer the stream or channel in question without posing an undue risk of water pollution, and impairment of flood control interests. In no case shall setbacks from streams or channels be less than 50 feet. All drill sites located within the 100-year flood plain shall be protected from flooding in accordance with Flood Control District requirements.
- e. The applicable setbacks for accessory structures for the zone in which the use is located.
- f. 100 feet from any marsh, small wash, intermittent lake, intermittent stream, spring or perennial stream appearing on the most current USGS 2000' scale topographic map, unless a qualified biologist, approved by the County, determines that there are no significant biological resources present or that this standard setback should be adjusted.

G.12.4 Removal of Equipment

All equipment used for drilling, redrilling, and maintenance work on approved wells shall be removed from the site within 30 days of the completion of such work unless a time extension is approved by the Planning Director.

G.12.5 Securities

Prior to the commencement or continuance of drilling or other uses on an existing permit, the permittee shall file, in a form acceptable to the County Counsel and certified by the County Clerk, a bond or other security in the penal amount of not less than \$10,000.00 for each well that is drilled or to be drilled. Any operator may, in lieu of filing such a security for each well drilled, redrilled, produced or maintained, file a security in the penal amount of not less than \$10,000.00 to cover all operations conducted in the County of Ventura, a political subdivision of the State of California, conditioned upon the permittee well and truly obeying, fulfilling and performing each and every term and provision in the permit. In case of any failure by the permittee to perform or comply with any term or provision thereof, the Planning Commission may, after notice to the permittee and a public hearing, by resolution, determine the amount of the penalty and declare all or part of the security forfeited in accordance with its provisions. The sureties and principal will be jointly and severally obligated to pay forthwith the full amount of the forfeiture to the County of Ventura. The forfeiture of any security shall not insulate the permittee from liability in excess of the sum of the security for damages or injury, or expense or liability suffered by the County of Ventura from any breach by permittee of any term or condition of said permit or of any applicable ordinance or of this security. No security shall be exonerated until after all the applicable conditions of the permit have been met.

G.12.6 Dust Prevention and Road Maintenance

The drill site and all roads or hauling routes located between the public right-of-way and the subject site shall be improved or otherwise treated as required by the County and maintained as necessary to prevent the emanation of dust. Access roads shall be designed and maintained so as to minimize erosion, prevent the deterioration of vegetation and crops, and ensure adequate levels of safety.

G.12.7 Light Emanation

Light emanation shall be controlled so as not to produce excessive levels of glare or abnormal light levels directed at any neighboring uses. Lighting shall be kept to a minimum to maintain the normal night-time light levels in the area, but not inhibit adequate and safe working light levels. The location of all flood lights and an outline of the illuminated area shall be shown on the landscape plan, if required, or on the requisite plot plan.

G.12.8 Painting

All permanent facilities, structures, and aboveground pipelines on the site shall be colored so as to mask the facilities from the surrounding environment and uses in the area. Said colors shall also take into account such additional factors as heat buildup and designation of danger areas. Said colors shall be approved by the Planning Director prior to painting of facilities.

G.12.9 Site Restoration

Within 90 days of revocation, expiration or surrender of any permit, or abandonment of the use, the permittee shall restore and revegetate the premises to as nearly its original condition as is practicable, unless otherwise requested by the landowner.

G.12.10 Insurance

The permittee shall maintain, for the life of the permit, liability insurance of not less than \$500,000 for one person and \$1,000,000 for all persons and \$2,000,000 for property damage. This requirement does not preclude the permittee from being self-insured.

G.12.11 Noise Standard.

Unless herein exempted, drilling, production, and maintenance operations associated with an approved oil permit shall not produce noise, measured at a point outside of occupied sensitive uses such as residences, schools, health care facilities, or places of public assembly, that exceeds the following standard or any other more restrictive standard that may be established as a condition of a specific permit. Noise from the subject property shall be considered in excess of the standard when the average sound level, measured over one hour, is greater than the standard that follows. The determination of whether a violation has occurred shall be made in accordance with the provisions of the permit in question.

Nomenclature and noise level descriptor definitions are in accordance with the Ventura County General Plan Goals, Policies and Programs and the Ventura County General Plan Hazards Appendix. Measurement procedures shall be in accordance with the Ventura County General Plan Hazards Appendix.

