

**FINAL EXPRESS TERMS
FOR
PROPOSED BUILDING STANDARDS
OF THE
DEPARTMENT OF HOUSING AND COMMUNITY DEVELOPMENT
REGARDING THE ADOPTION BY REFERENCE OF THE
2009 EDITION OF THE UNIFORM PLUMBING CODE (UPC)
WITH PROPOSED AMENDMENTS INTO THE 2010 CALIFORNIA PLUMBING CODE (CPC)
CALIFORNIA CODE OF REGULATIONS, TITLE 24, PART 5
(HCD 03/09)**

The Department of Housing and Community Development (HCD) proposes to adopt the 2009 edition of the Uniform Plumbing Code (UPC) for codification and effectiveness into the 2010 edition of the California Plumbing Code (CPC) as presented on the following pages, including any necessary amendments. HCD further proposes to:

- Repeal the 2006 edition of the Uniform Plumbing Code;
 - Repeal amendments to the model code that are no longer necessary, repeal or amend building standards that are not addressed by a model code;
 - Relocate or codify existing adopted and necessary amendments to the model code into the format of the model code proposed for adoption, the action of which has no regulatory effect; adopt new necessary amendments to the model code proposed for adoption; and/or
 - Adopt new building standards that are not addressed by the model code proposed for adoption.
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LEGEND FOR EXPRESS TERMS:

1. **Existing California amendments or code language being modified:** *All such language shown in italics, modified language is underlined or shown in ~~strikeout~~.*
 2. **UPC language with new California amendments:** UPC language shown in normal Arial 9 point; California amendments to UPC text shown *underlined and in italics*.
 3. **Repealed text:** All language shown in ~~strikeout~~.
 4. **Amended, adopted or repealed language after public hearing:** Amended, adopted, or repealed language will appear in double underline and ~~double strikeout~~.
 5. **Notation:** Authority and Reference citations are provided at the end of each chapter.
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1. HCD proposes to renumber former “California Chapter 1, General Code Provisions (Sections 101.0–108.10.2)” to “Chapter 1, California Administration, Division I (Sections 1.1.0–1.8.10.2)” as follows:

CALIFORNIA CHAPTER 1
GENERAL CODE PROVISIONS

CHAPTER 1
CALIFORNIA ADMINISTRATION
DIVISION I

1.1.0 General

1.1.1 Title. *These regulations shall be known as the California Plumbing Code, may be cited as such and will be referred to herein as “this code.” The California Plumbing Code is Part 5 of twelve parts of the official compilation and publication of the adoptions, amendment, and repeal of Plumbing regulations to the California Code of Regulations, Title 24, also referred to as the California Building Standards Code. This part incorporates by adoption the 2006 2009 Uniform Plumbing Code of the International Association of Plumbing and Mechanical Officials with necessary California amendments.*

1.1.2 Purpose. *The purpose of this code is to establish the minimum requirements to safeguard the public health, safety and general welfare through structural strength, means of egress facilities, stability, access to persons with disabilities, sanitation, adequate lighting and ventilation, and energy conservation; ~~safety to preserve~~ life and property from fire and other hazards attributed to the built environment; and to provide safety to fire fighters and emergency responders during emergency operations.*

1.1.3 Scope. *The provisions of this code shall apply to the construction, alteration, movement, enlargement, replacement, repair, equipment, use and occupancy, location, maintenance, removal and demolition of every building or structure or any appurtenances connected or attached to such buildings or structures throughout the State of California.*

1.1.3.1 Non-State-Regulated Buildings, Structures, and Applications. *The provisions in Chapters 2 through 16 of the 2006 Uniform Plumbing Code of the International Association of Plumbing and Mechanical Officials contained or referenced in this code shall apply to all occupancies and applications not regulated by a state agency. Except as modified by local ordinance pursuant to Section 1.1.8, the following standards in the California Code of Regulations, Title 24, Parts 2, 2.5, 3, 4, 5, 6, 9, 10 and 11 shall apply to all occupancies and applications not regulated by a state agency.*

1.1.3.2 State-Regulated Buildings, Structures, and Applications. *The model code provisions, state amendments to the model code, provisions and/or provisions state amendments where there are no relevant model code provisions; shall apply to the following buildings, structures, and applications regulated by state agencies as referenced in the Matrix Adoption Tables and as specified in ~~Sections 402 1.2 through 443 1.14,~~ except where modified by local ordinance pursuant to Section 1.1.8. When adopted by a state agency, the provisions of this code shall be enforced by the appropriate enforcing agency, but only to the extent of authority granted to such agency by the ~~State~~ State legislature.*

Note: See ~~Legend~~ Preface to distinguish the model code provisions from the California provisions.

1. State-owned buildings, including buildings constructed by the Trustees of the California State University, and to the extent permitted by California laws, buildings designed and constructed by the Regents of the University of California, and regulated by the Building Standards Commission. See ~~Section 402 1.2~~ for additional scope provisions.
2. Local detention facilities regulated by the Corrections Standards Authority. See Section ~~403 1.3~~ for additional scope provisions.
3. Barbering, cosmetology or electrolysis establishments, acupuncture offices, pharmacies, veterinary facilities, and structural pest control locations regulated by the Department of Consumer Affairs. See ~~Section 404 1.4~~ for additional scope provisions.

4. Reserved for the California Energy Commission. See ~~§~~Section 405 1.5 for additional scope provisions.
5. Dairies and places of meat inspection regulated by the Department of Food and Agriculture. See ~~§~~Section 406 1.6 for additional scope provisions.
6. Organized camps, laboratory animal quarters, public swimming pools, radiation protection, commissaries serving mobile food preparation vehicles, and wild animal quarantine facilities regulated by the Department of Public Health Services. See ~~§~~Section 407 1.7 for additional scope provisions.
7. Hotels, motels, lodging houses, apartment houses, dwellings, dormitories, condominiums, shelters for homeless persons, congregate residences, employee housing, factory-built housing, and other types of dwellings containing sleeping accommodations with or without common toilets or cooking facilities. See ~~§~~Section 408 1.8.2.1.1 for additional scope provisions.
8. Accommodations for persons with disabilities in buildings containing newly constructed covered multifamily dwellings, new common use spaces serving existing covered multifamily dwellings, additions to existing buildings where the addition alone meets the definition of ~~a covered multifamily dwelling~~ "COVERED MULTIFAMILY DWELLINGS," and common-use spaces serving covered multifamily dwellings which are regulated by the Department of Housing and Community Development. See ~~§~~Section 408 1.8.2.1.2 for additional scope provisions.
9. Permanent buildings and permanent accessory buildings or structures constructed within mobilehome parks and special occupancy parks regulated by the Department of Housing and Community Development. See ~~§~~Section 408 1.8.2.1.3 for additional scope provisions.
10. Accommodations for persons with disabilities regulated by the Division of the State Architect. See ~~Section 409.4~~ 1.9.1 for additional scope provisions.
11. Public elementary and secondary schools, community college buildings, and state-owned or state-leased essential service buildings regulated by the Division of the State Architect. See ~~Section 409.2~~ 1.9.2 for additional scope provisions.
12. Reserved for the State Historical Building Safety Board with the Division of the State Architect. See ~~Section 409.3~~ 1.9.3 for additional scope provisions.
13. General acute care hospitals, acute psychiatric hospitals, skilled nursing and/or intermediate care facilities, clinics licensed by the Department of Public Health Services and correctional treatment centers regulated by the Office of Statewide Health Planning and Development. See ~~Section 440~~ 1.10 for additional scope provisions.
14. Applications regulated by the Office of State Fire Marshal include but are not limited to the following in accordance with Section 444 1.11:
 1. Buildings or structures used or intended for use as an:
 - 1.1. Asylum, jail,
 - 1.2. Mental hospital, hospital, home for the elderly, children's nursery, children's home or institution, school or any similar occupancy of any capacity,
 - 1.3. Theater, dancehall, skating rink, auditorium, assembly hall, meeting hall, nightclub, fair building, or similar place of assemblage where 50 or more persons may gather together in a building, room or structure for the purpose of amusement, entertainment, instruction, deliberation, worship, drinking or dining, awaiting transportation, or education,
 - 1.4. Small family day care homes, large family day-care homes, residential facilities and residential facilities for the elderly, residential care facilities,
 - 1.5. State institutions or other state-owned or state-occupied buildings,

- 1.6. High rise structures.
- 1.7. Motion picture production studios.
- 1.8. Organized camps.
- 1.9. Residential structures.
2. Tents, awnings or other fabric enclosures used in connection with any occupancy.
3. Fire alarm devices, equipment and systems in connection with any occupancy.
4. Hazardous materials, flammable and combustible liquids.
5. Public school automatic fire detection, alarm, and sprinkler systems.
6. Wildland-urban interface fire areas.
15. Reserved for the State Librarian. See Section 442 1.12 for additional scope provisions.
16. Graywater systems regulated by the Department of Water Resources. See Section 443 1.13 for additional scope provisions.
17. For Applications listed in Section 1.9.1 regulated by the Division of the State Architect – Access Compliance, outdoor environments and uses shall be classified according to accessibility uses described in Chapter 11A, 11B and 11C.
18. ~~Reserved for Marine Oil Terminals regulated~~ the State Lands Commission. See Section 444 1.14 for additional scope provisions.

401.4 1.1.4 Appendices. Provisions contained in the appendices of this code shall not apply unless specifically adopted by a state agency or adopted by a local enforcing agency in compliance with Health and Safety Code Section ~~18938 (b)~~ 18901 et seq. for Building Standards Law, Health and Safety Code Section 17950 for State Housing Law and Health and Safety Code Section 13869.7 for Fire Protection Districts. See Section ~~404-8~~ 1.1.8 of this code.

401.5 1.1.5 Referenced Codes. The codes, standards and publications adopted and set forth in this code, including other codes, standards and publications referred to therein are, by title and date of publication, hereby adopted as standard reference documents of this code. When this code does not specifically cover any subject related to building design and construction, recognized architectural or engineering practices shall be employed. The National Fire Codes, standards and the Fire Protection Handbook of the National Fire Protection Association are permitted to be used as authoritative guides in determining recognized ~~fire prevention~~ fire prevention engineering practices.

401.6 1.1.6 Non-Building Standards, Orders and Regulations. ~~Non-Building Standards, Orders and Regulations.~~ Requirements contained in the Uniform Plumbing Code, or in any other referenced standard, code or document, which are not building standards as defined in Health and Safety Code Section 18909, ~~Health and Safety Code~~, shall not be construed as part of the provisions of this code. For non-building standards, orders, and regulations, see other titles of the California Code of Regulations.

401.7 1.1.7 Order of Precedence and Use.

401.7.1 1.1.7.1 Differences. In the event of any differences between these building standards and the standard reference documents, the text of these building standards shall govern.

401.7.2 1.1.7.2 Specific provisions. Where a specific provision varies from a general provision, the specific provisions shall apply.

401.7.3 1.1.7.3 Conflicts. When the requirements of this code conflict with the requirements of any other part of the California Building Standards Code, Title 24, the most restrictive requirements shall prevail.

~~401-8~~ 1.1.8 City, County, or City and County Amendments, Additions or Deletions.

The provisions of this code do not limit the authority of city, county, or city and county governments to establish more restrictive and reasonably necessary differences to the provisions contained in this code pursuant to complying with Section ~~401-8-4~~ 1.1.8.1. The effective date of amendments, additions, or deletions to this code ~~of cities by city, counties county, or city and counties county~~ filed pursuant to Section ~~401-8-4~~ 1.1.8.1 shall be the date filed. However, in no case shall the amendments, additions or deletions to this code be effective any sooner than the effective date of this code.

Local modifications shall comply with Health and Safety Code Section 18941.5 for Building Standards Law, Health and Safety Code Section 17958 for State Housing Law or Health and Safety Code Section 13869.7 for Fire Protection Districts.

~~401-8-4~~ 1.1.8.1 Findings and Filings.

1. The city, county, or city and county shall make express findings for each amendment, addition or deletion based upon climatic, topographical, or geological conditions.

Exception: Hazardous building ordinances and programs mitigating unreinforced masonry buildings.

2. The city, county, or city and county shall file the amendments, additions, or deletions expressly marked and identified as to the applicable findings. Cities, counties, cities and counties, and fire departments shall file the amendments, additions or deletions, and the findings with the California Building Standards Commission at 2525 Natomas Park Drive, Suite 130, Sacramento, CA 95833.
3. Findings prepared by fire protection districts shall be ratified by the local city, county, or city and county and filed with the California Department of Housing and Community Development, Division of Codes and Standards, P.O. Box 1407, Sacramento, CA 95812-1407 or at 1800 3rd Street, Room 260, Sacramento, CA 95814 95811.

~~401-9~~ 1.1.9 Effective Date of this Code. Only those standards approved by the California Building Standards Commission that are effective at the time an application for building permit is submitted shall apply to the plans and specifications for, and to the construction performed under, that permit. For the effective dates of the provisions contained in this code, see the History Note page of this code.

~~401-10~~ 1.1.10 Availability of Codes. At least one ~~entire complete~~ copy each of Titles 8, 19, 20, 24, and 25 with all revisions shall be maintained in the office of the building official responsible for the administration and enforcement of this code. Each state department concerned and each city, county or city and county shall have an up-to-date copy of the code available for public inspection. See Health and Safety Code Section 18942 (d)(1) & (2).

~~401-14~~ 1.1.11 Format. This part fundamentally adopts the Uniform Plumbing Code by reference on a chapter-by-chapter basis. Such adoption is reflected in the Matrix ~~a~~Adoption ~~€~~Table of each chapter of this part. When the Matrix ~~a~~Adoption ~~€~~Tables make no reference to a specific chapter of the Uniform Plumbing Code, such chapter of the Uniform Plumbing Code is not adopted as a portion of this code.

~~401-12~~ 1.1.12 Validity. If any chapter, section, subsection, sentence, clause or phrase of this code is for any reason held to be unconstitutional, contrary to statute, exceeding the authority of the state as stipulated by statutes, or otherwise inoperative, such decision shall not affect the validity of the remaining portion of this code.

~~408-0~~ 1.8.0 Department of Housing and Community Development (HCD)

~~408-4~~ 1.8.1 Purpose. The purpose of this code is to establish minimum ~~standards requirements~~ to protect, the health, safety, and general welfare of the occupants and the public by governing the erection, construction, reconstruction, enlargement, conversion, alteration, repair, moving, removal, demolition, sanitation, ventilation and maintenance or use of plumbing equipment or systems.

~~408-2~~ 1.8.2 Authority and Abbreviations

~~408-2-1~~ 1.8.2.1 General. The Department of Housing and Community Development is authorized by law to promulgate and adopt building standards and regulations for several types of building applications. These applications are grouped and identified by abbreviation in the Matrix Adoption Tables to show which model code sections and amendments are applicable to each application. The applications under the authority of the Department of Housing and Community Development are listed in Sections ~~408-2-1-4~~ 1.8.2.1.1 through ~~408-2-1-3~~ 1.8.2.1.3.

108.2.1.1 1.8.2.1.1 Housing Construction. Application - Hotels, motels, lodging houses, apartment houses, dwellings, dormitories, condominiums, shelters for homeless persons, congregate residences, employee housing, factory-built housing and other types of dwellings containing sleeping accommodations with or without common toilet or cooking facilities including accessory buildings, facilities, and uses thereto. Sections of this code which pertain to applications listed in this section are identified in the Matrix Adoption Table using the abbreviation "HCD 1".

Enforcing Agency—Local building department or the Department of Housing and Community Development.

Authority Cited: Health and Safety Code Sections 17040, 17050, 17920.9, 17921, 17921.3, 17921.6, 17921.10, 17922, 17922.6, 17922.12, 17927, 17928, 17959.6, 18300, 18552, 18554, 18620, 18630, 18640, 18670, 18690, 18691, 18865, 18871.3, 18871.4, 18873, 18873.1, 18873.2, 18873.3, 18873.4, 18873.5, 18938.3, 18944.11, and 19990; ~~through 19992;~~ and Government Code Section 12955.1.

Reference: Health and Safety Code Sections 17000 through 17062.5, 17910 through 17995.5, 18200 through 18700, 18860 through 18874, and 19960 through 19997; and Government Code Sections 12955.1 and 12955.1.1.

108.2.1.2 1.8.2.1.2 Housing Accessibility. Application – Covered multifamily dwellings ~~units~~ as defined in Chapter 11A of the California Code of Regulations, Title 24, Part 2, also known as the California Building Code (CBC) including but not limited to lodging houses, dormitories, ~~time-shares~~ timeshares, condominiums, shelters for homeless persons, congregate residences, apartment houses, dwellings, employee housing, factory-built housing and other types of dwellings containing sleeping accommodations with or without common toilet or cooking facilities.

Sections of this code identified in the Matrix Adoption Table by the abbreviation "~~HCD 4AG1-AC~~" require specific accommodations for ~~persons with physical disabilities~~; "PERSONS WITH DISABILITIES" as defined in Chapter 11A of the CBC. The application of such provisions shall be in conjunction with other requirements of this code and apply only to ~~Group R Occupancies which are newly-constructed~~ newly constructed covered multifamily dwellings "COVERED MULTIFAMILY DWELLINGS" as defined in Chapter 11A of the CBC. "~~HCD 4AG1-AC~~" applications include, but are not limited to, the following:

1. All newly-constructed ~~covered multifamily dwellings~~ "COVERED MULTIFAMILY DWELLINGS" as defined in Chapter 11A of the CBC.
2. New ~~common use areas~~ "COMMON USE AREAS" as defined in Chapter 11A of the CBC serving existing covered multifamily dwellings.
3. Additions to existing buildings, where the addition alone meets the definition of a ~~covered multifamily dwelling~~ "COVERED MULTIFAMILY DWELLINGS" as defined in Chapter 11A of the CBC.
4. ~~Common use~~ Common use areas serving covered multifamily dwellings.
5. Where any portion of a building's exterior is preserved, but the interior of the building is removed, including all structural portions of floors and ceilings, the building is considered a new building for determining the application of CBC, Chapter 11A.

~~HCD 4AG1-AC~~ building standards generally do not apply to public use areas or public accommodations such as hotels and motels. Public use areas, public accommodations, and housing which is publicly funded as defined in Chapter 2, ~~Chapter 11A, and Chapter 11B~~ of the CBC, are subject to the Division of the State Architect (DSA/AGDSA-AC) and are referenced in Section ~~409.4~~ 1.9.1.

Enforcing Agency—Local building department or the Department of Housing and Community Development.

Authority Cited: Health and Safety Code Sections 17040, 17050, 17920.9, 17921, 17921.3, 17921.6, 17921.10, 17922, 17922.6, 17922.12, 17927, 17928, 17959.6, 18300, 18552, 18554, 18620, 18630, 18640, 18670, 18690, 18691, 18865, 18871.3, 18871.4, 18873, 18873.1, 18873.2, 18873.3, 18873.4, 18873.5, 18938.3, 18944.11, and 19990 ~~through 19992;~~ and Government Code Section 12955.1.

