ORDINANCE NO. _____

An ordinance amending Title 26 - Building Code of the Los Angeles County Code by adopting the 2013 California Building Code by reference, with certain changes and modifications, and making other revisions thereto.

The Board of Supervisors of the County of Los Angeles ordains as follows:

SECTION 1. Sections 119.1.2 through 119.1.14 of Chapter 1, Chapters 2 through 35, Appendices C, I, and J, which incorporate by reference and modify portions of the 2010 California Building Code, are hereby repealed.

SECTION 2. Chapter 1 is hereby amended to read as follows:

100 ADOPTION BY REFERENCE

Except as hereinafter changed or modified, Sections 1.2 through 1.14 of Chapter 1Division I of that certain building code known and designated as the ~~2010~~2013 California Building Code, as published by the California Building Standards Commission are adopted by reference and incorporated into this Title 26 of the Los Angeles County Code as if fully set forth below, and shall be known as Sections 119.1.2 through 119.1.14, respectively of Chapter 1 of Title 26 of the Los Angeles County Code.

Except as hereinafter changed or modified, Chapters 2 through 35 ~~(including Chapter 7A)~~, Appendices C, I, and J of that certain building code known and designated as the ~~2010~~2013 California Building Code, as published by the California Building Standards Commission, are adopted by reference and incorporated into this Title 26 of the Los Angeles County Code as if fully set forth below, and shall be known as

Chapters 2 through 35, Appendices C, I, and J of Title 26 of the Los Angeles County Code.

A copy of said California Building Code, hereinafter referred to as the CBC, including the above-designated appendices, shall be at all times maintained by the Building Official for use and examination by the public.

102 UNSAFE BUILDINGS

. . .

102.2 Notice of Unsafe Building. The Building Official shall examine or cause to be examined every building or structure or portion thereof reported as dangerous or damaged and, if, in the Building Official's opinion, such is found to be an unsafe building as defined in this Chapter, the Building Official shall give to the party concerned written notice stating the defects thereof. This notice may require the owner or person in charge of the building or premises, within 48 hours, to commence either the required repairs or improvements or demolition and removal of the building or structure or portions thereof and all such work shall be completed within 90 days from date of notice, unless otherwise stipulated by the Building Official. If necessary, such notice shall also require the building, structure, or portion thereof to be vacated forthwith and not reoccupied until the required repairs and improvements ~~be~~ are completed, inspected and approved by the Building Official.

. . .

102.4.5 Hearing by Building Board of Appeals. The Building Board of Appeals shall hold a hearing and consider all competent evidence offered by

any person pertaining to the matters set forth in the report of the Building Official.

The Building Board of Appeals shall make written findings of fact as to whether or not the building or structure is an unsafe building as defined in this Chapter.

When determined by the Building Official, the Building Rehabilitation Appeals Board shall hold a hearing in lieu of the Building Board of Appeals.

…

102.5.4 Interference Prohibited. A person shall not obstruct, impede, or interfere with the Building Official or any representative of the Building Official, or with any person who owns or holds any estate or interest in any unsafe building which has been ordered by the Building Board of Appeals to be repaired, vacated and repaired, or vacated and demolished or removed, whenever the ~~b~~Building ~~o~~Official or such owner is engaged in repairing, vacating and repairing, or demolishing any such unsafe building pursuant to this Chapter, or is performing any necessary act preliminary to or incidental to such work, or authorized or directed pursuant hereto.

…

104 ORGANIZATION AND ENFORCEMENT

…

104.2.7 Modifications. Whenever there are practical difficulties involved in carrying out the provisions of this Code, the Building Official may grant modifications on a case by case basis, provided the Building Official shall first find that a special individual reason makes the strict letter of this Code impractical and that the modification is in conformity with the spirit and purpose of this Code and that such

modification does not lessen any fire-protection or other life-safety-related requirements or any degree of structural integrity. The details of any action granting modifications shall be recorded and entered in the files of the code enforcement agency.

. . .

104.2.8 Alternate Materials, Designs, and Methods of Construction.

The provisions of this Code are not intended to prevent the use of any material, appliance, installation, device, arrangement, design, or method of construction not specifically prescribed by this Code~~, provided any such alternate has been approved~~.

The Building Official may approve on a case by case basis, any such alternate, provided that he or she finds that the material, appliance, installation, device, arrangement, design, or method of construction or work offered is, for the purpose intended, at least the equivalent of that prescribed in this Code in quality, strength, effectiveness, fire resistance, and other life-safety factors, durability, planning and design, energy, material resource efficiency and conservation, environmental air quality, performance, water, and sanitation.

The ~~b~~Building ~~o~~Official shall require that sufficient evidence or proof be submitted to substantiate any claims that may be made regarding its use.

. . .

105 APPEALS BOARDS

105.5 Fees. A fee of $439.20 shall be paid to the ~~b~~Building ~~o~~Official whenever a person requests a hearing or a rehearing before the appeals board provided for in this Section.

. . .

106 PERMITS

106.1 Permits Required. No person~~,~~ shall erect, construct, enlarge, alter, repair, move, improve, remove, connect, convert, demolish, or equip any building, structure, or portion thereof, or automatic fire protection system regulated by Chapter 9, perform any grading, or perform landscaping as regulated by Chapter 2.7 of Division 2 of Title 23 of the California Code of Regulations (Model Water Efficient Landscape Ordinance) or perform landscaping on slopes requiring planting in conformance with Section J110, or cause the same to be done, without first obtaining a separate permit for each such building, structure, automatic fire protection system, grading, or landscaping from the Building Official.

No person shall install, connect, move, remove, or equip any mobilehome, manufactured home, commercial modular, recreational vehicle or multifamily manufactured home without first obtaining a separate permit.

. . .

106.3 Work Exempted.

1. One-story detached accessory buildings used as tool and storage sheds, playhouses and similar uses, provided the gross floor area does not exceed 120 square feet (11.15 m2), the ~~plate height does not exceed 12 feet (3.69m) in~~

~~height above the grade plane at any point~~ height does not exceed 12 feet (3.69m), and the maximum roof projection does not exceed 24 inches (610 mm).

2. Fences not over 6 feet (1829 mm) in height which are not used as a barrier to private swimming pools, spas or hot tubs.

. . .

12. Sheds, office or storage buildings, and other structures that are less than 1,500 square feet (139 m^2) and incidental to ~~and~~ work authorized by a valid grading or building permit. Such structures must be removed upon expiration of the permit or completion of the work covered by the permit.

. . .

16. Prefabricated swimming pools and other bodies of water accessory to a Group R-3 Occupancy that are less than 18 inches (0.46m) deep, or do not exceed 5,000 gallons (18,927 L)~~,~~ and are installed entirely above adjacent grade

17. Playground equipment accessory to a Group R-3 occupancy.

18. One-story buildings or structures used as dog kennels, chicken coops, animal pens, or shade structures provided the gross floor area does not exceed 120 square feet (11.15 m^2) and the height does not exceed six feet (1829 mm).

. . .

106.4 Application for Permits.

. . .

106.4.1.1 Expiration of Application. When no permit is issued within one year following the date of the application therefor, the application shall automatically

expire. Plans and specifications previously submitted may thereafter be returned to the applicant or destroyed by the Building Official. The Building Official may grant up to two extensions not exceeding 180 days per extension, beyond the initial one-year limit upon written request by the applicant showing that circumstances beyond the control of the applicant have prevented action from being taken and upon the payment of an extension fee as determined by the Building Official, not to exceed 25 percent of the plan check fee.

Once an application, including ~~and~~ any extension(s) thereof, ha~~ve~~s expired, the applicant shall file a new application, resubmit plans and specifications, and pay a new plan checking or review fee.

106.4.2 Plans and specifications. Within each application for a building permit, and when required by the Building Official for enforcement of any provisions of this Code, two sets of plans and specifications shall be submitted. The Building Official may require plans and specifications to be prepared and designed by an engineer, architect or landscape architect licensed or registered by the state to practice as such. Submittals shall include construction inspection requirements as defined in Section 106.4.5.

EXCEPTION: When authorized by the Building Official, complete plans and specifications need not be submitted for the following when drawings and data sufficient to determine the nature and scope of the work are submitted for review:

1. One-story buildings of ~~Type V~~ conventional wood~~-stud~~frame construction with a gross floor area not exceeding 600 square feet (55.74 m2);

2. Small and/or minor work.

. . .

106.4.3 Information on plans and specifications. ~~Plans and specifications shall be drawn to scale upon substantial paper or cloth and shall be of sufficient clarity to indicate the nature and extent of the work proposed and show in detail that it will conform to the provisions of this Code and all relevant laws, ordinances, rules and regulations.~~Construction documents shall be dimensioned and drawn to scale upon suitable material. Electronic media documents are permitted to be submitted when approved by the Building Official. Construction documents shall be of sufficient clarify to indicate the location, nature and extent of the work proposed and show in detail that it will conform to the provisions of this code and relevant laws, ordinances, rules and regulations, as determined by the Building Official. The first sheet of each set of plans shall give the house and street address of the work and the name and address of the owner and persons who prepare them. Plans shall include a plot plan showing the location of the proposed building and of every existing building on the property. In lieu of detailed specifications, the Building Official may approve references on the plans to a specific section or part of this Code or other ordinances or laws.

Computations, stress diagrams and other data sufficient to show the correctness of the plans~~,~~ shall be submitted when required by the Building Official. ~~Plans for buildings more than two stories in height of other than Group R-3 and Group U Occupancies shall indicate how required structural and fire-resistive integrity will be~~

~~maintained where a penetration will be made for electrical, mechanical, plumbing and communications conduits, pipes and similar systems.~~

. . .

106.4.4.2 Deferred submittals. For the purposes of this Section, "deferred submittals" are defined as those portions of the design which are not submitted at the time of the application and which are to be submitted ~~to the Building Official within a specified period~~within a period specified by the Building Official.

Deferral of any submittal items shall have prior approval of the Building Official. The architect or engineer of record shall list the deferred submittals on the plans and shall submit the deferred submittal documents for review by the Building Official.

Submittal documents for deferred submittal items shall be submitted to the architect or engineer of record who shall review them and forward them to the Building Official with a notation indicating that the deferred submittal documents have been reviewed and that they have been found to be in general conformance with the design of the building. The deferred submittal items shall not be installed until their design and submittal documents have been approved by the Building Official.

106.4.5 ~~Construction inspection~~Inspection program. When special inspection is required by Chapter 17, the architect or engineer of record shall prepare an inspection program which shall be submitted to the Building Official for approval prior to issuance of the building permit. The inspection program shall designate the portions of the work that require special inspection ~~and the name or~~

~~names of the individuals or firms who are to perform the special inspections,~~ and indicate the duties of the special inspectors.

. . .

106.5 Permits.

. . .

106.5.4 Expiration. Every permit issued by the Building Official under the provisions of this Code shall expire by limitation and become null and void, if the building or work authorized by such permit is not commenced within 180 days from the date of such permit, or ~~if~~ the building or work authorized by such permit is suspended or abandoned for period of 180 days, or the permittee fails to obtain inspection as required by the provisions of Section 108 of this code ~~at any time after the work is commenced~~ for a period of 180 days. ~~Before such work can be commenced or recommenced, a new permit shall be first obtained, and the fee therefor shall be equal to 50 percent of the amount required for a new permit for such work, provided no changes have been made or will be made in the original plans and specifications for such work; and provided, further, that the duration of such failure to commence, suspension or abandonment has not exceeded one year.~~

EXCEPTION: Permits issued to abate violation(s) in conjunction with a code enforcement action shall expire and become null and void at a date determined by the Building Official.

~~Any permittee holding an unexpired permit may apply for an extension of time within which work may commence under that permit.~~ The Building Official may extend

the time for action by the permittee for a period not exceeding 180 days from the date of expiration upon written request from the permittee and payment of a fee in an amount determined by the Building Official, not to exceed 25 percent of the permit fee. No permit shall be extended more than twice.

Once a permit, including any extension(s) thereof, has expired ~~In order to renew action on a permit after expiration, except as provided for above,~~ the permittee shall ~~pay a new full permit fee~~ file a new application as specified in Section 106.4.

. . .

107 FEES

107.1 Building Permit Fees.* In addition to a permit issuance fee of $28.30, a fee for each building permit shall be paid to the ~~b~~Building ~~o~~Official as set forth in Table 1-A.

The determination of value or valuation under any of the provisions of this code shall be made by the ~~b~~Building ~~o~~Official. The valuation to be used in computing the permit and plan check fees shall be the total value of all construction work for which the permit is issued, as well as all finish work, painting, roofing, electrical, plumbing, heating, air conditioning, elevators, fire protection systems and any other permanent work or permanent equipment.

. . .

107.2 Plan Checking or Review Fees for Buildings or Structures.* When an application for a building permit is submitted for review, whether or not plans and specifications are required by Section 106.4.2, a fee shall be paid to

the ~~b~~Building ~~o~~Official. Said fee shall be equal to 85 percent of the building permit fee as set forth in Table 1-A, provided, however, the minimum fee shall be $83.70.

In addition to the aforementioned fees, the ~~b~~Building ~~o~~Official may require additional charges for review required by complexity of plans or changes, additions or revisions of approved plans or reports, and for services beyond the first and second check due to changes, omissions or errors on the part of the applicant. The payment of said fees shall not exempt any person from compliance with other provisions of this code.

The fees specified in this section are separate fees from the permit fees specified in Section 107.1.

. . .

107.3 Standard Plans.* The ~~b~~Building ~~o~~Official may approve a set of plans for a building or structure as a "standard plan," provided that the applicant has made proper application, submitted complete sets of plans as required by this section, and paid the plan checking fee required by Section 107.2, or $153.70, whichever is greater.

. . .

107.5 Grading Permit Fees.* In addition to a permit issuance fee of $28.30, a fee for each grading permit shall be paid to the ~~b~~Building ~~o~~Official as set forth in Table 1-B.

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107.12 Refunds. In the event that any person shall have obtained a

permit and no portion of the work or construction covered by such permit shall have been commenced, and such permit shall have been canceled either as provided for in Section 106.5.4 or 107.11, the permittee, upon presentation to said Building Official of a request therefor, in writing, shall be entitled to a refund in an amount equal to 80 percent of the fee actually paid for such permit.

When approved by the ~~b~~Building ~~o~~Official and upon verification of eligibility, a refund may be processed provided the request has been submitted no later than one year after the expiration date of the permit.

No portion of the plan checking fee shall be refunded, unless no ~~checking~~review has been performed on a set of plans, in which case 80 percent of the plan checking fee shall be refunded.

107.13 Investigation Fee for Work without Permit.* Whenever any work has been commenced without a permit as required by the provisions of Section 106.1 of this code, a special investigation shall be made prior to the issuance of the permit. An investigation fee shall be collected for each permit so investigated. The investigation fee shall be equal to and in addition to the permit fees specified in Sections 107.1, 107.5, and 107.7, but in no event shall the investigation fee be less than $344.00.

EXCEPTION: The investigation fee shall be $171.90 when the ~~b~~Building ~~o~~Official has determined that the owner-builder of a one- or two-family dwelling, accessory building or accessory structure had no knowledge that a permit was necessary and had

not previously applied for a permit from the Building and Safety Division of the County of Los Angeles.

107.14 Noncompliance Fee.* If the ~~b~~Building ~~o~~Official or duly authorized board, in the course of enforcing the provisions of this code or any state law, issues an order to stop work, vacate, or otherwise to a person and that person fails to comply with the order within 15 days following the due date for compliance stated in the order, including any extensions thereof, then the ~~b~~Building ~~o~~Official shall have the authority to collect a noncompliance fee.

. . .

107.15 Preliminary Review Fees.* Upon payment of a preliminary review fee of $223.80, an applicant may have a building, structure or other project reviewed by the ~~b~~Building ~~o~~Official prior to submittal of a permit application. Such fee entitles the applicant to two staff hours of review, which may be of any combination of building and specialty code requirements. An additional fee of $111.90 per hour shall be charged for each hour or portion thereof in excess of two hours. All charges must be paid at the conclusion of any such meeting and before any written findings are issued.

. . .

107.16 Plan Maintenance Fee.* Before issuing a building permit, the ~~b~~Building ~~o~~Official shall collect a plan maintenance fee for all building plans which are required to be retained by Section 19850 of the Health and Safety Code.

The amount of the plan maintenance fee shall be 2 percent of the building permit fee as set forth in Table 1-A provided, however, that the minimum fee shall be $10.00

and the maximum fee shall be $430.30. A plan maintenance fee shall be collected for each separate plan to be retained by the ~~b~~Building ~~o~~Official.

107.17 Annual Review of Fees. The fees in this Code shall be reviewed annually by the Director of Public Works. Beginning on July 1, 1992, and thereafter on each succeeding July 1, the amount of each fee in this Code shall be adjusted as follows: Calculate the percentage movement between March of the previous year and March of the current year in the Consumer Price Index (CPI) for all urban consumers in the Los Angeles, Anaheim and Riverside areas, as published by the United States Government Bureau of Labor Statistics. Adjust each fee by said percentage amount and round off to the nearest 10 cents, provided, however, that no adjustment shall decrease any fee and no fee shall exceed the reasonable cost of providing services. When it is determined that the amount reasonably necessary to recover the cost of providing services is in excess of this adjustment, the ~~b~~Building ~~o~~Official may present fee proposals to the Board of Supervisors for approval

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107.19 Fee Exemption – Affordable Housing

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NONPROFIT ORGANIZATION is a corporation organized under the Nonprofit Public Benefit Corporation Law of the State of California (Corporations Code Section 5120, et. seq.) and ~~quailied~~qualified as an exempt organization under Section 501(c)(3) of the Internal Revenue Code of 1986 or the corresponding provision of any future

United States internal revenue law. A corporation or body organized for the private gain of any person shall not be deemed to be a nonprofit organization.

BUILDING FEE shall include plan check, permit and inspection fees required by Titles 26, 27, 28, ~~and~~ 29, 30 and 31 of the Los Angeles County Code.

. . .

108 INSPECTIONS

108.1 General.

. . .

A site inspection may be required prior to plan check of building plans for lots or parcels in areas having slopes of 5 horizontal to 1 vertical (5:1) or steeper when the ~~b~~Building ~~o~~Official finds that a visual inspection of the site is necessary to establish drainage requirements for the protection of property, existing buildings or the proposed construction. The fee for such inspection shall be as set forth in Section 107.9. Such a preinspection shall not be required for a building pad graded under the provisions of Appendix J.

. . .

108.4.1 General. Reinforcing steel or structural framework of any part of any building or structure shall not be covered or concealed without first obtaining the approval of the Building Official.

Protection of joints and penetrations in fire-resistive assemblies shall not be concealed from view until inspected and approved.

Upon notification from the permit holder or the permit holder's agent, the ~~b~~Building ~~o~~Official shall make the following inspections.

. . .

108.6.1 Special Inspector.* Before commencing duties, the special inspector shall be examined and shall obtain a certificate of registration from the ~~b~~Building ~~o~~Official. As to the written portion of the required examination, the ~~b~~Building ~~o~~Official may administer a written examination or the ~~b~~Building ~~o~~Official may require that a special inspector applicant successfully complete an examination administered by the International Code Council (ICC). Applications shall be made in writing and shall be accompanied by a fee of $249.60. When the ~~b~~Building ~~o~~Official requires the ICC Certificate in lieu of administering a written examination, the application shall be accompanied by proof of the required Certificate and a fee of $155.10. A separate application and a separate fee shall be required for each type of work. Applicants failing to pass an examination shall be ineligible for re-examination for a period of 30 days. A new application and fee shall accompany each request for re-examination. Unless revoked sooner, certificates of registration for special inspectors shall expire biennially on June 30, and must be renewed by payment of biennial renewal fee of $103.30.

Upon evidence, satisfactory to the ~~b~~Building ~~o~~Official, of the failure of a special inspector to perform properly and effectively the duties of said office, the ~~b~~Building ~~o~~Official may revoke, suspend or refuse to renew any certificate of registration. Prior to such action, the holder shall be given an opportunity to appear before the ~~b~~Building

~~o~~Official and be heard.

. . .

109 USE AND OCCUPANCY

109.1 General. No building or structure or portion thereof shall be used or occupied, and no change in the existing occupancy classification of a building or structure or portion thereof shall be made until the Building Official has approved the building or structure or portion thereof for such use or occupancy as evidenced by the issuance of a certificate of occupancy or a temporary certificate of occupancy. A building of Group R-1, R-2, R-2.1, R-3, R-3.1, or R-4 Occupancy, if erected on a site where grading has been performed pursuant to a grading permit issued under provisions of this Code, shall not be occupied, nor shall gas or electric utilities be connected thereto, unless the grading has been completed in accordance with Appendix J or the Building Official has found, should the grading not be so completed, that the site conditions will pose no hazard to health, safety, or welfare of occupants and/or occupants of adjacent properties, and that a temporary certificate of occupancy has been issued.

. . .

110 PROHIBITED USES OF BUILDING SITES

110.1 Flood Hazard.

110.1.1

. . .

The placement of the building and other structures (including walls and fences) on the building site shall be such that water or mud flow will not be a hazard to the building or adjacent property. Subject to the conditions of Section 110.1.2, this prohibition shall not apply when provision is made to eliminate such hazard to the satisfaction of the ~~Department of Public Works~~ Building Official by providing adequate drainage facilities by protective walls, suitable fill, raising the floor level of the building, a combination of these methods, or by other means. The ~~Department of Public Works~~Building Official, in the application of this Section for buildings, structures, and grading located in whole or in part in flood hazard areas, shall enforce, as a minimum, the current Federal Flood Plain Management Regulations defined in Title 44, Code of Federal Regulations,

Section 60.3, and may require the applicant or property owner to provide the following information and/or comply with the following provisions:

1. Delineation of flood hazard areas, floodway boundaries and flood zones, and the design flood elevation, as appropriate;

2. The elevation of the proposed lowest floor, including basement, in flood hazard areas ~~of shallow flooding~~ (A~~O~~ Zones), and the height of the proposed lowest floor, including basement, above the highest adjacent grade;

3. The elevation of the bottom of the lowest horizontal structural member in coastal high hazard areas (V Zone);

4. If the design flood elevations are not included on the community's Flood Insurance Rate Map (FIRM), then the applicant shall obtain and reasonably utilize any

design flood elevation and floodway data available from other sources, as approved by the Building Official; and

5. During construction, upon placement of the lowest floor, including basement, and prior to further vertical construction, the permittee shall provide to the Building Official documentation, prepared and sealed by a registered design professional, certifying the elevation of the lowest floor, including basement.

. . .

110.2 Geotechnical Hazards.

. . .

110.2.3

. . .

110.2.3.4 When the proposed work involves an addition or additions to an existing structure but is not a change in use or occupancy and such work does not increase the gross floor area of the structure by more than 25 percent of the area of the structure as it existed on July 6, 1968, and the ~~b~~Building ~~o~~Official determines that the proposed work will not impact a historically active landslide. Before a permit may be issued pursuant to this section, the owner shall do all of the following:

1. Submit an engineering geology and/or soils engineering report or reports that contain(s), at a minimum, a qualitative and/or a conditional finding that the proposed work complies with the provisions of Section ~~111~~110.2.1 of this Code.
2. Record in the office of the Department of Registrar-Recorder the finding of such report or reports.

3. Record in the office of the Department of Registrar-Recorder an agreement relieving the County and all officers and employees thereof of any liability for any damage or loss which may result from the issuance of such a permit. This agreement shall provide that it is binding on all successors in interest of the owner and shall continue in effect until the Building Official records in the office of the Department of Registrar-Recorder a statement that the Building Official has determined that a hazard from landslide, settlement, or slippage no longer exists.

. . .

110.2.3.7 When the proposed work involves a one-story, detached, light-frame accessory structure not intended or used for human occupancy and not exceeding 400 square feet in gross floor area nor 12 feet in height. Before a permit may be issued pursuant to this section, the owner shall do all of the following:

1. When required by the Building Official, submit an engineering geology and/or soils engineering report or reports that contain, at a minimum, a qualitative and/or conditional finding that the proposed work complies with the provisions of Section 110.2.1 of this Code.
2. Record in the office of the Department of Registrar-Recorder a statement by the owner acknowledging that the owner is aware that the records of the Building Official indicate that the property is potentially subject to hazard from landslide, settlement, or slippage.
3. Record in the office of the Department of Registrar-Recorder an agreement relieving the County and all officers and employees thereof of any liability for any

damage or loss which may result from issuance of such a permit. This agreement shall provide that it is binding on all successors in interest of the owner and shall continue in effect until the Building Official records in the office of the Department of Registrar-Recorder a statement that the Building Official has determined that such hazard from landslide, settlement, or slippage no longer exists.

110.2.3.8 When the Building Official determines that the hazard from landslide, settlement, or slippage is based solely on the fact that the area has been identified as a potentially liquefiable area in a seismic hazard zone (pursuant to Public Resources Code section 2690 et seq.) and a foundation investigation is performed in connection with the work in accordance with Section ~~1806~~1803 of this Code.

. . .

110.2.3.10 When the proposed work involves the repair and restoration of a ~~natural (non-graded)~~ slope. Before a permit may be issued pursuant to this section, the owner shall submit an engineering geology and/or soils engineering report or reports that contain(s) the following:

1. A description and analysis of the existing conditions, including the cause or causes of the failed slope.
2. Recommendations for the repair of the failed slope.
3. A qualitative and/or conditional finding that the proposed work complies with the provisions of Section 110.2.1 of this Code.
4. An analysis demonstrating that future failures originating from the repaired portion of the slope will not impact previously permitted structures.

5. An analysis demonstrating that the proposed work will improve existing slope stability.

. . .

110.3 Fills Containing Decomposable Material. Permits shall not be issued for buildings or structures regulated by this Code within 1,000 feet (304.8 m) of fills containing rubbish or other decomposable material unless the fill is isolated by approved natural or artificial protective systems or unless designed according to the recommendation contained in a report prepared by a licensed civil engineer. Such report shall contain a description of the investigation, study and recommendation to minimize the possible intrusion, and to prevent the accumulation of explosive concentrations of decomposition gases within or under enclosed portions of such building or structure. At the time of the final inspection, the civil engineer shall furnish a signed statement attesting that the building or structure has been constructed in accordance with the civil engineer's recommendations as to decomposition gases required herein.

EXCEPTION: Mitigation of decomposition gases shall not be required for additions to single family dwellings not exceeding 400 square feet in gross floor area.

. . .

110.4 Methane Gas Hazards. Permits shall not be issued for buildings or enclosed structures regulated by this Code on, adjacent to, or within 25 feet (7.62 m) of active, abandoned or idle oil or gas well(s) unless designed according to recommendations contained in a report prepared by a licensed civil engineer and

approved by the Building Official. In addition, permits shall not be issued for a building or structure regulated by this Code located between 25 feet (7.62 m) and 200 feet (60.96 m) from active, abandoned or idle oil or gas well(s) unless designed according to the recommendations contained in a report prepared by a licensed civil engineer and approved by the Building Official or all active, abandoned or idle oil or gas well(s) between 25 feet (7.62 m) and 200 feet (60.96 m) from said building or structure are examined by a licensed petroleum engineer to evaluate whether~~, in accordance with the current rules and regulations of the Division of Oil and Gas and Geothermal Resources of the State of California,~~ such wells are being properly operated or maintained, or are abandoned. No permits shall be issued until certification of proper operation, maintenance, or abandonment or reabandonment~~, as determined by the Division of Oil and gas and Geothermal Resources,~~ is submitted to the Building Official. This requirement is not applicable to active, abandoned or idle oil or gas well(s) located more than 200 feet (60.96 m) from the proposed buildings or structures.

. . .

113.5 Construction Limitations. No building or structure shall be constructed over or upon the trace of a known active earthquake fault which is shown on maps maintained by the Building Official. These maps include, but are not limited to, earthquake fault zone maps prepared under Sections 2622 and 2623 of the California Public Resources Code.

The absence of a known active earthquake fault trace at the proposed building location shall be determined by a professional geologist licensed in the State of

California in the following cases:

1. When the proposed building is within 50 feet (15.24 m) of that line designated by the ~~b~~Building ~~o~~Official as the assumed location of a known active earthquake fault on the aforementioned maps.
2. When the proposed building is within 50 feet (15.24 m) of the most probable ground location of the trace of a known active earthquake fault shown on the aforementioned maps.

. . .

SECTION XX. Chapter 7A is hereby amended to read as follows:

CHAPTER 7A [SFM]

MATERIALS AND CONSTRUCTION METHODS FOR EXTERIOR WILDFIRE EXPOSURE

NOTE: This Chapter has been amended by Los Angeles County and is applicable to all occupancy groups.

SECTION XX. Section 701A.1 is hereby amended to read as follows:

701A.1 Scope.

This ~~c~~Chapter applies to building materials, systems, and/or assemblies used in the exterior design and construction of new buildings ~~located,~~ and to additions, alterations, or repairs made to existing buildings, erected, constructed, or moved within a Wildland-Urban Interface Fire Area as defined in Section 702A.

SECTION XX. Section 701A.3 is hereby amended to read as follows:

701A.3. Application.

New buildings, and any additions, alterations, or repairs made to existing buildings located in or moved within any Fire Hazard Severity Zone within State

Responsibility Areas or any Wildland-Urban Interface Fire Area designated by the ~~enforcing agency~~Los Angeles County Fire Department constructed after the application date shall comply with the provisions of this ~~c~~Chapter.

Exceptions:

. . .

~~4. Additions to and remodels of buildings originally constructed prior to the applicable application date.~~

SECTION XX. Section 701A.3.1 is hereby amended to read as follows:

701A.3.1 Application date and where required.

New buildings for which an application for a building permit is submitted on or after July 1, 2008, and any additions, alterations, or repairs made to existing buildings for which an application for a building permit is submitted on or after January 1, 2014 located in any Fire Hazard Severity Zone or Wildland Interface Fire Area shall comply with all ~~s~~Sections of this ~~c~~Chapter, including all of the following areas:

. . .

Exceptions:

1. ~~New b~~Buildings located in any Fire Hazard Severity Zone within State Responsibility Areas, for which an application for a building permit is submitted on or after January 1, 2008, shall comply with all ~~s~~Sections of this ~~c~~Chapter.

2. ~~New b~~Buildings located in any Fire Hazard Severity Zone within State

Responsibility Areas or any Wildland Interface Fire Area designated by cities and other local agencies for which an application for a building permit is submitted on or after December 1, 2005, but prior to July 1, 2008, shall only comply with the following ~~s~~Sections of this ~~c~~Chapter:

. . .