The maximum allowable average sound level is as follows:

One Hour Average Noise Levels (LEQ)

<u>Time Period</u>	<u>Drilling and Maintenance Phase</u>	<u>Producing Phase</u>
Day (6:00 a.m. to 7:00 p.m.)	55 dB(A)	45 dB(A)
Evening (7:00 p.m. to 10:00 p.m.)	50 dB(A)	40 dB(A)
Night (10:00 p.m. to 6:00 a.m.)	45 dB(A)	40 dB(A)

For purposes of this section, a well is in the “producing phase” when hydro-carbons are being extracted or when the well is idled and not undergoing maintenance. It is presumed that a well is in the “drilling and maintenance phase” when not in the “producing phase.”

G.12.12 Compliance with Noise Standard

When a permittee has been notified by the Planning Division that his operation is in violation of the applicable noise standard, the permittee shall correct the problem as soon as possible in coordination with the Planning Division. In the interim, operations may continue; however, the operator shall attempt to minimize the total noise generated at the site by limiting, whenever possible, such activities as the following:

- a. hammering on pipe;
- b. racking or making-up of pipe;
- c. acceleration and deceleration of engines or motors;
- d. drilling assembly rotational speeds that cause more noise than necessary and could reasonably be reduced by use of a slower rotational speed;
- e. picking up or laying down drill pipe, casing, tubing or rods into or out of the drill hole.

If the noise problem has not been corrected by 7:00 p.m. of the following day, the offending operations, except for those deemed necessary for safety reasons by the Planning Director upon the advice of the Division of Oil and Gas, shall be suspended until the problem is corrected.

G.12.13 Limited Drilling Hours

All drilling activities shall be limited to the hours of 7:00 a.m. through 7:00 p.m. of the same day when they occur less than 800 feet from an occupied sensitive use. Nighttime drilling shall be permitted if it can be demonstrated to the satisfaction of the Planning Director that the applicable noise standard can be met or that all applicable parties within the prescribed distance have signed a waiver pursuant to Section 8107-5.6.25.

G.12.14 Fencing.

All active well sites (except submersible pumps), sumps and/or drainage basins or any machinery in use or intended to be used at the well site or other associated facilities shall be securely fenced, if required, based on the Planning Director's determination that fencing is necessary due to the proximity of nearby businesses, residences, or other occupied sensitive uses. A single, adequate fence which is compatible with the surrounding area, may be used to enclose more than one oil well or well site and appurtenances. Location of fences shall be shown on a submitted plot plan and/or landscape plan, if required. Fences must meet all Division of Oil and Gas regulations.

G.12.15 Screening and Landscaping

All oil and gas production areas shall be landscaped so as to screen production equipment in a manner consistent with the natural character of the area, if required, based on the Planning Director's determination that landscaping is necessary. Required landscaping shall be implemented in accordance with a landscape and irrigation plan to be approved by the Planning Director or his/her designee after consultation with the property owner. The landscape plan shall be consistent with the Ventura County Guide to Landscape Plans and shall include measures for adequate screening of producing wells and permanent equipment from view of public roads or residential uses, revegetation of all cut and fill banks, and the restoration of disturbed areas of the site not directly related to oil and gas production. Low water usage landscaping and use of native plants shall be encouraged.

G.13. Kern County

Chapter 19-98, Oil and Gas Code was adopted by Kern County with the purpose of promoting the economic recovery of oil, gas and other hydrocarbon substances in a manner compatible with surrounding land uses and protection of the public health and safety by establishing reasonable limitations, safeguards and controls on exploration, drilling and production of hydrocarbon resources. The procedures and standards contained in the Oil and Gas Code apply to all exploration drilling and production activities related to oil, gas and other hydrocarbon substances carried out in unincorporated Kern County. The code was last updated in 1994.