Reference: Health and Safety Code Sections 17000 through 17062.5, 17910 through 17995.5, 18200 through 18700, 18860 through 18874, and 19960 through 19997; and Government Code Sections 12955.1 and 12955.1.1.

~~408.2.1.3~~ **1.8.2.1.3 Permanent Buildings in Mobilehome Parks and Special Occupancy Parks.** Application - Permanent buildings, and permanent accessory buildings or structures, constructed within mobilehome parks and special occupancy parks that are under the control and ownership of the park operator. Sections of this code which pertain to applications listed in this section are identified in the Matrix Adoption Table using the abbreviation "HCD 2".

Enforcing Agency— Local building department or other local agency responsible for the enforcement of Health and Safety Code, Division 13, Part 2.1 and Part 2.3, commencing with Sections 18200 for mobilehome parks and Health and Safety Code, Division 13, Part 2.3, commencing with Section 18860 respectively, for special occupancy parks; or the Department of Housing and Community Development.

Authority Cited: Health and Safety Code Sections 17040, 17050, 17920.9, 17921, 17921.3, 17921.6, 17921.10, 17922, 17922.6, 17922.12, 17927, 17928, 17959.6, 18300, 18552, 18554, 18620, 18630, 18640, 18670, 18690, 18691, and 18865, 18871.3, 18871.4, 18873, 18873.1, 18873.2, 18873.3, 18873.4, 18873.5, 18938.3, 18944.11 and 19990; and Government Code Section 12955.1.

Reference: Health and Safety Code Sections 17000 through 17062.5, 17910 through 17995.5, 18200 through 18700, 18860 through 18874, and 19960 through 19997; and Government Code Sections 12955.1 and 12955.1.1.

408.3 1.8.3 Local Enforcing Agency

408.3.1 1.8.3.1 Duties and Powers. The building department of every city, county or city and county shall enforce all the provisions of law, this code, and the other rules and regulations promulgated by the Department of Housing and Community Development pertaining to the installation, erection, construction, reconstruction, movement, enlargement, conversion, alteration, repair, removal, demolition, or arrangement of apartment houses, hotels, motels, lodging houses and dwellings, including accessory buildings, facilities, and uses thereto.

The provisions regulating the erection and construction of dwellings and appurtenant structures shall not apply to existing structures as to which construction is commenced or approved prior to the effective date of these regulations. Requirements relating to use, maintenance and occupancy shall apply to all dwellings and appurtenant structures approved for construction or constructed before or after the effective date of this code.

For additional information regarding the use and occupancy of existing buildings and appurtenant structures, see California Code of Regulations, Title 25, Division 1, Chapter 1, ~~Subsection~~ Subchapter 1, ~~Article 4~~, commencing with Section 1.

408.3.2 1.8.3.2 Laws, Rules, and Regulations. Other than the building standards contained in this code, and notwithstanding other provisions of law, the statutory authority and location of the laws, rules, and regulations to be enforced by local enforcing agencies are listed by statute in Sections ~~408.3.2.4~~ 1.8.3.2.1 through ~~408.3.2.5~~ 1.8.3.2.5 below:

408.3.2.1 1.8.3.2.1 State Housing Law. Refer to the State Housing Law, California Health and Safety Code, Division 13, Part 1.5, commencing with Section 17910, and California Code of Regulations, Title 25, Division 1, Chapter 1, Subchapter 1, ~~Article 4~~, commencing with Section 1, for the erection, construction, reconstruction, movement, enlargement, conversion, alteration, repair, removal, demolition, or arrangement of apartment houses, hotels, motels, lodging houses and dwellings, including accessory buildings, facilities, and uses thereto.

408.3.2.2 1.8.3.2.2 Mobilehome Parks Act. Refer to the Mobilehome Parks Act, California Health and Safety Code, Division 13, Part 2.1, commencing with Section 18200 and California Code of Regulations, Title 25, Division 1, Chapter 2, commencing with Section 1000 for mobilehome park administrative and enforcement authority, permits, plans, fees, violations, inspections and penalties both within and outside mobilehome parks.

Exception: Mobilehome parks where the Department of Housing and Community Development is the enforcing agency.

408.3.2.3 1.8.3.2.3 Special Occupancy Parks Act. Refer to the Special Occupancy Parks Act, California Health and Safety Code, Division 13, Part 2.3, commencing with Section 18860 and California Code of Regulations, Title 25, Division 1, Chapter 2.2, ~~Article 4~~, commencing with Section 2000 for special occupancy park administrative and enforcement authority, permits, fees, violations, inspections and penalties both within and outside of ~~Special Occupancy Parks~~.

Exception: Special occupancy parks where the Department of Housing and Community Development is the enforcing agency.

408.3.2.4 1.8.3.2.4 Employee Housing Act. Refer to the Employee Housing Act, California Health and Safety Code, Division 13, Part 1, commencing with Section 17000 and California Code of Regulations, Title 25, Division 1, Chapter 1, Subchapter 3, ~~Article 4~~, commencing with Section 600 for employee housing administrative and enforcement authority, permits, fees, violations, inspections and penalties.

408.3.2.5 1.8.3.2.5 Factory-Built Housing Law. Refer to the Factory-Built Housing Law, California Health and Safety Code, Division 13, Part 6, commencing with Section 19960 and California Code of Regulations, Title 25, Division 1, Chapter 3, Subchapter 1, ~~Article 4~~, commencing with Section 3000 for factory-built housing administrative and enforcement authority, permits, fees, violations, inspections and penalties.

408.4 1.8.4 Permits, Fees, Applications and Inspections

408.4.1 1.8.4.1 Permits. A written construction permit shall be obtained from the enforcing agency prior to the erection, construction, reconstruction, installation, relocation, or alteration of any plumbing system.

Exceptions:

1. Work exempt from permits as specified in ~~Appendix~~ Chapter 1, Administration, Division II, Sections 103.1.2.1 and 103.1.2.2 of this code.
2. Changes, alterations, or repairs of a minor nature not affecting structural features, egress, sanitation, safety or accessibility as determined by the enforcing agency.

Exemptions from permit requirements shall not be deemed to grant authorization for any work to be done in any manner in violation of other provisions of law or this code.

408.4.2 1.8.4.2 Fees. Subject to other provisions of law, the governing body of any city, county, or city and county may prescribe fees to defray the cost of enforcement of rules and regulations promulgated by the Department of Housing and Community Development. The amount of the fees shall not exceed the amount reasonably necessary to administer or process permits, certificates, forms, or other documents, or to defray the costs of enforcement. For additional information, see State Housing Law, Health and Safety Code, Division 13, Part 1.5, Section 17951 and California Code of Regulations, Title 25, Division 1, Chapter 1, Subchapter 1, Article 3, commencing with Section 6.

408.4.3 1.8.4.3 Plan Review and Time Limitations. Subject to other provisions of law, provisions related to plan checking, prohibition of excessive delays, and contracting with or employment of private parties to perform plan checking are set forth in the State Housing Law, Health and Safety Code Section 17960.1, and for employee housing, in Health and Safety Code Section 17021.

408.4.3.1 1.8.4.3.1 Retention of Plans. The building department of every city, county or city and county shall maintain an official copy, microfilm, or electronic or other type of photographic copy of the plans of every building, during the life of the building, for which the department issued a building permit.

Exceptions:

1. Single or multiple dwellings not more than two stories and basement in height.
2. Garages and other structures appurtenant to buildings listed in ~~e~~Exception {1}.
3. Farm or ranch buildings appurtenant to buildings listed in ~~e~~Exception {1}.
4. Any one-story building where the span between bearing walls does not exceed 25 feet (7620 mm), except a steel frame or concrete building.

All plans for common interest developments as defined in Section 1351 of the California Civil Code shall be retained. For additional information regarding plan retention and reproduction of plans by an enforcing agency, see Health and Safety Code Sections 19850 through 19852.

408.4.4 1.8.4.4 Inspections. Construction or work for which a permit is required shall be subject to inspection by the building official and such construction or work shall remain accessible and exposed for inspection purposes until approved. Approval as a result of an inspection shall not be construed to be an approval of a violation of the provisions of this code or other regulations of the Department of Housing and Community Development.

408.5 1.8.5 Right of Entry for Enforcement

408.5.1 1.8.5.1 General. Subject to other provisions of law, officers and agents of the enforcing agency may enter and inspect public and private properties to secure compliance with the rules and regulations promulgated by the Department of Housing and Community Development. For limitations and additional information regarding enforcement, see the following:

1. For applications subject to State Housing Law as referenced in Section ~~408.3.2.4~~ 1.8.3.2.1 of this code, refer to Health and Safety Code, Division 13, Part 1.5, commencing with Section 17910 Sections 17970 through 17972 and California Code of Regulations, Title 25, Division 1, Chapter 1, Subchapter 1, commencing with Section 1.
2. For applications subject to the Mobilehome Parks Act as referenced in Section ~~408.3.2.2~~ 1.8.3.2.2 of this code, refer to ~~the~~ Health and Safety Code, Division 13, Part 2.1, commencing with Section 18200 and California Code of Regulations, Title 25, Division 1, Chapter 2, commencing with Section 1000.
3. For applications subject to the Special Occupancy Parks Act as referenced in Section ~~408.3.2.3~~ 1.8.3.2.3 of this code, refer to ~~the~~ Health and Safety Code Division 13, Part 2.3, commencing with Section 18860 and California Code of Regulations, Title 25, Division 1, Chapter 2.2, commencing with Section 2000.
4. For applications subject to the Employee Housing Act as referenced in Section ~~408.3.2.4~~ 1.8.3.2.4 of this code, refer to Health and Safety Code, Division 13, Part 1, commencing with Section 17000 17052 and California Code of Regulations, Title 25, Division 1, Chapter 1, Subchapter 3, commencing with Section 600.
5. For applications subject to the Factory-Built Housing Act Law as referenced in Section ~~408.3.2.5~~ 1.8.3.2.5 of this code, refer to Health and Safety Code, Division 13, Part 6, commencing with Sections 19960 19991 through 19992 and California Code of Regulations, Title 25, Division 1, Chapter 3, Subchapter 1, commencing with Section 3000.

408.6 1.8.6 Local Modification by Ordinance or Regulation

408.6.1 1.8.6.1 General. Subject to other provisions of law, a city, county or city and county may make changes to the provisions adopted by the Department of Housing and Community Development. If any city, county or city and county does not amend, add, or repeal by local ordinances or regulations the provisions published in this code or other regulations promulgated by the Department of Housing and Community Development, those provisions shall be applicable and shall become effective 180 days after publication by the California Building Standards Commission. Amendments, additions, and deletions to this code adopted by a city, county or city and county pursuant to California Health and Safety Code Sections 17958.5, 17958.7 and 18941.5, together with all applicable portions of this code, shall also become effective 180 days after publication of the California Building Standards Code by the California Building Standards Commission.

408.6.2 1.8.6.2 Findings, Filings, and Rejections of Local Modifications. Prior to making any modifications or establishing more restrictive building standards, the governing body shall make express findings and filings, as required by California Health and Safety Code Section 17958.7, ~~stating their findings and showing~~ that such modifications are reasonably necessary due to local climatic, geological, or topographical conditions. No modification shall become effective or operative unless the following requirements are met:

1. The express findings shall be made available as a public record.
2. A copy of the modification and express finding, each document marked to cross-reference the other, shall be filed with the California Building Standards Commission for ~~cities, counties, or cities and counties~~ a city, county, or a city and county, and with the Department of Housing and Community Development for fire protection districts.
3. The California Building Standards Commission has not rejected the modification or change.

Nothing in this section shall limit the authority of fire protection districts pursuant to California Health and Safety Code Section 13869.7(a).

408-7 1.8.7 Alternate Materials, Designs, Tests and Methods of Construction

408-7.1 1.8.7.1 General. The provisions of this code as adopted by the Department of Housing and Community Development are not intended to prevent the use of any alternate material, appliance, installation, device, arrangement, design or method of construction not specifically prescribed by this code. Consideration and approval of alternates shall comply with Section ~~408-7.2~~ **1.8.7.2** for local building departments and Section ~~408-7.3~~ **1.8.7.3** for the Department of Housing and Community Development.

408-7.2 1.8.7.2 Local Building Departments. The building department of any city, county or city and county may approve alternates for use in the erection, construction, reconstruction, movement, enlargement, conversion, alteration, repair, removal, demolition or arrangement of an apartment houses, hotels, motels, lodging houses, or dwellings, ~~or an including accessory structure buildings, facilities, and uses thereto~~, except for the following:

1. Structures located in mobilehome parks as defined in California Health and Safety Code Section 18214.
2. Structures located in special occupancy parks as defined in California Health and Safety Code Section 18862.43.
3. Factory-built housing as defined in California Health and Safety Code Section 19971.

~~408-7.2.1~~ **1.8.7.2.1 Approval of Alternates.** The consideration and approval of alternates by a local building department shall comply with the following procedures and limitations:

1. The approval shall be granted on a case-by-case basis.
2. Evidence shall be submitted to substantiate claims that the proposed alternate, in performance, safety, and ~~for the~~ protection of life and health, conforms to, or is at least equivalent to, the standards contained in this code and other rules and regulations promulgated by the Department of Housing and Community Development.
3. The local building department may require tests performed by an approved testing agency at the expense of the owner or owner's agent as proof of compliance.
4. If the proposed alternate is related to accessibility in covered multifamily dwellings or facilities serving ~~covered multifamily dwellings~~ **"COVERED MULTIFAMILY DWELLINGS"** as defined in Chapter 11A of the CBC, the proposed alternate must also meet the threshold set for **"EQUIVALENT FACILITATION"** as defined in Chapter 11A of the CBC.

For additional information regarding approval of alternates by a local building department pursuant to the State Housing Law, see California Health and Safety Code Section 17951(e) and California Code of Regulations, Title 25, Division 1, Chapter 1, Subchapter 1.

408-7.3 1.8.7.3 Department of Housing and Community Development. The Department of Housing and Community Development may approve alternates for use in the erection, construction, reconstruction, movement, enlargement, conversion, alteration, repair, removal ~~or demolition or arrangement of an~~ apartment houses, hotels, motels, lodging houses, dwellings, ~~or an including accessory buildings, facilities, and uses thereto~~. The consideration and approval of alternates shall comply with the following:

1. The department may require tests at the expense of the owner or owner's agent to substantiate compliance with the California Building Standards Code.
2. The approved alternate shall, for its intended purpose, be at least equivalent in performance and safety to the materials, designs, tests, or methods of construction prescribed by this code.

408-8 1.8.8 Appeals Board

408-8.1 1.8.8.1 General. Every city, county or city and county, shall establish a local appeals board and a housing appeals board. The local appeals board and housing appeals board shall each be comprised of at least five voting members who shall serve at the pleasure of the city, county or city and county. Appointees shall not be employees of the jurisdiction and shall be qualified and specifically knowledgeable in the California Building Standards Codes and applicable local ordinances.

408.8.2 1.8.8.2 Definitions. The following terms shall for the purposes of this section have the meaning shown.

Housing Appeals Board. The board or agency of a city, county or city and county which is authorized by the governing body of the city, county or city and county to hear appeals regarding the requirements of the city, county or city and county relating to the use, maintenance, and change of occupancy of buildings and structures, including requirements governing alteration, additions, repair, demolition, and moving. In any area in which there is no such board or agency, "housing appeals board" means the local appeals board having jurisdiction over the area.

Local Appeals Board. The board or agency of a city, county or city and county which is authorized by the governing body of the city, county or city and county to hear appeals regarding the building requirements of the city, county or city and county. In any area in which there is no such board or agency, "local appeals board" means the governing body of the city, county or city and county having jurisdiction over the area.

408.8.3 1.8.8.3 Appeals. Except as otherwise provided by law, any person, firm, or corporation adversely affected by a decision, order, or determination by a city, county or city and county relating to the application of building standards published in the California Building Standards Code, or any other applicable rule or regulation adopted by the Department of Housing and Community Development, or any lawfully enacted ordinance by a city, county or city and county, may appeal the issue for resolution to the local appeals board or housing appeals board as appropriate.

The local appeals board shall hear appeals relating to new building construction and the housing appeals board shall hear appeals relating to existing buildings.

408.9 1.8.9 Unsafe Buildings or Structures

408.9.1 1.8.9.1 Authority to Enforce. Subject to other provisions of law, the administration, enforcement, actions, proceedings, abatement, violations and penalties for unsafe buildings and structures are contained in the following statutes and regulations:

1. For applications subject to State Housing Law as referenced in Section ~~408.3.2.4~~ 1.8.3.2.1 of this code, refer to Health and Safety Code, Division 13, Part 1.5, commencing with Sections 17910 through 17995.5 and California Code of Regulations, Title 25, Division 1, Chapter 1, Subchapter 1, commencing with Section 1.
2. For applications subject to the Mobilehome Parks Act as referenced in Section ~~408.3.2.2~~ 1.8.3.2.2 of this code, refer to ~~the~~ Health and Safety Code, Division 13, Part 2.1, commencing with Section 18200 and California Code of Regulations, Title 25, Division 1, Chapter 2, commencing with Section 1000.
3. For applications subject to the Special Occupancy Parks Act as referenced in Section ~~408.3.2.3~~ 1.8.3.2.3 of this code, refer to ~~the~~ Health and Safety Code, Division 13, Part 2.3, commencing with Section 18860 and California Code of Regulations, Title 25, Division 1, Chapter 2.2, commencing with Section 2000.
4. For applications subject to the Employee Housing Act as referenced in Section ~~408.3.2.4~~ 1.8.3.2.4 of this code, refer to Health and Safety Code, Division 13, Part 1, commencing with Sections 17000 through 17062.5 and California Code of Regulations, Title 25, Division 1, Chapter 1, Subchapter 3, commencing with Section 600.
5. For applications subject to the Factory-Built Housing Act ~~Law~~ as referenced in Section ~~408.3.2.5~~ 1.8.3.2.5 of this code, refer to Health and Safety Code, Division 13, Part 6, commencing with Sections 19960 through 19997 and California Code of Regulations, Title 25, Division 1, Chapter 3, Subchapter 1, commencing with Section 3000.

408.9.2 1.8.9.2 Actions and Proceedings. Subject to other provisions of law, punishments, penalties and fines for violations of building standards are contained in the following statutes and regulations:

1. For applications subject to ~~the~~ State Housing Law as referenced in Section ~~408.3.2.4~~ 1.8.3.2.1 of this code, refer to Health and Safety Code, Division 13, Part 1.5, commencing with Sections 17910 through 17995.5 and California Code of Regulations, Title 25, Division 1, Chapter 1, Subchapter 1, commencing with Section 1.