SECTION XX. Section 701A.4 is hereby amended to read as follows:

701A.4 Inspection and certification.

. . .

1. Building permit issuance. The ~~local b~~Building ~~o~~Official shall, prior to construction, provide the owner or applicant a certification that the building as proposed to be built complies with all applicable state and local building standards, including those for materials and construction methods for wildfire exposure as described in this ~~c~~Chapter. Issuance of a building permit by the ~~local b~~Building ~~o~~Official for the proposed building shall be considered as complying with this ~~s~~Section.

2. Building permit final. The ~~local b~~Building ~~o~~Official shall, upon completion of construction, provide the owner or applicant with a copy of the final inspection report that demonstrates the building was constructed in compliance with all applicable state and local building standards, including those for materials and construction methods for wildfire exposure as described in this ~~c~~Chapter. Issuance of a certificate of occupancy by the ~~local b~~Building ~~o~~Official for the proposed building shall be considered as complying with this ~~s~~Section.

SECTION XX. Section 702A is hereby amended to read as follows:

702A DEFINITIONS

. . .

FIRE PROTECTION PLAN is a document prepared for a specific project or development proposed for a Wildland-Urban Interface Fire Area. It describes ways to minimize and mitigate potential for loss from wildfire exposure.

The Fire Protection Plan shall be in accordance with this ~~c~~Chapter and the ~~California~~Los Angeles County Fire Code Title 32, Chapter 49. When required by the enforcing agency for the purposes of granting modifications, a fire protection plan shall be submitted. ~~Only locally adopted ordinances that have been filed with the California~~

~~Building Standards Commission or the Department of Housing and Community~~

~~Development in accordance with Section 1.1.8 shalt apply.~~

FIRE HAZARD SEVERITY ZONES are geographical areas designated pursuant to California Public Resources Codes Sections 4201 through 4204 and classified as Very High, High, or Moderate in State Responsibility Areas or as Local Agency Very High Fire Hazard Severity Zones designated pursuant to California Government Code Sections 51175 through 51189. See ~~California~~Los Angeles County Fire Code, ~~Article 86~~Chapter 49.

. . .

WILDLAND-URBAN INTERFACE FIRE AREA is a geographical area identified by the state as a "Fire Hazard Severity Zone" in accordance with the

Public Resources Code Sections 4201 through 4204 and Government Code Sections 51175 through 51189, or other areas designated by the ~~enforcing agency~~Los Angeles County Fire Department to be at a significant risk from wildfires.

SECTION XX. Section 703A.2 is hereby amended to read as follows:

703A.2 Qualification by Testing.

Material and material assemblies tested in accordance with the requirements of Section 703A shall be accepted for use when the results and conditions of those tests are met. Product evaluation testing of material and material assemblies shall be approved or listed by the State Fire Marshal, the Building Official, or identified in a current report issued by an approved agency.

SECTION XX. Section 703A.3 is hereby amended to read as follows:

703A.3 Approved agency.

Product evaluation testing shall be performed by an approved agency as defined in Section 1702. The scope of accreditation for the approved agency shall include building product compliance with this ~~c~~Code.

SECTION XX. Section 703A.5.2 is hereby amended to read as follows:

703A.5.2 Weathering.

Fire-retardant-treated wood ~~and fire-retardant-treated wood shingles and shakes~~ shall meet the fire test performance requirements of this ~~c~~Chapter after being subjected

to the weathering conditions contained in the following standards, as applicable to the materials and the conditions of use.

SECTION XX. Section 703A.5.2.2 is hereby deleted in its entirety.

~~**703A.5.2.2 Fire-retardant-treated wood shingles and shakes.** Fire-retardant-treated wood shingles and shakes shall be approved and listed by the State Fire Marshal in accordance with Section 208(c), Title 19 California Code of Regulations.~~

SECTION XX. Section 703A.6 is hereby amended to read as follows:

703A.6 Alternates for materials, design, tests, and methods of construction.

The enforcing agency is permitted to modify the provisions of this ~~c~~Chapter for site-specific conditions in accordance with Chapter 1, Section ~~1.11.2.4~~104.2.7. When required by the ~~enforcing agency~~Building Official for the purposes of granting modifications, a fire protection plan shall be submitted in accordance with the ~~California~~Los Angeles County Fire Code, Chapter 49.

SECTION XX. Section 704A.3 is hereby amended to read as follows:

704A.3 Alternative methods for determining Ignition-resistant material.

. . .

~~3. Fire-retardant-treated wood shingles and shakes. Fire-retardant-treated wood shingles and shakes, as defined in section 1505.6 and listed by State Fire Marshal for use as "Class B" roof covering, shall be accepted as an Ignition-resistant wall covering material when installed over solid sheathing.~~

SECTION XX. Section 705A.2 is hereby amended to read as follows:

705A.2 Roof coverings.

Roof coverings shall be Class A as specified in Section 1505.2. Where the roof profile allows a space between the roof covering and roof decking, the spaces shall be constructed to prevent the intrusion of flames and embers, be firestopped with approved materials or have one layer of minimum 72 pound (32.4 kg) mineral-surfaced non-perforated cap sheet complying with ASTM D 3909 installed over the combustible decking. Wood shingles and wood shakes are prohibited in any Fire Hazard Severity Zones regardless of classification.

SECTION XX. Section 706A.3 is hereby amended to read as follows:

706A.3 Ventilation openings on the underside of eaves and cornices.

. . .

Exceptions:

1. The ~~enforcing agency~~Building Official may accept or approve special eave and cornice vents that resist the intrusion of flame and burning embers.

SECTION XX. Section 710A.3.2 is hereby amended to read as follows:

710A.3.2 When required by the ~~enforcing agency~~Building Official, detached accessory structures within 50 feet of an applicable building shall comply with the requirements of this ~~s~~Section.

SECTION XX. Section 710A.4 is hereby amended to read as follows:

710A.4. Requirements.

When required by the ~~enforcing agency~~Building Official, accessory structures shall be constructed of noncombustible or ignition-resistant materials.

SECTION XX. Section 1029.4 is hereby amended to read as follows:

1029.4 - Operational constraints.

Emergency escape and rescue openings and any exit doors shall be *maintained free of any obstructions other than those allowed by this section and shall be* operational from the inside of the room without the use of keys or tools. Bars, grilles, grates or similar devices are permitted to be placed over *emergency escape and rescue openings* provided the minimum net clear opening size complies with Section 1029.2 and such devices shall be releasable or removable from the inside without the use of a key, tool, *special knowledge or effort* or force greater than that which is required for normal operation of the escape and rescue opening. Where such bars, grilles, grates or similar devices are installed, *smoke alarms* shall be installed in accordance with Section 907.2.11 regardless of the valuation of the *alteration*. *The release mechanism shall be maintained operable at all times.*

Such bars, grills, grates or any similar devices shall be equipped with an approved exterior release device for use by the fire department only when required by the authority having jurisdiction.

Where security bars (burglar bars) are installed on emergency egress and rescue windows or doors, ~~on or after July 1, 2000,~~ such devices shall comply with California Building Standards Code, Part 12, Chapter 12-3 and other applicable provisions of Part 2.

> ***Exception:*** *Group R1 occupancies provided with a monitored fire sprinkler system in accordance with Section 903.2.8 and designed in accordance with NFPA 13 may have openable windows permanently restricted to a maximum 4-inch (102 mm) open position.*

SECTION XX. Section 1507.3.1 is hereby amended to read as follows:

1507.3.1 Deck requirements.

Concrete and clay tile shall be installed only over solid ~~sheathing or spaced~~ structural sheathing boards.

SECTION XX. Table 1507.3.7 is hereby amended to read as follows:

TABLE 1507.3.7

CLAY AND CONCRETE TILE ATTACHMENT [a, b, c]

GENERAL – CLAY OR CONCRETE ROOF TILE				
Maximum Nominal Design Wind Speed, V_{asd}[f] (mph)	**Mean roof height (feet)**	**Roof slope up to <3:12**	**Roof slope 3:12 and over**	
85	0 - 60	*Minimum slope: 2.5:12* ~~One fastener per tile. Flat tile without vertical laps,~~ Two fasteners per tile.	Two fasteners per tile. ~~Only one fastener on slopes of 7:12 and less for tiles with installed weight exceeding 7.5 lbs/sq. ft. having a width no greater than 16 inches.~~	
100	0 - 40			
. . .	. . .	. . .		
INTERLOCKING CLAY OR CONCRETE ROOF TILE WITH PROJECTING ANCHOR LUGS [d, e] (Installations on ~~spaced/~~solid sheathing with battens ~~or spaced sheathing~~)				
Maximum Nominal Design Wind Speed, V_{asd}[f] (mph)	**Mean roof height (feet)**	**Roof slope up to <5:12**	**Roof slope 5:12<12:12**	**Roof slope 12:12 and over**
85	0 - 60	~~Fasteners are not required. Tiles with installed weight less than 9 lbs/sq. ft. require a minimum of o~~ Minimum slope is 4:12. ~~O~~ One fastener per tile.	One fastener per tile ~~every other row. All perimeter tiles require one fastener~~. Tiles with installed weight less than 9 lbs/sq.ft. require a minimum of one fastener per tile.	One fastener required for every tile. Tiles with installed weight less than 9 lbs./sq. ft. require a minimum of one fastener per tile.
100	0 - 40			
. . .	. . .	. . .		
INTERLOCKING CLAY OR CONCRETE ROOF TILE WITH PROJECTING ANCHOR LUGS (Installations on solid sheathing without battens)				
Maximum Nominal Design Wind Speed, V_{asd}[f] (mph)	**Mean roof height (feet)**	**~~All~~ Minimum roof slopes 4 units vertical in 12 units horizontal** **Maximum slope 7 units vertical in 12 units horizontal**		
. . .	. . .	. . .		

For SI: 1 inch = 25.4 mm, 1 foot = 304.8 mm, 1 mile per hour = 0.447 m/s, 1 pound per square foot = 4.882 kg/m^2.

[a] Minimum fastener size. Hot dipped galvanized ring shank or other ~~C~~corrosion-resistant nails not less than No. 11 gage with $^5/_{16}$-inch head. Fasteners shall be long enough to penetrate into the sheathing 0.75 inch or through the thickness of the sheathing, whichever is less. Attaching wire for clay and concrete tile shall not be smaller than 0.083 inch and shall be copper, brass or stainless steel.

SECTION XX. Section 1613.6 is hereby added to read as follows:

1613.6 Modifications to ASCE 7

The text of ASCE 7 shall be modified as indicated in Sections 1613.6.1 through 1613.6.3

1613.6.1 ASCE 7, 12.12.3. Modify ASCE 7 Equation 12.12-1 of Section 12.12.3 to read as follows:

$$\delta_M = \frac{C_d \delta_{max}}{I}$$

(Equation 12.12-1)

SECTION XX. Section 16.13.6.2 is hereby added to read as follows:

1613.6.2 ASCE 7, 12.2.3.1, Exception 3.

Modify ASCE 7, Section 12.2.3.1, Exception 3 to read as follows:

3. Detached one- and two-family dwellings up to two stories in height of light frame construction.

SECTION XX. Section 1613.6.3 is hereby added to read as follows:

1613.6.3 ASCE 7, Section 12.11.2.2.3.

Modify ASCE 7, Section 12.11.2.2.3, to read as follows:

12.11.2.2.3 Wood diaphragms. In wood diaphragms, the continuous ties shall be in addition to the diaphragm sheathing. Anchorage shall not be accomplished by use of toe nails or nails subject to withdrawal nor shall wood ledgers or framing be used in cross-grain bending or cross-grain tension. The diaphragm sheathing shall not be considered effective as providing ties or struts required by this Section.

For structures assigned to Seismic Design Category D, E, or F, wood diaphragms supporting concrete or masonry walls shall comply with the following:

1. The spacing of continuous ties shall not exceed 40 feet. Added chords of diaphragms may be used to form subdiaphragms to transmit the anchorage forces to the main continuous crossties.

2. The maximum diaphragm shear used to determine the depth of the subdiaphragm shall not exceed 75 percent of the maximum diaphragm shear.

SECTION XX. Section 1613.7 is hereby added to read as follows:

1613.7 Seismic design provisions for hillside buildings.

1613.7.1 Purpose. The purpose of this Section is to establish minimum regulations for the design and construction of new buildings and additions to existing buildings when constructing such buildings on or into slopes steeper than one

unit vertical in three units horizontal (33.3 percent). These regulations establish minimum standards for seismic force resistance to reduce the risk of injury or loss of life in the event of earthquakes.

1613.7.2 Scope. The provisions of this Section shall apply to the design of the lateral-force-resisting system for hillside buildings at and below the base level diaphragm. The design of the lateral-force-resisting system above the base level diaphragm shall be in accordance with the provisions for seismic and wind design as required elsewhere in this Chapter.

EXCEPTIONS:

1. Non-habitable accessory buildings and decks not supporting or supported from the main building are exempt from these regulations.

2. Additions to existing buildings that do not exceed 10 percent of the existing floor area provided that the addition is being supported completely by the existing foundation.

1613.7.3 Definitions. For the purposes of this Section certain terms are defined as follows:

BASE LEVEL DIAPHRAGM is the floor at, or closest to, the top of the highest level of the foundation.

DIAPHRAGM ANCHORS are assemblies that connect a diaphragm to the adjacent foundation at the uphill diaphragm edge.

DOWNHILL DIRECTION is the descending direction of the slope approximately perpendicular to the slope contours.

FOUNDATION is concrete or masonry which supports a building, including footings, stem walls, retaining walls, and grade beams.

FOUNDATION EXTENDING IN THE DOWNHILL DIRECTION is a foundation running downhill and approximately perpendicular to the uphill foundation.

HILLSIDE BUILDING is any building or portion thereof constructed on or into a slope steeper than one unit vertical in three units horizontal (33.3 percent). If only a portion of the building is supported on or into the slope, these regulations apply to the entire building.

PRIMARY ANCHORS are diaphragm anchors designed for and providing a direct connection as described in Sections 1613.6.5 and 1613.6.7.3 between the diaphragm and the uphill foundation.

SECONDARY ANCHORS are diaphragm anchors designed for and providing a redundant diaphragm to foundation connection, as described in Sections 1613.6.6 and 1613.6.7.4.

UPHILL DIAPHRAGM EDGE is the edge of the diaphragm adjacent and closest to the highest ground level at the perimeter of the diaphragm.

UPHILL FOUNDATION is the foundation parallel and closest to the uphill diaphragm edge.

1613.7.4 Analysis and design.

1613.7.4.1 General. Every hillside building within the scope of this Section shall be analyzed, designed, and constructed in accordance with the provisions of this Chapter. When the code-prescribed wind design produces greater effects, the

wind design shall govern, but detailing requirements and limitations prescribed in this Section and all referenced Sections shall be followed.

1613.7.4.2 Base level diaphragm-downhill direction. The following provisions shall apply to the seismic analysis and design of the connections for the base level diaphragm in the downhill direction.

1613.7.4.2.1 Base for lateral force design defined. For seismic forces acting in the downhill direction, the base of the building shall be the floor at, or closest to, the top of the highest level of the foundation.

1613.7.4.2.2 Base shear. In developing the base shear for seismic design, the response modification coefficient (R) shall not exceed 5 for bearing wall and building frame systems. The total base shear shall include the forces tributary to the base level diaphragm including forces from the base level diaphragm.

1613.7.5 Base shear resistance-primary anchors.

1613.7.5.1 General. The base shear in the downhill direction shall be resisted through primary anchors from diaphragm struts provided in the base level diaphragm to the foundation.

1613.7.5.2 Location of primary anchors. A primary anchor and diaphragm strut shall be provided in line with each foundation extending in the downhill direction. Primary anchors and diaphragm struts shall also be provided where interior vertical lateral-force-resisting elements occur above and in contact with the base level diaphragm. The spacing of primary anchors and diaphragm struts or collectors shall in no case exceed 30 feet (9,144 mm).

1613.7.5.3 Design of primary anchors and diaphragm struts. Primary anchors and diaphragm struts shall be designed in accordance with the requirements of Section 1613.9.8.

1613.7.5.4 Limitations. The following lateral-force-resisting elements shall not be designed to resist seismic forces below the base level diaphragm in the downhill direction:

1. Wood structural panel wall sheathing;
2. Cement plaster and lath;
3. Gypsum wallboard; and
4. Tension-only braced frames.

Braced frames designed in accordance with the requirements of Section 2205.2.2 may be used to transfer forces from the primary anchors and diaphragm struts to the foundation provided lateral forces do not induce flexural stresses in any member of the frame or in the diaphragm struts. Deflections of frames shall account for the variation in slope of diagonal members when the frame is not rectangular.

1613.7.6 Base shear resistance-secondary anchors.

1613.7.6.1 General. In addition to the primary anchors required by Section 1613.6.5, the base shear in the downhill direction shall be resisted through secondary anchors in the uphill foundation connected to diaphragm struts in the base level diaphragm.

Exception: Secondary anchors are not required where foundations extending in the downhill direction spaced at not more than 30 feet (9,144 mm) on center extend up to and are directly connected to the base level diaphragm for at least 70 percent of the diaphragm depth.

1613.7.6.2 Secondary anchor capacity and spacing. Secondary anchors at the base level diaphragm shall be designed for a minimum force equal to the base shear, including forces tributary to the base level diaphragm, but not less than 600 pounds per lineal foot (8.76 kN/m). The secondary anchors shall be uniformly distributed along the uphill diaphragm edge and shall be spaced a maximum of four feet (1,219 mm) on center.

1613.7.6.3 Design. Secondary anchors and diaphragm struts shall be designed in accordance with Section 1613.6.8.

1613.7.7 Diaphragms below the base level-downhill direction.

The following provisions shall apply to the lateral analysis and design of the connections for all diaphragms below the base level diaphragm in the downhill direction.

1613.7.7.1 Diaphragm defined. Every floor level below the base level diaphragm shall be designed as a diaphragm.

1613.7.7.2 Design force. Each diaphragm below the base level diaphragm shall be designed for all tributary loads at that level using a minimum seismic force factor not less than the base shear coefficient.

1613.7.7.3 Design force-resistance-primary anchors. The design force described in Section 1613.6.7.2 shall be resisted through primary anchors from

diaphragm struts provided in each diaphragm to the foundation. Primary anchors shall be provided and designed in accordance with the requirements and limitations of Section 1613.6.5.

1613.7.7.4 Design force-resistance-secondary anchors.

1613.7.7.4.1 General. In addition to the primary anchors required in Section 1613.6.7.3, the design force in the downhill direction shall be resisted through secondary anchors in the uphill foundation connected to diaphragm struts in each diaphragm below the base level.

Exception: Secondary anchors are not required where foundations extending in the downhill direction, spaced at not more than 30 feet (9,144 mm) on center, extend up to and are directly connected to each diaphragm below the base level for at least 70 percent of the diaphragm depth.

1613.7.7.4.2 Secondary anchor capacity. Secondary anchors at each diaphragm below the base level diaphragm shall be designed for a minimum force equal to the design force but not less than 300 pounds per lineal foot (4.38 kN/m). The secondary anchors shall be uniformly distributed along the uphill diaphragm edge and shall be spaced a maximum of four feet (1,219 mm) on center.

1613.7.7.4.3 Design. Secondary anchors and diaphragm struts shall be designed in accordance with Section 1613.6.8.

1613.7.8 Primary and secondary anchorage and diaphragm strut design. Primary and secondary anchors and diaphragm struts shall be designed in accordance with the following provisions:

1. Fasteners. All bolted fasteners used to develop connections to wood members shall be provided with square plate washers at all bolt heads and nuts. Washers shall be minimum 0.229 inch by 3 inches by 3 inches (5.82 mm by 76 mm by 76 mm) in size. Nuts shall be tightened to finger tight plus one half (1/2) wrench turn prior to covering the framing.

2. Fastening. The diaphragm to foundation anchorage shall not be accomplished by the use of toenailing, nails subject to withdrawal, or wood in cross-grain bending or cross-grain tension.

3. Size of Wood Members. Wood diaphragm struts, collectors, and other wood members connected to primary anchors shall not be less than three-inch (76 mm) nominal width. The effects of eccentricity on wood members shall be evaluated as required per Item 9.

4. Design. Primary and secondary anchorage, including diaphragm struts, splices, and collectors shall be designed for 125 percent of the tributary force.

5. Allowable Stress Increase. The one-third allowable stress increase permitted under Section 1605.3.2 shall not be taken when the working (allowable) stress design method is used.

6. Steel Element of Structural Wall Anchorage System. The strength design forces for steel elements of the structural wall anchorage system, with the exception of anchor bolts and reinforcing steel, shall be increased by 1.4 times the forces otherwise required.

7. Primary Anchors. The load path for primary anchors and diaphragm struts shall be fully developed into the diaphragm and into the foundation. The foundation must be shown to be adequate to resist the concentrated loads from the primary anchors.

8. Secondary Anchors. The load path for secondary anchors and diaphragm struts shall be fully developed in the diaphragm but need not be developed beyond the connection to the foundation.

9. Symmetry. All lateral force foundation anchorage and diaphragm strut connections shall be symmetrical. Eccentric connections may be permitted when demonstrated by calculation or tests that all components of force have been provided for in the structural analysis or tests.

10. Wood Ledgers. Wood ledgers shall not be used to resist cross-grain bending or cross-grain tension.

1613.7.9 Lateral-force-resisting elements normal to the downhill direction.

1613.7.9.1 General. In the direction normal to the downhill direction, lateral-force-resisting elements shall be designed in accordance with the requirements of this Section.

1613.7.9.2 Base shear. In developing the base shear for seismic design, the response modification coefficient (R) shall not exceed 5 for bearing wall and building frame systems.

1613.7.9.3 Vertical distribution of seismic forces. For seismic forces acting normal to the downhill direction the distribution of seismic forces over the height of the building using Section 12.8.3 of ASCE 7 shall be determined using the height measured from the top of the lowest level of the building foundation.

1613.7.9.4 Drift limitations. The story drift below the base level diaphragm shall not exceed 0.007 times the story height at strength design force level. The total drift from the base level diaphragm to the top of the foundation shall not exceed 3/4 inch (19 mm). Where the story height or the height from the base level diaphragm to the top of the foundation varies because of a stepped footing or story offset, the height shall be measured from the average height of the top of the foundation. The story drift shall not be reduced by the effect of horizontal diaphragm stiffness.

1613.7.9.5 Distribution of lateral forces.

1613.7.9.5.1 General. The design lateral force shall be distributed to lateral-force-resisting elements of varying heights in accordance with the stiffness of each individual element.

1613.7.9.5.2 Wood structural panel sheathed walls. The stiffness of a stepped wood structural panel shear wall may be determined by dividing the wall into adjacent rectangular elements, subject to the same top of wall deflection. Deflections of shear walls may be estimated by AF&PA SDPWS Section 4.3.2. Sheathing and fastening requirements for the stiffest section shall be used for the entire wall. Each section of wall shall be anchored for shear and uplift at each step. The minimum

horizontal length of a step shall be eight feet (2438 mm) and the maximum vertical height of a step shall be two feet, eight inches (813 mm).

1613.7.9.5.3 Reinforced concrete or masonry shear walls.

Reinforced concrete or masonry shear walls shall have forces distributed in proportion to the rigidity of each section of the wall.

1613.7.9.6 Limitations. The following lateral force-resisting-elements shall not be designed to resist lateral forces below the base level diaphragm in the direction normal to the downhill direction:

1. Cement plaster and lath;
2. Gypsum wallboard; and
3. Tension-only braced frames.

Braced frames designed in accordance with the requirements of Section 2205.2.2 of this Code may be designed as lateral-force-resisting elements in the direction normal to the downhill direction, provided lateral forces do not induce flexural stresses in any member of the frame. Deflections of frames shall account for the variation in slope of diagonal members when the frame is not rectangular.

1613.7.10 Specific design provisions.

1613.7.10.1 Footings and grade beams. All footings and grade beams shall comply with the following:

1. Grade beams shall extend at least 12 inches (305 mm) below the lowest adjacent grade and provide a minimum 24-inch (610 mm) distance horizontally from the bottom outside face of the grade beam to the face of the descending slope.

2. Continuous footings shall be reinforced with at least two No. 4 reinforcing bars at the top and two No. 4 reinforcing bars at the bottom.

3. All main footing and grade beam reinforcement steel shall be bent into the intersecting footing and fully developed around each corner and intersection.

4. All concrete stem walls shall extend from the foundation and be reinforced as required for concrete or masonry walls.

1613.7.10.2 Protection against decay and termites. All wood to earth separation shall comply with the following:

1. Where a footing or grade beam extends across a descending slope, the stem wall, grade beam, or footing shall extend up to a minimum 18 inches (457 mm) above the highest adjacent grade.

Exception: At paved garage and doorway entrances to the building, the stem wall need only extend to the finished concrete slab, provided the wood framing is protected with a moisture proof barrier.

2. Wood ledgers supporting a vertical load of more than 100 pounds per lineal foot (1.46 kN/m) and located within 48 inches (1219 mm) of adjacent grade are prohibited. Galvanized steel ledgers and anchor bolts, with or without wood nailers, or treated or decay resistant sill plates supported on a concrete or masonry seat, may be used.

1613.7.10.3 Sill plates. All sill plates and anchorage shall comply with the following:

1. All wood framed walls, including nonbearing walls, when resting on a footing, foundation, or grade beam stem wall, shall be supported on wood sill plates bearing on a level surface.

2. Power-driven fasteners shall not be used to anchor sill plates except at interior nonbearing walls not designed as shear walls.

1613.7.10.4 Column base plate anchorage. The base of isolated wood posts (not framed into a stud wall) supporting a vertical load of 4000 pounds (17.8 kN) or more and the base plate for a steel column shall comply with the following:

1. When the post or column is supported on a pedestal extending above the top of a footing or grade beam, the pedestal shall be designed and reinforced as required for concrete or masonry columns. The pedestal shall be reinforced with a minimum of four No. 4 bars extending to the bottom of the footing or grade beam. The top of exterior pedestals shall be sloped for positive drainage.

2. The base plate anchor bolts or the embedded portion of the post base, and the vertical reinforcing bars for the pedestal, shall be confined with two No. 4 or three No. 3 ties within the top five inches (127 mm) of the concrete or masonry pedestal. The base plate anchor bolts shall be embedded a minimum of 20 bolt diameters into the concrete or masonry pedestal. The base plate anchor bolts and post bases shall be galvanized and each anchor bolt shall have at least two galvanized nuts above the base plate.

1613.7.10.5 Steel beam to column supports. All steel beam to column supports shall be positively braced in each direction. Steel beams shall have stiffener

plates installed on each side of the beam web at the column. The stiffener plates shall be welded to each beam flange and the beam web. Each brace connection or structural member shall consist of at least two 5/8 inch (15.9 mm) diameter machine bolts.

SECTION XX. Section 1704.2.3 is hereby amended to read as follows:

1704.2.3 Statement of special inspections.

The applicant shall submit a statement of *special inspections* in accordance with Section ~~107.1 *Chapter 1, Division II*~~ 106.4, as a condition for permit issuance. This statement shall be in accordance with Section 1704.3.

Exception: A statement of *special inspections* is not required for portions of structures designed and constructed in accordance with the cold-formed steel light-frame construction provisions of Section 2211.7 or the conventional light-frame construction provisions of Section 2308.

SECTION XX. Section 1704.5 is hereby amended to read as follows:

1704.5 Structural observations.

Where required by the provisions of Section 1704.5.1 or 1704.5.2, the owner shall employ a ~~registered design professional~~ structural observer to perform structural observations as defined in Section 1702. The structural observer shall be one of the following individuals:

1. The registered design professional responsible for the structural design, or

2. A registered design professional designated by the registered design professional responsible for the structural design.

Prior to the commencement of observations, the structural observer shall submit to the *building official* a written statement identifying the frequency and extent of structural observations.

~~At the conclusion of the work included in the permit, the structural observer shall submit to the building official a written statement that the site visits have been made and identify any reported deficiencies that, to the best of the structural observer's knowledge, have not been resolved.~~

The owner or owner's representative shall coordinate and call a preconstruction meeting between the structural observer, contractors, affected subcontractors, and special inspectors. The structural observer shall preside over the meeting. The purpose of the meeting shall be to identify the major structural elements and connections that affect the vertical and lateral load resisting systems of the structure and to review scheduling of the required observations. A record of the meeting shall be included in the report submitted to the Building Official.

Observed deficiencies shall be reported in writing to the owner or owner's representative, special inspector, contractor, and the Building Official. Upon the form prescribed by the Building Official, the structural observer shall submit to the Building Official a written statement at each significant construction stage stating that the site visits have been made and identifying any reported deficiencies which, to the best of the structural observer's knowledge, have not been resolved. A final report by the structural

observer which states that all observed deficiencies have been resolved is required before acceptance of the work by the Building Official.

SECTION XX. Section 1704.5.1 is hereby amended to read as follows:

1704.5.1 Structural observations for seismic resistance.

Structural observations shall be provided for those structures**.** assigned to *Seismic Design Category* D, E or F where one or more of the following conditions exist:

1. The structure is classified as *Risk Category* III or IV in accordance with Table 1604.5.

2. The height of the structure is greater than 75 feet (22860 mm) above the base.

3. The structure ~~is assigned to Seismic Design Category E,~~ is classified as Occupancy Category I or II in accordance with Table 1604.5, and ~~is greater than two stories one stories above grade plane~~ a lateral design is required for the structure or portion thereof.

Exception: One-story wood framed Group R-3 and Group U Occupancies less than 2000 square feet in area, provided the adjacent grade is not steeper than 1 unit vertical in 10 units horizontal (10 percent sloped), assigned to Seismic Design Category D.

4. When so designated by the *registered design professional* responsible for the structural design.

5. When such observation is specifically required by the *building official*.

SECTION XX. Section 1705.3 is hereby amended to read as follows:

1705.3 Concrete Construction.

The *special inspections* and verifications for concrete construction shall be as required by this section and Table 1705.3.

EXCEPTIONS: Special inspection shall not be required for:

1. Isolated spread concrete footings of buildings three stories or less above grade plane that are fully supported on earth or rock where the structural design of the footing is based on a specified compressive strength, f'c, not greater than 2,500 pounds per square inch (psi) (17.2 Mpa) regardless of the compressive strength specified in the construction documents or used in the footing construction.