Drilling can occur unrestricted in Agriculture, Natural Resource or Industrial districts provided they are in compliance with state law. Drilling by ministerial permit is required in Light Industrial and Recreation Forestry districts. Drilling by conditional use permit is required in any other zone district. The main development standards are provided as follows:

All wells drilled for the exploration for or development or production of oil, gas and other hydrocarbon substances and related facilities and activities shall comply with the following standards:

- A. No oil or gas well shall be drilled within 100 feet of any public highway or building not necessary to the operation of the well, or within 150 feet of any dwelling, or within 300 feet of any building used as a place of public assembly, institution or school, or within 50 feet of any building utilized for commercial purposes constructed prior to the commencement of such drilling, without the written consent of the owner of such structure.
- B. All drilling and production activities shall conform to all applicable fire and safety regulations, and firefighting apparatus and supplies required by the county fire department shall be maintained on the site at all times during drilling and production operations.
- C. No signs, other than directional and warning signs and those required for identification of the well, shall be constructed, erected, maintained or placed on the premises or any part thereof, except those required by law or ordinance to be displayed in connection with the drilling or maintenance of the well.
- D. Sanitary toilet and washing facilities, if required by the county health department or other governmental agencies, shall be installed and maintained in a clean and sanitary condition during drilling operations, and at such other times as specified by these agencies.
- E. Proven technological improvements generally accepted and used in drilling and production methods shall be employed as they may become available if they are capable of reducing nuisances or annoyances.
- F. All derricks, boilers and other drilling equipment employed pursuant to this section to drill any well hole or to repair, clean out, deepen or redrill any completed or drilling well shall be removed within 90 days after completion of production tests following completion of such drilling, or after abandonment of any well, unless such derricks, boilers and drilling equipment are to be used within a reasonable time, as determined by the planning director, for the drilling of another well or wells on the premises.

G. Within 90 days after any well has been placed in production, or after its abandonment, earthen sumps used in drilling or production or both (unless such sumps are to be used within a reasonable time for the drilling of another well or wells) shall be filled and the drilling site restored as nearly as practicable to a uniform grade. Temporary earthen sumps may be used for cleanout or remedial work on an existing well or other production facility. However, these sumps shall be filled and the site restored as nearly as practicable to uniform grade within 90 days after the cleanout or other remedial work is completed. Such restoration work shall comply with all applicable regulations of the DOGGR.

H. Any derrick used for servicing operations shall be of the portable type, provided, however, that upon presentation of proof that the well is of such depth or has such other characteristics, or for other cause, that a portable type derrick will not properly service such well, the planning director may approve the use of a standard type of derrick.

I. Whenever oil or gas is produced into and shipped from tanks located on the premises, such tanks, whenever located within 500 feet of any dwelling or commercial building, shall be surrounded by shrubs or trees, planted and maintained so as to develop attractive landscaping, or shall be fenced in such a manner as to, insofar as practicable, screen such tanks from public view. Fencing shall comply with the requirements of the DOGGR.

K. Whenever a well is located within 500 feet of an existing dwelling unit, except in case of an emergency, no materials, equipment, tools or pipe used for either drilling or production operations shall be delivered to or removed from the drilling site, except between the hours of 8:00 a.m. and 8:00 p.m., unless otherwise required by the DOGGR.

K. Pumping wells shall be operated by electric motors or muffled internal combustion engines.

L. The height of all pumping units shall not exceed 35 feet and shall be painted and kept in neat condition.

M. All vehicle parking and maneuvering areas shall be treated and maintained with oiled sand or a similar dust-binding material.

N. After production begins and a pump is installed on the wellhead, a fence at least six feet in height shall be installed around the pump site or drilling island for public safety. This fence shall be constructed of chain link with wood or metal slats or other screening fence as may be approved by the planning director. This fencing and screening requirement shall apply only to those pump sites located within 500 feet of any dwelling. Such fencing shall comply with the requirements of the DOGGR.

O. All required federal, state and county rules and regulations shall be complied with at all times.

G.14. Orange County

Division 8 of the Orange County Code covers oil drilling and production regulations and it was last amended in 1983. The code is known as The Orange County Oil Code. The intent of the code is to regulate the exploration and drilling for petroleum so that it can be in harmony with other land uses in surrounding properties.

G.14.1 Bonds.

(a) *Existing wells.* A bond in the form required by this section shall be filed for each existing well within thirty (30) days following the effective date of this code.

(b) *New wells.* A bond in the form required by this section shall accompany every application for the drilling or redrilling of any oil well for which a bond is not on file.

(c) *Bond forms.* Bonds shall be on a form approved by the County Counsel and shall be filed with the Environmental Management Agency.