2. For applications subject to the Mobilehome Parks Act as referenced in Section ~~408.3.2.2~~ 1.8.3.2.2 of this code, refer to Health and Safety Code, Division 13, Part 2.1, commencing with Sections 18200 through 18700 and California Code of Regulations, Title 25, Division 1, Chapter 2, commencing with Section 1000.
3. For applications subject to the Special Occupancy Parks Act as referenced in Section ~~408.3.2.3~~ 1.8.3.2.3 of this code, refer to Health and Safety Code, Division 13, Part 2.3, commencing with Sections 18860 through 18869 and California Code of Regulations, Title 25, Division 1, Chapter 2.2, commencing with Section 2000.
4. For applications subject to the Employee Housing Act as referenced in Section ~~408.3.2.4~~ 1.8.3.2.4 of this code, refer to Health and Safety Code, Division 13, Part 1, commencing with Sections 17000 through 17062.5 and California Code of Regulations, Title 25, Division 1, Chapter 1, Subchapter 3, commencing with Section 600.
5. For applications subject to the Factory-Built Housing Act Law as referenced in Section ~~408.3.2.4~~ 1.8.3.2.5 of this code, refer to Health and Safety Code, Division 13, Part 6, commencing with Sections 19960 through 19997 and California Code of Regulations, Title 25, Division 1, Chapter 3, Subchapter 1, commencing with Section 3000.

408-19 1.8.10 Other Building Regulations

408-19.1 1.8.10.1 Existing Structures. Notwithstanding other provisions of law, the replacement, retention, and extension of original materials and the use of original methods of construction for any existing building or accessory structure, or portions thereof, shall be permitted. For additional information, see California Health and Safety Code Sections 17912 and 17958.8.

408-19.2 1.8.10.2 Moved Structures. Subject to the requirements of California Health and Safety Code Sections 17922.3 and 17958.9, local ordinances or regulations relating to a moved residential or accessory structure shall, after July 1, 1978, permit the retention of existing materials and methods of construction so long as the structure does not become or continue to be a substandard building.

NOTE:

Authority Cited: Health and Safety Code Sections 17040, 17050, 17920.9, 17921, 17921.3, 17921.6, 17921.10, 17922, 17922.6, 17922.12, 17927, 17928, 17959.6, 18300, 18552, 18554, 18620, 18630, 18640, 18670, 18690, 18691, 18865, 18871.3, 18871.4, 18873, 18873.1, 18873.2, 18873.3, 18873.4, 18873.5, 18938.3, 18944.11, and 19990; and Government Code Section 12955.1.

Reference: Health and Safety Code Sections 17000 through 17062.5, 17910 through 17995.5, 18200 through 18700, 18860 through 18874, and 19960 through 19997; and Government Code Sections 12955.1 and 12955.1.1.

1-A. HCD proposes to amend the heading of former “Appendix Chapter 1, Administration” to “Administration, Division II” as follows. HCD also proposes to adopt Sections 103.1.2, 103.1.2.1 and 103.1.2.2 without amendment:

APPENDIX CHAPTER 1

ADMINISTRATION

DIVISION II

(Chapter 1, Administration has been relocated from Appendix Chapter 1 and renamed Division II)

NOTE:

Authority Cited: Health and Safety Code Sections 17040, 17050, 17920.9, 17921, 17921.3, 17921.6, 17921.10, 17922, 17922.6, 17922.12, 17927, 17928, 17959.6, 18300, 18552, 18554, 18620, 18630, 18640, 18670, 18690, 18691, 18865, 18871.3, 18871.4, 18873, 18873.1, 18873.2, 18873.3, 18873.4, 18873.5, 18938.3, 18944.11, and 19990; and Government Code Section 12955.1.

Reference: Health and Safety Code Sections 17000 through 17062.5, Sections 17910 through 17995.5, Sections 18200 through 18700, Sections 18860 through 18874, and Sections 19960 through 19997; and Government Code Sections 12955.1 and 12955.1.1.

2. HCD proposes to adopt Chapter 2, except the definition for “single family dwelling”, with amendments as follows:

**CHAPTER 2
DEFINITIONS**

203.0

-A-

Approved – Acceptable to the Authority Having Jurisdiction.

Exception: [HCD 1 & HCD 2] “Approved” means meeting the approval of the Enforcing Agency, except as otherwise provided by law, when used in connection with any system, material, type of construction, fixture or appliance as the result of investigations and tests conducted by the agency, or by reason of accepted principles or tests by national authorities, or technical, health, or scientific organizations or agencies.

Notes:

1. See Health and Safety Code Section 17920 for “Approved” as applied to residential construction and buildings or structures accessory thereto as referenced in Section ~~408.2~~ 1.8.2.
2. See Health and Safety Code Section 17921.1 for “Approved” as applied to the use of hotplates in residential construction referenced in Section ~~408.2~~ 1.8.2.
3. See Health and Safety Code Section 17921.3 for “Approved” as applied to low-flush water closets in residential construction, as referenced in Section ~~408.2~~ 1.8.2.
4. See Health and Safety Code Section 19966 for “Approved” as applied to Factory-Built Housing as referenced in Section ~~408.3.2.5~~ 1.8.3.2.5.
5. See Health and Safety Code Section 18201 for “Approved” as applied to Mobilehome Parks as referenced in Section ~~408.2~~ 1.8.2.
6. See Health and Safety Code Section 18862.1 for “Approved” as applied to Special Occupancy Parks as referenced in Section ~~408.2~~ 1.8.2.

Approved Testing Agency – An organization primarily established for purposes of testing to approved standards and approved by the Authority Having Jurisdiction.

[HCD 1 & HCD 2] “Approved Testing Agency” is any agency which is determined by the enforcing agency, except as otherwise provided by statute, to have adequate personnel and expertise to carry out the testing of systems, materials, and construction fixtures or appliances.

Authority Having Jurisdiction – The organization, office, or individual responsible for enforcing the requirements of a code or standard, or for approving equipment, materials, installations, or procedures. The Authority Having Jurisdiction shall be a federal, state, local or other regional department or an individual such as a plumbing official, mechanical official, labor department official, health department official, building official, or others having statutory authority. In the absence of a statutory authority, the Authority Having Jurisdiction may be some other responsible party. This definition shall include the Authority Having Jurisdiction’s duly authorized representative.

[HCD 1 & HCD 2] “Authority Having Jurisdiction” shall mean “Enforcing Agency” as defined in Section 207.0 of this code.

204.0

-B-

Building – A structure built, erected, and framed of component structural parts designed for the housing, shelter, enclosure, or support of persons, animals, or property of any kind.

Exceptions: [HCD 1 & HCD 2] “BUILDING” shall not include the following:

1. Any mobilehome as defined in Health and Safety Code Section 18008.
2. Any manufactured home as defined in Health and Safety Code Section 18007.

3. Any commercial modular as defined in Health and Safety Code Section 18001.8 or any special purpose commercial modular as defined in Section 18012.5.

4. Any recreational vehicle as defined in Health and Safety Code Section 18010.

5. Any ~~multi-unit~~ multifamily manufactured ~~housing~~ home as defined in Health and Safety Code Section 18008.7.

For additional information, see Health and Safety Code Section 18908.

205.0 -C-
Covered Multifamily Dwellings - [HCD 1-AC] See Section ~~408.2.1.4~~ 1.8.2.1.2.

206.0 -D-
Department – [HCD 1, ~~HCD 1-AC~~ & HCD 2 & HCD 1-AC] “Department” means the Department of Housing and Community Development.

Department Having Jurisdiction –The Authority Having Jurisdiction, including any other law enforcement agency affected by any provision of this code, whether such agency is specifically named or not.

[HCD 1 & HCD 2] “Department Having Jurisdiction” shall mean “Enforcing Agency” as defined in Section 207.0 of this code.

207.0 -E-
Enforcing Agency – [HCD 1, ~~HCD 1-AC~~ & HCD 2 & HCD 1-AC] “Enforcing Agency” is the designated department or agency as specified by statute or regulation.

211.0 -I-
Insanitary – A condition that is contrary to sanitary principles or is injurious to health.

Conditions to which “insanitary” shall apply include the following:

- (1) Any trap that does not maintain a proper trap seal.
- (2) Any opening in a drainage system, except where lawful, that is not provided with an approved liquid-sealed trap.

~~**Exception: [HCD 1 & HCD 2] Non-water supplied urinals.**~~

- (3)..... (text unchanged)
- (4) (text unchanged)
- (5)..... (text unchanged)
- (6)..... (text unchanged)

214.0 -L-
Labeled – Equipment or materials bearing a label of a listing agency (accredited conformity assessment body). See Listed (third-party certified).

[HCD 1 & HCD 2] “Labeled” means equipment or materials to which has been attached a label, symbol or other identifying mark of an organization, approved by the Department, that maintains a periodic inspection program of production of labeled products, installations, equipment, or materials and by whose labeling the manufacturer indicates compliance with appropriate standards or performance in a specified manner.

Lavatory – **[HCD 1 & HCD 2]** “Lavatory” shall mean a plumbing fixture used for washing the hands, arms, face and head.

Limited-density Owner-built Dwelling – [HCD 1] “Limited-density Owner-built Dwelling” shall mean any structure consisting of one or more habitable rooms intended or designed to be occupied by one family with facilities for living or sleeping, with use restricted to rural areas designated by local jurisdiction in compliance with the requirements of Health and Safety Code Section 17958.2.

Listed – [HCD 1 & HCD 2] “Listed” means all products that appear in a list published by an approved testing or listing agency. For additional information, see Health and Safety Code Section 17920(h).

Listing Agency – An agency accredited by an independent and authoritative conformity assessment body to operate a material and product listing and labeling (certification) system and that is accepted by the Authority Having Jurisdiction, which is in the business of listing or labeling. The system includes initial and ongoing product testing, a periodic inspection on current production of listed (certified) products, and makes available a published report of such listing in which specific information is included that the material or product conforms to applicable standards and found safe for use in a specific manner.

[HCD 1 & HCD 2] “Listing Agency” means an agency approved by the department that is in the business of listing and labeling products, materials, equipment, and installations tested by an approved testing agency, and that maintains a periodic inspection program on current production of listed products, equipment, and installations, and that, at least annually, makes available a published report of these listings. For additional information, see Health and Safety Code Section 17920(i).

Low VOC Cement – [HCD 1 & HCD 2] Cement with a volatile organic compound (VOC) content of less than or equal to 490 g/L for CPVC Cement, 510 g/L for PVC Cement, and 325 g/L for ABS Cement, as determined by the South Coast Air Quality Management District’s Laboratory Methods of Analysis for Enforcement Samples, Method 316A.

Low VOC One-Step Cement – Listed solvent cements that do not require the use of primer with a volatile organic compound (VOC) content of less than or equal to 490 ~~g/L~~ g/L for CPVC Cement, 510 g/L for PVC Cement, and 325 g/L for ABS Cement, as determined by the South Coast Air Quality Management District’s Laboratory Methods of Analysis for Enforcement Samples, Method 316A.

Low VOC Primer – [HCD 1 & HCD 2] Primer with a volatile organic compound (VOC) content of less than or equal to 550 g/L, as determined by the South Coast Air Quality Management District’s Laboratory Methods of Analysis for Enforcement Samples, Method 316A.

216.0

-N-

Non-Water Supplied Urinal (Waterless Urinal) [HCD 1 & HCD 2] – A plumbing fixture which does not require water supply and is designed to receive and convey the uninhibited flow of liquid waste to the gravity drainage system.

Nuisance –Includes, but is not limited to:

- (1) Any public nuisance known at common law or in equity jurisprudence.
- (2) Whenever any work regulated by this code is dangerous to human life or is detrimental to health and property.
- (3) Inadequate or unsafe water supply or sewage disposal system.

[HCD 1 & HCD 2] “Nuisance” shall mean any nuisance as defined in Health and Safety Code Section 17920(k).

Notes:

1. For applications subject to the Mobilehome Parks Act as referenced in Section ~~408.3.2.2~~ 1.8.3.2.2 of this code, refer to California Code of Regulations, Title 25, Division 1, Chapter 2, for the definition of “Nuisance”.
2. For applications subject to the Special Occupancy Parks Act as referenced in Section ~~408.3.2.3~~ 1.8.3.2.3 of this code, refer to California Code of Regulations, Title 25, Division 1, Chapter 2.2, for the definition of “Nuisance”.

222.0

-T-

Testing Agency – [HCD 1 & HCD 2] See “Approved Testing Agency”.

223.0

-U-

UPC – [HCD 1 & HCD 2] “UPC” is the latest edition of the Uniform Plumbing Code, published by the International Association of Plumbing and Mechanical Officials.

225.0

-W-

Water Closet – [HCD 1 & HCD 2] “Water Closet” is a plumbing fixture (which may be used for both solids and liquids) in which the waste matter is removed by flushing with water.

NOTE:

Authority Cited: Health and Safety Code Sections 17040, 17050, 17920.9, 17921, 17921.3, 17921.6, 17921.10, 17922, 17922.6, 17922.12, 17927, 17928, 17959.6, 18300, 18552, 18554, 18620, 18630, 18640, 18670, 18690, 18691, 18865, 18871.3, 18871.4, 18873, 18873.1, 18873.2, 18873.3, 18873.4, 18873.5, 18938.3, 18944.11, and 19990; and Government Code Section 12955.1.

Reference: Health and Safety Code Sections 17000 through 17062.5, 17910 through 17995.5, 18200 through 18700, 18860 through 18874, and 19960 through 19997; and Government Code Sections 12955.1 and 12955.1.1.

3. HCD proposes to adopt Chapter 3 with amendments as follows:

**CHAPTER 3
GENERAL REGULATIONS**

301.2 Alternate Materials and Methods of Construction Equivalency. Nothing in this code is intended to prevent the use of systems, methods, or devices of equivalent or superior quality, strength, fire resistance, effectiveness, durability, and safety over those prescribed by this code. Technical documentation shall be submitted to the Authority Having Jurisdiction to demonstrate equivalency. The Authority Having Jurisdiction shall have the authority to approve or disapprove the system, method, or device for the intended purpose. **[HCD 1 & HCD 2]** See Section ~~408.7~~ 1.8.7.

However, the exercise of this discretionary approval by the Authority Having Jurisdiction shall have no effect beyond the jurisdictional boundaries of said Authority Having Jurisdiction. Any alternate material or method of construction so approved shall not be considered as conforming to the requirements and/or intent of this code for any purpose other than that granted by the Authority Having Jurisdiction when the submitted data does not prove equivalency.

301.5 One- and Two-Family Dwellings. **[HCD 1 & HCD 2]** The provisions contained in this code shall not apply to one and two-family dwelling private sewage disposal systems and minimum plumbing facilities when alternate facilities or installations have been approved by the local health authority, provided that such alternative facilities or installations provide substantially equivalent or greater protection to health and safety.

303.0 Disposal of Liquid Waste. It shall be unlawful for any person to cause, suffer, or permit the disposal of sewage, human excrement, or other liquid wastes, in any place or manner, except through and by means of an approved drainage system, installed and maintained in accordance with the provisions of this code.

***Exception: [HCD 1]** Limited-density owner-built rural dwellings. A water closet shall not be required when an alternate system is provided and has been approved by the local health official. Where an alternative to the water closet is installed, a system for the disposal or treatment of graywater shall be provided to the dwelling. Graywater systems shall be designed according to water availability, use and discharge. The design, use and maintenance standards of such systems shall be the prerogative of the local health official.*

304.0 Connections to Plumbing System Required. Plumbing fixtures, drains, appurtenances, and appliances, used to receive or discharge liquid wastes or sewage, shall be connected properly to the drainage system of the building or premises, in accordance with the requirements of this code.

***Exception: [HCD 1]** Limited-density owner-built rural dwellings. Where conventional plumbing, in all or in part, is installed within the structure, it shall be installed in accordance with the provisions of this code. Alternative materials and methods shall be permitted provided that the design complies with the intent of the code, and that such alternatives shall perform to protect health and safety for the intended purpose.*

313.0 Protection of Piping, Materials, and Structures.

313.7. Piping penetrations of fire-resistance-rated walls, partitions, floors, floor/ceiling assemblies, roof/ceiling assemblies, or shaft enclosures shall be protected in accordance with the requirements of the California Building Code, applicable standards referenced in Table 14.1 and Chapter 15, “Firestop Protection.”

316.1.6 Solvent Cement Plastic Pipe Joints. Plastic pipe and fittings designed to be joined by solvent cementing shall comply with applicable standards referenced in Table 14-1.

ABS pipe and fittings shall be cleaned and then joined with solvent cement(s).

CPVC pipe and fittings shall be cleaned and then joined with listed primer(s) and solvent cement(s).

Exceptions:

(1) Listed solvent cements that do not require the use of primer shall be permitted for use with CPVC pipe and fittings, manufactured in accordance with ASTM D2846, one-half (½) inch through two (2) inches in diameter.

(2) **[HCD 1 & HCD 2]** *Low VOC One-Step Cement that does not require the use of primer shall be utilized with CPVC pipe and fittings, manufactured in accordance with ASTM D2846, ½ inch through 2 inches in diameter.*

PVC pipe and fittings shall be cleaned and joined with primer(s) and solvent cement(s).

A solvent cement transition joint between ABS and PVC building drain and building sewer shall be made using listed transition solvent cement.

[HCD 1 & HCD 2] *Plastic pipe and fittings joined with solvent cement shall utilize ~~Low-VOC~~ Low VOC primer(s), if a primer is required, and ~~Low-VOC~~ Low VOC solvent cement(s) as defined in Section ~~245~~ 214.*

316.2.4 Dielectric Unions. [HCD 1 & HCD 2] *Dielectric unions shall be used at all points of connection where there is a dissimilarity of metals.*

NOTE:

Authority Cited: Health and Safety Code Sections 17040, 17050, 17920.9, 17921, 17921.3, 17921.6, 17921.10, 17922, 17922.6, 17922.12, 17927, 17928, 17959.6, 18300, 18552, 18554, 18620, 18630, 18640, 18670, 18690, 18691, 18865, 18871.3, 18871.4, 18873, 18873.1, 18873.2, 18873.3, 18873.4, 18873.5, 18938.3, 18944.11, and 19990; and Government Code Section 12955.1.

Reference: Health and Safety Code Sections 17000 through 17062.5, 17910 through 17995.5, 18200 through 18700, 18860 through 18874, and 19960 through 19997; and Government Code Sections 12955.1 and 12955.1.1.

