

BUILDING STANDARDS COMMISSION

2525 Natomas Park Drive, Suite 130
Sacramento, California 95833-2936
(916) 263-0916 FAX (916) 263-0959



February 7, 2014

Ron Takiguchi, P.E.
Building Official
City of Santa Monica
1685 Main Street
Santa Monica, CA 90407-2200

RE: Ordinance #2445

Dear Mr. Takiguchi:

This letter is to advise you of our determination regarding the referenced ordinance with express findings received from your agency on December 24, 2013.

Our review finds the submittal to contain one ordinance modifying provisions of the 2013 California Building Standards Code in Title 24, California Code of Regulations (code), and express findings complying with Health and Safety Code §§17958.7 and 18941.5. The code modification are accepted for filing and are enforceable. This letter attests only to the satisfaction of the cited law for filing of local code amendment supported by an express finding with the Commission. The Commission is not authorized by law to evaluate the merit of the code modification or the express finding.

Local modifications to the code are specific to a particular edition of the code. They must be readopted and filed with the Commission in order to remain in effect when the next triennial edition of the code is published.

On a related matter, should your city receive and ratify Fire Protection District ordinances making modifications to the code, be advised that Health and Safety Code §13869.7(c) requires such ratified ordinances and express findings to be filed with the Department of Housing and Community Development, Division of Codes and Standards, State Housing Law Program, rather than this Commission. Also, ordinances making modifications to the energy efficiency standards of the code may require approval from the California Energy Commission pursuant to Public Resources Code §25402.1(h)(2).

If you have any questions or need any further information, you may contact me at (916) 263-0916.

Sincerely,

A handwritten signature in black ink that reads "Enrique M. Rodriguez". The signature is written in a cursive style with a large initial "E" and "R".

Enrique M. Rodriguez
Associate Construction Analyst

cc: Chron
Local Filings



City of
Santa Monica®

Building and Safety
1685 Main Street
PO Box 2200
Santa Monica, California 90407-2200

2013 DEC 24 A 11:18
CITY OF SANTA MONICA
BUILDING STANDARDS COMMISSION

December 23, 2013

Jim McGowan, Executive Director
California Building Standards Commission
2525 Natomas Park Drive, Suite 130
Sacramento, CA 95833-2936

**CITY OF SANTA MONICA
ADOPTION OF THE 2013 CALIFORNIA BUILDING STANDARDS CODE
FILING OF LOCAL AMENDMENTS AND FINDINGS**

Dear Mr. McGowan:

Pursuant to California Health and Safety Code Section 17958.7 enclosed are the City of Santa Monica's ordinance and accompanying resolution adopting the 2013 California Building Standards Code, local Santa Monica amendments and findings. The established amendments are provided as more restrictive building standards and are found to be reasonably necessary because of local climatic, geographical, or topographical conditions, pursuant to California Health and Safety Code Section 18941.5.

The City Council of Santa Monica approved the adoption of the 2013 California Building Standards Codes, local amendments and findings by first reading on October 22, 2013 and by second reading on November 12, 2013. The City of Santa Monica's adoption included the following Parts from Title-24 of the California Code of Regulations:

- Title 24, Part 2: 2013 California Building Code
- Title 24, Part 2.5: 2013 California Residential Code
- Title 24, Part 3: 2013 California Electrical Code
- Title 24, Part 4: 2013 California Mechanical Code
- Title 24, Part 5: 2013 California Plumbing Code
- Title 24, Part 9: 2013 California Fire Code
- Title 24, Part 11: 2013 California Green Building Standards Code

At the time when the City Council considered adoption of the California Building Standards Code, the status of the certified software for the 2013 California Energy Code was not known and therefore amendments to Part 6 is not part of this filing and local Santa Monica energy-related amendments will be filed to coincide with the revised effective date of July 1, 2014.

All codes have been codified into the City of Santa Monica's Municipal Code with an effective date of January 1, 2014. The City's Municipal Code, containing the above adoption and local amendments, may be found on the City's website at <http://www.gcode.us/codes/santamonica>.

tel: 310 458-8355

**CITY OF SANTA MONICA
ADOPTION OF THE 2013 CALIFORNIA BUILDING STANDARDS CODE
FILING OF LOCAL AMENDMENTS AND FINDINGS
Page 2**

If you or your staff has any questions, please feel free to contact me.

Very Truly Yours,



Ron Takiguchi, P.E.
Building Official
City of Santa Monica

cc: Chris Lee, Assistant Building Official
Eric Binder, Acting Fire Marshall
Yibin Shen, Deputy City Attorney

ORDINANCE NUMBER 2445 (CCS)
(City Council Series)

AN ORDINANCE OF THE CITY COUNCIL OF THE CITY OF SANTA MONICA
AMENDING ARTICLE VIII OF THE SANTA MONICA MUNICIPAL CODE BY
ADOPTING THE CALIFORNIA BUILDING STANDARDS CODE
AND THE SANTA MONICA LOCAL AMENDMENTS
TO THE CALIFORNIA BUILDING STANDARDS CODE

WHEREAS, Health and Safety Code Section 18938 provides that the triennial edition of the California Building Standards Code establishes building standards for all occupancies throughout the State and requires that these standards incorporate the latest editions of the Technical Codes with necessary California amendments; and

WHEREAS, on July 1, 2013, the State Building Standards Commission approved and published the 2013 edition of the California Building Standards Code which incorporated the various editions of the Technical Codes by reference with necessary California amendments; and

WHEREAS, Health and Safety Code Sections 18938 and 17958 make the California Building Standards Code applicable to all cities and counties throughout California, including the City of Santa Monica, 180 days after publication by the State Building Standards Commission, which is January 1, 2014; and

WHEREAS, Health and Safety Code Section 18941.5 provides that the City may establish more restrictive building standards if they are reasonably necessary due to local climatic, geological or topographical conditions; and

WHEREAS, the City Council has considered the 2013 edition of the California Building Standards Code, which incorporates by reference the various editions of the

Technical Codes, and all of the referenced standards, tables, matrices and appendices of each of these codes therein; and

WHEREAS, based upon the findings contained in the Resolution adopted concurrently with this Ordinance, the City Council has found that certain modifications and additions to the California Building Standards Code are reasonably necessary based upon local climatic, geological and topographical conditions.

NOW, THEREFORE, THE CITY COUNCIL OF THE CITY OF SANTA MONICA DOES ORDAIN AS FOLLOWS:

SECTION 1. Section 8.04.010 of the Santa Monica Municipal Code is hereby amended to read as follows:

8.04.010 Criminal sanctions.

(a) No person shall erect, construct, enlarge, alter, repair, move, remove, improve, convert, demolish, occupy, equip, use or maintain any building or structure, mobile home or trailer, or fixture attached thereto, or commence or perform any grading, or import or export any earth materials to or from any site, in violation of any condition, provision or regulation contained in Article VIII of the Municipal Code.

Any person violating Article VIII of the Municipal Code shall be guilty of an infraction, which shall be punishable by a fine not exceeding two hundred fifty dollars, or a misdemeanor, which shall be punishable by a fine not exceeding one thousand dollars per violation, or by imprisonment in the County Jail for a period not exceeding six months, or by both such fine and imprisonment.

Any person convicted of violating any provision of this Article shall be ordered to reimburse the City its full investigative costs.

(b) Continuing Prosecution. Amendments to this Article VIII shall not in any manner affect the prosecution for violations thereof, which violations were committed prior to the effective date of the ordinance adopting the amendment to this Article VIII and shall not affect any prosecution or action which may be pending in any court for the violation of any of the provisions thereof. As to any such violation or as to any such prosecution or pending prosecution or action, the provisions of this Article VIII in effect prior to the adoption of the ordinance adopting the amendment shall be deemed to continue and be in full force and effect.

(c) Restatements of Existing Law. The provisions of this Article VIII, insofar as they are substantially the same as the provisions in effect prior to the adoption of the ordinance adopting any amendment of this Article VIII, shall be construed as restatements and continuations and not as new enactments.

(d) Creation and Enforcement of Local Laws. The provisions of Article VIII are adopted pursuant to Article XI, Sections 5 and 7 of the California Constitution, in addition to the authority contained in the Health and Safety Code, and are adopted to protect the public health, safety and welfare of the City.

(e) Legislative Intent. The preamble to the ordinance adopting the Chapters in Article VIII, and the Resolution adopted by the City Council concurrently therewith, should be consulted for further findings, background and legislative history.

SECTION 2. Section 8.08.020 of the Santa Monica Municipal Code is hereby amended to read as follows:

8.08.020 Definitions.

For the purpose of this Chapter, certain terms, phrases, words and their derivatives shall be construed as specified in this Section. Where terms are not defined, they shall have their ordinarily accepted meanings within the context with which they are used.

Addition is an extension or increase in floor area or height of a building or structure.

Alter or Alteration is a change or modification in construction or building service equipment.

Approved, as to materials, types of construction, equipment and systems, refers to approval by the Building Officer as the result of investigation and tests conducted by the Building Officer, or by reason of accepted principles or tests by recognized authorities, technical or scientific organizations.

Approved Agency is an established and recognized agency regularly engaged in conducting tests or furnishing inspection services, when the agency has been approved by the Building Officer.

Building is a structure used or intended for supporting or sheltering a use or occupancy.

Building Code is the Building Code of the City of Santa Monica.

Building, Existing is a building for which a legal building permit has been issued.

Building Officer is the Building Officer of the City of Santa Monica appointed pursuant to Article VII of the City Charter, or his or her regularly authorized deputy.

Building Service Equipment is the plumbing, mechanical, electrical, elevator equipment or other services that are essential to the occupancy of a building or structure for its designated use.

Code and this Code is the Santa Monica Municipal Code, unless otherwise noted.

Electrical Code is the Electrical Code of the City of Santa Monica.

Energy Code is the Energy Code of the City of Santa Monica.

Green Building Code is the Green Building Standards Code of the City of Santa Monica.

Jurisdiction, as used in this Code, is the City of Santa Monica.

Listed and Listing are terms referring to equipment and materials included in a list published by an approved testing laboratory, inspection agency, or other organization concerned with product evaluation that maintains periodic inspection of current productions of listed equipment or materials. The published list shall state that the material or equipment complies with approved nationally recognized codes, standards or tests and has been tested or evaluated and found suitable for use in a specified manner.

Mechanical Code is the Mechanical Code of the City of Santa Monica.

Occupancy is the purpose for which a building, or part thereof, is used or intended to be used.

Owner is any person, agent, firm or corporation having a legal or equitable interest in the property.

Permit is an official document or certificate issued by the Building Officer authorizing performance of a specified activity.

Person is a natural person, heirs, executors, administrators or assigns, and also includes a firm, partnership or corporation, its or their successors or assigns, or the agent of any of the aforesaid.

Plumbing Code is the Plumbing Code of the City of Santa Monica.

Repair is the reconstruction or renewal of any part of an existing building, structure or building service equipment for the purpose of its maintenance.

Residential Code is the Residential Code of the City of Santa Monica.

Shall, as used in this Code, is mandatory.

Structural Observation means the visual observation of the structural system, for general conformance to the approved plans and specifications, at significant construction stages and at completion of the structural system.

Structure is that which is built or constructed, an edifice or building of any kind, or any piece of work artificially built up or composed of parts joined together in some definite manner.

Technical Codes refer to those codes adopted by this jurisdiction containing the provisions for design, construction, alteration, addition, repair, removal, demolition, use, location, occupancy and maintenance of buildings and structures and building service equipment as herein defined.

Valuation is the estimated fair market value of the cost of all construction work for which the permit is issued as determined by the Building Officer. To determine the valuation, the Building Officer may use the most current building valuation table published by the International Code Council, the mean of three responsible bids from properly licensed contractors or any other commonly accepted method to estimate construction costs.

SECTION 3. Section 8.08.030 of the Santa Monica Municipal Code is hereby amended to read as follows:

8.08.030 Powers and duties of the Building Officer.

(a) **General.** The Building Officer is hereby authorized and directed to enforce all the provisions of Article VIII of this Code and the referenced Technical Codes. For such purposes, the Building Officer and authorized deputies shall have the powers of a law enforcement officer.

The Building Officer shall have charge of the supervision and inspection of the construction of all buildings and structures within the City and shall have power and be required to:

(1) Examine building plans in order to determine conformity with State laws and ordinances and issue building permits in connection therewith; and

(2) Enforce the laws and ordinances regulating the construction and maintenance of buildings and other structures.

(b) **Mobile Home Parks.** The Building Officer is hereby authorized and directed to enforce the provisions of the Mobile Home Parks Act, Division 2.1, Part 13 of the Health and Safety Code and Title 25 California Code of Regulations and shall have authority to promulgate and/or adopt administrative regulations governing the appeal of orders, decisions and determinations of the Building Officer for matters related to such enforcement.

(c) **Deputies.** The Building Officer may appoint such number of technical officers and inspectors and other employees as shall be authorized from time to time.

The Building Officer may deputize such inspectors or employees as may be necessary to carry out the functions of this Chapter. In post disaster events, the Building Officer may deputize private citizens who are qualified to provide damage assessment of buildings and structures on behalf of the City.

(d) **Rules and Interpretations.** The Building Officer shall have the power to render interpretations, and to adopt and enforce supplemental rules and regulations as may be deemed necessary to clarify the application of the provisions of this Chapter and the referenced Technical Codes. Such interpretations, rules and regulations shall be in conformity with the intent and purpose of this Chapter and the referenced Technical Codes.

(e) **Right of Entry.** When necessary to make an inspection to enforce any of the provisions of this Chapter and the Technical Codes, or when the Building Officer has reasonable cause to believe that there exists in any building or upon a premises a condition which is contrary to or in violation of this Code, which makes the building or premises unsafe, dangerous or hazardous, the Building Officer may enter the building or premises at all reasonable times to inspect or to perform the duties imposed by this Code. The Building Officer shall have recourse to all remedies provided by law to secure entry.

(f) **Orders to Stop Construction Work.** When work is being done contrary to any permit, to the provisions of the Technical Codes or ordinance implemented through the enforcement of this Code, or other pertinent Federal, State or local ordinances and regulations, the Building Officer, or any subordinate authorized to act on behalf of the Building Officer, may order the work stopped by notice in writing on

persons engaged in the doing or causing such work to be done. Any person in receipt of such notice shall immediately comply with the stop work order.

(g) Suspension or Revocation of Permits or Certificate of Occupancy.

The Building Officer may, in writing, suspend or revoke a permit or Certificate of Occupancy issued under the provisions of this Chapter whenever the permit or Certificate of Occupancy has been issued in error, on the basis of incorrect information supplied, without the payment of the required fees, or in violation of any Federal, State or local ordinances or regulations.

Local ordinances and regulations include but shall not be limited to:

(1) Any provision of the approved plans, Technical Codes or any other provision of the City's Municipal Code, which is applicable to the work, including but not limited to exterior noise standards and permitted hours of operation pursuant to Sections 4.12.130 and 4.12.140 of the Municipal Code;

(2) Any condition of City permit approval, including but not limited to, planning and zoning requirements, required construction mitigation measures for occupied buildings and adjacent properties and tenant protection during construction;

(3) Safety standards for onsite use or occupancy, adjacent properties or the public way, as determined by the Building Officer;

(4) Any administrative citations and compliance orders including the payment of any fines or penalties;

(5) Any air or water quality standards, including but not limited to asbestos contamination;

(6) Any required license, security or insurance related to the work.

(h) **Discontinue Use.** When a building or structure or building service equipment therein regulated by this Code and the Technical Codes is being used contrary to the provisions of such codes, the Building Officer may order such use discontinued by written notice served on any person causing such use to be continued. Such person shall discontinue the use within the time prescribed by the Building Officer after receipt of such notice to make the structure, or portion thereof, comply with the requirements of such codes.

(i) **Authority to Disconnect Utilities.** The Building Officer or the Building Officer's authorized representative shall have the authority to disconnect a utility service or energy supplied to the building, structure or building service equipment therein regulated by this Code or the Technical Codes in case of emergency where necessary to eliminate an immediate hazard to life or property.

The Building Officer shall whenever possible notify the serving utility, the owner and occupant of the building, structure or building service equipment of the decision to disconnect prior to taking such action, and shall notify such serving utility, owner and occupant of the building, structure or building service equipment, in writing, of such disconnection immediately thereafter.

(j) **Authority to Condemn Building Service Equipment.** When the Building Officer ascertains that building service equipment regulated in the Technical Codes has become hazardous to life, health or property, or has become unsanitary; the Building Officer shall order in writing that such equipment either be removed or restored to a safe or sanitary condition, as appropriate. The written notice itself shall fix a time limit for compliance with such order. Defective building service equipment shall not be maintained after receiving such notice.

When such equipment or installation is to be disconnected, the Building Officer shall give a written notice of such disconnection and causes therefor to the serving utility within twenty-four hours, the owner and occupant of such building structure or premises.

When any building service equipment is maintained in violation of the Technical Codes and in violation of a notice issued pursuant to the provisions of this Section, the Building Officer shall institute appropriate action to prevent, restrain, correct or abate the violation.

(k) **Approval of Alternate Materials, Methods of Design and Methods of Construction.** The Building Officer may approve an alternate material, method of design or method of construction not specifically prescribed by the Technical Codes, provided the Building Officer finds that the proposed design is satisfactory and complies with the provisions of the Technical Codes and that the material, method or work offered is, for the purpose intended, at least the equivalent of that prescribed in the Technical Codes in suitability, strength, effectiveness, fire resistance, durability, safety and sanitation. The Building Officer shall require that sufficient evidence or proof be submitted to substantiate claims that may be made regarding its use.

(l) **Requiring of Tests.** Whenever there is insufficient evidence of compliance with the provisions of the Technical Codes or evidence that materials or construction do not conform to the requirements of the Technical Codes, the Building Officer may require tests as evidence of compliance to be made at no expense to the jurisdiction.

Test methods shall be as specified by the Technical Codes or by other recognized test standards. In the absence of recognized and accepted test methods,

the Building Officer shall determine test procedures. Tests shall be made by an approved agency. The Building Officer shall retain reports of such tests for the period required for the retention of public records.

(m) **Maintaining Records.** The Building Officer shall maintain sufficient records to show the approved use, occupancy and type of construction for all structures requiring permits and the applicable code standards applicable to any existing building. Such records shall include any special administrative approvals including alternate materials, methods of design and construction, modifications and tests.

The Building Officer shall also maintain an official copy of the plans of every building issued a building permit during the life of the building except for:

- (1) Single-family dwelling not more than two stories and basement in height and their accessory structures;
- (2) Any one-story building where the span between bearing walls does not exceed twenty-five feet except for steel frame or concrete buildings;
- (3) Any building containing a bank, other financial institution, or public utility.

These exceptions shall not apply to a community apartment project, condominium project, planned development, or a stock cooperative as defined in Section 1351 of the Civil Code.

(n) **Cooperation of Other Officials and Officers.** The Building Officer may request, and shall receive, the assistance and cooperation of other officials of this jurisdiction so far as is required in the discharge of the duties required by this Code or other pertinent laws or ordinances.

(o) **Liability.** The Building Officer charged with the enforcement of this Code and the Technical Codes, acting in good faith and without malice in the discharge of

duties, shall not thereby be rendered personally liable for damage that may accrue to persons or property as a result of an act or omission in the discharge of the assigned duties. A suit brought against the Building Officer or employee because of such act or omission performed by the Building Officer or employee in the enforcement of the provisions of such codes or other pertinent laws or ordinances implemented through the enforcement of this Code or enforced by the code enforcement agency shall be defended by this jurisdiction until final termination of such proceedings, and any judgment resulting therefrom, shall be assumed by this jurisdiction.

This Section shall not be construed to relieve from or lessen the responsibility of any person owning, operating or controlling a building, structure or building service equipment therein for damages to persons or property caused by defects, nor shall the code enforcement agency or its parent jurisdiction be held as assuming such liability by reason of the inspections authorized by this Code or permits or certificates issued under this Code.

SECTION 4. Section 8.08.040 of the Santa Monica Municipal Code is hereby amended to read as follows:

8.08.040 Board of Appeal.

(a) **General.** Pursuant to this Chapter, Section 1002 of the Santa Monica City Charter, the California Building Code and the California Fire Code, the Building and Fire Life Safety Commission is hereby created as the Board of Appeal.

Members of the Commission shall be appointed by the City Council to serve a term of four years unless removed for cause. No Commission member shall hold any paid office with the City.

The Commission shall adopt reasonable rules and regulations for conducting investigations and business and shall render all decisions and findings in writing to the responsible official and appellants. Said Commission may also recommend to the appointing authority such new legislation as is consistent therewith.

The Building Officer and/or Fire Marshal or their designee shall be an ex-officio member of the Commission and shall act as secretary.

(b) **Membership.** The Building and Fire Life Safety Commission shall be composed of seven members. To the extent practicable as determined by the City Council, the Commission's membership shall be composed as follows: at least one State of California licensed or registered architect, civil engineer or structural engineer; one State of California licensed building contractor; one State of California Certified Access Specialist; and one State of California Registered Fire Protection Engineer.

(c) **Jurisdiction.** The jurisdiction of this Commission shall be limited to hearing appeals of determinations, decisions and orders, including stop work, suspension or revocation orders, issued by the Building Officer or the Fire Marshal relative to the application and interpretations of the Technical Codes.

Notwithstanding Section 1.10.050 of this Code, the Commission shall also have jurisdiction to act as the Hearing Examiner under Section 1.10.050 and preside over the hearing of any compliance order case that predominately involves a public nuisance created as a result of a violation of this Article. The Commission may adopt rules to facilitate the processing of such cases. If a case is rejected on jurisdictional grounds by

the Commission, then a Hearing Examiner shall be appointed pursuant to Section 1.10.050 of this Code.

Unless otherwise specified above, the Commission shall have no jurisdiction over any matter reserved for any other board or commission established by City Charter or this Code, any citations or orders issued pursuant to Chapter 1.09 or 1.10 of this Code, or any abatement proceedings initiated under Chapter 8.84, 8.88, 8.92 or 8.96 of Article VIII of this Code or their successors.

(d) Timing of Appeals of Stop Work, Suspension or Revocation Orders.

Any appeal of a stop work, suspension or revocation order issued by the Building Officer or the Fire Marshal shall be filed with the Building Officer within three (3) business days after the issuance of the order. Enforcement of the suspension or revocation order is stayed pending resolution of the administrative appeal unless immediate enforcement of the order is mandated because:

(1) Continuation of the work presents an actual or potential danger to construction workers, occupants of adjacent structures, adjacent public infrastructure, or members of the public,

(2) Continuation of the work would be in violation of Santa Monica Building Code Section 108.1 or 108.4,

(3) Continuation of the work would constitute a nuisance, or

(4) No permit has been issued for the work.

When any of these factors are present, any person ordered to stop work shall comply with such order forthwith. If the suspension or revocation order is stayed pending appeal, any materials installed or constructed after issuance of the order may

be required to be removed should the Building Officer or Building and Fire Life Safety Commission affirm the order.

(e) **Timing of Other Appeals.** Unless otherwise specified by this Code, any appeal to the Building and Fire Life Safety Commission shall be filed within ten (10) business days after the issuance of the underlying decision by the Building Officer or the Fire Marshal.

(f) **Judicial Review.** Any person aggrieved by any decision of the Building and Fire Life Safety Commission may seek judicial review of the decision.

SECTION 5. Section 8.08.050 of the Santa Monica Municipal Code is hereby amended to read as follows:

8.08.050 Permits required.

(a) **General.** No person shall erect, construct, enlarge, alter, repair, move, improve, remove, convert or demolish any building, structure or building service equipment regulated by this Chapter and the Technical Codes without first obtaining an appropriate permit for each building, structure or building service equipment from the Building Officer except as specified in this Section.

No person shall do any exterior sandblasting within the City without first obtaining an appropriate permit for each separate work location or contractor.

No person shall perform any excavation or grading work without first obtaining an appropriate permit from the Building Officer except as specified in this Section.

No person shall erect any temporary structures within the City without first obtaining an appropriate permit from the Building Officer except as specified in this Section.

Exemption from the permit requirements of this Chapter shall not be deemed to grant authorization for any work to be done in violation of the provisions of the Technical Codes or any other laws or ordinances.

(b) **Temporary Structures.** Temporary structures such as reviewing stands, platforms, displays and other miscellaneous structures, sheds, canopies or fences used for the protection of the public around and in conjunction with construction work may be erected by special permit from the Building Officer for a limited period of time. Buildings or structures erected under a special permit need not comply with the type of construction or fire-resistive time periods required by the Building Code. Temporary buildings or structures shall be completely removed upon the expiration of the time limit stated in the permit.

(c) **Work Exempt from Building Permit.** A building permit shall not be required for the following:

(1) One-story detached accessory buildings not more than fourteen feet in height when used as tool and storage sheds, playhouses and similar uses, provided the floor area does not exceed one hundred twenty square feet, the structure does not contain electrical, mechanical or plumbing work and the structure conforms to the applicable zoning regulations of Chapter 9.04 of the Municipal Code.

(2) Exterior freestanding walls and fences not over six feet high.

(3) Oil derricks.

- (4) Movable cases, counters and partitions not over five feet nine inches high.
- (5) Retaining walls that are not over four feet in height measured from the bottom of the footing to the top of the wall, unless supporting a surcharge or impounding flammable liquids.
- (6) Water tanks supported directly upon grade if the capacity does not exceed five thousand gallons and the ratio of height to diameter or width does not exceed 2:1.
- (7) Platforms, walks and driveways not more than thirty inches above grade and not over or surcharging any basement or story below.
- (8) Painting, papering and similar finish work, including color or texture coating of exterior plaster.
- (9) Flooring when installed on a concrete floor slab or when weighing not more than four pounds per square foot or replacing the same weight per square foot.
- (10) Temporary motion picture, television and theater stage sets and scenery.
- (11) Window awnings supported by an exterior wall when projecting not more than fifty-four inches for one and two family dwellings and their accessory structures.
- (12) Prefabricated swimming pools accessory to one and two family dwellings in which the pool walls are entirely above the adjacent grade and the capacity does not exceed five thousand gallons.