2. Continuous concrete footings supporting walls of buildings three stories or less above *grade plane* that are fully supported on earth or rock where:

2.1. The footings support walls of light-frame construction;

2.2. The footings are designed in accordance with Table 1809.7; or

2.3. The structural design of the footing is based on a specified compressive strength, *f 'c*, no greater than 2,500 pounds per square inch (psi) (17.2 MPa), regardless of the compressive strength specified in the *construction documents* or used in the footing construction.

3. Nonstructural concrete slabs supported directly on the ground, including prestressed slabs on grade, where the effective prestress in the concrete is less than 150 psi (1.03 MPa).

~~4. Concrete foundation walls constructed in accordance with Table 1807.1.6.2.~~

~~5~~4. Concrete patios, ~~driveways~~ and sidewalks, on grade.

SECTION XX. Table 1705.3 is hereby amended to read as follows:

TABLE 1705.3

REQUIRED VERIFICATION AND INSPECTION OF CONCRETE CONSTRUCTION

VERIFICATION AND INSPECTION	CONTINOUS	PERIODIC	REFERENCE STANDARD[a]	IBC REFERENCE
3. Inspection of anchors cast in concrete where allowable loads have been increased or where strength design is used.	_	X	ACI 318: D.9.2 ~~8.1.3, 21.1.8~~	1908.5, ~~1909.1~~
4. Inspection of anchors post-installed in hardened concrete members[b.]	_	~~X~~	~~ACI 318: 3.8.6, 8.1.3, 21.1.8~~	~~1909.1~~
a. Adhesive anchors installed in horizontally or upwardly inclined orientations to resist sustained tension loads.	X		ACI 318:D.9.2.4	_
b. Mechanical anchors and adhesive anchors not defined in 4.a.		X	ACI 318: D.9.2	_

b. Specific requirements for special inspection shall be included in the research report for the anchor issued by an approved source in accordance with ACI 355.2 D.9.2 in ACI 318, or other qualification procedures. Where specific requirements are not provided, special inspection requirements shall be specified by the registered design professional and shall be approved by the building official prior to the commencement of the work.

(Portions of table not shown remain unchanged.)

SECTION XX. Section 1705.11 is hereby amended to read as follows:

1705.11 Special inspections for seismic resistance.

Special inspections itemized in Sections 1705.11.1 through 1705.11.8, unless exempted by the exceptions of Section 1704.2, are required for the following:

1. The seismic force-resisting systems in structures assigned to *Seismic Design Category* C, D, E or F in accordance with Sections 1705.11.1 through 1705.11.3, as applicable.

2. Designated seismic systems in structures assigned to *Seismic Design Category* C, D, E or F in accordance with Section 1705.11.4.

3. Architectural, mechanical and electrical components in accordance with Sections 1705.11.5 and 1705.11.6.

4. Storage racks in structures assigned to *Seismic Design Category* D, E or F in accordance with Section 1705.11.7.

5. Seismic isolation systems in accordance with Section 1705.11.8.

Exception: Special inspections itemized in Sections 1705.11.1 through 1705.11.8 are not required for structures designed and constructed in accordance with one of the following:

1. The structure consists of light-frame construction; the design spectral response acceleration at short periods, *SDS*, as determined in Section 1613.3.4, does not exceed 0.5; and the building height of the structure does not exceed 35 feet (10 668 mm).

2. The seismic force-resisting system of the structure consists of reinforced masonry or reinforced concrete; the design spectral response acceleration at short periods, *SDS*, as determined in Section 1613.3.4, does not exceed 0.5; and the building height of the structure does not exceed 25 feet (7620 mm)

3. The structure is a detached one- or two-family dwelling not exceeding two stories above grade plane<u>, provided the structure is not assigned to Seismic Design Category D, E, or F and</u> does not have any of the following plan or vertical irregularities in accordance with Section 12.3 of ASCE 7:

3.1. Torsional or extreme torsional irregularity.

3.2. Nonparallel systems irregularity.

3.3. Stiffness-soft story or stiffness-extreme soft story irregularity.

3.4. Discontinuity in lateral strength-weak story irregularity

SECTION XX. Section 1807.1.4 is hereby amended to read as follows:

1807.1.4 Permanent wood foundations systems.

Permanent wood foundation systems shall be designed and installed in accordance with AF&PA PWF. Lumber and plywood shall be treated in accordance with AWPA U1 (Commodity Specification A, Use Category 4B and Section 5.2) and shall be identified in accordance with Section 2303.1.8.1. Permanent wood foundation systems shall not be used for structures assigned to Seismic Design Category D, E, or F.

SECTION XX. Section 1807.1.6 is hereby amended to read as follows:

1807.1.6 Prescriptive design of concrete and masonry foundation walls.

Concrete and masonry foundation walls that are laterally supported at the top and bottom shall be permitted to be designed and constructed in accordance with this section. Prescriptive design of foundation walls shall not be used for structures assigned to Seismic Design Category D, E, or F.

SECTION XX. Section 1809.3 is hereby amended to read as follows:

1809.3 Stepped footings.

The top surface of footings shall be level. The bottom surface of footings shall be permitted to have a slope not exceeding one unit vertical in 10 units horizontal (10-percent slope). Footings shall be stepped where it is necessary to change the elevation of the top surface of the footing or where the surface of the ground slopes more than one unit vertical in 10 units horizontal (10-percent slope).

For structures assigned to Seismic Design Category D, E, or F, the stepping requirement shall also apply to the top surface of grade beams supporting walls. Footings shall be reinforced with four 1/2-inch diameter (12.7 mm) deformed reinforcing bars. Two bars shall be placed at the top and bottom of the footings as shown in Figure 1809.3.

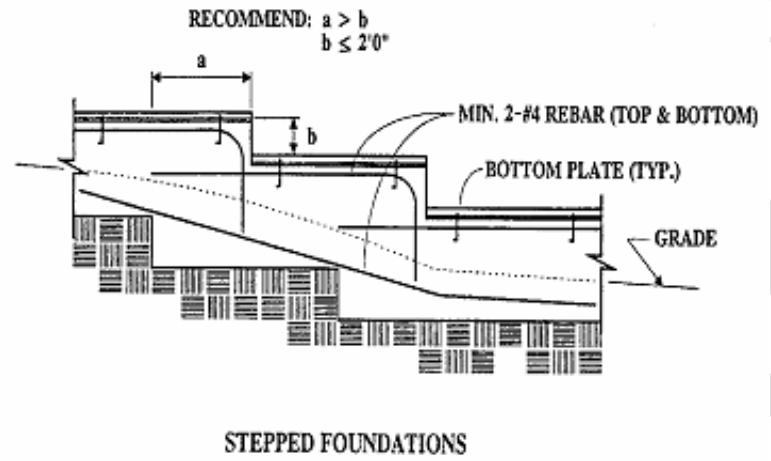


FIGURE 1809.3

STEPPED FOOTING

SECTION XX. Section 1809.7 is hereby amended to read as follows:

1809.7 Prescriptive footings for light-frame construction.

Where a specific design is not provided, concrete or masonry-unit footings supporting walls of light-frame construction shall be permitted to be designed in accordance with Table 1809.7. Prescriptive footings in Table 1809.7 shall not exceed one story above grade plane for structures assigned to Seismic Design Category D, E, or F.

SECTION XX. Table 1809.7 is hereby amended to read as follows:

TABLE 1809.7

PRESCRIPTIVE FOOTINGS SUPPORTING WALLS OF

LIGHT-FRAME CONSTRUCTION [a, b, c, d, e]

NUMBER OF FLOORS SUPPORTED BY THE FOOTING[f]	WIDTH OF FOOTING (inches)	THICKNESS OF FOOTING (inches)
1	12	6
2	15	6
3	18	8[g]

For SI: 1 inch = 25.4 mm, 1 foot = 304.8 mm.

a. Depth of footings shall be in accordance with Section 1809.4.

b. The ground under the floor shall be permitted to be excavated to the elevation of the top of the footing.

c. ~~Interior stud-bearing walls shall be permitted to be supported by isolated footings. The footing width and length shall be twice the width shown in this table, and footings shall be spaced not more than 6 feet on center.~~ [Reserved].

d. See Section 1905 for additional requirements for concrete footings of structures assigned to Seismic Design Category C, D, E or F.

e. For thickness of foundation walls, see Section 1807.1.6.

f. Footings shall be permitted to support a roof in addition to the stipulated number of floors. Footings supporting roof only shall be as required for supporting one floor.

~~g. Plain concrete footings for Group R-3 occupancies shall be permitted to be 6 inches thick.~~

SECTION XX. Section 1809.12 is hereby amended to read as follows:

1809.12 Timber footings.

Timber footings shall be permitted for buildings of Type V construction and as otherwise approved by the ~~b~~Building ~~o~~Official. Such footings shall be treated in accordance with AWPA U1 (Commodity Specification A, Use Category 4B). Treated timbers are not required where placed entirely below permanent water level, or where used as capping for wood piles that project above the water level over submerged or marsh lands. The compressive stresses perpendicular to grain in untreated timber footing supported upon treated piles shall not exceed 70 percent of the allowable stresses for the species and grade of timber as specified in the AF&PA NDS. Timber footings shall not be used in structures assigned to Seismic Design Category D, E, or F.

SECTION XX. Section 1905.1 is hereby amended to read as follows:

1905.1 General.

The text of ACI 318 shall be modified as indicated in Sections 1905.1.1 through ~~1905.1.10~~1905.1.13.

SECTION XX. Section 1905.1.3 is hereby amended to read as follows:

1905.1.3 ACI 318, Section 21.4.

Modify ACI 318, Section 21.4, by renumbering Section 21.4.3 to become 21.4.4 and adding new Sections 21.4.3, 21.4.5, 21.4.6, and 21.4.7 to read as follows:

21.4.3 - Connections that are designed to yield shall be capable of maintaining 80 percent of their design strength at the deformation induced by the design displacement or shall use Type 2 mechanical splices.

21.4.4 - Elements of the connection that are not designed to yield shall develop at least 1.5 Sy.

21.4.5 – ~~Wall piers in Seismic Design Category D, E, or F shall comply with Section 1905.1.4 of the California Building this Code.~~ In structures assigned to Seismic Design Category D, E, or F, intermediate precast wall panels and wall piers shall be designed in accordance with Section 21.9 or 21.13.

21.4.6 - Wall piers not designed as part of a moment frame in buildings assigned to Seismic Design Category C shall have transverse reinforcement designed to resist the shear forces determined from 21.3.3. Spacing of transverse reinforcement shall not exceed 8 inches (203 mm). Transverse reinforcement shall be extended beyond the pier clear height for at least 12 inches (305 mm).

Exceptions:

1. *Wall piers that satisfy 21.13.*
2. *Wall piers along a wall line within a story where other shear wall segments provide lateral support to the wall piers and such segments have a total stiffness of at least six times the sum of the stiffnesses of all the wall piers.*

21.4.7 - Wall segments with a horizontal length-to-thickness ratio less than 2.5 shall be designed as columns.

SECTION XX. Section 1905.1.8 is hereby amended to read as follows:

1905.1.8 ACI 318, Section 22.10.

Delete ACI 318, Section 22.10, and replace with the following:

22.10 - Plain concrete in structures assigned to Seismic Design Category C, D, E or F.

22.10.1 – Structures assigned to Seismic Design Category C, D, E, or F shall not have elements of structural plain concrete, except as follows:

(a) ~~Structural plain concrete basement, foundation or other walls below the base are permitted in detached one- and two-family dwellings three stories or less in height constructed with stud-bearing walls. In dwellings assigned to Seismic Design Category D or E, the height of the wall shall not exceed 8 feet (2438 mm), the thickness shall not be less than 7½ inches (190 mm), and the wall shall retain no more than 4 feet (1219 mm) of unbalanced fill. Walls shall have reinforcement in accordance with 22.6.6.5.~~Concrete used for fill with a minimum cement content of two (2) sacks of Portland cement per cubic yard.

(b) Isolated footings of plain concrete supporting pedestals or columns are permitted, provided the projection of the footing beyond the face of the supported member does not exceed the footing thickness.

~~*Exception: In detached one- and two-family dwellings three stories or less in height, the projection of the footing beyond the face of the supported member is permitted to exceed the footing thickness.*~~

(c) Plain concrete footings supporting walls are permitted, provided the footings have at least two continuous longitudinal reinforcing bars. Bars shall not be smaller than No. 4 and shall have a total area of not less than 0.002 times the gross cross-sectional area of the footing. ~~*For footings that exceed 8 inches (203 mm) in thickness, a*~~ *A minimum of one bar shall be provided at the top and bottom of the footing. Continuity of reinforcement shall be provided at corners and intersections.*

~~*Exceptions:*~~

~~*1.*~~ *In detached one- and two-family dwellings three stories or less in height and constructed with stud-bearing walls, plain concrete footings* ~~*without longitudinal reinforcement supporting walls are permitted*~~ *with at least two continuous longitudinal reinforcing bars not smaller than No. 4 are permitted to have a total area of less than 0.002 times the gross cross-sectional area of the footing.*

~~*2. For foundation systems consisting of a plain concrete footing and a plain concrete stemwall, a minimum of one bar shall be provided at the top of the stemwall and at the bottom of the footing.*~~

~~*3. Where a slab on ground is cast monolithically with the footing, one No. 5 bar is permitted to be located at either the top of the slab or bottom of the footing.*~~

SECTION XX. Section 1905.1.9 is hereby amended to read as follows:

1905.1.9 ACI 318, Section D.3.3. [These requirements shall be applicable to all buildings] Delete ACI 318 Sections ~~D.3.3.4 through D.3.3.7~~ D.3.3.4.2, D.3.3.4.3 (d) and D.3.3.5.2 and replace with the following:

~~*D.3.3.4 - The anchor design strength associated with concrete failure modes shall be taken as 0.75φNn and 0.75φVn, where φ is given in D4.3 or D4.4 and Nn and Vn are determined in accordance with D5.2, D5.3, D5.4, D6.2 and D6.3, assuming the concrete is cracked unless it can be demonstrated that the concrete remains uncracked.*~~

~~*D3.3.5 - Anchors shall be designed to be governed by the steel strength of a ductile steel element as determined in accordance with D.5.1 and D.6.1, unless either D3.3.5 or D.3.3.6 is satisfied.*~~

~~***Exceptions:***~~

~~*1. Anchors designed to resist wall out-of-plane forces with design strengths equal to or greater than the force determined in accordance with ASCE 7 Equation 12.11-1 or 12.14-10 need not satisfy Section D.3.3.4.*~~

~~*2. D.3.3.4 need not apply and the design shear strength in accordance with D.6.2.1(c) need not be computed for anchor bolts attaching wood sill plates of bearing or non-bearing walls of light-frame wood structures to foundations or foundation stem walls provided all of the following are satisfied:*~~

~~*2.1. The allowable in-plane shear strength of the anchor is determined in accordance with AF&PA NDS Table 11E for lateral design values parallel to grain.*~~

~~*2.2 The maximum anchor nominal diameter is 5/8 inches (16 mm).*~~

~~*2.3. Anchor bolts are embedded into concrete a minimum of 7 inches (178 mm).*~~

~~*2.4. Anchor bolts are located a minimum of 1-3/4 inches (45 mm) from the edge of the concrete parallel to the length of the wood sill plate.*~~

~~*2.5. Anchor bolts are located a minimum of 15 anchor diameters from the edge of the concrete perpendicular to the length of the wood sill plate.*~~

~~*2.6. The sill plate is 2-inch or 3-inch nominal thickness.*~~

~~*3. Section D.3.3.5 need not apply and the design shear strength in accordance with Section D.6.2.1(c) need not be computed for anchor bolts attaching cold-formed steel track of bearing or nonbearing walls of light-frame construction to foundations or foundation stem walls provided all of the following are satisfied:*~~

~~*3.1. The maximum anchor nominal diameter is 5/8 inches (16 mm).*~~

~~*3.2. Anchors are embedded into concrete a minimum of 7 inches (178 mm).*~~

~~*3.3. Anchors are located a minimum of 1-3/4 inches (45 mm) from the edge of the concrete parallel to the length of the track.*~~

~~*3.4. Anchors are located a minimum of 15 anchor diameters from the edge of the concrete perpendicular to the length of the track.*~~

~~*3.5. The track is 33 to 68 mil designation thickness. Allowable in-plane shear strength of exempt anchors, parallel to the edge of concrete shall be permitted to be determined in accordance with AISI S100 Section E3.3.1.*~~

~~*4. In light-frame construction, design of anchors in concrete shall be permitted to satisfy D.3.3.8.*~~

~~D3.3.6– Instead of D3.3.4, the attachment that the anchor is connecting to the structure shall be designed so that the attachment will undergo ductile yielding at a force level~~

~~corresponding to anchor forces no greater than the design strength of anchors specified in D.3.3.4.~~

~~***Exceptions:***~~

~~*1. Anchors in concrete designed to support nonstructural components in accordance with ASCE 7 Section 13.4.2 need not satisfy Section D.3.3.6.*~~

~~*2. Anchors designed to resist wall out-of-plane forces with design strengths equal to or greater than the force determined in accordance with ASCE 7 Equation 12.11-1 or 12.14-10 need not satisfy Section D.3.3.6.*~~

~~*D.3.3.7 - As an alternative to D.3.3.5 and D.3.3.6, it shall be permitted to take the design strength of the anchors as 0.4 times the design strength determined in accordance with D.3.3.4.*~~

~~*D.3.3.8 – In light-frame construction, bearing or non-bearing walls, shear strength of concrete anchors less than or equal to 1 inch [25 mm] in diameter of sill plate or track to foundation or foundation stem wall need not satisfy D.3.3.7 when the design strength of the anchors is determined in accordance with D.6.2.1(c).*~~

D.3.3.4.2 - Where the tensile component of the strength-level earthquake force applied to anchors exceeds 20 percent of the total factored anchor tensile force associated with the same load combination, anchors and their attachments shall be designed in accordance with D.3.3.4.3. The anchor design tensile strength shall be determined in

accordance with D.3.3.4.4.

Exception:

Anchors designed to resist wall out-of-plane forces with design strengths equal to or greater than the force determined in accordance with ASCE 7 Equation 12.11-1 or 12.14-10 and ASCE 7 section 12.11 shall be deemed to satisfy Section D.3.3.4.3(d).

*D.3.3.4.3 (d) - The anchor or group of anchors shall be designed for the maximum tension obtained from design load combinations that include **E**, with **E** increased by Ω_0. The anchor design tensile strength shall be calculated from D.3.3.4.4.*

D.3.3.5.2 – Where the shear component of the strength-level earthquake force applied to anchors exceeds 20 percent of the total factored anchor shear force associated with the same load combination, anchors and their attachments shall be designed in accordance with D.3.3.5.3. The anchor design shear strength for resisting earthquake forces shall be determined in accordance with D.6.

Exceptions:

1. *For the calculation of the in-plane shear strength of anchor bolts attaching wood sill plates of bearing or non-bearing walls of light-frame wood structures to foundations or foundation stem walls, the in-plane design shear strength in accordance with D.6.2 and D.6.3 need not be computed and D.3.3.5.3 shall be deemed to be satisfied provided all of the following are met*

   1.1. *The allowable in-plane shear strength of the anchor is determined in accordance*

with AF&PA NDS Table 11E for lateral design values parallel to grain.

1.2. *The maximum anchor nominal diameter is $^{5}/_{8}$ inches (16 mm).*

1.3. *Anchor bolts are embedded into concrete a minimum of 7 inches (178 mm).*

1.4. *Anchor bolts are located a minimum of $1^{3}/_{4}$ inches (45 mm) from the edge of the concrete parallel to the length of the wood sill plate.*

1.5. *Anchor bolts are located a minimum of 15 anchor diameters from the edge of the concrete perpendicular to the length of the wood sill plate.*

1.6. *The sill plate is 2-inch or 3-inch nominal thickness.*

2. *For the calculation of the in-plane shear strength of anchor bolts attaching cold-formed steel track of bearing or non-bearing walls of anchor bolts attaching cold-formed steel track of bearing or non-bearing walls of light-frame construction to foundations or foundation stem walls the in-plane design shear strength in accordance with Section D.6.2 and D.6.3 need not be computed and D.3.3.5.3 shall be deemed to be satisfied provided all of the following are met:*

2.1. *The maximum anchor nominal diameter is $^{5}/_{8}$ inches (16 mm).*

2.2. *Anchors are embedded into concrete a minimum of 7 inches (178 mm).*

2.3. *Anchors are located a minimum of $1^{3}/_{4}$ inches (45 mm) from the edge of the concrete parallel to the length of the track.*

2.4. *Anchors are located a minimum of 15 anchor diameters from the edge of the concrete perpendicular to the length of the track.*

2.5. *The track is 33 to 68 mil designation thickness.*

2.6. *Allowable in-plane shear strength of exempt anchors, parallel to the edge of*

concrete shall be permitted to be determined in accordance with AISI S100 Section E3.3.1.

3. *In light-frame construction, bearing or nonbearing walls, shear strength of concrete anchors less than or equal to 1 inch [25 mm] in diameter of sill plate or track to foundation or foundation stem wall need not satisfy D.3.3.5.3 when the design strength of the anchors is determined in accordance with D.6.2.1(c).*

SECTION XX. Section 1905.1.11 is hereby added to read as follows:

1905.1.11. ACI 318, Section 21.6.4.1. Modify ACI 318, Section 21.6.4, by adding Section 21.6.4.8 and 12.6.4.9 to read as follows:

21.6.4.8 Where the calculated point of contraflexure is not within the middle half of the member clear height, provide transverse reinforcement as specified in ACI 318, Sections 21.6.4.1, Items (a) through (c), over the full height of the member.

21.6.4.9 – At any section where the design strength, φP_n, of the column is less than the sum of the shears V_e computed in accordance with ACI 318 Sections 21.5.4.1 and 21.6.5.1 for all the beams framing into the column above the level under consideration, transverse reinforcement as specified in ACI 318 Sections 21.6.4.1 through 21.6.4.3 shall be provided. For beams framing into opposite sides of the column, the moment components may be assumed to be of opposite sign. For the determination of the design strength, φP_n, of the column, these moments may be assumed to result from the deformation of the frame in any one principal axis.

SECTION XX. Section 1905.1.12 is hereby added to read as follows:

1905.1.12. ACI 318, Section 21.9.4. Modify ACI 318, Section 21.9.4, by adding Section 21.9.4.6 to read as follows:

21.9.4.6 – Walls and portions of walls with $P_u > 0.35P_o$ shall not be considered to contribute to the calculated strength of the structure for resisting earthquake-induced forces. Such walls shall conform to the requirements of ACI 318 Section 21.13.

SECTION XX. Section 1905.1.13 is hereby added to read as follows:

1905.1.13 ACI 318, Section 21.11.6. Modify ACI 318, by adding Section 21.11.6.1, to read as follows:

21.11.6.1 Collector and boundary elements in topping slabs placed over precast floor and roof elements shall not be less than 3 inches (76 mm) or 6 d_b thick, where d_b is the diameter of the largest reinforcement in the topping slab.

SECTION XX. Section 2304.9.1 is hereby amended to read as follows:

2304.9.1 Fastener requirements.

Connections for wood members shall be designed in accordance with the appropriate methodology in Section 2301.2. The number and size of fasteners connecting wood members shall not be less than that set forth in Table 2304.9.1. Staple fasteners in Table 2304.9.1 shall not be used to resist or transfer seismic forces in structures assigned to Seismic Design Category D, E, or F.

Exception: Staples may be used to resist or transfer seismic forces when the allowable shear values are substantiated by cyclic testing and approved by the Building Official.

SECTION XX. Table 2304.9.1 is hereby amended to read as follows:

TABLE 2304.9.1

FASTENING SCHEDULE [g]

. . .

g. Staples shall not be used to resist or transfer seismic forces in structures assigned to Seismic Design Category D, E, or F.

SECTION XX. Section 2304.11.7 is hereby amended to read as follows:

2304.11.7 Wood used in retaining walls and cribs.

Wood installed in retaining or crib walls shall be preservative treated in accordance with AWPA U1 (Commodity Specifications A or F) for soil and fresh water use. Wood shall not be used in retaining or crib walls for structures assigned to Seismic Design Category D, E, or F.

SECTION XX. Section 2305.4 is hereby added to read as follows:

2305.4 Quality of nails.

In Seismic Design Category D, E, or F, mechanically driven nails used in wood structural panel shear walls shall meet the same dimensions as that required for hand-

driven nails, including diameter, minimum length, and minimum head diameter. Clipped head or box nails are not permitted in new construction. The allowable design value for clipped head nails in existing construction may be taken at no more than the nail-head-area ratio of that of the same size hand-driven nails.

SECTION XX. Section 2305.5 is hereby added to read as follows:

2305.5 Hold-down connectors.

In Seismic Design Category D, E or F, hold-down connectors shall be designed to resist shear wall overturning moments using 75 percent of the allowable seismic load values. Such values shall be established in a valid research report from approved sources in accordance with Section 104.11.1 or by accepted engineering practice and the provisions of this code.

Exception: values established by specialized cyclic and dynamic testing may be used when approved by the Building Official in accordance with Section 104.11.2.

Connector bolts into wood framing shall require steel plate washers on the post on the opposite side of the anchorage device. Plate size shall be a minimum of 0.229 inch by 3 inches by 3 inches (5.82 mm by 76 mm by 76 mm) in size. Hold-down connectors shall be tightened to finger tight plus one half (1/2) wrench turn just prior to covering the wall framing.

SECTION XX. Section 2306.2 is hereby amended to read as follows:

2306.2 Wood-frame diaphragms.

Wood-frame diaphragms shall be designed and constructed in accordance with AF&PA SDPWS. Where panels are fastened to framing members with staples, requirements and limitations of AF&PA SDPWS shall be met and the allowable shear values set forth in Table 2306.2(1) or 2306.2(2) shall only be permitted for structures assigned to seismic Design Category A, B, or C.

Exception: Allowable shear values where panels are fastened to framing members with staples may be used if such values are substantiated by cyclic testing and approved by the building official.

The allowable shear values in Tables 2306.2(1) and 2306.2(2) are permitted to be increased 40 percent for wind design.

Exception: *[DSA-SS, DSA-SS/CC and OSHPD 1, 2 &4] Wood structural panel diaphragms using staples as fasteners are not permitted by DSA and OSHPD.*

Wood structural panel diaphragms used to resist seismic forces in structures assigned to Seismic Design Category D, E or F shall be applied directly to the framing members.

Exception: Wood structural panel diaphragms are permitted to be fastened over solid lumber planking or laminated decking, provided the panel joints and lumber planking or laminated decking joints do not coincide.

SECTION XX. Section 2306.3 is hereby amended to read as follows:

2306.3 Wood-frame shear walls. Wood-frame shear walls shall be designed and constructed in accordance with AF&PA SDPWS. For structures assigned to Seismic Design Category D, E, or F, application of Tables 4.3A and 4.3B of AF&PA SDPWS shall include the following:

1. Wood structural panel thickness for shear walls shall not be less than 3/8 inch thick and studs shall not be spaced at more than 16 inches on center.
2. The maximum nominal unit shear capacities for three-ply plywood resisting seismic forces in structures assigned to Seismic Design Category D, E or F is 400 pounds per linear foot (plf).
3. Where shear design values using allow stress design (ASD) exceed 350 plf or load and resistance factor design (LRFD) exceed 500 plf, all framing members receiving edge nailing from abutting panels shall not be less than a single 3-inch nominal member, or two 2-inch nominal members fastened together in accordance with Section 2306.1 to transfer the design shear value between framing members. Wood structural panel joint and sill plate nailing shall be staggered at all panel edges. See Section 4.3.6.1 and 4.3.6.4.3 of AF&PA SDPWS for sill plate size and anchorage requirements.
4. Nails shall be placed not less than 1/2 inch in from the panel edges and not less than 3/8 inch from the edge of the connecting members for shear greater than 350 plf using ASD or 500 plf using LRFD. Nails shall be placed not less than 3/8 inch from panel edges and not less than 1/4 inch from the edge of the connecting members for shears of 350 plf or less using ASD or 500 plf or less using LRFD.

5. Table 4.3B application is not allowed for structures assigned to Seismic Design Category D, E, or F.

For structures assigned to Seismic Design Category D, application of Table 4.3C of AF&PA SDPWS shall not be used below the top level in a multi-level building for structures.

Where panels are fastened to framing members with staples, requirements and limitations of AF&PA SDPWS shall be met and the allowable shear values set forth in Table 2306.3(1), 2306.3(2) or 2306.3(3) shall only be permitted for structures assigned to Seismic Design Category A, B, or C.

Exception: Allowable shear values where panels are fastened to framing members with staples may be used if such values are substantiated by cyclic testing and approved by the building official.

The allowable shear values in Tables 2306.3(1) and 2306.3(2) are permitted to be increased 40 percent for wind design. Panels complying with ANSI/APA PRP-210 shall be permitted to use design values for Plywood Siding in the AF&PA SDPWS.

Wood structural panel shear walls used to resist seismic forces in structures assigned to Seismic Design Category D, E, or F shall be applied directly to the framing members.

SECTION XX. Section 2307.2 is hereby added to read as follows:

2307.2 Wood-frame panel shear walls.

Wood-frame shear walls shall be designed and constructed in accordance with Section 2306.3 as applicable.

SECTION XX. Section 2308.3.4 is hereby amended to read as follows:

2308.3.4 Braced wall line support. Braced wall lines shall be supported by continuous foundations.

Exception: For structures with a maximum plan dimension not over 50 feet (15,240 mm), continuous foundations are required at exterior walls only for structures assigned to Seismic Design Category A, B, or C.

SECTION XX. Sections 2308.9.3.1 and 2308.9.2 and Figure 2308.9.2 are hereby amended to read as follows:

2308.9.3.1 Alternative bracing. Any bracing required by Section 2308.9.3 is permitted to be replaced by the following:

1. In one-story buildings, each panel shall have a length of not less than 2 feet 8 inches (813 mm) and a height of not more than 10 feet (3048 mm). Each panel shall be sheathed on one face with 3/8-inch-minimum-thickness (9.5 mm) wood structural panel sheathing nailed with 8d common or galvanized box nails in accordance with Table 2304.9.1 and blocked at wood structural panel edges. For structures assigned to Seismic Design Category D or E, each panel shall be sheathed on one face with 15/32-inch-minimum-thickness (11.9 mm) wood

structural panel sheathing nailed with 8d common nails spaced 3 inches on panel edges, 3 inches at intermediate supports. Two anchor bolts installed in accordance with Section 2308.6 shall be provided in each panel. Anchor bolts shall be placed at each panel outside quarter points. Each panel end stud shall have a tie-down device fastened to the foundation, capable of providing an approved uplift capacity of not less than 1,800 pounds (8006 N). The tie-down device shall be installed in accordance with the manufacturer's recommendations. The panels shall be supported directly on a foundation or on floor framing supported directly on a foundation that is continuous across the entire length of the braced wall line. This foundation shall be reinforced with not less than one No. 4 bar top and bottom.