4. HCD proposes to adopt Chapter 4, except Sections 412.3, 412.5, 412.5.1, 412.5.2, 412.5.3, and 412.6, with amendments as follows:

CHAPTER 4

PLUMBING FIXTURES AND FIXTURE FITTINGS

402.0 Water-Conserving Fixtures and Fittings.

402.1 Flush volumes for low-consumption and water-saver water closets and urinals shall be in accordance with applicable standards referenced in Table 14-1. **[HCD 1 & HCD 2]** *Flow rates for shower heads and faucets shall meet the requirements of this section and applicable standards referenced in Table 14-1.*

402.1.1 Shower Heads [HCD 1 & HCD 2] *Shower heads shall be designed and installed so that they will not exceed a water supply flow rate of 2.5 gallons (9.4 liters) per minute measured at 80 psi.*

402.1.2 Faucets [HCD 1 & HCD 2] *Faucets at kitchens, lavatories, wetbars, laundry sinks, or other similar use fixtures shall be designed and manufactured so that they will not exceed a water supply flow rate of 2.2 gallons (8.3 liters) per minute measured at 60 psi.*

402.2.1 Water Closets after January 1, 1994 [HCD 1 & HCD 2] *Water closets, either flush tank, flushometer tank, or flushometer valve operated sold or installed after January 1, 1994, shall use no more than an average of 1.6 gallons (6.1 liters) of water per flush. See Health and Safety Code Section 17921.3.*

402.2.2 Water Closets on or after July 1, 2011 [HCD 1 & HCD 2] Water closets, either flush tank, flushometer tank, or flushometer valve operated ~~or~~ installed on or after July 1, 2011, shall have an effective flush volume in compliance with the following:

(1) Single Flush Toilets - The effective flush volume shall not exceed 1.28 gallons (4.8 liters) when tested in accordance with ASME A112.19.2.

(2) Dual Flush Toilets - The effective flush volume shall not exceed 1.28 gallons (4.8 liters) when tested in accordance with ASME A112.19.2 and ASME A112.19.14.

402.2.2.1 Performance [HCD 1 & HCD 2] Water closets installed on or after July 2, 2011, shall meet or exceed the minimum performance criteria developed for certification of high-efficiency toilets under the WaterSense program sponsored by the U.S. Environmental Protection Agency (EPA).

402.2.2.2 Availability [HCD 1 & HCD 2] Between July 1, 2011, and January 1, 2014, the requirements of Section 402.2.2 may be temporarily suspended on a case by case basis by action of the enforcing agency should such agency determine that an insufficient number of water closets are available.

402.3.1 Urinals after January 1, 1994 [HCD 1 & HCD 2] Urinals and associated flushometer valves sold or installed after January 1, 1994, shall use no more than an average of one gallon (3.8 liters) per flush. See Health and Safety Code Section 17921.3.

402.3.2 Urinals on or after July 1, 2011 [HCD 1 & HCD 2] Urinals and associated flushometer valves sold or installed on or after July 1, 2011, shall use no more than 0.5 gallons (1.9 liters) per flush and meet performance criteria as established in ASME A112.19.2.

402.3.3 Non-Water Supplied Urinals (Waterless Urinals) [HCD 1 & HCD 2] Waterless urinals sold or installed in this state shall comply with all of the following requirements:

(1) Meet performance, testing, and labeling requirements established by ASME A112.19.19-2006 for vitreous china non-water supplied urinals.

(2) Be listed by an ANSI accredited third-party certification agency to ASME A112.19.19-2006.

(3) Follow cleaning and maintenance procedures established by the manufacturer.

(4) Conform to reference standards in Table 14-1 for non-vitreous ceramic or plastic urinal fixtures.

(5) Provide water distribution and fixture supply piping, sized as required elsewhere in this code, roughed-in immediately adjacent to each waterless urinal fixture installed.

For additional information, see Health and Safety Code Section 17921.4

405.2 Prohibited Urinals. Trough urinals and urinals that have an invisible seal shall be prohibited.

Exception: ~~[HCD 1 & HCD 2] Non-water supplied urinals.~~

Exception: Non-water urinals.

406.5. Drinking Fountains. [HCD 1 & HCD 2] Drinking fountains shall be installed and so regulated that a jet of water extending at least 2 inches (51 mm) in height from the water orifice shall be constantly available. The orifice shall not be accessible to the mouth of the drinker nor subject to immersion.

407.6 Installations for Persons with Disabilities. Where facilities for the persons with disabilities are required in applicable building regulations, the facilities shall be installed in accordance with those regulations.

~~[HCD 1/AC 1-AC]~~ For specific requirements regarding accommodations for persons with physical disabilities, see California Code of Regulations, Title 24, Part 2, Chapter 11A and/or Chapter 11B as applicable.

411.6 Each shower receptor shall be an approved type and be so constructed as to have a finished dam, curb, or threshold which is at least one (1) inch (25.4 mm) lower than the sides and back of such receptor. In no case shall any dam or threshold be less than two (2) inches (51 mm) or exceeding nine (9) inches (229 mm) in depth when measured from the top of the dam or threshold to the top of the drain. Each such receptor shall be provided with an integral nailing flange to be located where the receptor meets the vertical surface of the finished interior of the shower compartment. The flange shall be water-tight and extend vertically not less than one (1) inch (25.4 mm) above the top of the sides of the receptor. The finished floor of the receptor shall slope uniformly from the sides toward the drain not less than one-quarter (1/4) inch per foot (20.8 mm/m), nor more than one-half (1/2) inch per foot (41.8 mm/m). Thresholds shall be of sufficient width to accommodate a minimum twenty-two (22) inch (559 mm) door. Shower doors shall open so as to maintain not less than a twenty-two (22) inch (559 mm) unobstructed opening for egress.

Exception: Showers that are designed to comply with the accessibility standards listed in Table 14-1.

[HCD 4/AG 1-AC] Specific requirements regarding accommodations for persons with physical disabilities are contained in California Code of Regulations, Title 24, Part 2, Chapter 11A and/or Chapter 11B as applicable. Table 14-1 does not contain the correct accessibility standards for use in California.

411.7 Shower compartments, regardless of shape, shall have a minimum finished interior of one thousand twenty-four (1,024) square inches (0.66 m²) and shall also be capable of encompassing a thirty (30) inch (762 mm) circle. The minimum required area and dimensions shall be measured at a height equal to the top of the threshold and at a point tangent to its centerline. The area and dimensions shall be maintained to a point of not less than seventy (70) inches (1,778 mm) above the shower drain outlet with no protrusions other than the fixture valve or valves, shower head, soap dishes, shelves and safety grab bars or rails. Fold-down seats in accessible shower stalls shall be permitted to protrude into the thirty (30) inch (0.76 m) circle.

Exception No. 1: Showers that are designed to comply with Chapter 11A or 11B of the California Building Code.

Exception No. 2: The minimum required area and dimension shall not apply for a shower receptor having overall dimensions of not less than 30 inches (762 mm) in width and sixty (60) inches (1,500 mm) in length.

Exception No. 3: **[HCD 4/AG 1-AC]** Specific requirements regarding accommodations for persons with physical disabilities are contained in California Code of Regulations, Title 24, Part 2, Chapter 11A and/or Chapter 11B as applicable. ICC/ANSI A117.1 does not contain the correct accessibility standards for use in California.

413.0 Fixtures and Fixture Fittings for Persons with Disabilities. Plumbing fixtures and fixture fittings for persons with disabilities shall conform to the appropriate standards referenced in Table 14-1 of this code. **[HCD 4/AG 1-AC]** Specific requirements regarding accommodations for persons with physical disabilities are contained in California Code of Regulations, Title 24, Part 2, Chapter 11A and/or Chapter 11B as applicable. Table 14-1 does not contain the correct accessibility standards for use in California.

TABLE 4-1 MINIMUM PLUMBING FACILITIES

Each building shall be provided with sanitary facilities, including provisions for persons with disabilities as prescribed by the Department Having Jurisdiction ^{49 18}. Table 4-1 applies to new buildings, additions to a building, and changes of occupancy or type in an existing building resulting in increased occupant load. Exception: New cafeterias used only by employees.

For requirements for persons with disabilities, Chapter 11A or 11B of the California Building Code shall be used.

The total occupant load shall be determined in accordance with the Building Code. The type of building or occupancy shall be determined based on the actual use of the various spaces within the building. Building categories not shown in Table 4-1 shall be considered separately by the Authority Having Jurisdiction. The minimum number of fixtures shall be calculated at 50 percent male and 50 percent female based on the total occupant load.

Once the occupant load and uses are determined, the requirements of Section 412.0 and Table 4-1 shall be applied to determine the minimum number of plumbing fixtures required.

Exception:

1. **[HCD 1 & HCD 2]** For applications listed in Sections ~~408.2.1.2~~ 1.8.2.1.2 and ~~408.2.1.3~~ 1.8.2.1.3 regulated by the Department of Housing and Community Development, each building shall be provided with sanitary facilities, including provisions for persons with disabilities as prescribed by the Department. Covered multifamily dwellings required to be accessible to persons with disabilities shall comply with California Code of Regulations, Title 24, Part 2, Chapter 11A. Permanent buildings in mobilehome parks and special occupancy parks required to be accessible by persons with disabilities, shall comply with California Code of Regulations, Title 24, Part 2, Chapter 11B.
2. **[HCD 1]** For limited density owner-built rural dwelling sanitary facilities, the type, design and number of facilities as required and approved by the local health official shall be provided to the dwelling sites. It shall not be required that such facilities be located within the dwelling.

... [Table 4-1 unchanged; see revised Footnote 18.]

⁴⁹ ¹⁸ **[HCD 1 & HCD 2]** In accordance with Sections ~~408.7~~ 1.8.7 and 301.2, the Authority Having Jurisdiction may approve alternative design criteria when determining the minimum number of plumbing fixtures.

NOTE:

Authority Cited: Health and Safety Code Sections 17040, 17050, 17920.9, 17921, 17921.3, 17921.6, 17921.10, 17922, 17922.6, 17922.12, 17927, 17928, 17959.6, 18300, 18552, 18554, 18620, 18630, 18640, 18670, 18690, 18691, 18865, 18871.3, 18871.4, 18873, 18873.1, 18873.2, 18873.3, 18873.4, 18873.5, 18938.3, 18944.11, and 19990; and Government Code Section 12955.1.

Reference: Health and Safety Code Sections 17000 through 17062.5, 17910 through 17995.5, 18200 through 18700, 18860 through 18874, and 19960 through 19997; and Government Code Sections 12955.1 and 12955.1.1.

5. HCD proposes to adopt Chapter 5, except Section 508.2, with amendments as follows:

**CHAPTER 5
WATER HEATERS**

508.2.1 [HCD 1 & HCD 2] Protection from ~~s~~Seismic ~~d~~Damage. Water heaters shall be anchored or strapped to resist horizontal displacement due to earthquake motion. Strapping shall be at points within the upper one-third (1/3) and lower one-third (1/3) of its vertical dimensions. At the lower point, a minimum distance of four (4) inches (102 mm) shall be maintained above the controls with the strapping.

Note: [HCD 1 & HCD 2] Reference Health and Safety Code Section 19211(a) which addresses new, replacement, and existing water heaters.

NOTE:

Authority Cited: Health and Safety Code Sections 17040, 17050, 17920.9, 17921, 17921.3, 17921.6, 17921.10, 17922, 17922.6, 17922.12, 17927, 17928, 17959.6, 18300, 18552, 18554, 18620, 18630, 18640, 18670, 18690, 18691, 18865, 18871.3, 18871.4, 18873, 18873.1, 18873.2, 18873.3, 18873.4, 18873.5, 18938.3, 18944.11, and 19990; and Government Code Section 12955.1.

Reference: Health and Safety Code Sections 17000 through 17062.5, 17910 through 17995.5, 18200 through 18700, 18860 through 18874, and 19960 through 19997; and Government Code Sections 12955.1 and 12955.1.1.

6. HCD proposes to adopt Chapter 6 with amendments as follows:

CHAPTER 6 WATER SUPPLY AND DISTRIBUTION

601.1 Except where not deemed necessary for safety or sanitation by the Authority Having Jurisdiction, each plumbing fixture shall be provided with an adequate supply of potable running water piped thereto in an approved manner, so arranged as to flush and keep it in a clean and sanitary condition without danger of backflow or cross-connection. Water closets and urinals shall be flushed by means of an approved flush tank or flushometer valve.

[HCD 1 & HCD 2] *Exceptions 1, 2, 3, and ~~3-4~~ apply.*

Exceptions:

1. Listed fixtures that do not require water for their operation and are not connected to the water supply.
2. *For limited-density owner-built rural dwellings, potable water shall be available to the dwelling site, although such water need not be pressurized. Where water is not piped from a well, spring, cistern or other source, there shall be a minimum reserve of 50 gallons (189 L) of potable water available. Where water delivery is pressurized, piping shall be installed in accordance with the provisions of this chapter.*
3. *Where deemed not necessary for safety or sanitation by the Enforcing Agency.*
4. *Recycled water or treated graywater may be allowed as specified in Chapter 16 Part II of this code.*

601.2.2 Color and Information — Each system shall be identified with a colored pipe or band and coded with paints, wraps and materials compatible with the piping.

Except as required in Sections 1610.0 and 1617.0, nonpotable water systems shall have a yellow background with black uppercase lettering, with the words “CAUTION: NONPOTABLE WATER, DO NOT DRINK.” Each nonpotable system shall be identified to designate the liquid being conveyed, and the direction of normal flow shall be clearly shown. The minimum size of the letters and length of the color field shall conform to Table 6-1. **[HCD 1 & HCD 2]** *An international symbol of a glass in a circle with a slash through it shall be provided similar to that ~~provided~~ shown in Figure 6-1 for all nonpotable water systems.*

The background color and required information shall be indicated every twenty (20) feet (6,096 mm) but not less than once per room, and shall be visible from the floor level.

“CAUTION: NONPOTABLE WATER, DO NOT DRINK.”



Figure 6-1
International Symbol

601.4 [HCD 1 & HCD 2] All sources for drinking water shall be maintained in a clean and sanitary condition. Drinking fountains and portable water dispensers shall not be located in toilet rooms.

603.4.11 Nonpotable Water Piping. In cases where it is impractical to correct individual cross-connections on the domestic waterline, the line supplying such outlets shall be considered a nonpotable waterline. No drinking or domestic water outlets shall be connected to the non-potable water line. Whenever possible, portions of the nonpotable water line shall be exposed, and exposed portions shall be properly identified in a manner satisfactory to the Authority Having Jurisdiction. Each outlet on the nonpotable waterline that is permitted to be used for drinking or domestic purposes shall be posted: ~~“Caution: Nonpotable water, do not drink.”~~ **“CAUTION: NONPOTABLE WATER, DO NOT DRINK.”** **[HCD 1 & HCD 2]** An international symbol of a glass in a circle with a slash through it shall be provided similar to that ~~provided~~ shown in Figure 6-1.

TABLE 6-4^{1,2,3,4}

Material	Building Supply Pipe and Fittings	Water Distribution Pipe and Fittings	Referenced Standard(s) Pipe	Referenced Standard(s) Fittings
Asbestos-Cement	X ¹		ASTM C296, AWWA C400	
Brass	X	X	ASTM B43, ASTM B135	
Copper	X	X	ASTM B42, ASTM B75, ASTM B88, ASTM B251, ASTM B302, ASTM B447	ASME B16.15, ASME B16.18, ASME B16.22, ASME B16.26
CPVC	X	X	ASTM D2846, ASTM F441, ASTM F442	ASTM D2846, ASTM F437, ASTM F438, ASTM F439, ASTM F1970
Ductile-Iron	X	X	AWWA C151	ASME B16.4, AWWA C110, AWWA C153
Galvanized Steel	X	X	ASTM A53	
Malleable Iron	X	X		ASME B16.3
PE	X ¹		ASTM D2239, ASTM D2737, ASTM D3035, AWWA C901, CSA B137.1	ASTM D2609, ASTM D2683, ASTM D3261, ASTM F1055, CSA B137.1
PE-AL-PE	X	X	ASTM F1282, CSA B137.9	ASTM F1282, ASTM F1974, CSA B137.9
PEX ^{1,2,3,4}	X	X	ASTM F876, ASTM F877, CSA B137.5	ASTM F877, ASTM F1807, ASTM F1960, ASTM F1961, ASTM F2080, ASTM F2159, CSA B137.5
PEX-AL-PEX ^{1,2}	X	X	ASTM F1281, CSA B137.10, ASTM F2262	ASTM F1281, ASTM F1974, ASTM F2434, CSA B137.10
PVC	X ¹		ASTM D1785, ASTM D2241, AWWA C900	ASTM D2464, ASTM D2466, ASTM D2467, ASTM F1970
Stainless Steel	X	X	ASTM A269, ASTM A312	

¹For Building Supply or cold-water applications.

²**[For BSC, DSA/SS & HCD]** The use of PEX-AL-PEX in potable water supply systems is not adopted.

³When PEX tubing is placed in soil and is used in potable water systems intended to supply drinking water to fixtures or appliances, the tubing or piping shall be sleeved with a material approved for potable water use in soil or other material that is impermeable to solvents or petroleum products.

⁴PEX tubing shall meet the requirements of NSF P171 CL-R, ASTM F 876-08 or an equivalent or more stringent standard when used in continuously recirculating hot water systems where chlorinated water is supplied to the system and the PEX tubing is exposed to the hot water 100% of the time.

604.1.1 Local Authority to Approve CPVC Pipe Within Residential Buildings Under Specified Conditions.

[HCD 1 & HCD 2] The local responsible building official of any city, county, or city and county, shall authorize by permit the use of CPVC for hot and cold water distribution systems within the interior of residential buildings provided all of the following conditions are satisfied:

(a) Permit Conditions. Any building permit issued pursuant to Section 604.1.1 shall be conditioned on compliance with the mitigation measures set forth in this section.

(b) Approved Materials. Only CPVC plumbing material listed as an approved material and installed in accordance with this code may be used.

(c) Installation and Use. Any installation and use of CPVC plumbing material pursuant to this section shall comply with all applicable requirements of this code and Section 1.2 of Appendix I of this code, Installation Standard for CPVC Solvent Cemented Hot and Cold Water Distribution Systems, IAPMO IS 20-2006 2006.

(d) Certification of Compliance. Prior to issuing a building permit pursuant to Section 604.1.1, the building official shall require as part of the permitting process that the contractor, or the appropriate plumbing subcontractors, provide written certification: (1) that is required in subdivision (e), and (2) that he or she will comply with the flushing procedures and worker safety measures set forth in Section 1.2 of Appendix I of this code, Installation Standard for CPVC Solvent Cemented Hot and Cold Water Distribution Systems, IAPMO IS 20-~~2005~~ 2006.