(1) Single bonds: Corporate surety bonds in the penal sum of five thousand dollars (\$5,000.00). The bond shall be executed by the operator as principal and by the authorized surety company as surety and conditioned that the principal named in the bond shall faithfully comply with all the provisions of this code in drilling or redrilling and maintaining all production facilities as required by this code until properly abandoned in conformity with the provisions hereof. The bond shall secure the County of Orange against all costs, charges and expenses incurred by it by reason of the failure of the principal to fully comply with the provisions of this code. The bond shall include the correct name or number of the well and such other information as may be necessary to readily identify the oil well.

(2) Blanket bonds: Any operator may, in lieu of filing a single bond for each well as required by the foregoing subsections (a) and (b) of this section, file a bond in the amount of twenty-five thousand dollars (\$25,000.00) to cover all of his said operations conducted within the County of Orange. A rider to said bond shall be filed with the Director showing the correct name or number of the well and such other information as may be necessary to readily identify the oil well for each well covered by the bond.

G.14.2 Drilling and Operating

(a) *Location of oil wells.*

(1) No oil well shall be drilled within the following distances measured from the centerline of any local street or any highway shown on the Master Plan of Arterial Highways, as amended: Major highways - 210 feet , Primary highways - 200 feet , Secondary highways - 190 feet, Local streets - 180 feet, except that in the case of a local street, the right-of-way of which is more than sixty (60) feet in width, the distance shall be one hundred fifty (150) feet plus one-half of the existing right-of-way of which is more than sixty (60) feet in width, the Director may determine that because of the degree of slope or other feature of the topography, a lesser distance than one-half of the right-of-way in addition to the one hundred fifty (150) feet is reasonable to insure the safety of the traveling public in conformity with the purpose and intent of this provision, in which case the distance thus set by the Director shall prevail.

No oil well shall be drilled within one hundred fifty (150) feet of the nearest rail of a railway which carries passengers for hire.

(2) No oil well shall be drilled within one hundred fifty (150) feet of any building used for human occupancy, nor shall any such buildings be erected within one hundred fifty (150) feet of any oil well not abandoned, except buildings incidental to the operation of the well. No oil well shall be drilled within one hundred fifty (150) feet from the outer boundary line.

(3) No oil well shall be drilled within three hundred (300) feet of any building used as a place of public assemblage, institution or schools; nor shall any such building be erected within three hundred (300) feet of any oil well not abandoned.

(4) No oil well shall be drilled within the following areas which are hereby declared scenic and recreational areas:

- a. The area within one-quarter mile of the boundary of O'Neill Park and of Irvine Park;
- b. The area within one mile landward of the line of Upper Newport Bay as established and adjudicated by Superior Court Case No. 20436;
- c. The area within one mile landward of the coastline measured from mean low water datum as established by the U.S. Coast and Geodetic Survey from the easterly jetty of the harbor entrance at Newport Beach to the San Diego County line.

(5) Permitted, subject to conditions.

a. Within any district not designated with (O) on the Orange County Zoning Map and not above described as a scenic and recreational area, the use of land for the drilling and production of oil, gas and other hydrocarbon substances, is permitted upon the hereinafter described "primary conditions," if at the time of the application for a permit to drill there exists either:

- 1. Twenty-five (25) or more dwellings within one thousand three hundred twenty (1,320) feet of the proposed location of the well; or
- 2. Six (6) or more dwellings within six hundred sixty (660) feet of the proposed location of the well; or
- 3. Any legally established structure used for housing of mentally or physically ill or aged persons having five (5) or more beds, is within six hundred sixty (660) feet of the proposed location of the well; or
- 4. In the determination of conditions applicable outside of the (O) Districts, improvements and oil wells located within (O) Districts shall not be considered.

b. Within any district not designated with (O) on the Orange County Zoning Map and not above described as a scenic and recreational area, the use of land for the drilling and production of oil, gas and other hydrocarbon substances is permitted upon the hereinafter described "secondary conditions," if at the time of the application for a permit to drill neither 1. nor 2. nor 3., as described in subsection (a) above exists. In the determination of conditions applicable outside of the (O) Districts, improvements and oil wells located within (O) Districts shall not be considered.

c. The word "dwelling" as used in this section means any building or structure which has for its primary purpose human residence.

d. Primary conditions.

- 1. For site selection and preparation.