Where the continuous foundation is required to have a depth greater than 12 inches (305 mm), a minimum 12-inch by 12-inch (305 mm by 305 mm) continuous footing or turned down slab edge is permitted at door openings in the braced wall line. This continuous footing or turned down slab edge shall be reinforced with not less than one No. 4 bar top and bottom. This reinforcement shall be lapped 15 inches (381 mm) with the reinforcement required in the continuous foundation located directly under the braced wall line.

2. In the first *story* of two-story buildings, each wall panel shall be braced in accordance with Section 2308.9.3.1, Item 1, except that the wood structural

panel sheathing shall be provided on both faces, three anchor bolts shall be placed at one-quarter points, and tie-down device uplift capacity shall not be less than 3,000 pounds (13 344 N).

2308.9.3.2 Alternate bracing wall panel adjacent to a door or window opening. Any bracing required by Section 2308.9.3 is permitted to be replaced by the following when used adjacent to a door or window opening with a full-length header:

1. In one-story buildings, each panel shall have a length of not less than 16 inches (406 mm) and a height of not more than 10 feet (3048 mm). Each panel shall be sheathed on one face with a single layer of 3/8 inch (9.5 mm) minimum thickness wood structural panel sheathing nailed with 8d common or galvanized box nails in accordance with Figure 2308.9.3.2. <u>For structures assigned to Seismic Design Category D or E, each panel shall be sheathed on one face with 15/32-inch-minimum-thickness (11.9 mm) wood structural panel sheathing nailed with 8d common nails spaced 3 inches on panel edges, 3 inches at intermediate supports and in accordance with Figure 2308.9.3.2.</u> The wood structural panel sheathing shall extend up over the solid sawn or glued-laminated header and shall be nailed in accordance with Figure 2308.9.3.2. A built-up header consisting of at least two 2 × 12s and fastened in accordance with Item 24 of Table 2304.9.1 shall be permitted to be used. A spacer, if used, shall be placed

on the side of the built-up beam opposite the wood structural panel sheathing. The header shall extend between the inside faces of the first full-length outer studs of each panel. The clear span of the header between the inner studs of each panel shall be not less than 6 feet (1829 mm) and not more than 18 feet (5486 mm) in length. A strap with an uplift capacity of not less than 1,000 pounds (4,400 N) shall fasten the header to the inner studs opposite the sheathing. One anchor bolt not less than 5/8 inch (15.9 mm) diameter and installed in accordance with Section 2308.6 shall be provided in the center of each sill plate. The studs at each end of the panel shall have a tie-down device fastened to the foundation with an uplift capacity of not less than 4,200 pounds (18 480 N).

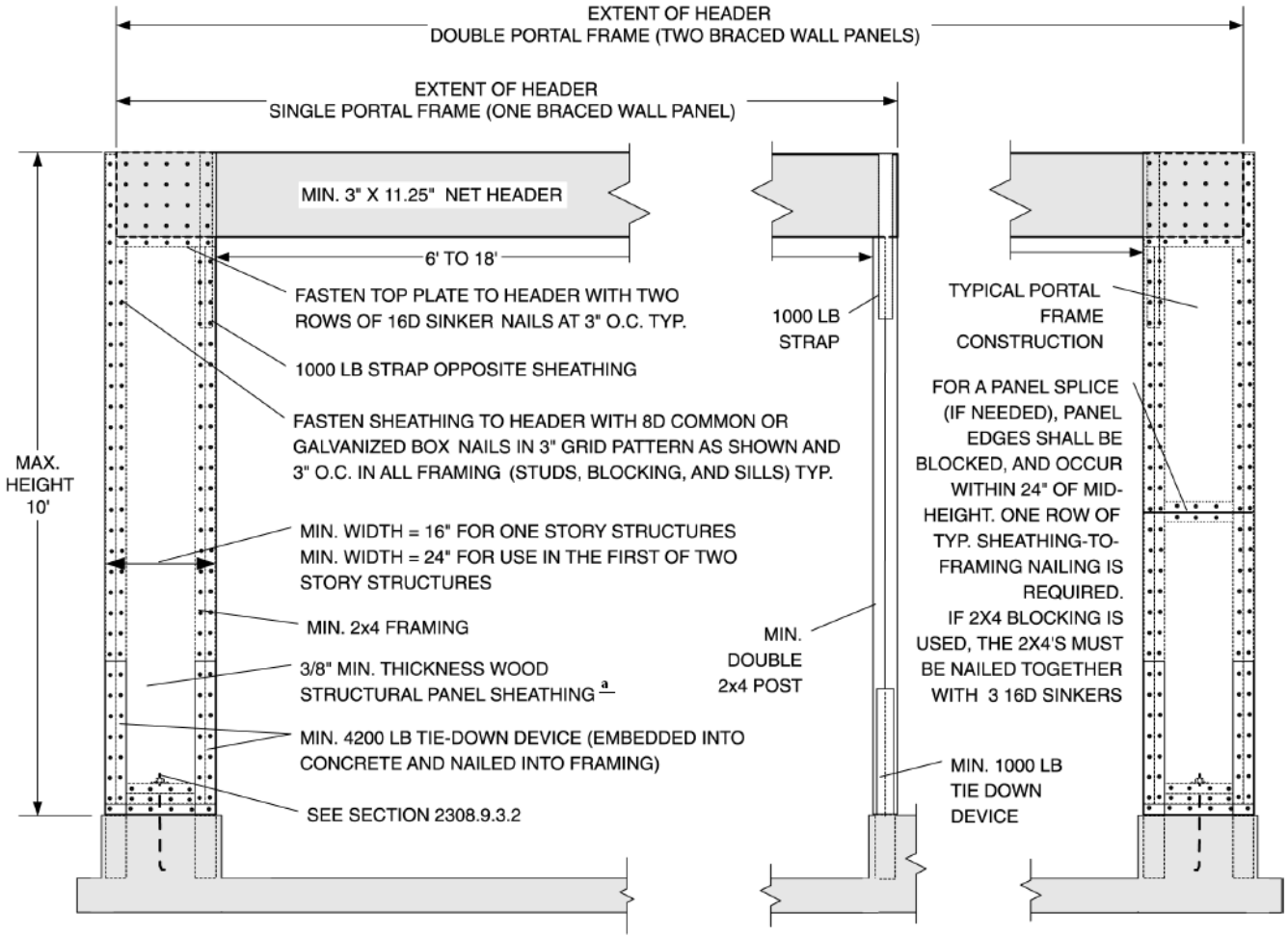
Where a panel is located on one side of the opening, the header shall extend between the inside face of the first full-length stud of the panel and the bearing studs at the other end of the opening. A strap with an uplift capacity of not less than 1,000 pounds (4400 N) shall fasten the header to the bearing studs. The bearing studs shall also have a tie-down device fastened to the foundation with an uplift capacity of not less than 1,000 pounds (4400 N).

The tie-down devices shall be an embedded strap type, installed in accordance with the manufacturer's recommendations. The panels shall be supported directly on a foundation that is continuous across the entire length of the braced wall line.

This foundation shall be reinforced with not less than one No. 4 bar top and bottom.

Where the continuous foundation is required to have a depth greater than 12 inches (305 mm), a minimum 12-inch by 12-inch (305 mm by 305 mm) continuous footing or turned down slab edge is permitted at door openings in the braced wall line. This continuous footing or turned down slab edge shall be reinforced with not less than one No. 4 bar top and bottom. This reinforcement shall be lapped not less than 15 inches (381 mm) with the reinforcement required in the continuous foundation located directly under the braced wall line.

2. In the first *story* of two-story buildings, each wall panel shall be braced in accordance with Item 1 above, except that each panel shall have a length of not less than 24 inches (610 mm).



For SI: 1 foot = 304.8 mm; 1 inch = 25.4 mm; 1 pound = 4.448 N.

a. For structures assigned to Seismic Design Category D or E, sheathed on one face with 15/32-inch-minimum-thickness (11.9 mm) wood structural panel sheathing nailed with 8d common nails spaced 6 inches on panel edges, 12 inches at intermediate supports.

FIGURE 2308.9.3.2
ALTERNATE BRACED WALL PANEL ADJACENT TO A DOOR OR WINDOW OPENING

SECTION XX. Table 2308.12.4 is hereby amended to read as follows:

TABLE 2308.12.4

WALL BRACING IN SEISMIC DESIGN CATEGORIES D AND E

(Minimum Length of Wall Bracing per each 25 Linear Feet of Braced Wall Line [a])

CONDITION	SHEATHING TYPE[b]	SDS < 0.50	0.50 ≤ SDS < 0.75	0.75 ≤ SDS ≤ 1.00	SDS > 1.00
One story	G-P[c]	43	59	75	100
	S-W	21	32	37	48

a. Minimum length of panel bracing of one face of the wall for S-W sheathing shall be at least 4'-0" long or both faces of the wall for G-P sheathing shall be at least 8'-0" long; h/w ratio shall not exceed 2:1. For S-W panel bracing of the same material on two faces of the wall, the minimum length is permitted to be one-half the tabulated value but the h/w ratio shall not exceed 2:1 and design for uplift is required.

b. G-P = gypsum board, ~~fiberboard, particleboard, lath and~~ portland cement, plaster, or gypsum sheathing boards; S-W = wood structural panels ~~and diagonal wood sheathing~~.

c. Nailing as specified below shall occur at all panel edges at studs, at top and bottom plates and, where occurring, at blocking:

For 1/2-inch gypsum board, 5d (0.113 inch diameter) cooler nails at 7 inches on center;

For 5/8-inch gypsum board, No 11 gage (0.120 inch diameter) cooler nails at 7 inches on center;

For gypsum sheathing board, 1-3/4 inches long by 7/16-inch head, diamond point galvanized nails at 4 inches on center;

For gypsum lath, No. 13 gage (0.092 inch) by 1-1/8 inches long, 19/64-inch head, plasterboard at 5 inches on center;

For Portland cement plaster, No. 11 gage (0.120 inch) by $1^{1}/_{2}$ inches long, $^{7}/_{16}$-inch head at 6 inches on center;

~~For fiberboard and particleboard, No. 11 gage (0.120 inch) by $1^{1}/_{2}$ inches long, $^{7}/_{16}$- inch head, galvanized nails at 3 inches on center.~~

d. S-W sheathing shall be a minimum of 15/32" thick nailed with 8d common nails placed 3/8 inches from panel edges and spaced not more than 6 inches on center and 12 inches on center along intermediate framing members.

SECTION XX. Section 2308.12.5 is hereby amended to read as follows:

2308.12.5 Attachment of sheathing.

Fastening of braced wall panel sheathing shall not be less than that prescribed in Table 2308.12.4 or 2304.9.1. Wall sheathing shall not be attached to framing members by adhesives. Staple fasteners in Table 2304.9.1 shall not be used to resist or transfer seismic forces in structures assigned to Seismic Design Category D, E, or F.

Exception: Staples may be used to resist or transfer seismic forces when the allowable shear values are substantiated by cyclic testing and approved by the Building Official.

All braced wall panels shall extend to the roof sheathing and shall be attached to parallel roof rafters or blocking above with framing clips (18 gauge minimum) spaced at maximum 24 inches (6096 mm) on center with four 8d nails per leg (total eight 8d nails per clip). Braced wall panels shall be laterally braced at each top corner and at maximum 24 inch (6096 mm) intervals along the top plate of discontinuous vertical framing.

SECTION XX. Section 3401.10 and 3401.11 are hereby added as follows:

3401.10 Parapets and appendages.

3401.10.1 General compliance.

Whenever the Building Official determines by inspection that, as a result of inadequate construction or bracing to resist horizontal forces, an existing parapet or appendage attached to and supported by an exterior wall of a building is likely to become a hazard to life or property in the event of earthquake disturbance, and such parapet or appendage is not an immediate hazard or danger as described in Section 102 of this Code, the Building Official may provide the owner of the building or other person or agent in control of the building where such parapet or other appendage exists, with a written notice specifying the hazards and the inadequacies of construction or bracing.

The owner of the building or other person or agent in control of the building shall, within 12 months from the date of such written notice, eliminate the hazard as set forth below. Any person receiving notice as set out in this Section may appeal, in the manner provided by Section 102.4 of this Code, to the building Board of Appeals.

3401.10.2 Wall anchor.

The parapet or appendage shall be removed and the remainder of the wall anchored at the roof line, or it shall be reconstructed so that it will conform structurally as near as it is practicable to do so with requirements of Chapter 16 of this Code, or it shall be otherwise braced and strengthened in a manner satisfactory to the Building Official, so that it will resist a reasonable degree of horizontal forces without becoming dislodged with danger of falling.

3401.10.3 Inspection of existing condition.

Where, in the opinion of the Building Official, it is necessary to open a portion of roof, wall, or ceiling of a building in order to determine the structural condition of any parapet or appendage, the Building Official may order the owner to make such opening and the owner shall comply with said order at the owner's sole cost and expense.

3401.11 Existing glass.

Whenever the Building Official determines by inspection that an existing glass installation in rooms having an occupant load of more than 100 persons or a means of egress serving an occupant load of more than 100 persons, as determined by Chapter 10, is likely to become a hazard in the event of accidental human impact as described in Section 2406.4 and such installation does not comply with the provisions of this Code

for glazing in such locations, the Building Official may provide the owner of the building or other person or agent in control of the building where such glazing exists with a written notice of such condition. The owner of the building or other person or agent in control of the building shall, within 90 days after receiving said notice, replace such glass or otherwise cause the installation to conform with the requirements of this Code.

SECTION XX. Chapter 65 is hereby amended to read as follows:

CHAPTER 65
SIGNS

SECTION 6501 DEFINITIONS

For the purpose of this Code, certain terms, phrases, words and their derivatives shall be defined as follows:

BUILDING LINE. For the purpose of this Chapter, a "property line" shall also mean a building line whose boundaries are established by a building line ordinance.

FACE OF BUILDING. ~~is t~~The general outer surface, not including cornices, bay windows or other ornamental trim, of any main exterior wall of a building.

GROUND SIGN. ~~is a~~A detached sign erected upon or supported by the ground.

PROJECTING SIGN. ~~is a~~A sign other than a wall sign suspended from or supported by a building or structure and projecting out therefrom.

ROOF SIGN. ~~is a~~A sign erected upon or above a roof or parapet wall of a building or structure.

SIGN. ~~is a~~A display board, screen, structure, object or part thereof, used to announce, declare, demonstrate, display or otherwise advertise and attract the attention of the public.

WALL SIGN. ~~is a~~A sign attached to or erected against the wall of a building or structure, with the exposed face of the sign in a plane approximately parallel to the plane of said wall.

SECTION 6502 GENERAL REQUIREMENTS

6502.1 Scope.

This Chapter is intended to regulate the construction, erection, alteration, repair and maintenance of all signs, and their supports in the unincorporated territory of the County of Los Angeles, except ground signs extending not more than 6 feet (1829 mm) above grade.

6502.2 Permits.

A building permit as specified in Section 106 shall be required for every sign and sign

structure regulated by this Chapter.

Where signs are illuminated by electric lighting, a separate electrical permit shall be obtained as required by the Electrical Code, Title 27 of the Los Angeles County Code.

6502.3 Plans.

Two copies of plans and specifications shall be submitted with the application for permit for each sign except cloth and banner signs. Such plans shall show complete details, method of attachment or support, location, and materials to be used. Plans for supports of all roof signs and other signs subject to excessive stresses shall be accompanied by structural computations.

Sufficient data shall be submitted to show that the supporting surface and other members of an existing building to which a sign is to be attached are in good condition, and are adequately strong to support the load.

6502.4 Design and construction.

Sign frames and supporting construction shall be designed and constructed as ~~provided in the Structural Engineering Design Provisions~~ required by Chapter 16 through 23 of this Code.

> EXCEPTION: Structural steel members shall not be less than 1/4 inch (6.4 mm) thick if ungalvanized, and 3/16 inch (4.8 mm) thick if all members, including bolts and fastenings, are galvanized. Bolts and rivets used in sign structures, supporting signs 100 square feet (9.29 m2) in area or more, shall not be less than 1/2 inch (12.7 mm) in diameter. On such structures supporting signs less than 100 square feet (9.29 m2) in area, bolts and rivets shall not be less than 3/8 inch (9.5 mm) in diameter.

Supports shall be designed so that all loads and reactions shall be transmitted to the ground through the structural framework and walls of supporting buildings or structures. Signs erected on buildings or structures shall be securely attached by means of adequate metal brackets, expansion bolts, through bolts or lag screws. No material, part, portion or equipment thereof or therefor shall be used which may become dangerous because of vibration, corrosion, disintegration or for any other reason whatsoever. Wire other than stranded cable shall not be considered as adequate fastening, except for cloth and banner signs.

If supports of an existing structure are found to be inadequate, they shall be adequately strengthened before the sign is erected.

6502.5 Projection and clearance.

Signs extending beyond the exterior wall of the building shall comply with Section 705.2 and the following requirements.

Signs may project over a public street, public sidewalk or building line a distance as determined by the clearance of the bottoms thereof above the level of the sidewalk or grade immediately below, as follows:

Clearance less than 8 feet (2438 mm), 6-inch (152 mm) projection;

Clearance from 8 feet (2438 mm) to 10 feet (3048 mm), 1-foot (305 mm) projection;

And above 8 feet (2438 mm), for each additional 2-foot clearance (610 mm), an additional 1-foot (305 mm) projection;

Provided that no structure shall have a projection of more than 5 feet (1524 mm), and provided further that a projecting sign built above and in connection with a marquee may have such a projection of 5 feet (1524 mm) without clearance between sign and marquee; and provided further that no structure shall project beyond the curb line, regardless of clearance above grade.

Signs projecting more than 6 inches (152 mm) from the face of a building over private property used or intended to be used by the general public shall have a minimum clearance of 8 feet (2438 mm) above said sidewalk or grade.

6502.6 Materials.

Signs and their supports may be constructed of any material allowed in the code, unless otherwise specified in this Chapter for the classification and location of sign to be erected.

Glass used in signs shall be of the size, thickness and type given in Table 65-1 of this Chapter and shall comply with the requirements of Chapter 24.

Exceptions:

1. Surfaces of signs not more than 55 feet (16764 mm) above grade may be of approved plastic material which has a flame-spread rating of 25 or less ~~when tested in accordance with Standard 8-1, of the Uniform Building Code, 1997 Edition, as published by the International Conference of Building Officials, in the way intended for use~~.

2. Notwithstanding any other provisions of this code, plastics which burn at a rate no faster than 2.5 inches per minute (64 mm/s) when tested in accordance with ASTM D 635 shall be deemed approved plastics and can be used as the display surface material and for the letters, decorations and facing on signs and outdoor display structures.

6502.7 Prohibited locations.

Signs shall not be erected, constructed or maintained so as to obstruct any fire escape or any window or door or opening used as part of the *means of egress* or as part of the *accessible route*, except as permitted by Chapters 10, 11A, and 11B respectively.

No sign shall project into any alley whatsoever below a height of 14 feet (4267 mm) above grade or more than 6 inches (152 mm) when over 14 feet (4267 mm).

No sign shall be erected in such a manner that any portion of its surface or supports will interfere in any way with the free use of any fire escape, exit or standpipe, or obstruct any required ventilator, door or stairway. No sign shall obstruct the free use of any window on the same premises.

No sign shall be erected in such a manner as to interfere with, mislead or confuse traffic.

6502.8 Combination signs.

Each portion of a sign which is subject to more than one classification shall meet the requirements for the classification to which such portion is subject.

6502.9 Identification.

Every sign shall have an identifying number, and except for ground signs, the weight of the sign, plainly placed on the exterior surface of the sign body in a location where such information will be readily visible after installation and erection.

6502.10 Maintenance.

Signs and sign structures shall be maintained at all times in a state of good repair, with all braces, bolts, clips, supporting frame and fastenings free from deterioration, termite infestation, rot, rust or loosening. At all times they shall be able to safely withstand the wind pressure for which they were originally designed, and in no case less than 15 pounds per square foot (718.2 N/m^2).

SECTION 6503 GROUND SIGNS

Ground signs of wood shall have all members which extend into the ground protected with an approved preservative.

Approved plastic as defined in Chapter 26 may be used for surface of signs exceeding 55 feet (16 764 mm) in height provided the sign is constructed of noncombustible materials.

SECTION 6504 PROJECTING SIGNS

Projecting signs attached to a building shall be of noncombustible materials, or ~~of not less than one-hour fire resistive construction as specified in Chapter 7~~ of any material complying with Sections 705.2.1 through 705.2.3. The thickness of any such sign shall not exceed the following:

For a maximum projection of 5 feet (1524 mm), a thickness of 2 feet (610 mm).

For a maximum projection of 4 feet (1219 mm), a thickness of 2 feet 6 inches (762 mm).

For a maximum projection of 3 feet (914 mm), a thickness of 3 feet (914 mm).

SECTION 6505 WALL SIGNS

Wall signs exceeding a height of 15 feet (4572 mm) above grade shall have a surface of noncombustible material, but may have ornamental moldings and lattice work of combustible material. No wall sign shall have a projection over any public street, other public property or building line, as defined herein, greater than 24 inches (610 mm). No wall sign shall extend above the roof or highest parapet wall immediately adjacent thereto.

SECTION 6506 ROOF SIGNS

6506.1 Access.

Passages clear of all obstructions shall be left under all signs exceeding a height of 4 feet (1219 mm) above the roof thereunder or immediately adjacent thereto. There shall be one such passage or access opening for each building covered and at least every 50 feet (15 240 mm) in the length of the sign, and when such signs are at right angles to a face of the building, within 20 feet (6096 mm) of parapet or exterior walls. Such passages shall not be less than 3 feet (914 mm) wide and 4 feet (1219 mm) high and shall be at the parapet or roof level.

6506.2 Height.

No solid roof sign or solid portion of a roof sign on a Type II, III, IV or V building or structure shall exceed a height of 30 feet (9144 mm) above the top of the parapet wall nearest the sign, or above the highest point of the roof directly under the sign in case there is no parapet wall, unless constructed integral with the building or structure or unless its supporting frame extends directly to the ground. The height above a Type I structure is unlimited.

6506.3 Construction.

Roof signs shall be designed as required in Section 6502.4. They shall be of noncombustible material, except that wood moldings and 2-inch (51 mm)-thick plank walkways may be used.

Blocks, angles or supports fastened to the roof shall be so located as not to interfere with the drainage of the roof and, where necessary, flashing or counter flashing shall be placed.

SECTION 6507 SPECIAL SIGNS

6507.1 Marquee signs.

Signs may be placed on, attached to or constructed ~~in a marquee and such signs shall, for the purpose of determining projection, clearance, height and material, be considered a part of and shall meet the requirements for a marquee. Projecting signs attached to a building may also be attached to a marquee.~~ on a marquee that meet the requirements for a marquee as described in Section 3106.

The marquee sign:

1. Shall not project beyond the perimeter of the marquee,
2. Shall not extend more than 6 feet above a marquee,
3. Shall not extend more than 1 foot below a marquee, and
4. Shall not have a vertical dimension greater than 8 feet.

6507.2 Cloth and banner signs.

Cloth and banner signs placed on buildings shall be strongly constructed and securely attached flat against the building. They shall be removed as soon as torn or damaged.

TABLE 65-1
SIZE, THICKNESS AND TYPE OF GLASS PANELS IN SIGNS

MAXIMUM SIZE OF EXPOSED GLASS PANEL		MINIMUM THICKNESS OF GLASS IN INCHES	TYPE OF GLASS
Any Dimension in inches	Area in Square Inches		

30	500	1/8	Plain, plate or wired
45	700	3/16	Plain, plate or wired
144	3,600	1/4	Plain, plate or wired
over 144	over 3,600	1/4	Wired glass

For: 1-inch = 25.4 mm, 100 square inch = 0.064516 m^2

SECTION XX. Section 6601.1 is hereby amended to read as follows:

6601.1 Structures regulated. The provisions of this chapter are intended to regulate structures not otherwise regulated by this or other code<u>s</u>, which affect or may affect the physical safety of human beings, and shall include the installation, maintenance and operations of public assembly tents, amusement devices, towers, membrane structures not regulated by Chapter 31, and other structures.

AMUSEMENT DEVICE OR STRUCTURE is any device or structure, such as rebound tumbling equipment, merry-go-rounds, ~~Ferris wheels~~, captive airplanes, dark houses and similar devices or structures which the public is invited or permitted to ride or use for the purpose of amusement.

SECTION XX. Chapter 67 is hereby amended to read as follows:

CHAPTER 67
~~SPECIAL~~SECURITY PROVISIONS

SECTION 6701 PURPOSE

The purpose of this Chapter is to set forth minimum standards of construction for resistance to unlawful entry.

SECTION 6702 SCOPE

The provisions of this Chapter shall apply to enclosed Groups B, F, M, R, and S Occupancies and enclosed private garages.

SECTION 6703 LIMITATIONS

No provisions of this Chapter shall require or be construed to require devices on exit doors or on sleeping room emergency exits contrary to the requirements specified in Section 1029.

SECTION 6704 ALTERNATE SECURITY PROVISIONS

The provisions of this Chapter are not intended to prevent the use of any device or method of construction not specifically prescribed by this Code when such alternate provides equivalent security based on a recommendation of the County Sheriff. Any alteration to the security provisions shall comply with Penal Code Section 14051.

SECTION 6705 DEFINITIONS

For the purpose of this Chapter, certain terms are defined as follows:

CYLINDER GUARD is a protective metal device of hardened steel or with a hardened steel insert that covers or surrounds the exposed portion of the lock cylinder for the purpose of protecting the cylinder from wrenching, prying, cutting, driving through, or pulling out by attack tools.

DEADBOLT is a bolt which has no automatic spring action and which is operated by a key cylinder, thumbturn or lever, and is positively held fast when in the projected position.

DEADLOCKING LATCH is a latch in which the latch bolt is positively held in the projected position by a guard bolt, plunger or auxiliary mechanism.

LATCH is a device for automatically retaining the door in a closed position upon its closing.

SECTION 6706 TESTS—SLIDING GLASS DOORS

Panels shall be closed and locked. Tests shall be performed in the following order.

6706.1 Test A.

With the panels in the normal position, a concentrated load of 300 pounds (1334.5 N) shall be applied separately to each vertical pull stile incorporating a locking device, at a point on the stile within 6 inches (152.4 mm) of the locking device, in the direction parallel to the plane of glass that would tend to open the door.

6706.2 Test B.

Repeat Test A while simultaneously adding a concentrated load of 150 pounds (667.2 N) to the same area of the same stile in a direction perpendicular to the plane of glass toward the interior side of the door.

6706.3 Test C.

Repeat Test B with the 150-pound (667.2 N) force in the reversed direction toward the exterior side of the door.

6706.4 Tests D, E and F.

Repeat Tests A, B and C with the movable panel lifted upwards to its full limit within the confines of the door frame.

6706.5 Identification.

Sliding glass door assemblages subject to the provisions of this Section shall bear a label or other approved means of identification indicating compliance with these tests. The label shall be a type authorized through a recognized testing agency which provides periodic follow-up inspection service.

SECTION 6707 TESTS - SLIDING GLASS WINDOWS

Sash shall be closed and locked. Tests shall be performed in the following order.

6707.1 Test A.

With the sliding sash in the normal position, a concentrated load of 150 pounds (667.2 N) shall be applied separately to each sash member incorporating a locking device, at a point on the sash member within 6 inches (152.4 mm) of the locking device, in the direction parallel to the plane of glass that would tend to open the window.

6707.2 Test B.

Repeat Test A while simultaneously adding a concentrated load of 75 pounds (333.6 N) to the same area of the same sash member in the direction perpendicular to the plane of glass toward the interior side of the window.

6707.3 Test C.

Repeat Test B with the 75 pounds (333.6 N) of force in the reversed direction toward the exterior side of the window.

6707.4 Tests D, E and F.

Repeat Tests A, B and C with the movable sash lifted upwards to its full limit within the confines of the window frame.

6707.5 Identification.

Sliding glass window assemblages subject to the provisions of this Section shall bear a label or other approved means of identification indicating compliance with these tests. The label shall be a type authorized through a recognized testing agency which provides periodic follow-up inspection service.

SECTION 6708 DOORS - GENERAL

A door forming a part of the enclosure of a dwelling unit or of an area occupied by one tenant of a building shall be constructed, installed, and secured as set forth in Sections 6709, 6711 and 6712, when such door is directly reachable or capable of being reached from a street, highway, yard, court, passageway, corridor, balcony, patio, breezeway, private garage, portion of the building which is available for use by the public or other tenants, or similar area. A door enclosing a private garage with an interior opening leading directly to a dwelling unit shall also comply with said Sections 6709, 6710, 6711 and 6712.

SECTION 6709 DOORS - SWINGING DOORS

6709.1 <u>Swinging wooden doors.</u>

Swinging wooden doors which are openable from the inside without the use of a key

shall be of one of the following constructions or shall be of a construction having equivalent forced-entry resistance.

6709.1.1 Solid-core doors.

Solid-core doors not less than 1-3/8 inches (35 mm) in thickness.

6709.1.2 Wood panel-type doors.

Wood panel-type doors with panels fabricated of lumber not less than 1-3/8 inches (34.9 mm) thick, provided shaped portions of the panels are not less than 1/4 inch (6.4 mm) thick. Individual panels shall not exceed 300 square inches (0.19 m^2) in area. Stiles and rails shall be of solid lumber with overall dimensions of not less than 1-3/8 inches (35 mm) in thickness and 3 inches (76 mm) in width. Mullions shall be considered a part of adjacent panels unless sized as required herein for stiles and rails except mullions not over 18 inches (457 mm) long may have an overall width of not less than 2 inches (51 mm). Carved areas shall have a thickness of not less than 3/8 inches (9.5 mm). Dimensional tolerances published in recognized industry standards may be utilized.

6709.1.3 Hollow-core doors.

Hollow-core doors or doors less than 1-3/8 inches (35 mm) in thickness either of which are covered on the inside face with 16-gauge sheet metal attached with screws at 6 inches (152 mm) maximum centers around the perimeter.
Lights in doors shall be as set forth in Sections 6714 and 6715.