(e) Worker Safety. Any contractor applying for a building permit that includes the use of CPVC plumbing materials authorized pursuant to this section shall include in the permit application a signed written certification stating that:

(1) They are aware of the health and safety hazards associated with CPVC plumbing installations;

(2) They have included in their Injury and Illness Prevention Plan the hazards associated with CPVC plumbing pipe installations; and

(3) The worker safety training elements of their Injury and Illness Prevention Plan meet the Department of Industrial Relation's guidelines.

(f) Findings of Compliance. The building official shall not give final permit approval of any CPVC plumbing materials installed pursuant to Section 604.1.1 unless he or she finds that the material has been installed in compliance with the requirements of this code and that the installer has complied with the requirements in Section 1.2.1 of Appendix I of this code, Installation Standards for CPVC Solvent Cemented Hot and Cold Water Distribution Systems, IAPMO IS 20-~~2005~~ 2006.

(g) Penalties. Any contractor or subcontractor found to have failed to comply with the flushing requirements of Section 1.2.1 of Appendix I of this code or the ventilation, and glove or flushing requirements of Section 1.2.2 of Appendix I of this code, Installation Standards for CPVC Solvent Cemented Hot and Cold Water Distribution Systems, IAPMO IS 20-~~2005~~ 2006 shall be subject to the penalties in Health and Safety Code, Division 13, Part 1.5, Chapter 6 (Section 17995 et seq.). In addition, if during the conduct of any building inspection the building official finds that the ventilation and glove requirements of Section 1.2.2 of Appendix I of this code, "Special Requirements for CPVC Installation within Residential Buildings," are being violated, such building officials shall cite the contractor or subcontractor for that violation.

604.10 Water pipe and fittings with a lead content which exceeds eight (8) percent shall be prohibited in piping systems used to convey potable water.

Note: On or after January 1, 2010, see Section 116875 of the Health and Safety Code for the lead content of pipes, pipe or plumbing fittings, or fixtures intended to convey or dispense water for human consumption

604.13 PEX-AL-PEX and PE-AL-PE. Crosslinked polyethylene-aluminum-crosslinked polyethylene (PEX-AL-PEX) and polyethylene-aluminum-polyethylene (PE-AL-PE) composite pipe shall be marked with the applicable standard referenced listed in Table 14-1 for which the piping has been listed or approved. PEX-AL-PEX and PE-AL-PE piping shall be installed in compliance with the provisions of this section.

[HCD 1 & HCD 2] PEX-AL-PEX is not adopted for use in potable water supply and distribution systems.

604.13.1 PEX-AL-PEX and PE-AL-PE. Fittings used with PEX-AL-PEX and PE-AL-PE piping shall be manufactured to and marked in accordance with the standard for the fittings referenced in Table 14-1.

[HCD 1 & HCD 2] PEX-AL-PEX is not adopted for use in potable water supply and distribution systems.

604.13.2 Water Heater Connections. PEX-AL-PEX or PE-AL-PE tubing shall not be installed within the first eighteen (18) inches (457 mm) of piping connected to a water heater.

[HCD 1 & HCD 2] PEX-AL-PEX is not adopted for use in potable water supply and distribution systems.

609.10 Water Hammer. [Not adopted by HCD] Building water supply systems where quick-acting valves are installed shall be provided with water hammer arrester(s) to absorb high pressures resulting from the quick closing of these valves. Water hammer arrester(s) shall be approved mechanical devices in accordance with the applicable standard(s) referenced in Table 14-1 and shall be installed as close as possible to quick-acting valves.

**TABLE 6-5
Water Supply Fixture Units (WSFU) and Minimum Fixture Branch Pipe Sizes ³**

Appliances, Appurtenances or Fixtures ²	Minimum Fixture Branch Pipe Size ^{1,4}	Private	Public	Assembly ⁶
Bathtub or Combination Bath/Shower (fill)	1/2"	4.0	4.0	
3/4" Bathtub Fill Valve	3/4"	10.0	10.0	
Bidet	1/2"	1.0		
Clothes washer.....	1/2"	4.0	4.0	
Dental Unit, cuspidor	1/2"		1.0	
Dishwasher, domestic	1/2"	1.5	1.5	
Drinking Fountain or Water Cooler.....	1/2"	0.5	0.5	0.75
Hose Bibb	1/2"	2.5	2.5	
Hose Bibb, each additional ⁸	1/2"	1.0	1.0	
Lavatory.....	1/2"	1.0	1.0	1.0
Lawn Sprinkler, each head ⁵		1.0	1.0	
Mobile Home, each (minimum) ^{9,9}		12.0		
Sinks				
Bar	1/2"	1.0	2.0	
Clinic Faucet.....	1/2"		3.0	
Clinic Flushometer Valve.....				
with or without faucet.....	1"		8.0	
Kitchen, domestic	1/2"	1.5	1.5	
Laundry	1/2"	1.5	1.5	
Service or Mop Basin	1/2"	1.5	3.0	
Washup, each set of faucets	1/2"		2.0	
Shower, per head	1/2"	2.0	2.0	
Urinal, 1.0 GPF Flushometer Valve.....	3/4"	See Footnote 7		
Urinal, greater than 1.0 GPF Flushometer Valve	3/4"	See Footnote 7		
Urinal, flush tank.....	1/2"	2.0	2.0	3.0
Wash Fountain, circular spray	3/4"		4.0	
Water Closet, 1.6 GPF Gravity Tank	1/2"	2.5	2.5	3.5
Water Closet, 1.6 GPF Flushometer Tank	1/2"	2.5	2.5	3.5
Water Closet, 1.6 GPF Flushometer Valve	1"	See Footnote 7		
Water Closet, greater than 1.6 GPF Gravity Tank.....	1/2"	3.0	5.5	7.0
Water Closet, greater than 1.6 GPF Flushometer Valve.....	1"	See Footnote 7		

Notes:

1. Size of the cold branch pipe, or both the hot and cold branch pipes.
2. Appliances, Appurtenances or Fixtures not included in this Table may be sized by reference to fixtures having a similar flow rate and frequency of use.
3. The listed fixture unit values represent their load on their cold water service. The separate cold water and hot water fixture unit value for fixtures having both hot and cold water connections may each be taken as three-quarter (3/4) of the listed total value of the fixture.
4. The listed minimum supply branch pipe sizes for individual fixtures are the nominal (I.D.) pipe size.
5. For fixtures or supply connections likely to impose continuous flow demands, determine the required flow in gallons per minute (GPM), and add it separately to the demand (in GPM) for the distribution system or portions thereof.
6. Assembly [Public Use (See Table 4-1)].
7. When sizing flushometer systems, see Section 610.10.
8. Reduced fixture unit loading for additional hose bibbs is to be used only when sizing total building demand and for pipe sizing when more than one (1) hose bibb is supplied by a segment of water-distributing pipe. The fixture branch to each hose bibb shall be sized on the basis of two and one-half (2.5) fixture units.
9. **[HCD 2]** For water supply fixture unit values related to ~~manufactured housing (mobilehomes)~~ mobilehome parks in all parts of the State of California, see California Code of Regulations, Title 25, Division 1, Chapter 2, Article 5, Section 1278. For water supply fixture unit values related to ~~Special Occupancy Parks~~ mobilehome parks in all parts of the State of California, see California Code of Regulations, Title 25, Division 1, Chapter 2.2, Article 5, Section 2278.

NOTE:

Authority Cited: Health and Safety Code Sections 17040, 17050, 17920.9, 17921, 17921.3, 17921.6, 17921.10, 17922, 17922.6, 17922.12, 17927, 17928, 17959.6, 18300, 18552, 18554, 18620, 18630, 18640, 18670, 18690, 18691, 18865, 18871.3, 18871.4, 18873, 18873.1, 18873.2, 18873.3, 18873.4, 18873.5, 18938.3, 18944.11, and 19990; and Government Code Section 12955.1.

Reference: Health and Safety Code Sections 17000 through 17062.5, 17910 through 17995.5, 18200 through 18700, 18860 through 18874, and 19960 through 19997; and Government Code Sections 12955.1 and 12955.1.1.

7. HCD proposes to adopt Chapter 7 with amendments as follows:

**CHAPTER 7
SANITARY DRAINAGE**

Part I – Drainage Systems.

701.0 Materials.

701.1.2. ABS and PVC DWV piping installations shall be installed in accordance with applicable standards referenced in Table 14-1, and Chapter 15 “Firestop Protection.” Except for individual single-family dwelling units, materials exposed within ducts or plenums shall have a flamespread index of a maximum of twenty-five (25) and a smoke-developed index of a maximum fifty of (50) when tested in accordance with the *Test for Surface-Burning Characteristics of the Building Materials*. (See the Building Code standards based on ASTM E84 and UL 723.)

701.1.2.2 [HCD 1 & HCD 2] ABS and PVC installations are limited to not more than two stories of areas of residential accommodation.

**TABLE 7-3
Drainage Fixture Unit Values (DFU)**

Plumbing Appliance, Appurtenance or Fixture	Min. Size Trap and Trap Arm ⁷	Private	Public	Assembly ⁸
Bathtub or Combination Bath/Shower	1-1/2"	2.0	2.0	
Bidet.....	1-1/4"	1.0		
Bidet.....	1-1/2"	2.0		
Clothes Washer, domestic, standpipe ⁵	2"	3.0	3.0	3.0
Dental Unit, cuspidor	1-1/4"		1.0	1.0
Dishwasher, domestic, with independent drain ²	1-1/2"	2.0	2.0	2.0
Drinking Fountain or Water Cooler	1-1/4"	0.5	0.5	1.0
Food-Waste-Grinder, commercial	2"		3.0	3.0
Floor Drain, emergency.....	2"		0.0	0.0
Floor Drain (for additional sizes see Section 702)	2"	2.0	2.0	2.0
Shower, single head trap	2"	2.0	2.0	2.0
Multi-head, each additional	2"	1.0	1.0	1.0
Lavatory, single.....	1-1/4"	1.0	1.0	1.0
Lavatory in sets of two or three.....	1-1/2"	2.0	2.0	2.0
Wash Fountain.....	1-1/2"		2.0	2.0
Washfountain.....	2"		3.0	3.0
Mobile Home, trap ^{9,9}	3"	12.0		
Receptor, indirect waste ^{1,3}	1-1/2"			See footnote 1,3
Receptor, indirect waste ^{1,4}	2"			See footnote 1,4
Receptor, indirect waste ¹	3"			See footnote 1

Sinks

Bar	1-1/2"	1.0		
Bar ²	1-1/2"		2.0	2.0
Clinical	3"		6.0	6.0
Commercial with food waste ²	1-1/2"		3.0	3.0
Special Purpose ²	1-1/2"	2.0	3.0	3.0
Special Purpose	2"	3.0	4.0	4.0
Special Purpose	3"		6.0	6.0
Kitchen, domestic ²	1-1/2"	2.0	2.0	
(with or without food-waste-grinder and/or dishwasher)				
Laundry ²	1-1/2"	2.0	2.0	2.0
(with or without discharge from a clothes washer)				
Service or Mop Basin	2"		3.0	3.0
Service or Mop Basin	3"		3.0	3.0
Service, flushing rim	3"		6.0	6.0
Wash, each set of faucets			2.0	2.0
Urinal, integral trap 1.0 GPF ²	2"	2.0	2.0	5.0
Urinal, integral trap greater than 1.0 GPF	2"	2.0	2.0	6.0
Urinal, exposed trap ²	1-1/2"	2.0	2.0	5.0
Water Closet, 1.6 GPF Gravity Tank ⁶	3"	3.0	4.0	6.0
Water Closet, 1.6 GPF Flushometer Tank ⁶	3"	3.0	4.0	6.0
Water Closet, 1.6 GPF Flushometer Valve ⁶	3"	3.0	4.0	6.0
Water Closet, greater than 1.6 GPF Gravity Tank ⁶	3"	4.0	6.0	8.0
Water Closet, greater than 1.6 GPF Flushometer Valve ⁶	3"	4.0	6.0	8.0

1. Indirect waste receptors shall be sized based on the total drainage capacity of the fixtures that drain therein to, in accordance with Table 7-4.
2. Provide a two (2) inch (51 mm) minimum drain.
3. For refrigerators, coffee urns, water stations, and similar low demands.
4. For commercial sinks, dishwashers, and similar moderate or heavy demands.
5. Buildings having a clothes-washing area with clothes washers in a battery of three (3) or more clothes washers shall be rated at six (6) fixture units each for purposes of sizing common horizontal and vertical drainage piping.
6. Water closets shall be computed as six (6) fixture units when determining septic tank sizes based on Appendix K of this code.
7. Trap sizes shall not be increased to the point where the fixture discharge may be inadequate to maintain their self-scouring properties.
8. Assembly [Public Use (See Table 4-1)].
9. ~~For fixture unit values related to manufactured housing (mobilehomes) in all parts of the State of California, see California Code of Regulations, Title 25, Division 1, Chapter 2, Article 5, Section 1268. For fixture unit values related to Special Occupancy Parks in all parts of the State of California, see California Code of Regulations, Title 25, Division 1, Chapter 2.2, Article 5, Section 2268.~~
9. **[HCD 2]** For drainage fixture unit values related to mobilehome parks in all parts of the State of California, see California Code of Regulations, Title 25, Division 1, Chapter 2, Article 5, Section 1268. For drainage fixture unit values related to special occupancy parks in all parts of the State of California, see California Code of Regulations, Title 25, Division 1, Chapter 2.2, Article 5, Section 2268.

705.1.7 Elastomeric Gasketed and Rubber-Ring Joints. Elastomeric gasketed and rubber-ring joints shall comply with the applicable standards referenced in Table 14-1.

Exception: **[HCD 1 & HCD 2]** Compliance with an approved nationally recognized installation standard complying with Section 310.4 of this code and approved by the Enforcing Agency is acceptable.

705.1.9 Hubless Cast-Iron Pipe Joints. Joints for hubless cast-iron soil pipe and fittings shall conform to applicable standards referenced in Table 14-1 and shall not be considered as slip joints.

Exception: **[HCD 1 & HCD 2]** Compliance with an approved nationally recognized installation standard complying with Section 310.4 of this code and approved by the Enforcing Agency is acceptable.

705.2.5 ABS and PVC Pipe. [HCD 1 & HCD 2] Joints in ABS and PVC pipe shall be made as provided in Section 316.1.6 of this code.

710.3.3.1 [HCD 1 & HCD 2] The minimum size of any pump or any discharge pipe from a sump having a water closet connected thereto shall be not less than (2) inches (51 mm).

713.4 The public sewer shall be permitted to be considered as not being available when such public sewer or any building or any exterior drainage facility connected thereto is located more than two-hundred (200) feet (61 m) from any proposed building or exterior drainage facility on any lot or premises that abuts and is served by such public sewer.

[HCD 1 & HCD 2] For residential occupancies, the public sewer may be considered as not being available by the Authority Having Jurisdiction.

NOTE:

Authority Cited: Health and Safety Code Sections 17040, 17050, 17920.9, 17921, 17921.3, 17921.6, 17921.10, 17922, 17922.6, 17922.12, 17927, 17928, 17959.6, 18300, 18552, 18554, 18620, 18630, 18640, 18670, 18690, 18691, 18865, 18871.3, 18871.4, 18873, 18873.1, 18873.2, 18873.3, 18873.4, 18873.5, 18938.3, 18944.11, and 19990; and Government Code Section 12955.1.

Reference: Health and Safety Code Sections 17000 through 17062.5, 17910 through 17995.5, 18200 through 18700, 18860 through 18874, and 19960 through 19997; and Government Code Sections 12955.1 and 12955.1.1.

8. HCD proposes to adopt Chapter 8 without amendments:

CHAPTER 8 INDIRECT WASTES

NOTE:

Authority Cited: Health and Safety Code Sections 17040, 17050, 17920.9, 17921, 17921.3, 17921.6, 17921.10, 17922, 17922.6, 17922.12, 17927, 17928, 17959.6, 18300, 18552, 18554, 18620, 18630, 18640, 18670, 18690, 18691, 18865, 18871.3, 18871.4, 18873, 18873.1, 18873.2, 18873.3, 18873.4, 18873.5, 18938.3, 18944.11, and 19990; and Government Code Section 12955.1.

Reference: Health and Safety Code Sections 17000 through 17062.5, 17910 through 17995.5, 18200 through 18700, 18860 through 18874, and 19960 through 19997; and Government Code Sections 12955.1 and 12955.1.1.

9. HCD proposes to adopt Chapter 9 with amendments as follows:

CHAPTER 9 VENTS

903.0 Materials

903.1.2 ABS and PVC DWV piping installations shall be in accordance with the applicable standards referenced in Table 14-1, ~~and Chapter 15 "Firestop Protection."~~ Except for individual single-family dwelling units, materials exposed within ducts or plenums shall have a flamespread index of a maximum of twenty-five (25) and a smoke-developed index of a maximum fifty of (50) when tested in accordance with the *Test for Surface-Burning Characteristics of the Building Materials*. (See the Building Code standards based on ASTM E84 and UL 723.)

903.1.3 [HCD 1 & HCD 2] ABS or PVC installations are limited to not more than two stories of areas of residential accommodation.

~~**903.3.1 903.1.4**~~**[HCD 1 & HCD 2]** All malleable iron vents shall be galvanized.

NOTE:

Authority Cited: Health and Safety Code Sections 17040, 17050, 17920.9, 17921, 17921.3, 17921.6, 17921.10, 17922, 17922.6, 17922.12, 17927, 17928, 17959.6, 18300, 18552, 18554, 18620, 18630, 18640, 18670, 18690,

18691, 18865, 18871.3, 18871.4, 18873, 18873.1, 18873.2, 18873.3, 18873.4, 18873.5, 18938.3, 18944.11, and 19990; and Government Code Section 12955.1.

Reference: Health and Safety Code Sections 17000 through 17062.5, 17910 through 17995.5, 18200 through 18700, 18860 through 18874, and 19960 through 19997; and Government Code Sections 12955.1 and 12955.1.1.

10. HCD proposes to adopt Chapter 10 with amendments as follows:

CHAPTER 10

TRAPS AND INTERCEPTORS

1003.1 Each trap, except for traps within an interceptor or similar device shall be self-cleaning. Traps for bathtubs, showers, lavatories, sinks, laundry tubs, floor drains, urinals, drinking fountains, dental units, and similar fixtures shall be of standard design, weight and shall be of ABS, cast brass, cast iron, lead, PP, PVC, or other approved material. An exposed and readily accessible drawn-brass tubing trap, not less than 17 B&S Gauge (0.045 inch) (1.1 mm), shall be permitted to be used on fixtures discharging domestic sewage.