A. Drill site location: No drill site shall be located closer than one thousand three hundred twenty (1,320) feet from any drill site other than a drill site located in an (O) District. For the purpose of this article, the drill site for an oil well existing on May 28, 1958, shall be deemed to be all of the area within one hundred (100) feet from the center of the oil well.

B. Drill site area: No drill site shall contain more than two and one-half (2 1/2) acres or be of such size or shape that it cannot be contained within a square three hundred thirty (330) feet by three hundred thirty (330) feet.

C. Number of wells: The number of wells which may be drilled shall not exceed one (1) well to each five (5) acres in the leased area.

D. Distance from dwelling: No oil well shall be drilled within one hundred seventy-five (175) feet of any dwelling.

E. Hours of operation: All work in preparation of the site for drilling shall be conducted only between the hours of 7:00 a.m. and 7:00 p.m.

F. Roads and excavations: Roads and other excavations shall be planned, constructed and maintained so as to provide stability of fill, minimize disfigurement of the landscape, maintain natural drainage and minimize erosion.

G. Cut and fill slopes: No slope of cut or fill shall have a gradient steeper than one foot rise in one foot horizontal measurement. Where by reason of the soil condition, the condition of the terrain or size or length of the cut required it is impractical to provide such gradient, the Superintendent of Building and Safety may grant an exception to such requirement provided he first finds that compliance with said requirement is impractical and that the integrity of the neighborhood will be maintained if such exception is granted.

H. Slope planting: All excavation slopes, both cut and fill, shall be planted and maintained with grasses, plants or shrubs during drilling and production operations, but only to an extent reasonably comparable with the general status of undisturbed surfaces in the vicinity.

I. Fencing:

aa. Drilling. Prior to the commencement of drilling operations, the drill site shall be enclosed by an eight-foot-high solid fence to reduce sound.

bb. Production. Upon completion of the drilling operation, the drill site shall be enclosed by a solid redwood fence or a solid masonry wall eight (8) feet high on all sides, except those sides on which exists a natural or artificial barrier of equal or greater solidity and height. Solid redwood board gates shall be installed and be equipped with keyed locks and shall be kept locked at all times when unattended. Any and all supporting members of the fence shall be on the interior of said fence. Such fence or wall shall be in lieu of any other fencing requirements.

K. Pipelines: All off-site pipelines serving the drill site shall be buried underground.

K. Parking: Parking for all vehicles including those of employees shall be provided on the drill site. Such parking areas shall be surfaced and maintained to prevent dust and mud.

L. Sanitary facilities: Sanitary facilities shall be provided at the drill site and shall be in accordance with Standards of the Orange County Health Department.

2. For drilling. Drilling operations shall be subject to the following limitations:

A. Soundproofing:

aa. When drilling operations are limited to the hours of 7:00 a.m. to 7:00 p.m., with no operation on Sunday, only minimum soundproofing, as determined by the Director of Building and Safety, shall be required.

bb. When drilling operations are to be conducted continuously, the derrick and all machinery shall be enclosed in soundproofing material or otherwise made soundproof to the satisfaction of the Director of Building and Safety.

B. Lights: All lights shall be directed or shielded so as to confine direct rays to the drill site.

C. Delivery of equipment: The delivery or removal of equipment or material from the drill site shall be limited to the hours between 7:00 a.m. and 7:00 p.m., except in case of emergency.

D. Drill pipe storage: No drill pipe shall be racked and made up except between the hours of 7:00 a.m. and 7:00 p.m., Monday through Saturday, except within the derrick when soundproofed as specified in bb. above.

E. Power sources: All power sources shall be electric motors or muffled internal-combustion engines.

F. Maintenance: The drill site and all facilities shall be maintained in a neat, clean and orderly condition.

3. For production operation.

A. Underground installation: All wellhead equipment shall be installed in cellars and no portion of such equipment shall be or project above the surface of the surrounding ground.

B. Motive power soundproofing: Motive power for production operations shall be completely enclosed in a building or buildings insulated with sound-deadening materials. Such buildings shall be of residential appearance and no portion thereof shall exceed sixteen (16) feet in height.

C. Motive power location: Motive power for production operations shall be located on a drill site.

D. Height of installation: Except as otherwise herein specifically permitted, no permanent installations at the drill site shall be or project more than eight (8) feet above the surface of the surrounding ground.