(d) **Work Exempt from a Grading Permit.** A grading permit is not required for the following:

- (1) Any grading work authorized by a valid combination-building permit.

(2) An excavation below finished grade for basements and footings of a building, retaining wall or other structure authorized by a valid building permit.

(3) Cemetery graves.

(4) Refuse disposal sites controlled by other regulations.

(5) Excavations for wells or tunnels or utilities.

(6) Mining, quarrying, excavating, processing or stockpiling of rock, sand, gravel, aggregate or clay where established and provided for by law, provided such operations do not affect the lateral support or increase the stresses in or pressure upon any adjacent or contiguous property.

(7) Exploratory excavations under the direction of geotechnical engineers or engineering geologists.

(8) An excavation that is less than two feet in depth or does not create a cut slope greater than five feet in height and steeper than one unit vertical in one and one-half units horizontal (sixty-six and seven-tenths percent slope).

(9) A fill less than one foot in depth and placed on natural terrain with a slope flatter than one unit vertical in five units horizontal (twenty percent slope), or less than three feet in depth, not intended to support structures, that does not exceed fifty cubic yards on any one lot and does not obstruct a drainage course.

(e) **Work Exempt from Plumbing Permit.** A plumbing permit shall not be required for the following:

(1) Any plumbing work authorized by a valid combination-building permit.

(2) The stopping of leaks in drains, soil, waste or vent pipe, provided, however, that should any concealed trap, drain pipe, soil, waste or vent pipe become defective and it becomes necessary to remove and replace the same

with new material, the same shall be considered as new work and a permit shall be procured and inspection made as provided in this Code.

(3) The clearing of stoppages or the repairing of leaks in pipes, valves or fixtures, nor for the removal and reinstallation of water closets, provided such repairs do not involve or require the replacement or rearrangement of valves, pipes or fixtures.

(f) **Work Exempt from Electrical Permit.** An electrical permit shall not be required for the following:

(1) Any electrical work authorized by a valid combination-building permit.

(2) Portable motors or other portable appliances energized by means of a cord or cable having an attachment plug end to be connected to an approved receptacle when the Electrical Code permits that cord or cable.

(3) Repair of fixed motors, transformers or fixed approved appliances of the same type and rating in the same location.

(4) Temporary decorative lighting.

(5) Repair or replacement of current-carrying parts of any switch, contactor or control device.

(6) Reinstallation of attachment plug receptacles, but not the outlets therefor.

(7) Replacement of an over-current device where the device is installed in the same location and is of the same manufacturer, same voltage, same ampere rating, same characteristics, and has an interrupting capacity meeting conditions at the time of replacement.

(8) Repair or replacement of electrodes or transformers of the same size and capacity for signs or gas tube systems.

- (9) Taping joints.
- (10) Removal of electrical wiring.
- (11) Temporary wiring for experimental purposes in suitable experimental laboratories.
- (12) The wiring for temporary theater, motion picture or television stage sets.
- (13) Electrical wiring, devices, appliances, apparatus or equipment operating at less than twenty-five volts and not capable of supplying more than fifty watts of energy.
- (14) Low-energy power, control and signal circuits of Class II and Class III as defined in the Electrical Code.
- (15) Installation, alteration or repair of electrical wiring, apparatus or equipment or the generation, transmission, distribution or metering of electrical energy or in the operation of signals or the transmission of intelligence by a public or private utility in the exercise of its function as a serving utility.

(g) **Work Exempt from Mechanical Permit.** A mechanical permit shall not be required for the following:

- (1) Any mechanical work authorized by a valid combination-building permit.
- (2) Portable heating appliance, ventilating equipment, cooling unit or evaporative cooler.
- (3) Closed system of steam, hot or chilled water piping within heating or cooling equipment regulated by the Mechanical Code.
- (4) Replacement of any component part of assembly of an appliance that does not alter its original approval and complies with other applicable requirements of the technical codes.

(5) Refrigerating equipment that is part of the equipment for which a permit has been issued pursuant to the requirements of the technical codes.

(6) A unit refrigerating system as defined in the Mechanical Code.

SECTION 6. Section 8.08.060 of the Santa Monica Municipal Code is hereby amended to read as follows:

8.08.060 Permit application.

(a) **Application.** To obtain a permit, the applicant shall first file an application in writing on a form furnished by the Building Officer for that purpose. Every such application shall identify and describe the work to be covered by the permit for which each application is made, the responsible party for the work and such other information that the Building Officer may require to show conformance to applicable laws and regulations. When an architect or engineer prepares or is required to prepare submittal documents, the application shall designate the architect and/or engineer of record.

(b) **Submittal Documents.** When required by the Building Officer, plans, specifications, engineering calculations, diagrams, soil investigation reports, sound tests, material tests, special inspection and structural observation programs and other data shall be submitted with each application for a permit. When an architect or engineer does not prepare such plans, the Building Officer may require the applicant submitting such plans or other data to demonstrate that State law does not require that a licensed architect or engineer prepare the plans before accepting submittal documents or permit application.

Deferral of any submittal items shall require prior approval of the Building Officer. If the Building Officer approves the deferral of submittals to a time after permit issuance, the approved plans shall list the deferred submittals. The deferred submittal items shall not be installed until the Building Officer has approved their design and submittal documents.

(c) **Investigation.** Whenever work for which a permit is required by this Chapter has been commenced without first obtaining a permit, a special investigation shall be made before a permit may be issued for such work when so ordered by the Building Officer.

(d) **Information on Plans and Specifications.** Plans and specifications shall be drawn to scale and shall be of sufficient clarity to indicate the location, nature and extent of the work proposed and show in detail that it will conform to the provisions of all relevant laws, ordinances, rules and regulations. Plans for buildings of other than one- and two-family dwellings and their accessory structures shall also indicate how required structural and fire-resistive integrity will be maintained where penetrations will be made for electrical, mechanical, plumbing and communication conduits, pipes and similar systems.

(e) **Special Inspection and Structural Observation Program.** When the Building Code requires special inspection and/or structural observation, the architect or engineer of record shall prepare an inspection program which shall be submitted to the Building Officer for approval prior to issuance of the building permit. The inspection program shall designate the portions of the work to have special inspection, the name or names of the individuals or firms who are to perform the special inspections and

indicate the duties of the special inspectors, including any required nondestructive testing.

The Building Officer, or when approved by the Building Officer, the owner, the engineer or architect of record, or an agent of the owner, but not the contractor or any other person responsible for the work, shall employ the special inspector. When structural observation is required, the inspection program shall name the individuals or firms who are to perform structural observation and describe the stages of construction at which structural observation is to occur. The inspection program shall include samples of inspection reports and provide time limits for submission of reports.

(f) **Preconstruction Meetings.** The Building Officer may require the permit holder to participate in a preconstruction conference prior to the completion of plan review and permit issuance to review the plans and specifications for adequacy and sufficiency of details and conformance to building standards and interpretations.

(g) **Change of Architect or Engineer of Record.** If the circumstances require, the owner may designate a substitute architect or engineer of record who shall perform all the duties required of the original architect or engineer of record. In such cases, the owner shall notify the Building Officer in writing if the architect or engineer of record is changed or is unable to continue to perform the duties. The architect or engineer of record shall be responsible for reviewing and coordinating all submittal documents prepared by others, including deferred submittal items, for compatibility with the design of the building.

(h) **Expiration of Application for Permit.**

(1) A permit application shall expire if no permit is issued within one year after the date the permit application is filed, except as provided below.

(A) An application for a demolition permit for the demolition of residential buildings and structures, which are subject to the replacement project requirements of Section 9.04.10.16.010, shall expire if no permit is issued within two years following the date the application is filed.

(B) An application for a permit for a project subject to the construction rate program of Section 9.04.10.02.450 shall not expire while that project remains on the waiting list for a building permit.

(2) No action may be taken on an application after expiration. Plans and other data submitted for review may thereafter be returned to the applicant or purged by the Building Officer. To obtain a permit, applicants shall submit a new application, new submittal documents and pay a new plan review fee. All applicable standards in effect at the time of the new application shall then apply to the project.

(i) **Extensions.** The Building Officer may grant one six-month extension of the one-year plan check time period set forth in subsection (h)(1) above, if the applicant demonstrates that:

(1) No changes have been made or will be made to the original plans and specifications except as required by the original plan review; and

(2) No pertinent laws or ordinances have been amended subsequent to the date the original application was filed which would cause the development project at issue to be inconsistent with such amended provisions; and

(3) Any approvals granted under Article IX of the Municipal Code are still valid and have not expired; and

(4) Circumstances beyond the control of the applicant have prevented the permit from being issued in the authorized time period.

SECTION 7. Section 8.08.075 of the Santa Monica Municipal Code is hereby repealed.

SECTION 8. Section 8.08.090 of the Santa Monica Municipal Code is hereby amended to read as follows:

8.08.090 Standard inspections.

(a) **General.** Construction or work for which a permit is required shall be subject to inspection by the Building Officer and the construction or work shall remain accessible and exposed for inspection purposes until approved by the Building Officer. It shall be the duty of the permit holder to cause the work to remain accessible and exposed for inspection purposes. Neither the Building Officer nor this jurisdiction shall be liable for expense entailed in the removal or replacement of any material required to allow inspection.

(b) **Survey.** The Building Officer may require a survey of the lot to verify that the structure is located in accordance with the approved plans.

(c) **Inspection Record Card.** Work requiring a permit shall not be commenced until the permit holder or the agent of the permit holder shall have posted or otherwise made available an inspection record card such as to allow the Building Officer conveniently to make the required entries thereon regarding inspection of the work. The permit holder shall maintain this card available until the Building Officer has granted final approval.

(d) **Maintenance of Approved Plans.** Approved plans and specifications shall not be changed, modified or altered without authorizations from the Building Officer, and all work regulated by this Code shall be done in accordance with the approved plans, which shall be kept on the site of the building or work at all times during which the work authorized thereby is in progress.

(e) **Inspection Requests.** It shall be the duty of the person doing the work authorized by a permit to notify the Building Officer that such work is ready for inspection. The Building Officer may require that every request for inspection be filed at least one working day before such inspection is desired. Such request may be in writing or by telephone at the option of the Building Officer. It shall be the duty of the person requesting any inspections required either by this Code or the Technical Codes to provide access to and means for inspection of the work.

(f) **Approval Required.** Work shall not be done beyond the point indicated in each successive inspection without first obtaining the approval of the Building Officer. The Building Officer, upon notification, shall make the requested inspections and shall either indicate that that portion of the construction is satisfactory as completed or shall notify the permit holder or an agent of the permit holder wherein the same fails to comply with this Code. Any portions that do not comply shall be corrected and such portion shall not be covered or concealed until authorized by the Building Officer.

There shall be a final inspection and approval of all buildings and structures when completed and ready for occupancy and use prior to such occupancy or use.

(g) **Required Building Inspections.** No work shall be covered or concealed without first obtaining the approval of the Building Officer. The Building Officer may

make or require other inspections of construction work to ascertain compliance with the provisions of this Code or technical codes and other laws applicable to the work.

SECTION 9. Section 8.08.100 of the Santa Monica Municipal Code is hereby repealed.

SECTION 10. Section 8.08.160 of the Santa Monica Municipal Code is hereby amended to read as follows:

8.08.160 Connection to utilities.

(a) **Utility and Energy Connections.** Persons shall not make connections from a utility or other source of electrical power; natural gas; potable, reclaimed or gray water; or solar energy, to building service equipment, which is regulated by the Technical Codes and for which a permit is required by this Code, until approved by the Building Officer.

(b) **Temporary Connections.** The Building Officer may authorize the temporary connection of the building service equipment to a source of: electrical power; natural gas; potable, reclaimed or gray water; or solar energy for the purpose of testing building service equipment, or for use under a Temporary Certificate of Occupancy.

(c) **Connection after Order to Disconnect.** Persons shall not make connections from a source of: electrical power; natural gas; potable, reclaimed or gray water; or solar energy, nor supply energy or fuel to building service equipment which has been disconnected or ordered to be disconnected by the Building Officer or the use of which has been ordered to be discontinued by the Building Officer until the Building Officer authorizes the reconnection and use of such equipment.

SECTION 11. Chapter 8.12 of the Santa Monica Municipal Code is hereby amended to read as follows:

8.12.010 Adoption.

That certain document entitled "California Building Code, 2013 Edition," which adopts by reference the International Building Code, 2012 Edition, as published by the California Building Standards Commission and the International Code Council including "Seismic Hazard Maps," as published by the United States Geological Survey (excluding Chapter 1 Division II, and Chapters 7A, 16A, 17A, 18A, 19A, 21A, 22A, 34A), including Chapter 1, Division I, and Appendix J are hereby adopted with the local amendments and provisions of this Chapter, and with Chapters 8.20 and 8.48 through 8.80 of the Santa Monica Municipal Code, as the Building Code of the City of Santa Monica.

8.12.020 Local amendments to the California Building Code.

Notwithstanding any provisions of the California Building Code, California Building Standards Code, State Housing Law or other codes adopted by any Chapter in Article VIII of the Municipal Code to the contrary, the following local amendments shall apply.

8.12.040 Essential facilities.

The following facilities are designated as essential facilities, which are necessary for emergency operations subsequent to a natural or man-made disaster: police

stations, fire stations and City Hall. Such facilities shall be categorized as Risk Category IV as defined in Chapter 16 of the California Building Code.

8.12.050 Supplemental land hazard zone requirements.

In addition to those areas recognized under the State Seismic Hazards Mapping Act, certain portions of the City are hereby established as Seismic Hazard Zones and Geologic Hazard Zones. Said zones shall be known as outlined, illustrated and designated in the Safety Element of the General Plan on the Districting Maps. Said maps together with all legends, indices and explanatory notes thereon are hereby made a part of these codes. It is further provided that adjustments and changes may be made hereafter in the boundaries of said zones by the Building Officer to implement the Safety Element of the General Plan as additional geologic or subgrade data is made public.

For the purposes of these codes, all construction within the scope of these codes that is within a Land Hazard Zone shall be subject to special design requirements, which are necessary to effect the stated purpose of these codes. Special design requirements shall conform to the guidelines of the California Department of Conservation, Division of Mines and Geology.

8.12.070 Fire retardant roofing.

All roofs shall be Class A or B roofing assemblies in accordance with the Building Code. The use of non-fire-retardant wood shingles or non-fire-retardant shakes for new or replacement roofing is prohibited.

8.12.080 General structural design provisions.

(a) **Rooftop coverings.** Section 1507.3.1 of the California Building Code is amended to read as follows:

1507.3.1 Deck requirements. Concrete and clay tile shall be installed only over solid structural sheathing boards.

(b) **Vertical Combination of Lateral Force Resisting Systems.** 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.

(c) **Subdiaphragm design.** 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% of the maximum diaphragm shear.

(d) **Suspended Ceilings.** Add Section 1613.10 to Chapter 16 of the California Building Code to read as follows:

1613.10 Suspended Ceilings. Minimum design and installation standards for suspended ceilings shall be determined in accordance with the requirements of Section 2506.2.1 of this Code and this subsection.

1613.10.1 Scope. This part contains special requirements for suspended ceilings and lighting systems. Provisions of Section 13.5.6 of ASCE 7 shall apply except as modified herein.

1613.10.2 General. The suspended ceilings and lighting systems shall be limited to 6 feet (1828 mm) below the structural deck unless the lateral bracing is designed by a licensed engineer or architect.

1613.10.3 Design and Installation Requirements.

1613.10.3.1 Bracing at Discontinuity. Bracing to the structure shall be provided at changes in the ceiling plane elevation or at discontinuities in the ceiling grid system.

1613.10.3.2 Support for Appendages. Cable trays, electrical conduits and piping shall be independently supported and independently braced from the structure.

1613.10.4 Sprinkler Heads. All sprinkler heads (drops) except fire-resistance-rated floor/ceiling or roof/ceiling assemblies, shall be designed to allow for free movement of the sprinkler pipes with oversize rings, sleeves or adaptors through the ceiling tile. Sprinkler heads and other penetration shall have a 2-inch (50 mm) oversize ring, sleeve, or adapter through the ceiling tile to allow for free movement of at least 1-inch (25 mm) in all horizontal directions. Alternatively, a swing joint that can accommodate 1-inch (25 mm) of ceiling movement in all horizontal directions is permitted to be provided at the top of the sprinkler head extension.

Sprinkler heads penetrating fire-resistance-rated floor/ceiling or roof/ceiling assemblies shall comply with Section 714 of this Code.

1613.10.5 Special Requirements for Means of Egress. Suspended ceiling assemblies located along means of egress serving an occupant load of 30 or more shall comply with the following provisions.

1613.10.5.1 General. Ceiling suspension systems shall be connected and braced with vertical hangers attached directly to the structural deck along the means of egress serving an occupant load of 30 or more and at lobbies accessory to Group A Occupancies. Spacing of vertical hangers shall not exceed 2 feet (610 mm) on center along the entire length of the suspended ceiling assembly located along the means of egress or at the lobby.

1613.10.5.2 Assembly Device. All lay-in panels shall be secured to the suspension ceiling assembly with two hold-down clips minimum for each tile within a 4-foot (1,219 mm) radius of the exit lights and exit signs.

1613.10.5.3 Emergency Systems. Independent supports and braces shall be provided for light fixtures required for exit illumination. Power supply for exit illumination shall comply with the requirements of Section 1006.3 of this Code.

1613.10.5.4 Support for Appendages. Separate support from the structural deck shall be provided for all appendages such as light fixtures, air diffusers, exit signs, and similar elements.

8.12.090 Special Tests Special Instructions.

(a) **Structural Observation—General.** Amend Section 1704.5 of the California Building Code 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 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.

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.

As applied to this Section, a registered design professional is an individual who is registered and licensed in the State of California as a Civil Engineer, Structural Engineer or Architect by the California Board of Professional Engineers, Land Surveyors and Geologists or the California Architects Board.

(b) **Structural Observation—Seismic.** Amend Section 1704.5.1 of the California Building Code to read as follows:

1704.5.1 Structural Observation 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 (22,860 mm) above the base.
3. The structure is classified as Risk Category I or II in accordance with Table 1604.5, and 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 2,000 square feet in area, provided the adjacent grade is not steeper than 1 unit vertical in 10 units horizontal (10% 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.

As applied to this Section, a registered design professional is an individual who is registered and licensed in the State of California as a Civil Engineer, Structural

Engineer or Architect by the California Board of Professional Engineers, Land Surveyors and Geologists or the California Architects Board.

(c). **Special Inspection for Concrete Construction.** Amend Section 1705.3 of the California Building Code 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 , no greater than 2,500 pounds per square inch (psi) (17.2 Mpa) regardless of the compressive strength specific in the construction documents or used in the footing construction.

2. Continuous concrete footings supporting walls of buildings three stories or less in height 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 1805.4.2; 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 patios, driveways and sidewalks, on grade.

**TABLE 1705.3
REQUIRED VERIFICATION AND INSPECTION OF CONCRETE CONSTRUCTION**

VERIFICATION AND INSPECTION	CONTINUOUS	PERIODIC	REFERENCED STANDARD ^a	IBC REFERENCE
1. Inspection of reinforcing steel, including prestressing tendons, and placement.	-	X	ACI 318: 3.5, 7.1-7.7	1910.4
2. Inspection of reinforcing steel welding in accordance with Table 1705.2.2, Item 2b.	-	-	AWS D1.4 ACI 318.: 3.5.2	-
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	1908.5,
4. Inspection of anchors post-installed in hardened concrete members ^b . a. Adhesive anchors installed in horizontally or upwardly inclined orientations to resist sustained tension loads. b. Mechanical Anchors and adhesive anchors not defined in 4.a.	X	X	ACI 318: D9.2.4 ACI 318: D.9.2	
5. Verifying use of required design mix.	-	X	ACI 318: Ch. 4, 5.2-5.4	1904.2, 1910.2, 1910.3
6. At the time fresh concrete is sampled to fabricate specimens for strength tests, perform slump and air content tests, and determine the temperature of the concrete.	X	-	ASTM C 172 ASTM C 31 ACI 318: 5.6, 5.8	1910.10
7. Inspection of concrete and shotcrete placement for proper application techniques.	X	-	ACI 318: 5.9, 5.10	1910.6, 1910.7, 1910.8
8. Inspection for maintenance of specified curing temperature and techniques.	-	X	ACI 318: 5.11-5.13	1910.9
9. Inspection of prestressed concrete: a. Application of prestressing forces b. Grouting of bonded prestressing tendons in the seismic force-resisting system.	X X	-	ACI 318: 18.20 ACI 318: 18.18.4	-
10. Erection of precast concrete members.	-	X	ACI 318: Ch. 16	-
11. Verification of in-situ concrete strength, prior to stressing of tendons in post-tensioned concrete and prior to removal of shores and forms from beams and structural slabs.	-	X	ACI 318: 6.2	-
12. Inspect formwork for shape, location and dimensions of the concrete member being formed.	-	X	ACI 318: 6.1.1	-

For SI: 1 inch = 25.4 mm.

a. Where applicable, see also Section 1705.11, Special inspections for seismic resistance.

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.

(d) **Seismic inspection for seismic resistance.** Amend Section 1705.11 of the California Building Code to read as follows:

1705.11 Seismic inspection for seismic resistance.

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, S_{DS} , as determined in Section 1613.5.4, does not exceed 0.5g; and the building height of the structure does not exceed 35 feet (10 668 mm) above grade plane; or

2. The seismic force-resisting system of the structure consists for reinforced masonry or reinforced concrete; the design spectral response acceleration at short periods, S_{DS} , 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. Detached one- or two-family dwellings not exceeding two stories above grade plane, provided the structure is not assigned to Seismic Design Category D, E or F and does not have any of the following horizontal or vertical irregularities in accordance with Section 12.3.2 of ASCE 7:

- 3.1 Torsional or extreme torsional irregularity.
- 3.2 Nonparallel systems irregularity.
- 3.3 Stiffness irregularity—extreme soft story and soft story.
- 3.4 Discontinuity in lateral strength - weak story irregularity.

(e) **Connecting grade beams and tie beams.** Amend Sections 1705.7, 1705.8 and 1705.9 of the California Building Code to read as follows:

(i) **Special Inspections.** In addition to the provisions of Sections 1705.7, 1705.8 and 1705.9 of the California Building Code, special inspection shall be provided for connecting grade beams and tie beams and the placement of all primary and secondary anchors.

(f) **Joist hangers.** Amend Section 1711.1.1, Section 1711.1.2 and Chapter 35 of the California Building Code to read as follows:

1711.1.1 General. The vertical load-bearing capacity, torsional moment capacity and deflection characteristics of joist hangers shall be determined in accordance with ASTM D 1761 and ASTM D 7147 as specified below using lumber having a specific gravity of 0.49 or greater, but not greater than 0.55, as determined in accordance with AF&PA NDS for the joist and headers.

Exception: The joist length shall not be required to exceed 24 inches (610 mm).

1711.1.2 Vertical load capacity for joist hangers. The vertical load-bearing capacity for the joist hanger shall be determined by testing a minimum of three joist hanger assemblies as specified in ASTM D 1761 or ASTM D 7147. If the ultimate vertical load for any one of the tests varies more than 20 percent from the average ultimate vertical load, at least three additional tests shall be conducted. The allowable vertical load-bearing of the joist hanger shall be the lowest value determined from the following:

1. The lowest ultimate vertical load for a single hanger from any test divided by three (where three tests are conducted and each ultimate vertical load does not vary more than 20 percent from the average ultimate vertical load).

2. The average ultimate vertical load for a single hanger from all tests divided by three (where six or more tests are conducted).
3. The average from all tests of the vertical loads that produce a vertical movement of the joist with respect to the header of 1/8 inch (3.2 mm).
4. The sum of the allowable design loads for nails or other fasteners utilized to secure the joist hanger to the wood members and allowable bearing loads that contribute to the capacity of the hanger.
5. The allowable design load for the wood members forming the connection.

Amend the Reference Standards in Chapter 35 for ASTM as follows:

D 1761- 88(2000) §1	Test Method for Mechanical Fasteners in Wood	1711.1.1
		1711.1.2
		1711.1.3
D 7147-05	Standard Specification for Testing and	1711.1.1
	Establishing Allowable Loads of Joist Hangers	1711.1.2

8.12.100 Foundations.

(a) **Permanent Wood Foundation Systems.** Amend Section 1807.1.4 of the California Building Code 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.

(b) **Prescriptive Design of Foundation Walls.** Amend Section 1807.1.6 of the California Building Code to read as follows:

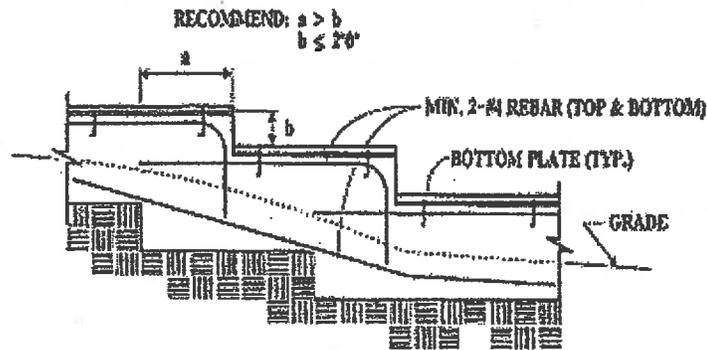
1807.1.6 Prescriptive Design of Concrete and Masonry Foundation Walls.