6709.2 Single swinging door, pair of doors, and Dutch doors.

A single swinging door, the active leaf of a pair of doors, and the bottom leaf of Dutch doors shall be equipped with a deadbolt and a latch. If a key-locking feature is incorporated in the latching mechanism, a dead latch shall be used. The deadbolt and latch may be activated by one lock or by individual locks. Deadbolts shall contain hardened inserts, or equivalent, so as to repel cutting tool attack. The deadbolt lock or locks shall be key operated from the exterior side of the door and engaged or disengaged from the interior side of the door by a device not requiring a key, tool or excessive force.

EXCEPTIONS:

1. The latch may be omitted from doors in Group B Occupancies.
2. In other than residential occupancies, locks may be key-operated, or otherwise operated from the inside when not prohibited by Chapter 10 or other laws and regulations.
3. A swinging door of width greater than 5 feet (1524 mm) may be secured as set forth in Section 6711.

4. In residential occupancies, doors not required by Section 1029 or 1008 may be equipped with security-type hardware which requires a key to release from the interior side of the door if the sleeping rooms are protected with a fire-warning system as set forth in Sections 907.2.11 and an automatic sprinkler system as required by Section 903.2.8.

A straight deadbolt shall have a minimum throw of l inch (25.4 mm) and the embedment shall not be less than 5/8 inch (15.9 mm) into the holding device receiving the projected bolt. A hook shape or expanding lug deadbolt shall have a minimum throw of 3/4 inch (19 mm). All deadbolts of locks which automatically activate two or more deadbolts shall embed at least 1/2 inch (12.7 mm), but need not exceed 3/4 inch (19 mm), into the holding devices receiving the projected bolts.

6709.3 Inactive leaf of a pair of door or upper leaf of a Dutch door.

The inactive leaf of a pair of doors and the upper leaf of Dutch doors shall be equipped with a deadbolt or deadbolts as set forth in S~~ubs~~ection 6709.2

EXCEPTIONS:

1. The bolt or bolts need not be key operated, but shall not be otherwise activated, from the exterior side of the door.
2. The bolt or bolts may be engaged or disengaged automatically with the deadbolt or by another device on the active leaf or lower leaf.
3. Manually operated hardened bolts at the top and bottom of the leaf and which embed a minimum of 1/2 inch (12.7 mm) into the device receiving the projected bolt may be used when not prohibited by Chapter 10 or other laws and regulations.

6709.4 Door stops.

Door stops on wooden jambs for in-swinging doors shall be of one-piece construction with the jamb or joined by a rabbet.

6709.5 Nonremovable pins.

Nonremovable pins shall be used in pin-type hinges which are accessible from the outside when the door is closed.

6709.6 Cylinder guards.

Cylinder guards shall be installed on cylinder locks for deadbolts whenever the cylinder projects beyond the outside face of the door or is otherwise accessible to attack tools.

SECTION 6710 DOORS - SLIDING GLASS DOORS

Sliding glass doors shall be equipped with locking devices and shall be so installed that, when subjected to tests specified in Section 6706, they remain intact and engaged. Movable panels shall not be rendered easily openable or removable from the frame during or after the tests.

Cylinder guards shall be installed on all mortise or rim-type cylinder locks installed in hollow-metal doors whenever the cylinder projects beyond the face of the door or is otherwise accessible to gripping tools.

Locking devices installed on sliding glass doors providing the exit required by Section 1003 or providing for the emergency escape or rescue required by Section 1029 shall be releasable from the inside without the use of a key, tool, or excessive force.

SECTION 6711 DOORS - OVERHEAD AND SLIDING DOORS

Metal or wooden overhead and sliding doors shall be secured with a deadbolt lock, padlock with a hardened steel shackle, or equivalent when not otherwise locked by electric power operation. Locking devices, when installed at the jamb of metal or wooden overhead doors, shall be installed on both jambs when such doors exceed 9 feet (2743 mm) in width. Metal or wooden sliding doors exceeding 9 feet (2743 mm) in width and provided with a jamb-locking device shall have the door side opposite the lock restrained by a guide or retainer.

Cylinder guards shall be installed on all mortise or rim-type cylinder locks installed in hollow-metal doors whenever the cylinder projects beyond the face of the door or is otherwise accessible to gripping tools.

SECTION 6712 DOORS - METAL ACCORDION GRATE OR GRILLE-TYPE DOORS

Metal accordion grate or grille-type doors shall be equipped with metal guides at top and bottom, and a cylinder lock or padlock and hardened steel shackle shall be provided.

Cylinder guards shall be installed on all mortise or rim-type cylinder locks installed in hollow-metal doors whenever the cylinder projects beyond the face of the door or is otherwise accessible to gripping tools.

SECTION 6713 LIGHTS – GENERAL

A window, skylight or other light forming a part of the enclosure of a dwelling unit or of an area occupied by one tenant of a building shall be constructed, installed and secured as set forth in Sections 6714 and 6715, when the bottom of such window, skylight or light is not more than 16 feet (4877 mm) above the grade of a street, highway, yard,

court, passageway, corridor, balcony, patio, breezeway, private garage, portion of the building which is available for use by the public or other tenants, or similar area.
A window enclosing a private garage with an interior opening leading directly to a dwelling unit shall also comply with said Sections 6714 and 6715.

SECTION 6714 LIGHTS - MATERIAL

Lights within 40 inches (1016 mm) of a required locking device on a door when in the closed and locked position and openable from the inside without the use of a key, and lights with a least dimension greater than 6 inches (152.4 mm) but less than 48 inches (1219.2 mm) in Groups B, F, M and S Occupancies, shall be fully tempered glass, laminated glass of at least 1/4 inch (6.4 mm) thickness, approved burglary-resistant material, or guarded by metal bars, screens or grilles in an approved manner.

SECTION 6715 LIGHTS - LOCKING DEVICES

6715.1 Emergency egress windows.

Locking devices installed on windows providing the emergency egress required by Section 1029 shall be releasable from the inside without use of a key, tool, or excessive force.

6715.2 Sliding glass windows.

Sliding glass windows shall be provided with locking devices that, when subject to the tests specified in Section 6707, remain intact and engaged. Movable panels shall not be rendered easily openable or removable from the frame during or after the tests.

6715.3 Other openable windows.

Other openable windows shall be provided with substantial locking devices which render the building as secure as the devices required by this Section. In Groups B, F, M and S Occupancies, such devices shall be a glide bar, bolt, cross bar, and/or padlock with hardened steel shackle.

6715.4 Special types of windows.

Louvered windows, except those above the first story in Group R Occupancies which cannot be reached without a ladder, shall be of material or guarded as specified in Section 6714 and individual panes shall be securely fastened by mechanical fasteners requiring a tool for removal and not accessible on the outside when the window is in the closed position.

SECTION 6716 OTHER OPENINGS - GENERAL

Openings, other than doors or lights, which form a part of the enclosure, or portion thereof, housing a single occupant, and the bottom of which is not more than 16 feet (4877 mm) above the grade of a street, highway, yard, court, passageway, corridor, balcony, patio, breezeway or similar area, or from a private garage, or from a portion of the building which is occupied, used or available for use by the public or other tenants, or an opening enclosing a private garage attached to a dwelling unit which openings therein shall be constructed, installed and secured as set forth in Section 6717.

SECTION 6717 HATCHWAYS, SCUTTLES AND SIMILAR OPENINGS

6717.1 Wooden hatchways.

Wooden hatchways of less than 1-3/4-inch (44 mm)-thick solid wood shall be covered on the inside with 16-gauge sheet metal attached with screws at 6-inch (152 mm) maximum centers around perimeter.

6717.2 Hatchways, scuttles and similar openings.

The hatchway, scuttle and similar opening shall be secured from the inside with a slide bar, slide bolt, and/or padlock with a hardened steel shackle.

6717.3 Outside pin-type hinges.

Outside pin-type hinges shall be provided with nonremovable pins or a means by which the door cannot be opened through removal of hinge pins while the door is in the closed position.

6717.4 Other types of openings.

Other openings exceeding 96 square inches (0.062 m^2) with a least dimension exceeding 8 inches (203 mm) shall be secured by metal bars, screens or grilles in an approved manner.

SECTION XX. Chapter 69 is hereby amended to read as follows:

CHAPTER 69
TRAILER COACHES

SECTION 6901 DEFINITION

A trailer coach is a vehicle with or without motive power, constructed to travel on a public thoroughfare at the maximum allowable speed in accordance with the provisions of the Vehicle Code, and is customarily used for living or sleeping purposes.

SECTION 6902 WHERE ALLOWED WITHOUT PERMITS

This Chapter shall not apply to trailer coaches:

1. When the provisions of Part 2, Division 13 of the Health and Safety Code, State of California, including Part 2.1, apply.
2. In a camp, park or labor camp, regulated by a governmental agency.
3. When stored for sales or display purposes and not otherwise used or occupied.
4. When temporarily used by a caretaker on a construction project.
5. When stored and not used for living or sleeping purposes.

SECTION 6903 PERMIT REQUIRED

A trailer coach shall not be used, maintained or occupied contrary to the provisions of this Chapter and the applicable State laws and regulations. Before using a trailer coach for living or sleeping purposes a person shall ~~first~~ obtain a permit to do so from the Building Official. If the time during which a trailer coach may be so used is limited by the provisions of ~~Title 22 of the Los Angeles County Code,~~ the Planning and Zoning Code, then the permit hereunder shall also be so limited. Otherwise the permit is valid until revoked.

SECTION 6904 APPLICATION AND FEE REQUIRED

To obtain such a permit an application in writing shall be filed with the Building Official accompanied by a fee as required by Section 107. This fee shall be the permit fee if the permit can legally be issued and which shall otherwise be retained by the Department to cover the cost of investigation and inspection. The application shall:

1. Describe the property on which the trailer coach is or will be during the period of such use.
2. Give a legal description of such property.
3. Give the date on which such use will begin.

4. State that (a) any sanitary facilities of the trailer coach will be sealed so that they cannot be used on the property or (b) the sewage disposal system for the trailer coach will comply with the Plumbing Code, Title 28 of the Los Angeles County Code, and other local and State regulations governing plumbing for trailers.
5. Include the current State license number.
6. Give other information as the Building Official may require.

   EXCEPTION: An application for a trailer coach on premises on which has existed a residence damaged or destroyed due to a major disaster within the previous six months shall be exempt from the required fee.

SECTION 6905 CONDITIONS OF PERMIT

Permits required by Section 6903 shall be subject to the following conditions:

1. Such use will not violate any law, statute, of this or any other ordinance.
2. The trailer coach has a current valid state vehicle license.
3. The trailer coach is the only occupied trailer coach on the premises.
4. The trailer coach is, or will be, maintained in a sanitary and safe manner, and is not a nuisance.
5. There are no fixed appurtenances, such as porches, pipes, drains, rooms, and similar mechanical or structural extensions.
6. There are no permanent connections of plumbing, gas, electricity or water. Approved metal tubing may be used for water and gas connections.
7. There are not any connections, additions or changes which render the trailer coach no longer mobile without alteration, demolition or mechanical work.
8. The occupant of the trailer coach has filed with the Building Official written permission of the owner or tenant of adequate toilet and sanitary facilities located within 200 feet (60 960 mm) of such trailer coach, authorizing the use of such toilet and sanitary facilities at all times during the day and night for the life of the permit.

SECTION 6906 REVOCATION OF PERMITS

The Building Official may, in the exercise of reasonable discretion, revoke any permit issued pursuant to this Chapter if, after due investigation, and after a hearing, not less than five days written notice of which is given to the permittee, the Building Official determines that the holder thereof has violated any of the provisions of this Chapter or any other ordinance. Written notice of such revocation shall be posted on the trailer coach or personally delivered, if the person to whom the permit was issued is on the property.

SECTION 6907 OTHER PERMITS REQUIRED

Permits issued under the provisions of this Chapter convey no right to erect any building or do any plumbing work or do any electrical work. Regular building, plumbing, electrical and other permits shall be secured for all such work.

SECTION 6908 VALIDITY OF PERMIT

A permit issued pursuant to this Chapter gives no person a vested right to continue to use a trailer coach. The Board of Supervisors reserves the right at any time to enact any ordinance prohibiting any use of trailer coaches which the Board of Supervisors finds will be detrimental to the public peace, health, safety or general welfare, and every person obtaining a permit pursuant to this Chapter take such permit upon such understanding.

SECTION XX . Chapter 94 is hereby amended to read as follows:

CHAPTER 94
REPAIR OF WELDED STEEL MOMENT FRAME BUILDINGS LOCATED IN HIGH EARTHQUAKE DAMAGED AREAS

SECTION 9401 PURPOSE

This Chapter provides systematic procedures and standards for identification of welded steel moment frame buildings, and time periods under which these buildings are required to be structurally inspected and repaired. Where inspection finds damage, this Chapter requires the building to be repaired or demolished. This Chapter sets forth minimum standards for structural seismic resistance to reduce the risk of loss of life and injury by the inspection and repair of lateral load resisting welded steel moment frame connections. Compliance with these standards will not necessarily prevent loss of life or injury, or prevent earthquake damage to repaired buildings. This Chapter does not require existing electrical, plumbing, mechanical or fire safety systems to be altered.

SECTION 9402 SCOPE

9402.1 Scope.

The provisions of this Chapter shall apply to all welded steel moment frame buildings constructed, under construction, or for which a building permit was issued prior to July 1, 1999 of Ordinance No. 99-0040~~the effective date of this ordinance~~ which are:

1. Publicly-owned and provide essential response and recovery services to the general public in the event of a disaster or emergency, regardless of their location, or
2. Publicly-owned and provide unique and essential public services which ensure that law and order is maintained in the event of a disaster, such as jails, detention facilities, and courthouses, or
3. Located within the following earthquake high-damage areas.

9402.2 Earthquake high damage areas.

The January 17, 1994 Northridge earthquake high-damage areas are defined as:

1. That unincorporated portion of Los Angeles County known as Universal City and bounded by the Los Angeles River and the City of Los Angeles on the north, and bounded on the east, south and west by westerly, northerly and easterly boundaries of the City of Los Angeles.
2. That unincorporated portion of Los Angeles County bounded on the south by the northerly boundary of the City of Los Angeles, bounded on the west by the

easterly boundary of Ventura County, bounded on the north by State Highway 126, and bounded on the East and North by the westerly and southerly boundaries of the City of Santa Clarita and the Antelope Valley Freeway.

9402.3 Preliminary identification of buildings.

Preliminary identification of buildings under the scope of this Chapter shall include the following:

1. Field survey;
2. Review of construction documents on file with the Building Official.

SECTION 9403 DEFINITIONS

For the purposes of this Chapter, the applicable definitions in Chapter 16 of this Code and the following definition shall apply:

WELDED STEEL MOMENT FRAME is a form of steel building where lateral loads are resisted, in part, by welded beam-to-column connections designed to resist bending moments.

SECTION 9404 ADMINISTRATION

9404.1 Service of order.

The Department of Public Works shall identify those buildings within the scope of this Chapter and shall take reasonable measures to issue an Inspection and Repair Compliance Order as provided in this Section.

9404.2 Contents of order.

The Inspection and Repair Compliance Order shall be in writing and shall be served either personally or by registered mail, postage prepaid, upon the owner of the building as shown on the last equalized assessment. In the event that contact is not made with the owner after a diligent effort by the building official, as a last resort, the Inspection and Repair Compliance Order shall be served by posting on the building. The order shall specify that the building appears to be a welded steel moment frame building within the scope of item~~part~~ 1 or 2 of Section 9402.1 or the geographical areas as set forth in Section 9402.2 and, therefore, is required to meet the minimum structural standards and time limits of Section 9405 and Table 94-A of this Chapter. The order shall also specify the time limits for appeal of and compliance with the order.

9404.3 Appeal from order.

The owner may appeal the Building Official's initial determination that the building is within the scope of this Chapter by submitting building plans of existing construction to the Building Official which clearly document structural systems and connections and thereby establish that the structural system is not a welded steel moment frame. Alternately, the owner may appeal the Building Official's initial determination that the building is within the scope of this Chapter to the Building Board of Appeals established by Section 105. Such appeal shall be filed with the Board within 30 days from the date of service of the order described in Section 9404.2. Any such appeal shall be heard by the Board no later than 90 days after the date that the appeal is filed. Such appeal shall be made in writing and the grounds thereof shall be stated clearly and concisely. All materials which the appellant wishes considered by the Building Board of Appeals shall be submitted to the Board 14 calendar days before the hearing.

If no appeal is filed within 30 days of the date the Inspection and Repair Compliance Order is served, the building shall be considered to be within the scope of this Chapter.

Appeals and requests for modifications to satisfy requirements of this Chapter other than appeal of the requirements of the Inspection and Repair Compliance Order shall be made in accordance with the normal appeal procedures established in Sections 104.2.7 and 105.

9404.4 Recordation.

At or about 30 days after the Inspection and Repair Compliance Order is served, or in the case of an appeal, when the Building Official or Appeals Board determines the building is within the scope of this Chapter, the Department of Public Works shall file with the Office of the County Recorder a certificate stating that the subject building is considered to be within the scope of Chapter 94. The certificate shall state that the owner thereof has been ordered to structurally inspect the building and, if necessary, to structurally repair or demolish the building as set forth in Chapter 94. If the building is subsequently determined by the Department of Public Works not to be within the scope of this Chapter, or is demolished, or is modified so as to meet the requirements of this Chapter, the Department of Public Works shall file with the Office of the County Recorder a certificate terminating the status of the subject building as being classified within the scope of Chapter 94

9404.5 Enforcement.

If the owner fails to comply with the Inspection and Repair Compliance Order issued by the Department of Public Works pursuant to this Chapter or with rulings by the Building Board of Appeals within the time limits set forth in Section 9405 and Table 94-A, the Department of Public Works may order the entire building vacated and maintained vacated until such compliance has been accomplished. If, within 90 days after the date the building has been ordered vacated, or within such additional time as may have been

granted by the Building Board of Appeals, the owner has still not complied with the Inspection and Repair Compliance Order issued by the Department of Public Works pursuant to this Chapter or with the rulings by the Building Board of Appeals, the Department of Public Works may order demolition of the building in accordance with the provisions of Section 102 of this Code.

9404.6 Prosecution.

In case the owner shall fail, neglect or refuse to comply with the directions in the Inspection and Repair Compliance Order (if neither the owner nor any other person requests a hearing) or with any order of the Building Board of Appeals, the owner shall be guilty of a misdemeanor and the Building Official may cause such owner of the building or property to be prosecuted as a violator of this Code.

9404.7 Other abatement procedures.

The provisions of this Chapter shall not in any manner limit or restrict the County or the District Attorney from enforcing County Ordinances or abating public nuisances in any other manner provided by law.

SECTION 9405 GENERAL REQUIREMENTS

The owner of each building within the scope of this Chapter shall, upon service of an Inspection and Repair Compliance Order, cause a structural inspection of certain welded steel moment frame connections that resist seismic lateral loading in the building to be made by a structural engineer licensed in the State of California. The number and location of connections to be inspected shall be selected by the structural engineer and approved by the building official prior to inspection. The structural engineer shall prepare and submit an inspection report stating whether or not the building has damage to these connections. The inspection report shall include the results of any ultrasonic tests or the results of other approved methods of testing connections. If the inspection report indicates there are damaged connections, the report shall state the number of damaged connections and the owner shall either obtain a demolition permit and demolish the building or submit plans and procedures prepared by a structural engineer for repair of connections, obtain a permit for the repair and perform the repair work.

The owner shall submit the required structural analysis, obtain any necessary permits and commence and complete the required construction or demolition within the time limits set forth in Table 94-A. These time limits shall run from the date the Inspection and Repair Compliance Order is served.

Once an Inspection and Repair Compliance Order has been served, buildings within the scope of this Chapter may not be structurally altered, remodeled or added to without

first complying with the provisions of this Chapter unless the Building Official determines that the alteration is minor in nature.

TABLE 94-A
TIME LIMITS FOR COMPLIANCE WITH INSPECTION AND REPAIR COMPLIANCE ORDER[1, 2]

SUBMIT INSPECTION REPORT WITHIN	OBTAIN PERMIT WITHIN	COMMENCE REPAIR OR DEMOLITION WITHIN	REPAIR COMPLETE OR DEMOLITION WITHIN
12 months	18 months[3]	24 months[3]	36 months[3]

[1] All dates are measured from the date the inspection and repair compliance order is served pursuant to Section 9404

[2] For any work required by this Chapter, the time limits shown herein shall supersede the time limits specified in Section 106.5.4

[3] These time limits may be extended by 12 months at the discretion of the Building Official provided the owner has demonstrated a good faith effort to meet the requirements of this Chapter. A maximum of two such extensions may be granted.

SECTION XX. Chapter 95 is hereby amended to read as follows:

CHAPTER 95
EARTHQUAKE HAZARD REDUCTION FOR EXISTING CONCRETE TILT-UP BUILDINGS

SECTION 9501 PURPOSE

The purpose of this Chapter is to promote public safety and welfare by reducing the risk of death or injury which might otherwise result from earthquake damage to concrete tilt-up buildings constructed, under construction, or for which a building permit was issued prior to April 13, 1975. Such buildings have been widely recognized as having a potentially significant risk of sustaining life-hazardous damage, including partial or complete collapse during moderate to strong earthquakes, due to inadequate wall anchorage to the horizontal diaphragm.

This Chapter provides systematic procedures and standards for identification of such concrete tilt-up wall buildings, and time periods under which these buildings are required to be structurally analyzed and anchored. Where analysis finds deficiencies, this Chapter requires the building to be strengthened or demolished.

This Chapter sets forth minimum standards for structural seismic resistance to reduce the risk of loss of life and injury by the installation of wall anchors and connections to the horizontal diaphragms. Compliance with these standards will not necessarily prevent loss of life or injury, or prevent earthquake damage to rehabilitated buildings. This Chapter does not require existing electrical, plumbing, mechanical or ~~firesafety~~ fire protection systems to be altered.

SECTION 9502 SCOPE

The provisions of this Chapter shall apply to all buildings constructed, under construction, or for which a building permit was issued prior to April 13, 1975, and which on the effective date of this ordinance have concrete tilt-up bearing walls as defined herein.

SECTION 9503 DEFINITIONS

For purposes of this Chapter, the applicable definitions in Chapter 16 of this Code and the following definitions shall apply.

ESSENTIAL FACILITIES is defined as any building conforming to the definition of essential facilities as set forth in ~~Section 1602.1 of this Code~~ Chapter 2.

TILT-UP CONCRETE WALL is a form of precast concrete panel construction,

where the panel is either cast at the construction site in a horizontal position, or offsite and, after curing, incorporated into the structure of the building, in a vertical position.

SECTION 9504 ADMINISTRATION

9504.1 Service of order.

The Department of Public Works shall attempt to identify those buildings within the scope of this Chapter and shall take reasonable measures to issue an Earthquake Hazard Reduction Compliance Order as provided in this Section.

9504.2 Contents of order.

The Earthquake Hazard Reduction Compliance Order shall be in writing and shall be served either personally or by mail, postage prepaid, upon the owner as shown on the last equalized assessment, or by posting on the building. The order shall specify that the building appears to be within the scope of this Chapter and, therefore, is required to meet the minimum seismic standards of this Chapter. The order shall also specify the time limits for appeal of and compliance with the order.

9504.3 Appeal from order.

The owner may appeal the Building Official's initial determination that the building is within the scope of this Chapter to the Building Board of Appeals established by Section 105. Such appeal shall be filed with the Board within 60 days from the service date of the order described in Section 9504.2. Any such appeal shall be heard by the Board no later than 90 days after the date that the appeal is filed. Such appeal shall be made in writing and the grounds thereof shall be stated clearly and concisely. All materials which the appellant wishes considered by the Building Board of Appeals shall be submitted to the Board 14 calendar days before the hearing.

Appeals and requests for modifications from any other determinations, orders or actions of the Department of Public Works pursuant to this Chapter shall be made in accordance with the normal appeal procedures established in Sections 104.2.7 and 105.

9504.4 Recordation.

At or about the time that the Earthquake Hazard Reduction Compliance Order is served, the Department of Public Works shall file with the Office of the County Recorder a certificate stating that the subject building appears to be within the scope of Chapter 95. The certificate shall state that the owner thereof has been ordered to structurally analyze the building and, if necessary, to structurally alter or demolish the building as

set forth in Chapter 95. The certificate shall also state that the owner has 60 days from the date of the order to appeal the determination that the subject building is within the scope of Chapter 95 and that if such an appeal is not submitted, then the determination will be final and binding.

If the building is subsequently determined by the Department of Public Works not to be within the scope of this Chapter, or is demolished, or is modified so as to meet the requirements of this Chapter, then the Department of Public Works shall file with the Office of the County Recorder a certificate terminating the status of the subject building as being classified within the scope of Chapter 95.

9504.5 Enforcement .

If the owner of the subject building fails to comply with any order issued by the Department of Public Works pursuant to this Chapter, then the Department of Public Works may order the entire building vacated and maintained vacated until such compliance has been accomplished. If, within 90 days after the date the building has been ordered vacated, or within such additional time as may have been granted by the Building Board of Appeals, the owner or other person in charge or control of the subject building has still not complied with any order issued pursuant to this Chapter, then the Department of Public Works may order demolition of the building in accordance with the provisions of Section 102 of this Code.

9504.6 Prosecution.

In case the owner shall fail, neglect or refuse to comply with the directions in the Earthquake Hazard Reduction Compliance Order (if neither the owner nor any other person requests a hearing) or with any order of the Building Board of Appeals, the owner shall be guilty of a misdemeanor and the building official may cause such owner of the building or property to be prosecuted as a violator of this Code.

9504.7 Other abatement procedures.

The provisions of this Chapter shall not in any manner limit or restrict the County or the District Attorney from enforcing County Ordinances or abating public nuisances in any other manner provided by law.

SECTION 9505 GENERAL REQUIREMENTS

The owner of each building within the scope of this Chapter shall, upon service of an Earthquake Hazard Reduction Compliance Order, cause a structural analysis of the building to be made by a civil or structural engineer or architect licensed by the State of California to conduct structural analysis and shall submit such analysis to the Department of Public Works for review. The structural analysis shall state whether or

not the building meets the requirements of this Chapter. If such a structural analysis indicates that the building does not meet the requirements of this Chapter, then the owner shall either obtain a demolition permit and demolish the building or submit plans for structural alterations of the building so that it will comply with the provisions of this Chapter together with a structural analysis so indicating, and perform the work.

The owner shall submit the required structural analysis, obtain any necessary permits and commence and complete the required alteration or demolition within the time limits set forth in Table 95-A. These time limits shall run from the date the Earthquake Hazard Reduction Compliance Order is served.

Once an Earthquake Hazard Reduction Compliance Order has been served, buildings within the scope of this Chapter may not be structurally altered, remodeled or added to without first complying with the provisions of this Chapter unless the Building Official determines that the alteration is minor in nature.

SECTION 9506 ANALYSIS AND DESIGN

9506.1 Wall panel anchorage.

Concrete walls shall be anchored to all floors and roofs which provide lateral support for the wall. The anchorage shall provide a positive direct connection between the wall and floor or roof construction capable of resisting a horizontal force equal to 45 percent of the tributary wall weight for essential facilities, and 30 percent of the tributary wall weight for all other buildings, or a minimum force of 250 pounds per linear foot (3.65 kN/m) of wall, whichever is greater. The required anchorage shall be based on the tributary wall panel assuming simple supports at floors and roof.

9506.2 Special requirements for wall anchors and continuity ties.

The steel elements of the wall anchorage systems and continuity ties shall be designed by the allowable stress design method using a load factor of 1.7. The one-third stress increase permitted by Section 1605.3.2 shall not be permitted for materials using allowable stress design methods.

The strength design specified in Section ~~1912~~1909, using a load factor of 2.0 in lieu of 1.4 for earthquake loading, shall be used for design of embedments in concrete.

Wall anchors shall be provided to resist out-of-plane forces, independent of existing shear anchors.

> **Exception:** Existing cast-in-place shear anchors may be used as wall anchors if the tie element can be readily attached to the anchors and if the engineer or architect can establish tension values for the existing anchors through the use of

approved as-built plans or testing, and thorough analysis showing that the bolts are capable of resisting the total shear load while being acted upon by the maximum tension force due to earthquake. Criteria for analysis and testing shall be determined by the Building Official.

Expansion anchors are not allowed without specific approval of the Building Official. Attaching the edge of steel decks or plywood sheathing to steel ledgers does not comply with the positive anchoring requirements of the Code.

9506.3 Development of anchor loads into the diaphragm.

Development of anchor loads into roof and floor diaphragms shall comply with Section 9506.10 of this Code.

Exception: If continuously tied girders are present, then the maximum allowable spacing between the continuity ties is 36 feet (10 973 mm).

In wood diaphragms, anchorage shall not be accomplished by use of toenails or nails subject to withdrawal, nor shall wood ledgers, top plates, or framing be used in cross-grain bending or cross-grain tension. The continuous ties required by Section 9506.10 shall be in addition to the diaphragm sheathing.

Lengths of development of anchor loads in wood diaphragms shall be based on existing field nailing of the sheathing unless existing edge nailing is positively identified on the original construction plans or at the site.

At re-entrant corners, continuity collectors may be required for existing return walls not designed as shear walls, to develop into the diaphragm a force equal to the lesser of the rocking or shear capacity of the return wall, or the tributary shear, but not exceeding the capacity of the diaphragm. Shear anchors for the return wall shall be commensurate with the collector force. If a truss or beam other than rafters or purlins is supported by the return wall or by a column integral with the return wall, then an independent secondary column is required to support the roof or floor members.

Seismic design of return walls and fins/canopies at entrances shall ensure deflection compatibility with the diaphragm by either seismically isolating the element or attaching the element and integrating its load into the diaphragm.

9506.4 Anchorage at pilasters.

Anchorage of pilasters shall be designed for the tributary wall anchoring load per Section 9506.1 of this Code, considering the wall as a two-way slab. The pilasters or the walls immediately adjacent to the pilasters shall be anchored directly to the roof framing such that the existing vertical anchor bolts at the top of the pilasters are by-passed

without causing tension or shear failure at the top of the pilasters.

> **Exception:** If existing vertical anchor bolts at the top of the pilasters are used for the anchorage, then additional exterior confinement shall be provided.