E. Storage of equipment: There shall be no storage of material, equipment, machinery or vehicle which is not for immediate use or servicing of an installation on the drill site.

F. Maintenance: The drill site and all permanent installations shall be maintained in a neat, clean and orderly condition.

G. Storage tank location: Storage tanks shall be located on a drill site.

H. Storage tank capacity: Storage tank capacity at the drill site shall not exceed a total aggregate of two thousand (2,000) barrels exclusive of processing equipment.

I. All surfaces of permanent installations within the drill site shall be painted flat dark green or flat brown.

K. Removal of oil: Oil produced at the drill site shall be removed therefrom by an underground pipeline or pipeline at all times more than one hundred eighty (180) days from and after the date the first well in the drill site is completed.

K. Refineries: No refinery, dehydrating or absorption plant of any kind shall be constructed, established or maintained on the drill site or within the outer boundary line.

L. Gas burning: Natural gas shall not be vented to the atmosphere nor burned by open flare.

M. Well servicing: No well servicing shall be done except between the hours of 7:00 a.m. to 7:00 p.m. except in case of emergency.

N. Signs: No sign which is visible from outside of the drill site shall be caused, permitted or allowed to be or remain any place on the drill site except: (a) Such signs as are required by law, (b) warning signs, (c) no trespassing signs.

O. Landscaping: Shrubs shall be planted and maintained along the exterior of the fence or wall enclosing the drill site to relieve its monotonous appearance. This requirement shall not be construed to limit or prohibit additional site beautification by landscaping or other planting.

P. Off-site pipelines: Within thirty (30) days from and after completion of the drilling of the first well on a drill site, the work of burying all off-site pipelines shall be commenced and completed within a reasonable time thereafter.

e. Secondary conditions:

1. For site selection and preparation.

A. Drill site location: No drill site shall be located closer than one thousand three hundred twenty (1,320) feet from any other drill site. For the purpose of this article the drill site, for an oil well existing on the effective date of Ordinance No. 1096 shall be deemed to be all of the area within one hundred (100) feet from the center of the oil well.

B. Drill site area: No drill site shall contain more than two and one-half (2 1/2) acres or be of such size or shape that it cannot be contained within a square three hundred thirty (330) feet by three hundred thirty (330) feet.

C. Roads and excavations: Roads and other excavations shall be planned, constructed and maintained so as to provide stability of fill, minimize disfigurement of the landscape, maintain natural drainage and minimize erosion.

D. Cut and fill slopes: No slope of cut or fill shall have a gradient steeper than one foot rise in one foot horizontal measurement. Where by reason of the soil condition of the terrain or size or length of the cut required it is impractical to provide such gradient, the Superintendent of Building and Safety may grant an exception to such requirement provided he first finds that compliance with said requirement is impractical and that the integrity of the neighborhood will be maintained if such exception is granted.

E. Slope planting: All excavation slopes, both cut and fill, shall be planted and maintained with grasses, plants or shrubs during drilling and production operations, but only to an extent reasonably comparable with the general status of undisturbed surfaces in the vicinity.

F. Off-street parking: An off-street parking area containing not less than five (5) parking spaces, each of which shall be at least ten (10) feet by twenty (20) feet, shall be provided for each well being drilled and shall be surfaced and maintained in accordance with the requirements of the Orange County Oil Code.

G. Sanitary facilities: Sanitary facilities shall be provided at the drill site and shall be in accordance with standards of the Orange County Health Department.

2. For drilling.

A. Lights: All lights shall be directed or shielded so as to confine direct rays to the drill site.

B. Power sources: All power sources shall be electric motors or muffled internal-combustion engines.

3. For production operations.

A. Motive power locations: Motive power for production operations shall be located on a drill site.

B. Height of pumping equipment: No walking beam type pumping equipment shall project more than ten (10) feet at its highest point of rise above the surrounding ground levels.

C. Storage tank location: Storage tanks shall be located on the drill site.

D. Height of storage tanks: No oil storage tank shall exceed eighteen (18) feet in height above the ground level.

E. Height of wash tanks: No wash tank shall exceed twenty-four (24) feet in height nor exceed eight (8) feet in diameter.