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.

(c) **General.** Amend Section 1809.3 of the California Building Code to read as follows:

1809.3 Stepped footings. The top surface of footings shall be level. The bottom surface of footings is permitted to have a slope not exceeding one unit vertical in ten units horizontal (ten 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 ten units horizontal (ten 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 No. 4 rebar. Two bars shall be placed at the top and bottom of the footings as shown in Figure 1809.3.



STEPPED FOUNDATIONS

FIGURE 1809.3

STEPPED FOOTING

(d) **Prescriptive Footings.** Amend Section 1809.7 and Table 1809.7 of the California Building Code 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.

TABLE 1809.7

PRESCRIPTIVE FOOTINGS

SUPPORTING WALLS OF LIGHT-FRAME CONSTRUCTION ^{a, b, c, d}

NUMBER OF FLOORS SUPPORTED BY THE FOOTING ^e	WIDTH OF FOOTING (inches)	THICKNESS OF FOOTING (inches)
1	12	6
2	15	6
3	18	8

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. See Section 1908 for additional requirements for concrete footings of structures assigned to Seismic Design Category C, D, E or F.
- d. For thickness of foundation walls, see Section 1807.1.6.
- e. Footings shall be permitted to support a roof addition to the stipulated number of floors. Footings supporting roof only shall be as required for supporting one floor.

(e) **Timber Footings.** Amend Section 1809.12 of the California Building Code 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 building 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.

(f) **Timber.** Amend Section 1810.3.2.4 of the California Building Code to read as follows:

1810.3.2.4 Timber. Timber deep foundation elements shall be designed as piles or poles in accordance with AF&PA NDS. Round timber elements shall conform to ASTM D 25. Sawn timber elements shall conform to DOC PS-20. Timber shall not be used in structures assigned to Seismic Design Category D, E or F.

8.12.110 Concrete.

(a) **Wall Pier.** Amend Section 1905.1.3 of the California Building Code 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 $1.5 S_y$.

21.4.5. 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:

(b) **Minimum Reinforcement.** Amend Section 1905.1.8 of the 2013 California Building Code 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) Concrete used for fill with a minimum cement content of two (2) sacks of Portland cement or cementitious material 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.

(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. 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.

In detached one- and two-family dwellings three stories or less in height and constructed with stud-bearing walls, plain concrete footings 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.

Detached one- and two-family dwellings three stories or less in height and constructed with stud-bearing walls, are permitted to have plain concrete footings 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.

(c) **Reinforcement.** Amend Section 1905.1 to read as shown below and add Sections 1905.1.10 through 1905.1.12 to Chapter 19 of the California Building Code to read as follows:

(1) **1905.1 General.** The text of ACI 318 shall be modified as indicated in Sections 1905.1.1 through 1905.1.12.

1905.1.10 ACI 318, Section 21.6.4. Modify ACI 318, Section 21.6.4, by adding Section 21.6.4.8 and 21.6.4.9 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 are permitted to be assumed to be of opposite sign. For the determination of the design strength, ϕP_n , of the column, these moments are permitted to be assumed to result from the deformation of the frame in any one principal axis.

1905.1.11 ACI 318, Section 21.9.4. Modify ACI 318, Section 21.9.4, by adding Section 21.9.4.6 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 shear strength of the structure for resisting earthquake-induced forces. Such walls shall conform to the requirements of ACI 318 Section 21.13.

1905.1.12 ACI 318, Section 21.11.6. Modify ACI 318, by adding Section 21.11.6.1 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 $6 d_b$ in thickness, where d_b is the diameter of the largest reinforcement in the topping slab.

8.12.120 Concrete and masonry fireplaces and chimneys.

(a) **Alteration and Repair Standards.** Section 3403.5 of the California Building Code is added to read as follows:

3403.5. For the purpose of altering or repairing masonry and/or concrete chimneys, when the cumulative fair market value of the cost to alter or repair an existing masonry or concrete chimney, within the preceding twelve-month period, exceeds ten percent of the fair market value of its replacement cost, the entire chimney structure and its anchorage to the structure shall comply with the current requirements of this Code.

(b) **Fireplace Reinforcing and Seismic Anchorage.** Section 2111.1.5 of the California Building Code is added to read as follows:

Section 2.111.1.5 Scope.

Every element of a masonry or concrete fireplace or barbecue that extends six feet (1829 mm) or more above grade or that is part of a building and all masonry veneer that extends more than five feet above adjacent grade shall be designed in accordance with Chapters 16, 18, 19, 21 and 22 and shall be reinforced in accordance with the requirements of Sections 2101 through 2108 of the California Building Code.

(c) **Chimney Reinforcing and Seismic Anchorage.** Sections 2113.1.5 of the California Building Code is added to read as follows:

Section 2.113.1.5 Scope.

Every element of a masonry or concrete chimney or flue that extends six feet (1,829 mm) or more above grade or that is part of a building and all masonry veneer that extends more than five feet above adjacent grade shall be designed in accordance with Chapters 16, 18, 19, 21 and 22 and shall be reinforced in accordance with the requirements of Sections 2101 through 2108 of the California Building Code.

8.12.140 Wood construction.

(a) **Fastener Requirement.** Amend Section 2304.9.1 of the California Building Code 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.

(b) **Wood Used in Retaining Wall.** Amend Section 2304.11.7 of the California Building Code 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.

(c) **Quality of Nails.** Section 2305.4 is added to Chapter 23 of the California Building Code 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.

(d) **Hold-down Connectors.** Section 2305.5 is added to Chapter 23 of the California Building Code 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 approved cyclic load values or 75 percent of the allowable seismic load values that do not consider cyclic loading of the product. 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.

(e) **Wood-frame diaphragms.** Amend Section 2306.2 of the California Building Code is 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.

(f) **Wood frame shear walls.** Amend Section 2306.3 and Section 2307.2 of the California Building Code 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 3/8 inch wood structural panels resisting seismic forces in structures assigned to Seismic Design Category D, E or F is 400 pounds per linear foot (plf).

Exception: Other nominal unit shear capacities may be permitted if such values are substantiated by cyclic testing and approved by the building official.

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.

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

2307.2 Wood-frame shear walls. Wood-frame shear walls shall be designed and constructed in accordance with Section 2306.3 as applicable.

(g) **Braced wall line support.** Amend Section 2308.3.4 of the California Building Code 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.

(h) **Bracing.** Amend Sections 2308.9.3.1 and 2308.9.3.2 and Figure 2308.9.3.2 of the California Building Code are amended to read as follow:

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. 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. 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 (4400 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).

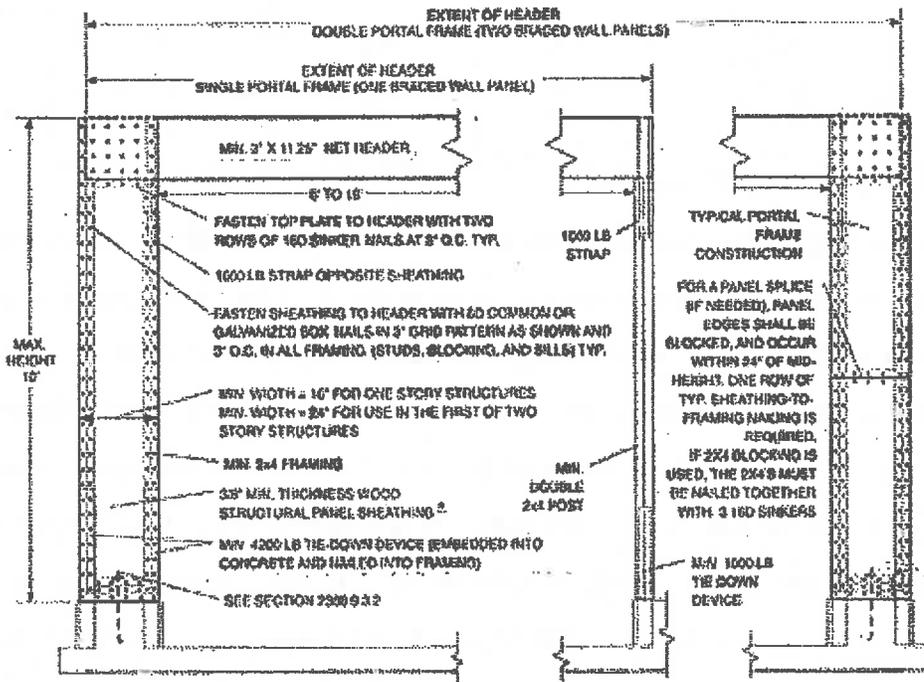
Where a panel is located on one side of the opening, the header shall extend between the inside face of the first full-length stud of the panel and the bearing studs at the other end of the opening. A strap with an uplift capacity of not less than 1,000 pounds (4400 N) shall fasten the header to the 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 = 25.4mm; 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 3 inches on panel edges, 3 inches at intermediate supports.

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

- (i) **Braced Wall Sheathing.** Amend Table 2308.12.4 of the California Building Code to read as follows:

TABLE 2308.12.4
WALL BRACING IN SEISMIC DESIGN CATEGORIES D AND E
(Minimum Percentage of Wall Bracing per each Braced Wall Line ^{a)})

CONDITION	SHEATHING TYPE ^b	$S_{DS} < 0.50$	$0.50 \leq S_{DS} < 0.75$	$0.75 \leq S_{DS} \leq 1.00$	$S_{DS} > 1.00$
			0.75	1.00	1.00
One	G-P ^c	43	59	75	100
Story	S-W ^d	21	32	37	48

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

- 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. The 2:1 h/w ratio limitation does not apply to alternate braced wall panels constructed in accordance with Section 2308.9.3.1 or 2308.9.3.2. Wall framing to which sheathing used for bracing is applied shall be nominal 2 inch wide [actual 1 1/2 inch (38 mm)] or larger members and spaced a maximum of 16 inches on center. Braced wall panel construction types shall not be mixed within a braced wall line.
- b. G-P = gypsum board, portland cement plaster or gypsum sheathing boards; S-W = wood structural panels.
- 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;

- d. S-W sheathing shall be a minimum of 15/32" thick nailed with 8d common 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.

(j) **Attachment of Sheathing.** Amend Section 2308.12.5 of the California Building Code 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 12. Section 8.20.050 of the Santa Monica Municipal Code is hereby amended as follows:

8.20:050 Analysis and design.

(a) **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 and referenced Sections shall be followed.

(b) **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.

(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.

(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.

(c) **Base Shear Resistance—Primary Anchors.**

(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.

(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 thirty feet.

(3) **Design of Primary Anchors and Diaphragm Struts.** Primary anchors and diaphragm struts shall be designed in accordance with the requirements of Section 8.20.050(f).

(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:

- (A) Wood structural panel wall sheathing;
- (B) Cement plaster and lath;
- (C) Gypsum wallboard;
- (D) Tension only braced frames.

Braced frames designed in accordance with the requirements of Chapter 22 of the California Building Code as amended herein 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.

(d) **Base Shear Resistance—Secondary Anchors.**

(1) **General.** In addition to the primary anchors required by Section 8.20.050(c), 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 thirty feet on center, extend up to and are directly connected to the base level diaphragm for at least seventy percent of the diaphragm depth.

(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 six hundred pounds per lineal foot at allowable loading. The secondary anchors shall be uniformly distributed along the uphill diaphragm edge and shall be spaced a maximum of four feet on center.

(3) **Design.** Secondary anchors and diaphragm struts shall be designed in accordance with Section 8.20.050(f).

(e) **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.

(1) **Diaphragm Defined.** For the purposes of this Section, every floor level below the base level diaphragm shall be designed as a diaphragm.

(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.

(3) **Design Force Resistance—Primary Anchors.** The design force described above 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 8.20.050(c).

(4) **Design Force Resistance—Secondary Anchors.**

(A) **General.** In addition to the primary anchors required above, 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 thirty feet on center, extend up to and are directly connected to each diaphragm below the base level for at least seventy percent of the diaphragm depth.

(B) **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 three hundred pounds per lineal foot at allowable loading. The secondary anchors shall be uniformly distributed along the uphill diaphragm edge and shall be spaced a maximum of four feet on center.

(C) **Design.** Secondary anchors and diaphragm struts shall be designed in accordance with the provisions of this Chapter.

(f) **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 a minimum of 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 frame.

(2) **Anchorage.** The diaphragm to foundation anchorage shall not be accomplished by the use of toe nailing, 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 subsection 9 below.

(4) **Design.** Primary and secondary anchorage, including diaphragm struts, splices, and collectors shall be designed for one hundred twenty-five percent (125%) 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.

(g) **Lateral Force Resisting Elements Normal to the Downhill Direction:**

(1) **General.** Seismic force resisting elements, acting normal to the downhill direction, shall be designed in accordance with the requirements of this Section.

(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.

(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 to the top of the utmost roof diaphragm.

(4) **Drift Limitations.** The story drift under allowable loading below the base level diaphragm shall not exceed 0.007 times the story height. The total drift from the base level diaphragm to the top of the foundation shall not exceed three-fourths inch. 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.

Where Code-prescribed wind forces govern the design of the lateral force resisting system normal to the downhill direction, the drift limitation shall be 0.0025 for the story drift and the total drift from the base level diaphragm to the top of the foundation may exceed three-fourths inch when approved by the Building Officer. In no case, however, shall the drift limitations for seismic forces be exceeded.

(5) Distribution of Lateral Forces.

(A) 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.

(B) 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 shall be determined as per the Building Code. 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 and the maximum vertical height of a step shall be two feet, eight inches.

(C) 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.

(D) **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:

- (i) Cement plaster and lath;
- (ii) Gypsum wallboard;
- (iii) Tension only braced frames.

Braced frames designed in accordance with the requirements of the California Building Code as amended by the City of Santa Monica 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.

(h) **Specific Design Provisions.**

(1) **Footings and Grade Beams.** All footings and grade beams shall comply with the following:

(A) Grade beams shall extend at least twelve inches below the lowest adjacent grade and provide a minimum twenty-four-inch distance horizontally from the bottom outside face of the grade beam to the face of the descending slope.

(B) Continuous footings shall be reinforced with at least two one-half inch nominal diameter steel reinforcing bars at the top and two at the bottom.

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

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

(2) **Protection Against Decay and Termites.** All wood to earth separation shall comply with the following:

(A) Where a footing or grade beam extends across a descending slope, the stem wall, grade beam, or footing shall extend up to a minimum of eighteen inches 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.

(B) Wood ledgers supporting a vertical load of more than one hundred pounds per lineal foot and located within forty-eight inches 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.

(3) **Sill Plates.** All sill plates and anchorage shall comply with the following:

(A) 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.

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

(4) **Column Base Plate Anchorage.** The base of isolated wood posts that supports a vertical load of four thousand pounds or more and the base plate for a steel column shall comply with the following:

(A) 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 one-half-inch nominal diameter steel reinforcing bars extending to the bottom of the footing or grade beam. The top of exterior pedestals shall be sloped for positive drainage.

(B) 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 one-half-inch nominal diameter steel reinforcing bars or three three-eighths inch nominal diameter steel reinforcing bar ties within the top five inches of the concrete or masonry pedestal. The base plate anchor bolts shall be embedded a minimum of twenty 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.

(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 five-eighths inch diameter machine bolts.

(i) **Special Inspections.** In addition to the provisions of Item 11. of Section 1701.5 of the California Building Code, special inspection shall be provided for connecting grade beams and tie beams and the placement of all primary and secondary anchors.

SECTION 13. Section 8.22.010 of the Santa Monica Municipal Code is hereby amended as follows:

8.22.010 Adoption.

That certain document entitled "California Residential Code 2013 Edition," which adopts by reference the International Residential Code, 2012 Edition, as published by the California Building Standards Commission and the International Code Council (excluding Sections R102 through R114, R313), including Chapter 1, Division I, Section R101, Appendix H are hereby adopted with local amendments and provisions of this Chapter of the Santa Monica Municipal Code, as the Residential Code of the City of Santa Monica.

SECTION 14. Section 8.22.020 of the Santa Monica Municipal Code is hereby amended as follows:

8.22.020 Local amendments to the California Residential Code.

Notwithstanding any provisions of the California Residential Code, California Building Standards Code, State Housing Law or other codes adopted by any Chapter in Article VIII of the Municipal Code to the contrary, the following local amendments shall apply.

Section 15. Section 8.22.025 is hereby added to the Santa Monica Municipal Code to read as follows:

8.22.025 General residential provisions.

(a) **Window Fall Protection.** Amend Section R312.2.1 of the California Residential Code to read as follows:

R312.2.1 Window sills. In dwelling units, where the opening of an operable window is located more than 72 inches (1829 mm) above the finished grade or surface below, the lowest part of the clear opening of the window shall be a minimum of 36 inches (915 mm) above the finished floor of the room in which the window is located. Operable sections of windows shall not permit openings that allow passage of a 4-inch diameter (102 mm) sphere where such openings are located within 36 inches (915 mm) of the finished floor.

SECTION 16. Section 8.22.030 of the Santa Monica Municipal Code is hereby amended as follows:

8.22.030 Residential structural provisions.

(a) **Woodframe Structures.** Amend Section R301.1.3.2 of the California Residential Code to read as follows:

R301.1.3.2 Woodframe Structures. The building official shall require construction documents to be approved and stamped by a California licensed architect or engineer for all dwellings of woodframe construction more than two stories and basement in height located in Seismic Design Category A, B or C. Notwithstanding other sections of the law, the law establishing these provisions is found in Business and Professions Code Sections 5537 and 6737.1.

The building official shall require construction documents to be approved and stamped by a California licensed architect or engineer for all dwellings of woodframe construction more than one story in height located in Seismic Design Category D₀, D₁, D₂ or E.

(b) **Slopes Steeper than 33-1/3 Percent.** Add Section R301.1.4 to the California Residential Code to read as follows:

R301.1.4 Seismic Design Provisions for Buildings Constructed On or Into Slopes Steeper Than One Unit Vertical In Three Units Horizontal (33.3 Percent Slope). The design and construction of new buildings and additions to existing buildings when constructed on or into slopes steeper than one unit vertical in three units horizontal (33.3 percent slope) shall comply with Section 1613.9 of the California Building Code.

(c) **Determination of seismic design category.** Amend Table R301.2.2.1.1, Sec. R301.2.2.1.2 of the Edition of the California Residential Code to read as follows:

R301.2.2.1 Determination of seismic design category.

TABLE R301.2.2.1.1

SEISMIC DESIGN CATEGORY DETERMINATION

CALCULATED S_{DS}	SEISMIC DESIGN CATEGORY
$S_{DS} \leq 0.17g$	A
$0.17g < S_{DS} \leq 0.33g$	B
$0.33g < S_{DS} \leq 0.50g$	C
$0.50g < S_{DS} \leq 0.67g$	D_0
$0.67g < S_{DS} \leq 0.83g$	D_1
$0.83g < S_{DS} \leq 1.00g$	D_2
$1.00g < S_{DS}$	E

R301.2.2.1.2 Alternative determination of Seismic Design Category E.

Buildings located in Seismic Design Category E in accordance with Figure R301.2(2)

are permitted to be reclassified as being in Seismic Design Category D_2 provided one of the following is done:

1. A more detailed evaluation of the seismic design category is made in accordance with the provisions and maps of the *International Building Code*. Buildings located in Seismic Design Category E per Table R301.2.2.1.1, but located in Seismic Design Category D per the *International Building Code*, may be designed using the Seismic Design Category D_2 requirements of this code.

2. Buildings located in Seismic Design Category E that conform to the following additional restrictions are permitted to be constructed in accordance with the provisions for Seismic Design Category D_2 of this code:

2.1. All exterior shear wall lines or *braced wall panels* are in one plane vertically from the foundation to the uppermost story.

2.2. Floors shall not cantilever past the exterior walls.

2.3. The building is within all of the requirements of Section R301.2.2.2.5 for being considered as regular.

2.4. For buildings over one story in height, the calculated S_{DS} shall not exceed 1.25g.

(d) **Irregular Buildings.** Amend Section R301.2.2.2.5 to the California Residential Code to read as follows:

R301.2.2.2.5

1. When exterior shear wall lines or braced wall panels are not in one plane vertically from the foundation to the uppermost story in which they are required.

2. When a section of floor or roof is not laterally supported by shear walls or braced wall lines on all edges.

3. When the end of a braced wall panel occurs over an opening in the wall below.

4. When an opening in a floor or roof exceeds the lesser of 12 feet (3658 mm) or 50 percent of the least floor or roof dimension.

5. When portions of a floor level are vertically offset.

6. When shear walls and braced wall lines do not occur in two perpendicular directions.

7. When stories above-grade partially or completely braced by wood wall framing in accordance with Section R602 or steel wall framing in accordance with Section R603 include masonry or concrete construction.

(e) **Application.** Amend Section R501.1 of the California Residential Code to read as follows:

R501.1 Application. The provision of this chapter shall control the design and construction of the floors for all buildings including the floors of attic spaces used to house mechanical or plumbing fixtures and equipment. Mechanical or plumbing fixtures and equipment shall be attached (or anchored) to the structure in accordance with Section R301.2.2.3.8.

(f) **Equipment Anchorage.** Section R301.2.2.3.8 is added to Chapter 3 of the California Residential Code to read as follows:

R301.2.2.3.8 Anchorage of Mechanical, Electrical, or Plumbing Components and Equipment. Mechanical, electrical, or plumbing components and equipment shall be anchored to the structure. Anchorage of the components and equipment shall be designed to resist loads in accordance with the International Building Code and ASCE 7, except where the component is positively attached to the structure and flexible

connections are provided between the component and associated ductwork, piping, and conduit; and either

1. The component weighs 400 lb (1780 N) or less and has a center of mass located 4 ft (1.22 m) or less above the supporting structure; or
2. The component weighs 20 lb (89 N) or less or, in the case of a distributed system, 5 lb/ft (73 N/m) or less.

(g) **Openings in Horizontal Diaphragms.** Add Section R503.2.4 to Chapter 5 of the California Residential Code to read as follows:

R503.2.4 Openings in Horizontal Diaphragms. Openings in horizontal diaphragms with a dimension perpendicular to the joist that is greater than 4 feet (1.2 m) shall be constructed in accordance with Figure R503.2.4.

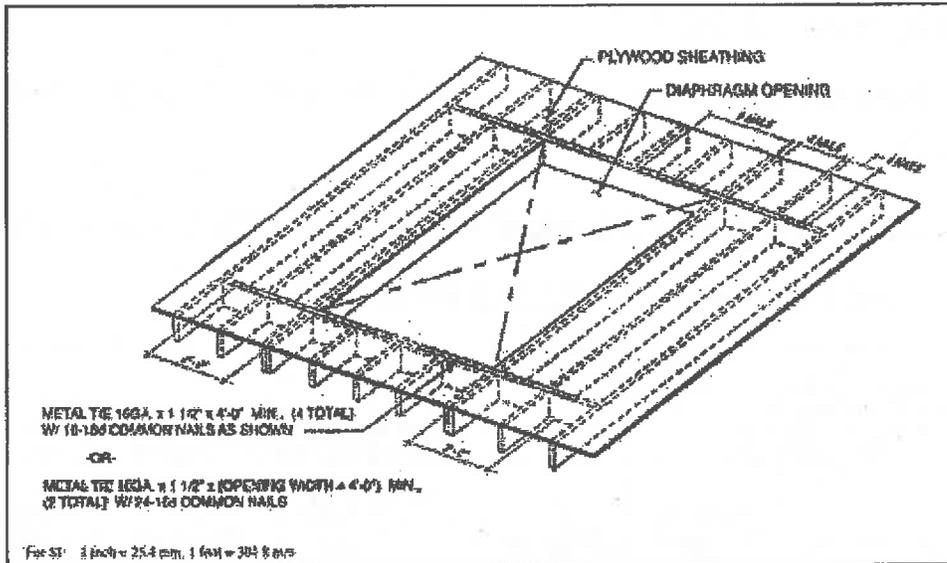


Figure R503.2.4

- a. Blockings shall be provided beyond headers.
- b. Metal ties not less than 0.058 inch [1.47 mm (16 galvanized gage)] by 1.5 inches (38 mm) wide with eight 16d common nails on each side of the header-joist intersection. The metal ties shall have a minimum yield of 33,000 psi (227 MPa).

c. Openings in diaphragms shall be further limited in accordance with Section R301.2.2.2.5.

(h) **Single Top Plate.** Exception of Section R602.3.2 of the California Residential Code is amended to read as follows:

Exception: In other than Seismic Design Category D₀, D₁ or D₂, a single top plate may be installed in stud walls; provided the plate is adequately tied at joints, corners and intersecting walls by a minimum 3-inch-by-6-inch by a 0.036-inch-thick (76 mm by 152 mm by 0.914 mm) galvanized steel plate that is nailed to each wall or segment of wall by six 8d nails on each side, provided the rafters or joists are centered over the studs with a tolerance of no more than 1 inch (25 mm). The top plate may be omitted over lintels that are adequately tied to adjacent wall sections with steel plates or equivalent as previously described.