Exceptions:

- (1) Drawn-brass tubing traps shall not be used for urinals. Each trap shall have the manufacturer's name stamped legibly in the metal of the trap, and each tubing trap shall have the gauge of the tubing in addition to the manufacturer's name. Every trap shall have a smooth and uniform interior waterway.
- (2) ~~[HCD 1 & HCD 2] Non-water supplied urinals conforming to ASME A112.19.19-2006 or reference standards in Table 14-1 for non-vitreous ceramic or plastic urinal fixtures.~~

1005.0 Trap Seals. Each fixture trap shall have a liquid seal of not less than two (2) inches (51 mm) and not more than four (4) inches (102 mm), except where a deeper seal is found necessary by the Authority Having Jurisdiction. Traps shall set true with respect to their liquid seals and, where necessary, they shall be protected from freezing.

~~**Exception:** [HCD 1 & HCD 2] Non-water supplied urinals conforming to ASME A112.19.19-2006 or reference standards in Table 14-1 for non-vitreous ceramic or plastic urinal fixtures.~~

NOTE:

Authority Cited: Health and Safety Code Sections 17040, 17050, 17920.9, 17921, 17921.3, 17921.6, 17921.10, 17922, 17922.6, 17922.12, 17927, 17928, 17959.6, 18300, 18552, 18554, 18620, 18630, 18640, 18670, 18690, 18691, 18865, 18871.3, 18871.4, 18873, 18873.1, 18873.2, 18873.3, 18873.4, 18873.5, 18938.3, 18944.11, and 19990; and Government Code Section 12955.1.

Reference: Health and Safety Code Sections 17000 through 17062.5, 17910 through 17995.5, 18200 through 18700, 18860 through 18874, and 19960 through 19997; and Government Code Sections 12955.1 and 12955.1.1.

11. HCD proposes to adopt Chapter 11 with amendments as follows:

CHAPTER 11

STORM DRAINAGE

1101.3 Material Uses. Rainwater piping placed within the interior of a building or run within a vent or shaft shall be of cast-iron, galvanized steel, wrought iron, brass, copper, lead, Schedule 40 ABS DWV, Schedule 40 PVC DWV, stainless steel 304 or 316L (stainless steel 304 pipe and fittings shall not be installed underground and shall be kept not less than six (6) inches (152 mm) above ground), or other approved materials, and changes in direction shall conform to the requirements of Section 706.0. ABS and PVC DWV piping installations shall be installed in accordance with IS 5, and IS 9, and Chapter 15 "Firestop Protection." Except for individual single-family dwelling units, materials exposed within ducts or plenums shall have a flame-spread index of a maximum of twenty-five (25) and a smoke-developed index of a maximum of fifty (50), when tested in accordance with the *Test for Surface-Burning Characteristics of the Building Materials* (see the Building Code standards based on ASTM E84 and UL 723.).

~~[HCD 1 & HCD 2] ABS or PVC installations are limited to not more than two stories of areas of residential accommodation.~~

1101.5 Subsoil Drains.

1101.5.1 Subsoil drains shall be provided around the perimeter of buildings having basements, cellars, or crawl spaces or floors below grade. Such subsoil drains shall be permitted to be positioned inside or outside of the footing, shall be of perforated or open-jointed approved drain tile or pipe, not less than three (3) inches (80 mm) in diameter, and shall be laid in gravel, slag, crushed rock, approved three-quarter (3/4) inch (19.1 mm) crushed, recycled glass aggregate, or other approved porous material with not less than four (4) inches (102 mm) surrounding the pipe on all sides. Filter media shall be provided for exterior subsoil piping.

Exception: *[HCD 1 & HCD 2] Subsoil drains are mandatory only when required by the Authority Having Jurisdiction due to geological conditions.*

1102.1.2 The inside of conductors installed above ground level shall be of seamless copper water tube, Type K, L, or M; Schedule 40 copper pipe or Schedule 40 copper alloy pipe; Type DWV copper drainage tube; service weight cast-iron soil pipe or hubless cast-iron soil pipe; standard weight galvanized steel pipe; stainless steel 304 or 316L (stainless steel 304 pipe and fittings shall not be installed underground and shall be kept not less than six (6) inches (152 mm) above ground); or Schedule 40 ABS or Schedule 40 PVC plastic pipe.

[HCD 1 & HCD 2] *ABS or PVC installations are limited to not more than two stories of areas of residential accommodation.*

NOTE:

Authority Cited: Health and Safety Code Sections 17040, 17050, 17920.9, 17921, 17921.3, 17921.6, 17921.10, 17922, 17922.6, 17922.12, 17927, 17928, 17959.6, 18300, 18552, 18554, 18620, 18630, 18640, 18670, 18690, 18691, 18865, 18871.3, 18871.4, 18873, 18873.1, 18873.2, 18873.3, 18873.4, 18873.5, 18938.3, 18944.11, and 19990; and Government Code Section 12955.1.

Reference: Health and Safety Code Sections 17000 through 17062.5, 17910 through 17995.5, 18200 through 18700, 18860 through 18874, and 19960 through 19997; and Government Code Sections 12955.1 and 12955.1.1.

12. HCD proposes to adopt Chapter 12 without amendments:

CHAPTER 12 FUEL PIPING

NOTE:

Authority Cited: Health and Safety Code Sections 17040, 17050, 17920.9, 17921, 17921.3, 17921.6, 17921.10, 17922, 17922.6, 17922.12, 17927, 17928, 17959.6, 18300, 18552, 18554, 18620, 18630, 18640, 18670, 18690, 18691, 18865, 18871.3, 18871.4, 18873, 18873.1, 18873.2, 18873.3, 18873.4, 18873.5, 18938.3, 18944.11, and 19990; and Government Code Section 12955.1.

Reference: Health and Safety Code Sections 17000 through 17062.5, 17910 through 17995.5, 18200 through 18700, 18860 through 18874, and 19960 through 19997; and Government Code Sections 12955.1 and 12955.1.1.

13. HCD proposes to not adopt Chapter 13.

CHAPTER 13 HEALTH CARE FACILITIES AND MEDICAL GAS AND VACUUM SYSTEMS

NOTE:

Authority Cited: Health and Safety Code Sections 17040, 17050, 17920.9, 17921, 17921.3, 17921.6, 17921.10, 17922, 17922.6, 17922.12, 17927, 17928, 17959.6, 18300, 18552, 18554, 18620, 18630, 18640, 18670, 18690, 18691, 18865, 18871.3, 18871.4, 18873, 18873.1, 18873.2, 18873.3, 18873.4, 18873.5, 18938.3, 18944.11, and 19990; and Government Code Section 12955.1.

Reference: Health and Safety Code Sections 17000 through 17062.5, 17910 through 17995.5, 18200 through 18700, 18860 through 18874, and 19960 through 19997; and Government Code Sections 12955.1 and 12955.1.1.

14. HCD proposes to adopt Chapter 14 without amendments:

CHAPTER 14 REFERENCED STANDARDS

NOTE:

Authority Cited: Health and Safety Code Sections 17040, 17050, 17920.9, 17921, 17921.3, 17921.6, 17921.10, 17922, 17922.6, 17922.12, 17927, 17928, 17959.6, 18300, 18552, 18554, 18620, 18630, 18640, 18670, 18690, 18691, 18865, 18871.3, 18871.4, 18873, 18873.1, 18873.2, 18873.3, 18873.4, 18873.5, 18938.3, 18944.11, and 19990; and Government Code Section 12955.1.

Reference: Health and Safety Code Sections 17000 through 17062.5, 17910 through 17995.5, 18200 through 18700, 18860 through 18874, and 19960 through 19997; and Government Code Sections 12955.1 and 12955.1.1.

15. HCD proposes to not adopt Chapter 15.

CHAPTER 15 FIRESTOP PROTECTION

NOTE:

Authority Cited: Health and Safety Code Sections 17040, 17050, 17920.9, 17921, 17921.3, 17921.6, 17921.10, 17922, 17922.6, 17922.12, 17927, 17928, 17959.6, 18300, 18552, 18554, 18620, 18630, 18640, 18670, 18690, 18691, 18865, 18871.3, 18871.4, 18873, 18873.1, 18873.2, 18873.3, 18873.4, 18873.5, 18938.3, 18944.11, and 19990; and Government Code Section 12955.1.

Reference: Health and Safety Code Sections 17000 through 17062.5, 17910 through 17995.5, 18200 through 18700, 18860 through 18874, and 19960 through 19997; and Government Code Sections 12955.1 and 12955.1.1.

16. HCD proposes to not adopt Chapter 16.

CHAPTER 16 NONPOTABLE WATER REUSE SYSTEMS

NOTE:

Authority Cited: Health and Safety Code Sections 17040, 17050, 17920.9, 17921, 17921.3, 17921.6, 17921.10, 17922, 17922.6, 17922.12, 17927, 17928, 17959.6, 18300, 18552, 18554, 18620, 18630, 18640, 18670, 18690, 18691, 18865, 18871.3, 18871.4, 18873, 18873.1, 18873.2, 18873.3, 18873.4, 18873.5, 18938.3, 18944.11, and 19990; and Government Code Section 12955.1.

Reference: Health and Safety Code Sections 17000 through 17062.5, 17910 through 17995.5, 18200 through 18700, 18860 through 18874, and 19960 through 19997; and Government Code Sections 12955.1 and 12955.1.1.

16-A. HCD proposes to adopt Chapter 16A, Part I with amendments as follows:
(NOTE: The following text, which amended the 2007 CPC, is reprinted here in its entirety in strike-out and underline format for continuity and ease of use.)

CHAPTER 16A
NONPOTABLE WATER REUSE SYSTEMS

Part I

Intent

This part is applicable to occupancies under the authority of the Department of Housing and Community Development as specified in Section 1.8.2.1.1 and is intended to:

1. Conserve water by facilitating greater reuse of laundry, shower, lavatory and similar sources of discharge for irrigation and/or indoor use.
2. Reduce the number of non-compliant graywater systems by making legal compliance easily achievable.
3. Provide guidance for avoiding potentially unhealthful conditions.
4. Provide an alternative way to relieve stress on a private sewage disposal system by diverting the graywater.

1601A.0 Graywater Systems – General.

(A) ~~The provisions of this chapter shall apply to the construction, alteration, and repair of gray water systems for underground landscape irrigation. Gray water installations shall be designed by a person registered or licensed to perform plumbing design work. Except as otherwise provided for in this chapter, the provisions of this code shall be applicable to gray water installation.~~ The provisions of this part shall apply to the construction, alteration, discharge, use, and repair of graywater systems. The graywater system shall not be connected to any potable water system without an air gap or other physical device which prevents backflow and shall not cause the ponding or runoff of graywater. A city, county, or city and county or other local government may, after a public hearing and enactment of an ordinance or resolution, further restrict or prohibit the use of graywater systems. For additional information, see Health and Safety Code Section 18941.7.

(B) ~~The system, except as otherwise approved, shall consist of a holding tank or tanks that discharge into subsurface irrigation/disposal fields. The type of system shall be determined by the location, discharge capacity, soil type, and ground water level. The system shall be designed to handle graywater discharged from the building and may include tank(s) and other appurtenances necessary to ensure proper function of the system.~~

Note: It is not the intent of this section to require that all graywater must be handled by an irrigation field or disposal field. It is acceptable for excess graywater to be diverted to the building sewer through the overflow required pursuant to Section 1609A.O (E)

(C) No graywater system or part thereof shall be located on any lot other than the lot that is the site of the building or structure that discharges the graywater, nor shall any graywater system or part thereof be located at any point having less than the minimum distances indicated in Table 16A-1.

Exception: When there exists a lawfully recorded perpetual and exclusive covenant to an easement appurtenant and right-of-way between adjoining land-owners of two or more contiguous lots to discharge graywater from one lot to an adjoining lot.

(D) No ~~construction~~ permit for any graywater system shall be issued until a plot plan with appropriate data satisfactory to the ~~Authority Having Jurisdiction~~ Enforcing Agency has been submitted and approved. When there is insufficient lot area or inappropriate soil conditions for adequate absorption ~~to prevent the ponding or runoff of the graywater, as determined by the Authority Having Jurisdiction~~ Enforcing Agency, no graywater system shall be ~~permitted~~ allowed.

Exception: A construction permit shall not be required for a clothes washer system which does not require cutting of the existing plumbing piping provided it is in compliance with Section 1603A.1.1.

(E) ~~No permit shall be issued for a gray water system on any property in a geologically sensitive area as determined by Authority Having Jurisdiction.~~

~~(F) Private sewage disposal systems existing or to be constructed on the premises shall comply with this chapter. In addition, appropriate clearances from the gray water systems shall be maintained as provided in Table 16-1. The capacity of the private sewage disposal system, including required future areas, shall not be decreased or otherwise affected by the existence or proposed installation of a gray water system servicing the premises.~~

(E) All graywater systems shall be designed to allow the user to direct the flow to either the irrigation or disposal field or the building sewer. The means of changing the direction of the graywater shall be clearly labeled and readily accessible to the user.

(F) Water used to wash diapers or similarly soiled or infectious garments or other prohibited contents shall be diverted by the user to the building sewer.

(G) Graywater shall not be used in spray irrigation, allowed to pond or runoff and shall not be discharged directly into or reach any storm sewer system or any surface body of water.

(H) Human contact with graywater or the soil irrigated by graywater shall be minimized and avoided, except as required to maintain the graywater system. The discharge point of any graywater irrigation or disposal field shall be covered by at least (2) inches (51 mm) of mulch, rock, or soil, or a solid shield to minimize the possibility of human contact.

(I) Graywater shall not be used to irrigate root crops or edible parts of food crops that touch the soil.

1602A.0 Definitions.

Gray water is untreated waste water that has not come into contact with toilet waste, kitchen sink waste, dishwasher waste or similarly contaminated sources. Gray water includes water from bathtubs, showers, bathroom wash basins, clothes washers and laundry tubs.

Clothes Washer System. A graywater system utilizing only a single domestic clothes washing machine in a one- or two-family dwelling.

Complex System. Graywater systems that discharge over 250 gallons (947 L) per day.

Disposal Field. An intended destination for graywater including but not limited to a mulch basin or receiving landscape feature, graywater leach field, or other approved method of disposal.

Graywater. Pursuant to Health and Safety Code Section 17922.12, "graywater" means untreated wastewater that has not been contaminated by any toilet discharge, has not been affected by infectious, contaminated, or unhealthy bodily wastes, and does not present a threat from contamination by unhealthful processing, manufacturing, or operating wastes. "Graywater" includes but is not limited to wastewater from bathtubs, showers, bathroom washbasins, clothes washing machines, and laundry tubs, but does not include wastewater from kitchen sinks or dishwashers.

Graywater System. A system designed to collect graywater and transport it out of the structure for distribution in an Irrigation or Disposal Field. A graywater system may include tanks, valves, filters, pumps or other appurtenances along with piping and receiving landscape.

Irrigation Field. An intended destination for graywater in the receiving landscape including but not limited to a drip irrigation system, mulch basin, or other approved method of dispersal for irrigation purposes.

Mulch. Organic waste material including but not limited to leaves, prunings, straw, pulled weeds and wood chips. Mulch shall be permeable enough to allow rapid infiltration of graywater.

Mulch Basin. A type of irrigation or disposal field filled with mulch or other approved permeable material of sufficient depth, length and width to prevent ponding or runoff. A mulch basin may include a basin around a tree, a trough along a row of plants or other shapes necessary for irrigation or disposal.

Receiving Landscape. Includes features such as soil, basins, swales, mulch, and plants.

Simple System. A graywater system serving a one- or two-family dwelling with a discharge of 250 gallons (947 L) per day or less. Simple systems exceed a clothes washer system.

Treated Graywater. *Nonpotable water collected and treated on-site suitable for direct beneficial use.*

1603A.0 Permit.

It shall be unlawful for any person to construct, install, or alter, or cause to be constructed, installed, or altered any gray water system in a building or on a premises without first obtaining a permit to do such work from the Authority Having Jurisdiction. A written construction permit shall be obtained from the Enforcing Agency prior to the erection, construction, reconstruction, installation, relocation or alteration of any graywater system that requires a permit.

Exception: *A construction permit shall not be required for a clothes washer system which does not require cutting of the existing plumbing piping provided it is in compliance with Section 1603A.1.1.*

1603A.1 System Requirements.

1603A.1.1 Clothes Washer System. *A clothes washer system in compliance with all of the following is exempt from the construction permit specified in Section 1.8.4.1 and may be installed or altered without a construction permit:*

1. *If required, notification has been provided to the Enforcing Agency regarding the proposed location and installation of a graywater irrigation or disposal system.*

Note: *A city, county, or city and county or other local government may, after a public hearing and enactment of an ordinance or resolution, further restrict or prohibit the use of graywater systems. For additional information, see Health and Safety Code Section 18941.7.*

2. *The design shall allow the user to direct the flow to the irrigation or disposal field or the building sewer. The direction control of the graywater shall be clearly labeled and readily accessible to the user.*
3. *The installation, change, alteration or repair of the system does not include a potable water connection or a pump and does not affect other building, plumbing, electrical or mechanical components including structural features, egress, fire-life safety, sanitation, potable water supply piping or accessibility.*

Note: *The pump in a clothes washer shall not be considered part of the graywater system.*

4. *The graywater shall be contained on the site where it is generated.*
5. *Graywater shall be directed to and contained within an irrigation or disposal field.*
6. *Ponding or runoff is prohibited and shall be considered a nuisance.*
7. *Graywater may be released above the ground surface provided at least two (2) inches (51 mm) of mulch, rock, or soil, or a solid shield covers the release point. Other methods which provide equivalent separation are also acceptable.*
8. *Graywater systems shall be designed to minimize contact with humans and domestic pets.*
9. *Water used to wash diapers or similarly soiled or infectious garments shall not be used and shall be diverted to the building sewer.*
10. *Graywater shall not contain hazardous chemicals derived from activities such as cleaning car parts, washing greasy or oily rags, or disposing of waste solutions from home photo labs or similar hobbyist or home occupational activities.*
11. *Exemption from construction permit requirements of this code shall not be deemed to grant authorization for any graywater system to be installed in a manner that violates other provisions of this code or any other laws or ordinances of the Enforcing Agency.*
12. *An operation and maintenance manual shall be provided. Directions shall indicate the manual is to remain with the building throughout the life of the system and indicate that upon change of ownership or occupancy, the new owner or tenant shall be notified the structure contains a graywater system.*

1603A.1.2 Simple System. *Simple systems exceed a clothes washer system and shall comply with the following:*

- 1. The discharge capacity of a graywater system shall be determined by Section 1606A.0. Simple systems have a discharge capacity of 250 gallons (947 L) per day or less.*
- 2. Simple systems shall require a construction permit, unless exempted from a construction permit by the Enforcing Agency. The Enforcing Agency shall consult with any public water system (as defined in Health and Safety Code, Section 116275) providing drinking water to the dwelling before allowing and exemption from a construction permit.*
- 3. The design of simple systems shall be acceptable to the Enforcing Agency and shall meet generally accepted graywater system design criteria.*

1603A.1.3 Complex System. *Any graywater system that is not a clothes washer system or simple system shall comply with the following:*

- 1. The discharge capacity of a graywater system shall be determined by Section 1606A.0. Complex systems have a discharge capacity over 250 gallons (947 L) per day.*
- 2. Complex systems shall require a construction permit, unless exempted from a construction permit by the Enforcing Agency. The Enforcing Agency shall consult with any public water system (as defined in Health and Safety Code, Section 116275) providing drinking water to the dwelling before allowing and exemption from a construction permit.*
- 3. A complex system shall be designed by a person who can demonstrate competence to the satisfaction of the Enforcing Agency.*

Table 1603A.1.4 – Construction Permit Requirements

<u>Type of System</u>	<u>Permit Requirements</u>
<i><u>Clothes Washer System</u></i>	<i><u>No construction permit required if conditions in Section 1603A.1.1 are met.</u></i>
<i><u>Simple System</u></i>	<i><u>Permit and plans required unless exempted by Enforcing Agency.</u></i>
<i><u>Complex System</u></i>	<i><u>Permit and plans required unless exempted by Enforcing Agency.</u></i>
<i><u>Treated Graywater</u></i>	<i><u>Permit and plans required unless exempted by Enforcing Agency.</u></i>

1604A.0 Drawings and Specifications.