F. Fencing: Within thirty (30) days from completion of the first well on a drill site, such site shall be enclosed by a solid redwood fence or solid masonry wall eight (8) feet high on all sides, except those sides on which exists a natural or artificial barrier of equal or greater solidity and height.

Solid redwood board gates shall be installed and be equipped with keyed locks and shall be kept locked at all times when unattended. Such fence or wall shall be in lieu of any other fencing requirements.

(6) The Director may suspend any provision of subsection (a) in whole or in part, or impose less restrictive requirements if such provisions or requirements are rendered unnecessary or unreasonable by the then existing special features, such as: Topography, nature of the use and occupancy of and the proximity to buildings on adjoining property, the height, character and structure of such buildings, the type and character of oil field development and may impose additional safety requirements rendered necessary because of such special features.

G.14.3 Abandonment Procedure

It shall be the responsibility of the Director to determine that the drill site and all facilities pertinent thereto have been restored to their original condition as nearly as practicable in conformity with the regulations of this code including the following requirements:

(a) *Standard.*

(1) It shall be the responsibility of the operator to comply with the abandonment provision of this code and he shall furnish the Director the approval of the Division of Oil and Gas, Department of Natural Resources, confirming compliance with all abandonment proceedings under the state laws.

It shall be the responsibility of the operator to comply with the abandonment provision of this code and he shall furnish the Director with a) a copy of the approval of Division of Oil and Gas, Department of Natural Resources, confirming compliance with all abandonment proceedings under the State law, and b) a notice of intention to abandon under the provisions of this section and stating the date such work will be commenced. Abandonment may then be commenced on or subsequent to the date so stated.

Abandonment shall be approved by the Director after restoration of the drill site and the subsurface thereof has been accomplished in conformity with the following requirements:

- a. The derrick and all appurtenant equipment thereto shall be removed from the drill site.
- b. All tanks, towers and other surface installations shall be removed from the drill site.
- c. All concrete, pipe, wood and other foreign materials shall be removed from the drill site to a depth of six (6) feet below grade, unless part of a multi-well cellar then being used in connection with any other well for which a permit has been issued.
- d. The oil well casing shall be cut off at a point six (6) feet below the drill site grade at the cellar, but in no case below sea level. Nothing shall be placed in the hole above the point of cutoff until the cutoff has been inspected by the Director and by him found to be in compliance with all applicable provisions of law.
- e. The top twenty-five (25) feet of the remaining casing shall be filled with a cement plug to prevent gas fumes from escaping.

f. A steel cap of not less than the same thickness as the well casing shall be tack welded to the casing in a minimum of four (4) places.

g. All holes and depressions shall be filled and packed with native earth. All oil, waste oil, refuse or waste material shall be removed from the drill site.

G.14.4 Called Inspections

Except as provided in subsection (b) hereof no drilling, redrilling, work or construction shall be done beyond the point indicated in each successive inspection without first obtaining the written approval of the Director. Inspections are required at various stages including prior to drilling, at completion of drilling and at the time of abandonment.

G.14.5 Storage Facilities

(a) *Storage capacity.* Maximum tank capacity for producing oil well: If oil or other liquid storage facilities are established incidental to a producing well on a drill site, such storage facilities shall not exceed a total of two thousand (2,000) barrels per well.

(b) *Design and construction of tanks.* All tanks shall be constructed in detailed conformity with the current A.P.I. Standards applicable thereto.

(c) *Foundations and supports.* Tanks shall rest directly on the ground or on foundations, supports or pilings of concrete, masonry, steel, crushed rock or wood. Exposed pilings or steel supports shall be protected by fire-resistive materials to provide a fire-resistance rating of not less than two (2) hours. Stairs, platforms and walkways shall be of metal, concrete or wood.

(d) *Spacing between tanks.*

(1) No tank for the storage of any flammable liquid shall be located closer than three (3) feet of any other such tank.

(2) For tanks above fifty thousand (50,000) gallons individual capacity for the storage of any flammable liquid, except crude petroleum, the distance between such tanks shall not be less than one-half the diameter of the smaller tank.

(3) Tanks for the storage of crude petroleum having capacities not exceeding one hundred twenty-six thousand (126,000) gallons (3,000 barrels) shall not be less than three (3) feet apart. Tanks having a capacity in excess of one hundred twenty-six thousand (126,000) gallons (3,000 barrels) shall be not less than the diameter of the smaller tank apart.