The minimum anchorage at a floor or roof between the pilasters shall be that specified in Section 9506.1 of this Code.

9506.5 Evaluation of existing structural conditions.

If the structural analysis submitted pursuant to Section 9505 indicates that the building does not meet the requirements of this Chapter, then the engineer or architect shall include in said analysis a report of any observed structural conditions, including, but not limited to, cracks, structural damage or alterations, that may have a substantial effect on the seismic integrity of the building and shall include provisions for the repair of these conditions in the plans submitted to the department for review and approval.

9506.6 Miscellaneous.

Existing mezzanines relying on the tilt-up walls for vertical and/or lateral support shall be anchored to the walls for the tributary mezzanine load. Walls depending on the mezzanine for lateral support shall be anchored per Sections 9506.1, 9506.2 and 9506.3

> **Exception:** Existing mezzanines that have independent lateral and vertical support need not be anchored to the walls.

Existing interior masonry or concrete walls, not designed as shear walls, which extend to the floor above or to the roof diaphragm shall also be anchored for out-of-plane forces per Sections 9506.1, 9506.2 and 9506.3 of this Code. In the in-plane direction, the walls shall be isolated or developed into the diaphragm to resist a lateral force equal to the lesser of the rocking or shear capacity of the wall, or the tributary shear, but in no event to exceed the diaphragm capacity.

9506.7 Symmetry.

Symmetry of anchorage systems is required. Non-symmetrical anchorage systems may be allowed when it can be shown that all components of forces are positively resisted as determined by calculations or tests.

9506.8 Minimum roof member size.

Wood members used to develop anchorage forces to the diaphragm shall not be less than 3-inch (76mm) nominal thickness when damaged members are replaced. All such

members must be checked for earthquake loads as part of the wall anchorage system in addition to dead and live loads. For existing buildings, the member check shall be without the one-third stress increase per Section 1605.3.2.

9506.9 Combination of anchor types.

The maximum allowable combined load resisted by a combination of different types of anchors that exhibit different behavior or stiffness is not the sum of the allowable load for each anchor. The combined capacity of the new and existing connectors shall be taken as the allowable load of the stiffest anchor.

> **Exception:** Existing anchors may be combined with new anchors for retrofit projects where existing anchors are undamaged and will resist loads equally with a new anchor of identical manufacture, type and installation. The combined allowable load shall be twice the allowable load of a single anchor.

9506.10 Diaphragms.

Diaphragms supporting concrete walls shall have continuous ties or struts between diaphragm chords to distribute the anchorage forces specified in Section 12.11 of ASCE 7-10~~7~~. The spacing of continuous ties shall not exceed 25 feet (7620 mm). Added chords of subdiaphragms may be used to form subdiaphragms to transmit the anchorage forces to the main continuous crossties. The maximum diaphragm shear used to determine the depth of the subdiaphragms shall not exceed 300 pounds per foot (4.38 kN/m). The maximum length-to-width ratio of the wood structural subdiaphragm shall be 2 ½:1.

SECTION 9507 MATERIALS OF CONSTRUCTION

All materials permitted by this Code may be utilized to meet the requirements of this Chapter.

SECTION 9508 PLANS

9508.1 General.

Plans submitted pursuant to the provisions of this Chapter shall be signed by the licensed civil or structural engineer or architect responsible for the seismic analysis of the building and shall comply with the requirements of this Code and this Section.

9508.2 Plans and specifications.

Plans, engineering calculations, diagrams and other data shall be submitted in two or more sets with each application for a building permit.

9508.3 Information on plans and specifications.

Plans and specifications shall be drawn to scale upon substantial medium and shall be of sufficient clarity to indicate the location, nature and extent of the work proposed and show in detail that the proposed work will conform to the provisions of this Chapter and all relevant Codes, laws, ordinances, rules and regulations.

9508.4 Existing construction.

The following information shall be made part of the approved plans:

1. The type and dimensions of existing walls and the size and spacing of existing floor and roof members.
2. The extent and type of existing wall anchorage of floors and roof members.
3. Accurately dimensioned plans and/or elevations of existing floors and concrete walls showing dimensioned openings, piers, wall thicknesses and heights.
4. The location and extent of any structural conditions as specified in Section 9506.5

TABLE 95-A
TIME LIMITS FOR COMPLIANCE WITH EARTHQUAKE HAZARD REDUCTION COMPLIANCE ORDER[1, 2]

SUBMIT PLANS WITHIN	OBTAIN PERMIT WITHIN	COMMENCE ALTERATION OR DEMOLITION WITHIN	COMPLETE ALTERATION OR DEMOLITION WITHIN
12 months	18 months	24 months	36 months

[1] All dates are measured from the date the Earthquake Hazard Reduction Compliance Order is served pursuant to Section 9504

[2] For any work required by this Chapter, the time limits shown herein shall supersede the time limits specified in Section 106.5.4

SECTION XX. Chapter 96 is hereby amended to read as follows:

CHAPTER 96
EARTHQUAKE HAZARD REDUCTION FOR EXISTING UNREINFORCED MASONRY BEARING WALL BUILDINGS

SECTION 9601 PURPOSE

This Chapter promotes public safety and welfare by reducing the risk of death or injury otherwise resulting from earthquake damage to certain buildings constructed before March 20, 1933, which have insufficient resistance to moderate or strong earthquakes.

The provisions of this Chapter constitute minimum standards for structural seismic resistance established primarily to reduce the risk of loss of life and injury. Compliance with these standards will not necessarily prevent loss of life or injury or prevent earthquake damage to an existing building.

This Chapter shall not require existing electrical, plumbing, mechanical, or fire safety systems to be altered unless they constitute a hazard to life or property.

This Chapter provides systematic procedures and standards for identification and classification of these buildings based on their present use. Priorities, time periods, and standards are also established under which these buildings are required to be structurally analyzed and anchored.

Where the analysis identifies deficiencies, this Chapter requires the building to be strengthened or demolished.

SECTION 9602 SCOPE

The provisions of this Chapter shall apply to buildings which, prior to March 20, 1933, were constructed or were under construction and which have unreinforced masonry bearing walls as defined herein. This Chapter shall also apply to buildings for which a building permit was issued prior to March 20, 1933, and which have unreinforced masonry bearing walls as defined herein.

> **EXCEPTION:** This Chapter shall not apply to dwellings and lodging houses defined as Group R-3 Occupancies nor to accessory buildings defined as Group U Occupancies.

SECTION 9603 DEFINITIONS

For the purposes of this Chapter, the applicable definitions contained in this Code,

Appendix Chapter A1 of Part 10, Title 24 of the California Code of Regulations, and the following definitions shall apply:

ESSENTIAL BUILDING. An essential building under the scope of this Chapter is defined as any building conforming to the definition of essential facilities as set forth in this Code.

HIGH-RISK BUILDING. A high-risk building is any building, other than an essential building, having an occupant load of 100 or more as determined by Chapter 10 of this Code.

EXCEPTION: A high-risk building shall not include the following:

1. Any building having exterior walls braced with masonry crosswalls or woodframe crosswalls spaced less than 40 feet (12192 mm) apart in each story. Crosswalls shall be full-story height with a minimum length of 1-1/2 times the story height.
2. Any building used for its intended purpose, as determined by the building official, for less than 20 hours per week.

HISTORICAL BUILDING. A historical building is any building designated as a historical building by the federal, state, or County government or an agency thereof.

LOW-RISK BUILDING. A low-risk building is any building, other than an essential building, having an occupant load of less than 20 as determined by Chapter 10 of this Code.

MEDIUM-RISK BUILDING. A medium-risk building is any building, not classified as a high-risk building or an essential building, having an occupant load of 20 or more as determined by Chapter 10 of this Code.

SECTION 9604 RATING CLASSIFICATIONS

The rating classifications identified in Table 96-A are hereby established and each building within the scope of this Chapter shall be placed in one such rating classification by the Building Official. The total occupant load of the entire building as determined by Chapter 10 of this Code shall be used to determine the rating classification.

EXCEPTION: For purposes of this Chapter, portions of buildings constructed to act independently when resisting seismic forces may be placed in separate rating classifications.

SECTION 9605 GENERAL REQUIREMENTS

9605.1 – Time limitations.

The owner of each building within the scope of this Chapter shall, upon service of an order and within the time limits set forth in this Chapter, cause a structural analysis to be made of the building by a licensed civil or structural engineer or architect. If the building does not comply with standards specified in this Chapter and Appendix Chapter A1 of Part 10, Title 24 of the California Code of Regulations, then the owner shall cause the building to be structurally altered to conform to such standards or shall cause the building to be demolished.

The owner of a building within the scope of this Chapter shall comply with the requirements set forth above by submitting plans that comply with the requirements of Section 9608 to the Building Official for review within the stated time limits of the following items:

1. Within 270 days after service of the order, a structural analysis, which is subject to approval by the Building Official and which shall demonstrate that the building meets the minimum requirements of this Chapter; or
2. Within 270 days after service of the order, the structural analysis and plans for structural alterations of the building to comply with this Chapter; or
3. Within 120 days after service of the order, plans for the installation of wall anchors in accordance with the requirements specified in Appendix Chapter A1 of Part 10, Title 24 of the California Code of Regulations; or
4. Within 270 days after service of the order, plans for the demolition of the building.

9605.2 – Time limitations to obtain building permit, commence and complete work.

After plans are submitted and approved by the Building Official, the owner shall obtain a building permit and then commence and complete the required alteration or demolition within the time limits set forth in Table 96-B. These time limits shall begin to run from the date the order is served in accordance with Section 9606.2, except that the time limit to commence structural alterations or demolition shall begin to run from the date the building permit is issued.

An owner electing to comply with Item 3 of Section 9605.1 is also required to comply with Item 2 or 4 of Section 9605.1 provided, however, that the 270-day period provided for in Item 2 or 4 of Section 9605.1 and the time limits for obtaining a building permit and to complete structural alterations or building demolition set forth in Table 96-B shall be extended in accordance with Table 96-C. Each such extended time limit shall begin to run from the date the order is served in accordance with Section 9606, except that the time limit to commence structural alterations or demolition shall begin to run from the date the building permit is issued.

SECTION 9606 ADMINISTRATION

9606.1 – Order—service.

The Building Official shall, in accordance with the priorities set forth in Table 96-C, issue an order as provided in this Section to the owner of each building within the scope of this Chapter.

Prior to the service of an order as set forth in Table 96-C, a bulletin may be issued to the owner as shown upon the last equalized assessment roll of a building considered by the Building Official to be within the scope of this Chapter. The bulletin may contain information the Building Official deems appropriate. The bulletin may be issued by mail or in person.

9606.2 – Order—priority of service.

Priorities for the service of the order for buildings within the scope of this Chapter shall be in accordance with the rating classification as shown in Table 96-C. Within each separate rating classification, the priority of the order shall normally be based on the occupant load of the building. The owner of buildings housing the largest occupant loads shall be served first. The minimum time period prior to the service of the order as shown in Table 96-C shall be measured from the effective date of this Chapter. The Building Official may, upon receipt of a written request from the owner, order such owner to bring the building into compliance with this Chapter prior to the normal service date for such building set forth in this Chapter.

9606.3 – Order—contents.

The order shall be in writing and shall be served either personally or by certified or registered mail upon the owner as shown on the last equalized assessment roll of the building. The order shall specify that the building has been determined by the Building Official to be within the scope of this Chapter and, therefore, is required to meet the minimum seismic standards of this Chapter. The order shall specify the rating classification of the building and shall be accompanied by a copy of Section 9605 which sets forth the owner's alternatives and time limits for compliance.

9606.4 – Appeal from order.

The owner of the building may appeal the Building Official's initial determination that the building is within the scope of this Chapter to the Building Board of Appeals established by Section 105. Such appeal shall be filed with the Board within 60 days from the service date of the order described in Section 9606.3. Any such appeal shall be decided by the Board no later than 90 days after the date that the appeal is filed. Such appeal shall be made in writing and the grounds thereof shall be stated clearly and concisely.

Appeals or requests for modifications from any other determinations, orders or actions by the building official pursuant to this Chapter shall be made in accordance with the procedures established in Sections 104.2.7 and 105.

9606.5 – Recordation.

At the time that the Building Official serves the aforementioned order, the Building Official shall also file with the office of the County Recorder a certificate stating that the subject building is within the scope of this Chapter and is a potentially earthquake hazardous building. The certificate shall also state that the owner thereof has been ordered to structurally analyze the building and to structurally alter or demolish the building where compliance with this Chapter has not been demonstrated.

If the building is either demolished, found not to be within the scope of this Chapter, or is structurally capable of resisting minimum seismic forces required by this Chapter as a result of structural alterations or an analysis, the Building Official shall file with the office of the County Recorder a form terminating the status of the subject building as being classified within the scope of this Chapter.

9606.6 – Abatement orders.

If the owner of the subject building fails to comply with any order issued by the Building Official pursuant to this Chapter within any of the time limits set forth in Section 9605, then the Building Official shall verify that the record owner of this building has been properly served. If the order has been served on the record owner, then the Building Official may order that the entire building be vacated and that the building remain vacated until such order has been complied with. If compliance with such order has not been accomplished within 90 days after the date the building has been ordered vacated or such additional time as may have been granted by the Building Board of Appeals, then the Building Official may order its demolition in accordance with the provisions of Section 102.1 of this Code.

9606.7 – Hearing.

An owner who has been served with an abatement order as described in Section 9606.6 may request a hearing before the Building Board of Appeals to request postponement of County action leading to demolition, vacation of building, or other abatement procedure. All such requests shall be accompanied by a rehearing fee as specified in Section 105. At such a rehearing, the Board will consider all evidence submitted and after such consideration may find that a postponement is warranted and so order, or may find that further postponement is unwarranted and order any abatement work considered necessary to be performed by a specified date after which date the Building Official shall cause such work to be performed or completed without further notice. Nothing in this Section shall prevent the Board itself or the Building

Official from bringing any matter before the Board for rehearing.

9606.8 – Violation.

It shall be unlawful to own, use, occupy, maintain, or be in control of a building for which an order requiring compliance with this Chapter has been served where said order has not been complied with.

9606.9 – Prosecution.

In case the owner shall fail, neglect, or refuse to comply with the directions in the Order (if neither the owner nor any other person requests a hearing) or with any order of the Building Board of Appeals, the owner shall be guilty of a misdemeanor and the Building Official may cause such owner of the building or property to be prosecuted as a violator of this Code.

9606.10 – Other abatement procedures.

The provisions of this Chapter shall not in any manner limit or restrict the County or the District Attorney from enforcing County Ordinances or abating public nuisances in any other manner provided by law.

SECTION 9607 HISTORICAL BUILDINGS

9607.1 – General.

The standards and procedures established by this Chapter shall apply in all aspects to a historical building except that as a means to preserve original architectural elements and facilitate restoration, a historical building may, in addition, comply with the special provisions set forth in this Section.

9607.2 – Unburned clay masonry or adobe.

Existing walls of adobe construction shall conform with the following:

9607.2.1 – Dimensions.

Unreinforced adobe masonry walls shall not exceed a height or length-to-thickness ratio of five for exterior-bearing walls and must be provided with a reinforced bond beam at the top, interconnecting all walls.

Minimum beam depth shall be 6 inches (152 mm) and a minimum width of 8 inches (203 mm) less than the wall width. Minimum wall thickness shall be 18 inches (457 mm) for exterior-bearing walls and 10 inches (254 mm) for adobe partitions. No adobe

structures shall exceed one story in height unless the historic evidence indicates a two-story height. In such cases, the height-to-thickness ratio shall be the same as above for the first floor based on the total two-story height, and the second floor wall thickness shall not exceed the ratio five by more than 20 percent. Bond beams shall be provided at the roof and second-floor levels.

9607.2.2 – Foundation.

Foundation footings shall be reinforced concrete under newly reconstructed walls and shall be 50 percent wider than the wall above, soil conditions permitting, except that the foundation wall may be 4 inches (102 mm) less in width than the wall above if a rock, burned brick, or stabilized adobe facing is necessary to provide authenticity.

9607.2.3 – Compressive strength of brick and adobe brick masonry.

Existing unstabilized brick and adobe brick masonry shall have an average compressive strength of 225 pounds per square inch (1551 kPa) when tested in accordance with ASTM C 67.

One sample out of five may have a compressive strength of not less than 188 pounds per square inch (1296 kPa). Unstabilized brick may be used where existing bricks are unstabilized and where the building is not susceptible to flooding conditions or direct exposure. Adobe may be allowed a maximum value of 3 pounds per square inch (21 kPa) for shear with no increase for lateral forces.

9607.2.4 – Mortar.

Mortar may be of the same soil composition and stabilization as the brick in lieu of cement mortar.

9607.2.5 – Tension stresses.

Nominal tension stresses due to seismic forces normal to the wall may be neglected if the wall meets thickness requirements and shear values allowed by this Section.

9607.3 – Archaic materials.

Allowable stresses for archaic materials not specified in this Code shall be based on substantiating research data or engineering judgment, subject to the Department's satisfaction.

9607.4 – Alternative materials and state historical building code advisory review.

Alternative materials, design, or methods of construction will be considered as set forth

in Section 104.2.8. In addition, when a request for an alternative proposed design, material, or method of construction is being considered, the Department may file a written request for an opinion to the State Historical Building Code Advisory Board for its consideration, advice or findings in accordance with the State Historical Building Code (Part 8, Title 24 of the California Code of Regulations).

SECTION 9608 INFORMATION REQUIRED ON PLANS

9608.1 – General.

In addition to the seismic analysis required elsewhere in this Chapter, the licensed engineer or architect responsible for the seismic analysis of the building shall determine and record the information required by this Section and shall provide a complete set of plans, which show in detail compliance with all the requirements of this Chapter and Appendix Chapter A1 of Part 10, Title 24 of the California Code of Regulations.

9608.2 – Construction details.

The following requirements with appropriate construction details shall be made part of the submitted plans.

9608.2.1 – Anchorage at roof and floor levels.

All unreinforced masonry walls shall be anchored at the roof and all floor levels as specified in Appendix Chapter A1 of Part 10, Title 24 of the California Code of Regulations, or by an approved equivalent method.

9608.2.2 – Diaphragm chord.

Diaphragm chord stresses of horizontal diaphragms shall be developed in existing materials or by addition of new materials.

9608.2.3 – Trusses and beams.

Where trusses and beams other than rafters or joists are supported on masonry, independent secondary columns shall be installed to support vertical loads of the roof or floor members.

9608.2.4 – Parapets and exterior walls.

Parapets and exterior wall appendages not capable of resisting the forces specified in this Chapter shall be removed, stabilized, or braced to ensure that the parapets and appendages remain in their original position.

9608.2.5 – Mortar joints.

All deteriorated mortar joints in unreinforced masonry walls shall be pointed with Type S or N mortar.

Prior to any pointing, the wall surface must be raked and cleaned to remove loose and deteriorated mortar. Pointing shall be done under the continuous inspection of a registered special masonry or concrete inspector. At the conclusion of the project, the inspector shall submit a written report to the Building Official setting forth the portion of work inspected.

9608.2.6 – Repair details.

Repair details of any cracked or damaged unreinforced masonry wall required to resist forces specified in this Chapter.

9608.3 – Existing construction.

The following existing construction information shall be made part of the approved plans:

1. The type and dimensions of existing walls and the size and spacing of floor and roof members.
2. The extent and type of existing wall anchorage to floors and roof.
3. The extent and type of parapet corrections which were performed in accordance with Chapter 34 of this Code.
4. Accurately dimensioned floor plans and masonry wall elevations showing dimensioned openings, piers, wall thickness, and heights.
5. The location of cracks or damaged portions or unreinforced masonry walls requiring repairs.
6. The type of interior wall surfaces and ceilings, and if reinstallation or anchoring of existing plaster is necessary.
7. The general condition of the mortar joints and if the joints need pointing.

SECTION 9609 INTERPRETATION OF THIS CHAPTER

Removal and replacement of unreinforced masonry interior or exterior walls with materials and construction conforming to the requirements of this Code for new buildings constitutes compliance with this Chapter. Upon completion of such work, the remainder of the structure is, therefore, subject to the provisions of Chapter 34, "Existing Structures." Nothing in this Section shall be construed to mean that a building within the scope of this Chapter is not subject to Section 102, "Unsafe Buildings," or to Chapter 99 of this Code.

TABLE 96-A
RATING CLASSIFICATIONS

TYPE OF BUILDING	CLASSIFICATION
Essential building	I
High-risk building	II
Medium-risk building	III
Low-risk building	IV

TABLE 96-B
TIME LIMITS FOR COMPLIANCE

REQUIRED ACTION BY OWNER	OBTAIN BUILDING PERMIT WITHIN[1]	COMMENCE ALTERATION WITHIN	COMPLETE ALTERATION WITHIN[1]
Structural alterations or building demolition	1 year	180 days[2]	3 years
Wall anchor	180 days	270 days[1]	1 year

[1] Measured from date of service of the order.
[2] Measured from date of building permit issuance.

TABLE 96-C
EXTENSIONS OF TIME AND SERVICE PRIORITIES

RATING CLASSIFICATION	OCCUPANT LOAD	EXTENSION OF TIME IF WALL ANCHORS ARE INSTALLED	MINIMUM TIME PERIODS FOR SERVICE OF ORDER
I (Highest priority)	Any	1 year	90 days
II	100 or more	1 year	180 days
III-A	100 or more	1 year	1 year
III-B	More than 50, but less than 100	1 year	2 years
III-C	More than 19, but less than 51	1 year	3 years
IV (Lowest priority)	Less than 20	1 year	4 years

SECTION XX. Section 9814 is hereby amended to read as follows:

SECTION 9814

EMERGENCY PROCEDURES

Whenever either the Chief of the Los Angeles County District Attorney's Office, Bureau of Investigation, the Sheriff or the Chief of the Fire Department determines that the conditions described in Section 9803.1 or 9803.2 constitute such an immediate hazard that access to the building, structure, or special hazard must be sufficiently removed, secured, closed, covered, fenced, backfilled, or provided with some equivalent protection forthwith or within less than the designated period and the Chief of the Los Angeles County District Attorney's Office, Bureau of Investigation, the Sheriff or the Chief of the Fire Department so notifies the building official, then the building official shall limit access to such building, structure, or special hazard through the Director of the Internal Services Department (as provided in Section 9811.1) or Road Maintenance Division (as provided in Section 9811.2) or by contract, or otherwise, after giving such notice to the record owner or the person in charge, or both as the circumstances will permit or without any notice whatever when, in the opinion of the Chief of the Los Angeles County District Attorney's Office, Bureau of Investigation, the Sheriff or Chief of the Fire Department, immediate action is necessary.

The provisions of this chapter providing for hearings shall apply to any person having any right, title, or interest in any building secured pursuant to this section. Such person may request a hearing as to the necessity and reasonable cost of the work

performed pursuant to Section 9814 within 10 days after the building is secured or within 10 days after receiving notice of such work.

SECTION XX. Section 9905.15 is hereby deleted as follows:

~~**9905.15** Grading which does not meet the minimum standards set forth in Appendix J of this code or which is done in violation of this code or any other County or state law regulating grading.~~

SECTION XX. Appendix J is hereby amended to read as follows:

APPENDIX J
GRADING

SECTION J101 GENERAL

J101.1 Scope.

The provisions of this chapter apply to grading, excavation and earthwork construction, including fills and embankments and the control of runoff from graded sites, including erosion sediments and construction-related pollutants.

The purpose of this chapter is to safeguard life, limb, property, and the public welfare by regulating grading on private property. ~~Where conflicts occur between the technical requirements of this chapter and the geotechnical report, the geotechnical report shall govern~~.

J101.2 Flood hazard areas.

The provisions of this chapter shall not apply to grading, excavation and earthwork construction, including fills and embankments, in floodways ~~within~~ designated in Chapter 11.60 of Title 11 of the Los Angeles County Code or in floodways within flood hazard areas established in ~~*flood hazard areas* established in~~ Section 1612.3 or in flood hazard areas where design flood elevations are specified but floodways have not been designated, unless it has been demonstrated through hydrologic and hydraulic analyses performed in accordance with standard engineering practice that the proposed work will not result in any increase in the level of the base flood.

J101.3 General hazards.

Whenever the Building Official determines that any existing excavation, embankment or fill on private property has become a hazard to life and limb, or endangers property, or adversely affects the safety, use or stability of a public way or drainage channel, the Building Official may give written notice thereof to the owner of the property upon which the excavation, embankment or fill is located, or other person or agent in control of said property. Upon receipt of said notice, the owner or other person or agent in control of the property shall repair or eliminate such excavation, embankment or fill so as to eliminate the hazard, in conformance with the requirements of this code, within the period specified in said notice.

J101.4 Safety precautions. If at any stage of the work the Building Official determines by inspection that further grading as authorized is likely to endanger any public or private property or result in the deposition of debris on any public way or interfere with

any existing drainage course, the Building Official may order the work stopped by notice in writing served on any persons engaged in doing or causing such work to be done, and any such person shall immediately stop such work. The Building Official may authorize the work to proceed if the Building Official finds adequate safety precautions can be taken or corrective measures incorporated in the work to avoid likelihood of such danger, deposition or interference.

If the grading work as done has created or resulted in a hazardous condition, the Building Official shall give written notice requiring correction thereof as specified in Section J101.

J101.5 Protection of utilities.

The permittee and the owner of the property on which the grading is performed shall be responsible for the prevention of damage to any public and/or private utilities or services.

J101.6 Protection of adjacent property.

The permittee and the owner of the property on which the grading is performed shall be responsible for the prevention of damage to adjacent property. No person shall excavate on land sufficiently close to the property line to endanger any adjoining public street, sidewalk, alley, or other public or private property without taking adequate measures to support and protect such property from settling, cracking or other damage that might result. Any person performing any grading that involves imported or exported materials shall take special precautions, as approved by the Building Official, to prevent such materials from being deposited on the adjacent public way and/or drainage courses.

J101.7 Storm water control measures.

The permittee and the owner of the property on which the grading is performed shall put into effect and maintain all precautionary measures necessary to protect adjacent water courses and public or private property from damage by erosion, flooding, and deposition of mud, debris, and construction-related pollutants originating from the site during grading and related construction activities.

J101.8 Maintenance of protective devices and rodent control.

All drainage structures, other protective devices, and all burrowing rodent control measures, as shown on the grading plans approved by the building official, shall be maintained in a good condition and, when necessary, promptly repaired by the owner of the property on which grading has been performed or by any other person or agent in control of such property.

J101.9 Correlation with other sections.

The provisions of this chapter are independent of the provisions of Chapter 99 relating to building and property rehabilitation. This section may be applied even though the same facts have been used to determine that there is substandard property subject to the provisions of Chapter 99.

J101.10 Conditions of approval.

In granting any permit under this code, the Building Official may include such conditions as may be reasonably necessary to prevent creation of a nuisance or hazard to public or private property. Such conditions may include, but shall not be limited to:

1. Improvement of any existing grading to comply with the requirements of this code.

2. Requirements for fencing of excavations or fills, which would otherwise be hazardous.

SECTION J102 DEFINITIONS

J102.1 Definitions.

~~The following words and terms shall, for the purposes of this appendix, have the meanings shown herein. Refer to Chapter 2 of the *California Building Code* for general definitions.~~ For the purposes of this chapter, the terms, phrases and words listed in this section and their derivatives shall have the indicated meanings.

APPROVAL. When the proposed work or completed work conforms to this chapter, as determined by and to the satisfaction of the Building Official.

AS–BUILT. See Section J105.12.

BEDROCK. The relatively solid, undisturbed rock in place either at the ground surface or beneath superficial deposits of alluvium, colluvium and/or soil.

BENCH. A relatively level step excavated into earth material on which fill is to be placed.

BEST MANAGEMENT PRACTICE (BMP). Practices or other activities to reduce or eliminate the discharge of pollutants to surface waters. BMPs include structural and nonstructural controls, management practices, operation and maintenance procedures, and system, design, and engineering methods that are

required to be employed in order to comply with the requirements of the NPDES permit issued to the County of Los Angeles (see Section 106.4.3) and Title 31 Green Building Standards Code.

BORROW. Earth material acquired from an off–site location for use in grading on a site.

CIVIL ENGINEER. A professional engineer registered in the state of California to practice in the field of civil works.

CIVIL ENGINEERING. The application of the knowledge of the forces of nature, principles of mechanics and the properties of materials to the evaluation, design, and construction of civil works.

COMPACTION. The densification of a fill by mechanical means.

CUT. See "Excavation."

DESILTING BASINS. Physical structures constructed for the removal of sediments from surface water runoff.

DESIGN ENGINEER. The Civil Engineer responsible for the preparation of the grading plans for the site grading work.

DOWN DRAIN. A device for collecting water from a swale or ditch located on or above a slope, and safely delivering it to an approved drainage facility.

EARTH MATERIAL. Any rock, natural soil or fill or any combination thereof.

ENGINEERING GEOLOGIST. A geologist experienced and knowledgeable in engineering geology, holding a valid certificate of registration as a geologist in the specialty of engineering geology issued by the state of California under the applicable provisions of the Geologist and Geophysicist Act of the Business and Professions Code.

ENGINEERING GEOLOGY. The application of geologic knowledge and principles in the investigation and evaluation of naturally occurring rock and soil for use in the design of civil works.

EROSION. The wearing away of the ground surface as a result of the movement of wind, water or ice.

EXCAVATION. The removal of earth material by artificial means, also referred to as a cut.

FIELD ENGINEER. The Civil Engineer responsible for performing the functions as set forth in Section J105.3.

FILL. Deposition of earth materials by artificial means.

GEOTECHNICAL ENGINEER. See "Soils Engineer."

GEOTECHNICAL HAZARD. An adverse condition due to landslide, settlement, and/or slippage. These hazards include but are not limited to loose debris, slopewash, and mud flows from natural or graded slopes.

GRADE. The vertical location of the ground surface.

GRADE, EXISTING. The grade prior to grading.

GRADE, FINAL. See Section J105.7.

GRADE, FINISHED. The grade of the site at the conclusion of all grading efforts.

GRADE, INITIAL. See Section J105.7

GRADE, ROUGH. See Section J105.7.

GRADING. An excavation or fill or combination thereof.

KEY. A compacted fill placed in a trench excavated in earth material beneath the toe of a slope.

LANDSCAPE ARCHITECT. A person who holds a certificate to practice landscape architecture in the State of California under the applicable landscape architecture provisions of Division 3, Chapter 3.5 of the Business and Professions Code.