(i) **Bracing Requirement.** Amend Table R602.10.3(3) of the California Residential Code to read as follows:

**BRACING REQUIREMENTS BASED ON SEISMIC DESIGN CATEGORY
(AS A FUNCTION OF BRACED WALL LINE LENGTH)**

SOIL CLASS D ^a WALL HEIGHT = 10 FT 10 PSF FLOOR DEAD LOAD 15 PSF ROOF/CEILING DEAD LOAD BRACED WALL LINE SPACING < 25 FT		MINIMUM TOTAL LENGTH (feet) OF BRACED WALL PANELS REQUIRED ALONG EACH BRACED WALL LINE				
Seismic Design Category (SDC)	Story Location	Braced Wall Line Length	Method LIB	METHODS DWS, SFB, GB, PBS, PCP, HPS	Method WSP	Continuous Sheathing
SDC D ₀ or D ₁		10	NP	6.0	2.0	1.7
		20	NP	12.0	4.0	3.4
		30	NP	18.0	6.0	5.1
		40	NP	24.0	8.0	6.8
		50	NP	30.0	10.0	8.5
		10	NP	NP	4.5	3.8
		20	NP	NP	9.0	7.7
		30	NP	NP	13.5	11.5
		40	NP	NP	18.0	15.3
		50	NP	NP	22.5	19.1
		10	NP	NP	6.0	5.1
		20	NP	NP	12.0	10.2
		30	NP	NP	18.0	15.3
		40	NP	NP	24.0	20.4
		50	NP	NP	30.0	25.5

SOIL CLASS D ⁺ WALL HEIGHT = 10 FT 10 PSF FLOOR DEAD LOAD 15 PSF ROOFCEILING DEAD LOAD BRACED WALL LINE SPACING < 25FT		MINIMUM TOTAL LENGTH (feet) OF BRACED WALL PANELS REQUIRED ALONG EACH BRACED WALL LINE					
Seismic Design Category (SDC)	Story Location	Braced Wall Line Length	Method LIB	METHODS DWB, SFB, GB, PBS, PCP, HPS	Method WSP	Continuous Sheathing	
SDC D ₂		10	NP	8.0	2.5	2.1	
		20	NP	16.0	5.0	4.3	
		30	NP	24.0	7.5	5.4	
		40	NP	32.0	10.0	6.5	
		50	NP	40.0	12.5	10.6	
		10	NP	NP	NP	5.5	4.7
		20	NP	NP	NP	11.0	8.4
		30	NP	NP	NP	16.5	14.0
		40	NP	NP	NP	22.0	18.7
		50	NP	NP	NP	27.5	23.1
		10	NP	NP	NP	NP	NP
		20	NP	NP	NP	NP	NP
		30	NP	NP	NP	NP	NP
		40	NP	NP	NP	NP	NP
		50	NP	NP	NP	NP	NP

TABLE R602.10.3(3)
BRACING REQUIREMENTS BASED ON SEISMIC DESIGN CATEGORY

SOIL CLASS D ^a WALL HEIGHT = 10 FEET 10 PSF FLOOR DEAD LOAD 15 PSF ROOF/CEILING DEAD LOAD BRACED WALL LINE SPACING ≤ 25 FEET			MINIMUM TOTAL LENGTH (FEET) OF BRACED WALL PANELS REQUIRED ALONG EACH BRACED WALL LINE ^b					
Seismic Design Category	Story Location	Braced Wall Line Length (feet)	Method LB ^c	Method QB ^d	Methods DWB, SFB, PBB, POP, HPS, CS-SFB ^{e,f}	Method WSP	Methods CS-WSP, CS-G	
C (townhouses only)		10	2.5	2.5	2.5	1.6	1.4	
		20	5.0	5.0	5.0	3.2	2.7	
		30	7.5	7.5	7.5	4.8	4.1	
		40	10.0	10.0	10.0	6.4	5.4	
		50	12.5	12.5	12.5	8.0	6.8	
		10	NP	4.5	4.5	3.0	2.6	
		20	NP	9.0	9.0	6.0	5.1	
		30	NP	13.5	13.5	9.0	7.7	
		40	NP	18.0	18.0	12.0	10.2	
		50	NP	22.5	22.5	15.0	12.8	
		10	NP	6.0	6.0	4.5	3.8	
		20	NP	12.0	12.0	9.0	7.7	
		30	NP	18.0	18.0	13.5	11.5	
		40	NP	24.0	24.0	18.0	15.3	
		50	NP	30.0	30.0	22.5	19.1	
D _s		10	NP	5.6	5.6	1.8	1.6	
		20	NP	11.0	11.0	3.6	3.1	
		30	NP	16.6	16.6	5.4	4.6	
		40	NP	22.0	22.0	7.2	6.1	
		50	NP	27.6	27.6	9.0	7.7	
		10	NP	NP	NP	NP	3.8	3.2
		20	NP	NP	NP	NP	7.5	6.4
		30	NP	NP	NP	NP	11.3	9.6
		40	NP	NP	NP	NP	15.0	12.8
		50	NP	NP	NP	NP	18.8	16.0
		10	NP	NP	NP	NP	5.3	4.5
		20	NP	NP	NP	NP	10.5	9.0
		30	NP	NP	NP	NP	15.8	13.4
		40	NP	NP	NP	NP	21.0	17.9
		50	NP	NP	NP	NP	26.3	22.3

(continued)

TABLE R602.10.2(3)—continued
BRACING REQUIREMENTS BASED ON SEISMIC DESIGN CATEGORY

<ul style="list-style-type: none"> • SOIL CLASS D^a • WALL HEIGHT = 19 FEET • 16 PSF FLOOR DEAD LOAD • 15 PSF ROOF/CEILING DEAD LOAD • BRACED WALL LINE SPACING ≤ 25 FEET 			MINIMUM TOTAL LENGTH (FEET) OF BRACED WALL PANELS REQUIRED ALONG EACH BRACED WALL LINE ^b					
Seismic Design Category	Story Location	Braced Wall Line Length (feet)	Method LIB	Method GB ^a	Methods DWB, SFB, PBS, PCP, HPS, CS-SFB ^a	Method WSP	Methods CS-WSP, CS-S	
D ₁		10	NP	6.0	6.0	2.0	1.7	
		20	NP	12.0	12.0	4.0	3.4	
		30	NP	18.0	18.0	6.0	5.1	
		40	NP	24.0	24.0	8.0	6.8	
		50	NP	30.0	30.0	10.0	8.5	
		10	NP	NP	NP	NP	4.5	3.8
		20	NP	NP	NP	NP	9.0	7.7
		30	NP	NP	NP	NP	13.5	11.5
		40	NP	NP	NP	NP	18.0	15.3
		50	NP	NP	NP	NP	22.5	19.1
		10	NP	NP	NP	NP	6.0	5.1
		20	NP	NP	NP	NP	12.0	10.2
		30	NP	NP	NP	NP	18.0	15.3
		40	NP	NP	NP	NP	24.0	20.4
		50	NP	NP	NP	NP	30.0	25.5
D ₂		10	NP	8.0	8.0	2.5	2.1	
		20	NP	16.0	16.0	5.0	4.3	
		30	NP	24.0	24.0	7.5	6.4	
		40	NP	32.0	32.0	10.0	8.5	
		50	NP	40.0	40.0	12.5	10.6	
		10	NP	NP	NP	NP	5.5	4.7
		20	NP	NP	NP	NP	11.0	9.4
		30	NP	NP	NP	NP	16.5	14.0
		40	NP	NP	NP	NP	22.0	18.7
		50	NP	NP	NP	NP	27.5	23.4
		10	NP	NP	NP	NP	NP	NP
		20	NP	NP	NP	NP	NP	NP
		30	NP	NP	NP	NP	NP	NP
		40	NP	NP	NP	NP	NP	NP
		50	NP	NP	NP	NP	NP	NP
	Cripple wall below one- or two-story dwelling	10	NP	NP	NP	NP	7.5	6.4
		20	NP	NP	NP	NP	15.0	12.8
		30	NP	NP	NP	NP	22.5	19.1
		40	NP	NP	NP	NP	30.0	25.5
		50	NP	NP	NP	NP	37.5	31.9

For SI: 1 inch = 25.4 mm, 1 foot = 305 mm, 1 pound per square foot = 0.0479 kPa.

- a. Linear interpolation shall be permitted.
- b. Wall bracing lengths are based on a soil site class "D." Interpolation of bracing length between the S_{ds} values associated with the Seismic Design Categories shall be permitted when a site-specific S_{ds} value is determined in accordance with Section 1613.3 of the *California Building Code*.
- c. Method LIB shall have gypsum board fastened to at least one side with nails or screws per Table R602.3(1) for exterior sheathing or Table R702.3.5 for interior gypsum board. Spacing of fasteners at panel edges shall not exceed 8 inches.
- d. Method CS-SFB applies in SDC C only.
- e. Methods GB and PCP braced wall panel h/w ratio shall not exceed 1:1 in SDC D₀, D₁ or D₂. Methods DWB, SFB, PBS, and HPS are not permitted in SDC D₀, D₁, or D₂.

(j) **Bracing Methods.** Amend Table R602.10.4 of the California Residential

Code to read as follows:

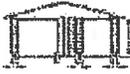
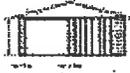
WSP	Wood structural panel (see Section R505)	16/32"		3d common (2 1/2" x 0.131) nails at 6" spacing (panel edge) at 12" spacing (intermediate supports), 3/8" edge distance to panel edge
SFB	Structural fiberboard sheathing	1/2" or 5/16" for maximum 16" stud spacing		1 1/2" galvanized roofing nails or 3d common (2 1/2" x 0.131) nails at 3" spacing (panel edge) at 6" spacing (intermediate supports)
GB	Gypsum board	1/2"		Nails or screws at 7" spacing at panel edges including top and bottom plates; for all braced wall panel locations for exterior sheathing nail or screw size, see Table R602.2(1); for interior gypsum board nail or screw size, see Table R702.2.5
PBS	Particleboard sheathing (see Section R505)	5/8" or 1/2" for maximum 16" stud spacing		1 1/2" galvanized roofing nails or 3d common (2 1/2" x 0.131) nails at 3" spacing (panel edge) at 6" spacing (intermediate supports)
PCP	Patched cement plaster	See Section R702.2 For maximum 16" stud spacing		1 1/2", 11 gauge, 7/16" head nails at 6" spacing

TABLE R602.10.4
BRACING METHODS (1)

METHODS, MATERIAL	MINIMUM THICKNESS	FIGURE	CONNECTION CRITERIA*		
			Fasteners	Spacing	
Intermittent Bracing Method	LIB Let-in-bracing	1 x 4 wood or approved metal straps at 45° to 60° angles for maximum 16" stud spacing		Wood: 2-8d common nails or 3-8d (2 1/2" long x 0.113" dia.) nails Metal strap: per manufacturer	Wood: per stud and top and bottom plates Metal: per manufacturer
	DWB Diagonal wood boards	3/4" (1" nominal) for maximum 24" stud spacing		2-8d (2 1/2" long x 0.113" dia.) nails or 2 - 1 3/4" long staples	Per stud
	WSP Wood structural panel (See Section R604)	15/32"		8d common (2 1/2" x 0.131) nails 3/8" edge distance to panel edge	6" edges 12" field
	DV-WSP* Wood Structural Panels with Stone or Masonry Veneer (See Section R602.10.6.5)	3/16"	See Figure R602.10.6.5	8d common (2 1/2" x 0.131) nails	6" edges 12" field
	SFB Structural fiberboard sheathing	1/2" or 5/8" for maximum 16" stud spacing		1 1/2" long x 0.12" dia. (for 1/2" thick sheathing) 1 3/4" long x 0.12" dia. (for 5/8" thick sheathing) galvanized roofing nails or 8d common (2 1/2" long x 0.131" dia.) nails	4" at panel edges 12" at intermediate supports 4" at braced wall panel end posts
	GB Gypsum board	1/2"		Nails or screws per Table R602.3(1) for exterior locations Nails or screws per Table R702.3.5 for interior locations	3" edges 6" field
	PBS Particleboard sheathing (See Section R605)	1/2" or 5/8" for maximum 16" stud spacing		1 for 1/2", 6d common (2" long x 0.113" dia.) nails For 5/8", 8d common (2 1/2" long x 0.131" dia.) nails	For all braced wall panel locations: 7" edges (including top and bottom plates) 7" field
	PCP Portland cement plaster	See Section R703.6 for maximum 16" stud spacing		1 1/2" long, 11 gage, 3/16" dia. head nails or 3/4" long, 16 gage staples #	3" edges 6" field
	HPS Hardboard panel siding	3/16" for maximum 16" stud spacing		0.092" dia., 0.225" dia. head nails with length to accommodate 1 1/2" penetration into studs	6" o.c. on all framing members
	ABW Alternate braced wall	3/4"		See Section R602.10.6.1	4" edges 8" field

(continued)

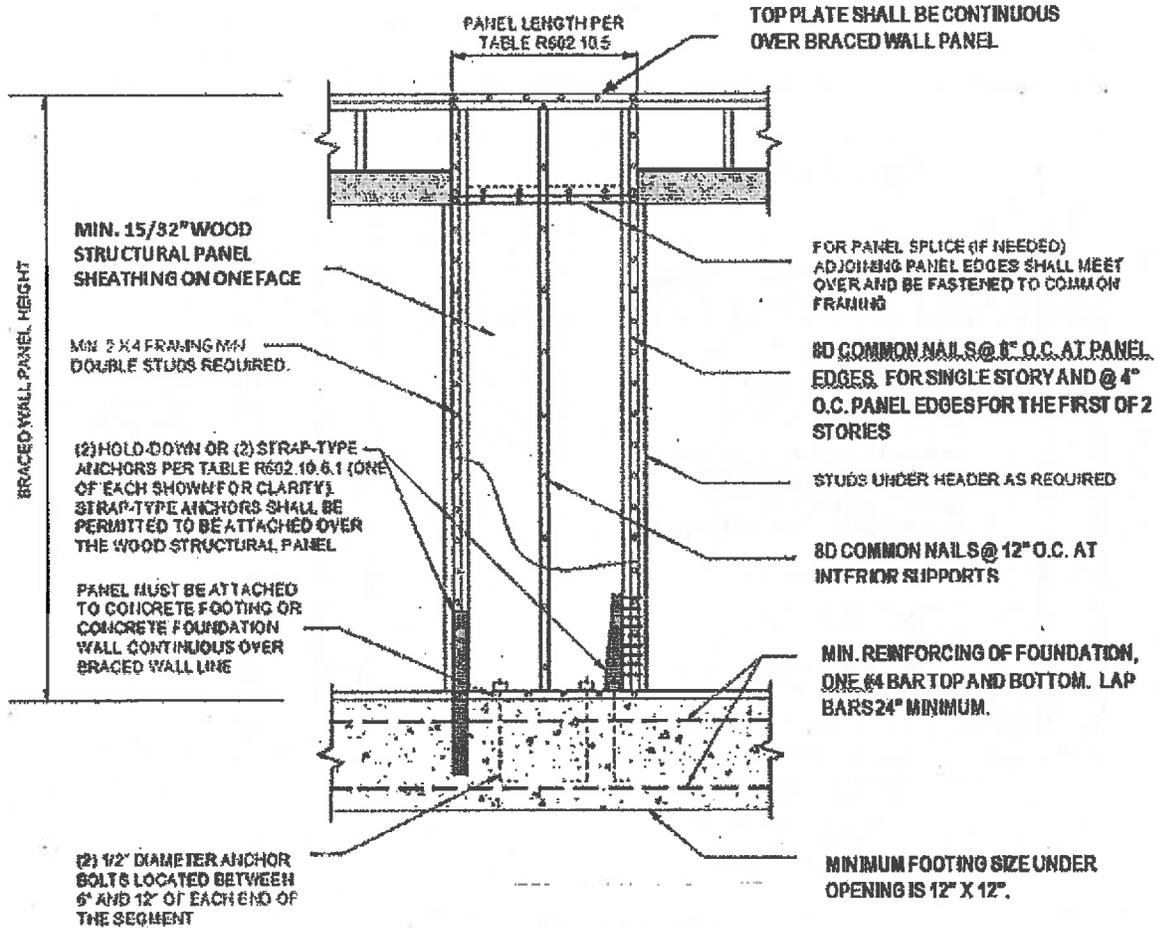
TABLE R602.10.4—continued
BRACING METHODS 1

METHODS, MATERIAL	MINIMUM THICKNESS	FIGURE	CONNECTION CRITERIA ¹		
			Fasteners	Spacing	
Intermittent Bracing Methods	PFH Portal frame with hold-downs	$\frac{1}{4}$ "		See Section R602.10.6.2	See Section R602.10.6.2
	PFG Portal frame at garage	$\frac{7}{16}$ "		See Section R602.10.6.3	See Section R602.10.6.3
Continuous Sheathing Methods	CS-WSP Continuously sheathed wood structural panel	15/32"		8d common (2 1/2" x 0.131) nails 3/8" edge distance to panel edge	6" edges 12" field
				8d common (2 1/2" x 0.131) nails 3/8" edge distance to panel edge	6" edges 12" field
	CS-G ^{1,2} Continuously sheathed wood structural panel adjacent to garage openings	15/32"		See Method CS-WSP	See Method CS-WSP
	CS-PF Continuously sheathed portal frame	15/32"		See Section R602.10.6.4	See Section R602.10.6.4
	CS-SFB ⁴ Continuously sheathed structural fiberboard	$\frac{1}{4}$ " or $\frac{2}{32}$ " for maximum 16" stud spacing		$1\frac{1}{2}$ " long x 0.12" dia. (for $\frac{1}{4}$ " thick sheathing) $1\frac{3}{4}$ " long x 0.12" dia. (for $\frac{2}{32}$ " thick sheathing) galvanized roofing nails or 8d common (2 1/2" long x 0.131" dia.) nails	3" edges 6" field

For SI: 1 inch = 25.4 mm, 1 foot = 305 mm, 1 degree = 0.0175 rad, 1 pound per square foot = 47.8 N/m², 1 mile per hour = 0.447 m/s.

- Adhesive attachment of wall sheathing, including Method GB, shall not be permitted in Seismic Design Categories C, D₀, D₁ and D₂.
- Applies to panels next to garage door opening when supporting gable end wall or roof load only. May only be used on one wall of the garage. In Seismic Design Categories D₀, D₁, and D₂, roof covering dead load may not exceed 3 psf.
- Garage openings adjacent to a Method CS-G panel shall be provided with a header in accordance with Table R502.5(1). A full height clear opening shall not be permitted adjacent to a Method CS-G panel.
- Method CS-SFB does not apply in Seismic Design Categories D₀, D₁ and D₂ and in areas where the wind speed exceeds 100 mph.
- Method applies to detached one- and two-family dwellings in Seismic Design Categories D₀ through D₂ only.
- Methods GB and PCP braced wall panel h/w ratio shall not exceed 1:1 in SDC D₀, D₁, or D₂. Methods LIB, DWB, SFB, PBS, HPS, and PFG are not permitted in SDC D₀, D₁, or D₂.
- Use of staples in braced wall panels shall be prohibited in SDC D₀, D₁, or D₂.

(k) **Alternate Braced Wall Panel.** Amend Figure R602.10.6.1 of the California Residential Code to read as follows:



**FIGURE R602.10.6.1
METHOD ABW—ALTERNATE BRACED WALL PANEL**

(I) Portal Frame. Amend Figure R602.10.6.2 of the California Residential

Code to read as follows:

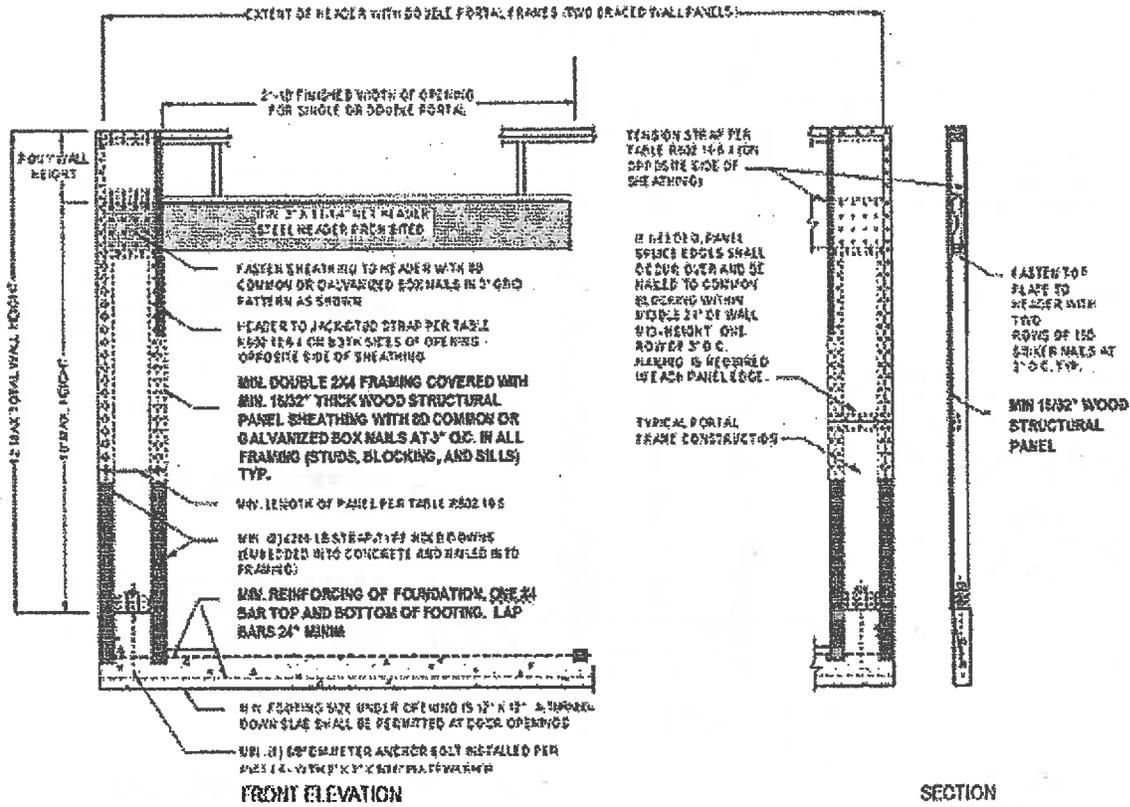


FIGURE R602.10.6.2
METHOD PFH-PORTAL FRAME WITH HOLD-DOWNS
AT DETACHED GARAGE DOOR OPENINGS

(m) Minimum Length of Braced Wall Panels. Table R602.10.5 of the California Residential Code is amended to read as follows:

TABLE R602.10.5
MINIMUM LENGTH OF BRACED WALL PANELS

METHOD (See Table R602.10.4)		MINIMUM LENGTH ^a (inches)					CONTRIBUTING LENGTH (inches)
		Wall Height:					
		8 feet	9 feet	10 feet	11 feet	12 feet	
DWB, WSP, SFB, PBS, PCP, HPS, BV-WSP		48	48	48	53	58	Actual ^b
GB		48	48	48	53	58	Double sided = Actual Single sided = 0.5 x Actual
LIB		55	62	69	NP	NP	Actual ^b
ABW	SDC A, B and C, wind speed < 110 mph	28	32	34	38	42	48
	SDC D ₁ , D ₂ and D ₃ , wind speed < 110 mph	32	32	34	NP	NP	
PFH	Supporting roof only	24	24	24	24	24	48
	Supporting one story and roof	24	24	24	27 ^c	29 ^c	48
PPG		24	27	30	33 ^d	36 ^d	1.5 x Actual ^b
CS-G		24	27	30	33	36	Actual ^b
CS-PF		24	24	24	24	24	Actual ^b
CS-WSP, CS-SFB	Adjacent clear opening height (inches)						Actual ^b
	≤ 64	24	27	30	33	36	
	68	26	27	30	33	36	
	72	27	27	30	33	36	
	76	30	29	30	33	36	
	80	32	30	30	33	36	
	84	35	32	32	33	36	
	88	38	35	33	33	36	
	92	43	37	35	35	36	
	96	48	41	38	36	36	
	100	—	44	40	38	38	
	104	—	49	43	40	39	
	108	—	54	46	43	41	
	112	—	—	50	45	43	
	116	—	—	55	48	45	
	120	—	—	60	52	48	
	124	—	—	—	56	51	
	128	—	—	—	61	54	
132	—	—	—	66	58		
136	—	—	—	—	62		
140	—	—	—	—	66		
144	—	—	—	—	72		

For SI: 1 inch = 25.4 mm, 1 foot = 304.8 mm, 1 mile per hour = 0.447 m/s.

NP = Not Permitted.

a. Linear interpolation shall be permitted.

b. Use the actual length when it is greater than or equal to the minimum length.

c. Maximum header height for PFH is 10 feet in accordance with Figure R602.10.6.2, but wall height may be increased to 12 feet with pany wall.

d. Maximum opening height for PPG is 10 feet in accordance with Figure R602.10.6.3, but wall height may be increased to 12 feet with pany wall.

e. Maximum opening height for CS-PF is 10 feet in accordance with Figure R602.10.6.4, but wall height may be increased to 12 feet with pany wall.

(p) **Braced Wall Panel.** Delete Section R602.10.9.1 of the California Residential Code.

(q) **Additional Requirements.** Add Section R803.2.4 to Chapter 8 of the California Residential Code to read as follows:

R803.2.4 Openings in Horizontal Diaphragms. Openings in horizontal diaphragms shall conform with Section R503.2.4.

(r) **Parapet Walls.** Section R606.2.4 of the California Residential Code is amended to read as follows:

R606.2.4 Parapet walls. Unreinforced solid masonry parapet walls shall not be less than 8 inches (203 mm) thick and their height shall not exceed four times their thickness. Unreinforced hollow unit masonry parapet walls shall be not less than 8 inches (203 mm) thick, and their height shall not exceed three times their thickness. Masonry parapet walls in areas subject to wind loads of 30 pounds per square foot (1.44 kPa) or located in Seismic Design Category D₀, D₁ or D₂, or on townhouses in Seismic Design Category C shall be reinforced in accordance with Section R606.12.