(4) The minimum separation between a liquefied petroleum gas container and any other tanks for the storage of any flammable liquids shall be twenty (20) feet. Suitable means shall be taken to prevent the accumulation of flammable liquids under adjacent liquefied petroleum gas containers such as by diking, diversion curbs or grading. When flammable liquid storage tanks are diked, the liquefied petroleum gas containers shall be outside the diked area and at least ten (10) feet away from the center line of the dikes. The foregoing provision shall not apply when liquefied petroleum gas

containers of one hundred twenty-five (125) gallons or less capacity are installed adjacent to Class III flammable liquid storage tanks of two hundred seventy-five (275) gallons or less capacity.

(e) *Location of tanks.* Minimum distance between any outside aboveground tanks to the nearest building or line of adjoining property which may be built upon are based on the specifics of tank use and are provided in the Orange County Code, and not provided here.

G.14.6 Fire Prevention; Sources of Ignition

(a) *Electrical equipment.* All electrical equipment shall be installed and maintained in accordance with the requirements of the National Electrical Code as amended and adopted by the County of Orange.

(b) *Internal-combustion engines, storage tanks, fired equipment and open flames.* No internal-combustion engine, storage tanks, boiler-fired equipment or open flames except welding supervised by the production foreman, drilling foreman, drilling engineer, drilling supervisors or safety supervisors shall be located closer than twenty-five (25) feet to a producing well nor closer than one hundred (100) feet to a drilling well. Internal-combustion engines (and their fuel tanks) used in the drilling, production and servicing of oil wells are exempt from the above provisions. During drilling operations on a drill site of two (2) acres or less in area where two (2) or more wells are drilled and drilling and production equipment are located on such sites, the provisions in this subsection relating to distances of storage tanks may be altered at the discretion of the Director after consideration of the special features such as: Topographical conditions; nature of occupancy and proximity to buildings on adjoining property and height and character of construction of such buildings; capacity and construction of proposed tanks and character of liquids to be stored; degree of private fire protection to be provided, and facilities of the fire department to cope with flammable liquid fires.

(c) *Muffling exhaust.* The engines used in connection with the drilling of any oil well or in any production equipment of any oil well shall be equipped with an exhaust muffler to prevent excessive or unusual noise. Means shall be provided on all engines used during drilling operations to prevent the escape of flames, sparks, ignited carbon and soot.

(d) *Flammable waste gases and vapors.* Flammable waste gases or vapors escaping from a production drill site shall be burned or controlled to prevent hazardous concentrations reaching sources of ignition or otherwise endangering the area.

(1) Flares. Approved means of ignition shall be provided whenever hydro-carbon gases are released to the air through flares.

(2) Venting. Gases or vapors not burned may be discharged to the atmosphere at not less than twenty (20) feet vertically above grade and not less than twenty-five (25) feet horizontally from any source of ignition and at locations that do not create a hazard to the general area.

(e) *Waste control of drill site.*

(1) No person shall permit or cause to be permitted the discharge of any liquid containing crude petroleum or its products into or upon any street, public highway, drainage canal or ditch, storm drain or flood-control channel.

(2) No person shall permit or cause to be permitted any oil, waste oil, refuse or waste material to be on the surface of the ground, under, around or near any oil well, pump, boiler, oil storage tank or building except within an oil sump, tank, catchment basin or skimming pond. No new sumps or ponds shall be created without the written approval of the Director of the Environmental Management Agency.

(3) All land within twenty-five (25) feet of any oil well, flammable liquid tank or other appurtenance to any such well shall be at all times kept free and clear of dry weeds, grass, rubbish or other combustible debris. When this distance is not sufficient to provide reasonable fire safety, a greater distance may be required which shall not exceed the height of the derrick or greatest dimension of the tank.

(f) *Smoking.* No person shall smoke nor cause, permit or allow another person to smoke within fifty (50) feet of any well, tank location or any area contaminated by oil or waste gas.

(g) *Fire control equipment.* A minimum of two (2) fire extinguishers shall be maintained at all oil well locations where drilling, servicing or repair work is being conducted. Each such extinguisher shall have a minimum classification of 20B as set forth in National Fire Protection Association No. 10, "Standard for the Installation of Portable Fire Extinguishers."