LINE. The horizontal location of the ground surface.

PERMITTEE. See Section J105.6.

PRIVATE SEWAGE DISPOSAL SYSTEM. A septic tank with effluent discharging into a subsurface disposal field, into one or more seepage pits or into a combination of subsurface disposal field and seepage pit or of such other facilities as may be permitted in accordance with the procedures and requirements set forth in Title 28 of the Los Angeles County Code and is required by the Health Officer.

PROJECT CONSULTANTS. The professional consultants required by this code which may consist of the design engineer, field engineer, soils engineer, engineering geologist, and landscape architect as applicable to this chapter.

PROFESSIONAL INSPECTION. The inspection required by this code to be performed by the Project Consultants. Such inspections shall be sufficient to form an opinion relating to the conduct of the work.

QSD. Qualified SWPPP Developer as defined in the California State Construction General Permit.

QSP. Qualified SWPPP Practitioner as defined in the California State Construction General Permit.

SITE. A lot or parcel of land or contiguous combination thereof, under the same ownership, where grading is performed or permitted.

SLOPE. An inclined surface, the inclination of which is expressed as a ratio of horizontal distance to vertical distance.

SOIL. Naturally occurring superficial deposits overlying parent bedrock.

SOILS ENGINEER (GEOTECHNICAL ENGINEER). A civil engineer experienced and knowledgeable in the practice of soils engineering.

SOILS ENGINEERING (GEOTECHNICAL ENGINEERING). The application of the principals of soils mechanics in the investigation, evaluation, and design of civil works involving the use if earth materials and the inspection or testing of construction thereof.

STORM DRAIN SYSTEM. A conveyance or system of conveyances, including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, and man-made channels, pipes, designed or used for collecting and conveying stormwater.

STORM WATER POLLUTION PREVENTION PLAN. A site drawing with details, notes, and related documents that identify the measures proposed by the permittee to (1) control erosion and prevent sediment and construction-related pollutants from being carried offsite by stormwater, and (2) prevent non-stormwater discharges from entering the storm drain system.

SURFACE DRAINAGE. Flows over the ground surface.

SOIL TESTING AGENCY. An agency regularly engaged in the testing of soils and rock under the direction of a civil engineer experienced in soil testing.

TERRACE. A relatively level step constructed in the face of a graded slope for drainage and maintenance purposes.

SECTION J103 PERMITS REQUIRED

J103.1 Permits required.

Except as exempted in Section J103.2, no grading shall be performed without first having obtained a *permit* ~~therefor~~ from the *building official*. A grading *permit* does not include the construction of retaining walls or other structures. A separate permit shall be obtained for each site and may cover both excavations and fills. Any engineered grading as described in Section J104.2.3 shall be performed by a contractor licensed by the State of California to perform the work described hereon. Regular grading less than 5,000 cubic yards may require a licensed contractor if the building official determines that special conditions or hazards exist.

J103.2 Exemptions.

A grading *permit* shall not be required for the following:

1. When approved by the Building Official, grading in an isolated, self-contained area, provided there is no danger to the public, and that such grading will not adversely affect adjoining properties or public right of ways.

2. Excavation for construction of a structure permitted under this code.

3. Cemetery graves.

4. Refuse disposal sites controlled by other regulations.

5. Excavations for wells, or trenches for utilities.

6. Mining, quarrying, excavating, processing or stockpiling rock, sand, gravel, aggregate or clay controlled by other regulations, provided such operations do not affect the lateral support of, or significantly increase stresses in, soil on adjoining properties.

7. Exploratory excavations performed under the direction of ~~a registered design professional.~~ a Geotechnical Engineer or Engineering Geologist. Exploratory excavations must not create a hazardous condition to adjacent properties or the public in accordance with Section J101.3. Exploratory excavations must be

restored to existing conditions, unless otherwise approved by the building official. This shall not exempt grading of access roads or pads created for exploratory excavations. A restoration plan must be provided and approved by the building official for all grading of access roads or pads. Restoration shall be completed within 90 days after testing, unless otherwise approved by the Building Official.

8. An excavation that does not exceed 50 cubic yards (38.3 m^3) and complies with one of the following conditions:

   (a) is less than 2 feet (0.6 m) in depth.

   (b) does not create a cut slope greater than 5 feet (1.5 m) measured vertically upward from the cut surface to the surface of the natural grade and is not steeper than 2 units horizontal to 1 unit vertical (50 percent slope).

9. A fill not intended to support a structure that does not obstruct a drainage course and complies with one of the following conditions:

   (a) Is less than 1 foot (0.3 m) in depth and is placed on natural terrain with a slope flatter than 5 units horizontal to 1 unit vertical (20 percent slope).

   (b) Is less than 3 feet (0.9 m) in depth at its deepest point measured vertically upward from natural grade to the surface of the fill, does not exceed 50 cubic yards, and creates a fill slope no steeper than 2 units horizontal to 1 unit vertical (50 percent slope).

   (c) Is less than 5 feet (1.5 m) in depth at its deepest point measured vertically upward from natural grade to the surface of the fill, does not exceed 20 cubic yards, and creates a fill slope no steeper than 2 units horizontal to 1 unit vertical (50 percent slope).

Exemption from the permit requirements of this ~~appendix~~chapter shall not be deemed to grant authorization for any work to be done in any manner in violation of the provisions of this code or any other laws or ordinances of this jurisdiction.

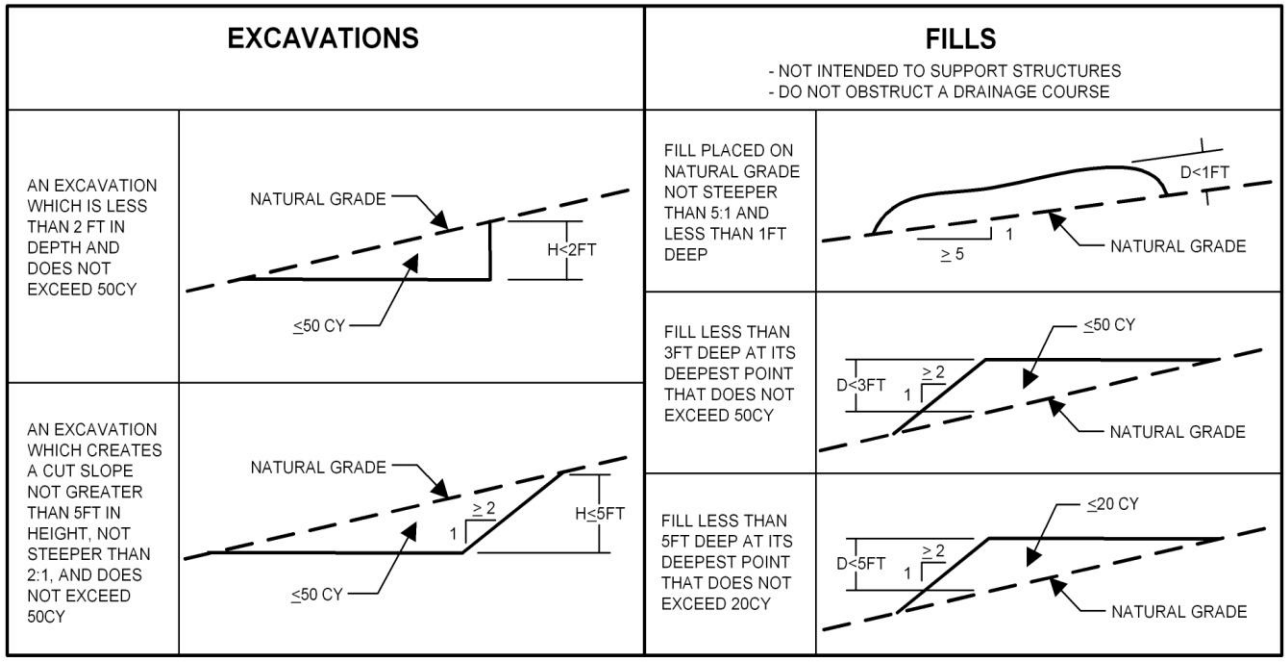


FIGURE J103.2

J103.3 Unpermitted grading.

A person shall not own, use, occupy or maintain any site containing unpermitted grading. For the purposes of this code, unpermitted grading shall be defined as either of the following:

(1) Grading that was performed, at any point in time, without the required permit(s) having first been obtained from the Building Official, pursuant to Section J103.1; or

(2) Grading for which a permit was obtained pursuant to this Section, but which was not completed, pursuant to Section J105, prior to the expiration of the permit, pursuant to Section 106.5.4.

J103.4 Availability of permit at site.

No person shall perform any grading that requires a permit under this chapter unless a copy of the grading permit and approved grading plans are in the possession of a responsible person and available at the site for the Building Official's reference.

J103.5 Grading fees.

Fees shall be assessed in accordance with the provisions of this section. The amount of the fees shall be as specified in Section 107.

1. Plan Review Fees. When a plan or other data are required to be submitted, a plan review fee shall be paid at the time of submitting plans and specifications for review. Separate plan review fees shall apply to retaining walls or major drainage structures as required elsewhere in this code. For excavation and fill on the same site, the fee shall be based on the volume of excavation or fill, whichever is greater.

2. Permit Fees. A fee for each grading permit shall be paid to the Building Official at the time of issuance of the permit. Separate permits and fees shall apply to retaining walls or major drainage structures as required elsewhere in this code.

3. Site Inspection Fee. When the Building Official finds that a visual inspection of the site is necessary to establish drainage requirements for the protection of property, existing buildings or the proposed construction, a site inspection shall be made during plan check of grading plans. A fee for such inspection shall be paid to the Building Official at the time of submitting plans and specifications for review.

J103.6 Compliance with zoning code.

The Building Official may refuse to issue a grading permit for work on a site if either the proposed grading or the proposed land use for the site shown on the grading plan application does not comply with the provisions of Title 22, entitled "Planning and Zoning," of the Los Angeles County Code.

J103.7 Grading security.

J103.7.1 Scope and purpose.

The Building Official may require a permittee or the owner(s) of the property on which the grading is proposed to occur to provide security, as a condition of the issuance of a grading permit for any grading involving more than 1,000 cubic yards (764.6 m^3). Where unusual conditions or special hazards exist, the Building Official may require

security for grading involving less than 1,000 cubic yards (764.6 m^3). The purpose of the security shall be to guarantee the permittee's obligation to mitigate any hazardous conditions, including flood and geotechnical hazards, that may be created if the grading is not completed in accordance with the approved plans and specifications, and to complete any work that the Building Official determines is necessary to bring the property into compliance with this chapter.

Security required by this Section may include incidental off-site grading on property contiguous with the site to be developed, provided written consent of the owner of such contiguous property is filed with the Building Official.

The Building Official may waive the requirements for a security for the following:

1. Grading being done by or for a governmental agency.

2. Grading necessary to remove a geotechnical hazard, where such work is covered by an agreement and security posted pursuant to the provisions of Title 21, entitled Subdivision Ordinance, of the Los Angeles County Code.

3. Grading on a site, not exceeding a slope of three horizontal to one vertical, provided such grading as determined by the Building Official will not affect drainage from or to adjacent properties.

4. Filling of holes or depressions provided such grading will not affect the drainage from or to adjacent properties.

J103.7.2 Form of security.

The security referred to in Section J103.7.1 shall be in one of the following forms:

1. A bond furnished by a corporate surety authorized to do business in this state.

2. Cash.

3. Savings and loan certificates or shares deposited and assigned to the County as provided in Chapter 4.36 of Title 4 of the Los Angeles County Code.

4. An instrument of credit from a financial institution subject to regulation by the state or federal government and pledging that funds in the amount required by the Building Official are on deposit and guaranteed for payment, or a letter of credit issued by such a financial institution.

J103.7.3 Amount of security.

The amount of security shall be based on the number of cubic yards of material in either excavation or fill, whichever is greater, and the cost of all drainage or other protective devices or work necessary to eliminate potential flooding and geotechnical hazards. That portion of the security valuation based on the volume of material in either excavation or fill shall be computed as follows:

100,000 cubic yards or less - 50 percent of the estimated cost of grading work. Over 100,000 cubic yards - 50 percent of the cost of the first 100,000 cubic yards plus 25 percent of the estimated cost of that portion in excess of 100,000 cubic yards.

When the rough grading has been completed in conformance with the requirements of this code, the Building Official may, at his or her discretion, consent to a proportionate reduction of the security to an amount estimated to be adequate to ensure completion of the grading work, site development or planting remaining to be performed. The costs referred to in this section shall be as estimated by the Building Official.

J103.7.4 Conditions.

All security shall include the conditions that the principal shall:

1. Comply with all of the provisions of this code, applicable laws, and ordinances;

2. Comply with all of the terms and conditions of the grading permit;

3. Complete all of the work authorized by the permit.

J103.7.5 Term of security.

The term of each security shall begin upon the filing with the Building Official and the security shall remain in effect until the work authorized by the grading permit is completed and approved by the Building Official.

J103.7.6 Default procedures.

In the event any grading for which a permit has been issued is not completed in accordance with the approved plans and specifications for said work or with all terms and conditions of the grading permit, the Building Official may declare that a default has occurred. The Building Official shall give notice thereof to the principal and surety or financial institution executing the security, or to the owner in the case of a cash bond or assignment.

The Building Official may thereafter determine the work that is necessary to mitigate any hazardous or unsafe conditions on the site and cause such work to be performed. Where the security consists of a bond or instrument of credit, the surety or financial

institution executing the security shall be responsible for the payment of all costs and expenses incurred by the Building Official in causing such work to be performed, up to the full amount of the security. In the case of a cash bond or assignment, the Building Official may pay all costs and expenses incurred in causing such work to be performed from the funds deposited, and return any unused portion of such deposit or funds to the person making said deposit or assignment.

J103.7.7 Right of entry.

The Building Official or the authorized representative of the surety company or financial institution executing the security shall have access to the premises described in the permit for the purpose of inspecting the work.

In the event of default, as described in Section J103.7.6, the surety or financial institution executing the security or the Building Official, or any person employed or engaged on the behalf of any of these parties, shall have the right to go upon the premises to perform the mitigation work, as described in Section J103.7.6.

Neither the permittee, owner, nor any other person shall interfere with or obstruct the ingress into or egress from any such premises, of any authorized representative of the surety or financial institution executing the security or the Building Official engaged to perform the mitigation work, as described in Section J103.7.6.

SECTION J104 PERMIT APPLICATION AND SUBMITTALS

J104.1 Submittal requirements.

In addition to the provisions of Section ~~105.3~~ 106.4, the applicant shall state the ~~estimated quantities of excavation and fill.~~ following:

1. The estimated quantities of excavation, fill and removal, and compaction.

2. The proposed land use for the site on which the grading is to be performed.

J104.2 Site plan requirements.

In addition to the provisions of Section ~~107~~ 106, a grading plan shall show the existing grade and finished grade in contour intervals of sufficient clarity to indicate the nature and extent of the work and show in detail that it complies with the requirements of this code. The plans shall show the existing grade on adjoining properties in sufficient detail to identify how grade changes will conform to the requirements of this code.

J104.2.1 Grading designation.

Grading in excess of 5,000 cubic yards (3825 m^3) or that is proposed to support any structure shall be designated as "Engineered Grading." All engineered grading shall be performed in accordance with an approved grading plan and specifications prepared by a civil engineer, unless otherwise required by the Building Official.

Grading involving less than 5,000 cubic yards (3825 m^3) and that will not support any structure shall be designated "Regular Grading" unless the permittee chooses to have the grading be designated as engineered grading, or the Building Official determines that, due to the existence of special conditions or unusual hazards, the grading should be designated as engineered grading.

J104.2.2 Regular grading requirements.

In addition to the provisions of Section 106, and Section J104.2, an application for a regular grading permit shall be accompanied by two sets of plans in sufficient clarity to indicate the nature and extent of the work. The plans shall give the location of the work, the name of the owner, and the name of the person who prepared the plan. The plan shall include the following information:

1. General vicinity of the proposed site.
2. Limits and depths of cut and fill.
3. Location of any buildings or structures where work is to be performed, and the location of any buildings or structures within 15 feet (4.6 m) of the proposed grading.
4. Contours, flow areas, elevations, or slopes, which define existing and proposed drainage patterns.
5. Storm water mitigation measures in accordance with the requirements of Section 106.4.3. See Section J110.8 for specific requirements.
6. Location of existing and proposed utilities, drainage facilities, and recorded public and private easements and restricted use areas.
7. Location of all recorded floodways as established by Chapter 11.60 of Title 11 of the Los Angeles County Code.
8. Location of all Special Flood Hazard Areas as designated and defined in Title 44, Code of Federal Regulations.

J104.2.3 Engineered grading requirements.

In addition to the provisions of Section 106, and Section J104.2, an application for a permit for engineered grading shall be accompanied by four sets of plans and specifications, and supporting data consisting of a geotechnical report and engineering geology report.

Specifications shall contain information covering construction and material requirements. Plans shall be drawn to scale on paper and shall be of sufficient clarity to indicate the nature and extent of the work proposed and shall show in detail that the proposed work will conform to the provisions of this code and all relevant laws, ordinances, rules, and regulations. The first sheet of each set of plans shall depict the location of the proposed work, the name and address of the owner, and the person by whom they were prepared. The plans shall include or be accompanied by the following information:

1. General vicinity of the proposed site.

2. Property limits and accurate contours of existing ground and details of terrain and area drainage.

3. Limiting dimensions, elevations, or finish contours to be achieved by the grading, proposed drainage channels, and related construction.

4. Detailed plans of all surface and subsurface drainage devices, walls, cribbing, dams and other protective devices to be constructed with, or as a part of, the proposed work. A map showing the drainage area and the estimated runoff of the area served by any drains shall also be provided

5. Location of any existing or proposed buildings or structures located on the property on which the work is to be performed and the location of any buildings or structures on adjacent properties that are within 15 feet (4.6 m) of the property or that may be affected by the proposed grading operations.

6. Recommendations in the geotechnical report and the engineering geology report shall be incorporated into the grading plans or specifications. When approved by the Building Official, specific recommendations contained in the geotechnical report and the engineering geology report, that are applicable to grading, may be included by reference.

7. The dates of the geotechnical and engineering geology reports together with the names, addresses, and phone numbers of the firms or individuals who prepared the reports.

8. A statement of the quantities of material to be excavated and/or filled. Earthwork quantities shall include quantities for geotechnical and geological remediation. In addition, a statement of the quantities of material to be imported or exported from

the site.

9. A statement of the estimated starting and completion dates for proposed work.

10. A statement signed by the owner, acknowledging that a field engineer, geotechnical engineer and engineering geologist, when appropriate, will be employed to perform the services required by this code, when the Building Official requires that such professional persons be so employed. These acknowledgments shall be on a form furnished by the Building Official.

11. Storm water mitigation measures are required to be shown on the grading plan in accordance with the requirement of Section 106.4.3. See Section J110.8 for specific requirements.

12. A drainage plan for those portions of property to be utilized as a building site (building pad), including elevations of floors with respect to finish site grade and locations of proposed stoops, slabs and fences that may affect drainage.

13. Location and type of any proposed private sewage disposal system, including the location of the expansion area.

14. Location of existing and proposed utilities, drainage facilities, and recorded public and private easements.

15. Location of all recorded floodways as established by chapter 11.60 of Title 11 of the Los Angeles County Code.

16. Location of all Special Flood Hazard Areas as designated and defined in Title 44, Code of Federal Regulations.

J104.3 Geotechnical report.

~~A geotechnical report prepared by a *registered design professional* shall be provided. The report shall contain at least the following:~~

~~1. The nature and distribution of existing soils;~~
~~2. Conclusions and recommendations for grading procedures;~~
~~3. Soil design criteria for any structures or embankments required to accomplish the proposed grading; and~~
~~4. Where necessary, slope stability studies, and recommendations and conclusions regarding site geology.~~

The geotechnical report required by Section J104.2.3 shall include data regarding the nature, distribution and strength of existing soils, conclusions and recommendations for grading procedures and design criteria for corrective measures, including buttress fills, when necessary, and an opinion on the adequacy for the intended use of sites to be

developed by the proposed grading as affected by geotechnical factors, including the stability of slopes. All reports shall conform with the requirements of Section 111 and shall be subject to review by the Building Official. Supplemental reports and data may be required as the Building Official deems necessary. Recommendations included in the reports and approved by the Building Official shall be incorporated in the grading plan or specifications.

The engineering geology report required by Section J104.2.3 shall include an adequate description of the geology of the site, conclusions and recommendations regarding the effect of geologic conditions on the proposed development, and an opinion on the adequacy for the intended use of sites to be developed by the proposed grading, as affected by geologic factors. The engineering geology report shall include a geologic map and cross sections utilizing the most recent grading plan as a base. All reports shall conform with the requirements of Section 111 and shall be subject to review by the Building Official. Supplemental reports and data may be required as the Building Official may deem necessary. Recommendations included in the reports and approved by the Building Official shall be incorporated in the grading plan or specifications.

EXCEPTION: A geotechnical report or engineering geology report is not required where the building ~~code~~ official determines that the nature of the work applied for is such that a report is not necessary.

J104.4 Liquefaction study.

For sites with mapped maximum considered earthquake spectral response accelerations at short periods (S_s) greater than 0.5g as determined by Section 1613, a study of the liquefaction potential of the site shall be provided, and the recommendations incorporated in the plans. A geotechnical investigation will be required when the proposed work is a "Project" as defined in California Public Resources Code §2693, and is located in an area designated as a "Seismic Hazard Zone" as defined in Title 14 of the California Code of Regulations §3722 on Seismic Hazard Zone Maps issued by the State Geologist under Public Resources Code §2696.

EXCEPTIONS:

1. A liquefaction study is not required where the building official determines from established local data that the liquefaction potential is low.
2. ~~*[OSHPD 1,2, &4] Exception 1 not permitted by OSHPD.*~~

SECTION J105 INSPECTIONS

J105.1 General.

Inspections shall be governed by Section ~~110~~ 108, ~~*Chapter 1, Division II* of this code~~ and as indicated herein. Grading operations for which a permit is required shall be

subject to inspection by the Building Official. In addition, professional inspection of grading operations shall be performed by the Field Engineer, Geotechnical Engineer and the Engineering Geologist retained to provide such services in accordance with this Section for engineered grading and as required by the Building Official for regular grading.

J105.2 Special and supplemental inspections.

The special inspection requirements of Section 1705.6 shall apply to work performed under a grading permit where required by the *building official*. In addition to the called inspections specified in Section J105.7, the Building Official may make such other inspections as deemed necessary to determine that the work is being performed in conformance with the requirements of this code. The Building Official may require investigations and reports by an approved soil testing agency, Geotechnical Engineer and/or Engineering Geologist, and Field Engineer. Inspection reports shall be provided when requested in writing by the Building Official.

The Building Official may require continuous inspection of drainage devices by the Field Engineer in accordance with this section when the Building Official determines that the drainage devices are necessary for the protection of the structures in accordance with Section 110.

J105.3 Field engineer.

The Field Engineer shall provide professional inspection of those parts of the grading project within such engineer's area of technical specialty, oversee and coordinate all field surveys, set grade stakes, and provide site inspections during grading operations to ensure the site is graded in accordance with the approved grading plan and the appropriate requirements of this code. During site grading, and at the completion of both rough grading and final grading, the Field Engineer shall submit statements and reports as required by Sections J105.11 and J105.12. If revised grading plans are required during the course of the work they shall be prepared by a Civil Engineer and approved by the Building Official.

J105.4 Geotechnical engineer.

The Geotechnical Engineer shall provide professional inspection of those parts of the grading project within such engineer's area of technical specialty, which shall include observation during grading and testing for required compaction. The Geotechnical Engineer shall provide sufficient observation during the preparation of the natural ground and placement and compaction of the fill to verify that such work is being performed in accordance with the conditions of the approved plan and the appropriate requirements of this chapter. If conditions differing from the approved geotechnical engineering and engineering geology reports are encountered during grading, the

Geotechnical Engineer shall provide revised recommendations to the permittee, the Building Official, and the Field Engineer.

J105.5 Engineering geologist.

The Engineering Geologist shall provide professional inspection of those parts of the grading project within such engineer's area of technical specialty, which shall include professional inspection of the bedrock excavation to determine if conditions encountered are in conformance with the approved report. If conditions differing from the approved engineering geology report are encountered, the Engineering Geologist shall provide revised recommendations to the geotechnical engineer.

J105.6 Permittee.

The permittee shall be responsible for ensuring that the grading is performed in accordance with the approved plans and specifications and in conformance with the provisions of this code. The permittee shall engage project consultants, if required under the provisions of this code, to provide professional inspections on a timely basis. The permittee shall act as a coordinator between the project consultants, the contractor and the Building Official. In the event of changed conditions, the permittee shall be responsible for informing the Building Official of such change and shall provide revised plans for approval.

J105.7 Required Inspections.

The permittee shall call for an inspection by the Building Official at the following various stages of work and shall obtain the approval of the Building Official prior to proceeding to the next stage of work:

Pre-grade. Before any construction or grading activities occur at the site. Permittee shall schedule a pregrade inspection with the Building Official. The permittee shall ensure that all project consultants are present at the pre-grade inspection.

Initial grade. When the site has been cleared of vegetation and has been scarified, and BMP's have been installed. No fill shall have been placed prior to this inspection.

Rough grade. When approximate final elevations have been established; drainage terraces, swales and other drainage devices necessary for the protection of the building sites from flooding have been installed; berms have been installed at the top of the slopes; and the statements required by Section J105.12 have been received.

Final grade. When grading has been completed; all drainage devices necessary to drain the building pad have been installed; slope planting has been established, irrigation systems have been installed; and the as-built plans and required statements and reports have been submitted.

J105.8 Notification of noncompliance.

If, in the course of fulfilling their respective duties under this chapter, the Field Engineer, the Geotechnical Engineer or the Engineering Geologist determines that the work is not being done in conformance with this chapter or the approved grading plans, the Field Engineer, Geotechnical Engineer or the Engineering Geologist shall immediately report, in writing, the discrepancies and the recommended corrective measures to the permittee and to the Building Official.

J105.9 Transfer of responsibility.

If the Field Engineer, the Geotechnical Engineer, or the Engineering Geologist of record is changed at any time after the grading plans required pursuant to Section J104.2.2 or J104.2.3 have been approved by the Building Official, the permittee shall immediately provide written notice of such change to the Building Official. The Building Official may stop the grading from commencing or continuing until the permittee has identified a replacement and the replacement has agreed in writing to assume responsibility for those parts of the grading project that are within the replacement's area of technical competence.

J105.10 Non-inspected grading.

No person shall own, use, occupy or maintain any non-inspected grading. For the purposes of this code, non-inspected grading shall be defined as any grading for which a grading permit was first obtained, pursuant to Section J103, supra, but which has progressed beyond any point requiring inspection and approval by the Building Official without such inspection and approval having been obtained.

J105.11 Routine field inspections and reports.

Unless otherwise directed by the Building Official, the Field Engineer for all engineered grading projects shall prepare routine inspection reports and shall file these reports with the Building Official as follows:

1. Bi-weekly during all times when grading of 400 cubic yards or more per week is occurring on the site;

2. Monthly, at all other times; and

3. At any time when requested in writing by the Building Official.

Such reports shall certify to the Building Official that the Field Engineer has inspected the grading site and related activities and has found them in compliance with the approved grading plans and specifications, the building code, all grading permit conditions, and all other applicable ordinances and requirements. The reports shall conform to a standard "Report of Grading Activities" form, which shall be provided by the Building Official.

J105.12 Completion of work.

Upon completion of the rough grading work and at the final completion of the work, the following reports and drawings and supplements thereto are required for engineered grading or when professional inspection is otherwise required by the Building Official:

1. An "As–Built" grading plan prepared by the Field Engineer retained to provide such services in accordance with Section J105.3 showing all plan revisions as approved by the Building Official. This shall include original ground surface elevations, as–built ground surface elevations, lot drainage patterns, and the locations and elevations of surface drainage facilities and the outlets of subsurface drains. As–built locations, elevations and details of subsurface drains shall be shown as reported by the Geotechnical Engineer. The As-Built grading plan shall be accompanied by a certification by the Field Engineer that to the best of his or her knowledge, the work within the Field Engineer's area of responsibility was done in accordance with the final approved grading plan.

2. A report prepared by the Geotechnical Engineer retained to provide such services in accordance with Section J105.4, including locations and elevations of field density tests, summaries of field and laboratory tests, other substantiating data, and comments on any changes made during grading and their effect on the recommendations made in the approved geotechnical engineering investigation report. The report shall include a certification by the Geotechnical Engineer that, to the best of his or her knowledge, the work within the Geotechnical Engineer's area of responsibility is in accordance with the approved geotechnical engineering report and applicable provisions of this chapter. The report shall contain a finding regarding the safety of the completed grading and any proposed structures against hazard from landslide, settlement, or slippage.

3. A report prepared by the Engineering Geologist retained to provide such services in accordance with Section J105.5, including a final description of the geology of the site and any new information disclosed during the grading and the effect of such new information, if any, on the recommendations incorporated in the approved grading plan. The report shall contain a certification by the Engineering Geologist that, to the best of his or her knowledge, the work within the

Engineering Geologist's area of responsibility is in accordance with the approved engineering geology report and applicable provisions of this chapter. The report shall contain a finding regarding the safety of the completed grading and any proposed structures against hazard from landslide, settlement, or slippage. The report shall contain a final as-built geologic map and cross-sections depicting all the information collected prior to and during grading.

4. The grading contractor shall certify, on a form prescribed by the Building Official, that the grading conforms to said as–built plan and the approved specifications.

5. When a landscape permit is required by Title 23 of the California Code of Regulations, Chapter 2.7, Section 490.1 of the "Model Water Efficient Landscape Ordinance", the Landscape Architect shall submit a certification to the Building Official that the landscaping conforms to the approved plans.

J105.13 Notification of completion.

The permittee shall notify the Building Official when the grading operation is ready for final inspection. Final approval shall not be given until all work, including installation of all drainage facilities and their protective devices, and all erosion–control measures have been completed in accordance with the final approved grading plan, and all required reports have been submitted and approved.

J105.14 Change of ownership.

Unless otherwise required by the Building Official, when a grading permit has been issued on a site and the owner sells the property prior to final grading approval, the new property owner shall be required to obtain a new grading permit.

SECTION J106 EXCAVATIONS

J106.1 Maximum slope.

