



PROPOSED AMENDMENT

Chapter 18.78 is added to Title 18 of the Long Beach Municipal Code to read as follows:

CHAPTER 18.78

Construction in the Vicinity of Abandoned Oil Wells

18.78.010 – Applicability.

All construction activities on a privately-owned parcel, or on a tract or parcel containing an abandoned oil/gas well or wells shall meet the requirements of this Chapter. Construction activities on a privately-owned tract or parcel, or on a tract or parcel with active or idle wells shall comply with Chapter 18.48 of this Code. Construction projects involving assembly uses, caregiving facilities/hospitals, or schools such as those with an, “A,” “I,” or “E,” occupancy classification, as well as all “high rises” occupancy classifications shall meet the current CALGEM standards.

18.78.020 - Exemptions

Additions or Modifications. Additions or modifications to existing structures that are less than fifty-percent (50%) of the existing floor area of that structure, and which maintain the Separation Rule as defined herein.

18.78.030 – Definitions.

Unless otherwise expressly stated, the following words and terms shall, for the purpose of this Chapter, have the meaning shown in this Section. Where the words or terms are not defined in this Section, Chapter 18.02 of this Code shall apply.

- A. “Applicant” means a permit applicant, developer, owner, permittee, operator, or a representative of the owner who is applying for a building or grading permit to construct in the vicinity of an abandoned oil/gas well(s).
- B. “Close Vicinity” means a well located within the Separation Rule of an abandoned well.
- C. “Construction Activity” means construction activity including, but not limited to, grading, paving, and/or structure development.
- D. “Geologic Energy Management Division” or “CALGEM” means the state agency, or any successor agency, responsible for overseeing the drilling, operation, maintenance, plugging or abandonment of oil, natural gas, and geothermal wells.
- E. Development Coordinator means the Building Official, or designated representative(s) with the authority to review construction activity in the vicinity of oil/gas wells.
- F. “Operator” means any person drilling, maintaining, operating, pumping, or in control of any well.

- G. "Peer Review" means a consultant/team pre-approved by the City, that is charged with the review of oil/gas well abandonment.
- H. "Permittee" means any person or entity seeking to obtain a permit from the City.
- I. "Project Boundary" means the entire proposed construction site, parcel or tract, including the entire area of each and every site, parcel, or tract involved.
- J. "Qualified Professional" means a petroleum engineer currently registered in the State of California and possessing experience in oil/gas well abandonment.
- K. "Separation Rule" means providing ten (10) feet of separation on two sides of the well, fifty (50) feet of separation on the third side of the well, and the remaining side of the well open with an unobstructed vertical clearance for well service and rig access.

A well will meet the Separation Rule if it meets the above definition, or if the applicant can demonstrate to the Development Coordinator that the proposed project will maintain appropriate and safe standard/conventional rig access to the well.

18.78.040 –Prerequisites

Applicants shall complete the following prerequisite items prior to applying for a grading or building permit for construction within the project boundary.

- A. Entitlements. Obtain all of the required land use entitlements of Title 21 (Zoning).
- B. Identify all active, idle, or abandoned wells within the project boundary and all offsite active, idle, or abandoned wells within one hundred (100) feet of the proposed onsite structure(s).
- C. Construction Site Well Review. Complete and submit a Construction Site Well Review (CSWR) Application to CalGEM.
- D. Well Safety Evaluation. Prepare a Well Safety Evaluation per Section 18.78.050.
- E. Leak test Inspection Request. Submit a leak test inspection request to the Development Coordinator per Section 18.78.110.

18.78.050 – Well Safety Evaluation Submittal requirements.

A well safety evaluation report shall be submitted to Development Coordinator for wells within the project boundary and off-site wells within one hundred (100) feet of any proposed structure(s). The report shall include the following:

- A. Well Status Report. Well Status Report by CALGEM, or any successor agency, must be current to within the last twelve (12) months of formal project submittal to Plan Check and be inclusive of all relevant well work. A duplicate of the entire data package submitted to CALGEM shall also be submitted to the Development Coordinator.