(s) **Masonry Elements.** Section R606.12.2.2.3 of the California Residential Code is amended to read as follows:

R606.12.2.2.3 Reinforcement requirements for masonry elements. Masonry elements listed in Section R606.12.2.2.2 shall be reinforced in either the horizontal or vertical direction as shown in Figure R606.11(3) and in accordance with the following:

1. **Horizontal reinforcement.** Horizontal joint reinforcement shall consist of at least one No. 4 bar spaced not more than 48 inches (1219 mm). Horizontal

reinforcement shall be provided within 16 inches (406 mm) of the top and bottom of these masonry elements.

2. Vertical reinforcement. Vertical reinforcement shall consist of at least one No. 4 bar spaced not more than 48 inches (1219 mm). Vertical reinforcement shall be within 8 inches (406mm) of the ends of masonry walls.

SECTION 17. Section 8.22.050 of the Santa Monica Municipal Code is hereby amended as follows:

8.22.050 Residential foundations.

(a) **Foundation Application.** Amend Section R401.1 of the California Residential Code to read as follows:

R401.1 Application. The provisions of this chapter shall control the design and construction of the foundation and foundation spaces for all buildings. In addition to the provisions of this chapter, the design and construction of foundations in areas prone to flooding as established by Table R301.2(1) shall meet the provisions of Section R322. Wood foundations shall be designed and installed in accordance with AF&PA PWF.

Exception: The provisions of this chapter shall be permitted to be used for wood foundations only in the following situations:

1. In buildings that have no more than two floors and a roof.
2. When interior basement and foundation walls are constructed at intervals not exceeding 50 feet (15 240 mm).

Wood foundations in Seismic Design Category D₀, D₁ or D₂ shall not be permitted.

Exception: In non-occupied, single-story, detached storage sheds and similar uses other than carport or garage, provided the gross floor area does not exceed 200 square feet, the plate height does not exceed 12 feet in height above the grade plane at any point, and the maximum roof projection does not exceed 24 inches.

(b) **Continuous footings.** Sections R403.1.2, R403.1.3 and R403.1.5 of the California Residential Code are amended to read as follows:

R403.1.2 Continuous footing in Seismic Design Categories D₀, D₁ and D₂.

The braced wall panels at exterior walls of buildings located in Seismic Design Categories D₀, D₁ and D₂ shall be supported by continuous footings. All required interior braced wall panels in buildings shall be supported by continuous footings.

R403.1.3 Seismic reinforcing. Concrete footings located in Seismic Design Categories D₀, D₁ and D₂, as established in Table R301.2(1), shall have minimum reinforcement. Bottom reinforcement shall be located a minimum of 3 inches (76 mm) clear from the bottom of the footing.

In Seismic Design Categories D₀, D₁ and D₂ where construction joint is created between a concrete footing and a stem wall, a minimum of one No. 4 bar shall be installed at not more than 4 feet (1219 mm) on center. The vertical bar shall extend to 3 inches (76 mm) clear of the bottom of the footing, have a standard hook and extend a minimum of 14 inches (357 mm) into the stem wall.

In Seismic Design Categories D₀, D₁ and D₂ where a grouted masonry stem wall is supported on a concrete footing and stem wall, a minimum of one No. 4 bar shall be installed at not more than 4 feet (1219 mm) on center. The vertical bar shall extend to 3 inches (76 mm) clear of the bottom of the footing and have a standard hook.

In Seismic Design Categories D₀, D₁ and D₂ masonry stem walls without solid

grout and vertical reinforcing are not permitted.

Exception: In detached one- and two-family dwellings located in Seismic Design Category A, B or C which are three stories or less in height and constructed with stud bearing walls, isolated plain concrete footings, supporting columns or pedestals are permitted.

403.1.5 Slope. 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 located in Seismic Design Categories D₀, D₁ or D₂, stepped footings shall be reinforced with four No. 4 rebar. Two bars shall be placed at the top and bottom of the footings as shown in Figure R403.1.5.

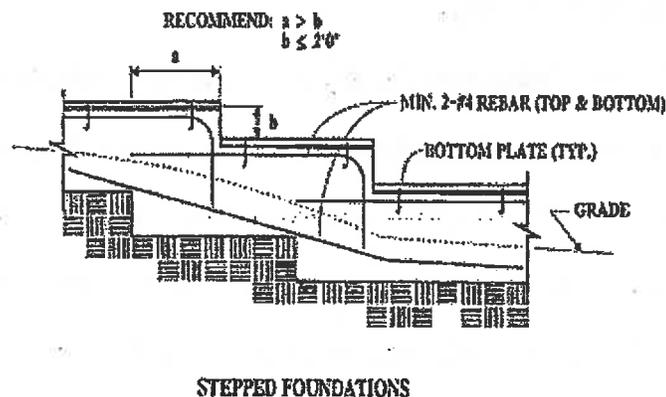


FIGURE R403.1.5
STEPPED FOOTING

(c) **Wood Foundation Walls.** Amend Section R404.2 of the California Residential Code to read as follows:

R404.2 Wood Foundation Walls. Wood foundation walls shall be constructed in accordance with the provisions of Sections R404.2.1 through R404.2.6 and with the details shown in Figures R403.1(2) and R403.2(3). Wood foundation walls shall not be used for structures located in Seismic Design Category D₀, D₁ or D₂.

SECTION 18. Section 8.22.060 of the Santa Monica Municipal Code is hereby amended as follows:

8.22.060 Residential concrete and masonry chimneys.

(a) **Vertical Reinforcing.** Amend Section R1001.3.1 of the California Residential Code to read as follows: .

R1001.3.1 Vertical Reinforcing. For chimneys up to 40 inches (1016 mm) wide, four No. 4 continuous vertical bars adequately anchored into the concrete foundation shall be placed between wythes of solid masonry or within the cells of hollow unit masonry and grouted in accordance with Section R609. Grout shall be prevented from bonding with the flue liner so that the flue liner is free to move with thermal expansion. For chimneys more than 40 inches (1016 mm) wide, two additional No. 4 vertical bars adequately anchored into the concrete foundation shall be provided for each additional flue incorporated into the chimney or for each additional 40 inches (1016 mm) in width or fraction thereof.

SECTION 19. Section 8.22.070 of the Santa Monica Municipal Code is hereby repealed.

SECTION 20. Section 8.22.080 of the Santa Monica Municipal Code is hereby amended as follows:

8.22.080 Residential wood construction.

(a) **Fastener Schedule.** Amend Lines 37 and 38 of Table R602.3(1) of the California Residential Code to read as follows:

TABLE R602.3(1)—continued
FASTENER SCHEDULE FOR STRUCTURAL MEMBERS

ITEM	DESCRIPTION OF BUILDING MATERIALS	DESCRIPTION OF FASTENER ^{b,c,d}	SPACING OF FASTENERS	
			Edges (inches) ^e	Intermediate supports ^{f,g} (inches)
Wood structural panels, subfloor, roof and interior wall sheathing to framing and particleboard wall sheathing to framing				
32	$\frac{3}{8}$ " - $\frac{1}{2}$ "	6d common (2" x 0.113") nail (subfloor wall) 8d common (2 $\frac{1}{2}$ " x 0.131") nail (roof)	6	12 ^h
33	$\frac{3}{8}$ " - 1"	8d common nail (2 $\frac{1}{2}$ " x 0.131")	6	12 ^h
34	$1\frac{1}{8}$ " - $1\frac{1}{4}$ "	10d common (3" x 0.148") nail or 8d (2 $\frac{1}{2}$ " x 0.131") deformed nail	6	12
Other wall sheathing^g				
35	$\frac{1}{2}$ " structural cellulose fiberboard sheathing	$1\frac{1}{2}$ " galvanized roofing nail, $\frac{3}{16}$ " crown or 1" crown staple 16 ga., $1\frac{1}{4}$ " long	3	6
36	$\frac{3}{8}$ " structural cellulose fiberboard sheathing	$1\frac{1}{2}$ " galvanized roofing nail, $\frac{3}{16}$ " crown or 1" crown staple 16 ga., $1\frac{1}{4}$ " long	3	6
37 ^k	$\frac{1}{2}$ " gypsum sheathing ^g	$1\frac{1}{2}$ " galvanized roofing nail; staple galvanized, $1\frac{1}{2}$ " long; $1\frac{1}{4}$ " screws, Type W or S	7	7
38 ^k	$\frac{3}{8}$ " gypsum sheathing ^g	$1\frac{1}{2}$ " galvanized roofing nail; staple galvanized, $1\frac{1}{2}$ " long; $1\frac{1}{4}$ " screws, Type W or S	7	7
Wood structural panels, combination subfloor underlayment to framing				
39	$\frac{1}{2}$ " and less	6d deformed (2" x 0.120") nail or 8d common (2 $\frac{1}{2}$ " x 0.131") nail	6	12
40	$\frac{3}{8}$ " - 1"	8d common (2 $\frac{1}{2}$ " x 0.131") nail or 8d deformed (2 $\frac{1}{2}$ " x 0.120") nail	6	12
41	$1\frac{1}{8}$ " - $1\frac{1}{4}$ "	10d common (3" x 0.148") nail or 8d deformed (2 $\frac{1}{2}$ " x 0.120") nail	6	12

For SI: 1 inch = 25.4 mm, 1 foot = 304.8 mm, 1 mile per hour = 0.447 m/s; 1 ksi = 6.895 MPa.

- All nails are smooth-shank, box or deformed shanks except where otherwise stated. Nails used for framing and sheathing connections shall have minimum average bending yield strengths as shown: 80 ksi for shank diameter of 0.192 inch (20d common nail), 90 ksi for shank diameters larger than 0.192 inch but not larger than 0.177 inch, and 100 ksi for shank diameters of 0.142 inch or less.
- Staples are 16 gage wire and have a minimum $\frac{3}{16}$ -inch on diameter crown width.
- Nails shall be spaced at not more than 6 inches on center at all supports where spans are 48 inches or greater.
- Four-foot by 8-foot or 4-foot by 9-foot panels shall be applied vertically.
- Spacing of fasteners not included in this table shall be based on Table R602.3(2).
- For regions having basic wind speed of 110 mph or greater, 8d deformed (2 $\frac{1}{2}$ " x 0.120") nails shall be used for attaching plywood and wood structural panel roof sheathing to framing within minimum 48-inch distance from gable end walls, if mean roof height is more than 25 feet, up to 35 feet maximum.
- For regions having basic wind speed of 100 mph or less, nails for attaching wood structural panel roof sheathing to gable end wall framing shall be spaced 6 inches on center. When basic wind speed is greater than 100 mph, nails for attaching panel roof sheathing to intermediate supports shall be spaced 6 inches on center for minimum 48-inch distance from ridges, eaves and gable end walls; and 4 inches on center to gable end wall framing.
- Gypsum sheathing shall conform to ASTM C 1396 and shall be installed in accordance with GA 253. Fiberboard sheathing shall conform to ASTM C 208.
- Spacing of fasteners on floor sheathing panel edges applies to panel edges supported by framing members and required blocking and at all floor perimeters only. Spacing of fasteners on roof sheathing panel edges applies to panel edges supported by framing members and required blocking. Blocking of roof or floor sheathing panel edges perpendicular to the framing members need not be provided except as required by other provisions of this code. Floor perimeter shall be supported by framing members or solid blocking.
- Where a rafter is fastened to an adjacent parallel ceiling joist in accordance with this schedule, provide two toe nails on one side of the rafter and toe nails from the ceiling joist to top plate in accordance with this schedule. The toe nail on the opposite side of the rafter shall not be required.
- Use of staples in braced wall panels shall be prohibited in Seismic Design Category D_s, D₁, or D₂.

Other wall sheathing ^b				
24	$\frac{1}{2}$ " structural cellulosic fiberboard sheathing	$\frac{1}{2}$ " galvanized roofing nail	3	6
25	$\frac{25}{32}$ " structural cellulosic fiberboard sheathing	$\frac{3}{8}$ " galvanized roofing nail	3	6
26	$\frac{1}{2}$ " gypsum sheathing ^d	$\frac{1}{2}$ " galvanized roofing nail $\frac{1}{4}$ " screws, Type W or S	7	7
27	$\frac{5}{8}$ " gypsum sheathing ^d	$\frac{3}{4}$ " galvanized roofing nail $\frac{5}{8}$ " screws, Type W or S	7	7

(b) **Alternate Attachment.** Amend footnote "b" of Table R602.3(2) of the California Residential Code to read as follows:

b. Staples shall have a minimum crown width of 7/16-inch on diameter except as noted. Use of staples in roof, floor, subfloor, and braced wall panels shall be prohibited in Seismic Design Category D₀, D₁, or D₂.

Wood structural panels subfloor, roof and wall sheathing to framing and particleboard wall sheathing to framing ^f			
up to $\frac{1}{2}$ "	D.097 - D.099 Nail $2\frac{1}{4}$ "	3	6
$\frac{15}{32}$ " and $\frac{7}{8}$ "	D.113 Nail 2"	3	6
	D.097 - D.099 Nail $2\frac{1}{4}$ "	4	6
$\frac{23}{32}$ " and $\frac{3}{4}$ "	D.097 - D.099 Nail $2\frac{1}{4}$ "	4	6
1"	D.113 Nail $2\frac{1}{4}$ "	3	6

Floor underlayment: plywood, hardboard, particleboard ^f			
Plywood			
$\frac{1}{8}$ " and $\frac{5}{16}$ "	$1\frac{1}{4}$ " lag or screw shank nail minimum $12\frac{1}{2}$ " ga. (D.099") shank diameter	3	6
$\frac{11}{32}$ " $\frac{3}{8}$ " $\frac{15}{32}$ " and $\frac{1}{2}$ "	$1\frac{1}{4}$ " lag or screw shank nail minimum $12\frac{1}{2}$ " ga. (D.099") shank diameter	6	9 ^d
$\frac{19}{32}$ " $\frac{5}{8}$ " $\frac{23}{32}$ " and $\frac{3}{4}$ "	$1\frac{1}{2}$ " lag or screw shank nail minimum $12\frac{1}{2}$ " ga. (D.099") shank diameter	6	6

SECTION 21. Section 8.24.010 of the Santa Monica Municipal Code is hereby amended as follows:

8.24.010 Adoption.

That certain document entitled "California Electrical Code, 2013 Edition," which adopts by reference the National Electrical Code, 2011 Edition, as published by the California Building Standards Commission and the National Fire Protection Association including Article 89, Informative Annex C, are hereby adopted with the local amendments and provisions of this Chapter, as the Electrical Code of the City of Santa Monica.

SECTION 22. Section 8.24.040 of the Santa Monica Municipal Code is hereby amended as follows:

8.24.040 Electrical appliances, devices, materials and equipment regulations.

(a) **Use of Approved Materials.** No person, firm or corporation shall use any electrical material, device, appliance or equipment, designed or intended for attachment, directly or indirectly, to any electrical system, circuit or electrical service for light, heat or power in the City unless such electrical material, device, appliance or equipment complies with the provisions of this Chapter. The Building Officer is hereby empowered to enforce the provisions of this Chapter.

(b) **Rating.** All electrical materials, devices, appliances, or equipment designed or intended for attachment, directly or indirectly, to any electrical system, circuit or electrical service for light, heat or power, shall be only those that conform with

the requirements of this Chapter. Each such article shall bear or contain the makers name, trademark or identification symbol, together with such rating by the manufacturer as may be necessary to determine the intended use. The correct operating voltage, amperage and total watts shall be stated and no person shall remove, alter, deface or obliterate any such marking.

(c) **Approvals.** All electrical materials, devices, appliances, or equipment covered by and intended to be regulated by this Chapter shall conform to the published National Safety Standards for such materials, devices, appliances or equipment on file in the office of the United States Bureau of Standards. Listing or labeling by the Underwriters Laboratories, Inc., or other recognized testing laboratory whose standards are on file with the United States Bureau of Standards shall be prima facie evidence of conformity with these required standards. Where no such standards exist for any material, device, appliance or equipment, the Building Officer may designate a standard for each article submitted, which shall specify the tests necessary to provide the degree of safety to life and property as is generally required by the National Standards for approved materials, devices, appliances and equipment of similar or related character or nature.

(d) **Revocation.** Any approval granted by the Building Officer may be revoked if the electrical material, device, appliance, or equipment is found to be hazardous, unsuitable for the purpose used or intended, or does not conform with the standards under which it was approved for use.

(e) **Exceptions.** The provisions of this Chapter shall not be deemed to apply to:

(1) Safe, substantial, used or second-hand devices or appliances, provided

that all parts or equipment used in rebuilding or reconstruction shall conform in all particulars with the National Standards for such article, and provided further, that such articles shall have the same degree of safety to life and property as may then be required in a new article of the same type.

(2) Electrical materials, devices, appliances and equipment which are safe and suitable for the purpose used or intended, provided such materials, devices, appliances and equipment are already fully covered and regulated by existing laws and ordinances now in effect.

(3) Vehicles or motor vehicle equipment.

(4) Industrial or commercial appliances which are to be used in a specific location, and which have been submitted to a recognized laboratory for approval as conforming to the standards required hereof but on which final approval is still pending; provided, however, that exemption from the provisions of this Code shall be granted separately for each appliance only when satisfactory written evidence has been filed that laboratory approval has been applied for, and shall continue in force only during such time as the Building Officer has reason to believe that the testing laboratory will grant final approval certifying compliance to the prescribed standards.

SECTION 23. Section 8.24.060 of the Santa Monica Municipal Code is hereby repealed.

SECTION 24. Section 8.24.070 of the Santa Monica Municipal Code is hereby repealed.

SECTION 25. Section 8.24.080 of the Santa Monica Municipal Code is hereby repealed.

SECTION 26. Section 8.24.090 of the Santa Monica Municipal Code is hereby amended to read as follows:

8.24.090 Protection of metallic enclosures in a marine environment.

Where a metallic enclosure is installed outdoors within 402.4 meters (0.25 miles) from the mean shoreline, the enclosure shall have adequate protection against severe corrosive influences.

SECTION 27. Section 8.28.010 of the Santa Monica Municipal Code is hereby amended to read as follows:

8.28.010 Adoption.

That certain document entitled "California Mechanical Code, 2013 Edition," which adopts by reference the Uniform Mechanical Code, 2012 Edition, as published by the California Building Standards Commission and the International Association of Plumbing and Mechanical Officials, (excluding Sections 106.1, 106.2, 106.3, 106.4, 106.8, 106.9, 108, 109, 110 through 118), including Chapter 1, Division I, Sections 101, 102, 103, 104, 105, 106.5-106.7, 107, Appendixes B, C, D, are hereby adopted as the Mechanical Code of the City of Santa Monica.

SECTION 28. Section 8.32.010 of the Santa Monica Municipal Code is hereby amended to read as follows:

8.32.010 Adoption.

That certain document entitled "California Plumbing Code, 2013 Edition," which adopts by reference the Uniform Plumbing Code, 2012 Edition, as published by the California Building Standards Commission and the International Association of Plumbing and Mechanical Officials (excluding Sections 102.2.1, 102.2.2, 102.2.5, 102.3, 102.4, 102.5, 103, Appendix L), including Chapter 1, Division I, Sections 101, 102.1, Appendices A, B, D, H, I, K, are hereby adopted with the local amendments and provisions of this Chapter, as the Plumbing Code of the City of Santa Monica.

SECTION 29. Section 8.32.030 of the Santa Monica Municipal Code is hereby repealed.

SECTION 30. Section 8.32.050 of the Santa Monica Municipal Code is hereby repealed.

SECTION 31. Section 8.32.060 of the Santa Monica Municipal Code is hereby repealed.

SECTION 32. Section 8.32.070 of the Santa Monica Municipal Code is hereby amended as follows:

8.32.070 Seismic gas shutoff devices.

(a) Purpose. The purpose of this Section is to reduce the risks of fires caused by leaks in fuel gas piping caused from earthquakes by use of earthquake-actuated automatic gas shutoff systems.

(b) Scope. The provisions of this section shall apply to:

(1) Any new building, structure or mobilehome park with fuel gas piping, for which an application for permit for construction was first submitted on or after January 1, 2008.

(2) Any existing building or structure or mobilehome park with fuel gas piping for which an application for alteration or addition is submitted on or after January 1, 2008, when such alteration or addition is valued at more than ten thousand dollars.

(3) Any existing building or structure or mobilehome park with fuel gas piping on or after January 1, 2008 for which an agreement for sale or exchange was first entered into.

(c) Definitions. For the purpose of this Section, certain terms, phrases, words and their derivatives shall be construed as specified in this Section. Where terms are not defined, they shall have their ordinarily accepted meanings within the context with which they are used.

(1) "Agreement of sale or exchange" shall mean any agreement or written instrument which provides that title to any property shall thereafter be transferred from one owner to another owner.

(2) "Customer-owned gas piping" means all parts of the gas piping system downstream of the gas utility point of delivery, including, but not limited to, downstream of the gas utility meter and service tee (also known as a bypass tee).

(3) "Application for permit" means a written document submitted to the City in order to obtain a permit to erect, construct, enlarge, alter, repair, move, improve, convert or remove a portion of any building, structure or building service equipment including but not limited to combination building permits and single trade permits.

(4) "Seismic gas shutoff device" means a seismic gas shutoff device installed on customer-owned gas piping certified by the State Architect pursuant to Section 19202 of the Health and Safety Code. Notwithstanding any other provision of law, "seismic gas shutoff device" does not include any device installed on a gas distribution system owned or operated by a public utility.

(d) Duty to Install and Maintain Device. The owner of any building, structure or mobilehome park subject to the provisions of this Section shall obtain a permit, install and maintain a seismic gas shutoff device on the customer owned gas piping when one of the triggering events specified in subsection (b) of this Section occurs.

(1) For agreement of sale or exchange or qualifying alterations or additions to individual condominium units, the owner of the individual condominium shall obtain a permit, install and maintain a seismic gas shutoff device on the portion of the customer owned gas piping that serves the individual condominium unit if such a device does not exist on the customer owned gas piping that serves the entire building.

(2) Seismic gas shutoff devices installed prior to January 1, 2008 on either customer owned gas piping or on a gas distribution system owned or operated by a public utility are deemed to comply with the requirements of this section provided they remain installed and maintained according to the terms of their original approval.

(e) Unreasonable Hardship. The Building Officer may grant exceptions to the provisions of this Section when legal, physical or economic constraints will not allow

compliance without creating an unreasonable hardship. Unreasonable economic hardship shall be deemed to exist when the Building Officer determines that the fair market value of the cost of installation of the seismic gas shutoff device exceeds twenty percent of the valuation of other alterations being proposed.

(f) Effect on Sale and Exchange of Property. No sale or exchange of property shall be invalidated solely because of the failure of any person to comply with any provision of this Section unless such failure is an act or omission which would be a valid ground for rescission of such sale or exchange in the absence of this Section.

(g) Incentives. All such applications shall receive priority service as defined in Santa Monica Municipal Code Chapter 1.20.

SECTION 33. Section 8.36.010 of the Santa Monica Municipal Code is hereby amended to read as follows:

8.36.010 Adoption.

That certain document entitled "2013 Building Energy Efficiency Standards— Standards for Residential and Nonresidential Buildings" which adopts Part 6 of Title 24 and Article 1 of Part 1 of the California Code of Regulations, as published by the California Building Standards Commission and the California Energy Commission is hereby adopted as the Energy Code of the City of Santa Monica.

SECTION 34. Section 8.40.010 of the Santa Monica Municipal Code is hereby amended to read as follows:

8.40.010 Adoption.

That certain document entitled "California Fire Code, 2013 Edition," which adopts by reference the International Fire Code, 2012 Edition, as published by the California Building Standards Commission and the International Code Council (excluding Sections 105.3.2, 108, Appendix J), including Chapter 1, Division I, Chapter 1, Division II, Appendices Chapter 4, B, BB, C, CC, H, and the most recent referenced version, adopted by the State of California, of the National Fire Codes as published by the National Fire Protection Association, are hereby adopted with the local amendments and provisions of this Chapter, and with Chapter 8.44 of the Santa Monica Municipal Code, as the Fire Code of the City of Santa Monica.

SECTION 35. Section 8.40.020 of the Santa Monica Municipal Code is hereby amended to read as follows:

8.40.020 Local amendments to the California Fire Code.

Notwithstanding any provisions of the California Fire Code, California Building Standards Code, State Housing Law or other codes adopted by any Chapter in Article VIII of the Municipal Code to the contrary, the following local amendments shall apply.

(a) Chapter 5, Section 505.1.1 of the California Fire Code is added to read as follows:

505.1.1 Additional Requirements. Numbers shall be a minimum of 6 inches high for commercial structures and 4 inches high for interior suites, offices, rooms etc. and one- and two-family dwellings with a minimum stroke width of 0.5 inch. All buildings shall display the assigned address number so as to be visible from the street and alley

upon which the address is based. Numbers shall be in contrast to their background.

(b) Chapter 9, Section 901.10 of the California Fire Code is added to read as follows:

901.10 Problematic Systems and Systems Out of Service. In the event of a failure of a fire-protection system or an excessive number of accidental activations, the Fire Chief is authorized to require the building owner or occupant to provide fire watch personnel until the system is repaired. The chief is authorized to require the building owner or occupant to provide a fire watch.

(c) Chapter 9, Section 901.11 of the California Fire Code is added to read as follows:

901.11 Firewatch. The chief is authorized to require the building owner or occupant to provide a fire watch with personnel acceptable to the Fire Chief until documentation is provided that the system is repaired and is operational. Such individuals shall be provided with at least one approved means for notification of the fire department and their only duty shall be to perform constant patrols of the protected premises and keep watch for fires.

(d) Chapter 9, Section 905.3.2 Standpipe-Systems Group A of the California Fire Code is hereby amended to read as follows:

905.3.2 Group A. Class 1 automatic wet standpipes shall be provided in nonsprinklered Group A buildings having an occupant load exceeding 1,000 persons.