The Authority Having Jurisdiction may require any or all of the following information to be included with or in the plot plan before a permit is issued for a gray water system, or at any time during the construction thereof: Graywater systems for which a construction permit is required may be subject to submittal of plans and details of the proposed graywater system necessary to ensure compliance with the requirements of this chapter. Identification of the groundwater level and soil absorption qualities at the site shall be included in the plans or provided to the Enforcing Agency.

Exception: *The Enforcing Agency may waive the requirement for identification of groundwater level and/or soil absorption qualities based on knowledge of local conditions.*

1604A.1 Groundwater Depth. Verification of ground water levels which exceed three (3) vertical feet (915 mm) from the deepest irrigation or disposal point of the proposed graywater system shall not be required.

Note: The absence of groundwater in a test hole three (3) vertical feet (915 mm) below the deepest irrigation or disposal point shall be sufficient to satisfy this section unless seasonal high groundwater levels have been documented to rise to within this area.

- ~~(A) Plot plan drawn to scale and completely dimensioned, showing lot lines and structures, direction and approximate slope of surface, location of all present or proposed retaining walls, drainage channels, water supply lines, wells, paved areas and structures on the plot, number of bedrooms and plumbing fixtures in each structure, location of private sewage disposal system and 100 percent expansion area or building sewer connecting to the public sewer, and location of the proposed gray water system.~~
- ~~(B) Details of construction necessary to ensure compliance with the requirements of this chapter, together with a full description of the complete installation, including installation methods, construction, and materials as required by the Authority Having Jurisdiction.~~
- ~~(C) A log of soil formations and groundwater level as determined by test holes dug in proximity to any proposed irrigation area, together with a statement of water absorption characteristics of the soil at the proposed site as determined by approved percolation tests.~~

Exception: The Authority Having Jurisdiction shall be permitted to use Table 16-2 in lieu of percolation tests.

1605A.0 Inspection and Testing.

(A) Inspection. A graywater system for which a construction permit is required shall be subject to inspection by the Enforcing Agency and such construction or work shall remain accessible and exposed for inspection purposes until approved.

At the time of final inspection, an operation and maintenance manual shall be provided. Directions shall indicate the manual is to remain with the building throughout the life of the system and upon change of ownership, the new owner shall be notified the structure contains a graywater system

- ~~(1) Applicable provisions of this chapter and Section 103.5 of this code shall be complied with.~~
- ~~(2) System components shall be properly identified as to manufacturer.~~
- ~~(3) Holding tanks shall be installed on dry, level, well-compacted soil if underground or on a level three (3)-inch (76 mm) concrete slab if above ground.~~
- ~~(4) Holding tanks shall be anchored against overturning.~~
- ~~(5) If a design is predicated on soil tests, the irrigation/disposal field shall be installed at the same location and depth as the tested area.~~
- ~~(6) Installation shall conform with the equipment and installation methods identified in the approved plans.~~

(B) Testing.

- ~~(1) Holding tanks~~ Tanks shall be filled with water to the overflow line prior to and during inspection. Seams and joints shall be left exposed, and the tank shall remain watertight.
- ~~(2) A flow test shall be performed through the system to the point of graywater irrigation/disposal~~ irrigation or disposal. Lines and components shall be watertight.

1606A.0 Procedure for Estimating Graywater Discharge.

(A) Single Family Dwellings and Multi-Family Dwellings. The graywater discharge for single family and multi-family dwellings shall be calculated by estimates of graywater use based on water use records, calculations of local daily per person interior water use, or the following procedure:

1. The number of occupants of each dwelling unit shall be calculated as follows:

First Bedroom	2 occupants
Each additional bedroom	1 occupant

2. The estimated graywater flows of each occupant shall be calculated as follows:

Showers, bathtubs and wash basins	25 GPD (95 LPD)/occupant
Laundry	15 GPD (57 LPD)/occupant

3. The total number of occupants shall be multiplied by the applicable estimated graywater discharge as provided above and the type of fixtures connected to the graywater system.

~~(B) Commercial, Industrial, and Institutional.~~ The gray water discharge for commercial, industrial and institutional occupancies shall be calculated by utilizing the procedure in Section 1606.0 (A), water use records, or other documentation to estimate gray water discharge.

~~(C)~~**(B) Daily Discharge** – Graywater systems using tanks shall be designed to minimize the amount of time graywater is held in the tank and shall be sized to distribute the total amount of estimated graywater on a daily basis.

Exception: Treated graywater systems when approved by the Enforcing Agency.

~~1607A.0 Required Area of Subsurface Irrigation / or Disposal Fields (See Figure 16-5.)~~ Each valved zone shall have a minimum effective irrigation area in square feet as determined by Table 16-2 for the type of soil found in the excavation, based upon a calculation of estimated gray water discharge pursuant to Section 1606.0 of this chapter or the size of the holding tank, whichever is larger. The area of the irrigation/disposal field shall be equal to the aggregate length of the perforated pipe sections within the valved zone multiplied by the width of the proposed irrigation/disposal field. Each proposed gray water system shall include not less than three (3) zones isolated by valves, and each zone shall be in compliance with the provisions of the section. No excavation for an irrigation/disposal field shall extend within five (5) vertical feet (1,524 mm) of the highest known seasonal groundwater, nor to a depth where gray water contaminates the groundwater, or surface water. The applicant shall supply evidence of groundwater depth to the satisfaction of the Authority Having Jurisdiction. Irrigation or disposal fields may have one or more valved zones. Each zone must be of adequate size to receive the graywater anticipated in that zone. No irrigation or disposal field shall extend within three (3) vertical feet (915 mm) of the highest known seasonal groundwater, or to a depth where graywater contaminates the groundwater, ocean water or surface water. The applicant shall supply evidence of groundwater depth to the satisfaction of the Enforcing Agency.

Note: The absence of groundwater in a test hole three (3) vertical feet (915 mm) below the deepest irrigation or disposal point shall be sufficient to satisfy this section unless seasonal high groundwater levels have been documented to rise to within this area.

1608A.0 Determination of Maximum Absorption Capacity.

~~(A) Wherever practicable, irrigation/disposal~~ irrigation or disposal field size shall be computed from Table 16A-2.

~~(B) In order to determine the absorption quantities of questionable soils other than those listed in Table 16A-2, the proposed site may be subjected to percolation tests acceptable to the Authority Having Jurisdiction~~ Enforcing Agency.

Exception: Irrigation fields in compliance with Section 1611A.2, which only utilize drip type emitters.

~~(C) When a percolation test is required, no graywater system shall be permitted if the test shows the absorption capacity of the soil is less than eighty-three hundredths (0.83) of a gallon per square foot (33.8 L/m²) or more than five and twelve hundredths (5.12) of a gallon per square foot (208.5 L/m²) of leaching area per twenty-four (24) hours~~ unable to accommodate the intended discharge of the proposed graywater system.

Exception: The Enforcing Agency may waive the requirement for percolation tests based on knowledge of local conditions or accept other testing methods.

1609A.0 Holding Tank Construction. (See Figures 16-1, 16-2, 16-3 and 16-4.)

- (A) ~~When system design includes a tank, Plans for holding tanks shall~~ specifications for the tank shall be submitted to the ~~Authority Having Jurisdiction~~ Enforcing Agency for approval. Such plans shall show all dimensions, structural calculations, bracings, and such other pertinent data as required. A capacity of not less than fifty (50) gallons (189 L) is required.
- (B) ~~Holding tanks~~ Tanks shall be constructed of solid, durable materials not subject to excessive corrosion or decay and shall be water-tight.
- (C) Each ~~holding tank~~ shall be vented as required by Chapter 9 of this code, ~~and shall have a locking, gasketed~~ be sealed against vermin and mosquitoes, and have an access opening or ~~approved equivalent~~ to allow for inspection and cleaning.
- (D) Each ~~holding tank~~ shall have its rated capacity permanently marked on the unit. In addition, a sign stating "GRAYWATER IRRIGATION SYSTEM, ~~DANGER~~ CAUTION — UNSAFE WATER" shall be permanently marked on the holding tank.
- (E) Each ~~holding tank installed above ground~~ shall have an overflow drain ~~emergency drain separate from that connecting the tank with the irrigation/disposal fields and an overflow drain~~. The ~~emergency and overflow drains shall have a permanent connections to the building drain or building sewer, upstream of septic tanks, if any. The overflow drain shall not be equipped with a shutoff valve.~~
- (F) The ~~overflow and emergency drainpipes~~ drain shall not be less in size than the inlet pipe. The vent size shall be determined based on the total graywater fixture units as outlined in Table 7-5 of this code. Unions or equally effective fittings shall be provided for all piping connected to the holding tank.
- (G) Each ~~holding tank~~ shall be structurally designed to withstand all anticipated earth or other loads. ~~Holding tank~~ Tank covers shall be capable of supporting an earth load of not less than three hundred (300) pounds per square foot (1,464.7 kg/m²) when the tank is ~~designed~~ used for underground installation.
- (H) ~~If a holding tank is installed underground, the~~ The overflow system must be designed so that the tank overflow will gravity drain to the existing sewer line or septic tank. The tank shall be protected against sewer line backflow by a backwater valve.
- (I) ~~Materials.~~
- (1) ~~Holding tanks shall be steel, protected from corrosion, both externally and internally by an approved coating or other acceptable means; shall meet nationally recognized standards for the intended use, and shall be approved by the Authority Having Jurisdiction.~~
- (2) ~~Holding tanks constructed of alternate material shall be permitted to be approved by the Authority Having Jurisdiction, provided they comply with approved applicable standards.~~
- (J) An overflow drain and backwater valve is not required on a clothes washer system.

1610A.0 Graywater Systems. (See Figures 16-1, 16-2, 16-3, and 16-4.)

Graywater systems shall comply with Sections 1610A.1 through 1610.4 1610A.3.

1610A.1 Pipe Materials. Graywater pipe, valves and fittings shall conform to the requirements of Sections 604.0, 605.0 and 606.0.

1610A.2 Color and Information Identification. All gray water systems shall have a purple background with black uppercase lettering, with the words "CAUTION: NONPOTABLE WATER, DO NOT DRINK."

The minimum size of the letters and length of the color field shall conform to Table 6-1. Where used, a colored identification band shall be indicated every twenty (20) feet (6,096 mm) not less than once per room, and shall be visible from the floor level. Marking is not required for pipe manufactured with purple color integral to the pipe and marked with black uppercase lettering to read, "CAUTION: NONPOTABLE WATER, DO NOT DRINK" in intervals not to exceed five (5) feet (1,524 mm). All valves, except fixture supply control valves shall be equipped with a locking feature. Graywater distribution piping upstream of any connection to an irrigation or disposal field or a distribution valve shall be identified with the words "CAUTION: NONPOTABLE WATER, DO NOT DRINK." Marking shall be at intervals not to exceed five (5) feet (1,524 mm).

1610A.3 Valves. All valves, including the three-way valve, shall be readily accessible and approved by the Authority Having Jurisdiction. A backwater valve installed pursuant to this code shall be provided on all holding tank drain connections to the sanitary drain or sewer piping.

1610.4 Trap. Gray water piping discharging into the holding tank or having a direct connection to the sanitary drain or sewer piping shall be downstream of an approved liquid seal type trap(s). If no such trap(s) exists, an approved vented running trap shall be installed upstream of the connection to protect the building from any possible waste or sewer gases.

1611A.0 Irrigation, Disposal Field and Mulch Basin Construction. (See Figure 16-5.)

Irrigation fields, disposal fields and mulch basins used in graywater systems shall comply with this section.

Graywater systems may contain either an irrigation field or a disposal field or a combination of both. This section is not intended to prevent the use of other methods of graywater irrigation or disposal approved by the Enforcing Agency.

1611A.1 Mulch Basin *A mulch basin may be used as an irrigation or disposal field. Mulch basins shall be sized in accordance with Table 16A-2 and of sufficient depth, length and width to prevent ponding or runoff during the graywater surge of a clothes washer, bathtub or shower. Mulch must be replenished as required due to decomposition of organic matter. Mulch basins will require periodic maintenance, reshaping or removal of dirt to maintain surge capacity and to accommodate plant growth and prevent ponding or runoff.*

1611A.2 Irrigation Field. *The provisions of this section are not intended to prevent the use of any appropriate material, appliance, installation, device, design or method of construction. If an alternate design is not available, the following provisions may be used as guidance in the design of a graywater irrigation field:*

(1) Filters used in graywater irrigation systems shall be as specified by the manufacturer's installation instructions for the design flow rate and intended use. The filter backwash and flush discharge shall be contained and disposed of into the building sewer system, septic tank or, with approval of the Enforcing Agency, a separate mini-leachfield sized to accept all the backwash and flush discharge water. Filter backwash water and flush water shall not be used for any purpose. Sanitary procedures shall be followed when handling filter backwash and flush discharge or graywater.

(2) Emitters shall be designed to resist root intrusion and shall be of a design recommended by the manufacturer for the intended graywater flow and use. For emitter ratings, refer to Irrigation Equipment Performance Report, Drip Emitters and Micro-Sprinklers, Center for Irrigation Technology, California State University, 5730 N. Chestnut Avenue, Fresno, California 93740-0018.

(3) Each irrigation zone shall be designed to include no less than the number of emitters specified in Table 16A-3, or through a procedure designated by the Enforcing Agency. Minimum spacing between emitters in any direction shall be sufficient to prevent surfacing or runoff.

(4) The system design shall provide user controls, such as valves, switches, timers and other controllers, as appropriate, to rotate the distribution of graywater between irrigation zones.

(5) All drip irrigation supply lines shall be polyethylene tubing or PVC Class 200 pipe or better and Schedule 40 fittings. All joints shall be properly solvent-cemented, inspected and pressure tested at 40 psi (276 kPa), and shown to be drip tight for five minutes, before burial. All supply piping shall be covered to a minimum depth of two (2) inches (51 mm) of mulch or soil. Drip feeder lines can be poly or flexible PVC tubing and shall be covered to a minimum depth of two (2) inches (51 mm) of mulch or soil.

(6) Where pressure at the discharge side of the pump exceeds 20 psi (138 kPa), a pressure-reducing valve able to maintain downstream pressure no greater than 20 psi (138 kPa) shall be installed downstream from the pump and before any emission device.

(7) Each irrigation zone shall include a flush valve/antisiphon valve to prevent back siphonage of water and soil.

1611A.3 Disposal Field. *The provisions of this section are not intended to prevent the use of any appropriate material, appliance, installation, device, design or method of construction. If an alternate design is not available the following provisions may be used as guidance in the design of a graywater disposal field:*

- (A) ~~Perforated sections~~ *Disposal systems* shall be not less than three (3) inches (80 mm) in ~~diameter~~ *cross sectional dimension* and shall be constructed of perforated high-density polyethylene pipe, perforated ABS pipe, perforated PVC pipe, *leaching chambers* or other approved materials, provided that sufficient openings are available for distribution of the graywater into the trench area. Material, construction, and perforation of the pipe shall be in compliance with the appropriate absorption fields drainage piping standards and shall be approved by the ~~Authority Having Jurisdiction~~ *Enforcing Agency*.
- (B) Filter material, clean stone, gravel, slag, or similar filter material acceptable to the ~~Authority Having Jurisdiction~~ *Enforcing Agency*, varying in size from three-quarter (3/4) inch (19.1 mm) to two and one-half (2-1/2) inches (64 mm) shall be placed in the trench to the depth and grade required by this section. The perforated section shall be laid on the filter material in an approved manner. The perforated section shall then be covered with filter material to the minimum depth required by this section. The filter material shall then be covered with untreated building paper, straw, or similar porous material to prevent closure of voids with earth backfill. No earth backfill shall be placed over the filter material cover until after inspection and acceptance.

Exception. *Manufactured leaching chambers shall be installed in compliance with the manufacturer's installation instructions.*

- (C) ~~Irrigation/disposal~~ *Disposal* fields shall be constructed as follows:

(See chart on this page below)

	Minimum	Maximum
Number of drain lines per valved zone ¹	1	—
Length of each perforated line ¹	—	100 ft. (30,840 mm)
Bottom width of trench ¹	12 in. (305 mm)	18 in. (457 mm) 24 in. (610 mm)
Spacing of lines, center to center ¹	4 ft. (1219 mm)	—
Depth of earth cover of lines	10 in. (254 mm) 2 in. (51 mm)	—
Depth of filter material cover of lines	2 in. (51 mm)	—
Depth of filter material beneath lines ¹	3 in. (76 mm)	—
Grade of perforated lines	level	3 in./100 ft. (2 mm/m)

¹ *Manufactured leaching chambers shall be installed in compliance with the manufacturer's installation instructions.*

- (D) When necessary on sloping ground to prevent excessive line slopes, ~~irrigation/disposal~~ lines shall be stepped or *installed on the contour lines of the slope*. The lines between each horizontal leaching section shall be made with approved water-tight joints and installed on natural or unfilled ground.