B. Well Exhibit. A Well Exhibit shall be submitted to the Development Coordinator for review. The Well Exhibit shall contain of the following elements:

1. Site plan that illustrates all active, idle, or abandoned wells and the location and function of all existing and proposed development, including, but not limited to, paved surfaces, auxiliary structures, and occupied structures within the property boundary. Off-site wells within one hundred (100) feet of a proposed structure shall also be shown on the site plan.
2. For wells within the property boundary:
 - i. Diagram and description of any wells' drill rig accessibility within twenty- four (24) hours of any emergency. Compliance with the Separation Rule shall be clearly shown. If inaccessible within twenty-four (24) hours, a detailed written plan to provide access, including an approximate minimum time when access will be provided shall I also be required.
 - ii. Results of leak testing: Applicant will perform leak test in accordance with Section 18.78.110.

C. Oil Well Assessment: An oil well assessment shall be submitted for all wells not abandoned to current CalGEM, or successor agency, standards that are located within the project boundary and/or within one hundred (100) feet of a proposed onsite structure. The oil well assessment shall include:

- i. A Well bore diagram for each well.
- ii. The Well bore diagram shall include:
 1. Well diameter;
 2. Casing and liner specifications and setting depths;
 3. All cementing operations, including calculations of cement volumes;
 4. Depths of various hydrocarbon zones and fresh-saltwater interfaces; and
 5. Any other data required to analyze the current conditions of the well, including casing recovery operations and the presence of debris in the well hole.

D. Off-site wells within one hundred (100) feet of a proposed onsite structure: If information on a well is unavailable, wells shall be considered active in accordance with Chapter 18.48 of the Long Beach Municipal Code.

E. Wells inaccessible by an emergency rig within twenty-four (24) hours will require further evaluation in accordance with Section 18.78.080.

18.78.060 – Well Abandonment Request

A. Equivalency Request. An Equivalency Standard Request shall be submitted to the Development Coordinator for wells not abandoned to the current CALGEM standards, and which are affected by Construction Activity. The Request shall include the following:

1. Statement. A written statement setting forth the basis for the request and substantiating any claim of impracticality or hardship, for Code modification or a finding of equivalency

to Code requirements for any proposed alternative materials, design, or methods of abandonment or equipment.

2. Any additional relevant information regarding the property, including nearby water injection wells, faults, floodplains, tsunami and/or seiche zones, landslide, or seismic consideration(s).
3. Leak test results in accordance with Section 18.78.120.
4. Long-term Safety Evaluation pursuant to Section 18.78.090, for any development proposing to build in close proximity to, or over an abandoned well(s).
5. The Report shall be stamped, signed, and dated by a Qualified Professional.

B. Review. The Development Coordinator shall have the authority to approve the well(s) “as-is,” impose conditions in accordance with Section 18.78.220, or approve the Well Abandonment Equivalency request and allow the well(s) to be abandoned in accordance with this Section, or deny the Well Abandonment Equivalency request if the City is not able to verify the information provided in the report.

C. Wells within the project boundary and unaffected by Construction Activity, which are not abandoned to any approved current or prior CALGEM standard, may be required to undergo review by the Development Coordinator. The Development Coordinator shall have the authority to approve the well(s) “as-is,” or approve alternative abandonment methods or impose development conditions.

18.78.070- Equivalency Abandonment Standard

Construction proposed over, or within close proximity to, abandoned wells shall not be permitted unless the Development Coordinator has determined that the well(s) has been abandoned in accordance with CALGEM, or any successor agency’s current abandonment standards or to the City’s equivalency standards. Equivalency abandonment requests must be reviewed and approved in accordance with Section 18.78.060 prior to abandonment, and in accordance with the following equivalency standards:

1. A cement plug located at the depth of the last oil/gas zone produced from the well. All perforations shall be plugged with cement, and the plug shall extend at least 100 ft above the top of a landed liner, the uppermost perforations, the casing cementing point, the water shut-off holes, or the oil or gas zone, whichever is higher. If wellbore conditions prevent placement of the plug at the depth of the last zone produced from the well, approximately one hundred (100) feet of cement shall be placed inside and outside of the casing above (but as close as possible to) the last zone produced from the well, but no higher than the base of fresh water zone.
2. A cement plug located at the depth of the base of the freshwater zone in the well. If there is cement behind the casing across the fresh-saltwater interface, a one hundred (100) foot depth cement plug shall be placed inside the casing across the interface. If the top of the cement behind the casing is below the top of the highest saltwater sands, squeeze-cementing shall be required through perforations to protect the freshwater deposits. In addition, a one hundred (100) t foot cement plug shall be placed inside the casing across the fresh-saltwater interface.
3. A cement plug located at the surface. The hole and all annuli shall be plugged at the surface with a cement plug extending at least fifty (50) feet from the top of the cut-off well casing.

4. Leak Test. Perform leak testing per Section 18.78.120.
5. Vent Cones. Install a vent cone in accordance with Section 18.78.140.
6. Indemnity Agreement and Declaration of Covenant. Submit and execute an Indemnity Agreement per Section 18.78.200 and a Declaration of Covenant per Section 18.78.210.
7. Upon receipt of the City's approval per Section 18.78.220, the Applicant may obtain the required permit(s) in accordance with City's Building Code requirements.

18.78.080--Wells not accessible

- A. Access. Due to the uncertainty of future conditions, applicants are encouraged to provide rig access when proposing to develop in close proximity to, r or over wells.
- B. Methane Mitigation. Wells with limited or no access shall I be required to provide methane mitigation in accordance with Chapter 18.79 for construction projects being developed in close proximity to, or over wells, with no or limited rig access.
- C. Confirmation. If the City cannot verify the well abandonment to either CALGEM's current standard or the City's equivalency standard, the well shall be abandoned so that the well passes the leak test and the well shall remain assessible for future testing and no building development shall occur in close proximity to or over the well.

18.78.090 – Long-term safety evaluation.

- A. Purpose. Development projects with structures in close proximity to, y or over an abandoned well shall submit a Long-term safety evaluation.
- B. Submittal. The Long-term safety evaluation shall provide a justification for lack of rig access.

18.78.100 – Above-well head mitigation.

The Applicant's Qualified Professional shall submit mitigation plans for Development Coordinator review in compliance with the City Standards for the well cone and vent system. The location of the well(s) and the associated vent piping system shall be noted on the site plan and the foundation plan, in addition to pages dedicated to the well protection system.

18.78.110 – Leak test request.

A leak test request shall be submitted to Development Coordinator setting forth the following:

1. Well Name;
2. API Number;
3. Location (northing, easting);

4. Equipment to be used in leak testing;
5. Firm name, qualifications, certification and/or license information to perform leak testing; and
6. Signature of Applicant.

18.78.120 – Leak testing.

- A. Examination. Abandoned wells shall be tested for gas leakage and visually inspected for oil leakage.
- B. Detector. A leak test shall be completed utilizing a portable gas detector approved in advance by the Development Coordinator and submitted under the oversight of the Qualified Professional. A portable gas detector calibration form shall be provided to the Development Coordinator for inclusion in the leak test observation report.
- C. Leaking Well. A well shall be considered leaking if the meter reading is greater than (five-hundred) (500) parts per million (ppm) as observed by the Development Coordinator and/or CALGEM representative. If wells are found to be leaking, there shall be a diligent attempt to abandon the wells to current CALGEM well abandonment standards. If the meter reading is between fifty (50) and five-hundred (500) parts per million (ppm), the Development Coordinator shall review the test results with the well exhibit and may require structure offsets and/or a higher-level of methane mitigation design in accordance with Chapter 18.79.
- D. Metal top plate. Following a successful leak test, a metal top plate shall be immediately welded by a licensed welder in the presence of the Development Coordinator and/or CALGEM representative (per CALGEM requirements).
- E. Site Restoration. Following all testing and inspection, the test area shall be returned to its previous state and fencing may be required around the area or the entire site, in accordance with Title 14, Division 2, Chapter 4, Subchapter 3, Article 3, Section 1775 of the California Code of Regulations.
- F. Vent Risers and Vent Cones. Vent risers and vent cones shall be installed in accordance with Sections 18.78.140 and 18.78.160 prior to completing any site grading activities.
- G. Inspections.
 1. Inspections shall be performed by the Development Coordinator during leak testing, metal plate welding, and vent cone installation and completion.
 2. Inspections must be scheduled at least two (2) business days in advance.
 3. Cone and riser installation shall be observed and inspected by Development Coordinator.
- H. Observation Report. The Development Coordinator will review the leak test observation report documenting the date, time, and summary of the testing certified by the Qualified Professional.