Exceptions:

1. Open-air seating spaces without enclosed spaces.

(e) Chapter 9, Section 906.1 Portable Fire Extinguishers of the California Fire Code is hereby amended to read as follows:

906.1 Where required. Portable fire extinguishers shall be installed in the following locations.

1. In new and existing Group A, B, E, F, H, I, L, M, R-1, R-2, R-2.1, R-3.1, R-4 and S occupancies.

2. Within 30 feet (9144 mm) of commercial cooking equipment.

3. In areas where flammable or combustible liquids are stored, used or dispensed.

4. On each floor of structures under construction, except Group R-3 occupancies, in accordance with Section 3315.1.

5. Where required by the section indicated in Table 906.1.

6. Special-hazard areas, including but not limited to laboratories, computer rooms and generator rooms, where required by the fire code official.

7. Large and small family day-care homes shall be equipped with a portable fire extinguisher having a minimum 2-A:10-B:C rating.

8. Where required by California Code of Regulations, Title 19, Division 1.

(f) Chapter 56, Section 5615 of the California Fire Code is added to read as follows:

5615 Seizure of Fireworks. All fireworks shall be illegal in the City of Santa Monica including California State Fire Marshal Safe and Sane. The fire code official shall have the authority to seize, take and remove fireworks and/or safe and sane fireworks stored, sold, offered for sale, used or handled in violation of the provisions of Title 19 CCR, Chapter 6 and Health and Safety Code, Chapter 9. Exception: When permits are issued for such use.

SECTION 35. Section 8.44.090 of the Santa Monica Municipal Code is hereby amended to read as follows:

8.44.090 High-rise building requirements.

New buildings or structures housing any occupancy classification having floors used for human occupancy more than fifty-five feet above the lowest level of Fire Department vehicle access shall be defined as a high-rise building or structure. Such high-rise buildings or structures shall comply with the high-rise building requirements contained in Section 403 of the California Building Code.

These requirements shall not apply to:

- (1) Hospitals as defined in Health and Safety Code Section 1250;
- (2) Buildings used exclusively as open parking garages;
- (3) Buildings such as power plants, lookout towers, steeples, grain houses and similar structures with noncontinuous human occupancy only when so determined by the Fire Chief;
- (4) Buildings owned by any public agency or school district.

Any full automatic fire sprinkler system installed in any high-rise building shall have two connections with control valves to independent risers on each floor level, with each riser being of the size necessary to supply the required water supply.

SECTION 37. Section 8.48.050 of the Santa Monica Municipal Code is hereby repealed.

SECTION 38. Section 8.56.020 of the Santa Monica Municipal Code is hereby

amended as follows:

8.56.020 Standards for repair, reconstruction and reinforcement of unreinforced masonry buildings.

(a) **General.** In addition to the requirements of Chapter 8.60, the following requirements shall apply to the repair, reconstruction and reinforcement of unreinforced masonry buildings.

(1) Within sixty days of the date notice to the property owner is provided by the City, the property owner of any unreinforced masonry building damaged by the January 17, 1994 Northridge earthquake or its aftershocks, shall submit to the Building Officer a report prepared by a licensed engineer, identifying the extent of damage to the structure and the necessary repairs. Necessary repairs shall be made within eighteen months from the date the notice is provided by the City.

(2) Except as provided in Subsection (c), when any portion of an unreinforced masonry building such as a parapet, wall or other element has failed or collapsed, repairs shall be made with wood frame or steel construction, or other material structurally compatible with the unreinforced masonry. Reinforced masonry and concrete shall not be considered structurally compatible with the underlying unreinforced masonry. Repairs shall be made by December 21, 1995.

(b) **Parapets.**

(1) Any unreinforced masonry parapet or portion thereof damaged by the January 17, 1994 Northridge earthquake or its aftershocks, with ten percent or more of damage on any side, or where the cost of repair exceeds fifty thousand dollars, shall be braced by December 21, 1995 in accordance with Appendix Chapter A1 of the

California Existing Building Code.

(2) Any unreinforced masonry parapet, or portion thereof located within Zone 1, shall be braced to the roof in accordance with Appendix Chapter A1 of the California Existing Building Code by December 21, 1995, or as part of any earthquake repair building permit, whichever occurs first. For parapets located in Zone 2, all parapets shall be braced according to the timetable for making structural alterations contained in Chapter 8.60 of the Municipal Code.

(c) **Walls.**

(1) Any unreinforced masonry wall damaged by the January 17, 1994 Northridge earthquake or its aftershocks with less than ten percent of cracking on any elevation where the wall remains connected to the floor and ceiling and the wall remains in plane, may be repaired with grout or epoxy and shall be repaired by December 21, 1995.

(2) If any unreinforced masonry wall damaged by the January 17, 1994 Northridge earthquake or its aftershocks has any elevation out of plane, but by less than two percent, a review and analysis by a licensed engineer is required to determine the extent of damage and the necessary work to repair the damage. Such analysis shall be submitted to the Building Officer by December 21, 1994. Repairs shall be completed by December 21, 1995.

(3) If any unreinforced masonry wall damaged by the January 17, 1994 Northridge earthquake or its aftershocks has any elevation out of plane by more than two percent, the entire wall shall be removed to the next available horizontal or vertical structural boundary.

(d) **Vacant Unreinforced Masonry Structures located in Zone 1.** Any

portion of a vacant unreinforced masonry structure located in Zone 1 which was damaged by the January 17, 1994 Northridge earthquake or its aftershocks, where the cost of repair exceeds ten thousand dollars, shall be structurally supported by December 21, 1995.

SECTION 39. Section 8.60.050 of the Santa Monica Municipal Code is hereby amended as follows:

8.60.050 Seismic provisions.

(a) **Essential and Hazardous Facilities.** Essential and hazardous facilities shall be strengthened to meet the requirements of the Building Code of the City of Santa Monica for new buildings of the same occupancy category.

(b) **All Other Buildings.** All buildings, other than essential or hazardous facilities, shall be strengthened to meet the requirements of Appendix Chapter A1 of the California Existing Building Code and the additional provisions of this Chapter.

SECTION 40. Section 8.60.080 of the Santa Monica Municipal Code is hereby amended as follows:

8.60.080 Appeals.

(a) **Initial Determination.** The owner of any building may appeal the Building Officer's initial determination that the building is within the scope of this Chapter to the Building and Fire Life Safety Commission. Such appeal shall be filed with the Commission by December 28, 1992, or within ninety days of date of initial determination, whichever is later. Any such appeal shall be decided by the Building and

Fire Life Safety Commission no later than ninety days after filing and the grounds thereof shall be stated clearly and concisely.

(b) **Abatement Proceedings.** Appeals or requests for modifications from any other determinations, orders, or actions by the Building Official pursuant to this Chapter may be made to the Building and Fire Life Safety Commission.

SECTION 41. Section 8.60.090 of the Santa Monica Municipal Code is hereby amended as follows:

8.60.090 Enforcement.

If the owner in charge or control of the subject building fails to comply with this Code within any of the time limits set forth herein, the Building Officer may order that the entire building be vacated and that the building remain vacated until this Code has been complied with.

If compliance has not been initiated within ninety days after the date the building has been ordered vacated or such additional time as may have been granted by the Nuisance Abatement Board, the Building Officer may:

- (1) Commence the building's demolition in accordance with the provisions of the California Building Code; or
- (2) Undertake and complete such structural alteration of the building as may be necessary in the sole judgment of the Building Officer to cause the building to conform to the earthquake standards specified in this Chapter, and to cause a lien for the costs of such structural alteration to be placed against the property. No demolition may occur pursuant to this Section without compliance with all City laws and regulations

governing demolitions.

SECTION 42. Section 8.60.110 of the Santa Monica Municipal Code is hereby amended as follows:

8.60.110 Canopies.

Prior to commencement of construction of any of the structural alterations required by this Chapter, a pedestrian protection canopy shall be constructed below any unreinforced masonry wall adjacent to any public right-of-way. Said canopy shall conform to the standards developed by the Director of Public Works.

SECTION 43. Section 8.60.120 of the Santa Monica Municipal Code is hereby amended as follows:

8.60.120 Shear test criteria for mortar quality.

(a) **Test Equipment.** An internal caliper, graduated in 0.001 of an inch (0.025 mm) increments shall be used to measure movement of the masonry unit. A hydraulic jack equipped with a pressure gauge graduated in increments of fifty psi (345 kPa) or less shall be used. The jack load shall be applied at a rate not exceeding five thousand pounds (22 240 N) per minute.

(b) **Minimum Number of Technicians and Test Readings.** The test shall be conducted by a minimum of two technicians. Load and displacement readings shall be recorded at the following intervals:

(1) At a caliper reading of 0.001 inch (0.025 mm);

(2) At the first visually observed sign of movement or cracking of the mortar or masonry unit;

(3) At a caliper reading of 0.02 inch (0.51 mm); and

(4) The ultimate load on the unit.

(c) **Representative Test Locations.** The masonry unit to be tested shall not be located adjacent to a bond course in a brick wall laid in common bond. Tests to evaluate the mortar quality of structural walls shall not be conducted in masonry veneer.

Walls with mortar values which are consistently low and do not meet the minimum quality values specified in this Section shall be entirely pointed per standards referenced in the California Building Code, except that the depth of joint penetration shall be one and one-half inch (38 mm) in lieu of the three-fourths inch (19 mm) specified.

(d) **Core Tests.** A minimum number of mortar test specimens equal to the number of required cores shall be prepared from the cores and tested as specified herein. The mortar joint of the outer wythe of the masonry core shall be tested in shear by placing the circular core section in a compression testing machine with the mortar bed joint rotated fifteen degrees from the axis of the applied load. The mortar joint tested in shear shall have an average ultimate stress of twenty psi (138 kPa) based on the gross area. The average shall be obtained from the total number of cores made. If test specimens cannot be made from cores taken, the shear value shall be reported as zero.

SECTION 44. Section 8.72.080 of the Santa Monica Municipal Code is hereby amended as follows:

8.72.080 Analysis and design.

(a) **General.** Every building within the scope of this Chapter shall be analyzed, designed and constructed in conformance with the Building Code except as modified herein. No alteration of the existing lateral force-resisting or vertical load-carrying system shall reduce the strength or stiffness of the existing structure.

When any portion of a building within the scope of this Chapter is constructed on or into a slope steeper than one unit vertical in three units horizontal, the lateral-force-resisting system at and below the base level diaphragm shall also comply with the provisions of Chapter 8.20 of this Code.

When the portion of the building that requires strengthening is limited to the underfloor area of the first floor and that area is used only as an uninhabited crawl space, strengthening requirements shall also comply with the provisions of Chapter 8.68 of this Code.

(b) **Scope of Load Path.** This Chapter requires the alteration, repair, replacement or addition of structural elements and their connections to meet the strength and stiffness requirements herein. The lateral load path analysis shall include the resisting elements and connections from the wood diaphragm above any soft, weak or open front wall lines to the foundation soil interface or reinforced concrete slab or masonry wall supporting elements below. The lateral load path analysis for added structural elements shall also include evaluation of the allowable soil bearing and lateral pressures in accordance with the Building Code.

When an open front, weak or soft wall line exists due to parking at the ground level of a two-level building and the parking area is less than twenty percent of the

ground floor level, then only the wall lines in the open, weak or soft directions of the enclosed parking area, need comply with the provisions of this Chapter.

(c) **Design Base Shear.** The design base shear in a given direction shall be equal to the base shear that the Building Code requires for new buildings.

(d) **Vertical Distribution of Forces.** The total seismic force shall be distributed over the height of the structure in accordance with the Building Code except that distribution of force by story weight shall be permitted for two-story buildings. The value of R used in the design of any story shall be less than or equal to the value of R used in the given direction for the story above.

(e) **Weak Story Limitation.** The structure shall not exceed thirty feet in height or two levels if the lower level strength is less than sixty-five percent of the story above. Existing walls shall be strengthened as required to comply with this provision unless the weak level can resist a total lateral seismic force of three times the design force prescribed in subsection (c) of this Section.

The story strength for each level of all other structures shall be a minimum of eighty percent of the story above.

(f) **Story Drift Limitation.** The calculated story drift for each retrofitted level shall not exceed the allowable deformation compatible with all vertical load resisting elements and the story drift limitations of the Building Code. The calculated story drift shall not be reduced by the effects of horizontal diaphragm stiffness but shall be increased when these effects produce rotation.

The effects of rotation and soil stiffness shall be included in the calculated story drift when lateral loads are resisted by vertical elements whose required depth of embedment based on the requirements of Section 1807.3 of the California Building

Code. The coefficient of variation of subgrade reaction used in the deflection calculations shall be provided from an approved geotechnical engineering report or other approved methods.

(g) **PA Effects.** The requirements of the Building Code shall apply except as modified herein. All framing elements not required by the design to be part of the lateral force resisting system shall be investigated and shown to be adequate for vertical load carrying capacity when displaced three times the displacements resulting from the required lateral force. The stress analysis of cantilever columns shall use a buckling factor of 2.1 for the direction normal to the axis of the beam.

(h) **Ties and Continuity.** All parts of the structure included in the scope of subsection (b) of this Section shall be interconnected and the connection shall be capable of resisting the seismic force created by the parts being connected. Any smaller portion of a building shall be tied to the remainder of the building with elements having a minimum strength equal to one-fifth of the tributary dead load of the smaller portion. A positive connection for resisting a horizontal force acting parallel to the member shall be provided for each beam, girder or truss included in the lateral load path. This force shall not be less than one-tenth of the combined tributary dead and live loads or as required by the lateral load path transfer, whichever is greater.

(i) **Collector Elements.** Collector elements shall be provided that can transfer the seismic forces originating in other portions of the building to the elements within the scope of subsection (b) of this Section that provide resistance to those forces.

(j) **Horizontal Diaphragms.** The analysis of shear demand or capacity of an existing plywood or diagonally sheathed horizontal diaphragm need not be investigated unless the diaphragm is required to transfer lateral forces from the lateral resisting

elements above the diaphragm to other lateral resisting elements below the diaphragm due to offset in placement of the elements.

Wood diaphragms in structures that support floors or roofs above shall not be allowed to transmit lateral forces by rotation or cantilever. However, rotational effects shall be accounted for when unsymmetric wall stiffness increases shear demands.

Exception: Diaphragms that cantilever twenty-five percent or less of the distance between lines of lateral load resisting elements from which the diaphragm cantilevers may transmit their shears by cantilever provided that rotational effects on shear walls parallel and perpendicular to the load are accounted for.

(k) **Shear Walls.** Shear walls shall have sufficient strength and stiffness to resist the tributary seismic loads and shall conform to the special requirements of this Section.

(l) **Gypsum or Plaster Products.** Gypsum or plaster products shall not be used to provide lateral resistance.

(m) **Wood Structural Panels.** Shear walls sheathed with wood structural panels may be used to resist horizontal forces that do not exceed the allowable shear values and story drift limitations of the Building Code.

Openings are permitted in shear walls if they do not exceed fifty percent of the height or width of the shear wall. The remaining portion of the shear wall shall be strengthened for the transfer and increase of all shearing forces caused by the opening. The resulting shear wall shall be analyzed as a mosaic of shear resisting elements. Blocking and steel strapping shall be employed at the corners of the opening to transfer forces from discontinuous boundary elements into adjoining panel elements.

The effect of openings on the stiffness of the shear wall shall be demonstrated to

comply with the story drift limitations of the Building Code. The stiffness shall be calculated using the properties of the different shear elements making up the shear wall or it shall be demonstrated by approved testing. When shear walls cannot be made to conform to the requirements of this Section because of existing openings, the openings shall be relocated or reduced in width to meet the strength and stiffness requirements of the lateral loads.

Relocated and altered openings shall comply with the emergency escape and rescue requirements of the Building Code. Relocated and altered openings shall comply with the light and ventilation requirements for residential occupancies unless otherwise approved by the Building Officer.

(n) **Wood Species of Framing Members.** Allowable shear values for wood structural panels shall consider the species of the framing members. When the allowable shear values are based on douglas fir-larch framing members and framing members are constructed of other species of lumber, the allowable shear values shall be multiplied by the following factors: 0.82 for species with specific gravities greater than or equal to 0.42 but less than 0.49; and 0.65 for species with specific gravities less than 0.42. Redwood shall use 0.65 and hem fir shall use 0.82 unless otherwise approved.

(o) **Mechanical Penetrations.** Mechanical penetrations in shear walls shall be accounted for in the design or the shear wall shall be analyzed as two separate walls on each side of the penetration.

(p) **Substitution for Three-Inch Nominal Width Framing Members.** Double two-inch nominal width framing members shall be permitted in lieu of any required three-inch nominal width framing member when the existing and new framing member

are of equal dimensions, are connected as required to transfer the in-plane shear between them and the sheathing for the shear wall is equally fastened between them.

(q) **Hold Down Connectors.** Expansion anchors that provide tension strength by friction resistance shall not be used to connect hold down devices to existing concrete or masonry elements. Expansion anchors shall be permitted to provide tension strength by bearing.

The required depth of embedment or edge distance for the anchor used in the hold down connector shall be provided in the concrete or masonry below any plain concrete slab unless satisfactory evidence is submitted to the Building Officer that shows that the concrete slab and footings are of monolithic construction.

Bolted hold down connectors shall be pre-loaded to reduce slippage of the connector. Pre-loading shall consist of tightening the nut on the tension anchor after the placement but before the tightening of the shear bolts in the panel flange member. The tension anchor shall be tightened until the shear bolts are in firm contact with the edge of the hole nearest the direction of the tension anchor. Hold down connectors with self-jigging bolt standoffs shall be installed in a manner to permit pre-loading.

Deformation of hold down connectors at ultimate loads shall be compatible with adjoining elements and shall be verified by approved testing.

SECTION 45. Section 8.72.090 of the Santa Monica Municipal Code is hereby amended as follows:

8.72.090 Materials of construction.

(a) **New Materials.** All materials approved by the Building Code, including

their appropriate allowable stresses and minimum aspect ratios, shall be permitted to meet the requirements of this Chapter.

(b) **Allowable Foundation and Lateral Pressures.** Allowable foundation and lateral pressures shall be permitted to use the values from the Building Code. The coefficient of variation of subgrade reaction shall be established by an approved geotechnical engineering report or other approved methods when used in the deflection calculations of embedded vertical elements as required in Section 8.72.080(f).

(c) **Existing Materials.** All existing materials shall be in sound condition and constructed in conformance to the Building Code before they can be used to resist the lateral loads prescribed in this Chapter. The verification of existing material conditions and their conformance to these requirements, shall be made by physical observation reports, material testing or record drawings as determined by the structural designer and approved by the Building Officer.

(d) **Wood Structural Panel Shear Walls.**

(1) **Allowable Nail Slip Values.** When the required drift calculations of Section 8.72.080(f) rely on the lower slip values for common nails or surfaced dry lumber, their use in construction shall be verified by exposure. The use of box nails and unseasoned lumber may be assumed without exposure. The verification of surfaced dry lumber shall be by identification conforming to the Building Code.

(2) **Reduction for Clipped Nail Heads.** When exposed nails do not meet the nominal head sizes required for hand driven nails in the Building Code, the allowable shear capacity for shear walls sheathed with wood structural panels shall be reduced. Allowable shear values for sheathing nailed with clipped nail heads shall be equal to sheathing fastened with casing heads in the Building Code.

(3) **Plywood Panel Construction.** When verification of the existing plywood materials is by use of record drawings alone, the panel construction for plywood shall be assumed to be of three plies.

(4) **Framing Members of Other Species.** When verification of the existing wood material is by use of record drawings, the allowable shear capacity shall be multiplied by the reduction factor of 0.82 for buildings built on or after 1960. Buildings built before this period shall use the reduction factor 0.65. When verification of the existing wood material is by identification in conformance to the Building Code, the allowable shear capacity in the Building Code may be used.

(e) **Lumber.** When the existing dimensioned lumber is not identified in conformance to the Building Code, the allowable stresses for lumber shall be permitted for the structural elements specified below.

Posts and beams	Douglas Fir-larch No. 1
Joists and rafters	Douglas Fir-larch No. 2
Studs, blocking	Hem Fir Stud.

(f) **Structural Steel.** All existing structural steel shall be permitted to use the allowable stresses for Grade A36. Existing pipe or tube columns shall be assumed to be of minimum wall thickness unless verified by testing or exposure.

(g) **Strength of Concrete.** All existing concrete footings shall be permitted to use the allowable stresses for plain concrete with a compressive strength of two thousand psi. The strength of existing concrete with a record compressive strength greater than two thousand psi shall be verified by testing, record drawings or records of the enforcement agency.

(h) **Existing Sill Plate Anchorage.** Existing cast-in-place anchor bolts shall

be permitted to use the allowable service loads for bolts with proper embedment when used for shear resistance to lateral loads and provided with plate washers as required in the Building Code.

SECTION 46. Section 8.76.060 of the Santa Monica Municipal Code is hereby amended as follows:

8.76.060 Time period for compliance.

(a) **Engineering Report.** Within two hundred seventy-five days of the date of notice to the owner by the City, the owner of any welded steel frame structure shall submit to the Building and Safety Department an engineering evaluation report prepared by a California registered structural engineer based upon an inspection of a representative sample of connections of the building ("structural report").

(b) **Strengthening and Repair Requirements.** If the structural report concludes that the building does not conform with approved standards and analysis, or if other significant damage is found in the inspection, the building shall be repaired to fully conform with the referenced standards within the time periods shown in Table 8.76-A below.

Table 8.76-A

Building Type	Time Limits for Owner		
	File for Permit/Submit Plans	Commence Construction	Complete Construction
I	60 days from date of engineering report submittal	150 days from date of engineering report submittal	1 year from date of engineering report submittal
II	180 days from date of engineering report submittal	270 days from date of engineering report submittal	3 years from date of engineering report submittal
III	1 1/2 years from date of engineering report submittal	1 year 8 months from date of engineering report submittal	3 years from date of engineering report submittal
IV	2 years 5 months from date of engineering report submittal	2 years 8 months from date of engineering report submittal	4 years from date of engineering report submittal

SECTION 47. Section 8.106.010 of the Santa Monica Municipal Code is hereby amended as follows:

8.106.010 Adoption.

That certain document entitled "California Green Building Standards Code, 2013 Edition," as published by the California Building Standards Commission, is hereby adopted as the Green Building Code of the City of Santa Monica.

SECTION 48. Section 8.106.030 of the Santa Monica Municipal Code is hereby

repealed.

SECTION 49. Section 8.106.040 of the Santa Monica Municipal Code is hereby repealed.

SECTION 50. Section 8.106.050 of the Santa Monica Municipal Code is hereby amended as follows:

8.106.050 Additional definitions.

Amend Section 202 of the California Green Building Standards Code to include the following:

Sustainability. Consideration of present development and construction impacts on the community, the economy, and the environment without compromising the needs of the future.

Unshaded Roof Area. Roof area(s) where light emittance from the sun is unobstructed by fixed objects during the majority of daylight hours between March 21st and September 21st.

SECTION 51. Section 8.106.053 of the Santa Monica Municipal Code is hereby added as follows:

8.106.053 Green Building.

Amend Section 301.1.1 of the California Green Building Standards Code to read as follows:

301.1.1 Additions and alternations. The mandatory provisions of Chapter 4

shall be applied to additions or alterations of existing residential buildings. The requirements shall apply only to and/or within the specific area of the addition or alteration.

SECTION 52. Section 8.106.057 of the Santa Monica Municipal Code is hereby repealed.

SECTION 53. Section 8.106.060 of the Santa Monica Municipal Code is hereby repealed.

SECTION 54. Section 8.106.090 of the Santa Monica Municipal Code is hereby repealed.

SECTION 55. Section 8.106.100 of the Santa Monica Municipal Code is hereby added as follows.

Section 8.106.100 Residential Electric Vehicle Charging

- (a) **Multi-Family Dwellings.** For new electrical services in multi-family dwellings, the following shall apply:
- (1) The total load calculations shall include a load for future electrical vehicle charging. This load shall be calculated at 10 kilowatts per five-percent of the parking spaces provided.
 - (2) The minimum rating of the main service panel and the ampacity of the service entrance conductors shall be based on the total calculated load and the requirements of Chapter 2 of the California Electrical Code.

- (3) A separate multi-meter distribution section shall be provided for electrical vehicle charging only. The minimum number of meters in this multi-meter section shall be based on five-percent of the parking spaces provided. The minimum rating of this multi-meter distribution section shall be calculated at 10 kilowatts per five-percent of the parking spaces provided. Each meter shall have a space for a two-pole 208/240 volt circuit breaker where the space is identified as "Electric Vehicle Charging" or "Future Electric Vehicle Charging," as applicable. This distribution panel section shall be permanently and conspicuously marked "Electric Vehicle Charging Only".
- (4) If the continuous rating of Level 2 and/or Level 3 electric vehicle service equipment is known at the time of installation then these ratings shall be applied to the load calculations in subsection (a) above, but in no case shall less than 10 kilowatts per five-percent of the parking spaces be provided.
- (5) Where the calculated number of parking spaces results in a fraction of 0.5 or greater, the calculated number shall be rounded to the next higher whole number.
- (b) **Buildings of Mixed-Use Occupancies.** For new electrical services in buildings of mixed-use occupancies, the following shall apply:
 - (1) The requirements in subsection (a), above, shall be applicable to the residential portion of the building. The residential distribution system shall supply the charging source for electric vehicles.
- (c) **Exceptions.** The requirements of this Section shall not apply under the

following conditions:

- (1) new electrical service is installed in a building where there is no attached or dedicated parking facility;
- (2) new electrical service is not associated with a building or structure;
- (3) new electrical service serving only commercial occupancies; or
- (4) compliance is technically infeasible due to distance between dedicated parking facility and the structure containing residential occupancies, or similar conditions.