The slope of cut surfaces shall be no steeper than is safe for the intended use, and shall be no steeper than two units horizontal to one unit vertical (50-percent slope) unless the owner or authorized agent furnishes a geotechnical or an engineering geology report, or both justifying a steeper slope. The reports must contain a statement by the Geotechnical Engineer or engineering geologist that the site was investigated and an opinion that a steeper slope will be stable and will not create a hazard to public or private property, in conformance with the requirements of Section 111. The Building Official may require the slope of the cut surfaces to be flatter in slope than 2 units horizontal to 1 unit vertical if the Building Official finds it necessary for the stability and safety of the slope.

EXCEPTIONS:

1. A cut surface shall be permitted to be at a slope of 1.5 units horizontal to one unit vertical (67-percent slope) provided that all of the following are met:
   1.1 It is not intended to support structures or surcharges.
   1.2 It is adequately protected against erosion.
   1.3 It is no more than 8 feet (2438 mm) in height.
   1.4 It is approved by the building code official.
   1.5 Ground water is not encountered.
2. ~~A cut surface in bedrock shall be permitted to be at a slope of one unit horizontal to one unit vertical (100- percent slope).~~

SECTION J107 FILLS

J107.1 General. Unless otherwise recommended in the geotechnical report, fills shall comply with the provisions of this section.

EXCEPTION: The Building Official may permit a deviation from the provisions of this chapter for minor fills not intended to support structures, where no geotechnical report has been prepared.

J107.2 Surface preparation.

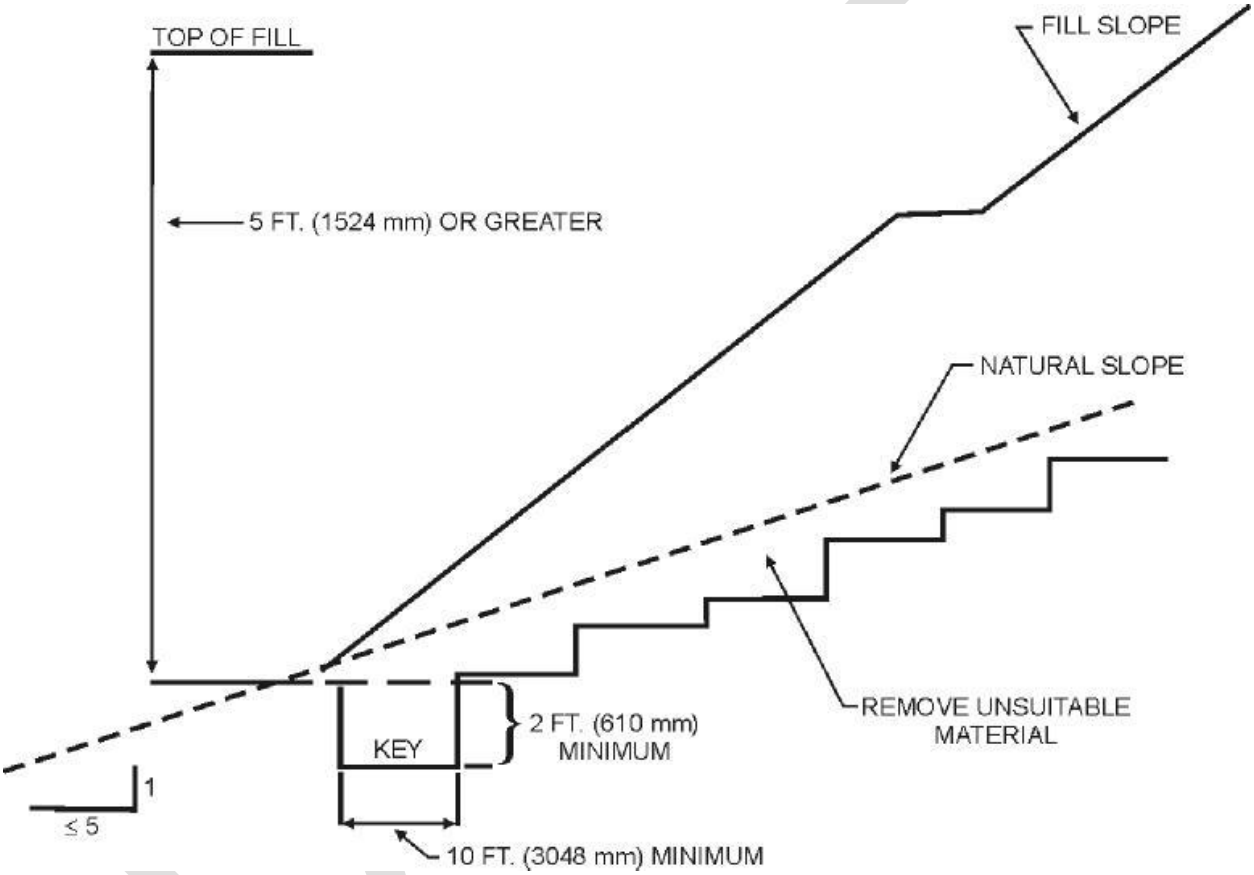
Fill slopes shall not be constructed on natural slopes steeper than 2 units horizontal to 1 unit vertical (50 percent slope). The ground surface shall be prepared to receive fill by removing vegetation, topsoil and other unsuitable materials (including any existing fill that does not meet the requirements of this chapter), and scarifying the ground to provide a bond with the fill material.

Subdrains shall be provided under all fills placed in natural drainage courses and in other locations where seepage is evident, except where the Geotechnical Engineer or Engineering Geologist recommends otherwise. Such sub-drainage systems shall be of a material and design approved by the Geotechnical Engineer and acceptable to the Building Official. The Geotechnical Engineer shall provide continuous inspection during the process of subdrain installations. The location of the subdrains shall be shown on a plan prepared by the Geotechnical Engineer. Excavations for the subdrains shall be inspected by the Engineering Geologist when such subdrains are included in the recommendations of the Engineering Geologist.

J107.3 Benching.

Where existing grade is at a slope steeper than five units horizontal to one unit vertical (20-percent slope) and the depth of the fill exceeds 5 feet (1524 mm) benching shall be provided into sound bedrock or other competent material as determined by the

Geotechnical Engineer. The ground preparation shall be in accordance with Figure J107.3 or as determined by the Geotechnical Engineer. When fill is to be placed over a cut, a key shall be provided which is at least 10 feet (3048 mm) in width and 2 feet (610 mm) in depth. The area beyond the toe of fill shall be sloped for sheet overflow or a paved drain shall be constructed thereon. The Geotechnical Engineer or Engineering Geologist or both shall inspect and approve the cut as being suitable for the foundation and placement of fill material before any fill material is placed on the excavation.



For SI: 1 foot = 304.8 mm.

FIGURE J107.3
BENCHING DETAILS

J107.4 Fill material.

Fill material shall not include organic, frozen or other deleterious materials. Unless approved by the Building Official, no rock or similar irreducible material greater than 12 inches (305 mm) in any dimension shall be included in fills.

EXCEPTION: The Building Official may permit placement of larger rock when the Geotechnical Engineer properly devises and recommends a method of placement, and continuously inspects the placement and approves the fill stability. The following requirements shall also apply:

1. Prior to issuance of the grading permit, potential rock disposal areas shall be delineated on the grading plan.
2. Rock sizes greater than 12 inches (0.3 m) in maximum dimension shall be 10 feet (3.0 m) or more below grade, measured vertically.
3. Rocks shall be placed so as to assure filling of all voids with well–graded soil.
4. The reports submitted by the Geotechnical Engineer shall acknowledge the placement of the oversized material and whether the work was performed in accordance with the engineer's recommendations and the approved plans.
5. The location of oversized rock dispersal areas shall be shown on the as-built plan.

J107.5 Compaction.

All fill material shall be compacted to a minimum of 90 percent of maximum density as determined by ASTM D 1557, Modified Proctor, in lifts not exceeding 12 inches (305 mm) in depth within 40 feet (12.2 m) below finished grade and 93 percent of maximum dry density deeper than 40 feet (12.2 m) below finished grade, unless a lower relative compaction (not less than 90 percent of maximum dry density) is justified by the Geotechnical Engineer and approved by the Building Official. Where ASTM D 1557, Modified Proctor is not applicable, a test acceptable to the Building Official shall be used

~~*[DSA-SS & DSA-SS/CC] This section establishes minimum requirements only.*~~

Field density shall be determined by a method acceptable to the Building Official. However, not less than ten percent of the required density tests, uniformly distributed, shall be obtained by the Sand Cone Method.

Fill slopes steeper than 2 units horizontal to 1 unit vertical (50 percent slope) shall be constructed by the placement of soil a sufficient distance beyond the proposed finish slope to allow compaction equipment to operate at the outer surface limits of the final slope surface. The excess fill is to be removed prior to completion or rough grading. Other construction procedures may be utilized when it is first shown to the satisfaction of the Building Official that the angle of slope, construction method and other factors will comply with the intent of this Section.

J107.6 Maximum fill slope.

The slope of fill surfaces shall be no steeper than is safe for the intended use. Fill slopes steeper than two units horizontal to one unit vertical (50-percent slope) shall be justified by geotechnical reports ~~or engineering data~~ conforming with the requirements of Section 111, containing a statement by the Geotechnical Engineer that the site has been investigated and an opinion that a steeper fill slope will be stable and will not create a hazard to public or private property. Substantiating calculations and supporting data may be required where the Building Official determines that such information is necessary to verify the stability and safety of the proposed slope. The Building Official may require the fill slope to be constructed with a face flatter in slope than 2 units horizontal to 1 unit vertical (50 percent slope) if the Building Official finds it necessary for stability and safety of the slope.

J107.7 Slopes to receive fill.

Where fill is to be placed above the top of an existing slope steeper than 3 units horizontal to 1 unit vertical (33 percent slope), the toe of the fill shall be set back from the top edge of the existing slope a minimum distance of 6 feet (1.8 m) measured horizontally or such other distance as may be specifically recommended by a Geotechnical Engineer or Engineering Geologist and approved by the Building Official.

J107.8 Inspection of fill.

For engineered grading, the Geotechnical Engineer shall provide sufficient inspections during the preparation of the natural ground and the placement and compaction of the fill to ensure that the work is performed in accordance with the conditions of plan approval and the appropriate requirements of this chapter. In addition to the above, the Geotechnical Engineer shall provide continuous inspection during the entire fill placement and compaction of fills that will exceed a vertical height or depth of 30 feet (9.1 m) or result in a slope surface steeper than 2 units horizontal to 1 unit vertical (50 percent slope).

J107.9 Testing of fills.

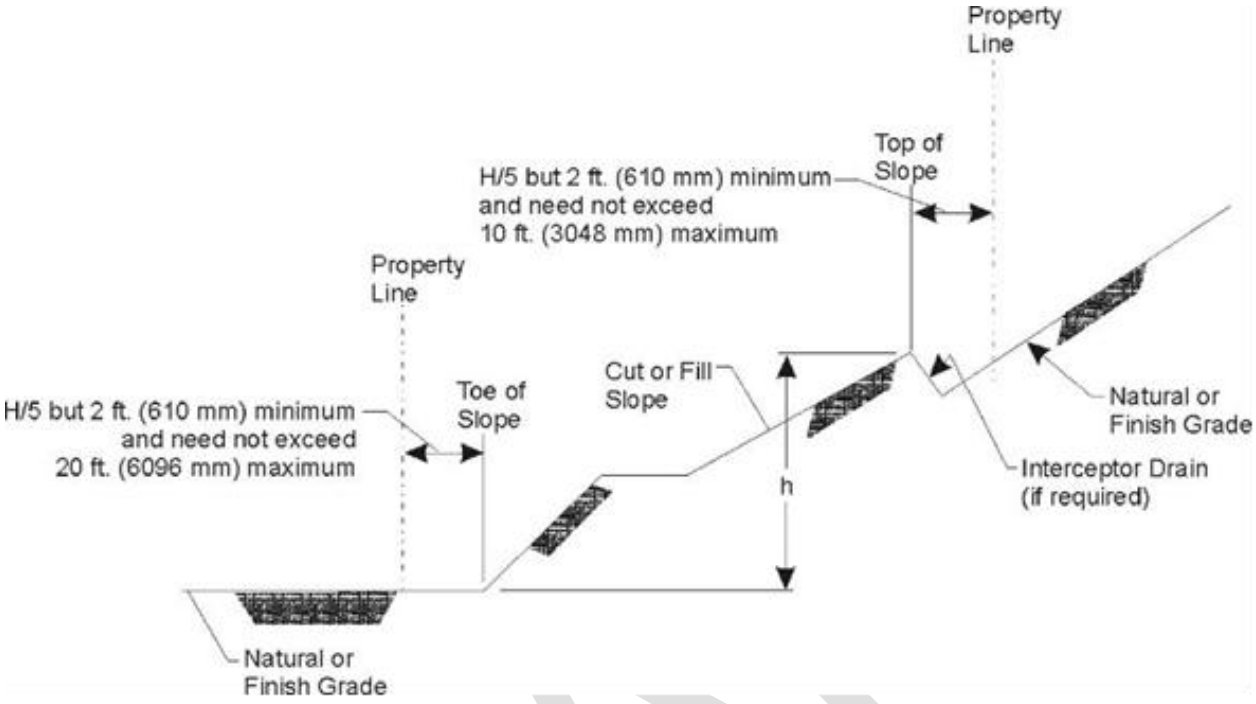
Sufficient tests of the fill soils shall be made to determine the density and to verify compliance of the soil properties with the design requirements. This includes soil types and shear strengths in accordance with Section J111 Referenced Standards.

SECTION J108 SETBACKS

J108.1 General.

Cut and fill slopes shall be set back from the property lines in accordance with this section. Setback dimensions shall be measured perpendicular to the property line and shall be as shown in Figure J108.1, unless substantiating data is submitted justifying

reduced setbacks and reduced setbacks are recommended in a geotechnical engineering and engineering geology report approved by the Building Official.



For SI: 1 foot = 304.8 mm.

FIGURE J108.1
DRAINAGE DIMENSIONS

J108.2 Top of slope.

The setback at the top of a cut slope shall not be less than that shown in Figure J108.1, or than is required to accommodate any required interceptor drains, whichever is greater. For graded slopes the property line between adjacent lots shall be at the apex of the berm at the top of the slope. Property lines between adjacent lots shall not be located on a graded slope steeper than to 5 units horizontal to 1 unit vertical (20 percent slope).

J108.3 Toe of fill slope protection.

The setback from the toe of a fill slope shall not be less than that shown by Figure J108.1. Where required to protect adjacent properties at the toe of a slope from adverse effects of the grading, additional protection, approved by the *building official*, shall be included.

Such protection may include but shall not be limited to:

1. Setbacks greater than those required by Figure J108.1.

2. Provisions for retaining walls or similar construction.

3. Erosion protection of the fill slopes.

4. Provision for the control of surface waters.

J108.4 Alternate setbacks.

The Building Official may approve alternate setbacks if he or she determines that no hazard to life or property will be created or increased. The Building Official may require an investigation and recommendation by a qualified engineer or engineering geologist to justify any proposed alternate setback.

SECTION J109 DRAINAGE AND TERRACING

J109.1 General.

Unless otherwise recommended by a ~~*registered design professional*~~ Civil Engineer and approved by the Building Official, drainage facilities and terracing shall be provided in accordance with the requirements of ~~this~~ Section J109.2 for all cut and fill slopes 3 units horizontal to 1 unit vertical (33 percent slope) and steeper.

> ~~**EXCEPTION:** Drainage facilities and terracing need not be provided where the ground slope is not steeper than 3 horizontal to 1 vertical (33 percent).~~

For slopes flatter than 3 units horizontal to 1 unit vertical (33 percent slope) and steeper than 5 units horizontal to 1 unit vertical (20 percent slope) a paved swale or ditch shall be installed at 30 foot (9.1m) vertical intervals to control surface drainage and debris. Swales shall be sized based on contributory area and have adequate capacity to convey intercepted waters to the point of disposal as defined in Section J109.5. Swales must be paved with reinforced concrete not less than 3 inches (0.08 m) in thickness, reinforced with 6-inch (0.2 m) by 6-inch (0.2 m) No.10 by No.10 welded wire fabric or equivalent reinforcing centered in the concrete slab or an equivalent approved by the Building Official. Swales must have a minimum flow line depth of 1 foot (0.3 m) and a minimum paved width of 18 inches (0.5 m). Swales shall have a minimum gradient of not less than 5 percent. There shall be no reduction in grade along the direction of flow unless the velocity of flow is such that slope debris will remain in suspension on the reduced grade.

J109.2 Drainage terraces.

Drainage terraces at least ~~6 feet (1829 mm)~~ 8 feet (2.4 m) in width shall be established

at not more than 30-foot (9144 mm) vertical intervals on all cut or fill slopes to control surface drainage and debris. ~~Suitable access shall be provided to allow for cleaning and maintenance.~~

~~Where more than two terraces are required, one terrace, located at approximately mid-height, shall be at least 12 feet (3658 mm) in width.~~

~~Swales or ditches shall be provided on terraces. They shall have a minimum gradient of 20 horizontal to 1 vertical (5 percent) and shall be paved with concrete not less than 3 inches (76 mm) in thickness, or with other materials suitable to the application. They shall have a minimum depth of 12 inches (305 mm) and a minimum width of 5 feet (1524 mm).~~

~~A single run of swale or ditch shall not collect runoff from a tributary area exceeding 13,500 square feet (1256 m^2) (projected) without discharging into a down drain.~~
When only one terrace is required, it shall be at midheight. For cut or fill slopes greater than 100 feet (30480 mm) and up to 120 feet (36.6 m) in vertical height, one terrace at approximately midheight shall be 20 feet (6.1 m) in width. Terrace widths and spacing for cut and fill slopes greater than 120 feet (36.6 m) in height shall be designed by the Civil Engineer and approved by the Building Official. Suitable access shall be provided to permit proper cleaning and maintenance.

Drainage swales on terraces shall have a longitudinal grade of not less than 5 percent nor more than 12 percent and a minimum depth of 1-foot (0.3 m) at the flow line. There shall be no reduction in grade along the direction of flow unless the velocity of flow is such that slope debris will remain in suspension on the reduced grade. Drainage swales must be paved with reinforced concrete not less than 3 inches (0.8 m) in thickness, reinforced with 6-inch (0.2 m) by 6-inch (0.2 m) No. 10 by No. 10 welded wire fabric or equivalent reinforcing centered in the concrete slab or an approved equal paving. Drainage swales on terraces shall be sized based on contributory area and have adequate capacity to convey intercepted waters to the point of disposal as defined in Section J109.5 and shall have a minimum depth at the deepest point of 1 foot (0.3 m) and a minimum paved width of 5 feet (1.5 m). Downdrains or drainage outlets shall be provided at approximately 300-foot (91.4 m) intervals along the drainage terrace or at equivalent locations. Downdrains and drainage outlets shall be of approved materials and of adequate capacity to convey the intercepted waters to the point of disposal as defined in Section J109.5.

J109.3 Interceptor drains and overflow protection.

Berms, interceptor drains, swales or other devices shall be installed along the top of cut slopes ~~receiving drainage from a tributary width greater than 40 feet (12 192 mm), measured horizontally~~ to prevent surface waters from overflowing onto and damaging the face of a slope. Berms used for slope protection shall not be less than 12 inches

(0.3 m) above the level of the pad and shall slope back at least 4 feet (1.2 m) from the top of the slope. Interceptor drains shall be installed along the top of graded slopes greater than 5 feet in height receiving drainage from a slope with a tributary width greater than 30 feet (9.1 m) measured horizontally. They shall have a minimum depth of 1 foot (305 mm) and a minimum width of 3 feet (915 mm). The slope shall be approved by the building official, but shall not be less than 50 units horizontal to 1 unit vertical (2 percent). The drain shall be paved with concrete not less than 3 inches (76 mm) in thickness, or by other materials suitable to the application and reinforced as required for drainage terraces. Discharge from the drain shall be accomplished in a manner to prevent erosion and shall be approved by the building official.

J109.4 Drainage across property lines.

Drainage across property lines shall not exceed that which existed prior to grading. Excess or concentrated drainage shall be contained on site or directed to an approved drainage facility. Erosion of the ground in the area of discharge shall be prevented by installation of non-erosive down drains or other devices.

J109.5 Disposal.

All drainage facilities shall be designed to convey waters to the nearest practicable street, storm drain, or natural watercourse or drainage way approved by the Building Official or other appropriate governmental agency provided that the discharge of such waters at that location will not create or increase a hazard to life or property. Erosion of the ground in the area of discharge shall be prevented by installation of non-erosive down drains or other devices. Desilting basins, filter barriers or other methods, as approved by the Building Official, shall be utilized to remove sediments from surface waters before such waters are allowed to enter streets, storm drains, or natural watercourses. If the drainage device discharges onto natural ground, riprap or a similar energy dissipator may be required.

Building pads shall have a minimum drainage gradient of 2 percent toward an approved drainage facility or a public street unless otherwise directed by the Building Official. A lesser slope may be approved by the Building Official for sites graded in relatively flat terrain, or where special drainage provisions are made, when the Building Official finds such modification will not result in a hazard to life or property.

SECTION J110 SLOPE PLANTING AND EROSION CONTROL

J110.1 General.

The faces of cut and fill slopes shall be prepared and maintained to control erosion. This control shall ~~be permitted to~~ consist of effective planting, erosion control blankets, soil stabilizers or other means as approved by the Building Official.

EXCEPTION: Erosion control measures need not be provided on cut slopes not subject to erosion due to the erosion-resistant character of the materials as approved by the Project Consultants, to the satisfaction of the Building Official. Erosion control for the slopes shall be installed as soon as practicable and prior to calling for final inspection.

J110.2 Other devices.

Where necessary, check dams, cribbing, riprap or other devices or methods shall be employed to control erosion and provide safety.

J110.3 Planting.

The surface of all cut slopes more than 5 feet (1524 mm) in height and fill slopes more than 3 feet (914 mm) in height shall be protected against damage from erosion by planting with grass or ground cover plants. Slopes exceeding 15 feet (4572 mm) in vertical height shall also be planted with shrubs, spaced at not to exceed 10 feet (3048 mm) on centers; or trees, spaced at not to exceed 20 feet (6096 m) on centers; or a combination of shrubs and trees at an equivalent spacing, in addition to the grass or ground cover plants. The plants selected and planting methods used shall be suitable for the soil and climatic conditions of the site.

Plant material shall be selected which will produce a coverage of permanent planting to effectively control erosion. Consideration shall be given to deep-rooted plant material needing limited watering, maintenance, high root to shoot ratio, wind susceptibility and fire-retardant characteristics. All plant materials must be approved by the Building Official.

Planting may be modified for the site if specific recommendations are provided by both the Geotechnical Engineer and a Landscape Architect. Specific recommendations must consider soils and climatic conditions, irrigation requirements, planting methods, fire retardant characteristics, water efficiency, maintenance needs, and other regulatory requirements. Recommendations must include a finding that the alternative planting will provide a permanent and effective method of erosion control. Modifications to planting must be approved by the Building Official prior to installation.

J110.4 Irrigation.

Slopes required to be planted by Section J 110.3 shall be provided with an approved system of irrigation that is designed to cover all portions of the slope. Irrigation system plans shall be submitted to and approved by the Building Official prior to installation. A functional test of the system may be required.

For slopes less than 20 feet (6.1 m) in vertical height, hose bibs to permit hand watering will be acceptable if such hose bibs are installed at conveniently accessible locations where a hose no longer than 50 feet (15.2 m) is necessary for irrigation.

Irrigation requirements may be modified for the site if specific recommendations are provided by both the Geotechnical Engineer and a Landscape Architect. Specific recommendations must consider soils and climatic conditions, plant types, planting methods, fire retardant characteristics, water efficiency, maintenance needs, and other regulatory requirements. Recommendations must include a finding that the alternative irrigation method will sustain the proposed planting and provide a permanent and effective method of erosion control. Modifications for irrigation systems must be approved by the Building Official prior to installation.

J110.5 Plans and specifications.

Planting and irrigation plans shall be submitted for slopes which are required to be planted and irrigated pursuant to Sections J110.3 and J110.4. Except as otherwise required by the Building Official for minor grading, the plans for slopes 20 feet (6.1 m) or more in vertical height shall be prepared and signed by a civil engineer or landscape architect. If requested by the Building Official, planting and irrigation details shall be included on the grading plan.

J110.6 Rodent control.

Fill slopes shall be protected from potential slope damage by a preventative program of rodent control.

J110.7 Release of security.

The planting and irrigation systems required by this section shall be installed as soon as practical after rough grading. Prior to final approval of grading and before the release of the grading security, the planting shall be well established and growing on the slopes and there shall be evidence of an effective rodent control program.

J110.8 National Pollutant Discharge Elimination System (NPDES) Compliance

J110.8.1 General.

All grading plans and permits and the owner of any property on which such grading is performed shall comply with the provisions of this section for NPDES compliance.

All best management practices shall be installed before grading begins or as instructed in writing by the Building Official for unpermitted grading as defined by Section J103.3. As grading progresses, all best management practices shall be updated as necessary

to prevent erosion and to control constructed related pollutants from discharging from the site. All best management practices shall be maintained in good working order to the satisfaction of the Building Official until final grading approval has been granted by the Building Official and all permanent drainage and erosion control systems, if required, are in place. Failure to comply with this Section is subject to "Noncompliance Penalties" pursuant to Section J110.8.5. Payment of a penalty shall not relieve any persons from fully complying with the requirements of this code in the execution of the work.

J110.8.2 Storm Water Pollution Prevention Plan (SWPPP).

The Building Official may require a SWPPP. The SWPPP shall contain details of best management practices, including desilting basins or other temporary drainage or control measures, or both, as may be necessary to control construction-related pollutants which originate from the site as a result of construction related activities. When the Building Official requires a SWPPP, no grading permit shall be issued until the SWPPP has been submitted to and approved by the Building Official.

For unpermitted grading as defined by Section J103.3 upon written request a SWPPP in compliance with the provisions of this Section and Section 106.4.3 for NPDES compliance shall be submitted to the Building Official. Failure to comply with this Section is subject to "Noncompliance Penalties" pursuant to Section J110.8.5. Payment of a penalty shall not relieve any persons from fully complying with the requirements of this code in the execution of the work.

J110.8.3 Erosion and Sediment Control Plans (ESCP).

Where a grading permit is issued and the Building Official determines that the grading will not be completed prior to November 1, the owner of the site on which the grading is being performed shall, on or before October 1, file or cause to be filed with the Building Official an ESCP. The ESCP shall include specific best management practices to minimize the transport of sediment and protect public and private property from the effects of erosion, flooding or the deposition of mud, debris or construction related pollutants. The best management practices shown on the ESCP shall be installed on or before October 15. The plans shall be revised annually or as required by the Building Official to reflect the current site conditions.

The ESCP shall be accompanied by an application for plan checking services and plan-checking fees in an amount determined by the Building Official, up to but not exceeding 10 percent of the original grading permit fee.

Failure to comply with this Section is subject to "Noncompliance Penalties" pursuant to Section J110.8.5. Payment of a penalty shall not relieve any persons from fully complying with the requirements of this code in the execution of the work.

J110.8.4 Storm Water Pollution Prevention Plan, Effect of Noncompliance.

Should the owner fail to submit the SWPPP or the ESCP as required by this Section J110.8 or fails to install the best management practices, it shall be deemed that a default has occurred under the conditions of the grading permit security. The Building Official may thereafter enter the property for the purpose of installing, by County forces or by other means, the drainage, erosion control and other devices shown on the approved plans, or if there are no approved plans, as the Building Official may deem necessary to protect adjoining property from the effects of erosion, flooding, or the deposition of mud, debris or constructed related pollutants.

The Building Official shall also have the authority to impose and collect the penalties imposed by Section J110.8.5. Payment of a penalty shall not relieve any persons from fully complying with the requirements of this code in the execution of the work.
The amount of the penalties shall be as follows:

J110.8.5 Noncompliance penalties.

1. If a SWPPP or an ESCP is not submitted as prescribed in Sections J110.8.2 and J110.8.3:

Grading Permit Volume	Penalty
1-10,000 cubic yards (1-7645.5 m^3)	$ 50.00 per day
10,001-100,000 cubic yards (7646.3-76455 m^3)	$250.00 per day
More than 100,000 cubic yards (76455 m^3)	$500.00 per day

2. If the best management practices for storm water pollution prevention and erosion and sediment control, as approved by the Building Official, are not installed as prescribed in this Section J110.8:

Grading Permit Volume	Penalty
1-10,000 cubic yards (1-7645.5 m^3)	$100.00 per day
10,001-100,000 cubic yards (7646.3-76455 m^3)	$250.00 per day
More than 100,000 cubic yards (76455 m^3)	$500.00 per day

NOTE: See Section 108 for inspection request requirements.

SECTION J111 REFERENCED STANDARDS

These regulations establish minimum standards and are not intended to prevent the use of alternate materials, methods or means of conforming to such standards,

provided such alternate has been approved.

The Building Official shall approve such an alternate provided he or she determines that the alternate is, for the purpose intended, at least the equivalent of that prescribed in this Code in quality, strength, effectiveness, durability and safety.

The Building Official shall require that sufficient evidence or proof be submitted to substantiate any claims regarding the alternate.

The standards listed below are recognized standards. Compliance with these recognized standards shall be prima facie evidence with the standard of duty set forth in Sections J104 and J107.

~~ASTM D 1557-e01 Test Method for Laboratory Compaction Characteristics of Soil Using Modified Effort [56,000 ft-lb/ft^3 (2,700kN-m/m^3)]. J107.6~~

ASTM D 1557 – 02e01	Test Method for Laboratory Compaction Characteristics of Soil Using Modified Effort	J107.5
ASTM D 1556 – Latest Revision	Density and Unit Weight of Soils In Place by the Sand Cone Method	J104.2.3, J104.3 and J107.9
ASTM D 2167 – Latest Revision	Density and Unit Weight of Soils In Place by the Rubber Balloon Method	J104.2.3 J104.3 and J107.9
ASTM D 2937 – Latest Revision	Density of Soils in Place by the Drive Cylinder Method	J104.2.3 J104.3 and J107.9
ASTM D 2922 – Latest Revision	Density of Soil and Soil Aggregate In Place by Nuclear Methods	J104.2.3 J104.3 and J107.9
ASTM D 3017 – Latest Revision	Water Content of Soil and Rock in Place by Nuclear Methods	J104.2.3, J104.3 and J107.9

SECTION XX. This ordinance shall become operative on January 1, 2014.