18.78.130 – Site Clean-Up

Any potential site cleanup shall be under the direction of City of Long Beach Health Officer or designee, and grading and compaction around the well head shall be per the grading permit requirements of the City.

18.78.140 – Vent cone.

- A. Purpose. Well vent cones are designed to accumulate potential hazardous and explosive gasses that travel through well casings to the ground surface and vent them to an approved location.
- B. Design. Vent cones shall be of a type and design approved by Development Coordinator. The design and installation shall be in conformance with applicable codes, such as the current adopted edition of the California Building Code, Mechanical Code, Plumbing Code, and any additional City standards. Any design not in conformance with this specification shall not be approved, stamped, and signed by a Qualified Professional Engineer licensed in the State of California.
- C. Size. The vent cone has a minimum four (4) foot diameter extending a minimum of two (2) feet above the abandoned well cap and backfilled with three quarter (3/4) inches of gravel.

18.78.150 – Horizontal pipes.

- A. Purpose. Horizontal piping may be necessary to route the vent riser to an appropriate location outside of a building footprint or away from hazardous aboveground locations.
- B. Standards. Horizontal vent piping shall conform to the following requirements:
 - 1. Horizontal piping connecting the vent cone to the vent riser shall be non-perforated and sloped one percent (1%) down towards the vent cone to provide for drainage and clean-out of pipe;
 - 2. The pipe shall be placed in a sanded trench with a minimum cover of two (2) feet t. These horizontal runs shall be provided with a fourteen (14)-gauge solid strand, yellow insulated utility locator wire installed directly above the well-vent pipe; and
 - 3. Proposed construction material for horizontal pipes shall be submitted to the City in the Mitigation Plan for review.

18.78.160 – Vent risers.

- A. Design. Vent risers can stand alone or be integrated into the proposed design.
- B. Standards. Vent riser pipes shall comply with the following requirements:
 - 1. Vent riser pipe shall have a minimum diameter of 2 in.
 - 2. The point of gas emission of flag pole vents shall be located at the very top of the pole, which shall be provided with a screened rain guard.
 - 3. The flag pole vents shall be positioned as below:

- i. Ten (10) ft above grade;
 - ii. A minimum of one (1) foot t above a roof line;
 - iii. Ten (10) ft away and three (3) feet above any fresh air intake or opening into a building; and
 - iv. Three (3) ft away from the property line.
4. Flag pole vents shall be clearly and permanently marked/labeled with the words: “Caution methane gas in pipe. No smoking or sparks within twenty (20) feet. “If damaged immediately notify Fire Dept. – Dial 911.
5. Flag pole vents shall be fitted with a one in. sampling port, located between two (2) to four (4) ft above grade, near the base of the pole. The sampling port must be labeled with a permanent sign with the words: “CAUTION METHANE GAS TEST PORT.”
6. Whenever abandoned well casings must be vented to a structure, such venting shall comply with the most current requirements of methane gas mitigation (i.e., electrical classifications, vent spacing, outlet spacing, etc.).
7. Abandoned well casings that are vented to structures shall not be vented in any way that penetrate the building’s “structural envelope.”
8. Abandoned well casings that are vented to structures shall have the vent pipes securely attached to the outside of an exterior wall.
9. Whenever abandoned well casings must be vented within a structure, detailed plans of the proposed venting system shall be submitted to the City, together with a justification for the venting, for review and approval by the Development Coordinator prior to any building permits being issued.
10. If necessary for aesthetic purposes, the vent pipe may be located in an “exterior vent riser chase,” which must be designed by a Qualified Engineer.
11. The vent pipe may also be attached to self-supporting satellite structures such as light standards, signage, or patios.
12. Well vents shall be leak tested in accordance with Section 712 of the California Plumbing Code.