SECTION 56. Chapter 8.16 of the Santa Monica Municipal Code is hereby repealed.

SECTION 57. Chapter 8.84 of the Santa Monica Municipal Code is hereby repealed.

SECTION 58. Chapter 8.88 of the Santa Monica Municipal Code is hereby repealed.

SECTION 59. Chapter 8.104 of the Santa Monica Municipal Code is hereby repealed.

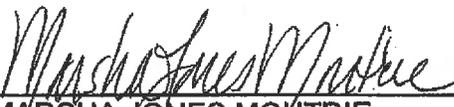
SECTION 60. The Council finds that the adoption of this Ordinance is exempt from the provisions of the California Environmental Quality Act pursuant to CEQA Guidelines Section 15061(b)(3).

SECTION 61. Any provision of the Santa Monica Municipal Code or appendices thereto, inconsistent with the provisions of this Ordinance, to the extent of such inconsistencies and no further, are hereby repealed or modified to that extent necessary to effect the provisions of this Ordinance.

SECTION 62. If any section, subsection, sentence, clause, or phrase of this Ordinance is for any reason held to be invalid or unconstitutional by a decision of any court of any competent jurisdiction, such decision shall not affect the validity of the remaining portions of this Ordinance. The City Council hereby declares that it would have passed this Ordinance, and each and every section, subsection, sentence, clause, or phrase not declared invalid or unconstitutional without regard to whether any portion of the Ordinance would be subsequently declared invalid or unconstitutional.

SECTION 63. The Mayor shall sign and the City Clerk shall attest to the passage of this Ordinance. The City Clerk shall cause this ordinance, or a summary thereof to be published once in the official newspaper within 15 days after its adoption. This Ordinance shall become effective on January 1, 2014.

APPROVED AS TO FORM:


MARSHA JONES MOUTRIE
City Attorney

RESOLUTION NUMBER 10776 (CCS)

(City Council Series)

**A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF SANTA MONICA
MAKING FINDINGS REGARDING LOCAL CLIMATIC, GEOLOGICAL AND
TOPOGRAPHIC CONDITIONS PURSUANT TO HEALTH AND SAFETY CODE
SECTIONS 17958.5, 17958.7 and 18941.5**

WHEREAS, the State Building Standards Commission has approved and published the 2013 edition of the California Building Standards Code on July 1, 2013; and such code will be effective 180 days thereafter, which is January 1, 2014; and

WHEREAS, Health and Safety Code Sections 17958.7 and 18941.5 provide that the City may make changes or modifications to the building standards contained in the California Building Standards Code based upon express findings that such changes or modifications are reasonably necessary because of local climatic, geological or topographical conditions; and

WHEREAS, on September 5, 2013 and September 12, 2013, the Building and Fire Life Safety Commission met to consider recommendations to the City Council regarding adopting the 2013 California Building Standards Code, local amendments to that Code, and local climatic, geological and topographical conditions; and

WHEREAS, at the September 12, 2013 meeting, the Building and Safety Commission unanimously recommended that the City Council adopt a resolution making necessary local findings and adopt the 2013 California Building Standards Code with local amendments, as modified by the Commission; and

WHEREAS, the majority of the local amendments were recommended from a collaborative group of Building Officials from the Los Angeles County region; and

WHEREAS, the City Council finds each of the amendments necessary and applicable to Santa Monica; and

WHEREAS, the City Council has considered the 2013 editions of the California Building Standards Code, including but not limited to the California Building Code, California Residential Code, California Electrical Code, California Mechanical Code, California Plumbing Code, California Energy Code, California Fire Code, California Green Building Standards Code, the reference standards, appendixes and the matrix adoption tables contained therein and any applicable errata issued subsequent to the publication of above codes and standards; and

WHEREAS, based upon the findings contained in this Resolution, the City Council will be adopting an ordinance containing certain modifications and additions to the building standards contained in the California Building Standard Code, which are reasonably necessary based upon local climatic, topographical and geological conditions.

NOW, THEREFORE, THE CITY COUNCIL OF THE CITY OF SANTA MONICA DOES RESOLVE AS FOLLOWS:

SECTION 1. The City Council makes the following findings regarding local climatic, geological and topographic conditions related to the local amendments to the California Building Standards Code found in Section 2 below:

General Findings

(a) The Master Environmental Assessment (MEA) adopted in April 1996, shows that Santa Monica's climate is primarily influenced by the Pacific Ocean and is characterized by infrequent rainfall and winds. The winds originate from the west during the day and from the north and northeast during the night. Further, intermittent Santa Ana winds conditions occur from September to March allowing conditions that create the potential for high velocity winds with high temperatures. In addition, the region is within a climate system capable of producing major winds, fire and rain related disasters, including but not limited to those caused by the Santa Ana winds and El Nino (or La Nina) subtropical-like weather (Climatic).

(b) Santa Monica is situated in Southern California which has extreme arid conditions and periods of severe drought. As outlined in the MEA, the City relies upon water from outside the region which is purchased from the Metropolitan Water District, and local groundwater for the City's water supply (Climatic).

(c) The Safety Element of the General Plan adopted in January 1995, shows high risk of seismic activity in the City due to the close proximity of the Santa Monica-Malibu Coast fault, the Newport-Inglewood fault and the San Andreas Fault. The close proximity of these faults increases the likelihood of seismic disturbances of substantial magnitude. The Safety Element further discusses the damaging effect local seismic activity would have on potentially hazardous buildings and the related potential demands on emergency service needs (Geological).

(d) The Los Angeles region has a vast and complex network of faults. Some of these faults, like the previously unknown Northridge Fault, are blind thrust faults that

earth scientists believe are capable of intense ground shaking similar or greater in size than the January 17, 1994 Northridge Earthquake. The random possible location of these blind thrust faults increases the local seismic risk and poses an increasing threat to public safety (Geological).

(e) The Safety Element also identifies shallow ground water within 50 feet of the ground surface along the beach, near the Industrial corridor and Marine Park areas of the City. This ground water condition, coupled with unconsolidated youthful sedimentary soils, makes these areas susceptible to possible liquefaction during strong or moderately strong earthquakes. Liquefaction is a very destructive secondary effect of strong seismic shaking where a loss of bearing strength occurs along with ground oscillations in the supporting soils (Geological).

(f) Existing lots in the City of Santa Monica may be located on hilly terrain with slopes that create grading, drainage, foundation, infrastructure, utility and emergency access challenges (Topographical).

Specific Findings

(g) The greater Los Angeles region is a densely populated area having buildings and structures constructed over and near a vast array of fault systems capable of producing major earthquakes, including but not limited to the 1994 Northridge Earthquake, the 1987 Whittier Narrows Earthquake, the 1971 San Fernando Earthquake and the 1933 Long Beach Earthquake. This amendment will reduce the failure of concrete and clay tile roofs during a significant earthquake and is in

accordance with the scope and objectives of the International Building Code (Geological).

(h) The greater Los Angeles region is a densely populated area having buildings and structures constructed over and near a vast array of fault systems capable of producing major earthquakes, including but not limited to the recent 1994 Northridge Earthquake. The proposed modification to limit mixed structural system to two stories is intended to improve quality of construction and therefore need to be incorporated into the code to assure that new buildings and structures and additions or alterations to existing buildings or structures are designed and constructed in accordance with the scope and objectives of the International Building Code (Geological).

(i) The greater Los Angeles region is a densely populated area having buildings and structures constructed over and near a vast array of fault systems capable of producing major earthquakes, including but not limited to the 1994 Northridge Earthquake. The proposed modification to require special anchorage of the diaphragm to the wall and limit the allowable shear will address and clarify special needs for concrete and masonry construction with flexible wood diaphragm and therefore need to be incorporated into the code to assure that new buildings and structures and additions or alterations to existing buildings or structures are designed and constructed in accordance with the scope and objectives of the International Building Code (Geological).

(j) The greater Los Angeles/Long Beach region is a densely populated area having buildings constructed over and near a vast array of fault systems capable of producing major earthquakes, including but not limited to the 1994 Northridge

Earthquake. The proposed modification requiring design requirements for ceiling suspension systems to resist seismic loads to minimize the amount of damage within a building and therefore need to be incorporated into the code to assure that new buildings and additions to existing buildings are designed and constructed in accordance with the scope and objectives of the International Building Code (Geological).

(k) The greater Los Angeles region is a densely populated area having buildings and structures constructed over and near a vast array of fault systems capable of producing major earthquakes, including but not limited to the 1994 Northridge Earthquake. The proposed modification to require the registered design professional in responsible charge for the structural design to observe the construction will help ensure acceptable standards of workmanship is provided and to improve the quality of the observation and therefore need to be incorporated into the code to assure that new buildings and structures and additions or alterations to existing buildings and structures are designed and constructed in accordance with the scope and objectives of the International Building Code (Geological).

(l) The greater Los Angeles region is a densely populated area having buildings and structures constructed over and near a vast array of fault systems capable of producing major earthquakes, including but not limited to the 1994 Northridge Earthquake. The proposed modification to limit certain types of exemption from special inspection for concrete to improve quality of control during construction and therefore need to be incorporated into the code to assure that new buildings and structures and additions or alterations to existing buildings or structures are designed and constructed

in accordance with the scope and objectives of the International Building Code (Geological).

(m) The greater Los Angeles region is a densely populated area having buildings and structures constructed over and near a vast array of fault systems capable of producing major earthquakes, including but not limited to the 1994 Northridge Earthquake. The proposed modification to require special inspections for detached one- or two-family dwellings not exceeding two stories above grade plane assigned to Seismic Design category D, E and F will help ensure that acceptable standards of workmanship and quality of construction are provided. Therefore it should be incorporated into the code to assure that new buildings and structures and additions or alterations to existing buildings or structures are designed and constructed in accordance with the scope and objectives of the International Building Code (Geological).

(n) The greater Los Angeles region is a densely populated area having buildings and structures constructed over and near a vast array of fault systems capable of producing major earthquakes, including but not limited to the recent 1994 Northridge Earthquake. Additionally, the topography within the Los Angeles region includes significant hillsides with narrow and winding access that makes timely response by fire suppression vehicles challenging and difficult. The proposed modification establishes design parameters to better mitigate and limit property damage that are the results of increased seismic forces which are imparted upon hillside buildings and structures and therefore need to be incorporated into the code to assure that new buildings and structures and additions or alterations to existing buildings or structures are designed

and constructed in accordance with the scope and objectives of the International Building Code (Geological and Topographical).

(o) This amendment is necessary for administrative clarification. It does not modify a Building Standards pursuant to Sections 17958 and 18941.5 of the California Health and Safety Code and does not require an express finding to be made pursuant to Sections 17958.5 and 17958.7 of the California Health and Safety Code. This amendment established administrative standards for the effective enforcement of building standards and therefore need to be incorporated into the code to assure that new buildings and structures and additions or alterations to existing buildings or structures are designed and constructed in accordance with the scope and objectives of the International Building Code (Administrative).

(p) The greater Los Angeles region is a densely populated area having buildings and structures constructed over and near a vast array of fault systems capable of producing major earthquakes, including but not limited to the 1994 Northridge Earthquake. In addition, the region is within a climate system capable of producing major winds, fire and rain related disasters, including but not limited to those caused by the Santa Ana winds and El Nino (or La Nina) subtropical-like weather. This region is especially susceptible to more active termite and wood attacking insects and microorganisms. The proposed modification to prohibit the use of wood for foundation support or retaining earth lateral pressure as well as limit prescriptive design provisions in an effort to mitigate potential problems or deficiencies due to the surrounding environment and therefore need to be incorporated into the code to assure that new buildings and structures and additions or alterations to existing buildings or structures

are designed and constructed in accordance with the scope and objectives of the International Building Code (Climatic and Geological).

(q) The greater Los Angeles region is a densely populated area having buildings and structures constructed over and near a vast array of fault systems capable of producing major earthquakes, including but not limited to the 1994 Northridge Earthquake. The proposed modification to prohibit prescriptive design provisions for foundation walls is intended to ensure that the proper analysis of the structure takes into account the surrounding condition and therefore need to be incorporated into the code to assure that new buildings and structures and additions or alterations to existing buildings or structures are designed and constructed in accordance with the scope and objectives of the International Building Code (Geological).

(r) The greater Los Angeles region is a densely populated area having buildings and structures constructed over and near a vast array of fault systems capable of producing major earthquakes, including but not limited to the recent 1994 Northridge Earthquake. The proposed modification to require minimum reinforcement in stepped footings is intended to improve performance of buildings and structures and therefore need to be incorporated into the code to assure that new buildings and structures and additions or alterations to existing buildings or structures are designed and constructed in accordance with the scope and objectives of the International Building Code (Geological).

(s) The greater Los Angeles region is a densely populated area having buildings and structures constructed over and near a vast array of fault systems capable of producing major earthquakes, including but not limited to the 1994 Northridge

Earthquake. The proposed modification to limit the use of the prescriptive design provisions and under-reinforced or plain concrete is to ensure that the proper analysis of the structure takes into account the surrounding condition and therefore need to be incorporated into the code to assure that new buildings and structures and additions or alterations to existing buildings or structures are designed and constructed in accordance with the scope and objectives of the International Building Code (Geological).

(t) The greater Los Angeles region is a densely populated area having buildings and structures constructed over and near a vast array of fault systems capable of producing major earthquakes, including but not limited to the 1994 Northridge Earthquake. In addition, the region is within a climate system capable of producing major winds, fire and rain related disasters, including but not limited to those caused by the Santa Ana winds and El Nino (or La Nina) subtropical-like weather. This region is especially susceptible to more active termite and wood attacking insects and microorganisms. The proposed modification to prohibit the use of timber footings in an effort to mitigate potential problems or deficiencies due to the surrounding environment and therefore need to be incorporated into the code to assure that new buildings and structures and additions or alterations to existing buildings or structures are designed and constructed in accordance with the scope and objectives of the International Building Code (Climatic and Geological).

(u) The greater Los Angeles region is a densely populated area having buildings and structures constructed over and near a vast array of fault systems capable of producing major earthquakes, including but not limited to the 1994 Northridge

Earthquake. In addition, the region is within a climate system capable of producing major winds, fire and rain related disasters, including but not limited to those caused by the Santa Ana winds and El Nino (or La Nina) subtropical-like weather. This region is especially susceptible to more active termite and wood attacking insects and microorganisms. The proposed modification to prohibit the use of timber in an effort to mitigate potential problems or deficiencies due to the surrounding environment and therefore need to be incorporated into the code to assure that new buildings and structures and additions or alterations to existing buildings or structures are designed and constructed in accordance with the scope and objectives of the International Building Code (Climatic and Geological).

(v) The greater Los Angeles region is a densely populated area having buildings and structures constructed over and near a vast array of fault systems capable of producing major earthquakes, including but not limited to the recent 1994 Northridge Earthquake. The proposed modification to wall pier detailing is intended to assure that ductility requirements for high seismic region is provided and therefore needs to be incorporated into the code to assure that new buildings and structures and additions or alterations to existing buildings or structures are designed and constructed in accordance with the scope and objectives of the International Building Code and ACI 318 (Geological).

(w) The greater Los Angeles region is a densely populated area having buildings and structures constructed over and near a vast array of fault systems capable of producing major earthquakes, including but not limited to the 1994 Northridge Earthquake. The proposed modification to require minimum reinforcement to address

the problem of poor performance of plain or under-reinforced footings during a seismic event and therefore need to be incorporated into the code to assure that new buildings and structures and additions or alterations to existing buildings or structures are designed and constructed in accordance with the scope and objectives of the International Building Code (Geological).

(x) The greater Los Angeles region is a densely populated area having buildings and structures constructed over and near a vast array of fault systems capable of producing major earthquakes, including but not limited to the 1994 Northridge Earthquake. The proposed modification to increase confinement in critical columns, limiting the use of highly gravity loaded walls, and increase concrete coverage in thin slabs will have to prevent failure of the structure and therefore need to be incorporated into the code to assure that new buildings and structures and additions or alterations to existing buildings or structures are designed and constructed in accordance with the scope and objectives of the International Building Code (Geological).

(y) The greater Los Angeles region is a densely populated area having buildings and structures constructed over and near a vast array of fault systems capable of producing major earthquakes, including but not limited to the 1994 Northridge Earthquake, the 1987 Whittier Narrows Earthquake, the 1971 San Fernando Earthquake and the 1933 Long Beach Earthquake. This amendment will reduce the failure of concrete and clay tile roofs during a significant earthquake and is in accordance with the scope and objectives of the International Building Code (Geological).

(z) An analysis of damage patterns to nonstructural elements in the City from the January 17, 1994 Northridge earthquake and its aftershocks also showed that concrete and masonry chimneys, veneer, clay and concrete tile roofing and fire sprinklers were more susceptible to damage than other types of nonstructural elements. Unless supplemental seismic and fire life safety provisions are adopted, these nonstructural elements will perform poorly during intense ground shaking and pose an ongoing threat to public safety (Geological).

(aa) The greater Los Angeles region is a densely populated area having buildings and structures constructed over and near a vast array of fault systems capable of producing major earthquakes, including but not limited to the 1994 Northridge Earthquake. The proposed modification to limit the use of staple fasteners to resist or transfer seismic load improve the performance of buildings and structures during a seismic event and therefore need to be incorporated into the code to assure that new buildings and structures and additions or alterations to existing buildings or structures are designed and constructed in accordance with the scope and objectives of the International Building Code (Geological).

(bb) The greater Los Angeles region is a densely populated area having buildings and structures constructed over and near a vast array of fault systems capable of producing major earthquakes, including but not limited to the 1994 Northridge Earthquake. In addition, the region is within a climate system capable of producing major winds, fire and rain related disasters, including but not limited to those caused by the Santa Ana winds and El Nino (or La Nina) subtropical-like weather. This region is especially susceptible to more active termite and wood attacking insects and

microorganisms. The proposed modification to prohibit the use of wood is intended to mitigate potential problems or deficiencies due to the surrounding environment and therefore need to be incorporated into the code to assure that new buildings and structures and additions or alterations to existing buildings or structures are designed and constructed in accordance with the scope and objectives of the International Building Code (Climatic and Geological).

(cc) The greater Los Angeles region is a densely populated area having buildings and structures constructed over and near a vast array of fault systems capable of producing major earthquakes, including but not limited to the 1994 Northridge Earthquake. The proposed modification to require mechanically driven nails to have the same dimensions as hand-driven nail will result in improved quality of construction and performance of wood structural panel shear walls and therefore need to be incorporated into the code to assure that new buildings and structures and additions or alterations to existing buildings or structures are designed and constructed in accordance with the scope and objectives of the International Building Code (Geological).

(dd) The greater Los Angeles region is a densely populated area having buildings and structures constructed over and near a vast array of fault systems capable of producing major earthquakes, including but not limited to the 1994 Northridge Earthquake. The proposed modification to establish minimum performance requirements for hold-down connectors will reduce failure of wood structural panel shear walls due to excessive deflection and therefore need to be incorporated into the code to assure that new buildings and structures and additions or alterations to existing

buildings or structures are designed and constructed in accordance with the scope and objectives of the International Building Code (Geological).

(ee) The greater Los Angeles region is a densely populated area having buildings and structures constructed over and near a vast array of fault systems capable of producing major earthquakes, including but not limited to the recent 1994 Northridge Earthquake. The proposed modification to place design and construction limits on staples as fasteners used in wood structural panel or diaphragms not substantiated with cyclic testing will help to maintain minimum quality of construction and performance standards of structures and therefore need to be incorporated into the code to assure that new buildings and structures and additions or alterations to existing buildings or structures are designed and constructed in accordance with the scope and objectives of the International Building Code (Geological).

(ff) The greater Los Angeles region is a densely populated area having buildings and structures constructed over and near a vast array of fault systems capable of producing major earthquakes, including but not limited to the recent 1994 Northridge Earthquake. The proposed modification to place design and construction limits on stapled nail fasteners used in wood structural panel shear walls or diaphragms not substantiated with cyclic testing will help to maintain minimum quality of construction and performance standards of structures and therefore need to be incorporated into the code to assure that new buildings and structures and additions or alterations to existing buildings or structures are designed and constructed in accordance with the scope and objectives of the International Building Code (Geological).

(gg) The greater Los Angeles region is a densely populated area having buildings and structures constructed over and near a vast array of fault systems capable of producing major earthquakes, including but not limited to the 1994 Northridge Earthquake. Conventional framing does not address the need for a continuous load path, critical shear transfer mechanisms, connection ties, irregular and flexible portions of complex shaped structures. The proposed modification to require continuous footings under braced wall lines will improve performance of buildings or structure during a seismic event and therefore need to be incorporated into the code to assure that new buildings and additions to existing buildings are designed and constructed in accordance with the scope and objectives of the International Building Code (Geological).

(hh) The greater Los Angeles region is a densely populated area having buildings and structures constructed over and near a vast array of fault systems capable of producing major earthquakes, including but not limited to the recent 1994 Northridge Earthquake. The proposed modification requiring minimum sheathing thickness and nailing type and size will help to maintain minimum quality of construction and performance standards of structures and therefore needs to be incorporated into the code to assure that new buildings and additions to existing buildings are designed and constructed in accordance with the scope and objectives of the International Building Code (Geological).

(ii) The greater Los Angeles region is a densely populated area having buildings and structures constructed over and near a vast array of fault systems capable of producing major earthquakes, including but not limited to the recent 1994 Northridge

Earthquake. The proposed modification to limit the use of staple fasteners to resist or transfer seismic load improve the performance of buildings and structures during a seismic event and therefore need to be incorporated into the code to assure that new buildings and structure and additions or alterations to existing buildings or structures are designed and constructed in accordance with the scope and objectives of the International Building Code (Geological).

(jj) Section R312.2 of the California Residential Code requires a minimum height of the window sill at 24-inches above the finished floor but this dimension is in conflict with the California Building Code which states R2 and R3 occupancies. This amendment is necessary for administrative clarification. It does not modify a Building Standards pursuant to Sections 17958 and 18941.5 of the California Health and Safety Code and does not require an express finding to be made pursuant to Sections 17958.5 and 17958.7 of the California Health and Safety Code (Administrative).

(kk) The greater Los Angeles region is a densely populated area having buildings and structures constructed over and near a vast array of fault systems capable of producing major earthquakes, including but not limited to the 1994 Northridge Earthquake. The proposed modification to require construction documents for wood frame construction greater than one story in height to be approved and stamped by a California licensed architect or engineer is intended to assure that the both the structural design and prescriptive requirement of the code are properly utilized and presented and therefore need to be incorporated into the code to assure that new buildings and structures and additions or alterations to existing buildings or structures are designed

and constructed in accordance with the scope and objectives of the International Residential Code (Geological).

(ll) The greater Los Angeles region is a densely populated area having buildings constructed over and near a vast array of fault systems capable of producing major earthquakes, including but not limited to the 1994 Northridge Earthquake. The proposed modification addresses special design criteria for hillside buildings that are not addressed in the International Residential Code and therefore need to be incorporated into the code to assure that new buildings and additions to existing buildings are designed and constructed in accordance with the scope and objectives of the International Residential Code (Geological).

(mm) The greater Los Angeles region is a densely populated area having buildings and structures constructed over and near a vast array of fault systems capable of producing major earthquakes, including but not limited to the 1994 Northridge Earthquake, the 1987 Whittier Narrows Earthquake, the 1971 San Fernando Earthquake and the 1933 Long Beach Earthquake. This amendment will improve the performance of buildings that otherwise may be designed and constructed in accordance with the CRC during a significant earthquake. This amendment is in accordance with the scope and objectives of the International Residential Code (Geological).

(nn) The greater Los Angeles region is a densely populated area having buildings and structures constructed over and near a vast array of fault systems capable of producing major earthquakes, including but not limited to the 1994 Northridge Earthquake. The proposed amendments need to be incorporated into the Code to

assure that new buildings and structures and additions or alterations to existing buildings or structures are designed and constructed in accordance with the scope and objectives of the International Building Code and consistent with the recent requirements in the ASCE 7-10 (Geological).

(oo) The greater Los Angeles region is a densely populated area having buildings and structures constructed over and near a vast array of fault systems capable of producing major earthquakes, including but not limited to the 1994 Northridge Earthquake. The proposed modification to limit the equipment weight is intended to reduce injuries, save lives, and minimize structural damages and therefore needs to be incorporated into the code to assure that new buildings and structures and additions or alterations to existing buildings or structures are designed and constructed in accordance with the scope and objectives of the International Residential Code (Geological).

(pp) The greater Los Angeles region is a densely populated area having buildings and structures constructed over and near a vast array of fault systems capable of producing major earthquakes, including but not limited to the 1994 Northridge Earthquake. The proposed modification to require specific detailing at large floor openings is intended to address the poor performance of floor diaphragms with openings and limit or reduce property damages during a seismic event and therefore needs to be incorporated into the code to assure that new buildings and structures and additions or alterations to existing buildings or structures are designed and constructed in accordance with the scope and objectives of the International Residential Code (Geological).

(qq) The greater Los Angeles region is a densely populated area having buildings and structures constructed over and near a vast array of fault systems capable of producing major earthquakes, including but not limited to the recent 1994 Northridge Earthquake. The proposed modification to eliminate the usage of a single top plate will help to maintain minimum quality of construction and performance standards of structures and therefore need to be incorporated into the code to assure that new buildings and structures and additions or alterations to existing buildings or structures are designed and constructed in accordance with the scope and objectives of the International Residential Code (Geological).