1612A.0 Special Provisions

- (A) Other collection and distribution systems shall be permitted by the local ~~Authority Having Jurisdiction~~ *Enforcing Agency*, as allowed by Section ~~304.0~~ *1.8.7* of this code.
- (B) Nothing contained in this chapter shall be construed to prevent the ~~Authority Having Jurisdiction~~ from requiring compliance with higher requirements than those contained herein, where such higher requirements are essential to maintain a safe and sanitary condition *a city, county, or city and county or other local government from, after a public hearing and enactment of an ordinance or resolution, further restricting or prohibiting the use of graywater systems. For additional information, see Health and Safety Code Section 18941.7.*
- (C) *Graywater stub-out plumbing may be allowed for future connection prior to the installation of irrigation lines and landscaping. Stub-out shall be permanently marked "GRAYWATER STUB-OUT, DANGER CAUTION --- UNSAFE WATER".*

Table 16A -1 Location of Graywater System

<u>Minimum Horizontal Distance Required From:</u>	<u>Tank</u>	<u>Irrigation Field</u>	<u>Disposal Field</u>
	<u>Feet/mm</u>	<u>Feet/mm</u>	<u>Feet/mm</u>
<u>Building structures¹</u>	<u>5 (1,524 mm)²</u>	<u>2 (610 mm)</u>	<u>5 (1,524 mm)</u>
<u>Property line adjoining private property</u>	<u>5 (1,524 mm)</u>	<u>1.5 feet (458 mm)</u>	<u>5 (1,524 mm)</u>
<u>Water supply wells³</u>	<u>50 (15,240 mm)</u>	<u>100 (30,480 mm)</u>	<u>100 (30,480 mm)</u>
<u>Streams and lakes³</u>	<u>50 (15,240 mm)</u>	<u>100 (30,480 mm)^{4,5}</u>	<u>100 (30,480 mm)⁴</u>
<u>Sewage pits or cesspools</u>	<u>5 (1,524 mm)</u>	<u>5 (1,524 mm)</u>	<u>5 (1,524 mm)</u>
<u>Sewage disposal field</u>	<u>5 (1,524 mm)</u>	<u>4 (1,219 mm)⁶</u>	<u>4 (1,219 mm)⁶</u>
<u>Septic tank</u>	<u>0 (0)</u>	<u>5 (1,524 mm)</u>	<u>5 (1,524 mm)</u>
<u>Onsite domestic water service line</u>	<u>5 (1,524 mm)</u>	<u>0 (0 mm)</u>	<u>0 (0 mm)</u>
<u>Pressurized public water main</u>	<u>10 (3,048 mm)</u>	<u>10 (3,048 mm)⁷</u>	<u>10 (3,048 mm)⁷</u>

¹ Building structures does not include porches and steps, whether covered or uncovered, breezeways, roofed porte cocheres, roofed patios, carports, covered walks, covered driveways, and similar structures or appurtenances.

² Underground tanks shall not be located within a 45 degree angle from the bottom of the foundation, or they shall be designed to address the surcharge imposed by the structure. The distance may be reduced to six (6) inches (153 mm) for aboveground tanks when first approved by the Enforcing Agency.

³ Where special hazards are involved, the distance required shall be increased as directed by the Enforcing Agency.

⁴ These minimum clear horizontal distances shall also apply between the irrigation or disposal field and the ocean mean higher high tide line.

⁵ The minimum horizontal distance may be reduced to 50 feet (15,240 mm) for irrigation fields utilizing graywater which has been filtered prior to entering the distribution piping.

⁶ Plus two (2) feet (610 mm) for each additional foot of depth in excess of one (1) foot (305 mm) below the bottom of the drain line.

⁷ For parallel construction or crossings, approval by the Enforcing Agency shall be required.

Table 16-1				
Location of Graywater System				
Minimum Horizontal Distance in Clear Required From:	Holding Tank		Irrigation/ Disposal Field	
	Feet	(mm)	Feet	(mm)
Building structures ¹	5 ²	(1,524 mm)	2 ³	(610 mm)
Property line adjoining private property	5	(1,524 mm)	5	(1,524 mm)
Water supply wells ⁴	50	(15,240 mm)	100	(30,480 mm)
Streams and lakes ⁴	50	(15,240 mm)	50 ⁵	(15,240 mm)
Sewage pits or cesspools	5	(1,524 mm)	5	(1,524 mm)
Disposal field and 100% expansion area	5	(1,524 mm)	4 ⁶	(1,219 mm)
Septic tank	0	(0)	5	(1,524 mm)
Onsite domestic water service line	5	(1,524 mm)	5	(1,524 mm)
Pressurized public water main	10	(3,048 mm)	10 ⁷	(3,048 mm)

Note: When irrigation/disposal fields are installed in sloping ground, the minimum horizontal distance between any part of the distribution system and the ground surface shall be fifteen (15) feet (4,572 mm).

¹ Including porches and steps, whether covered or uncovered, breezeways, roofed porte cocheres, roofed patios, carports, covered walks, covered driveways, and similar structures or appurtenances.

² The distance may be reduced to zero (0) feet for aboveground tanks when first approved by the Authority Having Jurisdiction.

³ Assumes a 45-degree (0.79 rad) angle from foundation.

⁴ Where special hazards are involved, the distance required shall be increased as directed by the Authority Having Jurisdiction.

⁵ These minimum clear horizontal distances shall also apply between the irrigation/disposal field and the ocean mean higher high tide line.

⁶ Plus two (2) feet (610 mm) for each additional foot of depth in excess of one (1) foot (305 mm) below the bottom of the drain line.

⁷ For parallel construction/for crossings, approval by the Authority Having Jurisdiction shall be required.

Table 16A-2 Design Criteria of Six Typical Soils

<u>Type of Soil</u>	<u>Square Feet</u>	<u>Gallons</u>	<u>Square Meters</u>	<u>Liters</u>
	<u>Minimum square feet of irrigation/leaching area per 100 gallons of estimated graywater discharge per day</u>	<u>Maximum absorption capacity in gallons per square foot of irrigation/leaching area for a 24-hour period</u>	<u>Minimum square meters of irrigation/leaching area per liter of estimated graywater discharge per day</u>	<u>Maximum absorption capacity in liters per square meter of irrigation/leaching area for a 24-hour period</u>
<i>Coarse sand or gravel</i>	<u>20</u>	<u>5.0</u>	<u>0.005</u>	<u>203.7</u>
<i>Fine sand</i>	<u>25</u>	<u>4.0</u>	<u>0.006</u>	<u>162.9</u>
<i>Sandy loam</i>	<u>40</u>	<u>2.5</u>	<u>0.010</u>	<u>101.8</u>
<i>Sandy clay</i>	<u>60</u>	<u>1.7</u>	<u>0.015</u>	<u>69.2</u>
<i>Clay with considerable sand or gravel</i>	<u>90</u>	<u>1.1</u>	<u>0.022</u>	<u>44.8</u>
<i>Clay with small amounts of sand or gravel</i>	<u>120</u>	<u>0.8</u>	<u>0.030</u>	<u>32.6</u>

**TABLE 16-2
Design Criteria of Six Typical Soils**

Type of Soil	Minimum square feet of irrigation/leaching area per 100 gallons of estimated gray water discharge per day	Maximum absorption capacity in gallons per square foot of irrigation/leaching area for a 24-hour period
Coarse sand or gravel	20	5.0
Fine sand	25	4.0
Sandy loam	40	2.5
Sandy clay	60	1.7
Clay with considerable sand or gravel	90	1.1
Clay with small amounts of sand or gravel	120	0.8

**TABLE 16-2
(Metric) Design Criteria of Six Typical Soils**

Type of Soil	Minimum square meters of irrigation/leaching area per liter of estimated graywater discharge per day	Minimum square meters of irrigation/leaching area per liter of estimated graywater discharge per day
Coarse sand or gravel	0.005	203.7
Fine sand	0.006	162.9
Sandy loam	0.010	101.8
Sandy clay	0.015	69.2
Clay with considerable sand or gravel	0.022	44.8
Clay with small amounts of sand or gravel	0.030	32.6

Table 16A-3 Subsurface Drip Design Criteria of Six Typical Soils

<u>Type of Soil</u>	<u>Maximum emitter discharge (gal/day)</u>	<u>Minimum number of emitters per gpd of graywater production</u>
<u>1.Sand</u>	<u>1.8</u>	<u>0.6</u>
<u>2.Sandy loam</u>	<u>1.4</u>	<u>0.7</u>
<u>3.Loam</u>	<u>1.2</u>	<u>0.9</u>
<u>4.Clay loam</u>	<u>0.9</u>	<u>1.1</u>
<u>5.Silty clay</u>	<u>0.6</u>	<u>1.6</u>
<u>6.Clay</u>	<u>0.5</u>	<u>2.0</u>

Use the daily graywater flow calculated in Section 1606A.0 to determine the number of emitters per line.

1612A.1 Indoor Use of Treated Graywater.

Graywater shall not be allowed for indoor use, such as flushing toilets and urinals, unless treated by an on-site water treatment system approved by the Enforcing Agency. For the purposes of this section, graywater treated by an on-site water treatment system shall be considered "Treated Graywater". Treated graywater and treated graywater systems shall comply with the provisions of this code except as otherwise provided in this chapter and all of the following:

- (1) The treated graywater shall have a separate tank sized to minimize the length of time it is retained.
- (2) A maintenance and operation manual for the treatment system shall be kept at the location of the system.
- (3) Treated graywater intended for use indoors shall meet the California Department of Public Health statewide uniform criteria for disinfected tertiary recycled water as provided in California Code of Regulations, Title 22 Section 60301.230.
- (4) The treated graywater system shall be installed, inspected and tested as specified for recycled water systems in Sections 1618A.0 and 1620A.0.

NOTE:

Authority Cited: Health and Safety Code Sections 17040, 17921, 17922 and 19990.

Reference: Health and Safety Code Sections 17922.12 and 18941.7.

17. HCD proposes to adopt Appendix A without amendments:

APPENDIX A

RECOMMENDED RULES FOR SIZING THE WATER SUPPLY SYSTEM

NOTE:

Authority Cited: Health and Safety Code Sections 17040, 17050, 17920.9, 17921, 17921.3, 17921.6, 17921.10, 17922, 17922.6, 17922.12, 17927, 17928, 17959.6, 18300, 18552, 18554, 18620, 18630, 18640, 18670, 18690, 18691, 18865, 18871.3, 18871.4, 18873, 18873.1, 18873.2, 18873.3, 18873.4, 18873.5, 18938.3, 18944.11, and 19990; and Government Code Section 12955.1.

Reference: Health and Safety Code Sections 17000 through 17062.5, 17910 through 17995.5, 18200 through 18700, 18860 through 18874, and 19960 through 19997; and Government Code Sections 12955.1 and 12955.1.1.

18. HCD proposes to not adopt Appendix B.

APPENDIX B

EXPLANATORY NOTES ON COMBINATION WASTE AND VENT SYSTEMS

NOTE:

Authority Cited: Health and Safety Code Sections 17040, 17050, 17920.9, 17921, 17921.3, 17921.6, 17921.10, 17922, 17922.6, 17922.12, 17927, 17928, 17959.6, 18300, 18552, 18554, 18620, 18630, 18640, 18670, 18690, 18691, 18865, 18871.3, 18871.4, 18873, 18873.1, 18873.2, 18873.3, 18873.4, 18873.5, 18938.3, 18944.11, and 19990; and Government Code Section 12955.1.

Reference: Health and Safety Code Sections 17000 through 17062.5, 17910 through 17995.5, 18200 through 18700, 18860 through 18874, and 19960 through 19997; and Government Code Sections 12955.1 and 12955.1.1.

19. HCD proposes to adopt Appendix D without amendments:

APPENDIX D

SIZING STORMWATER DRAINAGE SYSTEMS

NOTE:

Authority Cited: Health and Safety Code Sections 17040, 17050, 17920.9, 17921, 17921.3, 17921.6, 17921.10, 17922, 17922.6, 17922.12, 17927, 17928, 17959.6, 18300, 18552, 18554, 18620, 18630, 18640, 18670, 18690, 18691, 18865, 18871.3, 18871.4, 18873, 18873.1, 18873.2, 18873.3, 18873.4, 18873.5, 18938.3, 18944.11, and 19990; and Government Code Section 12955.1.

Reference: Health and Safety Code Sections 17000 through 17062.5, 17910 through 17995.5, 18200 through 18700, 18860 through 18874, and 19960 through 19997; and Government Code Sections 12955.1 and 12955.1.1.

20. HCD proposes to not adopt Appendix E.

APPENDIX E

MANUFACTURED/MOBILE HOME PARKS AND RECREATIONAL VEHICLE PARKS

NOTE:

Authority Cited: Health and Safety Code Sections 17040, 17050, 17920.9, 17921, 17921.3, 17921.6, 17921.10, 17922, 17922.6, 17922.12, 17927, 17928, 17959.6, 18300, 18552, 18554, 18620, 18630, 18640, 18670, 18690, 18691, 18865, 18871.3, 18871.4, 18873, 18873.1, 18873.2, 18873.3, 18873.4, 18873.5, 18938.3, 18944.11, and 19990; and Government Code Section 12955.1.

Reference: Health and Safety Code Sections 17000 through 17062.5, 17910 through 17995.5, 18200 through 18700, 18860 through 18874, and 19960 through 19997; and Government Code Sections 12955.1 and 12955.1.1.

21. HCD proposes to not adopt Appendix F.

APPENDIX F

FIREFIGHTER BREATHING AIR REPLENISHMENT SYSTEMS

NOTE:

Authority Cited: Health and Safety Code Sections 17040, 17050, 17920.9, 17921, 17921.3, 17921.6, 17921.10, 17922, 17922.6, 17922.12, 17927, 17928, 17959.6, 18300, 18552, 18554, 18620, 18630, 18640, 18670, 18690, 18691, 18865, 18871.3, 18871.4, 18873, 18873.1, 18873.2, 18873.3, 18873.4, 18873.5, 18938.3, 18944.11, and 19990; and Government Code Section 12955.1.

Reference: Health and Safety Code Sections 17000 through 17062.5, 17910 through 17995.5, 18200 through 18700, 18860 through 18874, and 19960 through 19997; and Government Code Sections 12955.1 and 12955.1.1.

22. HCD proposes to adopt Appendix I with amendments as follows:

APPENDIX I

INSTALLATION STANDARDS

**Installation Standard
For
ABS BUILDING DRAIN, WASTE AND VENT PIPE AND FITTINGS
IAPMO IS 5-2006**

2.2.6 Piping Installed in Fire Resistive Construction

All piping penetrations of fire resistance rated walls, partitions, floors, floor/ceiling assemblies, roof/ceiling assemblies, or shaft enclosures shall be protected in accordance with the requirements of the *California Building Code*, *and* IAPMO Installation Standards and Chapter 15 "Firestop Protection for DWV and Stormwater Applications".
[UPC 313.7]

**Installation Standard
For
CPVC SOLVENT CEMENTED HOT AND COLD WATER DISTRIBUTION SYSTEMS
IAPMO IS 20-2006**

1.2 Special Requirements for CPVC Installation within Residential Structures. [HCD 1]

In addition to the other requirements in the California Plumbing Code and this Appendix for the installation of CPVC Solvent Cemented Hot and Cold Water Distributions Systems, all installations of CPVC pipe within residential structures shall meet the following:

1.2.1 Flushing Procedures. *All installations of CPVC pipe within residential structures shall be flushed twice over a period of at least one (1) week. The pipe system shall be first flushed for at least 10 minutes and then filled and allowed to stand for no less than 1 week, after which all the branches of the pipe system must be flushed long enough to fully empty the contained volume. At the time of the fill, each fixture shall have a removable tag applied stating:*

"This new plumbing system was first filled on (date) by (name). The California Department of Housing and Community Development requires that the system be flushed after standing at least one week after the fill date specified above. If the system is used earlier than one week after the fill date, the water must be allowed to run for at least two minutes prior to use for human consumption. This tag may not be removed prior to flushing, except by the homeowner."

1.2.2 Worker Safety Measures. Mechanical ventilation sufficient to maintain exposures below the relevant exposure limits established by state regulation shall be provided in enclosed spaces. This ventilation shall be directed at the breathing zone of the worker installing the pipe. Where mechanical ventilation is not practical, respirators, suitable for organic vapors, shall be used. For the purpose of this subdivision, an enclosed space is defined as:

- (a) A space less than 100 square feet of floor area under a ceiling with a height of 10 feet or less, and which does not have openings (consisting of doors, windows, or unfinished walls) on at least two sides;
- (b) Crawl spaces having a height of less than three feet;
- (c) Enclosed attics that have a roof and ceiling; or
- (d) Trenches having a depth greater than 24 inches.

Installers of CPVC pipe within residential structures shall use non-latex thin gauge (4 millimeters) nitrile gloves, or other gloves providing an equivalent or better degree of protection during the installation of the CPVC plumbing system. Gloves shall be provided to all workers by the contractor, or plumbing subcontractor, and shall be replaced upon contamination by cements.

NOTE:

Authority Cited: Health and Safety Code Sections 17040, 17050, 17920.9, 17921, 17921.3, 17921.6, 17921.10, 17922, 17922.6, 17922.12, 17927, 17928, 17959.6, 18300, 18552, 18554, 18620, 18630, 18640, 18670, 18690, 18691, 18865, 18871.3, 18871.4, 18873, 18873.1, 18873.2, 18873.3, 18873.4, 18873.5, 18938.3, 18944.11, and 19990; and Government Code Section 12955.1.

Reference: Health and Safety Code Sections 17000 through 17062.5, 17910 through 17995.5, 18200 through 18700, 18860 through 18874, and 19960 through 19997; and Government Code Sections 12955.1 and 12955.1.1.

23. HCD proposes to adopt Appendix K without amendments:

APPENDIX K PRIVATE SEWAGE DISPOSAL SYSTEMS

NOTE:

Authority Cited: Health and Safety Code Sections 17040, 17050, 17920.9, 17921, 17921.3, 17921.6, 17921.10, 17922, 17922.6, 17922.12, 17927, 17928, 17959.6, 18300, 18552, 18554, 18620, 18630, 18640, 18670, 18690, 18691, 18865, 18871.3, 18871.4, 18873, 18873.1, 18873.2, 18873.3, 18873.4, 18873.5, 18938.3, 18944.11, and 19990; and Government Code Section 12955.1.

Reference: Health and Safety Code Sections 17000 through 17062.5, 17910 through 17995.5, 18200 through 18700, 18860 through 18874, and 19960 through 19997; and Government Code Sections 12955.1 and 12955.1.1.

24. HCD proposes to not adopt Appendix L.

APPENDIX L ALTERNATE PLUMBING SYSTEMS

NOTE:

Authority Cited: Health and Safety Code Sections 17040, 17050, 17920.9, 17921, 17921.3, 17921.6, 17921.10, 17922, 17922.6, 17922.12, 17927, 17928, 17959.6, 18300, 18552, 18554, 18620, 18630, 18640, 18670, 18690, 18691, 18865, 18871.3, 18871.4, 18873, 18873.1, 18873.2, 18873.3, 18873.4, 18873.5, 18938.3, 18944.11, and 19990; and Government Code Section 12955.1.

Reference: Health and Safety Code Sections 17000 through 17062.5, 17910 through 17995.5, 18200 through 18700, 18860 through 18874, and 19960 through 19997; and Government Code Sections 12955.1 and 12955.1.1.