18.78.180 – Methane mitigation.

Building construction projects shall be mitigated in accordance with the requirements of Chapter 18.79.

18.78.190 – Exposure Period.

- A. Exposure period. If an oil well is abandoned through the City’s Equivalency Standards, the associated leak testing is valid for the duration of one (1) year.
- B. Significant event. A leak test shall be performed in accordance with Section 18.78.120 if the site experiences a significant event such as an earthquake, flooding, fire or other natural or manmade events.
- C. Project Delay. Construction delays of more than a year will require the owner/operator to perform a leak test pursuant Section 18.78.120.
- D. Speculative projects. Proposals to abandon a well in accordance with the City’s equivalency process, but without a proposed development shall be permitted in accordance with this

Chapter. The Indemnity Agreement and Declaration of Covenant shall be filed prior to issuance of the Well Abandonment Approval Notice.

18.78.200 – Indemnity Agreement.

Upon project plan approval, the Applicant shall fully execute and record an “Indemnification for Construction in the Vicinity of Abandoned Oil Wells” in a format required by the City, and approved by the City Attorney’s Office for any wells that do not meet the current (at the time of property development) CALGEM standards for abandonment and/or maintenance accessibility and building separations.

18.78.210 – Declaration of covenant.

Prior to final approval of any grading or building permit for development within the close proximity to, or over a former oil/ gas well, the permittee shall record a declaration of covenant, in a form subject to the review and approval of the City Attorney, putting future owners and occupants on notice of the following: the existence of abandoned oil wells on the site; that the wells within the site have been leak tested and found not to leak based on the date that testing was performed; acknowledgment that CALGEM may order the re-abandonment of any well should it leak in the future; acknowledgment that CALGEM does not recommend building over wells; and releasing and indemnifying the City for issuing project permits or granting any approvals. The covenant shall run with the land, apply to future owners, and may only be released by the City in writing. The Declaration of Covenant shall be recorded with the County Recorder’s Office prior to the issuance of any permits. .

18.78.220 – Notice of Well Abandonment.

- A. Well Abandonment Request and Equivalency Standard Review. The Development Coordinator or designee, including, but not limited to, the City’s Peer Review consultant, shall review the Well Safety Evaluation report and other relevant information provided by the applicant for well/s that are submitted for Well Abandonment Request and Equivalency Standard consideration in order to determine if the well abandonment is adequate to prevent hydrocarbons from reaching the surface of the well. The determination shall be based on, at a minimum, a review of a history of all work performed on the well, and an independently constructed detailed wellbore diagram showing the current condition of the well.
- B. Safety Assessment Letter. The Development Coordinator or designee, including, but not limited to, a Peer Review Consultant, shall provide a Safety Assessment Letter based on provided relevant project documentation to determine if the well(s) abandonment complies with the equivalency abandonment standard.
- C. Inspections. Field inspections for the well abandonment will be based on receiving a final CALGEM approval letter for wells that will be abandoned to current CALGEM standards. For a well abandonment that will be submitted through the City’s “Equivalency Standards”, a certification letter shall be required from the project Qualified Professional Engineer.

18.78.230 – Fees

Well Abandonment Requests, Oil Well Assessment Review requests, Well Safety Evaluation reviews, Plan Checks, peer reviews, well head inspections, leak test inspections, and Alternate Materials and Methods of Construction fees for oil well abandonment projects shall be paid in accordance with the latest City Schedule of Fees.

18.78.240 – Post construction protocols.

Owner/Applicant will be responsible for monitoring and project maintenance.

18.78.250 – Enforcement and violation.

The Building Official is hereby authorized and directed to enforce the provisions of this Chapter in accordance with Section 18.03.020.

18.78.260 – Site restoration for Vacated Projects.

Should the developer decide not to continue site development, all excavations for well discoveries shall be restored to original condition prior to well discovery disturbance.