(rr) The greater Los Angeles region is a densely populated area having buildings and structures constructed over and near a vast array of fault systems capable of producing major earthquakes, including but not limited to the 1994 Northridge Earthquake. The proposed modification to increase the length and limit the location where shear walls sheathed with lath, plaster or gypsum board are used will help to ensure that multi-level building will reach its performance objective in resisting higher levels of seismic loads and therefore need to be incorporated into the code to assure that new buildings and structures and additions or alternations to existing buildings or structures are designed or constructed in accordance with the scope and objectives of the International Residential Code (Geological).

(ss) The greater Los Angeles region is a densely populated area having buildings and structures constructed over and near a vast array of fault systems capable of producing major earthquakes, including but not limited to the 1994 Northridge Earthquake. The proposed modification to place design and construction limits on

stapled nail fasteners used in wood structural panel shear walls or diaphragms not substantiated with cyclic testing will help to maintain minimum quality of construction and performance standards of structures and therefore need to be incorporated into the code to assure that new buildings and additions to existing buildings are designed and constructed in accordance with the scope and objectives of the International Residential Code (Geological).

(tt) The greater Los Angeles region is a densely populated area having buildings and structures constructed over and near a vast array of fault systems capable of producing major earthquakes, including but not limited to the 1994 Northridge Earthquake. The proposed modification requiring minimum sheathing thickness and nailing type and size will help to maintain minimum quality of construction and performance standards of structures and therefore need to be incorporated into the code to assure that new buildings and structures and additions or alterations to existing buildings or structures are designed and constructed in accordance with the scope and objectives of the International Residential Code (Geological).

(uu) The greater Los Angeles region is a densely populated area having buildings and structures constructed over and near a vast array of fault systems capable of producing major earthquakes, including but not limited to the recent 1994 Northridge Earthquake. The proposed modification ensures that the structural integrity with respect to "maximum shear wall aspect ratios" is maintained, therefore need to be incorporated into the code to assure that new buildings and additions to existing buildings are designed and constructed in accordance with the scope and objectives of the International Residential Code (Geological).

(vv) The greater Los Angeles region is a densely populated area having buildings and structures constructed over and near a vast array of fault systems capable of producing major earthquakes, including but not limited to the recent 1994 Northridge Earthquake. The proposed modification reduces the aspect ratio help to maintain minimum quality of construction and performance standards of structures and therefore need to be incorporated into the code to assure that new buildings and additions to existing buildings are designed and constructed in accordance with the scope and objectives of the International Residential Code (Geological).

(ww) The greater Los Angeles region is a densely populated area having buildings and structures constructed over and near a vast array of fault systems capable of producing major earthquakes, including but not limited to the 1994 Northridge Earthquake. The proposed modification to require all exterior walls and interior braced wall panels in buildings be supported on continuous footings for a complete load path and therefore, need to be incorporated into the code to assure that new buildings and structures and additions or alterations to existing buildings or structures are designed and constructed in accordance with the scope and objectives of the International Residential Code (Geological).

(xx) The greater Los Angeles region is a densely populated area having buildings and structures constructed over and near a vast array of fault systems capable of producing major earthquakes, including but not limited to the 1994 Northridge Earthquake. The proposed modification to require specific detailing at large roof openings is intended to address the poor performance of roof diaphragms with openings and limit or reduce property damages during a seismic event and therefore needs to be

incorporated into the code to assure that new buildings and structures and additions or alterations to existing buildings or structures are designed and constructed in accordance with the scope and objectives of the International Residential Code (Geological).

(yy) The greater Los Angeles region is a densely populated area having buildings and structures constructed over and near a vast array of fault systems capable of producing major earthquakes, including but not limited to the recent 1994 Northridge Earthquake. The proposed modification to not allow the use of unreinforced masonry is intended to prevent non-ductile failures and sudden structural collapses and therefore needs to be incorporated into the code to assure that new buildings and structures and additions or alterations to existing buildings or structures are designed and constructed in accordance with the scope and objectives of the International Residential Code (Geological).

(zz) The greater Los Angeles region is a densely populated area having buildings and structures constructed over and near a vast array of fault systems capable of producing major earthquakes, including but not limited to the recent 1994 Northridge Earthquake. The proposed modification to increase reinforcements will ensure that the ductility requirements for buildings in high seismic region meet the intent of the code and limit potential property damages and therefore need to be incorporated into the code to assure that new buildings and structures and additions or alterations to existing buildings or structures are designed and constructed in accordance with the scope and objectives of the International Residential Code (Geological).

(aaa) The greater Los Angeles region is a densely populated area having buildings and structures constructed over and near a vast array of fault systems capable of producing major earthquakes, including, but not limited to, the 1994 Northridge Earthquake. In addition, the region is within a climate system capable of producing major winds, fire and rain related disasters, including but not limited to those caused by the Santa Ana winds and El Nino (or La Nina) subtropical-like weather. The proposed modification to prohibit the use of wood foundation systems as well as limit prescriptive design provisions in an effort to mitigate potential problems or deficiencies to ensure that new buildings and structures and additions or alternations to existing buildings or structures are designed and constructed in accordance with the scope and objectives of the International Residential Code (Climatic and Geological).

(bbb) The greater Los Angeles region is a densely populated area having buildings and structures constructed over and near a vast array of fault systems capable of producing major earthquakes, including but not limited to the recent 1994 Northridge Earthquake. The proposed modification to require continuous footings under braced wall lines, require reinforcement in one- and two-family dwelling, and minimum reinforcement in stepped footings will improve performance of buildings or structure during a seismic event and minimize potential problems or deficiencies and therefore need to be incorporated into the code to assure that new buildings and additions to existing buildings are designed and constructed in accordance with the scope and objectives of the International Residential Code (Geological).

(ccc) The greater Los Angeles region is a densely populated area having buildings and structures constructed over and near a vast array of fault systems capable

of producing major earthquakes, including but not limited to the 1994 Northridge Earthquake. In addition, the region is within a climate system capable of producing major winds, fire and rain related disasters, including but not limited to those caused by the Santa Ana winds and El Nino (or La Nina) subtropical-like weather. This region is especially susceptible to more active termite and wood attacking insects and microorganisms. The proposed modification to prohibit the use of wood foundation walls in an effort to mitigate potential problems or deficiencies due to the proliferation of wood-destroying organisms and therefore need to be incorporated into the code to assure that new buildings and structures and additions or alterations to existing buildings or structures are designed and constructed in accordance with the scope and objectives of the International Residential Code (Climatic and Geological).

(ddd) The greater Los Angeles region is a densely populated area having buildings and structures constructed over and near a vast array of fault systems capable of producing major earthquakes, including but not limited to the 1994 Northridge Earthquake. The proposed modification to anchor masonry chimneys into concrete foundation will reduce injuries, save lives, and minimize structural damages. Therefore, this amendment needs to be incorporated into the code to assure that new buildings and structures and additions or alterations to existing buildings or structures are designed and constructed in accordance with the scope and objectives of the International Residential Code (Geological).

(eee) The greater Los Angeles region is a densely populated area having buildings constructed over and near a vast array of fault systems capable of producing major earthquakes, including but not limited to the 1994 Northridge Earthquake. The

proposed modification to place design and construction limits on staples as fasteners used in wood structural panel or diaphragms not substantiated with cyclic testing will help to maintain minimum quality of construction and performance of structures and therefore need to be incorporated into the code to assure that new buildings and additions to existing buildings are designed and constructed in accordance with the scope and objectives of the International Residential Code (Geological).

(fff) Due to fog, salt laden air, and possible splashing of seawater, metallic enclosures are subject to severe corrosive conditions that affect protection of live wires and components. Metallic enclosures that are located within 402.4 meters (0.25 miles) of the mean shoreline are especially subject to corrosive conditions (Climatic).

(ggg) Where climatic conditions in Santa Monica create demands for higher usage of energy and natural resources, measures that allow conservation and efficiencies in construction will promote practices to achieve these goals and will be better realized with a definition of Sustainability as applied to concepts in the California Green Building Standards Code (Climatic).

(hhh) The greater Los Angeles region is a densely populated area having residential buildings constructed within a region where environmental resources are scarce due to varying and occasional immoderate temperatures and weather conditions. This local condition also challenges the demand and need for energy resources upon the local utilities. The proposed modification to include the green building requirements of Chapter 4 for any scope of residential work will assure that existing residential buildings will be constructed in accordance with the scope and objectives of the California Green Building Standards Code (Climatic).

(iii) Some areas of the Los Angeles County region subject residential structures to water and moisture intrusion due to varying temperatures and/or humid conditions not allowing evaporation of introduced water and moisture (Climatic).

(iii) The greater Los Angeles region is a densely populated area where environmental resources are scarce due to varying and occasional immoderate temperature and weather conditions. The proposed amendment to require greater access for environmentally friendly vehicles will promote a lower contribution to greenhouse gases and less effect to the local environment and reduced demands for local energy and resources. (Climatic).

SECTION 2. The City Council expressly findings that the following modifications and changes to the California Building Standards Code are reasonably necessary because of the local climatic, geological or topographical conditions and that each and every one of the local conditions detailed in Section 1 above apply to the following modifications and changes to the California Building Standards Code, as follows:

No.	Municipal Code Section	Amendment Summary	Justification from Section 1 of this Resolution	Local Condition
1	8.12.050	Supplemental Land Hazard Zone Requirements. Continuation from previous code cycle	Sections (c), (d), (e)	Geological
2	8.12.070	Fire Retardant Roofing. Continuation from previous code cycle	Sections (a), (b)	Climatic
3	8.12.080(a)	Prohibit spaced sheathing board as a	Sections (c), (d),	Geological

		base rooftops where concrete or clay tile is installed. (Amendment from the collaborative LA County group)	(e), (g)	
4	8.12.080(b)	Continuation from the previous code amendment to limit the height of light frame construction with vertical irregularities to two stories for one-and-two family dwellings. Continuation from previous code cycle (Amendment from the collaborative LA County group)	Section (h)	Geological
5	8.12.080(c)	Provide more stringent requirements for the structural elements for Wood Roof Diaphragms where they support concrete or masonry walls and to limit the allowable shear loads. Continuation from previous code cycle (Amendment from the collaborative LA County group)	Section (i)	Geological
6	8.12.080(d)	Amendment to provide structural safety standards for Suspended Ceilings where none currently exist in the California Building Code. Continuation from previous code cycle (Amendment from the collaborative LA County group)	Section (j)	Geological
7	8.12.090(a)	Define specific requirements of the	Section (k)	Geological

		<p>registered design professional for general structural observation and require more comprehensive job-site reporting.</p> <p>Continuation from previous code cycle (Amendment from the collaborative LA County group)</p>		
8	8.12.090(b)	<p>Provide for more stringent requirements for seismic structural observation including lateral design with an exception for simple structures</p> <p>Continuation from previous code cycle (Amendment from the collaborative LA County group)</p>	Section (k)	Geological
9	8.12.090(c)	<p>Clarify requirements for special inspection for concrete construction and eliminate the exception for no special inspection for concrete foundation walls.</p> <p>Continuation from previous code cycle (Amendment from the collaborative LA County group)</p>	Section (l)	Geological
10	8.12.090(d)	<p>Provide more stringent requirement by requiring special inspection for seismic resistance for non "box-type" structures of one-and-two family dwellings.</p> <p>Continuation from previous code cycle (Amendment from the collaborative LA</p>	Section (m)	Geological

		County group)		
11	8.12.090(e)	Analysis and Design of Special Provisions for Hillside Buildings Continuation from previous code cycle (Amendment from the collaborative LA County group)	Section (n)	Geological and Topographical
12	8.12.090(f)	Capacity requirements for joist hangers and vertical load bearing capacity. (Amendment from the collaborative LA County group)	Sections (o)	Administrative
13	8.12.100(a)	Restrict permanent wood foundations in Seismic Design Categories D, E, F due to unknown performance in a seismic event and its ability to withstand surrounding elements. Continuation from previous code cycle (Amendment from the collaborative LA County group)	Section (p)	Climatic and Geological
14	8.12.100(b)	Restrict the prescriptive design of foundation walls in Seismic Design Categories D, E, F. Continuation from previous code cycle (Amendment from the collaborative LA County group)	Section (q)	Climatic and Geological
15	8.12.100(c)	Foundations – Stepped Footings. Continuation from previous code cycle (Amendment from the collaborative LA County group)	Section (r)	Geological

16	8.12.100(d)	<p>Provide limitations for the prescriptive design method of footings for light-frame construction in Seismic Design Categories D, E, F.</p> <p>Continuation from previous code cycle (Amendment from the collaborative LA County group)</p>	Section (s)	Climatic and Geological
17	8.12.100(e)	<p>Restrict allowance of timber footings in Seismic Design Categories D, E, F due to unknown performance in a seismic event and its ability to withstand surrounding elements.</p> <p>Continuation from previous code cycle (Amendment from the collaborative LA County group)</p>	Section (t)	Geological
18	8.12.100(f)	<p>Restrict allowance of timber deep foundations designed as poles or piles in Seismic Category D due to unknown performance in a seismic event and its ability to withstand surrounding elements.</p> <p>Continuation from previous code cycle (Amendment from the collaborative LA County group)</p>	Section (u)	Climatic and Geological
19	8.12.110(a)	<p>Structural wall piers in Seismic Design Categories D, E, F to comply with additional standards.</p> <p>Continuation from previous code cycle</p>	Section (v)	Geological

		(Amendment from the collaborative LA County group)		
20	8.12.110(b)	Restrict uses of plain structural concrete as minimum reinforcement and provide for additional reinforcing methods. Continuation from previous code cycle (Amendment from the collaborative LA County group)	Section (w)	Geological
21	8.12.110(c)	Provide for critical design criteria of concrete columns and concrete shear walls. Continuation from previous code cycle (Amendment from the collaborative LA County group)	Section (x)	Geological
22	8.12.120(a)	Concrete and Masonry Chimneys – Alteration and Repair Standards Continuation from previous code cycle	Section (y)	Geological
23	8.12.120(b)	Reinforcing and Seismic Anchorage Continuation from previous code cycle	Section (z)	Geological
24	8.12.140(a)	Restrict use of staples to resist or transfer seismic forces in Seismic Design Categories D, E, F. Continuation from previous code cycle (Amendment from the collaborative LA County group)	Section (aa)	Geological
25	8.12.140(b)	Restrict use of wood in retaining and crib walls in Seismic Design Categories	Section (bb)	Climatic and Geological

		D, E, F due to unknown performance in a seismic event and its ability to withstand surrounding elements. Continuation from previous code cycle (Amendment from the collaborative LA County group)		
26	8.12.140(c)	Require nails installed with a mechanical driver to meet same dimensions as hand-driven nails in Seismic Design Categories D, E, F Continuation from previous code cycle (Amendment from the collaborative LA County group)	Section (cc)	Geological
27	8.12.140(d)	Require more stringent specifications for hold-down connectors for seismic design protection. Specific component and install methods for Seismic Design Categories D, E, F. Continuation from previous code cycle (Amendment from the collaborative LA County group)	Section (dd)	Climatic and Geological
28	8.12.140(e)	Standards requirement for wood-frame diaphragms with restrictions for Seismic Design Categories D, E, F. (Amendment from the collaborative LA County group)	Section (ee)	Geological
29	8.12.140(f)	Standards requirement for wood-frame shear walls with restrictions for Seismic	Section (ff)	Geological

		Design Categories D, E, F. (Amendment from the collaborative LA County group)		
30	8.12.140(g)	More stringent requirements for braced wall line support. Continuation from previous code cycle (Amendment from the collaborative LA County group)	Section (gg)	Geological
31	8.12.140(h)	Alternative bracing standards for panels and panel adjacent to a door or window opening with considerations for Seismic Design Categories D, E. (Amendment from the collaborative LA County group)	Section (hh)	Geological
32	8.12.140(i)	Provide for more stringent requirements for braced wall sheathing based Seismic Design Category. Continuation from previous code cycle (Amendment from the collaborative LA County group)	Section (ii)	Geological
33	8.12.140(j)	More stringent requirements for sheathing attachment in Seismic Design Categories D, E, F. Staples fasteners are not allowed. Continuation from previous code cycle (Amendment from the collaborative LA County group)	Section (ii)	Geological

34	8.20.050	Analysis and Design of Special Provisions for Hillside Buildings Continuation from previous code cycle (Amendment from the collaborative LA County group)	Section (n)	Geological and Topographical
35	8.22.025(a)	Stricter requirement for height of window sills in dwelling units to be consistent with State Code provisions.	Section (jj)	Administrative
36	8.22.030(a)	Requirement that construction drawings for woodframe structures more than one-story shall be stamped by a licensed architect or engineer. Continuation from previous code cycle (Amendment from the collaborative LA County group)	Section (kk)	Geological
37	8.22.030(b)	Requirement that slopes steeper than 33-1/3 percent are to comply with the structural requirements of Chapter 16 of the California Building Code. Continuation from previous code cycle (Amendment from the collaborative LA County group)	Section (ll)	Topographical and Geological
38	8.22.030(c)	Determination of parameters for Seismic Design Categories. (Amendment from the collaborative LA County group)	Section (mm)	Geological
39	8.22.030(d)	Provide more stringent requirements for irregular or "box" shaped structures	Section (nn)	Geological

		by not allowing exceptions in Chapter 3 of the California Residential Code (Amendment from the collaborative LA County group)		
40	8.22.030(e)	Require attachment of mechanical or plumbing fixtures and equipment to the structure. Continuation from previous code cycle (Amendment from the collaborative LA County group)	Section (oo)	Geological
41	8.22.030(f)	Limit the weight and height of mechanical and plumbing equipment for attic floor systems to less than 400 pounds, and a maximum height of four feet. (Amendment from the collaborative LA County group)	Section (oo)	Geological
42	8.22.030(g)	Establish criteria for openings in horizontal diaphragms to limit the maximum floor opening. Continuation from previous code cycle (Amendment from the collaborative LA County group)	Section (pp)	Geological
43	8.22.030(h)	Restriction of single top plate in stud walls in Seismic Design Category D. (Amendment from the collaborative LA County group)	Section (qq)	Geological
44	8.22.030(i)	Provide more stringent requirements	Section (rr)	Geological

		<p>for allowed material types for bracing requirements and restrict material types with unknown performance in Seismic Category D.</p> <p>Continuation from previous code cycle (Amendment from the collaborative LA County group)</p>		
45	8.22.030(j)	<p>Provide more stringent requirements for allowed material types for intermittent bracing methods and restrict material types with unknown performance in Seismic Category D.</p> <p>Continuation from previous code cycle (Amendment from the collaborative LA County group)</p>	Section (ss)	Geological
46	8.22.030(k)	<p>Provide more stringent requirements for alternate braced wall panels by increasing minimum size of panel sheathing, type of nail fasteners and reinforcing lap.</p> <p>Continuation from previous code cycle (Amendment from the collaborative LA County group)</p>	Section (tt)	Geological
47	8.22.030(l)	<p>Provide more stringent requirements for portal frame construction by increasing minimum size of panel sheathing and type of nail fasteners.</p> <p>Continuation from previous code cycle</p>	Section (tt)	Geological

		(Amendment from the collaborative LA County group)		
48	8.22.030(m)	Minimum length of braced wall panels based on wall height for Method PFH and CS-PF. (Amendment from the collaborative LA County group)	Section (uu)	Geological
49	8.22.030(n)	Minimum number of braced wall panels based on length in Seismic Design Category D. (Amendment from the collaborative LA County group)	Section (vv)	Geological
50	8.22.030(o)	Require more stringent requirements for Method CS-PF by increasing minimum size of panel sheathing and anchoring methods. Continuation from previous code cycle (Amendment from the collaborative LA County group)	Section (tt)	Geological
51	8.22.030(p)	Delete California Residential Code Section which allows intervals of continuous foundations for braced wall panel support in Seismic Category D. Continuation from previous code cycle (Amendment from the collaborative LA County group)	Section (ww)	Geological
52	8.22.030(q)	Roof openings in horizontal diaphragms to comply with added	Section (xx)	Geological

		Section R803.2.4 to limit the maximum roof opening and shear transfer. Continuation from previous code cycle (Amendment from the collaborative LA County group)		
53	8.22.030(r)	Design requirement for parapet walls in Seismic Design Category D. (Amendment from the collaborative LA County group)	Section (yy)	Geological
54	8.22.030(s)	Stricter requirement for masonry element reinforcing. (Amendment from the collaborative LA County group)	Section (zz)	Geological
55	8.22.050(a)	Restrict the use of wood foundations in Seismic Category D due to unknown performance in a seismic event and its resistance to the elements. Continuation from previous code cycle (Amendment from the collaborative LA County group)	Section (aaa)	Climatic and Geological
56	8.22.050(b)	Requirement for higher structural design in continuous footings in Seismic Design Category D. (Amendment from the collaborative LA County group)	Section (bbb)	Geological
57	8.22.050(c)	Restrict the use of wood foundations walls Seismic Design Category D due to unknown performance in a seismic	Section (ccc)	Climatic and Geological

		<p>event and its resistance to the elements.</p> <p>Continuation from previous code cycle (Amendment from the collaborative LA County group)</p>		
58	8.22.060(a)	<p>Requirement for chimneys to anchor four No. 4 reinforcing bars into the concrete foundation for seismic support.</p> <p>Continuation from previous code cycle (Amendment from the collaborative LA County group)</p>	Section (ddd)	Geological
59	8.22.080(a)	<p>Restrict the use of staples for wood fastening methods.</p> <p>Continuation from previous code cycle (Amendment from the collaborative LA County group)</p>	Section (eee)	Geological
60	8.22.080(b)	<p>Restrict the use of staples in the alternate attachment method.</p> <p>Continuation from previous code cycle (Amendment from the collaborative LA County group)</p>	Section (eee)	Geological
61	8.24.090	<p>Require metallic enclosures installed within the proximity of the mean shoreline to have a higher degree of corrosion protection.</p> <p>Continuation from previous code cycle</p>	Section (fff)	Climatic
62	8.32.040	<p>Require protection of ground water by</p>	Sections (a), (b)	Climatic

		prohibiting water softener discharge to dry wells meeting standards of the Regional Water Quality Control Board. Continuation from previous code cycle		
63	8.32.070	Seismic Gas Shutoff Devices. Continuation from previous code cycle	Sections (c), (d), (e)	Geological
64	8.40.020(a)	Additional Requirements – Building Addresses. Continuation from previous code cycle	Sections (a), (b)	Climatic
65	8.40.020(b)	Problematic Systems and Systems Out-of-Service. Continuation from previous code cycle	Sections (a), (b)	Climatic
66	8.40.020(c)	Firewatch. Continuation from previous code cycle	Sections (a), (b)	Climatic
67	8.40.020(d)	Automatic Wet Standpipes.	Sections (a), (b)	Climatic
68	8.40.020(e)	Portable Fire Extinguishers.	Sections (a), (b)	Climatic
69	8.40.020(f)	Seizure of Fireworks. Continuation from previous code cycle	Sections (a), (b)	Climatic
70	8.40.030	Solar Photovoltaic Standards for rooftops and fire safety. Continuation from previous code cycle	Sections (a), (b)	Climatic
71	8.44.050(a)	Update the Degree of Occupancy Hazard Table 8.44-A to coordinate with occupancy classes in the California Building Code. Continuation from previous code cycle	Sections (a), (b)	Climatic
72	8.44.050(b)	Exceptions to Sprinkler Systems.	Sections (a), (b)	Climatic

		Continuation from previous code cycle		
73	8.44.050(c)	Minimum Requirements – Non-Occupied Buildings. Continuation from previous code cycle	Sections (a), (b)	Climatic
74	8.44.090	High/Mid-Rise Building Requirements. Continuation from previous code cycle	Sections (a), (b), (c), (d)	Climatic, Geologic
75	8.44.100	Smoke Detectors – Existing Residential Occupancies. Continuation from previous code cycle	Sections (a), (b)	Climatic
76	8.44.110	Standards for Fire Protection Add requirement for a fire protection system notification device for one-and-two family dwellings. Continuation from previous code cycle	Sections (a), (b)	Climatic
77	8.44.120	Seismic Protection of Fire Sprinkler Systems. Continuation from previous code cycle	Sections (a), (b)	Climatic
78	8.44.140	Fire Alarm Requirements. Continuation from previous code cycle	Sections (a), (b)	Climatic
79	8.106.050	Add a definition of Sustainability as the term is used in the CALGreen Code but not defined with specific applicability to green standards. Continuation from previous code cycle (Amendment from the collaborative LA County group)	Section (ggg)	Climatic
80	8.106.053	Increase applicability of Chapter 4 of	Section (hhh)	Climatic

		the CALGreen Code to include any work in existing residential occupancies (Amendment from the collaborative LA County group)		
81	8.106.070	Require details of how flashing is to be executed in certain locations to ensure moisture protection of building elements and occupants. Continuation from previous code cycle (Amendment from the collaborative LA County group)	Section (iii)	Climatic
82	8.106.100	Require additional capacity of new electrical systems for all occupancies for future electric vehicle charging.	Section (jii)	Climatic

SECTION 3. The City Clerk shall certify to the adoption of this Resolution and thenceforth and thereafter the same shall be in full force and effect.

APPROVED AS TO FORM



MARSHA JONES MOUTRIE

City Attorney

Adopted and approved this 22nd day of October, 2013.


Pam O'Connor, Mayor

I, Sarah P. Gorman, City Clerk of the City of Santa Monica, do hereby certify that the foregoing Resolution No. 10776 (CCS) was duly adopted at a meeting of the Santa Monica City Council held on the 22nd day of October, 2013, by the following vote:

AYES: Councilmembers: Davis, Holbrook, McKeown, Vazquez, Winterer
Mayor O'Connor

NOES: Councilmember: None

ABSENT: Councilmember: Mayor Pro Tem O'Day

ATTEST:


Sarah P. Gorman, City Clerk